A Guide Book to

Invasive Alien Plant Species

in Indonesia

Removing Barriers to Invasive Species Management in Production and Protection Forest in Southeast Asia - Indonesia Program (FORIS INDONESIA)

FOREST INVASIVE SPECIES IN SE ASIA

FORIS PROJECT

A Guide Book to Invasive Plant Species in Indonesia

Titiek Setyawati
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Published by:
Research, Development and Innovation Agency
Ministry of Environment and Forestry
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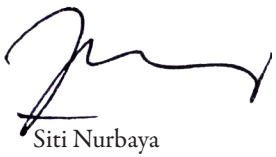
MESSAGE
THE MINISTER OF ENVIRONMENT AND FORESTRY

One of the major factors causing the current deterioration of the range resource base in most forested land in Indonesia is the presence and spread of invasive alien plant species. The impacts of invasive species are mostly slow in process and even irreversible. With lack of awareness on the negative impact that they may cause, prevention and control measures should have been adopted by all relevant sectors. The impacts may affect social, economic, human health and environment. Hence, stakeholders should be involved in coordination to mitigate the negative impacts.

Nowadays, more than 2000 exotic plant species are widely spread in Indonesia and more than 300 has been identified as invasive. In the meanwhile, information on their distribution, density and its degree of invasiveness remain lacking. As one of the country ratifying Convention on Biological Diversity (CBD) we have mandate to meet this international convention and also to achieve Aichi Target 9 by year 2020. Invasive alien plants are one of the biggest threats to agriculture, forest and other resources. All relevant sectors need to work together to prevent biodiversity loss from their infestation in our natural ecosystem.

Given the economic, ecological and social importance of saving our local biodiversity for the sake of Indonesian people, the Ministry of Environment and Forestry is committed to providing trusted support and advice on the major risk and opportunities that our nation faces upon invasive species threats. Finally, our deep appreciation is delivered to authors and all parties for their contribution on the development of this guidebook.



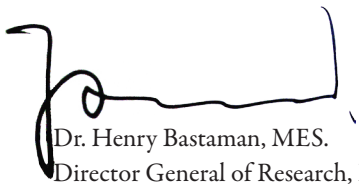
Siti Nurbaya
Minister of Environment and Forestry

MESSAGE
DIRECTOR GENERAL OF RESEARCH, DEVELOPMENT AND INNOVATION AGENCY (FORDA) – MINISTRY OF ENVIRONMENT AND FORESTRY

The lack of detail information on the presence and distribution of invasive alien plant species in Indonesia, this user-friendly guide book provides all the information necessary for users to identify the invasive plant species found in the wild or cultivated areas in Indonesia. Previous works done by Ministry of Environment and BIOTROP in 2003 reported that there are about more than 2000 non-native or exotic plant species existed in Indonesia and 332 species out of them are categorized as invasive. Until the production of this guide, another 25 plant species was added and thus, total of 357 species from 73 families have been identified so far and extensive research will be proposed to further determine their distribution in Indonesia. It is estimated that their number would have been increased and thus monitoring to determine their distribution should be priotize.

This field guides describes those identified plant species as being potentially invasive in Indonesia. All information is generated from published literatures and reliable sources. With color photography throughout, this guidebook facilitates an easy identification of these invasive alien plant species in the wild. A fully illustrated description of each of the invasive plant species including their country origin, morphological description, geographical distribution, habitus and uses are presented. This book serves as a useful aid for diverse users from children, students, wildlife manager, decision makers and others who interested in in environmental study to increase their knowledge of invasive alien species.

Informationin this book is collected by literature study and thus to the greater extent, it still need to be followed up by ground checking on their presence and distribution. The Ministry of Environment and Forestry through Research, Development and Innovation Agency (FORDA) take advantage of the support from GEF/UNEP/CABI funding by implementing 4-years FORIS-Indonesia program (Removing Barriers to Invasive Species Management in Production and Protection Forest of Southeast Asia) to play its important role in making a significant contribution and investment into research and development that can improve our knowledge and meet the international convention on biodiversity (CBD, article 8(h) on IAS management). I believe that we can successfully protect and maintain our local biodiversity through good partnership and cooperation across sectors.



Dr. Henry Bastaman, MES.
Director General of Research, Development and Innovation Agency

INTRODUCTION

This book is produced for users of various back ground to enable them to identify invasive alien plant species in Indonesia. The book includes 362 plant species from 73 families that was collected and identified from all over parts of the region in Indonesia. This book may represent the first phase of mapping the distribution of invasive alien species project, Removing Barriers to Invasive Species Management in Production and Protection Forest of South East Asis (FORIS), which was officially started on September 2012 and will be ended in December 2015.

All plants described in this guide book are alien speces and they can also be found elsewhere in Southeast Asia region. Almost all have been introduced to Southeast Asia, either intentionally or unintensionally. Some have been naturalized such as *Imperata cylindrica* or "alang alang" that are capable of reproducing and spreading without human intervention. Several species are most common weed to agriculture and some of them can be very damaging to agriculture land. Although some farmer in particular area still consider some weed species as benign or not too disturbing but in other areas, these species can be so damaging to the environment and causes problems.

This book has been developed based on previous publication: "*Penyebaran Jenis Tumbuhan Asing di Indonesia*", published in 2003 by Ministry of Environment in collaboration with SEAMEO BIOTROP (The Southeast Asian Regional Centre for Tropical Biology).

All invasive plants species are listed in an alphabetical order based on their species name. Each species has its own description on the place of origin, local name, plant description, habitat, plant uses, impact distribution and source of information (references). Reference or notes includes number indicating the literature number provided in the last section of the book.

Some of the species listed in this book are probably grown either commercially in a large or small scale or planted in the garden or parks. Their includion in this book does not mean that they must be eradicated but in some cases where they become problematic, they must be controlled. In particular situation, where species can be damaging to the environment and created economic loss and health problems, then serious eradication program will be worth doing. However, since some of them also can be of valuables uses such as for charcoal, medicines and other non-timber forest product, cost benefit analysis should be done to determine management option. The same situation with species such as *Acacia mangium* that is valuable for pulp and paper industry, but still causes problem when they spread and invaded natural forest and imped the growtn of local plants particularly in conservation areas, then careful program must be considered to prevent wider spread.

LIST OF CONTENTS

B

C

D

E

F

G

H

I

J

L

M

N

O

P

R

S

T

U

V

W

Z

1 *Acacia decurrens* (Wendl.) Willd.

Synonyms: *Acacia angulata* Desv./*Mimosa angulata* (Desv.) Poir./Mimosa *decurrens* Wendl./ *Racosperma decurrens* (Willd.) Pedley

Leguminosae

Origin: -

Indonesian names: Akasia

English names: Black wattle.

Description: *A. decurrens* is normally an erect tree 5-15 m tall but sometimes attains 20-22 m under favourable conditions (Boland, 1987; Pryor and Banks, 1991). Branching tends to be lateral and crown spread is up to 8 m across on the largest specimens. The bark is smooth, dark grey to almost black and may be fissured on mature plants. Branchlets are prominently angled with broad wing-like ridges (Whibley and Symon, 1992; Boland, 1987).

The bipinnate leaves are dark green and glossy, consisting of 4-15 pairs of pinnae, 3-7 cm long on a rachis 4-12 cm long. Pinnae are 3-7 cm long, each with 15-35 pairs of pinnules or leaflets. Leaflets are linear to narrowly oblong, 5-14 mm long, 0.5-0.75 mm wide. There are 1-2 glands present on the petiole and jugary glands are present at the junction of each pair of pinnae (Tame, 1992). The foliage is delicately displayed and exhibits a diurnal rhythm of pinnule movement in which the leaves open by day and close by night (Boland, 1987). The inflorescence of A. decurrens is a raceme or panicle of globular flower heads each consisting of 15-30 flowers per head on terminal panicles or axillary racemes (Whibley and Symon, 1992). The pods are linear, brown, red-brown or dark brown to black, almost flat, 4-10 cm long by 4-8 mm broad, with thickened margins. The seeds are longitudinal in the pod on a short funicle/aril (Tame, 1992; Baker and Corringham, 1995). Other descriptions and illustrations are given in Maiden (1907), Morrison and Davies (1991), Whibley and Symon (1992) and Tame (1992).

Habitat: *A. decurrens* occurs naturally mainly in eucalypt forests and woodlands of Australia (Tame, 1992). In the Blue Mountains region, A. decurrens is found in dry sclerophyllous forest or woodland in open undulating country (Baker and Corringham, 1995). It has also been recorded as a component of tall E. pilularis forests (Beadle, 1981). In South Africa, it invades grassland, roadsides, fynbos, savannah and riverine habitats (Dean et al., 1986; Henderson, 2001).

Distribution: *A. decurrens* is a deep rooted, drought-tolerant, nitrogen-fixing tree, widely planted to shade crops (MacMillan, 1991). It has been used for windbreaks, shelterbelts, as a shade crop and for soil stabilization. In Sri Lanka, it was introduced by tea planters around the 1870s and widely-used above an altitude of 1000 m for hedges, shelterbelts and windbreaks, as a shade tree, for green manure and fuelwood production (Midgley and Vivekanandan, 1987). It was a major component in the Sri Lankan government fuelwood plantations until 1936 (Streets, 1962; Champion, 1935) and is still used in ornamental plantings (Midgley and Vivekanandan, 1987; Clemson, 1985). A. decurrens was included in an investigation of stabilization techniques to control wind erosion of an ash disposal site at Port Kembla, Australia where salinity of the ash, exposure to winds, and high erodibility were particular problems (Junor, 1978). It established and grew well and along with various methods of a bituminous emulsion seal, grass sowing, strip sodding and addition of an earth layer, enabled the site to be developed as a recreational area.

The natural distribution of A. decurrens is on coastal hinterlands, coastal ranges and the lower tablelands of New South Wales, Australia, extending from scattered occurrences in the Hunter Valley south to the Ulladulla district (Tame, 1992). It extends for approximately 100 km inland and the natural latitudinal range is 33-37°S (Boland, 1997).

Impact: If established in dense stands, the accumulation of shed foliage from *A. decurrens* forms a thick ground cover which, over time, eliminates the growth or establishment of other vegetation at the site (Ruskin, 1983). A. decurrens is one a number of invasive species in South Africa that obstructs watercourses and reduces water flow (Hill et al., 2000).

Images source: commons.wikimedia.org, www.africamuseum.be, www.calflora.net

References/Notes: 296.

2 *Acacia nilotica* (L.) Delile

Synonyms: *Acacia arabica* (Lam) Willd.//./*Acacia scorpioides* W.Wight/*Acacia vera* Willd./ *Mimosa arabica* Lam./*Mimosa nilotica* L./*Mimosa scorpioides* L.

Leguminosae

Origin: Africa& Continental Asia.

Indonesian names: Akasia

English names: Indian Gum, Indian Arabic Tree.

Description: Small to medium evergreen spine tree, 10-20 m tall, crown umbrella-shape, bole short straight but commontly bent, diameter up to 60 cm, bark dark brown, deeply fissured, Branchlets smooth, densely pubescens when young at each leaf-base provided with 2 stipular spines. Leaves alternate, bipinnate with 3-6 pair of pinnate, leaflets membranous elliptic or narrowly oblong. Inflorences globose heads with long peduncle, heads 1-2 cm in diameter, bright yellow, axillary. Fruit usually dehiscent, oblong linear and flattened. Pod becoming black when ripe, with 5-12 seeded. Seeds ovoid-circular, flatened, black.

Habitat: Grows from sea level up to 1000 m asl., at open areas. It's tolerant to dought and flooded condition for several months. Ntural stsnds therefore, often occur along river banks that are subject tp periodic inundation.

Uses: Bark possesses tonic, demulcent, carminative, astringent, antipyretic, antispasmodic, anti-inflammatory, anti-hypertensive and anti-stress properties.The seeds, leaves and bark contain chlorogenic acid, garlic acid and catechin. The bark also contents tannin and colouring matter, An excellent tanning material also produced from the pod, especially from young pods.

Distribution: In 1850 introduced in Java, since long out of cultivations, its found naturalized on the western mole of the old harbour of Jakarta; in 1969 planted in Baluran National Park, East Java; distributed naturally in Lesser Sunda Island. It is widely distributed in India, wild, cultivated, as well as naturalized, and it was introduced to Sri Lanka, Burma, and tropical Australia.

Impact: No detail information (within few decade in Baluran and other part of East Indonesia this species covered open areas and savannas).

Images source: Flickr.com

References/Notes: 1, 4a, 7, 8, 33, 197.

3 *Acacia mangium* Willd.

Synonyms: *Acacia glaucescens* "sensu Kaneh. & Hatus. non Wi"/*Acacia holosericea* A. Cunn./*Mangium montanum* Rumph./*Racosperma mangium* (Willd.) Pedley

Leguminosae

Origin: - Australia (?)

Indonesian names: Mangge hutan; Sabah salwood; tange hutan. mangium

English names: Brown Salwood, Mangium, Sabah Salwood, Black Wattle, Hickory Wattle.

Description: Medium tree, up to 30 m tall and diameter over 50 cm, with a straight boles which may be over half the total tree height. The bark is rough, furrowed longitudinally or deeply fissured, varies in colour from pale grey-brown to brown.

Habitat: In its original habitat, it grows in coastal tropical lowlands in the edge of rainforest, in the foothills of coastal ranges over metamorphic, granite and acid volcanic formations, and also on sandy or loamy alluvium of the coastal plain.

Uses: Animal feed, fodder, forage, pulp.

Environmental (Agroforestry, Boundary, barrier or support, Revegetation, Soil improvement). Fuels(Charcoal, Fuelwood). Human food and beverage (Honey/honey flora). Materials (Carved material, Fibre, Miscellaneous materials Wood/timber).

Distribution: Native range: The Northern Philippines, China and Taiwan. Known introduced range: Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Hawai'i, Palau, Indonesia, Peninsular Malaysia, Japan, Mauritius, and Seychelles.

Impact: No detail information

Images source: Kew.org(1), hear.org(2), georgiavines.com(3)

References/Notes: 223, 296, 298.

4 *Acanthospermum hispidum* DC.

Synonyms: *Acanthospermum humile* var. *hispidum* (DC.) Kuntze

Asteraceae

Origin: S. America.

Indonesian names: Duri pasir berdiri, duri bintang, duri pasir tegak lurus.

English names: Bristly starbur, Goat's head, Hispid starburr, Starbur.

Description: Herb with erect stems, 20-80 cm height, diffusely branched, pubescent with long, spreading and also short, appressed hairs. Leaves elliptic to ovate, 2-10 cm long, 1-7 cm wide, with glands on lower surface, serrate to subentire, gradually narrowed to base, sessile. Heads 4-5 mm in diameter at anthesis. Burs cuneate, strongly compressed, 4-7 mm long, the ribs bearing 1-2 rows of hooked prickles 1-2 mm long, the 2 apical prickles stout, curved or straight, 3-4 mm long."

Habitat: It is widely distributed in open areas with light textured soils but also grows well in heavy textured soils. It is commonly found in cultivated upland crops, roadsides, pastures, waste areas, around corrals, and along railroads and cattle trails. Found in a wide range of habitats. Common on roadsides, disturbed areas and around settlements. Known to invade pastures and out-compete more desirable native species. Also as a weed of crops and a serious contaminant of wool.

Uses: Medicinal plant (It possesses antibacterial and antifungal properties). The crushed herb is used in the form of a paste to threat skin ailmentsand the leaf juice is reportedlyused to relieve fevers.

Distribution: Pantropical. In Indonesia, widely distributed in East Java, the Lesser Sunda Island and Papua. In Africa, its a fairly recent introduction.

Impact: No detail information

Images source: sagebud.com

References/Notes: 3, 88, 103, 226.

5

Acmella oleracea (L.)

Synonyms: *Spilanthes oleracea* L., *Anacyclus pyrethraria* (L.) Spreng., *Bidens fervida* Lam., *Bidens fixa* Hook.f., *Bidens fusca* Lam., *Bidens oleracea* (L.) Cav. ex Steud., *Cotula pyrethraria* L., *Pyrethrum spilanthus* Medik, *Spilanthes fusca* hort.par. ex Lam.

Asteraceae

Origin: Brazil.

Indonesian names: -

English names: Toothache plant, eyeball plant, peek-a-boo plant.

Description: Annual herbs, up to 90 cm tall. Stems usually decumbent to ascending, green to red, glabrous. Petioles 2-6.5 cm long, narrowly winged, glabrous or very sparsely pilose. Leaf blades broasly ovate to deltate, 5-10.5 × 4-8 cm, apex short acuminate to acute, margins dentate, base tuncate to short attenuate, glabrous on both sides. Peduncles 3.5-12.5 cm long, sparsely to very sparsely pilose. Capitula discoid, solitary, terminal, cylindrical, 10.5-23.5 mm high, 11-17 mm in diameter; involucral bracts 15-18, triseriate, margins entire to sinuate, outer series 5-6, narrowly ovate to lanceolate or sometime ovate, 5.8-7.3 × 2.1-2.8 mm, inner series 5-6, lanceolate, 5.5-6.5 × 1.3-2 mm; receptacles 8.3-21.5 mm high, 0.5-3.5 mm in diameter, occasionally 2 per capitulum; apex acute; palea stamineous, often with a purple-red tinged when young, 5.3-6.2 × 1-1.2 mm; disc florets numerous, bisexual, yellow, corollas 5- merous, 2.7-3.3 mm long, tube 0.5-0.7 mm long, throat 2.2-2.6 mm long, lobes 0.3-0.6 × 0.2-0.4 mm. Achenes black, 2-2.5 × 0.9-1.1 mm; pappus 2, 0.3-1.5 mm long.

Habitat: -

Uses: In addition to its medicinal properties and ornamental value, it can also be used as a culinary herb. If used in salads, it has a pepper-like flavor. Cooked leaves lose their strong flavor. Both fresh and cooked leaves can be used in dishes such as stews and often combined with chilies and garlic to add flavor.

Distribution: This plant is known mainly from cultivation in Taiwan and occasional escapes into the field in other parts of the world. In Java locally cultivated for medicinal purposes.

Impact: No detail information

Images source: ziolazodleglychkrain.blogspot.com

References/Notes: 1, 230.

6 *Acmella paniculata* (Wall. ex DC.)

Synonyms: *Spilanthes paniculata* Wall. ex DC, *Spilanthes calva* DC.,/*Spilanthes grandifolia* Miq.,/*Spilanthes lobata* Blanco,/*Spilanthes rugosa* Blume ex DC.

Asteraceae

Origin: Tropical America.

Indonesian names: Jotang, jocong, daun getang.

English names: -

Description: Perennial herb, 64 cm tall, erect or prostate at the base and rooting at the nodes where upwards often strongly branched. Stem striate, glabrous, 2-3 mm long. Leaves subsessile or petiolate, blade broadly ovate to ovate-triangular and measuring 1-12 cm by 0,5-7 cm. There are 8-14 involucral bracts in 2 rows. Peduncle up to 16 cm long. Heads radiate or conical, 10-15 mm by 8-11 mm. Phyllaries 2-seriate, ovate or elliptic, obtuse, glabrous. Receptacle 5-10 mm long, pales oblong, striate. Ray flowers 5, ligule of corolla oblong, nearly rounded or broadly elliptic, 1-10 mm long. Disk flowers numerous; corolla 2 mm long, 4- or 5-lobed. Fruits achenes, obovate-oblong, compressed with ciliate edges, sparsely pubescent at the top, black, 2-2.5 mm long, pappus consisting of 2 short hairs. The one-seeded fruit is 2-3 mm long.

Habitat: Grows in drier places, such as upland field, waste places, roadsides, and riversides. In Java, occurs up to 1200 m alt, while in Papua New Guinea up to 300 m.

Uses: The leaves are eaten raw or boiled as vegetables. Heads are used as cure for toothache.

Distribution: S. E. Asia, also in the Pasific. Throughout Indonesia, but not every common in Papua; Occur in S. America but also common weeds in SE. Asia including Papua New Guinea.

Impact: A common weeds

Images source: hkwildlife.net

References/Notes: 3, 69, 112.

7 *Acmella uliginosa* (Sw.) Cass.

Synonyms: *Spilanthes uliginosa* Sw./*Spilanthes iabadicencis* A. H. Moore/*Jaegeria uliginosa* (Sw.) Baker in Mart./*Coreopsis acmella* (L.) K. Krause var. *uliginosa* K. Krause

Asteraceae

Origin: Carribean & Brazil.

Indonesian names:

Description: Annual erect or ascending, branched herbs, usually decumbens and rooting from the lower nodes. leaves elliptic rarely ovate-elliptic with long petiole, obtuse or subacute at the apex, subetire or undulate rarely undulate-dentate at the base, glabrous on both surface. Inflorescence panicle, small at first subglobose or ovoid changed into elongate-ovoid. Marginal flowers 5 with corolla yolk-coloured.

Habitat:

Distribution: Now pantropical.

Impact: No detail information

Images source: natureloveyou.sg

References/Notes: 2.

8 *Actinoscirpus grossus* (L.f.) Goetgh & D.A. Simpson

Synonyms: *Scirpus grosus* Linn.

Cyperaceae

Origin: -

Indonesian names: Rumput Griting

English names: Greater Club Rush.

Description: Stout, erect, coarse plant, tufted and robust, 1.5-2.5 cm tall. Tubers small with long stolons ending; Stemssharply 3-angular with concave sides, septate, smooth or slightly scabrid apically, 70-200 cm × 6-12 mm. Leaveslong,acuminate, in a rosette, linear, 60-100 cm × 0.5-3.5 cm, gradually tapered to the tip, margins scabrid and bristly. . Bracts long, acuminate, about 6 cm long. Inflorescenceterminal, irregular, compound umbel of corymbs; axils scabrid, minutely bristled, 5-20 cm long, base with several leaf-like unequal flat bracts; spikelets branched on slender stalks, many, solitary sessile or reduncled, ovoid to oblong ovoid, acutish, densely many flowered, 5-10 mm × 4-5 mm; rachilla persistent, not winged; glumes helically arranged, membranous, appressed, concave, broadly oval, reddish-brown with green midrib, glabrous to more or less hairy, minutely ciliate, shortly mucroannulated, 2-3 mm × 1.5-2.0 mm; the lower 1-3 glumes empty. Flowers bisexua;l Stamens 3; Style slender, short, glabrous;stigma 3, nut 3-angled, about half as long as the glume, brown and smooth.

Habitat: This species common in wetland, along rivers, in coastal deltas.

Uses: *Actinoscirpus grossus* planted to inhibit soil erosion and provide habitat for other wildlike. This species also used in some herbal remedies.

Distribution: This species has nearly cosmopolitan distribution. Found in Asia, Amerika, Eropa and Australia.

Impact: *Actinoscirpus grossus* can cause severe losses to ricefields in Malaysia. Four to five plants/m^2 can inflict a yield loss of about 10-15% in the direct-seeded rice variety MR84. Keeping ricefields free of S. grossus within the first 30-40 days of the crop can alleviate such yield loss. In Indonesia and elsewhere in South-East Asia, southern China, tropical Australia and India, the weed is considered a species of minor importance (Holm et al., 1991).

Actinoscirpus grossus has some economic value. It serves as a good herbage when ploughed in as green manure. S *Actinoscirpus grossus* var. *kysoor*, occurring in India and Malesia, produces tubers which are a good source of starch, containing about 62-79% digestible carbohydrates and 7.5-11.8% protein (Burkhill, 1966). *Actinoscirpus grossus* is also used in traditional medicine in the Indian subcontinent. In the Philippines and Perak state of Peninsular Malaysia, *Actinoscirpus grossus* is harvested for mat-making and string.

Images source: Flickr.com

References/Notes: 233

9

Aeschynomene americana L.

Synonyms: *Aeschynomene mexicana* Colla/*Aeschynomene mimosula* Miq./ *Aeschynomene mimulosa* Miq./*Aeschynomene tricholoma* Standl. & Steyerm./ *Hippocrepis mimosula* Noronha/*Hippocrepis mimulosa* Noronha

Leguminosae

Origin: America.

Indonesian names: -

English names: American Jointvetch.

Description: Herb or a shrub about 1-2 m tall.

Leaves: Stipules +/- peltate, about 10-13 mm long, narrow, margins clothed in hairs, two-branched, longitudinally veined. Each compound leaf with 50-60 leaflets. Compound leaf axis clothed in long hairs, axes ending in a short point. Leaflets sessile or almost sessile, blades about 6-12 x 1-2 mm, margins hairy, with a small tooth on one side. Venation longitudinal and parallel with 3-5 longitudinal veins.

Flowers: Each flower subtended by two hairy, lanceolate bracts each about 2-2.5 mm long. Calyx 4-4.5 mm long, lobes 2. Petals clawed, i.e. stalked. Stamens 10, filaments all fused to form a tube open on one side. Filament about 4 mm long, attached close to the base of the anthers.

Fruit: Fruits about 2.5-3 cm long, clothed by simple erect hairs. Fruits consist of a string of 2-8 segments each containing one seed. Segments attached on one side of a 'bean string' and breaking off as one-seeded nuts. Seeds glossy brown, about 3 x 2 mm.

Habitat: Altitudinal range not known but at present extends from near sea level to 850 m.

Uses: -

Distribution: -

Impact: No detail information

Images source: Flickr.com

References/Notes: 118.

10 *Aeschynomene indica* L.

Synonyms: *Aeschynomene cachemiriana* Cambess./*Aeschynomene indica* var. *punctata* Pers./ *Aeschynomene indica* var. *viscosa* Miq./*Aeschynomene indica* var *aspera* Hassk. ex Miq.

Leguminosae

Origin: India.

Indonesian names: Rumput ali musa.

English names: Indian jointvetch, kat sola, budda pea, curly indigo, hard sola, northern jointvetch.

Description: Annual or perennial herb or subshrub 0,30 to 2.5 meters tall. Stem usually thin, about 0,5 cm, but it can grow thick at the base, up to 2.5 cm in diameter., mostly hairless but sometimes has glandular hairs with tubercular bases. Compound leaves up to 10 cm long, parypinate. Leaflets papery, each up to 1.3 cm long. The spurred stipule is up to 1.5 cm long. Inflorescence raceme of 1 to 6 flowers with reddish- or purple-streaked yellow or whitish corollas. Podlong, narrow up to 4.8 cm long, straight or curved, with up to 13 seeds. Seeds black or brown kidney-shaped each 2 or 3 mm long.

Habitat: The plant often grows in wet, muddy habitat, such as floodplains, swamps, and paddy fields. It is also known from dry land. It has been observed in association with *Sesbania* spp. and *Acacia nilotica* ssp. *tomentosa*. It grows and disturbed in abandoned habitat, such as roadside ditches, often becoming weedy?.

Uses: This plant is used as green manure. It is not very palatable to animals but it is sometimes given as fodder. It can be toxic, however?.

Distribution: Pantropical, also in the subtropics. Throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 88, 203, 204, 205, 206, 271.

11 *Ageratina adenophora* (Spreng.) R.M.King & H.Rob.

Synonyms: *Eupatorium adenophorum* Spreng./*Eupatorium glandulosum* Michx./*Eupatorium glandulosum* H. B. K. non Michx./*Eupatorium pasadenense* Parish

Asteraceae

Origin: Central America.

Indonesian names: -

English names: Eupatory, sticky snakeroot, crofton weed, and Mexican devil.

Description: A perennial herbaceous shrub that grow up to 1 or 2 metres high. Leaves: opposite, trowel-shaped, serrated that are 6–10 cm (2.4–3.9 in) long by 3–6 cm (1.2–2.4 in) in width. The small compound flowers occur in late spring and summer, and are found in clusters at the end of branches. Each flowerhead is up to 0.5 cm in the diameter and creamy white in colour. They are followed by a small brown seed with a white feathery 'parachute'.

Habitat: The plant can spread vegetatively, that is the stems can sprout roots and grow upon contact with earth. The seed is also carried by the wind or water and colonises disturbed areas, such as fields and areas near human habitation, readily. Seed may also be transported on animals and in soil.

Uses: -

Distribution: In 1934 collected for the first time in Java (Mt. Malabar), at present copiusly naturalized on and around Mt. Malabar (West Java).

Impact: No detail information

Images source: chm-thai.onep.go.th

References/Notes: 1, 88, 122.

12 *Ageratina riparia* (Regel) R.M.King & H.Rob.

Synonyms: *Eupatorium riparium* Regel./*Eupatorium harrisii* Urb./*Eupatorium ventillanum* Cuatrec.//*Ageratina ventillana* (Cuatrec.) R.M. King & H.Rob.

Asteraceae

Origin: Mexico & West Indies.

Indonesian names: Teklan (Sundanese), tekelan (Javanese).

English names: Creeping Crofton Weed; Mist Flower.

Description: Perennial erect herbaceous shrub that grow up to 1 metres high.

Usually flowers and fruits as a herb but occasionally flowers as a shrub 1 m tall.

Leaf blades about 3-12 x 0.8-3 cm with about 6-10 teeth on each side. Underside of the leaf blade clothed in hooked hairs on the midrib and lateral veins only, upper surface glabrous. Petiole grooved on the upper surface. Twigs clothed in erect, light brown, hooked hairs.

Inflorescence a cymose panicle of heads each containing about 15-25 flowers. Heads about 5-6 mm diam., subtended by green bracts. Sepalsrepresented by about 15 hair-like appendages. Anthers fused but the filaments free.

Fruits about 1-2 mm long, longitudinally ribbed, each rib with a line of hairs. Endosperm very thin and scanty.

Cotyledons orbicular, about 2-4 mm diam., petiole about 1-3 mm long. First pair of leaves opposite, margins toothed. At the tenth leaf stage: leaf blade narrowly elliptic, about 5 x 2 cm, apex acute, base attenuate, margins coarsely serrate, very sparsely hairy to almost glabrous.Petiole about 7 mm long.

Habitat: Altitudinal range in NEQ not known but collected at altitudes of 1000-1100 m. Grows in damp areas of disturbed rain forest or along roads in damp areas of upland and mountain rain forest.

Uses: -

Distribution: Long ago introduced Java, at peresent naturalized in many places on Mt Gede-Pangrango (West Java); weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed in vegetable fields in the dry seasons in Candi Kuning, Bali.

Impact: As a weed in tea plantation and vegetable fields

Images source: visoflora.com

References/Notes: 1, 32, 34, 70, 118.

13 *Ageratum conyzoides* L.

Synonyms: *Ageratum conyzoides* Sieber ex Sieber ex Steudel/*Ageratum conyzoides* var *conyzoides*/*Ageratum conyzoides* var *hirtum* (lam.) DC./*Ageratum conyzoides* subsp *haustorianum* (Mill.) Sahu/*Ageratum conyzoides* var *mexicanum* (Sims) DC./*Ageratum conyzoides* var *pilosum* Blume

Asteraceae

Origin: Tropical America/C. & S. America.

Indonesian names: Bandotan (Melayu), babandotan (Sundanese), bandotan (Javanese), dus wedusan (Madura).

English names: Billygoat-weed, Chick weed, Goatweed, Whiteweed.

Description: An erect annual herb,often decumbent and rooting at rhe base, 30 to 80 cm tall; stems are covered with fine white hairs, leaves opposite, pubescent with long petioles and glandular trichomes Inflorescence corymbos, contain 30 to 50 self-incompatible pink, white or violet flowers. The fruit is an achene with an aristate pappus and easily dispersed by wind. Seeds are positively photoblastic, and viability is often lost within 12 months. The optimum germination temperature ranges from 20 to 25°C. Ithas great morphological variation, and appears highly adaptable to different ecological conditions.

Habitat: It is a weed of disturbed land in the Pacific island habitats including crops, pastures, plantations, waste land and roadsides It is also found in clearings, grasslands, forests and along trails). In India it grows as a single in grasslands, forests, agricultural, plantations and horticultural fields in India. *A. conyzoides* thrives best in rich, moist, mineral soils with high humidity and tolerates shading. It is not tolerant to soils with poor fertility and therefore is only a minor weed on island atolls such as Niue. Hassan (Undated) observed that *A. conyzoides* in the Amani forest, Madagascar, is not found under the canopy but only in areas with light. This seems to suggest that the reproduction and distribution of this species is associated with light intensity. The study showed that the density of *A. conyzoides* was higher in open than in the semi-shaded areas.

One study, conducted in the north tropical and south subtropical mountainous zones in the Yunnan Province of China, found that the density of *A. conyzoides* was correlated with the

distance of the plant from the road and that its maximum abundance occurred within 4 meters of the road. This supports the model of alien plants invading native plant communities in this part of China from primary colonisation points along road margins (Zhao et al. 2008). *A. conyzoides* may grow from sea level to at least 2400 meters in altitude (Singh Undated). It is present from sea level to at least 1300 meters in Hawaii (Wagner et al. 1999, in PIER 2008) and in Himachal Pradesh the weed is established up to 1800 meters (Dogra et al. 2009).

Uses: As a medicinal plant, *Ageratum conyzoides* has limited uses due to its toxicity. It is also an insecticide and nematicide.

Distribution: Introduced in Java already much more than a century and naturalized; Now a common weed in all tropical countries; Indonesia: Sumatra, Java, Kalimantan, Sulawesi, NTT; Now a pantropical weed that is very common throughout India, Burma (Myanmar), Indo-China, S. China, Thailand, and Malesia.

Impact: A pantropical weed

Images source: floranegeriku.blogspot

References/Notes: 1, 2, 6a, 10, 11, 13, 14, 17, 19, 20, 21, 22, 24, 25, 27, 30, 31, 34, 39, 41, 42, 44, 47, 70, 72, 75, 88, 104, 106.

14 *Ageratum houstianum* Mill.

Synonyms: *Ageratum conyzoides* var. *mexicanum* (Sims) DC./*Ageratum houstonianum* var. *angustatum* B.L. Rob./*Ageratum mexicanum* Sims/*Ageratum wendlandii* Hort. ex Vilm./*Cacelia mentrasto* Vell./*Carelia houstoniana* (Mill.)Kuntze

Asteraceae

Origin: Tropical America.

Indonesian names: Ageratum.

English names: Floss-flower, bluemink, blue-weed, pussy foot, Mexican paintbrush.

Description: A cool-seasonannual herb that often grown as bedding in gardens. It grows up to 01 m high. Leaves ovate to triangular 2–7 cm long. flowers (sometimes white, pink, or purple). Inflorescens in heads, or borne in dense corymbs.

Habitat: *Ageratum houstonianum* is a weed of gardens, roadsides, disturbed sites, waste areas, pastures, crops, wetlands and riparianzones (banks of watercourses).

Uses: It has a long history of use as an ornamental plant that been spread around the world.It is also used in some cultures as a medicinal plant.

Distribution: Naturalized in many localities in West Java. And also here and there in East Java; Widely introduced in the tropics; undergrowth of the trees in Purwodadi Botanical Garden, Pasuruan, East Java.

Impact: No detail information

Images source:

References/Notes: 1, 2, 72, 88, 107, 227.

15 *Alternanthera brasiliana* (L.) Kuntze

Synonyms: *Alternanthera dentata* Scheygrond/*Alternanthera straminea* (Mart.) Suess./*Achyranthes geniculata* Pav. ex Moq./*Gomphrena patula* J.C.Wendl./*Philoxerus brasiliana* (L.) Sm./*Telanthera brasiliana* (L.) Moq.

Amaranthaceae

Origin: Tropical America.

Indonesian names: Bayam ungu.

English names: Brazilian joy-weed.

Description: Herbs or smallshrubs, annual or perennial, 5-6 dm height. Stems erect, villous, glabrate. Leaves sessile; ovate to lanceolate, 1-7 × 0.7-1 cm, herbaceous, villous. Inflorescences terminal and axillary, pedunculate; heads white, globose, 0.7-1 cm diameter; bracts keeled, shorter than to equaling tepals. Flowers: tepals monomorphic, green to stramineous, lanceolate, 3-4 mm, apex acuminate, villous, hairs not barbed; stamens 5; pseudostaminodes ligulate, margins fimbriate. Utricles included within tepals, brown, ellipsoid, 2 mm, apex acute. Seeds ovoid-oblong, 1.4 mm.

Habitat: Sandy, wet, disturbed sites; 0-10 m?.

Uses: Used against inflammation, cough, and diarrhea in Brazilian popular medicine.

Distribution: Introduced and naturalized in West Java (Bogor, Cianjur) and Central Java (Salatiga).

Impact: No detail information

Images source: Foris-Indonesia

References/Notes: 1, 21, 75, 162, 224

16 *Alternanthera philoxeroides* (Mart.) Griseb.

Synonyms: *Alternanthera philoxeroides* var. *acutifolia* (Moq.) Hicken/*Alternanthera philoxeroides* var. *lancifolia* Chodat/*Alternanthera philoxeroides* var. *luxurians* Suess. *Achyranthes paludosa* Bunbury, *Achyranthes philoxeroides* (Mart.) Standl., *Bucholzia philoxeroides* Mart.

Amaranthaceae

Origin: Tropical S. America

Indonesian names: Tolod, (Javanese)

English names: Alligator weed

Description: A perennial herb which is rooted at the water's edge and spreads out as a floating mat over the water surface, and over the adjacent moist ground as well. Mats may be up to 1m thick. Stems are spreading, hollow, green, yellow or red. Leaves opposite pairs, lanceolate (2-7cm long x 4-40mm wide), slightly fleshy and with a waxy surface. Flowers are tiny, white, papery and in spherical heads about 1cm in diameter, on 2-6cm stalks in the leaf axils.

Habitat: Fresh water bodies, preferably still. Also spreads over adjacent moist ground to some distance from the water's edge. Can tolerate a degree of salinity, and total immersion for periods of a few days.

Alligator weed can blanket the water surface reducing light levels, temperature and oxygen in the water below. This has profound effects on communities of native plants and animals in the water. It also interferes with animal access for drinking water, human access for swimming and boating, reduces water quality and blocks pumps.

Uses: Alligator weed has sometimes been deliberately spread in mistake for a similar but non-invasive introduced water plant Alternanthera sessilis, which is used as a culinary herb in Asia.

Distribution: Introduced and naturalized in W. Java; Tidal areas of Kalimantan Selatan (Banjarmasin, Handil Manarap); Weeds of chili cultivations in Cibungbulang, Bogor; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali; and very locally elsewhere in Malesia (found in SE. Kalimantan); Often cultivated as an aquatic in the other tropical areas, and often naturalized, e.g. in Indonesia, China, United States. In China plants are cultivated for compost making, in the US the plant is cultivated as food for lobster.

Impact: As a weed in chili cultivations and vegetable fields.

Images source: Foris-Indonesia

References/Notes: 1, 31, 44, 69, 70, 75, 97.

17 *Amaranthus dubius* Mart. ex Thell.

Synonyms: *Amaranthus tristis* Willd.

Amaranthaceae

Origin: N. America/SE. Asia.

Indonesian names: Bayam.

English names: Red spinach, Rau Den, Chinese spinach, Hon-toi-moi, Yin choy, Hsien tsai.

Description: Herb, erect,usually grows up to 120 cm height. It has both green and red varieties, as well as some with mixed colors. The green variety is practically indistinguishable from *Amaranthus viridis*.

Habitat: It flowers from summer to fall in the tropics, but can flower throughout the year in subtropical conditions. A ruderal species, that usually found in waste places or disturbed habitats.

Uses: This species is valued as a leafy vegetable throughout South and Southeast Asia and also in Africa. It is used as an herbal remedy in traditional African medicine.

Distribution: In 1922 collected for the first time in Java (near Bogor, ± 700 m alt).

Impact: No detail information

Images source: Foris-Indonesia

References/Notes: 1, 69, 88

18 *Amaranthus hybridus* L.

Synonyms: *Amaranthus aureus* Moq./*Amaranthus batalleri* Sennen, *Amaranthus bellardii* Moq., *Amaranthus berchtholdii* Moq., *Amaranthus catechu* Moq., *Amaranthus chlorostachys* Willd. ***Amaranthus hybridus*** subsp. ***cruentus*** (L.) Thell./***Amaranthus cruentus*** L.

Amaranthaceae

Origin: Unknown.

Indonesian names: Bayam Tahun.

English names: Smooth amaranth, smooth pigweed, red amaranth, or slim amaranth.

Description: Annual erect herb strongly branching, grows from a short taproot and can be up to 2.5 m in height. It is a glabrous or glabrescent plant. Leaves alternate, long petiolate, simple and entire. Inflorescens in dense cluster panicle, axillary and terminal, terminal clusters often leafless and in panicled spike, unisexual. Fruit a dry capsul, dehiscent. Seeds shiny, brown or black.

Habitat: It grows in many different places, including disturbed habitats.

Uses: The plant was used for food and medicine by several Native American groups and in traditional African medicine.

Distribution: Naturalized in Java, 5-1300 m alt., cultivated as an ornamental; Weed of Potato cultivations in Koto Baru Kabupaten Tanah Datar, Sumatra Selatan; Important weed of garlic cultivations in Batu, East Java.

Impact: As a weed in potato cultivations

Images source: fao.org

References/Notes: 1, 42, 45, 88

19 *Amaranthus spinosus* L.

Synonyms: Amaranthus spinosus var. basiscissus Thell./Amaranthus spinosusvar. purpurascens Moq./Amaranthus spinosus var. pygmaeus Hassk., Galliaria spitosa (L.) Nieuwl.**Amaranthaceae**

Origin: Unknown /Tropical S. & C. America.

Indonesian names: Bayam duri, bayem cucuk, podo maduri (Bugis).

English names: Spiny amaranth, prickly amaranth or thorny amaranth.

Description: Annual, erect, monoecious herb, up to 100(–130) cm tall, much branched; stem terete or obtusely angular, glabrous or slightly pubescent, green or variably suffused with purple. Leaves alternate, simple; stipules absent; petiole approximately as long as leaf-blade; blade ovate-lanceolate to rhomboid, 3.5–11 cm × 1–4.5 cm, acute and often slightly decurrent at base, obtuse, rounded or slightly retuse and often short mucronate at apex, entire, glabrous or slightly pubescent on veins when young. Inflorescence consisting of dense clusters, lower ones axillary, higher ones often collected in an axillary and terminal spike which is often branched in its lower part; axillary clusters usually armed with (1–)2(–3) very sharp spines up to 2 cm long. Flowers unisexual, solitary in the axil of a bract, subtended by 2 bracteoles; bracts and bracteoles scarious, mucronate from a broad base, shorter or as long as the perianth; male flowers usually arranged in a terminal spike above the base of the inflorescence, green; tepals 5 or in male flowers often 3, free, subequal, ovate-oblong to oblong-spatulate, up to 2.5 mm long, very convex, membranous, with transparent margins and green or purple median band; male flowers with 5 stamens about as long as tepals; female flowers with superior, oblong ovary, 1-celled, styles 2–3, ultimately recurved. Fruit an oblong capsule with persisting styles, circumscissile a little below the middle or indehiscent, 1-seeded. Seed about 1 mm in diameter, shiny black or brownish-black with thin margin. Seedling with epigeal germination; cotyledons leafy, glabrous, apex rounded to slightly acute; hypocotyl up to 12 mm long, epicotyl absent.

Habitat: Amaranthus spinosus is adapted to a wide range of climatic and edaphic factors. It grows best in the sun or in light shade; a light intensity of less than 30% completely suppresses flowering. Flowering is earliest and most abundant in areas with daylengths of 11–12 hours. Spiny amaranth is nitrophilous and prefers soils with a high organic matter content, but is also able to grow on sandy soils. Optimal growth is obtained on soils with moderate moisture content, but Amaranthus spinosus is capable of growing on wet soils as well. It is drought-resistant and can even grow under arid conditions. Spiny amaranth is a very noxious weed in many parts of the world. It is, for instance, troublesome in maize, cassava and groundnut in Ghana, in cotton in Mozambique, and in sugar cane in South Africa. In general, it is very common in roadsides, waste places, railway yards, cropped land and gardens, up to 1400 m altitude.

Uses: In Cambodia, it is called pti banlar and its ash was historically used as a grey dye for cloth. It had many other uses also, including as food. Like several related species, Amaranthus spinosus is a valued food plant in Africa. It is valued also in Thailand, where it is called Phak Khohm. In Tamil it is called 'mullik keerai'.In Sanskrit it is called Tanduliyaka. it is used as food in the Philippines where it is called Kulitis. The leaves of this plant, known as massaagu in Dhivehi, have been used in the diet of the Maldives for centuries in dishes such as mas huni.

Distribution: Pantropical, throughout Indonesia; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali; West Java: Rangkasbitung; Cigudeg, Babakan, Cisarua, Cimayang, Ciampea, Ciomas, Ciapus, Ciheuleut, Kebun Raya Bogor (Bogor); Cipanas; Lembang, Bandung; Cibodas; Banten; Pelabuhan Ratu; Jakarta: Salemba, Gunung Sahari, Sentiong; Central Java: Tanjung Mojo (Semarang), Pati, G. Muria, Majenang (Banyumas), Karang anyar, Purwokerto; Yogyakarta; East Java: Mojokerto, Malang, Besuki, Sukaraja (Kediri), Madura, Tarakan (Pasuruan), Asembagus (Besuki), Situbondo, Jatiroto, Surabaya, Temanggung; NTB: Sumbawa Besar, G. Rinjani, Lombok, Sumbawa; NTT: Alor, Timor, Sumba, Flores, Flores Selatan, Ende Flores; Maluku: Halmahera, Seram; Southeast Sulawesi: Kendari; North Sulawesi: Manado; DI Aceh: Ketambe; North Sumatra: Medan, Sibolangit, Tebingtinggi; West Sumatra: Asahan Panjang, Pariaman; It is sometimes found in temperate zone as well.

Impact: It occurs in all tropical regions, including the whole of SE. Asia, often gregariously and as a weed.

Images source: invasive.org

References/Notes: 3, 70, 71, 88, 92, 93, 94

20 *Amaranthus viridis* L.

Synonyms: *Albersia caudata* (Jacq.) Boiss./*Albersia gracilis* (Desf.) Webb & Berthel./*Amaranthus gracilis* Desf./*Chenopodium caudatum* Jacq./*Galliaria adscendens* Bubani/*Glomeraria viridis* (L.) Cav./*Pyxidium viride* (L.) Moq.

Amaranthaceae

Origin: E. Asia.

Indonesian names: Slender Amaranth.

Description: Terrestrial, annual, erect or somewhat prostrate herb, up to 80 cm tall. Taproot white or brown. Stem solid, glabrous, grooved. Stipules absent. Leaves simple, not lobed or divided, opposite, stalked, ovate, glabrous on both sides, margin entire, apex acute, rounded or emarginated, base acute, rounded or truncate, pinnately veined. Flowers bisexual, grouped in a terminal spike, sessile, petals 3, green. Fruit nut-like.

Habitat: From East Asia origin, A. gracilis widespread in tropical and subtropical regions of the world and in the upland rice. It is found in well drained soils in open waste place and cultivated land, especially prefers sandy soils or those rich in humus and fairly moist soils. The plant grows best in soils with no standing water and has good development in soils.Very common in Java below 300 m, goes up to 600 m.

Uses: An infusion of the entire plant is used in Indonesia as a remedy against intestinal cramps, diarrhea and dysentery, and externally as a cooling agent to treat fever. In Malaysia inflammation and fever, and externally to treat wounds. A. gracilis is used in local medicine in Taiwan, Often in mixtures with other medicinal plants, to treat hepatitis, tight chest, bronchitis, asthma, and lung troubles, to stop bleeding and as a hair tonic. It is used locally in India against dysentery, as a cholagogue, abortifacient and to treat snake bite, in flamed wounds and boils, and in Thailand and Sri Lanka as galactagogue. Young tips eaten as vegetable.

Distribution: Pantropical, throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 88, 91

21 *Ambrosia artemisiifolia* L.

Synonyms: *Ambrosia chilensis* Hook. & Arn/*Ambrosia elata* Salisb./*Ambrosia elatior* L./*Ambrosia glandulosa* Scheele/*Ambrosia monophylla* (Walter) Rydb./*Iva monophylla* Walter

Asteraceae

Origin: America.

Indonesian names:

English names: Common Ragweed.

Description: Annual erect branched herb, grows up to about one meter (3 feet) in height. Its wind-dispersed pollen is a strong allergen to many people with hay fever. Common Ragweed emerges in the late spring, and sets seed in later summer or fall. Leaves petioled, more or less triangular, 2-3 pinatifid with narrow segment, both surface appressed-pubescent, petiole with a cuneate base. Inflorescent in heads or short or rather short, filiform peduncles, in long, thin spike.

Habitat: *Ambrosia artemisiifolia* is commonly found in ruderal or waste sites associated with frequent and extensive disturbance regimes resulting from human activities. Roadsides, railways, gravel pits, construction sites, agricultural fields, waterways, urban areas, and private gardens are all sites that this species establishes easily and prolifically on (Bohren, 2006). Common ragweed is a pioneer species establishing after disturbance in early successional plant communities (Maupin & Apparicio, 2004). It prefers full sun and warm areas, with nutrient rich and slightly acidic soils (Wittenberg, R. (ed.) 2005) and can tolerate dry soil conditions (Maupin & Apparicio, 2004). The texture of the soil does not play an important role in establishment but the thickness of the organic layer is inversely related to its presence (Maupin & Apparicio, 2004).

Uses: *Ambrosia artemisiifolia* is used in phytoremediation projects, removing heavy metals such as Lead from the soil.

Distribution: In Java once (1954) collected in Pengalengan, tea-plantation Talun; 1650 m alt.

Impact: No detail information

Images source: forestryimages.org

References/Notes: 1, 88, 104.

22 *Ammannia baccifera* L.

Synonyms: *Ammannia apiculata* Koehne/*Ammannia crassissima* Koehne/*Ammannia debilis* Aiton/*Ammannia discolor* Nakai/*Celosia bicolor* Blanco/*Cryptotheca apetala* Blume

Lythraceae

Origin: Asia.

Indonesian names: -

English names: Blistering Ammania.

Description: Terrestrial, annual, erect herb, up to 60 cm tall. Taproot white or brown. Stem quadrangular, solid, glabrous. Stipules absent. Leaves simple, not lobed or divided, opposite, sessile, lanceolate, less than 2 cm long/wide, margin entire, apex acute or obtuse, base cordate or obtuse, one-veined. Flowers bisexual, grouped together in an axillary, sessile glomerules, red, pink, or purple, petals absent. Fruit a capsule, opening irregularly, transversely.

Habitat: In inundated or very wet sites, from 0-1200 m alt; lowland rice fields.

Uses: In India, leaves are used to reduce the sexual libido in animals.

Distribution: Tropical America and Asia. Throughout Indonesia, except Kalimantan, as far as known.

Impact: No detail information

Images source: (Koley) medplants.blogspot.com

References/Notes: 3, 91, 148.

23 *Ammannia microcarpa* DC.

Synonyms: No synonym was found

Lythraceae

Origin: Tropical Asia.

Indonesian names: -

English names: -

Description: microcarpus,-a,-um; from Gr. mikros, small, little; karpos, fruit: with small fruits, with small sori (ferns), small-fruited.

Habitat: -

Uses: -

Distribution: Tropical Asia. In Indonesia: Sumatra, Java, and the Lesser Sunda Islands, as far as known.

Impact: No detail information

Images source: plants.jstor.org

References/Notes: 3, 319.

24 *Ammannia octandra* L.f.

Synonyms: *Ammannia coccinea* Pers. /*Ammanella linearis* Miq./*Diplostemon octandrum* Miq.

Lythraceae

Origin: Tropical Asia.

Indonesian names: -

English names: -

Description: Terrestrial anuual erect herbs, to 50 cm high. Leaves opposite, 4.5 x 0.7 cm, oblong-lanceolate, chartaceous, glabrous, base auriculate-subcordate, margin entire, apex acuminate. Inflorescent: Cymes simple, axillary; pedicel to 1 mm. Flowers 7 mm across. Calyx-tube 4 mm, angular, margins sharp; lobes 4, 1 mm. Petals 4, red with a darker midnerve, orbicular, 4 mm, fugacious, crumpled. Stamens 4+4, inserted at different levels on calyx-tube; filaments to 6 mm. Ovary 1.5 mm, 4-celled; style 5 mm. Capsule 4.5 mm, equalling the thick calyx-tube; seeds turgid.

Habitat: It is an annual. It grows in low lying moist places, edge of tanks, marshes and rice fields.

Uses: -

Distribution: Tropical Asia. In Indonesia: so far only found in Java.

Impact: No detail information

Images source: idao.cirad.fr

References/Notes: 3, 110.

25 *Andrographis paniculata* (Burm.f.) Nees

Synonyms: *Andrographis paniculata var. glandulosa* Trimen. /*Justicia paniculata* Burm.f.

Acanthaceae

Origin: India

Indonesian names: Sambiloto (Javanese), papaitan (Sumatera), ki oray, ki peurat, ki ular, takilo, bidara, sadilata, sambilata, takila (Javanese).

English names: Creat, Green Chirayta, King of bitters.

Description: Annual erect herbs, up to a height of 30–110 cm in moist, shady places. The slender stem is dark green, squared in cross-section with longitudinal furrows and wings along the angles. The lance-shaped leaves have hairless blades measuring up to 8 centimeters long by 2.5 wide. The small flowers are borne in spreading racemes. The fruit is a capsule around 2 centimeters long and a few millimeters wide. It contains many yellow-brown seeds.

Habitat: It can be found in a variety of habitats, such as plains, hillsides, coastlines, disturbed and cultivated areas such as roadsides, farms, and wastelands.

Uses: Medicinal use (antihepatotoxic, antibiotic, antimalarial, antihepatitic, antithrombogenic, antiinflammatory). According to Ayurveda the plant is bitter, acrid, cooling, laxative, vulnerary, antipyretic, antiperiodic, anti-inflammatory, expectorant, depurative, soporific, anthelmintic, digestive and useful in hyperdispsia, buring sensation, wounds, ulcers, chronic fever, malarial and intermittent fevers, inflammations, cough, bronchitis, skin diseases, leprosy, colic, flatulence, diarrhoea, dysentery, haemorrhoids etc. Kalmegh is also a reputed Homoeopathic drug. In Bengal (India), household medicine known as "Alui" is prepared from fresh leaves and is given to children suffering from stomach complaints. Recent experimental finding indicated that Kalmegh is having antityphoid and antibiotic properties. It has been proved to be hepatopratective drug.

Distribution: It has been introduced and cultivated as a medicinal plant in many parts of Asia including Indo-China, China, Thailand, Peninsular Malaysia, Indonesia, the Philippines and Australia. It is now widely naturalized in most of these regions. It has also been introduced, possibly for its ornamental value, in the West Indies and C. America

Impact: No detail information

Images source: taibif.tw (1), hkwildlife.net (2,3) Note: This species seem never be invasive in Indonesia.

References/Notes: 75, 88, 89

26 *Argemone mexicana* L.

Synonyms: *Argemone sexvalvis* Stokes/*Argemone spinosa* Gaterau/*Argemone versicolor* Salisb./*Argemone vulgaris* Spach/*Echtrus mexicanus* (L.) Nieuwl./*Echtrus trivialis* Lour./*Papaver mexicanum* (L.) E.H.L.Krause

Papaveraceae

Origin: The West Indies.

Indonesian names: Kacang meongan, asem-aseman, anjang.

English names: Mexican Poppy.

Description: -Deskripsi belum ada sulit dijumpai di Indonesia sebaiknya dikeluarkan.

Habitat: -

Uses: A popular medicinal herb in India where it is known as satyanashi, it is used for cough, asthma, phlegm in the throat, dysentery and rheumatism.

Distribution: Naturalized in Java.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 202, 252.

27 *Artanema longifolium* L. Vatke

Synonyms: *Artanema longiflorum* Wettst./*Artanema angustifolium* Benth./*Artanema cabrae* De Wild. & T. Durand/*Artanema sesamoides* (Vahl) Benth./*Achimenes sesamioides* Vahl/*Columnea longifolia* L./*Diceros longifolius* (L.) Pers.

Scrophulariaceae

Origin: America or subtropical Africa.

Indonesian names: -

English names: -

Description: Errect herbs with acutely quadrangular-tetrapterous stem. Leaves opposite, to 20 x 8 cm, elliptic, acuminate, serrate, attenuate at base, glabrous; nerves to 6 pairs, distinct below; petiole short or absent. Inflorescent: Racemes terminal, to 20 cm long; bracts leafy; bracteoles absent. Flowers sessile, to 25 mm long; calyx 12 mm long, campanulate, divided to the middle, lobes acuminate, glabrous; corolla 2.5 cm long, 2-lipped, deep violet, upper lip round or emarginate, lower lip 3-lobed, lobes orbicular; stamens 4, filaments of longer stamen curved or arched, with an orbicular basal appendage, anthers connate in pairs; ovary 2-furrowed, many-ovuled; style long, slender, stigma spathulate. Capsule 7 x 8 mm, depressed globose; seeds cylindrical, puberulus, brown.

Habitat: Moist deciduous forests and grasslands.

Uses: In Nigeria and Tanzania the leaves of *Artanema longifolium* are collected from the wild and eaten as a vegetable.

Distribution: Throughout Indonesia, except the Lesser Sunda Islands and the Moluccas, as far as known; Tidal areas of Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: tropical.theferns.info

References/Notes: 3, 31, 110, 253.

28 *Artemisia vulgaris* L.

Synonyms: *A. affinis* Hassk./*A. cannabifolia* H.Lév./*A. coarctata* Forselles/*A. eriophora* Ledeb./*A. flodmanii* Rydb./*A. glabrata* DC./*A. heyneana* Wall./*A. parviflora* Wight/.

Asteraceae

Origin: Europe, Continental Asia, & N. America (+northern Africa?).

Indonesian names: Baru cina (Indonesia, Sumatera), Daun manis, brobos krebo; Beunghar kucicing, jukut lokot mala, suket gajahan (javanese); Kolo, goro-goro cina (Maluku).

English names: Mugwort or common wormwood.

Description: Atall herbaceous perennial plant growing 1–2 m (rarely 2.5 m) tall, with a woody root. Leaves are 5–20 cm long, dark green, pinnate, with dense white tomentose hairs on the underside, thiny hairy above. The erect stem often has a red-purplish tinge. The rather small flowers (5 mm long) are radially symmetrical with many yellow or dark red petals. The narrow and numerous capitula (flower heads) spread out in racemose panicles. It flowers from July to September.

Habitat: It is a very common plant growing on nitrogenous soils, like weedy and uncultivated areas, such as waste places and roadsides.

Uses: Mugworts are used medicinally, especially in Chinese, Japanese and South Korean traditional medicine, and are used as an herb to flavor food.

Distribution: Naturalized in Java; locally a common weed in open localities, chinchona- and tea-plantations, road-sides, sandyplains, dikelets of rice-fields, agricultural fields; at dusun Lebo, desa Madiredo,kecamatan Pujon, Kabupaten Malang; weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali; Introduced and naturalized locally in SE. Asia, e.g. in Java, Peninsular Malaysia and the Philippines.

Impact: As a weed in open localities

Images source: Flickr.com

References/Notes: 1, 2, 22, 34, 70, 75, 88.

29 *Asystasia gangetica* (L.) T. Anders.

Synonyms: *Asystasia acuminata* Klotzsch/*Asystasia bojeriana* Nees/*Asystasia calycina* Nees/*Asystasia intrusa* (Forssk.) Blume/*Dyschoriste biloba* Hochst./*Justicia gangetica* L.

Acanthaceae

Origin: India & Ceylon

Indonesian names: Ruas-ruas

English names: Chinese violet

Description: Erect, ascending or clumbering herbs, This plant is a spreading herb or groundcover, reaching 60 cm in height or up to 1 m if supported. The stems rooted easily at the nodes. Leaves ovate, simple and opposite, from cordate-rounded to obtuse-cuneate, not or hardly decurret base, pubescent beneath at least on the nerves. Fruit is an explosive capsule which starts out green in colour, but dries to brown after opening.

Habitat: Tropical and subtropical areas. Found primarily in urban areas or in low elevation, disturbed habitats. In Australia, most infestations occur on vacant residential land, along fencelines and in neglected garden beds or along roadsides and found on coastal sandy soils. In South-East Asia and Pacific Islands found in rubber, oilpalm, coffee and other crops (CRC for Australian Weed Management 2003).

Uses: In some parts of Africa, the leaves are eaten as a vegetable and used as an herbal remedy in traditional African medicine. The leaves are used in many parts of Nigeria as a traditional African medicine for the management of asthma. It is also used as an ornamental plant.

Distribution: Naturalized in Java and Madura; Tidal areas of Kalimantan Selatan (Banjarmasin, Sungai Tabuk)

Impact: Cayman Brac (Cayman Islands)

Competition: *Asystasia gangetica* can form a dense ground cover, presumably competing with native species (Burton, 2003 in Varnham, 2006).

Images source: Flickr.com

References/Notes: 1, 31, 88, 104

30 *Athroisma laciniatum* DC

Synonyms: *Athroisma viscida* Zoll. & Mor.//*Aetheocephalus thorelii* Gagnep./*Sphaeranthus laciniatus* Wall.

Asteraceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: -

Habitat: -

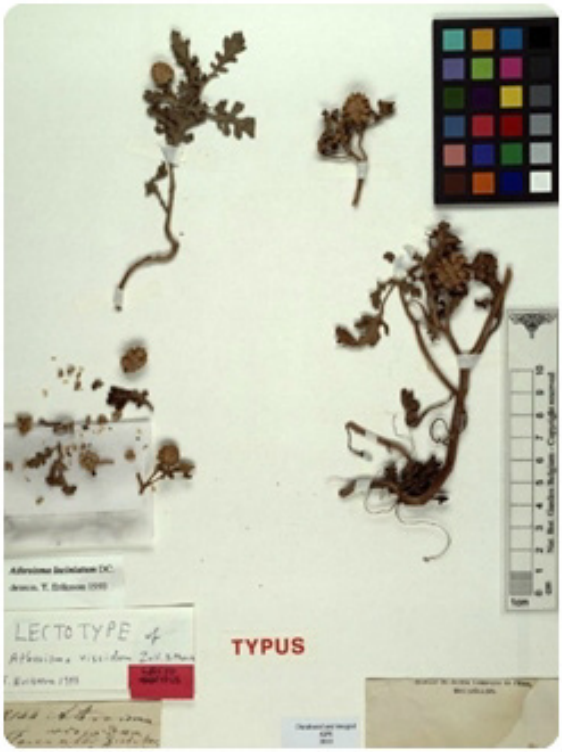
Uses: -

Distribution: In Indonesia in the northern plain of Java and the islands of Madura and Kangean.

Impact: No detail information

Images source: Europeana.cu

References/Notes: 3.



31 *Austroeupatorium inulaefolium* (Kunth) R. M. King & H. ROB

Synonyms: *Eupatorium horsfieldii* Mig./*E. inulaefolium* Kunth//*E. orgyale* DC./*E. pallescens* DC./*E. pallidum* Hook. & Arn./*E. paranense* Hook. & Arn./*E. suaveolens* Kunth

Asteraceae

Origin: Tropical America.

Indonesian names:

English names: Austroeupatorium.

Description: A perennial spreading scrambling shrub 1 to 5 m tall. Stems terete, covered with dense short hairs. Leaves opposite, spear-shaped, 7 to18 cm long, 2.5 to 8 cm wide, pubescent, pale green beneath, abruptly narrowing to a wedge-shaped petiole 0.5 to 3 cm long. Floral heads 2 to 3 mm diam., 5 to 6 mm long, arranged in large terminal corymbs; each head comprising 3 or 4 series of involucral bracts enclosing 10 to15 creamy white florets with corollas 4 to 5 mm long; flowers fragrant. Achenes oblong, angular, to 1.5 mm long, with a whitish pappus 4 mm long" (Waterhouse & Mitchell 1998, in PIER 2008).

Habitat: Savannas, swamps, forest borders, disturbed areas, 100 to 2100 m (Berry *et al* 1997, in PIER 2008). Disturbed forest, plantations and perennial crops, roadsides. Prefers moist conditions. Near sea level to 2000 m altitude (Waterhouse & Mitchell 1998, in PIER 2008). The recent naturalization of the Neotropical *Austroeupatorium inulifolium* (Kunth) R. M. King & H. Rob. has been observed at 1300 to 1400 meter altitudes in the Central Mountain Range of Taiwan (Hsu Peng & Wang 2006). In Taiwan it can reach two meters tall on open slopes, along road sides or in landslide areas and it is associated with other weedy plants (Hsu Peng & Wang 2006).

Uses:

Distribution: Introduced elsewhere.

Impact: No detail information

Images source: Flickr.com

References/Notes: 2, 104.

32 *Axonopus compressus* (Sw.) P.Beauv.

Synonyms: *A. kisantuensis* Vanderyst/*A. multipes* Swallen/./*A. platycaulis* (Poir.) Nash/*A. platycaulis* (Poir.) Nash//*Digitaria platicaulis* (Poir.) Desv./*Milium compressum* Sw./*Panicum platycaulon* (Poir.) Kuntze//*P. depressum* Steud./*P. macropodium* Steud.

Poaceae

Origin: Tropical America.

Indonesian names: Jukut pahit (Sundanese), Paitan (Javanese)

English names: American carpet grass, broadleaf carpet grass, tropical carpet grass, blanket grass, lawn grass, Louisiana grass, savanna grass, Kearsney grass.

Description: Perennial tufted, stoloniferous grass, forming loose mats,. It has stouter culms and stolons, wider leaves and longer spikelets which are more acute. Leaves are 9-12 mm wide and it forms a dense mat over the surface of the ground, seldom reaching a height of more than 15 cm. Leaf sheats strongly compressed with winged-keeled back, nodes with a crown of long white hairs. Inflorescence compound with slender peduncles. Spikelets subsessile in 2 alternate rows, pressed against the rachis, narrowly oblong, pale green. The spikelets are 2.2-2.5 mm with pronounced tuft of hairs at the apex of the lemma.

Habitat: -

Uses: -

Distribution: Pantropical, also subtropical, in the New World from the southern USA to Argentina. Throughout Indonesia,. *Morus alba* plantations, South Sulawesi; Young rubber plantations (3 years), oil palm plantations (4 years) in South Sumatra; Experimental garden of Banjar Baru, South Kalimantan; Oil palm plantations in Medan, North Sumatra; Bogor Botanic Garden; Tidal areas of South Kalimantan (Banjarmasin, Barambai, Belandean, Belawang, Sakalagun, Handil Manarap) and Central Kalimantan (Unit Tatas); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Kalitirto, Berbah, Sleman, Yogyakarta; Weed of cotton plantations Gading (Kabupaten Gunung Kidul, Yogyakarta); Weed of rubber plantations Cimulang, Bogor; Undergrowth plant Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java.

Impact: Weed of tea, cotton, and rubber plantations

Images source: Flickr.com

References/Notes: 1, 3, 11, 13, 19, 24, 30, 31, 34, 38, 40, 47, 72, 88, 196, 207.

33 *Ayapana triplinervis* (Vahl) R.M.King & H.Rob.

Synonyms: *Eupatorium triplinerve* Vahl /*Eupatorium luzoniense* Llanos/*Eupatorium triplinerve* Vahl/

Asteraceae

Origin: Brazil.

Indonesian names: Prasman, Jukut prasman (Sundanese); godong prasman, raja panah (Javanese); acerang, daun prasman, daun panahan (Sumatera).

English names: Ayapana tea.

Description: An erect annual herb, grows up to 90 cm in height. Leaves simple, opposite, lanceolate, acuminate, glabrous, subsessile; flowers light blue, tubular coryms; fruits 5 sided truncated.

Habitat: -

Uses: Plant pacifies vitiated kapha, pitta, dyspepsia, hemorrhage, hemoptysis, menorrhagia, wounds, edema, ulcers, stomatitis, cardiac debility, skin diseases, poison bites, cough, asthma, bronchitis and general debility.

Distribution: Very long ago introduced in Java, there locally cultivated for medicinal purposes and as a groundcover in tea- and rubber-plantations; Introduced into Indonesia and the Philippines, locally naturalized in Java. It is occasionnally cultivated and naturalized elsewhere (e.g. in India).

Impact: No detail information

Images source: wikimedia.org

References/Notes: 1, 80, 124.

34 *Azolla pinnata* R. Br.

Origin: Tropical Asia.

Indonesian names: Mata lele (Javanese), kayu apu dadak, kakarewoan (Sundanese).

English names: Feathered mosquitofern and water velvet.

Description: Tiny free-floating, pinnately-branched water fern with a triangular frond measuring up to 2.5 centimeters in length. The frond is made up of many rounded or angular overlapping leaves each 1 or 2 millimeters long. They are green, blue-green, or dark red in color and coated in tiny hairs, giving them a velvety appearance. The hairs make the top surface of the leaf water-repellent, keeping the plant afloat even after being pushed under. A water body may be coated in a dense layer of the plants, which form a velvety mat that crowds out other plants.

Habitat: It has the ability to survive on moist soil in and around rivers, ditches, and ponds which may allow the plant to survive low water levels and periods of drought. (NC Aquatic Fact Sheet).

Uses: Azolla is useful as a "soybean plant in rice field", because it can assimilate atmospheric nitrogen gas owing to the nitrogen fixation by cyanobacteria (blue green alga) living in the cavities located at the lower side of upper (dorsal) lobes of leaf. (Duke).

Distribution: Pantropical. Throughout Indonesia, except the Lesser Sunda island, the Moluccas and Papua; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Handil Manarap).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 31, 88, 104, 145.

35 *Bacopa floribunda* (R.Br.) Wettst.

Synonyms: *Bacopa pubescens* (Skan) Hutch. & Dalziel/*Bramia floribunda* (R.Br.) F.Muell./*Herpestis floribunda* R. Br./*Mella floribunda* (R.Br.) Pennell/*Moniera pubescens* Skan/*Stemodia floribunda* (R.Br.) Roberty

Scrophulariaceae

Origin: Tropical Asia.

Indonesian names: -

English names: -

Description: Annual erect branched or unbranched herb, often profusely flowering, 10-65 cm tall. Stem erect, 10-30 cm, subquadrangular, glabrous, slightly branched at base. Leaves opposite, sessile lanceolate-linear, 1.8-3.1 cm, acute, entire, narrowly revolute at margins, finely gland-dotted. Flowers bisexual, zygomorphic, 1 or 2 in an axil, on short slender pedicels; bracteoles filiform, sepals membranous, veiny, puberulous, outer ones broadly oval, obtuse.

Habitat: *Bacopa floribunda* is an annual found mostly in wet places, in rice fields and often on wet sand around drying ponds.

Uses: -

Distribution: Throughout Indonesia, except Kalimantan, the Moluccas and Papua, as far as known.

Impact: No detail information

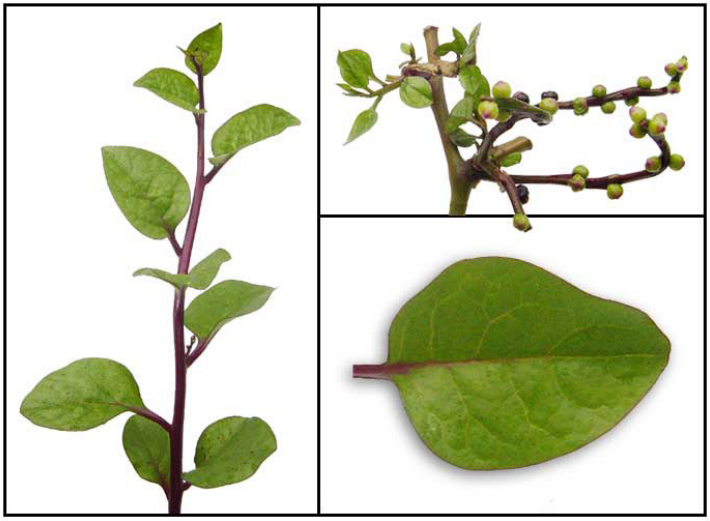
Images source: Flickr.com

References/Notes: 3, 110.

36 *Bassela alba L.*

Synonyms: Basella cordifolia Lam./Basella crassifolia Salisb./Basella japonica Burm.f./ Basella lucida L./Basella nigra Lour./Basella rubra L.

Basellaceae



Origin: India.

Indonesian names: Binahong

English names: Vine Spinach, Red Vine Spinach, Climbing Spinach, Creeping Spinach, Buffalo Spinach, Malabar Spinach And Ceylon Spinach Among Others.

Description: A twining herbaceous vine, succulent, branched, smooth, several meters in length. Stems are purplish or greenish. Leaves are fleshy, ovate or heart-shaped, 5 to 12 centimeters long, stalked, tapering to a pointed tip with a cordate base. Spikes are axillary, solitary, 5 to 29 centimeters long. Flowers are pink, about 4 millimeters long. Fruit is fleshy, stalkless, ovoid or nearly spherical, 5 to 6 millimeters long, and purple when mature.

Habitat: Found in settled areas, in hedges, old cultivated areas, etc; Often cultivated; Prehistoric introduction.

Uses: Edibility /Nutrition, Folkloric, Cosmetic, Dye, Veterinary, Pharmaceuticals.

Distribution: Occurs in tropical Asia, Africa, and Malaya.

Impact: No detail information

Images source: Stuartxchange.com

References/Notes: 119, 293.

37 *Bauhinia purpurea* L.

Synonyms: *Bauhinia castrata* Blanco/*Bauhinia coromandeliana* DC./*Bauhinia platyphylla* Span./*Bauhinia rosea* Corner/*Caspareopsis purpurea* (L.) Pittier/*Phanera purpurea* (L.) Benth.

Caesalpiniaceae/Leguminosae

Origin: Continental Asia.

Indonesian names: Bunga kupu-kupu.

English names: Butterfly tree, Pink butterfly tree, Purple bauhinia, Purple butterfly tree, Purple orchid tree.

Description: A small to medium-size deciduous tree, up to 17 ft tall. The leaves are 10–20 cm long and broad, rounded, and bilobed at the base and apex. The flowers are conspicuous, pink, and fragrant, with five petals. The fruit is a pod 30 cm long, containing 12 to 16 seeds.Have long seeds as pea.leaves are alternate.

Habitat: -

Uses: *Bauhinia purpurea* is used in several traditional medicine systems to treat various diseases.

Distribution: In Java often cultivated as an ornamental, and locally (i.a. near Songgoriti, East Java, ± 1000 m alt.) ± run wild.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 88, 125.

38 *Bergia ammannioides* Roxb. ex Roth

Synonyms: *Bergia oryzetorum* Fenzl ex Zoll./*Bergia pentandra* Cambess. ex Guill. & Perr./*Elatine ammannioides* Wight & Arn.

Elatinaceae

Origin: Tropical Africa or Tropical Asia.

Indonesian names: -

English names: -

Description: Erect, ascending or decumbent herbs, often deep-rooted; branches usually opposite; stems terete, slightly swollen at nodes, frequently woody at base, glandular-pubescent, often purple-shaded. Leaves desussate, subsessile, elliptic, oblong or obovate-oblong, cuneate at base, shortly dentate-serrate at margin, acute at apex, 5-25 x 2-6 mm; midnerve very prominent and glandular beneath, sunken but prominent above; lateral nerves 3 or 4 pairs, alternate; stipules ovate-lanceolate or narrowly 3-angled, acuminate at apex, ca 1.5x 0.6 mm, glandular hairy at margin. Flowers ca 1 mm across, in axillary fascicles; pedicels ca 1.5 mm long, pilose. Sepals 3, ovate-lanceolate, acuminate at apex, ca 1-1.3 x ca 0.5 mm, hyaline and ciliate at margin. Petals 3, elliptic, obtuse at apex and often apiculate, as long as sepals, membranous, white or pinkish. Stamens 3, ca 1 mm long. Carpels 5, connate; ovary globose; styles 5, recurved. Capsules globose, ca 1.5 mm, with 5 longitudinal furrows, dehiscing into 5 valves at maturity; seeds numerous, minute, oblong or subcylindric, reticulate, shining, brown.

Habitat: Fallow lands, paddy fields and grasslands.

Uses: -

Distribution: Tropical Asia, Iran, Afghanistan, Tropical Asia, China, Taiwan, Australia, Malesia, Philippines. In Indonesia: Java, Madura, Sumba, and Timor as far as known.

Impact: No detail information

Images source: wildflowers.co.il

References/Notes: 3, 110.

39 *Bergia capensis* L.

Synonyms: *Bergia aquatica* Roxb./*Bergia repens* Blume/*Bergia verticillata* Willd./*Elatine luxurians* Delile/*Elatine verticillata* Wight & Arn.

Elatinaceae

Origin: S. India.

Indonesian names: -

English names: -

Description: Herbs annual, 15-30 cm tall. Stem prostrate and rooting in lower part, terete, slightly fleshy, glabrous; branches erect. Stipules ovate-triangular, membranous, margin dentate-sinuate; petiole 1-5 mm, flattened; leaf blade elliptic-lanceolate, obovate-lanceolate, or obovate, 1-4 × 0.2-1 cm, papery, base acuminate, margin minutely serrulate or subentire, apex acute or attenuate. Flowers arranged into small, axillary cymes, subsessile or with short pedicel 1-5 mm, very small. Sepals erect, narrowly lanceolate, 1-2 mm. Petals pink, oblong or subspatulate, subequaling or slightly exceeding sepals. Stamens 10, free; filaments filiform, base slightly widened. Ovary subglobose; styles straight or curved. Capsule subglobose, ca. 1.8 mm in diam., longitudinally 5-grooved, 5-septicidal. Seeds oblong, minute, angular or transversely striate.

Habitat: Paddy fields, moist places along ditch sides.

Uses: -

Distribution: India, Ceylon. In Indonesia (so far): Java

Impact: No detail information

Images source: florasilvestre.es

40 *Bidens pilosa* L.

Synonyms: *Bidens sundaica* Blume/*Bidens leucantha* (L.) Willd/*Ceratocephalus pilosus* Rich. ex Cass./*Coreopsis alba* L./*Glossogyne chinensis* Less./*Kerneria dubia* Cass./*K. pilosa* (L.) Lowe

Asteraceae

References/Notes: 3, 162.

Origin: S. Africa.

Indonesian names: Ajeran, hareuga (Sundanese), jaringan, ketul (Javanese).

English names: Cobbler's Pegs or Spanish Needle.

Description: An annual forb, of gracile habit. It does however grow aggressively enough on disturbed land to become a weed. The leaves are opposite. They are pinnate with three to five dentate, ovate-to-lanceolate leaflets. The petioles are slightly winged.

Bidens pilosa may flower at any time of the year, but in temperate regions mainly in summer and autumn. Flowers are borne in small heads on relatively long peduncles. The heads bear about four or five broad white petals of ray florets, surrounding a disk of tubular yellow florets; this is a morphology that occurs commonly in the Asteraceae. The fruits are slightly curved, stiff, rough black rods, tetragonal in cross section, about 1 cm long, with typically two to three stiff, heavily barbed awns at their distal ends. The infructescences form stellate spherical burrs about one to two cm in diameter. They present the barbed awns to best advantage to catch onto animals or clothing. The fruit cling to livestock and humans, sometimes injuriously. It is an effective means of seed dispersal by zoochory, through which the plant has become a cosmopolitan weed in temperate-to-tropical regions.

Habitat: This plant is considered a weed in some tropical habitats.

Uses: Source food or medicine.

Distribution: Before 1835 already naturalized in Java; has spread everywhere except Kalimantan and the Moluccas; Pan(sub)tropical, one variety in Sumatera; Coffee plantations in South Sulawesi; Oil Palm plantation in South Sumatera; Sifting cultivation Timor, NTT; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: As a weed in the vegetable fields

Images source: wikimedia.org

References/Notes: 1, 2, 3, 11, 13, 13, 34, 70, 88, 92, 108.

41 *Blyxa aubertii* Rich.

Synonyms:*Blyxa ceylanica* Hook.f./*Blyxa ecaudata* Hayata/*Blyxa griffithii* Planch. ex Hook.f./*Blyxa malayana* Ridl./*Blyxa zeylanica* Hook.f.

Hydrocharitaceae

Origin: Tropical Asia.

Indonesian names: -

English names: Roundfruit Blyxa, javanese rush.

Description: *Blyxa aubertii* is a species that has been around for many years, but it is not terribly popular and has never become truly well established in the hobby. The reason for this is not entirely clear. This plant is perhaps slightly more demanding than its more common relative, *B. japonica*, but it has much to offer in terms of size and appearance. Unlike many aquarium plants, *B. aubertii* is a true aquatic, found in a variety of submerged environments. These plants are part of the Hydrocharitaceae tape-grass family, and this is quite descriptive of the appearance of individual leaves. The plant appears to be a classic rosette, but closer inspection reveals an internal structure of short stems.

Habitat: In Asia it is also found in paddy fields, ditches and even wells.

Uses: Use in aquascaping.

Distribution: S. E. USA, S. and E. Asia, S. Africa, India, Ceylon, Burma, Indochiina, China, Japan, Korea, throughout Malesia to Tropical Australia, Pacific Islands. In Indonesia: so far known from Sumatra, Java, the Moluccas and Papua; Tidal areas of South Kalimantan (Handil Manarap).

Impact: No detail information

Images source: aquariahome.net

References/Notes: 3, 31, 88, 148, 170.

42 *Boerhavia erecta* L.

Synonyms: *Boerhavia elongata* Salisb./*Boerhavia thornberi* M.E. Jones/*Valeriana latifolia* M. Martens & Galeotti

Nyctaginaceae

Origin: Tropical & subtropical America.

Indonesian names: -

English names: Erect spiderling.

Description: Erect or decumbent at very base herb with perennating buds near the ground surface. Most species of the *B. erecta* grow 60 centimetres (24 in) tall and 3–5 millimetres (0.12–0.20 in) across. The stems are often cylindrical and do not possess furrows or ridges. The stems are green with hints of purple and are covered in soft, minuscule hair. In different nodes (undifferentiated tissue) of the stem, there is fine hair and sticky bands. The base of the stem, becomes glabrous and woody. Leaf: somewhat fleshy (soft and thick) and are situated in an unequal opposite arrangement. An opposite arrangement indicates that there are two leaves per node. The largest leaf is 3–4.5 cm (1.2–1.8 in) long and 2–3.5 cm (0.79–1.4 in) wide. The petiole on a large leaf is approximately 3 cm (1.2 in) long. A smaller leaf on the erect spiderling is 1.5–2.5 cm (0.59–0.98 in) long and 2–3.5 cm (0.79–1.4 in) wide, with a petiole less than 2 cm (0.79 in) long. The petioles of the leaf are pale green with a hint of purple. A petiole is a stalk that joins the leaf blade to the stem. The blade of the leaf is ovate, ovate- lanceolate or lanceolate. The upper portion of the leaf is green and consists of tiny hairs and may or may not be glandular dotted (consists of tiny clumps of end cells). The lower section of the leaf is grayish-white, with a slight combination of purplish red. The margins of the leaf exhibit a purplish-red color. The apex of the leaf is either acute or obtuse. The base of the leaf can be cuneate or truncate. Flower: *Boerhavia erecta* plants have determinative inflorescence. This means that the central flowers open first at the time of cell division. Flowering occurs in the early summer to mid-fall. *B. erecta* has multiple flowers on one branch. The peduncle is sturdy at the base and the capillaries are at the apex. The peduncle is green and purple with sticky internodal bands. Each inflorescence branch contains two leafy bracts (0.3-0.5 mm), which is a modified version of a leaf that assists in attracting pollinators. The bracts detaches at an early stage and are usually linear lanceolate. Gathered at the apex of the peduncle are 2–6 sessile flowers. Each flower is a pale yellow color combined with purple. The flowers portray a narrow lanceolate shape. The whorls of the flower are bell-shaped with hairs towards the middle. The whorls are pink, 5-lobed, 1.5 mm long and 2 mm wide when it is open. There are 2-3 stamens in each flower.

The filaments are white and 1 mm long. The anthers on the filament are 0.3 mm across, white and circular. The style is white and 1 mm long. The stigma is white and 0.3 mm across. Anthocarps (false fruits) are circular and flat. They are 5-ribbed (0.3-0.5 mm wide) and glabrous. The ribs have a wrinkly texture transversely and have needle- like crystals, known as raphide, that run longitudinally. The sticky fruits of this plant are dispersed by humans and animals.

Habitat: It is found in deciduous forest, this forest acahuales derivatives, ruderal and crops (Fay, 1980), gardens, edges of roads or water bodies.

Uses: *Boerhavia erecta* is used in production of medicine as well as food. *Boerhavia erecta* is found in many vegetables such as legumes and cotton. It is also found in sugar canes. In West and East Africa, the leaves are eaten as a vegetable and used in the preparation of sauces. Cattle in the Sahel, eat the leaves before flowers develop. The medicinal uses of *Boerhavia erecta* are similar to the species *Boerhavia diffusa*, because of the compound alkaloid purnarnavine. In India, the root is used as a diuretic to treat jaundice, enlarged spleen, gonorrhea and other internal inflammations. It is also used as stomachic, cardiotonic, hepatoprotective, laxative, anthelmintic (expels parasitic worms), febrifuge (reduces fever), and an expectorant. In moderate doses it is used in the treatment of asthma. In higher dosages it is used as an emetic and purgative. A decoction mash of the entire plant is used to treat gastro-intestinal, liver and infertility problems in Mali. A paste of the roots is rubbed on the skin to ripen abscesses and ulcers. In Niger, the ash is rubbed on the skin to prevent fungal infections. In Benin it is used to treat convulsions in children. In southern Sudan the roots are used to treat the base of a newly severed umbilical cord. In Kenya, people crush the leaves to and mix it with water to treat diarrhea. In Tanzania, the ash of the plant is mixed with oil to treat rheumatism and scabies. The sap that is produced in the leaves is squeezed into the eye to treat conjunctivitis.

Distribution: Naturalized in Java at 1-700 m alt; Pantropical, not in Australia. Throughout Indonesia, except Kalimantan and the Lesser Sunda Islands; Weed of cotton plantations Banguntapan (Kabupaten Bantul, Yogyakarta) and Kalitirto (Kabupaten Sleman, Yogyakarta).

Impact: Weed of cotton plantations

Images source: Flickr.com (1,2,3), senckenberg.de (4,5)

References/Notes: 1, 3, 40, 88, 127, 189, 190, 191.

43 *Brachiaria eruciformis* (Sm.) Griseb.

Synonyms: *Brachiaria cruciformis* Griseb./*Brachiaria isachne* (Roth ex Roem. & Schult.) Stapf/*Echinochloa eruciformis* (Sm.) Rchb./*Milium alternans* Bubani/*Moorochloa eruciformis* (Sm.) Veldkamp/*Panicum caucasicum* Trin./*Panicum eruciformis* Sm./*Panicum ischane* Roth/*Urochloa eruciformis* (Sm.) C.Nelson, Sutherl. & Fern.Casas

Poaceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Coarse, stout perennial erect or scrambling grass. Leaves lanceate, 1.5-5 by 0.3-0.5 cm, pilose, margin scabrid, apex acuminate, sheath 2-4 cm long. Racemes terminal, cylindric, 7-9 cm long, branches triquetrous, winged, scabrid. Spikelet ellipsoid, secund-imbricate, densely pubescent, shortly stipitate; glumes unequal, membranous, lower glume a minute scale, upper glume as long as spikelet, 5-nerved, lower lemma 3-nerved, upper lemma crustaceous, smooth, 3-nerved; stamens 3. Caryopsis ovoid.

Habitat: It is a annual, common weed in cultivated fields, sometimes grows in roadsides, damp places, ditches, waste places and also as weed of coffee plantations (Cook 1996, Lakshminarasimhan and Sharma 1991, Kabeer and Nair 2009).

Uses: -

Distribution: In Indonesia: In Java and sugarcane plantations Camming Factory, South Sulawesi.

Impact: No detail information

Images source: altervista.org

References/Notes: 3, 25, 110

44 *Brachiaria mutica* (Forssk.) Stapf

Synonyms: *Brachiaria numidiana* (Lam.) Henrard/*Brachiaria purpurascens* (Raddi) Henrard/*Panicum amphibium* Steud./*Panicum limnaeum* Steud./*Panicum muticum* Forsk./*Panicum purpurascens* Raddi/*Urochloa mutica* (Forssk.) T.Q. Nguyen

Poaceae

Origin: Tropical Africa.

Indonesian names: Rumput malela.

English names: Para grass.

Description: A short-culmed, stoloniferous perennial erect or scrambling grass, to 200 cm high with long, hairy leaf-blades about 16 mm wide. Panicle 10-20 cm long with solitary racemose or compound branches and glabrous, acute, irregularly multiseriate spikelets 3-3.5 mm long.

Habitat: -

Uses: -

Distribution: Pantropical. Throughout Indonesia, so far not found in the Moluccas and Papua; Cotton plantations in South Sulawesi,; Oil palm plantations in South Sumatra; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap); Kalitirto, Berbah, Sleman, Yogyakarta; Weed of cotton plantations Banguntapan (Kabupaten Bantul, Yogyakarta), Segayung (Kabupaten Batang, Central Java), Gading (Kabupaten Gunung Kidul, Yogyakarta) and Kalitirto (Kabupaten Sleman, Yogyakarta).

Impact: Weed of cotton plantations

Images source: natureloveyou.sg

References/Notes: 3, 11, 13, 31, 38, 40, 196, 207.

45 *Brachiaria reptans* (L.) C.A. Gardner & C.E. Hubb.

Synonyms: *Brachiaria balansae* Henrard/*Brachiaria prostata* (Lam.) Griseb./*Digitaria umbrosa* (Retz.) Pers./*Panicum barbipedum* Hayata/*Panicum reptans* L./*Echinochloa reptans* (L.) Roberty/*Setaria umbrosa* (Retz.) P. Beauv./*Urochloa reptans* (L.) Stapf

Poaceae

Origin: Africa.

Indonesian names: Rumput rhodes.

English names: Running grass.

Description: Decumbent annual grass, 15-60 cm high rooting at nodes. Leaf-blades ovate-lanceolate, 2-8 cm long and 3-17 mm wide. Inflorescence of 5-16 cm racemes on an axis 1-8 cm long; racemes 1-4 cm in length with a triquetrous rhachis. Spikelets, glabrous, narrowly ovate, 1.5-2.2 mm long, borne in pairs and crowded on the rhachis.

Habitat: Roadside and undisturbed ground.

Uses: Palatable but not productive.

Distribution: Tropics of the Old and New World, from Polynesia to northern Australia. Throughout Indonesia, except Kalimantan, as far as known.

Impact: No detail information

Images source: arkive.org

References/Notes: 3, 207, 283.

46 *Breynia cernua* Muell. Arg.

Synonyms: *Breynia rubra* (Blume) Mull. Arg./*Breynia rumpens* J.J.Sm./*Melanthesa cernua* (Poir.) Decne./*Melanthesa rubra* Blume/*Phyllanthus blumei* Steud./*Phyllanthus ruber* Noronha

Euphorbiaceae

Origin: Australia.

Indonesian names: Gambiran

English names: Breynia, Fart bush

Description: A shrub 1-2 m tall. Leaves: Leaves arranged distichously on twigs so that each twig resembles a compound leaf. Stipules broadly triangular, small but persistent, about 1-2 mm long. Leaf blades about 25-40 x 15-23 mm. Lateral veins forming fairly distinct loops inside the blade margin. Leaves do NOT emit an obnoxious odour when crushed. Flowers: Flowers about 1-1.5 mm diam. at anthesis. Male flowers: Flowers with sessile anthers, fused to one another to form a staminal column in the centre of the flower. Female flowers: Flowers with a perianth that resembles an eggcup with the gynoecium enclosed like an egg in an eggcup. Style fleshy and swollen. Fruit: Tepals persistent at the base of the fruit. Fruit about 5-8 mm diam. A lateral cavity exists within the testa, and the endosperm and embryo are curved to accommodate the cavity. Seedlings: Cotyledons elliptic to obovate, about 8-10 x 4-5 mm. At the tenth leaf stage: leaf blade with a very small mucro at the apex, leaves arranged distichously on lateral shoots so that each lateral shoot resembles a compound leaf. Stipules triangular, about 0.5-2 mm long.

Habitat: The Fart Bush is fairly common in monsoon forest, but can turn up in moist areas anywhere, especially in beach forest and vine thickets. In the rainforest it is a regrowth species favoured by disturbance. It is found right across the top end of Australia, and down the eastern coastal strip as far as central Queensland, in an altitudinal range from near sea level to about 800 m. It also occurs in Malesia. .

Uses: This is a food plant for the larval stages of the Common Grass Yellow butterfly, *Eurema hecabe*

Distribution: Altitudinal range from near sea level to 800 m. Grows in beach forest, monsoon forest and vine thickets. Also occurs in Malesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 118, 121, 292

47 *Bulbostylis barbata* (Rottb.) C. B. Clarke

Synonyms: *Abildgaardia barbata* (Rottb.) P.Beauv./*Cyperus barbata* (Rottb.) Poir./*Fimbristylis barbata* (Rottb.) Benth./*Iria barbata* (Rottb.) Kuntze/*Isolepis barbata* (Rottb.) R.Br./*Scirpus barbatus* Rottb./*Stenophyllus barbatus* (Rottb.) T.Cooke

Cyperaceae

Origin: Unknown.

Indonesian names: -

English names: Watergrass.

Description: Annual plant with tufted sedge glabrous stems 5-30 cm tall. Leaves:Leaves shorter than the stems and curve downwards; leaf sheath with long white hairs; lamina longitudinally ridged. Flowers:Inflorescence capitate, with 3-20 spikelets, 5-15 mm across; involucral bracts 2-3, filiform, basal bract erect; spikelets sessile ovate to oblong; glumes reddish brown, strongly keeled;, keels on glomes greenish, margins of glumes toothed in the upper half, mucro on glumes curved outwards; stigma shorter than the style. Fruit: Seed triquetrous, obovate in outline, very smooth and white to cream coloured, 0.5-0.75 mm long.

Habitat: Altitudinal range from near sea level to 580 m. Grows in sclerophyll forest, open forest, deciduous vine thicket, riverbeds, dune scrub and woodland. Widely distributed over the warm parts of the Old World, also in USA.

Uses: -

Distribution: Pantropical, also in the southern USA. Throughout Indonesia, except Kalimantan and Sulawesi, as far as known.

Impact: No detail information

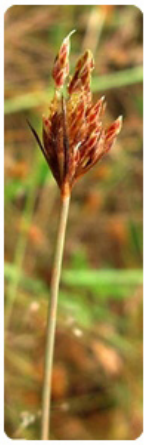
Images source: Flickr.com

References/Notes: 3, 118

48 *Bulbostylis puberula* Kunth

Synonyms: No synonyms are recorded for this species

Cyperaceae



Origin: Unknown.

Indonesian names: -

English names: -

Description: Erect, tufted, non-rhizomatous annuals; culms slender, 6-32 cm tall, setaceous, pubescent. Leaves basal, 3-10 cm long, c. 0.5 mm wide, filiform, capillary, pubescent; sheaths 5-8 mm long, 4-5 ribbed, with stramineous spots, margins hyaline, mouth acute. Inflorescence subumbellate, 6-10 x 5-8 mm; bracts 2-4, one longer than the inflorescence, others shorter. Spikelets 4-8 x 1-1.5 mm, ovate-acute. Glumes spiral, 1.5-2 x 1-1.5 mm, ovate-acute, densely pubescent, mucronulate, strongly keeled, reddish-brown, 1-2 basal ones empty. Stamen 1; anther oblong. Style linear, broader at base; stigmas 3. Nut c. 1 x 0.5 mm, obovoid, triquetrous, transversely wrinkled, white-stramineous.

Habitat: Sandy areas near riverbanks and sea shores, and wastelands.

Uses: -

Distribution: Tropical Asia and Africa, rarely in Western Malesia. In Indonesia: Sumatra, Java, Madura and Kalimantan as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 110.

49 *Calliandra calothyrsus* Meissn

Synonyms: *Anneslia calothyrsa* (Meisn.) Kleinhoonte/*Anneslia confusa* Britton/*Anneslia similis* (Sprague & L. Riley) Britton & Rose/*Feuilleea calothyrsa* (Meisn.) Kuntze

Leguminosae

Origin: The plant is native to the humid and subhumid regions of Central America and Mexico

Indonesian names:

English names: Calliandra, red calliandra, powderpuff

Description: A small tree or shrub 2-12 m high, with a trunk diameter of up to 30 cm, with white to red brown bark and a dense canopy. Leaves twice-compound (bipinnate) and alternate; the rachis (main stem) is 10-19 cm long, without glands; rachilla are 2-11 cm long; there are 19-60 pairs of leaflets; leaflets a linear, oblong and pointed (acute) 5-8 x 1 mm.

Flowers in umbelliform (umbrella-like) clusters (outer whorl of sepals) of 10-30 cm length. Flower sepals and petals are green, calyx 2 mm long, corolla 5-6 mm long. The numerous red staminal filaments are 4-6 cm long. Fruits are broadly linear, flattened, 8-11 cm x 1 cm linear oblong pods with thickened and raised margins, finely hairy or hairless, brown dehiscent, 8(12) seeded. Seeds are ellipsoid, flattened, 5-7 mm long and mottled dark brown.

Habitat: *Calliandra calothyrsus* can very successfully colonise disturbed sites. It can be outcompeted in later successional stages but may persist in areas of continual disturbance such as along roadsides or where shifting cultivation is practiced. It has the potential to invade woodland areas.

Uses: *Calliandra calothyrsus* is being used in a number of agroforestry applications throughout the tropics (Baggio and Heuveldop 1984). It has been widely promoted as a fodder tree in Africa. It produces high quality fuelwood which can be harvested on an annual coppice rotation. It grows over a wide range of soil types and is often outstanding on infertile sites where it is used extensively for reclamation and improvement of the nitrogen status of soils. It has been introduced to most countries in Africa as an ornamental plant.

Distribution: Locations within which *Calliandra calothyrsus* is naturalised include the Indonesian archipelago. More recently it has been introduced to other areas of South-east Asia and is also under experimental evaluation in Africa, Australia, Brazil, Bolivia and Hawaii (Ella et al. 1989).

Impact: *Calliandra calothyrsus* can naturalise notably in riverine areas and damper woodlands. Many farmers in Cameroon are abandoning its use because of the time it takes to clear from their land (Hauser et al 2008). It can negatively impact upon biodiversity by displacing native species.

Images source: De.wikipedia.org

References/Notes: 108.

50 *Calopogonium caeruleum* (Benth.) Sauvalle

Synonyms: *Calopogonium sericeum* (Benth.) Chodat & Hassl./*Stenolobium caeruleum* Benth.

Leguminosae

Origin: Mexico, C. America, W. Indies & Tropical S. America.

Indonesian names: Kalopo.

English names: Calopo, calopogonium, jicama.

Description: Woody, climbing perennial with twining stems, pubescent to glabrescent. Leaves alternate, trifoliate. Petioles to 12 cm long, pubescent. Leaflets rhomboid-acute to ovate, the lateral ones oblique, pubescent above, velvety pubescent below, 5 to 20 cm long, 5 to 15 cm wide. Inflorescence elongated. Many-flowered, axillary, spike-like raceme, 25 to 50 cm long. Peduncle very short. Rachis sulcate, tomentose. Calyx campanulate, villous, 4 mm long, the teeth triangular-lanceolate, shorter or nearly as long as the tube. Corolla blue to violaceous. Standard 10 mm long, 8 mm wide, emarginate. Wings about as long as the standard. Keel shorter. Pods linear-oblong, pubescent, 4 to 8 cm long, 8 mm wide, impressed between the seeds. Four to eight seeds, orbiculate, compressed, shining (Graham, 1933; Pulle, 1976).

Habitat: -

Uses: -

Distribution: Tidal areas of South Kalimantan (Banjarmasin), edge of disturbed forest all over Sumatra and Borneo, Celebes and Mollucas.

Impact: No detail information

Images source: hear.org (1), tropicalforages.info (2)

References/Notes: 7, 31, 103, 207, 283.

51 *Calopogonium mucunoides* Desv.

Synonyms: *Calopogonium brachycarpum* Hemsl./*Calopogonium orthocarpum* Urb./*Glycine javanica* "sensu Backer non L."/*Stenolobium brachycarpum* Benth.

Leguminosae

Origin: Tropical America & the West Indies.

Indonesian names: Kacang asu (Javanese).

English names: Calopo.

Description: Woody climbing perennial with twinning stems, pubescens to glabrescens. Leaves: compound with tree leaflets, petiole about 5.5 – 8.5 cm long. Leaflet blades about 3.5-9 x 3-6 cm, lateral leaflet stalks about 3 mm long, middle leaflet stalk about 8-12 mm long. Lateral leaflet bladesoblique at the base, upper and lower surfaces of the leaflet blades clothed in pale prostrate hairs. Lateral veins about 3 or 4 on each side of the midrib. Stems, twigs and compound leaf petioles clothed in erect brown hairs. Stipules hairy, triangular, about 3-5 mm long. Stipels linear, about 3 mm long. Flowers:Flowers in clusters at irregular intervals on a long inflorescence axis. Bracts present at the base of each flower, each bract about 5-6 mm long.Calyx tube about 2 mm long, lobes filiform to narrowly triangular, about 4-5 mm long. All parts of the calyx clothed in long (2 mm) brown hairs.Petals: standard about 8-9 mm long with a green spot near the centre, otherwise pale bluish purple; wings about 8 x 2 mm; keel about 5 mm long. Stamens 10. The filaments of nine stamens fused to form a tube open on one side. Free part of the filaments about 2 mm long. Onestamen free. Ovary densely hairy. Stigma terminal, +/- globular. Pods about 30-40 x 4-5 mm, surface densely clothed in stiff, rust coloured hairs. Seeds about 5-7 per fruit, each seed oblongoid, about 3.5-5 x 2.5-3 mm. Radicle about 2 mm long, shorter and narrower than the cotyledons.

Habitat: Altitudinal range probably not great, from near sea level to 200 m. Grows in disturbed areas such as roads through rain forest.

Uses: -

Distribution: Naturalized in Central and East Java; also cultivated as a fertilizer; Pepper plantations South Sulawesi; Young rubber plantations (3 years) in South Sumatra; Oil palm plantations Medan, North Sumatra; Tidal areas of South Kalimantan (Banjarmasin); Cover crop of Young rubber Plantations PT. Palem Baja, Talang Petaling, Palembang; It was introduced into Tropical Africa and Asia in early 1900s and to Australia in the 1930s. It was taken into use as a green manure and cover crop in Sumatra in 1922 and soon thereafter in the rubber and sisal plantations of the Central and eastern parts of Java. It was then brought to Malaysia as a cover crop for rubber. It became naturalized in Indonesia and Malaysia, and has spread to most humid tropical areas of the world.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 7, 11, 13, 24, 31, 41, 80, 118, 252.

52 *Cassia tora* L.

Synonyms: *Senna tora* (L.) Roxb.

Caesalpiniaceae

Origin: -

Indonesian names: Ketepeng Sari, Enceng-enceng.

English names: Foetid Cassia, Tora, Sickle Senna, Wild Senna, Sickle Pod, Coffee Pod, Tovara, Chakvad, Ringworm Plant.

Description: An annual foetid herb, with a height of 30 to 90 cm, Cassia Tora is mainly found in the states of Uttar Pradesh and Madhya Pradesh, in India. It has pinnate leaves, which are about 10 cm long. Each leaf has three pairs of leaflets that are opposite, ovate, oblong and oblique at the base. The yellow-colored flowers are bearded in the axel of the leaves. The flowers comprises of five petals, each about half inch in diameter. The seeds of Cassia Tora are rhombohedral and brown in color, about 30 to 50 in number. The plant bears flowers in the rainy season and fruits in the winter. The cassia tora is also known as Charota an Chakvad in Hindi, Chakunda in Bengali & Oriya, Kawaria in Gujarati, Chakramandrakam in Malayalam, Takala in Marathi, Chakramarda & Dadmari in Sanskrit, Tagarai in Tamil and Chinnakasinda in Telugu.

Habitat: Grows in warm moist soil throughout tropical parts of India.

Uses: Cassia Tora is used as a coffee substitute and has a maturing and anodyne action. It is very useful in treating skin diseases like ringworm and itching or body scratch and psoriasis.

The alcoholic or vinegar maceration of pounded fresh leaves is used externally to treat eczema and dermatomycosis. Decoction of the fruit of Cassia Tora is used in the treatment of fever. Since the herb acts as a kapha and vata dosha suppressant, it acts as a nerve tonic. It is consumed in worm infestation and cures the infection occurring in the body. Cassia Tora acts as a liver stimulant, mild laxative and heart tonic. The herb helps the body in maintaining the normal level of cholesterol. Its paste is used for treating skin ailments and also for getting rid of chronic diseases. Cassia Tora proves worthwhile in treating piles and hemorrhoids as well as relieving the pain caused on excretion. Its powder proves useful in combating indigestion, toning up heart muscles and purifying blood. The juice extracted from its leaves is used in case of skin ailments, rashes and allergies. It is also used as an antidote in case of various poisonings. The leaves ad seeds of Cassia Tora are useful in leprosy, flatulence, colic, dyspepsia, constipation, cough, bronchitis and cardiac disorders.

Distribution: Distributed throughout India, Sri Lanka, West China and the tropics.

Impact: -

Images source: Alas Purwo National Park

References/Notes: 88, 314.

53 *Cayratia trifolia* (L.) Domin

Synonyms: *Causonis trifolia* (L.) Raf./*Cayratia timorensis* (DC.) C.L.Li/*Vitis carnosa* (Lam.) Wall./*Vitis trifolia* L.///*Cayratia carnosa* (Lam.) Gagnep.

Vitaceae

Origin: Australia dan India

Indonesian names: Galing-galing, Lambai

English names: Cayratia, Threeleaf; Native Grape; Threeleaf Cayratia; Slender Water Vine; Vine, Slender Water; Grape, Native.

Description: Vine or climbing herb with stem diameters to 7 cm, tops tendril often discoid. Leaves digitately trifoliate, leaflets obtuse or rounded. Lateral leaflets usually have a single lobe on the outer edge, i.e. the side away from the middle leaflet. Middle leaflet usually longer than the lateral leaflets. Leaflet blades about 3-9 x 2.5-9 cm, lateral leaflet stalks about 0.3-0.5 cm long. Stalk of the middle leaflet up to 1.5 cm long. Most hairs of the underside of the leaflet blades tend to be hooked particularly on the midrib. 'Oil dots' readily visible with a lens. Tendrils leaf-opposed, compound with several branches, each branch ending in an expanded structure resembling an haustorium which grows in cracks and crevices. <Oak grain> in the twigs. Inflorescence leaf-opposed or terminal. Flowers about 4 mm diam. Calyx cup-shaped, about 0.2 mm long, lobes absent. Petals about 2.5 mm long, apices hooded, outer surface clothed in hairs. Staminal filaments about 1.5 mm long. Disk lobed, pale yellow, about 0.8 mm high. Stylepyramidal. Ovules two per locule. Fruit: Fruits depressed globular, about 8-10 x 10-19 mm. Seeds about 5-7 x 2.5-5 mm. Outer testa soft and greenish brown, inner testa brown and very hard, surface rugose. Embryo about 0.75-1 mm long, cotyledons slightly wider but shorter than the radicle. Seedlings: Cotyledons elliptic to ovate, about 25-26 x 16-17 mm. First leaf simple and toothed or bifoliolate tending to trifoliolate. Second leaf trifoliolate. Lower surface clothed in hairs, upper surface glabrous except for the midrib. At the tenth leaf stage: middle leaflet blade about 3.5-4 x 2.2-2.7 cm, stalk about 0.8-1 cm long. Lateral leaflet blades about 2.5-3.5 x 2-2.5 cm, bases oblique, stalks about 0.2-0.6 cm long.

Habitat: Altitudinal range from near sea level to 750 m. Often grows in open forest climbing up the stems of trees with persistent flaky bark but grows as well in vine thicket and monsoon forest

Uses: This species has been used medicinally in India.

Distribution: Also occurs in Asia, Malesia and the Pacific islands.

Impact: No detail information

Images source: sgaptownsville.org.au

References/Notes: 118

54 *Celosia argentea* L.

Synonyms: *Celosia aurea* T. Moore/*Amaranthus cristatus* Noronha/*Amaranthus huttonii* H.J.Veitch/*Amaranthus purpureus* Nieuwl./*Amaranthus pyramidalis* Noronha/*Chamissoa margaritacea* (L.) Schouw

Amaranthaceae

Origin: Perhaps Africa

Indonesian names: Boroco, sangsri, bayam ekor belanda, bayam kucing, kuntha, bayam kasubiki.

English names: Plumed Cockscomb.

Description: Erect glabrous annual herb that often grown in the gardens. It is propagated by seeds. The seeds are extremely small, up to 43,000 seeds per ounce. The Century cultivars are usually taller (1–2 feet), and are bright red, yellow, orange, or pink. The Kimono cultivars are generally smaller (4 inches - 1 foot), and have more muted colors, though similar to the Century cultivars. Other colors, such as white, burgundy, orange-red, etc., can be found. Certain varieties will grow to 3–4 feet in height.

Habitat: Suitable for: light (sandy), medium (loamy) and heavy (clay) soils and prefers well-drained soil. Suitable pH: acid, neutral and basic (alkaline) soils. It cannot grow in the shade. It prefers moist soil.

Uses: It is used in the treatment of bloody stool, haemorrhoid bleeding, uterine bleeding, leucorrhoea and diarrhoea. As a parasiticide it is very effective against Trichomonas, a 20% extract can cause the Trichomonas to disappear in 15 minutes. The seed is hypotensive and ophthalmic. It is used in the treatment of bloodshot eyes, blurring of vision, cataracts and hypertension, but should not be used by people with glaucoma because it dilates the pupils. The seed also has an antibacterial action, inhibiting the growth of Pseudomonas.

Distribution: Pantropical, throughout Indonesia.

Impact: No detail information

Images source: Commons.wikipedia.org

References/Notes: 3, 88, 95, 96

55 *Centella asiatica* (L.) Urb.

Synonyms: *Centella hirtella* Nannf./*Hydrocotyle asiatica* L./*Hydrocotyle reniformis* Walter/ *Chondrocarpus asiaticus* Nutt./*Glyceria triflora* Nutt.

Apiaceae

Origin: Unknown.

Indonesian names: Pegagan, Pegaga (Aceh), jalukap (Banjar), daun kaki kuda (Melayu), ampagaga (batak), antanan (sundanese), gagan-gagan, rendeng, cowek-cowekan, pane gowang (javanese), piduh (bali) sandanan (irian) broken copper coin, semanggen (Indramayu,Cirebon), pagaga (Makassar), daun tungke (Bugis).

English names: Centella.

Description:.Perennial, creeping aromatic herb with short rhizome and long exstipulate runners. The stems are slender, creeping stolons, green to reddish-green in color, connecting plants to each other. It has long-stalked, green, reniform leaves with rounded apices which have smooth texture with palmately netted veins. The leaves are borne on pericladial petioles, around 2 cm. The rootstock consists of rhizomes, growing vertically down. They are creamish in color and covered with root hairs. The flowers are pinkish to red in color, born in small, rounded bunches (umbels) near the surface of the soil. Each flower is partly enclosed in two green bracts. The hermaphrodite flowers are minute in size (less than 3 mm), with 5-6 corolla lobes per flower. Each flower bears five stamens and two styles. The fruit are densely reticulate, distinguishing it from species of Hydrocotyle which have smooth, ribbed or warty fruit. The crop matures in three months, and the whole plant, including the roots, is harvested manually.

Habitat: *Centella* grows along ditches and in low, wet areas. In Indian and Southeast Asian centella, the plant frequently suffers from high levels of bacterial contamination, possibly from having been harvested from sewage ditches. Because the plant is aquatic, it is especially sensitive to pollutants in the water, which are easily incorporated into the plant.

Uses: In Indonesia, the leaves are used for sambai oi peuga-ga, an Aceh type of salad, and is also mixed into asinan in Bogor.

In Vietnam and Thailand, this leaf is used for preparing a drink or can be eaten in raw form in salads or cold rolls. In Bangkok, vendors in the famousChatuchak Weekend Market sell it alongside coconut, roselle, crysanthemum, orange and other health drinks.

In Malay cuisine the leaves of this plant are used for ulam, a type of Malay salad. It is one of the constituents of the Indian summer drink thandaayyee.

In Bangladeshi cuisine mashed Centella is eaten with rice and is popular for its medicinal properties.

Distribution: Pantropical. Throughout Indonesia; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali; Purwodadi Botanical Garden, Pasuruan, East Java.

Impact: As a weed in vegetable fileds

Images source: Foris-Indonesia

References/Notes: 3, 70, 72, 88, 98, 99, 100, 101

56

Centipeda minima (L.) A. Braun & Asch.

Synonyms: *Centipeda minuta* (G. Forst.) Benth. ex C.B. Clarke/*Centipeda orbicularis* Lour./*Artemisia minima* L./*Cotula minima* (L.) Wills./*Cotula minuta* G. Forst./*Grangea minima* (L.) Poir. In Lam./*Grangea minuta* (G. Forst.) Poir. In Lam./*Myriogyne minuta* (G.Forst.) Less.

Asteraceae

Origin: Unknown.

Indonesian names: Mbakoan (Javanese), pecah pinggan.

English names: Sneezweed, Sneeize-wort.

Description: Annual herb, ± glabrous to woolly; stems prostrate to ± ascending, 10–20 cm high, much-branched.Leaves narrow-ovate or elliptic to cuneate or spathulate, c. 10 mm long, 1–4 mm wide; apex acute to obtuse, base narrowed, margins entire or toothed, often coarsely so near apex; glabrous to woolly; petiole usually indistinct.

Heads ± sessile, usually solitary, hemispherical, 2–4 mm diam; involucral bracts c. 1 mm long, obtuse. Female florets 3–5-seriate. Bisexual florets c. 10.

Achenes obconic, 1.5–2 mm long, ribs extending ± to apex (mostly NT, CT, ST, NWS, SWS) or achenes c. 1 mm long and similar to C. cunninghamii.

Habitat: It is an annual plant, seen in a wide range of habitats, including growing in wet places, marshy banks, sometimes found submerged in shallow water and rice fields. It can inhabit waste grounds and roadsides. The plant grows almost all types of soil, in any habitat.

Uses: Antibacterial properties courtesy of several sesquiterpene lactones, monoterpenoids and thymol with effective action against bacteria like Bacilus subtilis and Staph aureus, among others.

- Antimicrobial qualities coming from 23 compounds that are effective against microbes like Yersinia enterocolitica, Klebsiella pneumonia and Staph aureus. Experts see potential applications of the sneezeweed extract in public health and safety.
- Anti-allergen properties that have been proven effective in treating allergic rhinitis.
- Anti-inflammatory action in the treatment of acute pleural effusion.
- Anti-protozoal, anti-proliferative and anti-asthma properties have also been observed with the use of the sneezeweed extract.

Distribution: Afghanistan to Japan, NE Australia, New Caledonia, New Zealand, Pacific Island; Malesia (Malay Peninsula, Sumatera, Java, Lombok, Sumbawa, Timor, Sarawak, Sulawesi, Philippines (Luzon), New Guinea); Tropical and subtropical. Through-out Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 2,3, 109, 110, 228.

57 *Centrosema pubescens* Benth.

Synonyms: *Centrosema ferrugineum* A.Rich./*Centrosema salzmannii* Benth./*Bradburya pubescens* (Benth.) Kuntze/*Clitoria schiedeana* Schltdl./*Ternatea schiedeana* (Schltdl.) Kuntze

Papilionaceae

Origin: S. & C. America.

Indonesian names: Sentro, kacangan.

English names: Centro, butterfly pea.

Description: A twining hderbs or slender vine not exceeding, with a stem diameter of 2 cm.

Leaves: Pinnately 3-foliolate, stipeleate, stipules triangular, about 1-2 mm long, longitudinally veined, caducous. Middle leaflet larger than the lateral leaflets. Middle leaflet blade about 3.5-8.5 x 1.5-4 cm, lateral leaflet blades about 2-6.5 x 1.2-3 cm. Lateral leaflet stalks about 1-3 mm long, transversely wrinkled. Terminalleaflet 'stalk' about 6-15 mm long, pulvinus present. Leaflet blades clothed in pale or translucent hairs on both the upper and lower surfaces. Stipels subulate, usually apparent on the leaflets.

Flowers:Flowers borne in a condensed umbel-like raceme, peduncles 7-8 cm long. Flowers about 3-3.5 cm diam., inverted. Calyx lobes variable, two short and similar in shape, two larger, similar, +/- triangular and one subulate about 6-7 mm long. All other petals enclosed by the standard at the flower bud stage. Petals: standard about 3 cm long, apex retuse, cream to green and pubescent on the outer surface, inner (adaxial) surface purple, marked with darker stripes and a central cream stripe, glabrous; keel about 22 mm long. Stamens 10, the filaments of nine stamens fused to form a tube open on one side. One stamen free. Free part of the filaments alternately long and short. Disk annular, surrounding the base of the ovary. Style or stigma ending in a broad strap-like tip, apex hairy. Ovules about 20.

Fruit:Fruits flattened, about 12-16 x 0.5-0.6 cm, drawn out into a point at the apex, margins thickened. Seeds about 20 per fruit. Seeds ellipsoid or +/- patelliform, about 4-5 mm diam., funicle fawn-coloured, testa pale brown with black markings. Hilum comparatively large. Cotyledons much wider than the radicle which is about 1.5 mm long.

Habitat: Altitudinal range from near sea level to 800 m. Usually grows on pastures but also in disturbed areas in monsoon forest and rain forest.

Uses: -

Distribution: In West and East Java at 10-250 m alt., locally naturalized; also cultivated as a fertilizer; Oil palm plantations South Sulawesi; Sugarcane plantations Takalar; Dry land sugarcane plantations of Pelaihari, South Kalimantan; Sugarcane plantations Camming Factory, South Sulawesi; Tidal areas of South Kalimantan (Banjarmasin); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed of cotton plantations Gading (Kabupaten Gunung Kidul, Yogyakarta); Covercrop of young rubber plantations PT. Palem Baja, Talang Petaling, Palembang; Undergrowth plant Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java. It is now become one of the most widely distributed legumes in the humid tropics. It was introduced to SE. Asia from tropical America in the 19th Century, particulary in SE. Asia.

Impact: Weed of tea and cotton plantations

Images source: Foris-Indonesia

References/Notes: 1, 7, 11, 17, 23, 25, 31, 34, 40, 41, 72, 80, 118, 196, 252.

58 *Ceratopteris thalictroides* (L.) Brongn.

Synonyms: *Acrostichum siliquosum* L./*Acrostichum thalictroides* L./*Ceratopteris siliquosa* (L.) Copel./*Furcaria thalictroides* (L.) Desv./*Pteris thalictroides* (L.) Sw./*Teleozoma thalictroides* (L.) R. Br.

Pteridaceae

Origin: Asia Tropics

Indonesian names: Pakis-pakisan, Paku rawa, pakis rawa

English names: -

Description: Erect aquatic or subaquatic ferns of moderate size. Rhizome short, fleshy, horizontal and ascending to erect, loosely rooted in the mud or +/- floating, radial, dictyostelic with numerous meristeles and medullary strands, young parts bearing thin, ovate, +/- cordate, clathrate scales. Fronds stipitate, the stipes fleshy, with numerous longitudinal air canals, abaxially rounded and ribbed, adaxially flattened, vascular bundles in a peripheral ring, one with each rib and several to the adaxial side, and several smaller medullary strands; lamina dimorphic, sterile fronds +/- spreading, 2 - 3-pinnatifid with broad membranous lobes, venation reticulate without included free veinlets, often with proliferous buds in the axils; fertile fronds erect, longer, narrower and more divided than the sterile, the lobes strongly recurved to completely cover the adiaxial surface, venation longitudinal, branching at the bases of the lobes. Sporangia solitary, scattered along the veins, exindusiate but protected by the continuous reflexed margin of the lamina, large, short-stalked, annulus broad, irregular, of 30 - 70 thickened cells, or lacking, containing 16 to 32 spores. Spores large, trilete, ribbed with irregular long meshes.

Habitat: Located in humid, tropic areas.

Uses: *Ceratopteris* is a fairly popular aquarium plant, often sold under the name «water sprite.» It may be grown as an emersed but natant (floating) plant, or as an immersed plant rooted in the substrate. The most common species in use in aquaria are *C. thalictroides* and *C. pteridoides*.

Distribution: A widespread genus of four to six species in the humid tropics.

Impact: No detail information

Images source: Aquapage.cz

References/Notes: 88, 302.

59 *Cerastium fontanum* subsp. *vulgare* (Hartm.) Greuter & Burdet

Synonyms: *Cerastium holosteoides* Fr./*Cerastium alpestre* Schur/*Cerastium alpigenum* Schur / *Cerastium viscidum* Christm./*Cerastium vulgare* Hartm./*Alsine trivialis* E.H.L. Krause/*Arenaria anomala* (Waldst. & Kit. ex Willd.) Shinners/*Dichodon viscidum* (M.Bieb.) Holub

Caryophyllaceae

Origin: Europe & Continental Asia.

Indonesian names: -

English names: Common Mouse-Ear Chickweed.

Description: Hairy annuals or perennials herb, ascending, often with non-flowering shoots at the base, growing up to 0.3 m. Stem patently villous. Lower leaves obovate-spathulate, higher ones elliptic or oblong. It is flowering from April to September. Flowers unisexual, terminally forked cymes 4-5 merous. Fruit capsule cylindric straight or slightly curved with 8-10 valves, seeds compressed, brown.

Habitat: Cultivated Beds.

Uses: -

Distribution: Run wild on Gede-Pangrango (West Java).

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 95.

60 *Cerastium glomeratum* Thuill.

Synonyms: *Cerastium acutatum* Suksd./*Cerastium apetalum* Dumort./*Cerastium hirsutum* Muhl./*Cerastium stevenii* Schischk./*Alsine glomerata* (Thuill.) E.H.L.Krause

Caryophyllaceae

Origin: Europe.

Indonesian names: -

English names: Sticky mouse-ear chickweed and clammy chickweed.

Description: An annual herb growing from a slender taproot. It produces a branched, hairy stem up to 40 or 45 centimeters tall. The hairy leaves are up to 2 or 3 centimeters long. The inflorescence bears as few as 3 or as many as 50 small flowers. The flower has five hairy green sepals which are occasionally red-tipped, and five white two-lobed petals which are a few millimeters long and generally shorter than the sepals. Some flowers lack petals. The fruit is a capsule less than a centimeter long which is tipped with ten tiny teeth.

Habitat: Fields, pastures, prairies, open woods, roadsides, railroads.

Uses: -

Distribution: Run wild from Gede (West Java) to Tengger (East Java); 1250-2600 m alt.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 88, 120.

61 *Cestrum aurantiacum*

Synonyms: *Cestrum chaculanum/Cestrum paucinervium*

Solanaceae

Origin: -

Indonesian names: -

English names: Mango Cestrum, Orange Cestrum, Orange Jessamine, Orange-Flowering Jessamine, And Yellow Cestrum

Description: Evergreen, somewhat scrambling shrub or small tree. The flowers have an overpowering citrus-like smell, particularly at night. Fruits white.

Habitat: In woodland and riverine forest, often with other exotic species.

Uses: -

Distribution: Native to Tropical America from Guatemala to Venezuela.

Impact: -

Images source: strangewonderfulthings.com

References/Notes: 88, 108, 229, 313.

62 *Chloris gayana* Kunth

Synonyms: *Chloris abyssinica* Hochst. ex A. Rich./*Chloris glabrata* Andersson/*Chloris repens* Hochst./*Eustachys gayana* (Kunth) Mundy

Poaceae

Origin: Tropical Africa.

Indonesian names: -

English names: Rhodes grass.

Description: A glabrous, usually stoloniferous perennial up to 90 cm high, but very variable. Inflorescence up to 15 spikes, occasionally in two whorls, but usually one. Its roots descend to 4.7 m; 47 m of roots occur in the first 30 cm3 of soil, but they are sparse beyond 2.4 m (Hosegood, 1963).

Habitat: Open woodland and grassland on a wide range of soils.

Uses: -

Distribution: Introduced as pasture-grass into many tropical regions, also tried in Java (recent data not available).

Impact: No detail information

Images source: conabio.gob.mx

References/Notes: 1, 207.

63 *Chromolaena odorata* (L.) R.M. King & H. Rob.

Synonyms: *Eupatorium conyzoides* Mill./*Eupatorium odoratum* L./*Eupatorium sabeanum* Buckley/*Osmia atriplicifolia* (Vahl) Sch.Bip./*Osmia floribunda* (Kunth) Sch.Bip./*Osmia odorata* (L.) Sch. Bip.

Asteraceae

Origin: C. & S. America.

Indonesian names: Kerinyu, lahuna.

English names: Bitter Bush, Tonka Bean.

Description: Woody herbaceous perennial growing as a climbing shrub to 3 meters in height, typically shorter. The leaves are arranged oppositely, to 15 cm in length, triangular to ovate with an acuminate leaf apex and dentate leaf margin with large teeth. The vegetative structures are covered with articulate hairs throughout.

The actinomorphic flowers are arranged in corymbs of heads subtended an involucre made of 4 series of phyllaries. The calyx is modified as hairs forming a pappus. The corolla has 5 fused white to lavender petals. There are 5 stamens fused to the base of the corolla. The ovary is inferior with a single locule. The fruit is an achene at maturity that retains the modified calyx (pappus).

Habitat: *Eupatorium odoratum* grows in human disturbed areas as well as Pine Woodlands, and the edges of Dry Broadleaf Evergreen Formation – Woodland/Shrubland (low coppice/scrubland).

Uses: *Eupatorium odoratum* is not used medicinally in the Bahamas.

Distribution: Pantropical weed. Introduced in Java via Thailand (henced called "Siam Weed"), then spread throughout Indonesia; also in SE. Australia, N. India, S. Africa and Peru; In Indonesia, the first herbarium specimen was collected from Lubuk Pakam, North Sumatra. It is now spread all over the island of Indonesia, from Aceh to W. Irian,; *Morus alba* plantations South Sulawesi; young rubber plantations (3 years), and oil palm plantations (4 years) in South Sumatra; Bandar Lampung; Tidal areas of Central Kalimantan (Unit Tatas); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed of young rubber plantations at PT. Palem Baja, Talang Petaling, Palembang; West Java (Depok, Cibadak, Pelabuhan Ratu, Sindangbarang, Ciomas, Sempur, Lawanggintung, Puncak, Pacet, Sindanglaya, Padalarang, Cirebon); Central Java (Cilacap, Purwokerto); Aceh.

Impact: As a weed in tea and young rubber plantations

Images source: Flickr.com

References/Notes: 1, 3, 6c, 11, 13, 26, 31, 34, 41, 55, 57, 58, 59, 80, 123.

64 *Cissus quadrangularis* L.

Synonyms: *Cissus bifida* Schumach. & Thonn./*Cissus edulis* Dalzell/*Cissus quadrangula* L./*Cissus tetragona* Harv./*Vitis quadrangularis* (L.) Wall. ex Wight/*Vitis succulenta* Galpin

Vitaceae

Origin: Bengal.

Indonesian names: Sipatah-patah.

English names: Veldt Grape or Devil's Backbone.

Description: Climbing shrub with entire tendrils, Stem sharply quadrangular-quadrialate, thick much constricted at the nodes, green, and -sectioned branches with internodes 8 to 10 cm long and 1.2 to 1.5 cm wide. Along each angle is a leathery edge. Leaves triangular entire or 3 – 5 lobed with a cordate or truncate base, obtuse 2 to 5 cm wide appear at the nodes. Each has a tendril emerging from the opposite side of the node. Racemes of small white, yellowish, or greenish flowers; globular berries are red when ripe.

Habitat: Semi-arid desert. Sandy, dried-out river bed.

Uses: Cissus quadrangularis has been used as a medicinal plant since antiquity. In siddha medicine it is considered a tonic and analgesic, and is believed to help heal broken bones, thus its nameasthisamharaka (that which prevents the destruction of bones). It is said to have antibacterial, antifungal, antioxidant, anthelmintic, antihemorrhoidal and analgesic activities

Distribution: Here and there in Java and Madura, especially near the sea, run wild.

Impact: No detail information

Images source: -

References/Notes: 1, 88, 200, 246.

65 *Cistanthe grandiflora* (Lindl.) Schltdl.

Synonyms: *Calandrinia grandiflora* Lindl./*Calandrinia discolor* Schrad./*Calandrinia elegans* H.Vilm./*Cistanthe anceps* Spach/*Claytonia discolor* (Schrad.) kuntze/*Claytonia grandiflora* (Lindl.) Kuntze

Portulacaceae

Origin: Chile.

Indonesian names: -

English names: Rock purslane.

Description: Evergreen, succulent shrub, moderate growth to 12 inches in height with a 3 foot spread, mounding growth habit, purple flowers spring through fall, fleshy gray-green leaves, full sun to part shade, drought tolerant, excellent container plant. A succulent plant, native to Chile, that forms mounds to 1 foot tall by 3 feet wide of fleshy obovate gray-green leaves to 4 to 6 inches long. In spring through fall, rising on delicate 2-3 feet tall stems, emerge the 2 inch wide purple flowers that each last only one day.

Habitat: Full sun; well drained, slightly acidic soil.

Uses: Plant in a sunny location. Looks best in a mass planting; excellent for rock garden planting.

Distribution: In West Java in the 1921 as a weed in Botanic garden of Cibodas (± 1425 m alt.).

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 266, 267.

66

Cleome aculeata L.

Synonyms: *Cleome gilletii* De Wild./*Cleome hulletii* King/*Cleome surinamensis* Miq./ *Hemiscola aculeata* (L.) Raf.

Cappareaceae/Cleomeceae

Origin: Suriname.

Indonesian names: -

English names: Prickly Spider Flower.

Description: Erect annual herb up to 50 cm tall, with prickles on stem.

Leaves mostly trifoliolate with simple leaves or bracts produced below each flower. Leaflet blades 48-85 x 28-45 mm, leaflet stalks nil or 2-3 mm long. Stipules spiny, curved, 1-3 mm long.

Flowers terminal racemes. Pedicels 20-30 mm long, flowers 10-12 mm diam. Calyx lobes about 3 mm long. Corolla lobes 6-7 mm long, clawed, i.e. stalked. Anthers about 2 mm long, filaments about 4 mm long. Pollen yellow. Stamens and ovary seated on a green disk. Ovary about 2 mm long. Stigma sessile. Ovules numerous on each placenta.

Fruits capsule terete about 4-6 mm long. Seeds numerous in each fruit, each seed about 2 mm diam., coiled like a snail and transversely ribbed but not extending completely across the seed. Funicle white.

Habitat: Altitudinal range 10-200 m. Usually grows in openings in rainforest, mixed forest and Eucalypt forest also in various types of woodland and creek beds.

Uses: -

Distribution: In West Java locally in Bogor and Cianjur, run wild.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 118.

67 *Cleome chelidonii* L.f.

Synonyms: *Cleome leschenaultii* Schult. & Schult.f./*Cleome schraderi* Schult. & Schult.f./*Aubion chelidonii* (L.f.) Raf./*Corynandra pulchella* Schrad. ex Spreng.

Cappareaceae/Cleomeceae

Origin: India, Burma, perhaps also Java.

Indonesian names: -

English names: Celandine Spider Flower .

Description: Erect herb, growing up to 50 cm tall. Leaves are 1- or 3-foliate at the top and 5- or 7-foliate at the base. Leaflets are oblong-obovate, middle one 2-3 cm long, 0.5-1.5 cm wide, lateral ones 0.8-1 cm long on both surfaces rather densely clothed with appressed bulbous-based hairs. Flowers have 4 rose colored petals, and big mass of over 100 stamens in the center. Capsule is hairless.

Habitat: -

Uses: -

Distribution: India, Burma, Central and East Java.

Impact: No detail information

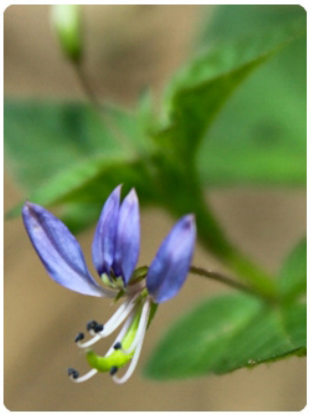
Images source: Wikimedia

References/Notes: 3.

68 *Cleome rutidosperma* DC.

Synonyms: *Cleome ciliata* Schumach. & Thonn./*Cleome guineensis* Hook. f./*Cleome thyrsiflora* De Wild. & T. Durand

Cappareaceae/Cleomeceae



Origin: W. Tropical Africa from Giunea to Angola.

Indonesian names: Maman (Madura), Mamam (Javanese).

English names: Fringed spider-flower.

Description: Erect, ascending or tufted herb, up to 100 cm tall. Taproots white or brown. Stem erect, quadrangular, solid, hairy. Leaves, trifoliolate, alternate spiral, stalked, margin entire, leaflets lanceolate to elliptic, hairy on both sides, apex acute, base acute,pinnately veined. Flowers bisexual, solitary, stalked, pink, blue, or purple, petals 4, free. Fruits a capsule opening with 2 valves.

Habitat: Lowland ruderal. Rainfed and upland rice fields.

Uses: Squeezed juice of leaves is used as eye drop and seeds are mixed with tobacco to make it strong in Sumatra.Young leaves are boiled as food and the roots are used as a vermifuge.

Distribution: As early as 1920 collected in surrounding of Medan (N. Sumatra); in 1945 discovered in Java (Tanjung Priuk, W; ± 1); Introduced in the Caribbean area; first recorded in 1920 near Medan (N. Sumatra); in Singapore in 1946; in Java (near Jakarta in harbour yard) in 1958; in 1946 found in Thailand, in 1948 in Burma; spreading quickly in Indonesia; Oil palm plantations (4 years) in South Sumatra; Cihea Cianjur, West Java; Oil palm plantations in Medan, North Sumatra; Bandar Lampung; Tidal areas of South Kalimantan (Banjarmasin); Weed of chili plantations Cibungbulang, Bogor.

Impact: Weed of chili plantations

Images source: Foris-Indonesia

References/Notes: 1, 3, 13, 21, 24, 26, 31, 44, 91.

69 *Cleome viscosa* L.

Synonyms: *Cleome acutifolia* Elmer/*Cleome icosandra* L./*Arivela viscosa* (L.) Raf./*Polanisia icosandra* (L.) Wight & Arn./*Polanisia microphylla* Eichler/*Polanisia viscosa* (L.) Blume/*Sinapistrum viscosum* (L.) Moench

Cappareaceae/Cleomeceae

Origin: Old World.

Indonesian names: -

English names: Sticky spider-flower.

Description: Terrestrial, annual, erect, aromatic (fetid smell) herb, up to 120 cm tall. Taproots white or brown. Stem erect, rounded, solid, (glandular) hairy. Stipules absent. Leaves compound, trifoliolate, alternate spiral, stalked, leaflets elliptic, (glandular) hairy on both side, margin entire,apex acute, base acute, pinnately veined. Flowers bisexual, single, axillary, stalked, yellow, petals 4, free. Fruits a capsule, opening by two valves.

Habitat: A tolerant ruderal plant on arable land; along roadsides, refuse heaps, coconut grooves; often in great quantities. Prefers sunny, lighter soil, both under seasonally dry and under ever-wet conditions; sometimes on sandy or calcareous soils. In E. Java it is typical on recently formed, veryporous and light volcanic soil. Near the coast or in savannahs, up to 500 m alt. (mostly lower).

Uses: The sap of leaves mixed with water or milk is applied to the eye in Java. The whole herb is rubbed on the body against rheumatism. The seeds contain an appreciable quantity of alkaloids. Leaf decoction is used for eyesore. In Sumatra the seeds are added to tobacco to enhance narcotic quality. In Australia, the aerial parts are used for respiratory tract infections and infected wounds. In the USA it is a noxious weed.

Distribution: From Tropical Africa and S. Arabia to Tropical Australia. Throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 91.

70 *Cleoserrata speciosa* (Raf.) Iltis

Synonyms: *Cleome speciosa* Raf./*Cleome gigantea* Blanco/*Cleome longifolia* Willd. ex Schult. & Schult. f./*Cleome speciosissima* Deppe ex Lindl./*Gynandropsis speciosa* DC.

Cappareaceae

Origin: Tropical America.

Indonesian names: -

English names: Showy Spider Flower, Volantines Preciosos.

Description: Erect annual herb, growing up to 1.5 m in height, with hairless stem and leaves. Lower leaves 3-foliolate, higher ones 5-7 foliolate., alternately arranged., Leaflets 2-16 cm long, sessile, lanceolate or lanceolate-obovate. It can flower anytime after maturity. Flowers are many, borne in an erect, showy raceme, at the end of the stem. Each flower is subtended by a small leaf-like bract. Flower has 4 free, inverted-lance shaped, pink to white petals, 2.8-3.8 cm long. Flowers have 6 stamens, on filaments that are 3-6 cm long! Fruit is a linear capsule up to 8 cm long, on a long stalk. The plant is propagated by seed.

Habitat: A tolerant ruderal plant on arable land; along roadsides, refuse heaps, coconut grooves; often in great quantities. Prefers sunny, lighter soil, both under seasonally dry and under ever-wet conditions; sometimes on sandy or calcareous soils. In E. Java it is typical on recently formed, veryporous and light volcanic soil. Near the coast or in savannahs, up to 500 m alt. (mostly lower).

Uses: The sap of leaves mixed with water or milk is applied to the eye in Java. The whole herb is rubbed on the body against rheumatism. The seeds contain an appreciable quantity of alkaloids. Leaf decoction is used for eyesore. In Sumatra the seeds are added to tobacco to enhance narcotic quality. In Australia, the aerial parts are used for respiratory tract infections and infected wounds. In the USA it is a noxious weed.

Distribution: From Tropical Africa and S. Arabia to Tropical Australia. Throughout Indonesia.

Impact: No detail information

Images source: bishopmuseum.org

References/Notes: 3, 91.

71 *Clidemia hirta* (L.) D. Don

Synonyms: *Clidemia benthamiana* Miq./*Maieta hirta* (L.) M. Gómez/*Melastoma hirtum* L./*Staphidium benthamianum* Naudin/*Staphidium elegans* (Aubl.) Naudin

Melastomataceae

Origin: S. America.

Indonesian names: Harendong bulu.

English names: Soap-bush or Koster's Curse.

Description: Erect shrub, grows 1–3 metres tall, depending on habitat. Branchlets long-setose, the bristles patent, red at first afterwards turning pale. Leaves ovate-oblong, sub-cordate at base, long-acuminate, crenate, patently hispid on both surfaces, strongly plicate-bullate above. The black berries are up to 8 millimetres (0.31 in) long and taste a bit like a deeply flavored blueberry. Each fruit contains more than 100 tiny (0.5 mm) seeds. It flowers and fruits all year, if conditions are moist enough. A large plant can produce more than 500 fruits in a single year. The seeds are dispersed by birds, feral pigs, other animals, and humans. Sheep will not eat the plant, and the tannin inside the fruits is poisonous to goats. The seeds can remain viable in the soil for up to 4 years.

Habitat: Natural forests, range/grasslands, riparian zones, ruderal/disturbed, scrub/shrublands.

Uses: The tannin inside of the fruit is not harmful to humans and a delicious syrup may be made from the fruit. The syrup has a beautiful indigo blue color and may be used to enhance and remove the bitterness of teas such as yerba mate.

Distribution: In Java (West-half) widely naturalized; Morus alba plantation South Sulawesi; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java.

Impact: Weed of tea plantations

Images source: Flickr.com

References/Notes: 1, 6g, 11, 34, 88, 104, 290.

72 *Coccinia grandis* (L.) Voigt

Synonyms: *Bryonia grandis* L./*Coccinia helenae* Buscal. & Muschl./*Coccinia moimoi* M.Roem./*Coccinia schimperi* Naudin/*Cucumis pavel* Kostel./*Momordica bicolor* Blume

Cucurbitaceae

Origin: Africa

Indonesian names: Timun Mungil

English names: Baby Watermelon, Little Gourd, Gentleman's Toes

Description: Adapted from Englberger (2009) and Muniappan et al. (2009): Dioecious, perennial, herbaceous vine that can grow between 9 and 28 m long. It has glabrous stems, an extensive tuberous root system and axillary tendrils.

The alternate, simple leaves have a broadly ovate, 5-lobed, 5-9 by 4-9 cm. The flowers are white, star-shaped with 5 petals. The fruit is a smooth, bright red, ovoid to ellipsoid berry, 5-7.1 cm long.

Habitat: *C. grandis* grows well in warm, humid, tropical regions. In Fiji it occurs in cane fields, degraded land and road sides. In Hawaii it is found at elevations of 0–245 m, whereas in China it can grow at elevations of up to 1100 m. m (Muniappan et al., 2009; PIER, 2013).

Uses: Weed control, medicine, cultivation

Distribution: *Coccinia grandis'* native range extends from Africa to Asia, including India, the Philippines, China, Indonesia, Malaysia,Myanmar,Thailand, Vietnam, eastern Papua New Guinea, and the Northern Territories, Australia.

Impact: Economic Impact:

Adapted from Muniappan et al. (2009):

As well as covering agricultural areas, *C. grandis* hosts a number of insect species that are known to attack several commercially important Cucurbitaceae species. These insects include: *Diaphania indica* (Saunders) (Lepidoptera: Pyralidae), *Aulacophora* spp. (Coleoptera: Chrysomelidae), *Bactrocera cucurbitae* (Coquillett) (Diptera: Tephritidae), *Aphis gossypii* Glover (Hemiptera: Aphididae), *Liriomyza* spp. (Diptera: Agromyzidae), *Leptoglossus australis* (Fabricius) (Hemiptera: Coreidae) and *Bemisia* spp. (Hemiptera: Aleyrodidae).

Environmental Impact:

C. grandis grows aggressively can smother and kill native vegetation, including mature trees. In Hawaii, where it is naturalized, it quickly spreads through disturbed sites, smothering both trees and understory vegetation (Muniappan et al., 2009).

Social Impact:

C. grandis can cover 'fences, power poles, and other human-made structures in residential neighbourhoods and agricultural areas' (Muniappan et al., 2009).*C. grandis* is used in traditional Bengali medicine to treat diabetes (Ocvirk et al., 2013).

Images source: Wikipedia.org

References/Notes: 88, 296, 303, 304.

73 *Commelina benghalensis* L.

Synonyms: *Commelina canescens* Vahl/*Commelina hirsuta* R.Br./*Commelina prostrata* Regel/*Commelina turbinata* Vahl/*Commelina uncata* C.B.Clarke

Commelinaceae

Origin: Tropical Asia.

Indonesian names: Gewor.

English names: Benghal dayflower, blue commelina, dayflower, Indian dayflower, tropical spiderwort, wandering-jew (English-United States).

Description: Annual or perennial herb. Leaves are ovate to lancolate, 2.5-7.5cm long, 1.5-4cm wide, with parallel veination, entire leaf margins, and pubescence on top and bottom. The leaf sheath is covered in red and sometimes white hairs at the apex which is a primary identification factor for this species. Stems can be erect or crawling along the ground rooting at the nodes or climbing if supported, 10-30cm in height, 20-90cm in length, covered in a fine pubescence and dichotomously branched. Flowers are produced in spathes often found in clusters, funnel shaped, fused by two sides, 10-20 mm long, 10-15 mm wide, on peduncles 1-3.5 mm in length. Aerial flowers are staminate, perfect, and chasmogamous with 3 petals 3-4 mm long. The upper two flower petals are blue to lilac in color, with the lower petal lighter in color or white and much less prominent. Seeds are rectangular, 1.6-3 mm in length, 1.3-1.8 mm wide, brown to black in color, and have a netted appearance.

Habitat: Agricultural areas, ruderal/disturbed.*Commelina benghalensis* is often found on disturbed sites, forest edges, road sides, agricultural sites, and home gardens. Vegetation and flower growth are optimal between 30-35 degrees Celsius but can grow between 20-40 degrees Celsius.

Uses: In Africa and India the leaves and stems of Commelina benghalensis are chopped and cooked as vegetables and used as feed for livestock. Different components of C. benghalensis are also used as a medicinal for ailments such as sore feet, sore throat, burns, eye irritation, thrush in infants, and stomach irritation. In southern Africa, C. benghalensis is used to combat infertility.

Distribution: Pantropical and subtropical; Oil palm (4 years) plantations and onion plantations in South Sumatra; Kalianda, Lampung Selatan; Bogor Botanic Garden; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap); Weed of tea plantations Ciliwung Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java.

Impact: Weed of tea plantations

Images source: Flickr.com

References/Notes: 3, 13, 20, 30, 31,34, 104, 152, 153.

74 *Commelina diffusa* Burm. f.

Synonyms: *Commelina agraria* Kunth/*Commelina aquatica* J. K. Morton/*Commelina cayennensis* Rich./*Commelina formosa* Graham/*Commelina glabra* G. Mey.

Commelinaceae

Origin: Asia.

Indonesian names: Aur-aur.

English names: Climbing dayflower or spreading dayflower.

Description: Typically an annual creeping-ascending herb, though it may be perennial in the tropics. It spreads diffusely, creeping along the ground, branching heavily and rooting at the nodes, obtaining stem lengths up to 1 m. The leaf blades are relatively variable, ranging from lanceolate to ovate, with proximal leaves tending to be more oblong. They measure 3 to 12 cm in length by 0.8 to 3 cm in width. North American populations tend to have smaller leaf size, typically measuring 1.5 to 5 cm, by 0.5 by 1.8 cm. The leaf apex is acute to acuminate. The leaf surface can be either glabrous (i.e. hairless) or hispid (i.e. bristly). The leaves are subsessile (i.e. having a very small petiole) with a leaf sheath striped with red and covered with hispid pubescence.

The flowers are arranged into cincinni (singular: cincinnus), or scorpioid cymes. This is a form of a monochasium where the lateral branches arise alternately on opposite sides of the false axis. There are typically two cincinni present, with the lower cincinnus bearing 2 to 4 flowers, while the

upper cincinnus has one to several flowers. The upper cincinnus is generally exerted on specimens with larger spathes, but it may be included in specimens with smaller spathes. The upper cincinnus bears only male flowers and has a longer peduncle, while the lower cincinnus bears bisexual flowers on a shorter peduncle. The pedicels supporting single flowers, and later the fruits, are thick and curved and measure about 3 to 5 mm. The membranoussepals are inconspicuous at only 3 to 4 mm in length. The petals are blue, though may be lavender in rare cases. The upper two petals measure 4.2 to 6 mm. The anther connective (i.e. the tissue connecting the two halves of the anther) of the centre-most stamen has a broad transverse band of violet. The spathes are solitary, borne on a peduncle and typically falcate (i.e. sickle-shaped) with a cordate (i.e. heart-shaped) to rounded base, acuminate apices and can be either glabrous or hispidulous (i.e. minutely hispid) beneath. They usually measure 0.8 to 2.5 cm long, but may be as short as 0.5 cm and as long as 4 cm. They are typically 0.4 by 1.2 cm wide, but may be up to 1.4 cm long. Their peduncles are usually 0.5 to 2 cm long and rarely up to 2.9 cm. Flowering occurs from May to November.

The fruit is a capsule which has three locules and 2 valves. It measures 4 to 6.3 mm long by 3 to 4 mm wide, though it may be as narrow as 2.1 mm. They contain five brown seeds that are 2 to 2.8, rarely up to 3.2 mm long, by 1.4 to 1.8 mm wide. They are deeply reticulate (i.e. net-like). The chromosome number is 2n = 30.

Habitat: In China it can be found from sea level up to 2100 metres, and is typically associated with forests, thickets, stream banks and other open and humid habitats. In the West Indies it is a commonweed that is especially associated with roadsides, moist ditches and waste places and it can be found from sea level to 1050 metres. In the United States it is also typical of disturbed locations, such as gardens, cultivated areas and lawns, but can also be found in woods and other moist situations.

Uses: Within China, Commelina diffusa is used as a medicinal herb with febrifugal and diuretic effects. A dye is also obtained from the juice of the petals for use in painting.

Within Hawaii, "honohono grass" was used as medicine to aid with deep cuts. While other Hawaiian herbs just get superficial cuts, honohono grass is an herb to aid with deeper troubling issues.

Distribution: Pantropical, also subtropical; Young rubber plantations (3 years) and oil palm plantations (4 years) in South Sumatra; Kalianda, Lampung Selatan; Dusun Lebo, desa Madiredo, kecamatan Pujon, kabupaten Malang; Bogor Botanic Garden; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Handil Manarap); Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali

Impact: Weed in the vegetable fields

Images source: Foris-Indonesia

References/Notes: 3, 13, 20, 22, 30, 31, 70, 88, 149, 150, 151.

75 *Conyza sumatrensis* (Retz.) Walker

Synonyms: *C. sumatrensis* (S.F.Blake) Pruski & G.Sancho/*C. ambigua* DC./*C. floribunda* var. *subleiotheca* (Cuatrec.) J.B. Marshall/*C. groegeri* V.M. Badillo/*Erigeron linifolius* auct. non Willd/*E. sumatrensis* Retz.

Asteraceae

Origin: Tropical America.

Indonesian names: -

English names: Fleabane, tall fleabane, broad-leaved fleabane, white horseweed, Sumatran fleabane, Guernsey fleabane.


1


2

Description: An erect herb growing to 1 to 2 metres in height. It has a central stem branching towards the top of the plant below the inflorescence (flowerheads). The stems are very leafy and softly hairy. The leaves are grey/green in colour they are 4-10cm long and 5-12mm wide. The basal leaves form a rosette and are lanceolate with toothed edges. As you move up the stem the leaves are then alternate, these leaves being lanceolate (tapering from a rounded base toward an apex) to linear with the margin entire. The leaves are covered in small, white hairs.

Flowers and fruit: Each "flower" is in fact a group of small flowers callet florets. The "flowers" are arranged in groups that form a pyramid like shape. Each "flower" is broad-campanulate (bell-shaped) and is 4-6mm long and 6-10mm wide. The involucral bracts (outer covering) are hirsute (hairy), greenish white in colour with the inner surface when reflexed being a reddish brown colour. The florets are cream coloured and less than 1mm long. The fruit is 3mm in length, ovoid and sparsely hairy. It is single seeded with a straw coloured pappus that has minutely barbed bristles. Flowering occurs chiefly from December to August.

Habitat: It is an erect, annual (living 1 season only) that is 1 to 2 metres tall with basal leaves in a rosette formation. The rosette formation being particularly evident at the juvenile stage. The plant develops from the middle of the rosette and arises from a central stem branching towards the top of the plant.Adapted to most soil types, particularly disturbed or neglected areas.

Uses:

Distribution: Thailand, Malay Peninsula, Sumatera, Java, Nusa Tenggara, Maluku, The Philippines, New Guinea, Fiji Islands, Tonga Islands; Pantropical. Found for the first time in Java before 1860, and spread throughout Indonesia

Impact: No detail information

Images source: wuala.com (1), floralimages.co.uk (2)

References/Notes: 2, 3, 88, 111.

76

Crassocephalum crepidiodes (Benth.) S. Moore

Synonyms: *Gynura cepridiodes* Benth./*Gynura diversifolia* Sch.Bip. ex Asch./*Gynura microcephala* Vatke/*Gynura polycephala* Benth.

Asteraceae

Origin: Tropical Africa.

Indonesian names: Sintrong hutan.

English names: Ebolo, thickhead, redflower ragleaf, orfireweed.

Description: Erect annual herb, mostly 50–100 cm high, sparsely hairy.

Leaves with lamina elliptic to ovate in outline; lowest leaves lyrate-pinnatifid, up to 20 cm long and 10 cm wide, base often with a pair of stipule-like lobes, margins coarsely toothed; upper leaves smaller, not lobed or with a lobe each side towards base; petiole up to 4 cm long.

Heads in cymes, few to many, nodding at first, later erect; heads c. 4 mm diam; outer involucral bracts c. 1 mm long, inner involucral bracts c. 16, 8–10 mm long. Florets reddish.

Achenes c. 2 mm long; pappus 8–10 mm long, white tinged reddish or mauve.

Habitat: -

Uses: -

Distribution: In 1926 first observed in the Malay Archipelago (Medan, N.-Sumatera), from there purposely introduced into Java where it has run wild in several localities; Now a pantropical weed, widespread in Malesia; Tidal areas of South Kalimantan (Banjarmasin) and Central Kalimantan (Unit Tatas); Weed in tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed in potato plantations Koto Baru, Kabupaten Tanah Datar, South Sumatera; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: A pantropical weed

Images source: kyushu-u.ac.jp

References/Notes: 1, 2, 6b, 31, 34, 42, 70, 88, 109.

77 *Crotalaria micans* Link

Synonyms: *Crotalaria anagyroides* Kunth/*Crotalaria brachystachya* Benth./*Crotalaria dombeyana* DC./*Crotalaria micans* Link/*Crotalaria stipulata* Vell./*Crotalaria triphylla* Vell.

Leguminosae

Origin: C. & S. America.

Indonesian names: Orok-orok.

English names: -

Description: Shrub 1–3 m tall. Leaves 3-foliolate; stipules linear or lacking; leaflets 3.5–10 × 1–4.5 cm, elliptic, appressed pubescent beneath. Racemes 15–30 cm long; bracts linear, usually caducous. Calyx 0.8–1.2 cm long, densely appressed pubescent. Standard ovate-circular, bright yellow, marked blackish and later reddish at centre; keel 1.3–1.5 cm long, shorter than the broad wings, abruptly rounded about the middle, with a fairly short slightly incurved obtuse beak, lanate towards the upper edge. Pod 3–4 × 1–1.4 cm, stipitate, cylindrical, pubescent.

Habitat: -

Uses: -

Distribution: In Java at 10-1600 m alt., locally cultivated as a fertilizer and sometimes met with as an escape; Cashew nuts plantations South Sulawesi; It has been introduced into many tropical and subtopical countries, including those in Malesia, where it also naturalized locally.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 11, 80, 196, 223.

78 *Crotalaria juncea* L.

Synonyms: *Crotalaria benghalensis* Lam./*Crotalaria fenestrata* Sims/*Crotalaria porrecta* Wall./*Crotalaria sericea* Willd./*Crotalaria tenuifolia* Roxb./*Crotalaria viminea* Wall.

Papilionaceae

Origin: India.

Indonesian names: Orok-orok lembut.

English names: Sunn hemp, Indian hemp, Madras hemp.

Description: Erect shrubby annual, generally 1 to 4 m in height. Stems up to 2 cm in diameter, cylindrical and ribbed. Leaves simple, spirally arranged along the stem, oblong-lanceolate, 4-13 cm x 0.5-3 cm, pilose; petiole up to 0.5 cm. Strong taproot, well developed lateral roots. Much branched and lobed nodules, up to 2.5 cm in length. Inflorescence a terminal open raceme to 25 cm in length with deep-yellow flowers, sepals 5, hairy; standard erect, suborbicular, ca. 2.5 cm in diameter. Flowering is indeterminate. Pod cylindrical, 3-6 cm x 1-2 cm, tomentose, light brown, containing ca. 6 seeds. Seeds heart-shaped, with narrow end strongly in-curved, up to 6 mm long, dark brown to black. Due to cultivar and environment, seed weight is highly variable, ranging from 18,000 to 35,000 per kg (Chee and Chen 1992).

Habitat: Sunn hemp is drought resistant and is adapted to hot, semi-arid and arid areas, yet can tolerate light frosts. It is not tolerant of salt, nor of sustained waterlogging. It is photoperiod-sensitive and flowering occurs in response to short days; long daylengths favour vegetative growth and reduce seed-set, although daylength neutral selections exist.

Uses: Sun hemp is extensively cultivated for fibre or green manure and leaves are fed as a high protein supplement to other poorer feeds. In Sri Lanka dried leaves, bark and boiled seeds are fed to cattle. With restrictions, seed has been used as fodder in the former Soviet Union and southern Africa. It is showing promise as a forage legume for intercropping with upland rice. Leaves and stems are dried since animals do not eat sunn hemp when it is green. Sunn hemp should be cut for hay or ploughed in for green manure in the early flowering stage when it is 1.5-2.5 months old. Due to the shade of its dense canopy it is also used as a cover crop to suppress weed populations.

Distribution: Shifting cultivation of Timor, NTT.

Impact: No detail information

Images source: Flickr.com

References/Notes: 7, 14, 207, 283.

79 *Crotalaria pallida* Aiton

Synonyms: *Crotalaria mucronata* Desv./*Crotalaria brownei* DC./*Crotalaria fertilis* Delile/*Crotalaria hookeri* Arn./*Crotalaria mucronata* Desv./*Crotalaria pallida* Klotzsch/*Crotalaria saltiana* Prain ex King/*Crotalaria siamica* F.M.Wiliams/*Crotalaria striata* DC./*Lebeckia rostrata* Fenzl

Leguminosae

Origin: Tropical Africa.

Indonesian names: -

English names: Pepper elder.

Description: Erect shrub, apex of stem short-hairy. Leaves 3-foliolate. Leaflets 3–7 cm long, obovate-elliptic to obovate, widest at a point 0.6–0.8 of the length from base to apex, rounded or retuse at the apex, glabrous above, densely appressed pubescent beneath. Flowers in axillary, racemes, yellow, 20 – 100 flowered, often numerous flowers expanded at the same time. Calys with a flat or impressed bottom, wings much shorter than keel, corolla yellow purple- veined. Pods above calyx-remnanton a long stalk, subglabrous, 20 – 55 seeded.

Habitat: Lake shores, river margins, often on sand, sometimes in swamp forest and marshes 200–1750 m.

Uses: -

Distribution: Introduced in Java a very long time ago and at present naturalized in and Mad. $_2$-1000, completely naturalized;Morus alba plantations; Tidal areas of South Kalimantan (Banjarmasin); Its natural distribution is obscured by widespread cultivation and subsequent pantropical naturalization. In Asia it is common in India and Sri Lanka and throughout SE. Asia.

Impact: No detail information

Images source: Foris-Indonesia

References/Notes: 1, 11, 31, 80, 103, 223.

80 *Croton hirtus* L'Hér.

Synonyms: *Croton aberrans* Müll. Arg./*Croton guaraniticus* Chodat & Hassl./*Brachystachys hirta* (L'Hér.) Klotzsch/*Oxydectes aberrans* (Müll.Arg.) Kuntze/*Podostachys hirta* (L'Hér.) Klotzsch

Euphorbiaceae

Origin: Tropical America.

Indonesian names: -

English names: Hairy croton.

Description: Erect dichotomously branched aromatic herbs upto 60 cm high; branchlets with white to pale yellow strigose-stellate hairs. Leaves 2.4-9 x 1.5-7.8 cm, ovate to ovate-oblong, base truncate, broadly cuneate or oblique, margins irregularly serrate, apex acute, stellate white hairy on both sides, 3-5-nerved from base, 2-stalked gland present at the base of lamina; petiole 0.3-6.5 cm long, stellate hairy; stipules 2-5 mm long, linear, stellate hairy. Inflorescence terminal, upto 4 cm long with multibranched numerous glandular hairs, female flowers below, male flowers above; bracts 2-4 mm long, linear, glandular hairy. Male flowers white; pedicels c. 1 mm long, stellate hairy; tepals 10, 2-seriate, white, 1.5-2 x 0.5-1 mm, obovate or oblanceolate, obtuse or acute at apex, stellate hairy without. Stamens many. Female flowers green; tepals 5; longer ones 3, c. 3 mm long, obovate; shorter ones 2, 1-1.5 mm long. Ovary c. 1.5 mm long, ovoid, stellate hairy. Capsules 3-5 x 3-4 mm, ovoid, stellate hairy. Seeds 2-3 mm long, trigonous, brown with black patches, caruncle cream.

Habitat: Wastelands.

Uses: -

Distribution: Naturalized in West Java; Introduced before 1900 in West Java, area from Bogor aand Pelabuhan Ratu, and spread throughout Indonesia, except Kalimantan, Sulawesi and Lesser Sunda Islands; Cotton plantations South Sulawesi; Oil palm plantations (4 years), South Sumatra; Kalianda, South Lampung; Tidal areas of South Kalimantan (Handil Manarap); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed of cotton plantations in Banguntapan (Kabupaten Bantul, Yogyakarta).

Impact: Weed of tea plantations

Images source: Flickr.com

References/Notes: 1, 3, 11, 13, 20, 31, 34, 40, 110, 292.

81 *Cryptostegiagrandiflora* Roxb. ex R. Br.

Synonyms: *Cryptostegia grandiflora* var. *tulearensis* Costantin & Gallaud

Asclepiadaceae

Origin: India & Madagascar

Indonesian names: -

English names: Rubber vine

Description: A rubber vine can grow up to 2 metres (m) tall as a shrub, but when it is supported on other vegetation as a vine, it can reach up to 30 metres in length. Rubber vine prefers areas where annual rainfall is between 400 and 1400 millimetres (mm), and is well adapted to a monsoonal climate. It can grow maximally on an annual rainfall of 1700 millimetres, but seeds best with an annual rainfall of 400 millimetres or less. For this reason, rubber vine thrives on (in fact, requires) the extreme variability of rainfall and streamflow characteristic of central Queensland. The extreme variability (four times that of other countries to which it has been introduced) is almost certainly why rubber vine has become a major weed in Australia and not any other country in which it has been introduced.

Habitat: *Cryptostegia grandiflora* is an aggressive woody climbing shrub which is capable of growing over trees up to 30m high. Plants are common in disturbed situations where there is temporary or permanent water, such as along gullies, rivers, creeks, waterholes and in saltmarsh areas (Marohasy and Forster, 1991. In PIER, 2003). It found growing in dry forest, roadsides, moist forest, rainforest openings at low elevations (PIER, 2003).

Uses: Ornamental.

Distribution: In Java not rarely as an ornamental.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 88, 104.

82 *Cuphea carthagenensis* (Jacq.) J.F.Macbr.

Synonyms: *Cuphea balsamona* Cham. & Schltdl./*Cuphea* divaricata Pohl ex Koehne/*Balsamona pinto* Vand./*Lythrum carthagenense* Jacq./*Parsonsia pinto* (Vand.) A. Heller

Lythraceae

Origin: The Antilles, C. & S. America.

Indonesian names: -

English names: Colombian cuphea, Colombian waxweed, Columbian cuphea, tarweed.

Description: Annual or perhaps short-lived perennial herb, sometimes slightly woody at base; stems 1.5-5 dm long, often many-branched, glandular hispid and white puberulent. Leaves obovate to elliptic or oblong-elliptic, (10-) 20-60 mm long, (8-) 12-26 mm wide, apex obtuse, base cuneate, petioles 0-2 mm long. Flowers few in terminal and also axillary cymes, pedicels ca. 1 mm long; floral tube green, sometimes becoming reddish, flask-shaped, 4-7 mm long, sparsely hispidulous on nerves, some of the hairs glandular; calyx teeth ovate; petals pale pink or bluish, drying violet, subequal, ca. 1.5 mm long; stamens included and inserted in 2 unequal whorls near the constriction of the floral tube. Capsules ovoid, 1-celled, 3.5-5 mm long. Seeds 4, suborbicular, ca. 2 mm in diameter.

Habitat: -

Uses: -

Distribution: In Java naturalized on NE. slope of Gede (West Java).

Impact: No detail information

Images source: planta.cn

References/Notes: 1, 103, 164.

83 *Cuphea hookeriana* Walp.

Synonyms: *Cuphea cinnabarina* Planch./*Cuphea fulgens* Fenzl ex Koehne/*Cuphea pringlei* S. Watson/*Parsonsia hookeriana* (Walp.) Standl.

Lythraceae

Origin: Mexico & C. America.

Indonesian names: -

English names: -

Description: Erect or ascending, flaccid herb. Leaves lanceolate or linear-lanceolate, acuminate. opposite, Flower extra-axillary, solitary or in leafy racemes, zygomorphic, 6 merous. Calyx red with 2 longitudinal wings nearposterior side, narrow at apex and partly enclosing the ovary, posterior petals erect.

Habitat: -

Uses: -

Distribution: Naturalized in West Java on NE. slope of Gede, near Cibodas.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1.

84 *Cuscuta campestris* Yunck.

Synonyms: *Cuscuta arvensis* Beyr. ex Engelm.

Convolvulaceae

Origin: N. America.

Indonesian names: -

English names: Golden dodder, field dodder.

Description: Parasitic climber and perennial herb. Leaves reduced to scales. Fruit a globe-shaped capsule, 3–4 mm wide, containing up to 4 seeds. Seeds brown, yellow or grey, 1–2 mm long, more or less globe-shaped, surfaces roughened.

Habitat: *Cuscuta campestris* also attacks a wide range of naturalised species and native plants that are growing in grasslands, open woodlands, coastal vine thickets, gardens, degraded land, riparian zones (banks of watercourses) and wetlands.

Uses: Cuscuta campestris and other Cuscuta species are frequently used as a research tool, to create a bridge between different plants for transmission of diseases from one host to another. However, this use cannot compensate for this plant's overall negative impacts.

Distribution: In Java collected above Cianjur (1000 m alt.) and on Pangalengan (1600 m alt.), both in West Java; and Dieng, above Wonosobo (Central Java, 1500 m alt.); Bandar Lampung.

Impact: No detail information

Images source: altervista.org (1), Flickr.com (2)

References/Notes: 1, 26, 108, 147.

85 *Cyanthillium cinereum* (L.) H.Rob.

Synonyms: *Cacalia cinerea* (L.) Kuntze/*Conyza cinerea* L./*Cyanopis erigeroides* DC./*Eupatorium myosotifolium* Jacq., *Seneciodes cinereum* (L.) Kuntze ex Kuntze/*Serratula cinerea* (L.) Roxb./*Vernonia cinerea* (L.) Less.

Asteraceae

Origin: Unknown/Old World.

Indonesian names: Buyung, lidah anjing, rumput ekor kuda (Melayu), maryuna, nyawon, pidak bangkong (Javanese), leuleuncaan, mareme, rante piit, sasawi langit, sembung, capeu tuhur (Sundanese), gofu mutiara (Ternate).

English names: Little ironweed (USA); Blue Fleabane, Inflammation Bush; Strongman-Bush, Tropical Fleabane.

Description: Erect, slender, rarely branching annual herb,up to 3 cm tall. Stems ribbed, finely pilose and glandular. Leaves alternate, lower ones being perioled while the upper ones are reduced and sessile, oval or broadest about or above the middle and taperring to each end, sgallowly toothed,2-6 by 0.5-3.5 cm, more oe less densely and finely hairy. Flower much exceeding the involucres, rahter bright purple, pink, or white, about 20 in each head, twice as long as the involucral bracts.Heads 20-25 flowered, 6-7 mm long, 2.5 mm in diameter, pedunculed, in open, loose corymbs. Pappus bristles while, dentate,3-5 mm long. Phyllaries very acutely acuminate. Involucre 4-seriate, 4-5 mm long, bract pubescent, often tinged with purple, narrowly pellucid-margined, lanceolate, 1-nerved, glandular. Fruitsachenes, narrowly oblong with 4-5 ribs, but not conspicuously angular, rather densely white-appressed-hairy, 1.5-2 mm long, inner pappus-hairs 4-5 mm long, outer ones very short.

Habitat: Common in waste places and road side.

Uses: Considered a febrifuge, diaphoretic, alterative, diuretic, antispasmodic, alexipharmic and anthihelmintic

Distribution: Africa, Arabia, Baluchistan, Sri Lanka, Bombay, Himalaya, Sikkim, Assam, Madras, Bangladesh, Burma, Andaman Islands, Ceylon, Thailand, Cambodia, Laos, Vietnam, China (Hainan), Taiwan, Japan, the Philippines (Luzon, Mindanao), Sumatera, Borneo, Java, Lombok, Timor, Sulawesi, Maluku, New Guinea, Polynesia, Australia; Tropical. Throughout Indonesia; Young rubber plantations (3 years) South Sumatra; sulfat acid soil and Trial garden Banjar Baru, South Kalimantan; Tidal areas of South Kalimantan(Banjarmasin, Beladean, Handil Manarap), and Central Kalimantan(Unit Talas); Weed of cotton plantations Segayung (Kabupaten Batang, Central Java) and Kalitirto Garden (Kabupaten Sleman, Yogyakarta); Undergrowth plant Purwodadi Botanic Garden, Kabupaten Pasuruan, Jawa Timur; Pantropical weed. In Malesia, it is common throughout the region.

Impact: Weed of cotton plantations

Images source: Foris-Indonesia

References/Notes: 2, 3, 13, 18, 19, 31, 40, 72, 75, 112, 143, 144.

86 *Cyanotisaxillaris* (L.) D.Don ex Sweet

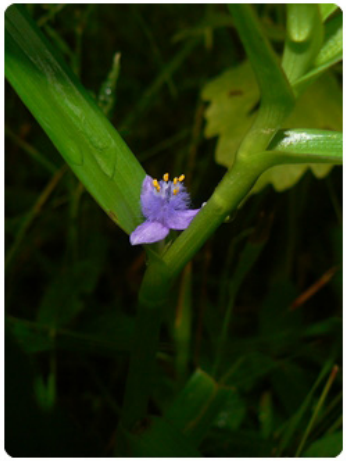
Synonyms: *Cyanotis disrumpens* Hassk./*Amischophacelus axillaris* (L.) R.S. Rao & Kammathy/*Commelina axillaris* L./*Tonningia axillaris* (L.) Raf./*Tradescantia axillaris* (L.) L./*Zygomenes axillaris* (L.) Salisb.

Commelinaceae

Origin: Asia.

Indonesian names: Rumput pait (Melayu), paitan (Javanese), jukut pait (Sundanese).

English names: Spreading dayflower.



Description: Terrestrial, annual, prostrate herb, up to 70 cm long, rooting at nodes. Roots fibrous, white or brown. Stem rounded, solid, glabrous, succulent. Stipules absent. Leaves simple, not divided or lobed, alternate, spiral, sessile, glabrous on both sides, margin entire, apex acute, base clasping, parallel-veined, with close secondary veins, leaf sheath present, rounded in cross section, hairy. Flowers bisexual, in axillary or terminal inflorescences, covered by a spathe, single or few, sessile, blue, petals 3, connate. Fruit a capsule, opening with 3 valves.

Habitat: Humid meadows, shallow ditches and borders, humid parts of teak forest, old brick walls, more common in areas with a longer dry season. Occurs from 10-250 m alt. Flowers from July to December in Java; flowers open only once for a few hours.

Uses: This species is used to treat boils and ascites. A plant is decoction of the whole plant is reportedly used in swellings above the abdomen. Another species, Cyanotis vaga (common Cyanotis), is used for rheumatisms and joint pains. The plant is used as food for pigs.

Distribution: Pantropical; From India and Sri Lanka to China, and throughout SE. Asia to Australia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 79, 91.

87

Cyanotis cristata (l.) D. Don

Synonyms: *Cyanotis imbricata* (Roxb.) Kunth/*Commelina cristata* L./*Ephemerum cristatum* (L.) Moench/*Siphostigma cristata* (L.) Raf./*Tonningia cristata* (L.) Kuntze/*Tradescantia cristata* (L.) L./*Tradescantia imbricata* Roxb./*Zygomenes cristata* (L.) W.Wight

Commelinaceae

Origin: Asia.

Indonesian names: Djeworan.

English names: -

Description: Prostrate herb with erect or ascending branches, 15-30 cm long, which are smooth or slightly hairy with subspreading hairs. Leaves ovate to oblong, sessile, distant, acute to subobtuse, entire, 5-10 cm long, 1-1.5 cm broad. Flowers blue, usually in terminal clusters subtended by ovate-falcate, 1.5 cm long, acute, folded spathes. Capsules 3-4 mm long, trigonous, obtuse, membranous, nearly glabrous, usually 6-seeded.

Habitat: *Cyanotis cristata* is reported from wet rocky areas, moist soil, grasslands, ravines, stream edges.

Uses: -

Distribution: Pantropical.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 125, 148, 291.

88 *Cynodon dactylon* (l.) Pers.

Synonyms: *Cynodon affinis* Caro & E.A.Sánchez/*Cynodon aristulatus* Caro & E.A.Sánchez/*Cynodon pascuus* Nees/*Agrostis linearis* Retz./*Agrostis stellata* Willd./*Capriola dactylon* (L.) Kuntze/*Chloris maritima* Trin./*Chloris paytensis* Steud./*Digitaria dactylon* (L.) Scop./*Digitaria linearis* (L.) Pers./*Fibichia dactylon* (L.) Beck/*Panicum dactylon* L./*Paspalum dactylon* (L.) Lam./*Phleum dactylon* (L.) Georgi/*Milium dactylon* (L.) Moench/*Syntherisma linearis* (L.) Nash/*Vilfa linearis* (Retz.) P.Beauv.

Poaceae

Origin: Asia or Africa.
Gambar per;u di cek

Indonesian names: Rumput grinting, Rumput Bermuda.

English names: Australian couch, Bahama grass, balama grass, Indian doab, quick grass, scutch grass, star grass.

Description: A short-lived, prostrate, fine-leaved perennial grass that spreads by strong, flat stolons and scaly rhizomes to form a dense turf; stolons root readily at the nodes; culms erect or ascending, 5 to 45 cm (rarely to 90 or even 130 cm) tall, wiry, smooth, sometimes reddish, leaf sheaths up to 15 mm long, shorter than internodes, smooth; ligule a conspicuous ring of white hairs; blades 2 to 16 cm long, 3 to 5 mm wide, smooth or hairy on upper surface; inflorescence of three to seven sometimes purplish spikes in one whorl, in a fingerlike arrangement (digitately), 3 to 10 cm long, or in robust forms spikes up to 10, sometimes in two whorls; spikelets 2 to 3 mm long, in two rows tightly appressed to one side of the rachis; lemma boat-shaped, acute with fringe of hairs on the keel, longer than the glume; seed (grain) very small, 1.5 mm long, oval, straw-colored to orange-red, free within the lemma and palea" (Holm et al. 1977, in PIER 2008).

Habitat: Range/grasslands, riparian zones, water courses, wetlands.

Uses: Used for environmental purposes (erosion control; lawn/turf), animal food (fodder; forage) and medicines (USDA-ARS 2004). Frequently used for lawns and pastures (Wiggins & Porter 1971, in PIER 2008).

Distribution: Pantropical and subtropical. Throughout Indonesia, except Sulawesi and Papua, as far as known; Cotton, cacao, cashew nuts plantations in South Sulawesi; Oil palm plantations (4 years) and onion plantations in South Sumatra; Sugarcane plantations Takalar; Cihea Cianjur, West Java; Dusun Lebo, desa Madiredo, kecamatan Pujon, kabupaten Malang; Bogor Botanic Garden; Tidal areas of South Kalimantan (Banjarmasin); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Kp. Muara, Bogor, West Java; Kalitirto, Berbah, Sleman, Yogyakarta; Weed of cotton plantations Banguntapan (Kabupaten Bantul, Yogyakarta), Segayung (Kabupaten Batang, Central Java), and Kalitirto (Kabupaten Sleman, Yogyakarta); Weed of cabbage plantations at experimental garden SPLPP UNPAD, Bandung; In the vegetable field in the dry and rainy seasons in Candi Kuning, Bali; Undergrowth plant Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java.

Impact: Weed of tea, cotton, and cabbage plantations.

Images source: arkive.org

References/Notes: 3, 11, 13, 17, 21, 22, 30, 31, 34, 36, 38, 39, 40, 43, 70, 72, 104, 252.

89 *Cyperus babakan* Steud.

Synonyms: *Cyperus babakensis* Steud. ex Miq./*Duval-jouvea babakensis* (Steud. ex Miq.) H.Pfeiff.

Cyperaceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Perennials. Rhizomes stoloniferous. Culms 60-80 cm tall, slightly stout, compressed triquetrous, smooth. Leaves basal, slightly shorter than or subequaling culm; sheath brown and purplish red striate, basalmost bladeless; leaf blade ca. 8 mm wide, with short and transverse septate nodes, midvein and margin scabrous, basally folded, apically flat. Involucral bracts 3 or 4, leaflike, much longer than inflorescence, longest to 25 cm. Inflorescence a simple anthela; rays 3-5, 2.5-12 cm, each with a spike; raylets absent. Spikes ovoid to ellipsoid, ca. 2.5 × 1.8 cm, with several to many spikelets; rachis slightly densely yellowish brown hispidulous. Spikelets slightly densely arranged, spreading, narrowly linear-ovoid to linear-oblong, 0.8-1.2 cm × ca. 2.5 mm, subturgid, 12-30(-40)-flowered; rachilla wings white, narrow, hyaline. Glumes yellowish on both surfaces with purple striae, slightly densely arranged, ovate, 2.5-3 mm, membranous, 7-9-veined, keel green and spinulose especially distally, margin white hyaline, apex obtuse and mucronate. Stamens 3; anthers oblong, 0.7-1 mm; connective prominent beyond anthers. Style short; stigmas 3, ± longer than style. Nutlet black when mature, broadly obovoid to broadly ellipsoid, ca. 1/2 as long as subtending glume, 3-sided, densely puncticulate.

Habitat: Wet places, paddy fields; below 300 m.

Uses: -

Distribution: From India and Assam to Indochina, Malesia. Throughout Indonesia except the Lesser Sunda Islands and the Moluccas as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 162.

90

Cyperus distans L.f.

Synonyms: *Cyperus graminicolus* Steud./*Cyperus longibracteatus* (Cherm.) Kük./ *Cyperus psilostachys* Steud./*Mariscus keniensis* (Kük.) S.S. Hooper/*M. rubrotinctus* Cherm.

Cyperaceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Perennial, growing up to 0.5 m. It is in flower from Aug to September, and the seeds ripen from Aug to September. Inflorescence terminal, compound or decompound. The flowers are hermaphrodite. Spikelets subcylindrical ultimately spreadingat right angle, the lower one often reflexed, linear, terete, almost acicular. Glumes 2-3 mm long, without broad, greenish keel.

Habitat: Bog Garden; Cultivated Beds.

Uses: -

Distribution: Pantropical and subtropical; common in Malesia. Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap).

Impact:

Images source: Flickr.com

References/Notes: 3, 31, 95.

91 *Cyperus halpan* L.

Synonyms: *Cyperus adenophorus* Schrad. ex Nees/*Cyperus aphyllus* Vahl/*Cyperus graminifolius* Poir./*Cyperus junceus* Link/*Cyperus nudus* Kunth/*Cyperus pedatus* Nees

Cyperaceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Perennial with short rhizome or more or less creeping. Stems solitary or tufted, triquetrous, often with median rib on each side. Leaves 2-3 mm wide, smoth or scabrid at the top, lower sheaths cinnamomeous or reddish. Inflorescence terminal, capitates, involucral bracts similar to the leaves. Glume straight obliquely erect, appressed, keeled, oblong-ovate to oblong.

Habitat: 1000-1200 m; Tropical, subtropical and warm-temperate regions of both hemispheres. A weed in rice fields.

Uses: -

Distribution: Tropics and subtropics of the whole world. Throughout Indonesia; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Kertak Hanyar, Sungai Tabuk) and Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: alabamaplants.com

References/Notes: 3, 31, 162.

92 *Cyperus iria* L.

Synonyms: *Cyperus chrysomelinus* Link/*Cyperus panicoides* Lam./*Cyperus resinosus* Hochst. ex Steud./*Cyperus santonici* Rottb./*Chlorocyperus iria* (L.) Rikli

Cyperaceae

Origin: Asia.

Indonesian names: -

English names: Rice flat sedge and rice flatsedge.

Description: Terrestrial, annual or perennial, tufted herb, with stolons. Roots fibrous, white or brown. Stems triangular, solid, hairy. Stipules absent. Leaves simple, nor lobed or divided, alternate spiral, sessile, linear, more than 2 cm long/wide, glabrous or hairy, margin entire, apex acute, base clasping, parallel-veined. Leaf sheath present, triangular in cross section, glabrous. Flowers bisexual, grouped together into a terminal umbel, sessile, green, petals absent. Fruits a nut.

Habitat: -

Uses: -

Distribution: Widely distributed in tropical and subtropical Asia from Iran, Afghanistan, China, and Japan to the S. Pacific and Australia, W. and E. Africa; introduced in the USA and W. Indies; common in Malesia. Throughout Indonesia; Coffe plantations in South Sulawesi; Sulfatic acid soil in Banjar Baru; Trial plantations in Banjar Baru, South Kalimantan; Kalianda, South Lampung; Cihea Cianjur, West Java; Dry and wetland in Flores-NTT; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Kertak Hanyar, Sungai Tabuk) and Central Kalimantan (Unit Tatas); Kp. Muara, Bogor, West Java; Weed of chili plantations Cibungbulang, Bogor; Weed in vegetable fields in the rainy seasons in Candi Kuning, Bali; From Iran, Afghanistan, China and Japan to Australia, also in E. Africa; common throughout Indo-China, Thailand and Malesia. Introduced and naturalized in SE. United States and The West Indies.

Impact: Weed in vegetable fields

Images source: Flickr.com

References/Notes: 3, 11, 18, 19, 20, 21, 27, 31, 36, 39, 44, 70, 75, 88, 91.

93 *Cyperus michelianus* subsp. *pygmaeus* (Rottb.) Asch. & Graebn.

Synonyms: *Cyperus pygmaeus* Rottb./*Dichostylis pygmaea* (Rottb.) Nees/*Juncellus pygmaeus* (Rottb.) C.B. Clarke/*Pycreus pygmaeus* (Rottb.) Nees

Cyperaceae

Origin: Asia.

Indonesian names: -

English names: -

Description: Small, tufted, leafy annual with reddish roots. Culms triquetrous, smooth, 1–20 cm high, to 1.5 mm diam. Leaves not septate-nodulose, usually longer than culms, 1–2 mm wide. Inflorescence densely head-like, 6–18 mm diam; involucral bracts leaf-like, 5–7 or more spreading, very much longer than inflorescence, often a few smaller bracts protruding from the head. Spikelets flattened, very numerous per cluster, 3–5 mm long, 1.5–2 mm wide in side view, 8–20-flowered; rachilla not winged, persistent. Glumes acute, short-mucronate, with sides 1- or 2-nerved, c. 2 mm long, c. 0.5 mm wide, white to pale brown with conspicuous green midrib. Stamens 1 or 2. Style 2- or occasionally 3-fid. Nut dorsally flattened with a flat or concave face against the rachilla, or sometimes trigonous, obovoid to ellipsoid, half to a third as long as glume, 0.8–1 mm long, 0.2–0.5 mm diam., pale brown.

Habitat: Marshy areas.

Uses: -

Distribution: Mediterranean area; E. Africa, from the Middle East trough S. and SE. Asia to Australia; very rare in Malesia; a few localities in the Philippines. In Indonesia: Java, Sumatra (according to Dekker), Sulawesi and Papua.

Impact: No detail information

Images source: Flickr.com (1), botany.cz (2), florevirtuelle.free.fr (3)

References/Notes: 3, 109, 110.

94 *Cyperus odoratus* L.

Synonyms: *Cyperus bracteolatus* Steud./*Cyperus ferax* Rich./*Cyperus ferox* Rich./*Cyperus fragilis* Liebm./*Cyperus lenticularis* Steud./*Cyperus stellatus* Rudge/*Diclidium auriculatum* Nees/*Mariscus ferax* (Rich.) C.B.Clarke/*Torulinium ferox* (Rich.) Ham./*Torulinium macrocephalum* (Liebm.) C.B.Clarke/*Torulinium odoratum* (L.) S.S. Hooper

Cyperaceae

Origin: Unknown.

Indonesian names: Rumput teki.

English names: Fragrant flatsedge and rusty flatsedge.

Description: Perennial or annual smooth herb without creeping rhizome, from 16 to 90 and up to 130 cm tall. Stems trigonous, triquetrous in the upper part

up to 5 mm thick at the tip, sometimes with the bulb-shaped base. Leaves 6-12 mm wide, with more or less scabrid margins,

sheets or V shaped cross section of M, 10 to 65 cm long by 4 to 12 mm wide, straw colored sheaths coffee.

Inflorescence anthelate, umbel-like, 5-25 cm across.: Involucral bracts patent (modified leaves accompanying inflorescence) from 4, but most common from 6 to 10, 10to 50 cm in length by 1 to 12 mm wide, uneven inflorescence stems 6 to 10 (the bra inflorescence) or unequal beams, up to 20 cm in length, occasionally absent, and then form a glomerulus dense inflorescence, the longest stems usually with side up to 4 cm in length, secondary bracts to 6 cm in length 1 to 4 mm wide, profilo (tubular structure that envelops the base of the stem) from 10 to 60 mm long, tubular, bicuspidado (which ends in two rigid tips and acute), pins 10 to 30 mm long and 10 a 30 mm wide, ovoid to cylindrical.

Flores: spikelets (small spike) from 5 to 27 mm long, about 1 mm wide and thick, brown to reddish-brown, more or less divaricate (which forms an open angle of 75 to 105 °), so Generally subdísticas (placed in two vertical rows on opposite way), but cylindrical (not flattened), sometimes densely packed, from 3, but most common from 6 to 30 flowers raquilla (spikelet axis) disarticulating at the base of each achene (dry fruit, simple and it does not open at maturity), thickened and fluffy white fabric sterile side, on the side with two wings hyaline fertile (very thin) or brown, 1 to 1.2 mm long and 0.4 0.5 mm wide, which surrounds the lower half of achene bractéola (secondary blade on the support generally flower) of about 1 mm in length by 0.2 to 0.3 mm width in side view, acuminada (with straight margins convex or terminating at an angle less than 45 th), 5-7-nerved, profilo side 1.2 to 1.5 mm long and 0.5 mm wide in lateral view obtuse husks (leaves located frequently in pairs, on the basis of inflorescence) of 2 to 3.5 mm in length and 0,7 to 1 mm wide in side view, somewhat rigid, with 7-9 ribs, with the keel (set of petals) green and glossy sides, brown to reddish stamens 3 with filaments of 2 to 2.5 mm, hyaline, and anthers from 0.4 to 0.8 mm.

Nuts and seeds: Aquenio 1.5 mm long, 0.5 to 0.7 mm wide, unequally triangular section, truncate and apiculate, with the sides nearly flat, somewhat curved, punticulada surface (with scores tiny), brown to almost black.

Root: Fibrous, sometimes with rhizomes (underground modified stem horizontal) short.

Habitat: It is a plant of wet places (banks of water bodies, swamps, irrigation canals, ditches), and frequently disturbed.

Uses: -

Distribution: Warmer regions of whole world; throughout Malesia, but now here common. Throughout Indonesia.

Impact: No detail information

Images source: www.bio.utexas.edu

References/Notes: 3, 88, 127, 156, 163, 289.

95

Cyperus procerus Rottb.

Synonyms: *Cyperus griffithianus* Boeckeler/*Cyperus heyne* Boeckeler/*Cyperus straminicolor* Cherm./*Duval-jouvea procera* (Rottb.) H. Pfeiff./*Mariscus thwaitesii* Livera

Cyperaceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Perennials. Rhizomes with long stolons. Culms 45-85 cm tall, stout, compressed triquetrous. Leaves basal, equaling or slightly longer than culm; sheath reddish brown; leaf blade 5-10 mm wide, ± flat. Involucral bracts 3, leaflike, basal 1 or 2 longer than inflorescence. Inflorescence a simple or compound anthela; rays 3-7, mostly to 15 cm, unequal in length, obliquely spreading, smooth. Spikes 1-5, broadly ovoid, with 4-16 spikelets; rachis hispidulous or glabrous. Spikelets laxly arranged, narrowly linear-ovoid to linear-ovoid, 10-25 × ca. 3 mm, slightly turgid, obliquely spreading to spreading, 14-36-flowered; rachilla wings white, narrow, hyaline. Glumes yellowish brown and reddish brown punctate but middle greenish, slightly densely imbricate, broadly ovate, 2.5-3 mm, membranous, 7-9-veined, keeled, margin white hyaline and undulate, apex obtuse. Stamens 3; anthers linear-oblong, 1.2-1.8 mm; connective slightly prominent beyond anthers. Style short; stigmas 3. Nutlet brown, obovoid, 1.3-1.5 mm, ca. 1/2 as long as subtending glume, 3-sided, essentially smooth. Fl. and fr. Jun-Oct. 2n = 18, 64.

Habitat: Fields, water margins, wet places, often in sandy soil; below 100 m.

Uses: -

Distribution: From India to Indochina and E. China, Taiwan; southwards to Queensland. In Malesia rather rare. In Indonesia: Java, Kalimantan and the Lesser Sunda Islands.

Impact: No detail information

Images source: virboga.de

References/Notes: 3, 162.

96 *Cyperus rotundus* L.

Synonyms: *Cyperus agrestis* Willd. ex Spreng. & Link/*Cyperus bicolor* Vahl/*Cyperus comosus* Sm./*Cyperus hydra* Michx./*Cyperus olivaris* O. Targ. Tozz./*Cyperus tuberosus* Rottb./*Chlorocyperus rotundus* (L.) Palla/*Pycreus rotundus* (L.) Hayek/*Schoenus tuberosus* Burm.f.

Cyperaceae

Origin: India /Africa.

Indonesian names: Teki.

English names: Coco grass, nut grass, nut sedge, nutgrass, purple nut sedge, purple nut sedge, purple nutsedge, red nut sedge.

Description: Perennial plant, that may reach a height of up to 140 cm (55 inches). The names "nut grass" and "nut sedge" (shared with the related species Cyperus esculentus) are derived from its tubers, that somewhat resemble nuts, although botanically they have nothing to do with nuts.

As in other Cyperaceae, the leaves sprout in ranks of three from the base of the plant, around 5–20 cm long. The flower stems have a triangular cross-section. The flower is bisexual and has three stamina and a three-stigma carpel, with the flower head have 3-8 unequal rays. The fruit is a three-angledachene.

The root system of a young plant initially forms white, fleshy rhizomes, up to 25 mm in dimension, in chains. Some rhizomes grow upward in the soil, then form a bulb-like structure from which new shoots and roots grow, and from the new roots, new rhizomes grow. Other rhizomes grow horizontally or downward, and form dark reddish-brown tubers or chains of tubers.

Habitat: Agricultural areas, coastland, riparian zones, water courses.

Uses: Decoctions of the plant in Brazil are used for their anti-infective and anti-inflammatory properties (Cristina et al. 2005). Various preparations of C. rotundus have been used for centuries in perfumes, spices and traditional medicines in India, China, Arab and Africa (Sharma & Gupta 2007). C. rotundus is also an important ingredient of anti-aging Ayurvedic neutraceutical Chyavanprash (Sharma & Gupta 2007). Pigs eat its tubers; however it makes a poor fodder species; it is also reportedly used as a soil stabilizer (Ellison & Barreto 2004).

Distribution: Warmer parts of the whole world, widely distributed; very common in Malesia. Throughout Indonesia; Cotton and cashew nut plantations South Sulawesi; Young rubber plantations (3 years), oil palm (4 years) and onions plantations in South Sumatra; Shifting cultivations of Timor, NTT; Sugarcane plantations Takalar; Sulfatic acid soil in Banjar Baru; Trial plantations Banjar Baru, South Kalimantan; Cihea Cianjur, West Java; Dusun Rebo, desa Madiredo, kecamatan Pujon, kabupaten Malang; Dry and wetland of Flores-NTT; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap); Weed of tea plantations Ciliwung Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Kalitirto, Berbah, Sleman, Yogyakarta; Kp. Muara, Kabupaten Bogor, West Java; Weed of cotton plantations Banguntapan (Kabupaten Bantul, Yogyakarta), Segayung (Kabupaten Batang, Central Java), Kebun Gading (Kabupaten Gunung Kidul, Yogyakarta) dan Kebun Kalitirto (Kabupaten Sleman, Yogyakarta); Weed of potato plantations Koto Baru Kabupaten Tanah Datar, South Sumatra; Weed of garlic plantations in Batu, East Java; Weed in the vegetable fields the in dry and rainy seasons in Candi Kuning, Bali; Undergrowth plant in Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java; Now it is widely distributed throughout the warmer parts of the world and it is very common all over SE. Asia.

Impact: Weed of tea and garlic plantations

Images source: Flickr.com

References/Notes: 3, 11, 13, 14, 17, 18, 19, 21, 22, 27, 31, 34, 38, 39, 40, 42, 45, 70, 72, 75, 78, 88, 104, 289.

97 *Cyperus sphacelatus* Rottb.

Synonyms: *Cyperus balbisii* Kunth/*Cyperus chromatolepis* Steud./*Cyperus duchaisingii* Steud./*Cyperus nemorosus* G. Mey.

Cyperaceae

Origin: Tropical Africa/ America.

Indonesian names: -

English names: Roadside flatsedge.

Description: Herbs, annual or perennial, cespitose. Culms trigonous, 15-60 cm x 1-3 mm, glabrous. Leaves 2-6, flat to V-shaped, 6-30(-40) cm x 2-4 mm. Inflorescences: spikes broadly ellipsoid, 5-45 x 10-30(-45) mm; rays (2-)5-9, (0.3-)3-10 cm; rachis 4-17 mm; bracts 5-6, horizontal to ascending, V-shaped, 1.5-30 cm x 0.5-4 mm; rachilla persistent, wings hyaline, 0.4-0.5 mm wide. Spikelets 5-30, pale greenish white or stramineous, compressed, linear-lanceoloid, 7-35 x (1.2-)1.4-2 mm; floral scales deciduous, 6-34, spreading or appressed, laterally greenish white, often reddish or brown speckled, medially green, laterally 3-5-ribbed, medially 3-ribbed, elliptic, (2.2-)3-4(-4.4) x (1.2-)1.8-2.2 mm, apex acute. Flowers: anthers 0.6 mm; styles 0.6-1.2 mm; stigmas 1-1.4(-1.7) mm. Achenes reddish brown to dark brown, stipitate, narrowly ellipsoid, 1.4-2 x 0.6-0.9 mm, apex apiculate, surfaces puncticulate.

Habitat: In North America, disturbed, wet soils at low elevations.

Uses: -

Distribution: Introduced in Asia (also in Malesia), Australia, Oceania, rapidly spreading and to be expected in Java; collected by Molhuysen in 1905 was labelled "Lawang" (East Java), but probably wrong localized; Tropical Africa and tropical America; introduced in S. India, Australia, Tahiti, Malesia, New Britain. First collected in N. Sumatra in 1922. Spread throughout Indonesia except Sulawesi and the Lesser Sunda Islands, as far as known.

Impact: No detail information

Images source: floridagrasses.org

References/Notes: 1, 3, 103, 165.

98 *Cyperus tenuispica* Steud.

Synonyms: *Cyperus delicatulatus* Steud./*Cyperus fieldingii* Steud./*Cyperus guaricensis* Schnee//*Cyperus pseudohaspan* Makino

Cyperaceae

Origin: E. Asia.

Indonesian names: -

English names: -

Description: Erect, tufted, non-rhizomatous annual herbs; roots reddish-purple; culms 12-32 cm tall, triquetrous. Leaves few, basal, 5-20 x 0.2-0.3 cm, linear, flat, gradually acuminate, scabrid on upper margins; sheaths upto 5 cm long, reddish-brown. Inflorescence compound to decompound 5-12 cm long and as wide; leafy bracts 1-3, the longest upto 12 cm long; primary rays 5-12. Spikelets digitate in clusters of 3-9, 3-7 x 1-1.5 mm, linear-oblong, flattened. Glumes 0.5-1 x 0.5 mm, ovate-oblong, obtuse, mucronate, straw-coloured. Stamens 1 or 2. Stigmas 3. Nut upto 0.5 mm long, obovate, trigonous, white, minutely tuberculate.

Habitat: It is an annual plant grows in wet habitats, swamps, marshy places, moist areas, streams, ditches, seasonally flooded areas and rice fields.

Uses: -

Distribution: Warm regions of the eastern hemisphere; tropical Africa; from India to S. China and S. Japan; from Malesia to tropical Australia; scattered in Malesia. Throughout Indonesia, except in Kalimantan and Papua, as far as known.

Impact: No detail information

Images source: coocan.jp

References/Notes: 3, 110, 166.

99 *Dactyloctenium aegyptium* (L.) Richt.

Synonyms: *Dactyloctenium aegyptium* (L.) Willd./*Dactyloctenium aegyptium* var. *mucronatum* (Michx.) Schweinf./*Aegilops saccharina* Walter/*Chloris mucronata* Michx./*Cynosurus aegyptius* L./*Eleusine aegyptia* (L.) Desf./*Eleusine aegyptia* (L.) Roxb./*Rabdochloa mucronata* (Michx.) P.Beauv.

Poaceae

Origin: Tropics of the Old World.

Indonesian names: Rumput tapak jalak.

English names: Crowfoot grass (Africa), beach wire-grass (Hawaii), kra lekrab (Mauritania), giant button grass.

Description: A glaucous annual with culms up to 50 cm high, not stoloniferous, but often rooting from the lower nodes; leaves usually hairy on the margins and midrib, the hairs tubercle-based; usually four to eight spikes, rarely one to three, 1.5 to 6.5 cm long; spikelets 4 mm long, usually three-flowered. The stout spikes and rigid awns are rather distinctive. Eleusine can be distinguished from Dactyloctenium because it is awnless.

Habitat: Usually occurs on disturbed areas, especially in sandy soils.

Uses: Sometimes used as a food grain in times of scarcity in India and Africa but is said to have an unpleasant taste and to cause internal disorders (Bor, 1960).

Distribution: Pantropical, some extentions in the subtropics. Throughout Indonesia; Wet land of Flores, NTT; Kalitirto, Berbah, Sleman, Yogyakarta.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 27, 38, 207, 283.

100 *Datura metel* L.

Synonyms: *Datura alba* F.Muell./*Datura fastuosa* L./*Datura humilis* Desf./*Datura laevis* Schkuhr/*Datura nigra* Hassk./*Brugmansia waymanii* Paxton

Solanaceae

Origin: SE. Asia/ America.

Indonesian names: Kecubung.

English names: Devil's trumpet and metel. Downy thorn apple, metel thorn apple.

Description: Annual herb growing up to 3 ft. high. It is slightly furry, with dark violet shoots and oval to broad oval leaves that are often dark violet as well. The pleasantly-scented 6-8 in. flowers are immensely varied, and can be single or double. Colors range from white to cream, yellow, red, and violet. The seed capsule is covered with numerous conical humps and a few spines. It is similar to *D. inoxia*, but *D. metel* has almost glabrous leaves and fruits that are knobby, not spiny. *D. inoxia* is pilose all over and has a spiny fruit.

Habitat: Cultivated in gardens, farmlands around the world but also a frequent garden escape.

Uses: *Datura metel* can be grown as an ornamental plant. However, this use cannot compensate for this plant's overall negative impacts.

Distribution: In Java and Madura., often cultivated in gardens, yars; also run wild and naturalized in all tropical and subtropical regions. In SE. Asia, it is reported for Indo-China, Thailand, Peninsular Malaysia (cultivated and locally naturalized in the northern part), Brunei, Java (cultivated and naturalized), the Philippines (naturalized, sometimes cultivated) and Papua New Guinea (very locally cultivated and naturalized).

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 75, 88, 108, 252, 255.

101 *Dentella repens* (L.) J.R. & G. Forst.

Synonyms: *Dentella matsudae* Hayata/*Campanula odontosepala* Boiss/*Campanula*faucium Ponert/*Symphyandra odontosepala* (Boiss.) Esfand./*Symphyandra repens* Karpiss.

Campanulaceae

Origin: Tropical Asia.

Indonesian names: Kremah, krokot putih, mata yuyu (Javanese).

English names: Creeping lickstoop.

Description: Terrestrial, annual or perennial, prostrate herb, up to 50 cm long, rooting at the nodes. Rooot fibrous, white or brown. Stems quandrangular, solid, glabrous. Stipules present, sheath like, truncate, glabrous. Leaves simple, not lobed or divided, opposite, sessile, elliptic orobovate, less than 2 cm ling/wide, hairy on lower surface, margin entire, apex acute, base acute, one-veined. Flowers solitary, sessile, petals, white or yellow. Fruits an indeshicent capsule.

Habitat: In ever wet regions or in regions with a pronounced dry season, on light to very heavy soils, fallow fields, in sugarcane fields, dry riverbeds, wastelands, especially on heavy soils; locally abundant. Rainfed and upland rice fields.

Uses: -

Distribution: Asia. Throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 91, 112.

102 *Derris trifoliata* Lour.

Synonyms: *Derris heterophylla* (Willd.) Backer/*Dalbergia heterophylla* Willd./*Derris affinis* Benth./*Derris floribunda* Prain/*Galedupa uliginosa* (Willd.) Roxb./*Pongamia uliginosa* (Willd.) DC./*Pterocarpus uliginosus* Roxb.

Leguminosae

Origin: Asia, Australia and East Africa.

Indonesian names: Tuba Laut

English names: Derris, Threeleaf; Threeleaf Derris; Derris

Description: Perennial vine with diameters stemp up to 4 cm. Blaze odour resembles that of freshly cut green beans. Leaves compound usually of 3-7 leaflets. Leaflets ovate to elliptic, about 5.5-15 x 2.5-8 cm. Leaflet stalks about 0.6-1.2 cm long. Stipules broadly triangular, about 1-2 mm long. Inflorescence about 7-10 cm long. Flowers about 13 mm diam. Calyx tube about 3 mm long, calyx lobes scarcely developed and hardly discernible. Petals: standard about 11 x 11 mm; wings and keel about 10 mm long. Stamens 10, the filaments of nine stamens fused to form a tube open on one side. Staminal tube about 10 mm long, free part of the filaments about 3-3.5 mm long. One stamen free. Anthers about 0.5 mm long. Ovary + style about 12 mm long. Fruit: Fruits flat, about 3.5-5 x 2.2-2.8 cm, usually containing only 1 seed. Fruit wing very narrow and poorly defined, about 1 mm wide. Seeds reniform, about 25 x 18 mm, rather plump. Radicle about 2 mm long. Seedlings 2 cataphylls produced before the first pair of true leaves, cataphylls about halfway between the root system and the first true leaves. First true leaves ovate-cordate, apex acuminate, base cordate. Leaves unifoliolate, the pulvinus transversely wrinkled. Midrib +/- flush with the upper surface. At the tenth leaf stage: leaf or leaflet blades elliptic to ovate, apex acuminate, base cordate to obtuse. Leaves totrifoliolate at the eighth leaf stage but trifoliolate only beyond the twelfth leaf stage. Lateral veins about 10-15 on each side of the midrib.Tertiary venation reticulate. Stipules ovate, about 1 mm long. terminal buds and nearby sections of the stem clothed in prostrate, pale brown.

Habitat: Altitudinal range very small, normally found just above tide level.

Uses: This species has been used as a fish poison and as an arrow poison. Although this species is not a source of commercial derris dust, having only a weak insecticidal action, it has been used as an insecticide in South-East Asia. Cribb (1981).

Distribution: Grows in monsoon forest, vine thicket and beach forest. Also occurs in Malesia and the Pacific islands.

Impact: No detail information

Images source: Flickr.com

References/Notes: 118

103 *Dichrocephala integrifolia* (L.f.) Kuntze

Synonyms: *Dichrocephala capensis* (Less.) DC./*Dichrocephala nilagirensis* Sch.Bip. ex Hook.f./*Centipeda latifolia* Cass./*Cotula bicolor* Roth/*Cotula sonchifolia* M.Bieb./*Ethulia integrifolia* D. Don/*Grangea bicolor* (Roth) Willd. ex Loudon/*Grangea latifolia* Lam. ex Poir./*Hippia integrifolia* L.f./*Myriogyne latifolia* Hassk.

Asteraceae


Origin: Tropical Asia.

Indonesian names: Jukut meurit (Sundanese), wedahan, seprah (Javanese).

English names: Veronia.

Description: Annual, erect or spreading, smooth or hairy weed, 30 to 60 centimeters in height. Leaves are entire or pinnatifid, ovate or lanceolate, up to 10.5 centimeters long and 4 centimeters wide; the terminal lobe is large, broadly ovate and coarsely toothed. Flowering heads are yellow or purplish, rounded, and about 3 millimeters in diameter. The ray flowers are very slender, curved, and obscurely toothed. Achenes are very minute and smooth.

Habitat: *Dichrocephala integrifolia* is a common weed of fallowed ricefields and most waste places.

Uses: Considered analgesic, anesthetic, anti-inflammatory, antibacterial, diuretic, sudorific, vulnerary.

Distribution: Tropical Africa, India, China, Burma, Thailand, Laos, Vietnam, China, Taiwan, Japan, Hawaiian islands, Melanesia, Polinesia, Australia, New Caledonia, Malesia (Malay Peninsula, Indonesia, Philippines, New Guinea; From Asia trough Malesia to Australia, the Pasific and Africa. Everywhere in Indonesia except in Kalimantan; Weed in vegetable fields in in the dry and rainy seasons in Candi Kuning, Bali.

Impact: Weed in vegetable fields

Images source: Flickr.com

References/Notes: 2, 3, 70, 112, 113.

104 *Digitaria ciliaris* (Retz.) Koeler

Synonyms: *D. abortiva* Reeder/*D. adscendens* (Kunth) Henrard/*D. brevifolia* Link/*D. chrysoblephara* Fig. & De Not./*D. fimbriata* Link/*D. marginata* Link /*Asprella digitata* Lam./ *Leersia digitata* (Lam.) Poir./*Milium ciliare* (Retz.) Moench/*Panicum adscendens* Kunth/ *Paspalum ciliare* (Retz.) DC./*Sanguinaria ciliaris* (Retz.) Bubani/*Syntherisma ciliaris* (Retz.) Schrad./*S. fimbriata* (Lmk.)Nash

Poaceae

Origin: Taiwan.

Indonesian names: Rumput ceker ayam.

English names: Summer grass, hairy crabgrass, wild crabgrass.

Description: An annual, caespitose with branching culms; nodes pilose; leaves linear, acuminate, the sheaths pilose; ligule elongate, obtuse, glabrous; up to ten racemes on a triquetrous rachis; spikelets unilateral, geminate, one sessile, one pedicelled, ovate; lower glume small, upper three-nerved, pilose-ciliate; sterile lemma as long as the upper glume, three-nerved, margin ciliate; fertile lemma as long as the sterile lemmas, glabrous (Henty, 1969).

Habitat: Sandy soils and loams, as a weed in cultivation.

Uses: -

Distribution: Tropics and subtopics. Throughout Indonesia,; Cotton, paper, cashew nuts, and oil palm plantations in South Sulawesi; Young rubber (3 years) and oil palm (4 years) plantations in South Sumatra; Sugarcane plantations Takalar; Sulfat acid soil of Banjar Baru; Kalianda, South Lampung; Cihea Cianjur, West Java; Dry land sugarcane plantations Pelaihari, South Kalimantan; Oil palm plantations in Medan, North Sumatra; Sugarcane plantations Camming Factory, South Sulawesi; Bogor Botanic Garden; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Sakalagun) and Central Kalimantan (Unit Tatas); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Kp. Muara, Bogor, West Java; Kalitirto, Berbah, Sleman, Yogyakarta; Weed of cotton plantations Banguntapan (Kabupaten Bantul, Yogyakarta), Segayung (Kabupaten Batang, Central Java), Gading (Kabupaten Gunung Kidul, Yogyakarta) and Kebun Kalitirto (Kabupaten Sleman, Yogyakarta); Weed of chili plantations Cibungbulang, Bogor.

Impact: Weed of tea and cotton plantations

Images source: Flickr.com

References/Notes: 3, 11, 13, 17, 18, 20, 23, 24, 25, 30, 31, 34, 36, 38, 39, 40, 44, 207, 285.

105 *Digitaria didactyla* Willd.

Synonyms: *Digitaria camusiana* Henrard/*Digitaria peninsulae* Ohwi/*Digitaria swazilandensis* Stent/*Digitaria truncata* Henrard & A. Camus/*Panicum didactylum* (Willd.) Kunth

Poaceae

Origin: Unknown (probably introduced).

Indonesian names: -

English names: Blue couch, Queensland blue couch, blue serangoon grass, green serangoon grass, blue stargrass.

Description: A small, creeping grass, blades narrow about 2.5 cm long, with a fine setaceous tip and usually two racemes, conjugate and sessile. It is close to D. ciliaris, but differs in its perenniality, fine leaf-blades, small number of racemes and their slender build. It differs from Cynodon dactylon in its shorter, broader leaf and its distinctive bluish colour.

Habitat: Sea-level to 1 500 m.

Uses: -

Distribution: -

Impact: No detail information

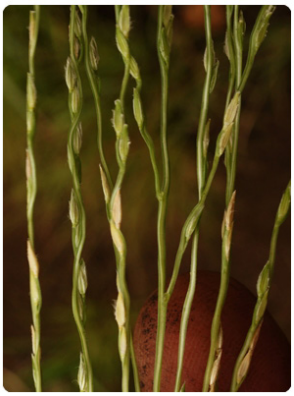
Images source: Flickr.com

References/Notes: 3, 88, 207, 219.

106 *Digitaria divaricatissima* (R.Br.) Hughes

Synonyms: *Digitaria macractinia* (Benth.) Hughes/*Leptoloma divaricatissima* (R.Br.) Chase/*Leptoloma macractinia* (Benth.) Chase/*Panicum divaricatissimum* R.Br./*Panicum macractinium* Benth.

Poaceae



Origin: Australia.

Indonesian names: -

English names: Umbrella grass.

Description: Erect tufted perennial to 0.8 m high, swollen and densely hairy at the base. Leaves with sheath ± hairy; ligule 2–3 mm long; blade 3–6 mm wide, often sprinkled with tubercle-based hairs. Racemes spreading at maturity, the lower 8–35 cm long, common axis to 10 cm long, spikelets mostly in pairs or the lower sometimes solitary, the pairs mostly remote; shorter pedicel 1–4 mm long, the other 4–20 mm long. Spikelets 3.75–5 mm long, ± hairy, the hairs at first appressed, at length spreading but not or scarcely concealing the outline of the spikelet. Lower glume 10–25% as long as the spikelet, not or very rarely remote from the upper; upper 3-nerved, slightly shorter than the spikelet. Sterile lemma equalling the spikelet, 5–7-nerved. Fertile lemma a little shorter than the spikelet.

Habitat: Grows in woodland on better soils; widespread.

Uses: -

Distribution: In Java growing in 1925 near Pasuruan (East Java) in a plot of Astrebla triticoides, grown from Australian seed; in 1926 repearing in vicinity of said plot, but since then not collected anymore.

Impact: No detail information

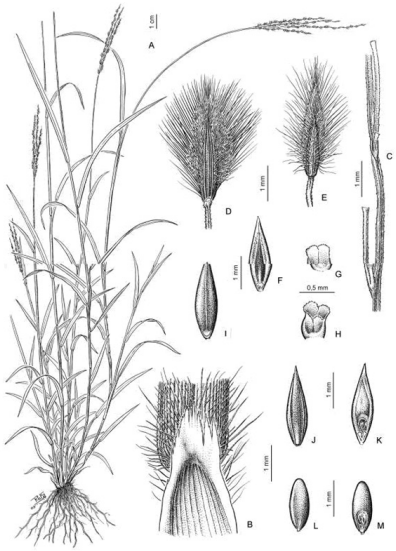
Images source: Flickr.com

References/Notes: 1, 109, 264.

107 *Digitaria fuscescens* (J.Presl) Henrard

Synonyms: *Digitaria pseudoischaemum* Buse/*Panicum pseudo-ischaemum* (Buse) Boerl./*Paspalum fuscescens* J.Presl/*Paspalum micranthum* Desv./*Syntherisma fuscescens* (J.Presl) Scribn.

Poaceae



Origin: From Madagascar, Mauritius and Sri Lanka to southern China and the Pacific; throughout South-East Asia.

Indonesian names: Kakawatan (Javanese), rumputtembagan (Aceh).

English names: Yellow grabgrass.

Description: Annual erect tufted grass, that mat forming. Culms rambling; 4–30 cm long. Ligule an eciliate membrane. Leaf-blades 1–5 cm long; 1–4 mm wide. Inflorescence composed of racemes.

Racemes 2–5; paired, or digitate; unilateral; 1–7 cm long. Rhachis broadly winged; with rounded midrib.

Spikelets in threes. Fertile spikelets pedicelled; 3 in the cluster. Pedicels unequal.

Spikelets comprising 1 basal sterile florets; 1 fertile florets; without rhachilla extension. Spikelets elliptic; dorsally compressed; 1.2–1.6 mm long; falling entire.

Glumes one the lower absent or obscure; reaching apex of florets; thinner than fertile lemma. Upper glume elliptic; 1 length of spikelet; membranous; without keels; (3–)5 -veined. Upper glume surface glabrous. Upper glume apex acute.

Basal sterile florets barren; without significant palea. Lemma of lower sterile floret elliptic; 1 length of spikelet; membranous; 7 -veined; glabrous; acute. Fertile lemma elliptic; 1.2–1.6 mm long; cartilaginous; much thinner on margins; pallid, or light brown; without keel. Lemma margins flat; covering most of palea. Lemma apex acute. Palea cartilaginous.

Habitat: -

Uses: Suitable for erosion control.

Distribution: Continental tropical Africa, Madagascar, from India to S. China, Malesia (not yet found in Australia). Throughout Indonesia; From Madagascar, Mauritius and Sri Lanka to southern China and the Pacific; throughout SE. Asia. Introduced into Africa and S. America.

Impact: No detail information

Images source: www.prota4u.org

References/Notes: 3, 80, 188.

108 *Digitaria longiflora* (Retz.) Pers.

Synonyms: *Digitaria propinqua* (R. Br.) P. Beauv./*Digitaria corradii* Chiov./*Digitaria speciosa* Henrard/*Digitaria tenuiflora* (R.Br.) P.Beauv./*Agrostis lenta* Aiton/*Panicum longiflorum* (Retz.) J.F.Gmel./*Panicum propinquum* R.Br./*Paspalum longiflorum* Retz./*Syntherisma longiflora* (Retz.) Skeels/*Syntherisma pubescens* Scribn./*Vilfa lenta* (Aiton) P.Beauv.

Poaceae

Origin: India.

Indonesian names: -

English names: Lesser crabgrass, Indian crabgrass.

Description: Terrestrial, tufted, erect herb, rooting at nodes. Roots fibrous, white or brown. Stems rounded, hairy. Nodes glabrous. Stipules absent. Leaves alternate spiral, sessile, linear, more than 2 cm long/wide, apex acute, base clasping, parallel-veined. Leaf sheath present. Ligulemembranous. Flowers bisexual, grouped together in a terminal panicle, sessile, yellow, purple, or brown, petals not visible. Fruit a nut.

Habitat: Present in waste places, rotation and perennial crops.

Uses: -

Distribution: Tropics and subtropics of the Old World; introduced in America; Throughout Indonesia, except the Lesser Sunda Islands and Papua, as far as known; Shifting cultivation of Timor, NTT.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 14, 91.

109 *Digitaria nuda* Schumach.

Synonyms: *Digitaria borbonica* Desv./*Digitaria diamesa* (Steud.) A. Chev./*Axonopus digitatus* (Sw.) P. Beauv./*Milium digitatum* Sw./*Panicum diamesum* Steud./*Paspalum digitatum* (Sw.) Kunth/*Syntherisma digitata* (Sw.) Hitchc.

Poaceae

Origin: Africa (?)

Indonesian names: -

English names: -

Description: Terrestrial, tufted, erect herb, rooting at nodes. Roots fibrous, white or brown. Stems rounded, hairy. Nodes glabrous. Stipules absent. Leaves alternate spiral, sessile, linear, more than 2 cm long/wide, apex acute, base clasping, parallel-veined. Leaf sheath present. Ligule membranous. Flowers bisexual, grouped together in a terminal panicle, sessile, yellow, purple, or brown, petals not visible. Fruit a nut.

Habitat: -

Uses: -

Distribution: Pantropical, mostly common in Africa. Throughout Indonesia; Coffee, pepper, cashew nuts and oil palm plantations in South Sulawesi.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 11.

110 *Digitaria setigera* Roth

Synonyms: *D. consanguinea* Gaudich./*D. microbachne* (C.Presl) Henrard /*D. microstachya* Henrard/*D. pruriens* (Fisch. ex Trin.) Buese/*Cynodon setigerus* (Roem. & Schult.) Hassk./*Panicum dilatatum* Steud./*P. microbachne* J.Presl/*P. pruriens* Trin./*Paspalum consanguineum* (Gaudich.) Kunth/*P. Syntherisma consanguinea* (Gaudich.) Skeels/*S. pruriens* (Trin.) Arthur

Poaceae

Origin: Tropical Asia.

Indonesian names: -

English names: -

Description: Annuals; culm to 1 m high or more, decumbent, branching and rooting at lower nodes. Blade 5-15 cm, rarely to 30 cm long, 5-10 mm wide, scabrous and undulate on margins; sheath mostly shorter than internode, often papillose-pilose; ligule 2-4 mm long, membranaceous. Inflorescence in digitate racemes, racemes 6-15, 7-14 cm long; rachis ridged, scabrous on wing-margins, ca. 0.6 mm wide; pedicel ridged or norrowly winged. Spikelet more or less pubescent, lanceolate-elliptic, 2.5-3 mm long; lower glume absent or reduced to a minute veinless scale; lower lemma equaling or slightly exceeding upper lemma, 5-7-veined; upper lemma slightly coriaceous, pale.

Habitat: -

Uses: -

Distribution: Tropical Asia from India to the Pasific and Northern Australia, introduced in C. and northern S. America and the W. Indies. Throughout Indonesia, except Sulawesi and the Moluccas, as far as known; Dry land of Flores-NTT; Weed of chili plantations Cibungbulang, Bogor.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 27, 44.

111 *Digitaria ternata* (A. Rich) Stapf

Synonyms: *D. argyrostachya* (Steud.) Fernald/*D. ropalotricha* Buse/*Cynodon ternatus* A. Rich./*Panicum argyrostachyum* Steud./*Paspalum ternatum* (A. Rich.) Hook.f./*Syntherisma argyrostachya* (Steud.) Hitchc. & Chase/*S. ternata* (A.Rich.) Newbould

Poaceae

Origin: Tropical Asia.

Indonesian names: -

English names: Black-Seeded Crabgrass.

Description: Tufted annual to 0.5 m high. Leaves with sheath glabrous; ligule 1–2 mm long; blade 2–6 mm wide, glabrous or with few fine spreading hairs especially at the base.Racemes 2–7, sessile, 5–25 cm long, spikelets crowded, mostly ternate on very unequal slender pedicels. Spikelets 2–2.5 mm long, densely pubescent with short clavate hairs (with magnification). Lower glume absent; upper shorter and narrower than the spikelet, 3-nerved, pubescent between the nerves and on the margins. Sterile lemma equalling the spikelet, 5-nerved, pubescent between all the nerves and the margins or the median 2 spaces glabrous. Fertile floret almost equalling the spikelet, very early dark purplish to black with broad whitish hyaline margins. Palea black.

Habitat: Grows in disturbed habitats.

Uses: -

Distribution: Tropics and subtropics of the Old World; Introduced to Australia and S. America. In Indonesia: Sumatra, Java, the Lesser Sunda Island, and Sulawesi, as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 109, 188.

112 *Digitaria violascens* Link

Synonyms: *Digitaria bogoriensis* Ohwi/*D. caespitosa* Ridl./*D. digitata* Buse/*D. pertenuis* Buse/*Panicum digitatum* (Buse) Hook.f. ex Koord./*Paspalum chinense* Nees ex Hook. & Arn./*P. pertenue* (Buse) Backer/*Reimaria purpurascens* Link/*Syntherisma chinensis* (Nees) Hitchc./*S. violascens* (Link) Nash

Poaceae

Origin: Tropical Asia.

Indonesian names: -

English names: Crab grass, purple crabgrass, smooth crabgrass, violet crabgrass.

Description: Geniculate-ascending or sub-erect annuals grass, to c. 60 cm tall, sometimes rooting at the lower nodes. Nodes glabrous. Sheaths glabrous, or the lower sometimes sprinkled with hairs especially towards the margins; ligule 1–2 mm long, truncate; blade mostly 2–6 mm wide, glabrous.Inflorescence at length much exserted on a very slender peduncle, consisting of 2–13 suberect or slightly upwards spreading or recurved racemes, on an axis 0.5–2 cm long, the lowest raceme sometimes solitary and a little remote, the upper or all sub-approximate; racemes subequal, slender, 5–10 cm long, bearing crowded appressed subimbricate spikelets in similar triplets right to the base in 2 rows on 1 side of the flattened rachis, the rachis with the wings broader than the midrib, the pedicels short, the longer fused below with the rachis, scabrous, minutely cupulate at the apex but without a coronula of hairs. Spikelets pallid, 1.3–1.8 mm long and c. 0.7 mm wide, rather broadly elliptical, acute or subacute, compressed. Lower glume minute or absent; upper glume and sterile lemma puberulous between the nerves with short crinkled hairs with verrucose walls; upper glume slightly shorter and narrower than the spikelet, 3-nerved; sterile lemma equalling the spikelet, 3–7-nerved with the 3 central nerves closer together than the lateral nerves. Fertile lemma conspicuously black, shining, almost as long as the spikelet to slightly exceeding it at maturity, acute.

Habitat: Minor weed of higher rainfall areas.

Uses: -

Distribution: Pantropical, except in Africa (?). Throughout Indonesia, except the Lesser Sunda Islands, as far as known; Bogor Botanic Garden; In the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 30, 70, 103, 109.

113 *Diodella apiculata* (Willd. ex Roem. & Schult.) Delprete

Synonyms: *Borreria distans* (Kunth) DC./*Bigelovia distans* (Kunth) Hook. & Arn./*Diodella rigida* (Cham. & Schltdl.) Small/*Diodia arenosa* DC./*Diodia aspera* Brandegee/*Spermacoce ciliaris* Sessé & Moc./*Spermacoce distans* Kunth

Rubiaceae

Origin: Tropical America.

Indonesian names: -

English names: -

Description: -

Habitat: -

Uses: -

Distribution: In Central Java near Jogjakarta, run wild abundantly; Grassland and pathway of Bogor Botanical Garden; Tidal areas of South Kalimantan (Belandean).

Impact: No detail information

Images source: Sites.google.com

References/Notes: 1, 30, 31.

114 *Diodella sarmentosa* (Sw.) Bacigalupo & Cabral ex Borhidi

Synonyms: *Diodia sarmentosa* Sw./*Diodia auriculosa* Bertol./*Diodia pilosa* Schumach. & Thonn./*Spermacoce pilosa* (Schumach. & Thonn.) DC./*Spermacoce suffruticosa* L./*Diodia littoralis* Peyr.

Rubiaceae

Origin: Tropical America.

Indonesian names: -

English names: Tropical buttonweed.

Description:
Scrambling herb with a tap root. Stems 1-4 m long, often with numerous lateral branches, square in cross-section and with long hairs on the angles. Leaves yellowish-green, lanceolate, 1.8-6.3 - 0.7-2.8 cm; leaf blade scabrous above with dense tubercular hairs, smooth below; petiole 1-5 mm long. Flowers 1-8 in axillary clusters at most nodes, each flower 1.5-3 mm long with 4 mauve or white petals. Seeds dark blackish red, 2-4 mm long, 1.5 mm wide, 0.8 mm thick.

Habitat: A strand plant, often near high water mark; grassland and bushland at low altitudes, and a weed of cultivation.

Uses: -

Distribution: Introduced in Java; locally run wild; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java.

Impact: Weed of tea plantations

Images source: www.zimbabweflora.co.zw

References/Notes: 1, 34, 103, 194.

115 *Drymaria cordata* (L.) Willd. ex Schult.

Synonyms: *Drymaria adenophora* Urb./*Drymaria procumbens* Rose/*Alsine rotundifolia* Stokes/*Bufonia rotundifolia* Buch.-Ham. ex Steud./*Holosteum cordatum* L./*H. diandrum* Sw./*Stellaria adenophora* León

Caryophyllaceae

Origin: America.

Indonesian names: Cirempas bidek (Batak), piti-piti (Makasar), jukut ibun (Sundanese); angleng, katingan, randa nunut, selaton, cebungan, cemplonan(Javanese); rekere nindu (Madura).

English names: Tropical chickweed.

Description: Spreading annual herb to 20 cm high. Stems angular, hairless to glandular hairy, often rooting at nodes. Leaves 5–25 mm long, 5–30 mm wide on a stalk 2–15 mm long. Fruit 1.5–2.5 mm long, opening by 3 valves. Seeds 1–1.5 mm wide, red brown, with tiny wart-like projections.

Habitat: Grows wild on road side.

Uses: The pounded leaf is applied to snake bites in China. The plant is appetizer, depurative, emollient, febrifuge, laxative and stimulant. The juice of the plant is used. Tropical Chickweed is widely used in traditional African medicine for the treatment of diverse ailments including painful and febrile conditions.

Distribution: Naturalized in Java; Coffee and clove plantations in South Sulawesi; Dusun Lebo, desa Madiredo, kecamatan Pujon, kabupaten Malang; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed of potato plantations Koto Baru Kabupaten Tanah Datar, South Sumatra.

Impact: Weed of tea and potato plantations

Images source: Flickr

References/Notes: 1, 11, 22, 34, 42, 115, 125, 147.

116 *Drymaria villosa* Schltdl. & Cham.

Synonyms: *Drymaria adiantoides* Muschl./*Drymaria ciliaris* C.A. Mey./*Drymaria cubensis* Regel/*Drymaria stylosa* Backer/*Drymaria tepicana* M.E.Jones

Caryophyllaceae

Origin: S. America.

Indonesian names: -

English names: -

Description: Slender herb, erect or prostrate and rooting at the base, 5-40 cm long. Stem hairy or sparsely hairy, or glabrous, nodes on each sides with 2 or 3 hair-like appendages. Leaves opposite, shor-t stalked, broadly ovate to reniform, 3-12 x 4-18 mm, both surface hairy when young, sparsely hairy to glabrous when old. Inflorescence in terminal and axillary cymes, in 1-2 times forked cymes, followed by cincinnous long and thin branches; pedicels up to 9 mm long; Sepal 5, free, glabrous. Petal 5, deeply 2-lobed to almost 2-partite, as long as or longer than the sepals, at the base with small ears, white; stamen 3-5; style divided into three about half way. Fruit a 12-23 seeded capsule, opening with three valves, when ripe persisting until after shedding of the seeds. Seedsmore or less circular in outline, flattened, warty.

Habitat: Arable land, road-and watersides, road banks, gardens, river sides; Upland rice fields, tea, cinchona coffee and sugarcane plantations.

Uses: It is used as fodder and honey.

Distribution: Naturalized in Java; Pantropical. Introduced to Java before 1910; has spread to the rest of Indonesia except Kalimantan and the Mollucas as far as known; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: Weed in the vegetable fields

Images source: Flickr

References/Notes: 1, 3, 70, 127, 156, 299.

117 *Dysphania ambrosioides* (L.) Mosyakin & Clemants

Synonyms: *Chenopodium ambrosioides* L./*Ambrina ambrosioides* (L.) Spach/*Ambrina incisa* Moq./*Ambrina parvula* Phil./*Atriplex ambrosioides* (L.) Crantz/*Blitum ambrosioides* (L.) Beck/*Dysphania anthelmintica* (L.) Mosyakin & Clemants/*Orthosporum ambrosioides* (L.) Kostel./*Roubieva anthelmintica* (L.) Hook. & Arn./*Teloxys ambrosioides* (L.) W.A. Weber/*Vulvaria ambrosioides* (L.) Bubani

Chenopodiaceae

Origin: America/C. & S. America.

Indonesian names: -

English names: Mexican tea, worm seed, worm grass, goosefoot (USA).

Description: Erect annuals or perennials herb often much-branched that grows up to 40 cm tall. Leaves shortly to moderately long petioled, oblong to lancelate rather obtuse to rather acute and toothed to coarsely serrate-dentate. The flowers are small and green, and the seeds are very small and green when fresh and black when dry. The plant has a very strong odor. Seeds can be purchased through seed catalogues.

Habitat: -

Uses: Amebicide – Trinidad; Analgesic – China; Anemia – Colombia; Arthritis – China; Asthma -- Dominican Republic, Panama, Trinidad, and Turkey; Bite(Bug) – China; Dysentery -- Panama and Trinidad; Fungicide – Trinidad; Narcotic -- U.S; Nerves -- Mexico, Turkey, and U.S; Stimulant -- Trinidad and Turkey; Stomach (ache) and/or colic -- Brazil, Chile, China, Dominican Republic, Haiti, Honduras, Mexico, Turkey, and Venezuela; Vermifuge -- Bahamas, Brazil, China, Dominican Republic, Guatemala, Haiti, Mexico, Panama, Spain, Trinidad, Turkey, U.S., and Venezuela

Distribution: In Java locally naturalized in West and East Java; It has been introduced in Europe, Africa, Asia, and Australia. In the Malesian regions in Java, Sulawesi and the Philippines, and has occasionally been found in Papua New Guinea. Its cultivation Java for medicinal purposes was abandoned because it was unprofitable. It is still cultivated in The Philippines.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 75, 155.

118 *Echinochloa colona* (L.) Link

Synonyms: *Echinochloa divaricata* Andersson/*Brachiaria longifolia* Gilli/*Digitaria cuspidata* (Roxb.) Schult./*Panicum colonum* L./*P. hookeri* Parl./*Setaria brachiariaeformis* (Steud.) T.Durand & Schinz.

Poaceae


Origin: India.

Indonesian names: Rumput bebek.

English names: Awnless barnyard grass, jungle rice.

Description: Terrestrial, tufted, erect herb, rooting at nodes. Roots fibrous, white or brown. Stems flat, hairy. Nodes glabrous. Stipules absent. Leaves alternate spiral, sessile linear, more than 2 cm long/wide, apex acute, base clasping, parallel-veined. Leaf sheath present. Ligule absent.Flowers bisexual, grouped together in a terminal spike or panicle, sessile, purple or brown, petals not visible. Fruit a nut.

Habitat: Jungle rice is adapted to full sunlight or partial shade and grows on loam, silt and clay soils. It grows in drains, low-lying grasslands, and farmlands, in both dry and marshy places. This species is one of the most important weeds of upland rice under moist conditions. It occurs most commonly at low altitudes but can extend up to about 2000m.

Uses: -

Distribution: It is now can be found in the tropics and subtropics all over the world and is very common in SE. Asia. It is known from the ancient Egypt and E. Africa but is at present widely grown as a cereals only in India, Kashmir and Sikkim. It has been introduced into the United States, Canada and Australia, especially as a forage. In continental SE. Asia, it is quite commonly cultivated but in Peninsular Malaysia it is occurs as a rare weed in cultivated fields. However, it is thought that formerly it were commonly cultivated in Java.

Impact: No detail information

Images source: Flickr.com

References/Notes: 79, 91, 196.

119 *Echinochloa crus-galli* (L.) P.Beauv.

Synonyms: *E. caudata* Roshev./*E. commutata* Schult./*E. hispida* (E.Forst.) Schult./*E. hispidula* (Retz.) Nees ex Royle/*Milium crus-galli* (L.) Moench/*Oplismenus crus-galli* (L.) Dumort./*Panicum crus-galli* L./*Pennisetum crus-galli* (L.) Baumg.

Poaceae

Origin: Europe, India.

Indonesian names: Jajagoan.

English names: Ockspur (or cockspur grass), barnyard millet, Japanese millet, water grass, common barnyard grass, or simply "barnyard grass".

Description: Polymorphous coarse, tufted annual, tall and often weedy; culms erect to decumbent, 0.8-1.5 m tall, rather thick, branching at base.Leaves flat, glabrous, elongate, 30–50 cm long, 1–2 cm broad, scabrous, slightly thickened at margin; ligulesabsent; sheaths smooth, lower ones often reddish; panicle 8–30 cm long, green or purple, exerted, somewhat nodding, densely branched, the branches to 5 cm long, erect or ascending sessile;Spikelets 3–4 mm long, densely arranged on branches, ovoid, awnless, but move often long-awned, pale green to dull purple, short-bristly along veins; racemes spreading, ascending or appressed, the lower somewhat distant, as much as 10 cm long, sometimes branched; glumes and lower lemma minutely hairy on surface with longer more rigid hairs on veins; first glume about two-fifths as long as spikelet, deltoid, the second as long as the spikelet, short-awned; sterile lemma membranous, with a straight scabrous awn, 2–4 cm long or awnless; fertile lemma ovate-elliptic, acute, pale yellow, lustrous, smooth, 3-3.5 mm long. Fl.

Habitat: Ranging from Boreal Moist to Wet through Tropical Very Dry to Moist forest life zones. Adapted to nearly all types of wet places, this grass is often a common weed in paddy fields, roadsides, cultivated areas, and fallow fields. It grows on variety of wet sites such as ditches, low areas in fertile croplands and wet wastes, often growing in water. Succeeds in cool regions, but better adapted to areas where average annual temperature is 14-16°C. Not restricted by soil pH.

Uses: -

Distribution: Pantropical and subtropical. Throughout Indonesia, except the Moluccas, as far as known; Balitan Maros; Wet land of Flores, NTT; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap) and Central Kalimantan (Unit Tatas); Weed of chili plantations Cibungbulang, Bogor.

Impact: Weed of chili plantations

Images source: Wikimedia.org

References/Notes: 3, 7d, 9, 10, 27, 31, 44, 88, 279.

120 *Echinochloa esculenta* (A.Braun) H.Scholz

Synonyms: *Echinochloa utilis* Ohwi & Yabuno/*Panicum esculentum* A. Braun

Poaceae


Origin: Japan, Europe, India.

Indonesian names: Jajagoan.

English names: Barnyard grass, Dutch kut grass, cockspur grass.

Description: Terrestrial, tufted, erect herb, not rooting at nodes. Roots fibrous, white or brown. Stems rounded, glabrous. Nodes glabrous. Stipules absent. Leaves alternate spiral, sessile, linear, more than 2 cm long/wide, apex acute, base clasping, parallel-veined. Leaf sheath present. Liguleabsent. Flowers bisexual, grouped together in a terminal spike or panicle, sessile, purple or brown, petals not visible. Fruit a nut.

Habitat: It occurs in low and medium altitudes, favoring open sunny places and wet soils, and can continue to grow when partially submerged. It is a common weed in swamps and aquatic places. It also grows well in drier soils, but is shorter and has fewer tillers, panicles and seeds. Growth is good on sandy and loamy soils, especially where nitrogen content is high.

Uses: -

Distribution: It has spread to temperate and tropical areas all over the world; it is also very common in SE. Asia. It is only extensively cultivated in Japan, Korea, and N. China. However, it is thought taht formerly it were commonly cultivated in Java.

Impact: No detail information

Images source: Flickr.com

References/Notes: 79, 91, 279.

121 *Echinochloa stagnina* (Retz.) Beauv.

Synonyms: *E. barbata* Vanderyst/*E. scabra* (Lam.) Roem. & Schult./*Oplismenus scaber* (Lam.) Kunth/*O. stagninus* (Retz.) Kunth/*Orthopogon stagninus* (Retz.) Spreng./*Panicum burgu* A.Chev./*P. galli* Thunb./*P. scabrum* Lam./*P. stagninum* Retz.

Poaceae

Origin: Africa.

Indonesian names: Kumpai bulu.

English names: Burgu Millet, bourgou, hippo grass.

Description: Aquatic perennial, sometimes behaving as an annual or a biennial; culms spongy, 40-150 cm high, decumbent and rooting at the nodes. Leaf-blades 8-50 cm long, 6-10 mm wide; ligule a line of hairs; sheaths glabrous. Inflorescence narrowly lanceolate, rarely narrowly ovate, 7-20 cm long, typically ± open with the racemes secund and usually ascending; racemes simple, 2-6.5 cm long, coarsely spiculate. Spikelets ovate to broadly ovate or rounded, 3.5-5 mm long, pubescent to hispid, often from tubercles; lower lemma tapering to an awn up to 10 mm long; upper lemma 34 mm long.

Habitat: -

Uses: It was once one of the major grasses cultivated in the Inner Niger Delta of the Niger River. It was cultivated by the Fulani people, who used the seeds as food, and to make both alcoholic and nonalcoholic beverages.It tolerates floods well, and has been replanted in Africa, where it has helped to control erosion and provides hay for animals.

Distribution: Tropical Africa and Asia. In Indonesia: Java, Kalimantan, Sulawesi, as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 88, 162, 284.

122 *Eclipta prostrata* (L.) L.

Synonyms: *E. alba* (L.) Hassk. /*Acmella lanceolata* Link ex Spreng./*Amellus carolinianus* Walter/*Anthemis abyssinica* J.Gay ex A.Rich./*Anthemis viridis* Blanco/*Bellis racemosa* Steud./*Buphthalmum diffusum* Vahl ex DC./*Chamaemelum foetidum* Garsault/*Cotula alba* (L.) L./*Eleutheranthera prostrata* (L.) Sch.Bip./*Galinsoga oblongifolia* (Hook.) DC./*Micrelium tolak* Forssk./*Polygyne inconspicua* Phil./*Spilanthes pseudo-acmella* (L.) Murray/*Verbesina alba* L./*V. prostrata* L./*V. pseudoacmella* L./*Wedelia psammophila* Poepp. & Endl./*Wilborgia oblongifolia* Hook.

Asteraceae

Origin: Tropical America.

Indonesian names: Orang-aring (Indonesia, Sundanese, Javanese).

English names: False daisy.

Description: A prostrate or reclining to erect, often branched, annual or perennial herb, 30-100 cm tall.

Stem: cylindrical, green or purplish, rooting at basal nodes, and often covered with long white hairs. Leaf: oblong to lance-shaped, opposite, sessile or short-stalked, with more or less coarse hairs; margins entire or slightly toothed, up to 2-16 cm long.

Inflorescence: terminal and axillary, about 1 cm across, white or cream, on peduncles to 7 cm long.

Fruit: achene, densely warted, either brown or black, 2-3 mm long.

Habitat: Widespread and adapted to a range of environments. Found in poorly drained wet areas, saline conditions, along streams, in drains and canals of irrigated lowland rice paddies, in waste areas, and in upland fields.

Uses: Eclipta prostrata is an alternate host of root-knot nematodes (Meloidogyne spp.).

Distribution: Introduced into all warm countries; Worl-wide, tropical and subtropical. Throughout Indonesia; Dry lands of Flores, NTT; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap); Pantropical.

Impact: No detail information

Images source: Wikimedia.org

References/Notes: 2, 3, 27, 31, 33, 88, 114.

123 *Eichhornia crassipes* (Mart.) Solms

Synonyms: *E. crassicaulis* Schltdl./*Heteranthera formosa* Miq./*Piaropus crassipes* (Mart.) Raf./*Pontederia crassicaulis* Schltr./*P. crassipes* Mart./*P. elongata* Balf.

Pontederiaceae

Origin: Tropical S. America (Brazil).

Indonesian names: Eceng gondok, enceng gondok.

English names: Water Hyacinth.

Description: Aquatic herbs of sympodial structure, floating, rooting from the nodes. Floating with a very short erect main stem, stoloniferous, Leaves are killed by frost and salt water, the latter trait being used to kill some of it by floating rafts of the cut weed to the sea. Water hyacinths do not grow when the average salinity is greater than 15% that of sea water. In brackish water, its leaves show epinasty and chlorosis, and eventually die. Inflorescence terminal, peduncled, speciform, many flowered, erect in anthesis. Perianth strongly zygomorphic, lilac-blue with a yellow blotch. Petiole spongy, in young specimens short and very ventricose, much longer in adult ones.

Habitat: Its habitat ranges from tropical desert to subtropical or warm temperate desert to rainforest zones. It tolerates annual precipitations of 8.2 dm to 27.0 dm (mean of 8 cases = 15.8 dm), annual temperatures from 21.1°C to 27.2°C (mean of 5 cases = 24.9°C), and its pH tolerance is estimated at 5.0 to 7.5. It does not tolerate water temperatures >34°C.

Uses: Bioenergy, phytoemediation, edibility, medicinal use.

Distribution: In 1894 introduced into Java; naturalized throughout the island; Pantropical, also in the subtropics. Has spread out to Sumatra, Kalimantan and Papua; Wet land of Flores-NTT; Tidal areas of South Kalimantan (Banjarmasin, Barambai, Belandean, Belawang, Sakalagun, Handil Manarap) and Ir. P.M. Noor Reservoir; Maninjau, Kerinci and Singkarak Lake (West Sumatra); Wasur National Park, Sentani and Ayamaru Lake (Papua); Rawa Pening; South Kedu (Central Java); Bogor Botanical Garden and Curug Lake (West Java); West Java (Rawa Danau Lake, Saguling Reservoir); East Java (Wlingi Raya Reservoir, Bureng Reservoir, Surabaya River); It was first introduced into SE. Asia in 1894 in the Bogor Botanical Garden in Java, from where it spread over the Indonesian archipelago. It was introduced into Singapore from Hongkong in 1903 by the Chinese. The plant arrived in the Philippines in 1912. From Bangkok, where it was introduced from Java, water hyacinth spread over the Chao Phraya delta and along the Mekong river and adjacent regions in Vietnam, Cambodia and Laos, where it was already causing concern in 1908. It was first reported from Papua New Guinea in 1962.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 3, 9, 27, 31, 51, 52, 54, 55, 56, 60, 61, 62, 63, 64, 65, 80, 88, 221, 270.

124 *Elatine triandra* Schkuhr

Synonyms: *Elatine tetrandra* Maxim./*Alsinastrum triandrum* (Schkuhr) Rupr./*Birolia palludosa* Bellardi/*Ilyphilos triandrus* (Schkuhr) Lunell/*Potamopitys triandra* (Schkuhr) Kuntze

Elatinaceae

Origin: Europe.

Indonesian names: -

English names: Threestamen waterwort, longstem waterwort, mudwort.

Description: Elatine triandra is a delightful foreground plant. Its small stem width of ½ to 1 inch, rich bright green color, and ease of growth make it a beautiful choice in any size aquarium. The somewhat elongated and rosette-like leaves at the stem's end make it a unique foreground plant.

Habitat: In nature this plant grows along the edges of waterways and, more specifically, in the mud flats of tidal rivers and marshes. Its natural habitat is in the cooler regions, and it reseeds itself for each growing season, making it an annual plant.

Uses: Use in Aquascaping: E. triandra is used exclusively as a foreground plant. It can be used along with other foreground plants of different height and leaf varieties to enhance the overall interest in the foreground.

Distribution: N. America, Europe, India to Australia, New Zealand and Malesia. In Indonesia Sumatra and Java.

Impact: No detail information

Images source: photobucket.com (1), aquaticplantcentral.com (2)

References/Notes: 3, 170.

125 *Eleocharis acicularis* (L.) Roem. & Schult.

Synonyms: *E. comosa* K. Richt./*E. trichoides* (Kunth) Kuntze/*Baeothryon trichoides* (Kunth) A.Dietr./*Chaetocyperus acicularis* (L.) Nees/*Clavula acicularis* (L.) Dumort./*Cyperus acicularis* (L.) With./*Eleogiton exigua* A. Dietr./*Isolepis acicularis* (L.) Schltdl./*Limnochloa acicularis* (L.) Rchb./*Mariscus acicularis* (L.) Moench/*Scirpidium aciculare* (L.) Nees /*Scirpus acicularis* L./*Trichophyllum aciculare* (L.) House

Cyperaceae

Origin: Northern hemisphere.

Indonesian names: -

English names: Needle spikerush and dwarf hairgrass, trimming hairgrass.

Description: This is an annual or perennial spikesedge with long, grasslike stems to about 15 centimeters in height, shorter in bog conditions, from a creeping rhizome. In shallow water it will form short spikes of tiny flowers amongst flat overlapping bracts. The tiny flowers are less than five millimeters in diameter and are borne at the tip of each stem in single, sharply pointed, lanceoloid spikelets up to about six millimeters long.

Habitat: This is a plant of marshes, vernal pools, and bogs, and it is also used as an aquarium plant.

Uses: -

Distribution: Widely distributed in N. America; throughout Europe and Northern Asia, Japan, Korea, extending south to te Ryukyu Islands, Yunan, Annam, Taiwan; a northern element in Malesia and the Philippines. In Indonesia: so far found around Lake Toba in N. Sumatra and in S. Sulawesi.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 88.

126 *Eleocharis acutangula* (Roxb.) Schult.

Synonyms: *Eleocharis fistulosa* Schult./*Baeothryon fistulosum* (Schult.) A. Dietr./*Limnochloa acutangula* (Roxb.) Nees/*Limnochloa fistulosa* (Schult.) Nees/*Scirpus acutangulus* Roxb./*Scirpus angulatus* Willd. ex Kunth/*Scirpu. medius* Roxb.

Cyperaceae

Origin: S. E. Asia.

Indonesian names: -

English names: -

Description: Partially submerged rhizomatous perennials; rhizome creeping, clothed with brown scales; culms 30-65 cm high, partially submerged and spongy. spikelets 30 x 3.5 mm, linear-oblong, cylindric; glumes 4.5 x 4 mm, broadly ovate, obtuse, 1-nerved, concave; margin striate with red lines; bristle 3.5 mm long, pale brown; stamens 3, anthers 2.5 mm long; style base wider than ovary. Nut 2 x 1.5 mm, obovoid, obtuse, longitudinally striate; epidermal cells transversely oblong.

Habitat: Marshy areas in grasslands.

Uses: -

Distribution: Widely distributed, but nowhere common in the Old and New World and the African tropics, Taiwan, Japan and tropical Australia. Scattered in Malesia. Throughout Indonesia; Tidal areas of South Kalimantan (Handil Manarap).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 31, 110.

127 *Eleocharis atropurpurea* (Retz.) J. Presl & C. Presl

Synonyms: *Eleocharis multiflora* Chapm./*Aplostemon atropurpureum* (Retz.) Raf./*Eleogenus atropurpureus* (Retz.) Nees/*Eleogiton atropurpurea* (Retz.) A. Dietr./*Isolepis atropurpurea* (Retz.) Roem. & Schult./*Scirpus atropurpureus* Retz./*Trichophyllum atropurpureum* (Retz.) House

Cyperaceae

Origin: Tropical Asia.

Indonesian names: -

English names: Purple spikerush.

Description: Plants tufted, without creeping rhizomes. Culms 2–12(–19) cm × 0.2–0.4 mm. Leaves: distal leaf sheaths firm, distally tightly sheathing, apex acute. Spikelets ovoid to ellipsoid, 2–6(–8) × 1–2.5 mm, apex acute; proximal scale with or without flower, not amplexicaulous; floral scales to 100, 15–19 per mm of rachilla, often loosely appressed, dark red-brown to stramineous, ovate to elliptic, 0.6–1.3 × 0.3–0.7 mm, membranous, apex rounded to acute. Flowers: perianth bristles (0–)4–6, typically 4, colorless to whitish, vestigial to 1/2 as long as achene, smooth or spinuliferous; styles 2-fid. Achenes black, obovoid, biconvex, 0.3–0.5 × 0.3–0.4 mm, apex often constricted proximal to tubercle, smooth at 40X. Tubercles stramineous to whitish, umbonate to subconic, 0.1–0.2 × 0.1–0.2 mm, apex acute. 2n = 20.

Habitat: This plant can be found in wet areas from ocean shores to rice fields and irrigation ditches to inland lakes and rivers.

Uses: -

Distribution: Tropics of the Old and New World, also in the USA; in Europe; in Italy and Switzerland; in tropical Australia; very rare in Malesia. In Indonesia: in Java, Sumatra and Papua, as far as known.

Impact: No detail information

Images source: berkeley.edu

References/Notes: 3, 88, 162.

128 *Eleocharis geniculata* (L.) Roem. & Schult.

Synonyms: *Eleocharis capitata* (L.) R.Br./*Eleocharis caribaea* (Rottb.) S.F. Blake/*Bulbostylis capitata* (L.) Steven/*Bulbostylis geniculatus* (L.) Steven/*Chlorocharis geniculata* (L.) Rikli/*Eleogenus capitatus* (L.) Nees/*Limnochloa geniculata* (L.) Nees/*Megadenus capitatus* (L.) Raf./*Scirpus capitatus* L./*Scirpus geniculatus* L./*Trichophyllum capitatum* (L.) House

Cyperaceae

Origin: Asia.

Indonesian names: -

English names: Bent spikerush and Canada spikesedge.

Description: It is an annual spikesedge growing to a maximum height of about 40 centimeters. It has a few straw-colored leaves and many thin erect stems. The stems hold inflorescences of rounded spikelets each containing at least 10 tiny flowers. The flowers are covered with dark greenish-brown bracts. The fruit is a shiny purple-brown achene not more than a millimeter long.

Habitat: -

Uses: -

Distribution: The most widely distributed Eleocharis in the warmer parts of the Old and new World; in Malesia scattered. Throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 88.

129 *Eleocharis ochrostachys* Steud.

Synonyms: *Eleocharis laxiflora* (Thwaites) H. Pfeiff./*Eleocharis subulata* Boeckeler/*Scirpus laxiflorus* Thwaites/*Scirpus ochrostachys* (Steud.) Kuntze

Cyperaceae

Origin: Asia.

Indonesian names: -

English names: Spike rush.

Description: Perennial with short rhizomes and long stolons. Stems erect, tufted, rigid, terete, smooth, 35-60 cm tall and 2-5 mm diam.

Leaves: Sheaths membranous and closelt appressed and purplish at the base.

Flowers:Spikelet cylindrical, broader than the stem, acute, pale green, 10-20 x 3-4 mm; glumes firm and loosely imbricate, appressed, obtuse, many nerved with a prominent midnerve, 4-5 x 2-3.5 mm, with broad papery margins Bristles 5-7, coarse, 2-3 times as long as the nut, retrorsely scabrous in the upper half.

Fruit:Nut turgidly and unequally biconvex and ribbed on the margins with horizontal cells inbetween, obovate to broadly obovate, with an annular prominence ca. as wide as the nut at the apex, shining straw-colored to grey, 1.5-2 mm long, longitudinal ridges prominent. Style base deltoid, flat and dark brown.

Habitat: Altitudinal range from near sea level to 60 m. Grows along streams in closed forest also in Melaleuca swamps.

Uses: -

Distribution: From India to Indonesia, Taiwan, Pasific; scattered Malesia, often, very local; in Java only in western part, in the Moluccas only recorded from Halmahera; not yet recorded from the Lesser Sunda Island; Tidal areas of Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: natureloveyou.sg

References/Notes: 3, 31, 118.

130 *Eleocharis retroflexa* (Poir.) Urb.

Synonyms: *Eleocharis depauperata* (Vahl) Kunth/*Eleocharis triflora* Boeckeler/*Baeothryon retroflexum* (Poir.) A.Dietr./*Chaetocyperus niveus* Liebm./*Chaetocyperus rugulosus* Nees/*Cyperus depauperatus* Vahl/*Scirpus retroflexus* Poir.

Cyperaceae

Origin: S. E. Asia or America.

Indonesian names: -

English names: Spikerush, bent rush.

Description: Terrestrial, annual, tufted herb. Roots fibrous, white or brown. Stems erect, grooved, solid, glabrous. Leaves simple, not lobed or divided, in a rosette, alternate spiral, sessile, linear, less than 2 cm long/wide, margin entire, base clasping. Leaf sheath present, rounded in cross section,glabrous. Flowers bisexual, grouped together in a terminal head, sessile, yellow, petals absent. Fruit a nut.

Habitat: -

Uses: -

Distribution: Tropics of America, Asia, Australia; common in Malesia. Throughout Indonesia; Tidal areas of South Kalimantan (Belandean, Sakalagun, Handil Manarap) and Central Kalimantan (Unit Tatas and Pangkuh).

Impact: No detail information

Images source: www.saintlucianplants.com

References/Notes: 3, 31, 91.

131 *Elephantopus mollis* Kunth

Synonyms: *Elephantopus hypomalacus* S.F.Blake*Elephantopus cernuus* Vell. Conc./*Elephantopus martii* Graham/*Elephantopus scaber* auct. non L./*Elephantopus pilosus* Philipson

Asteraceae

Origin: S. & C. America.

Indonesian names: -

English names: Herb-of-school, grass-thick, smoke-mad, tongue-in-cow, elephant's foot.

Description: Annual or perennialherbs 0.4-2 m. Leaves usually concentrated at the base, the stem gradually smaller, short petioles, spanned the base; blade 7-15 × 5 to 2.2 cm, oblanceolada, attenuated base, apex acute to obtuse, margin crenada-serrate, the upper muricate, sparsely estrigosa the sericea, underside densely albo-sericea. Inflorescence panicle leafy-bracteosa, paraclades botrióides. Chapters3 side surrounded by bracts foliaceous, cordate, short-acuminate, seríceas; shell from 7.2 to 9.3 mm alt., involucral bracts 8, in 4 series decussadas, apex acuminate. 4 flowers, corolla ca. 6 mm. Cipsela 1.8-2.2 mm, sparsely sericea, dotted with glands between the coasts; papus 4 to 5.6 mm, with 5-8 setae abruptly widened at the base (Moraes, 2006, p. 15).

Habitat: Species heliophytic or diffuse light, ruderal, indifferent to soil physical conditions. Occurs in the Amazonia, Caatinga, Cerrado, Atlantic Forest, Pampa and Pantanal.

Uses: It has medicinal properties in their roots and leaves are used as a tonic, antipyretic, anticatarral, expectorant, emollient, diuretic, healing, anti-rheumatic, astringent and sudorífera. In folk medicine, a poultice of the leaves is used in case of bruises and elephantiasis, and the infusion of the leaves gives positive results in cases of kidney stones, whooping cough and bronchitis.

Distribution: Introduced elsewhere, in Malesia: Malay Peninsula, Sumatra, Java (once 1920), Borneo (Sabah, Serawak, not yet from Kalimantan), Sulawesi, the Philippines (Luzon, Mindanao, Mindoro, Palawan, Samar). Nusa Tenggara (Flores), Maluku (Buru, Halmahera, Morotai, Ternate), New Guinea; Weed of shifting cultivation Timor, NTT; Bogor Botanic Garden,; Undergrowth plant in Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java; Tropical America; introduced and widely naturalized in tropical Africa and Asia. Reported for Peninsular Malaysia, Borneo, Sulawesi and the Philippines.

Impact: Weed of shifting cultivation

Images source: Flickr.com

References/Notes: 2, 14, 30, 72, 75, 115, 116.

132 *Elephantopus scaber* L.

Synonyms: *Elephantopus carolinensis* G.Mey./*Elephantopus sordidus* Salisb./*Scabiosa cochinchinensis* Lour.

Asteraceae

Origin: Tropical Asia.

Indonesian names: Tapak liman.

English names: Prickly Leaved Elephant's Foot, Elephant's Foot.

Description: Erect annual or perennial herb, up to 38 cm high; rootstock short, giving off many stout fibrous roots. Leaves 12.5-20 cm long, mostly radical forming a spreading rosette on the ground, obovate-oblong, coarsely serrate-dentate, hairy. Heads numerous, sessile, closely packed, forming a large flat-topped terminal inflorescence, nearly 2.5 cm across, and surrounded at the base by three large, broadly ovate, leafy bract. Flowers small, violet.

Habitat: Its natural habitat is subtropical or tropical moist montane forests.

Uses: The herb is diuretic, laxative, analgesic, alterative, ferbrifuge, cardiac and brain tonic; used in griping, inflammations and bronchitis.

Distribution: Naturalized in Java and Madura on grassy fields, road sides, dikes, rice-field-dikelets, forest borders, young forests.

Impact: No detail information

Images source: Flickr.com

References/Notes: 75, 88, 117.

133 *Eleusine indica* (L.) Gaertn.

Synonyms: *E. distans* Link/*E. scabra* E.Fourn./*Agropyron geminatum* Schult. & Schult.f./ *Cynodon indicus* (L.) Raspail/*Cynosurus indicus* L./*Juncus loureiroana* Schult. & Schult.f./ *Leptochloa pectinata* (Lam.) Kunth /*Triticum geminatum* Spreng.

Asteraceae

Origin: India.

Indonesian names: Teki welulang (Java).

English names: Goosegrass, crowsfoot grass, wire grass.

Description: Terrestrial, tufted, erect herb, rooting at nodes. Roots fibrous, white or brown. Stems flat, glabrous. Nodes glabrous. Stipules absent. Leaves alternate spiral, sessile, linear, more than 2 cm long/wide, apex acute, base clasping, parallel-veined. Leaf sheath present. Ligulemembranous. Flowers bisexual, grouped together in a terminal spike or panicle, sessile, green, petals not visible. Fruit a nut.

Habitat: This plant loves light and is a weed problem mainly in crops grown in the warm and wet regions of the world. It settles down mainly in the rich and deep, muddy to sandy-muddy soils, well drained and being able to be compacted. It grows well in open ground and so is found in lawns, pastures and footpaths. It can stand much trampling. It is found in waste places and roadsides but prospers on arable land. It is present also in damp marshlands and is often most vigorous along irrigation field borders and canals.

Uses: -

Distribution: Pantropical, here and there subtropical, mainly in S. Asia and the Pasific, E. and S. Africa and tropical N. America. Throughout Indonesia; Cotton, coffee, coconut hibrids plantations in South Sulawesi; Oil palm plantations (4 years) in South Sumatra;

Experimental garden Banjar Baru, South Kalimantan; Cihea Cianjur, West Java;

Dusun Lebo, desa Madiredo, kecamatan Pujon, kabupaten Malang; Oil palm plantations in Medan, North Sumatra; Dry land of Flores-NTT; Bogor Botanic Garden; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Handil Manarap); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Kp. Muara, Bogor, West Java; Kalitirto, Berbah, Sleman, Yogyakarta; Weed of cotton plantations Segayung (Kabupaten Batang, Central Java), and Kalitirto (Kabupaten Sleman, Yogyakarta); Weed of potato plantations Koto Baru, Kabupaten Tanah Datar, South Sumatra; Dominance weed of garlic plantations Batu, East Java; In the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: Weed of tea, cotton, potato, and garlic plantations.

Images source: Flickr.com

References/Notes: 3, 6l, 11, 13, 19, 21, 22, 24, 27, 30, 31, 34, 36, 38, 40, 42, 45, 70, 91, 196.

134 *Eleutheranthera ruderalis* (Sw.) Sch.Bip.

Synonyms: *E. areolata* Klatt/*E. ovalifolia* Baill./*E. ovata* Poit. ex Steud./*Gymnopsis microcephala* Gardner/*Kegelia ramossisima* Sch.Bip./*Melampodium ruderalis* Sw./*Ogiera ruderalis* (Sw.) Griseb./*Verbesina foliacea* Spreng./*Wedelia eclipta* Reich.

Asteraceae

Origin: Tropical America.

Indonesian names: Babandotan.

English names: Ogiera.

Description: Annual erect herb 10-70 cm tall. Whole plant hairy. Stems and leafy twigs ribbed or 4-angled and clothed in hairs.

Leaf blades 25-65 x 10-40 mm, petioles hairs, 4-10 mm long. Leaf blade surfaces clothed in hairs, somewhat sandpapery on both surfaces.

Flower heads usually consist of 3-6 flowers and are subtended by 5 leafy bracts. Bracts 5-10 x 3-4 mm, lanceolate to elliptic, upper surface clothed in long white hairs. Calyx, i.e. pappus, of numerous hair-like trichomes. Corolla tube about 0.5 mm long, lobes 0.5-0.6 mm long, clothed in yellow bristles on the inner surface. Anthers black, about 0.5 mm long, filaments about 1 mm long. Ovary about 1 mm long, clothed in white hairs. Stigma bifid.

Fruits about 4 mm long, surface warty. Pappus very short. Seeds black. Cotyledons about 1 mm long, much wider than the radicle.

Habitat: Altitudinal range from 10-650 m. Found in mesophyll rainforest, open Eucalyptus forest, notophyll vine forest, Eucalyptus woodland and places of agriculture.

Uses: -

Distribution: In 1888 discovered in Bogor, at present naturalized in West Java., collected also here and there in Central and East Java, locally often abundant; Central and South America, introduced elsewhere.

Impact: No detail information

Images source: 89sky.net

References/Notes: 1, 2, 88, 118.

135 *Emilia sonchifolia* (L.) DC.

Synonyms: *Emilia javanica* (Burm.f.) C.B.Rob./*Emilia rigidula*DC./*Emilia sinica* Miq./*Cacalia sonchifolia* Hort ex L./*Crassocephalum sonchifolium* (L.) Less./*Emilia javanica* (Burm.f.) C.B. Rob./*Gynura ecalyculata* DC./*Senecio sonchifolius* (L.) Moench

Asteraceae

Origin: Tropical Africa.

Indonesian names: Jonge/temu wiyang.

English names: Tassel flower.

Description: Robust annual herb, sparsely branched. Leaves alternate, radical ones a few, lyrate; cauline ones several, (ob) ovate, to 8 x 2.5 cm, chartaceous, base auricled, margin crenate, apex acute, crispate-pubescent. Corymbs lax. Capitula a few, homogamous, 1.7 cm wide. Receptacle convex, 7 mm wide; peduncle to 6 cm. Involucre 1-seriate. Phyllaries 6 mm. Florets bisexual. Pappus 1-seriate, 4.5 mm. Corolla tubular, 1.5 mm; lobes 5. Style branches exserted. Achenes 5-ribbed.

Habitat: Wastelands.

Uses: -

Distribution: In Java locally cultivated as a garden-ornamrntal; Tropical Africa, India, China, Thailand, Japan to Hawaii; Malesia (Malay Peninsula, Sumatra, Java, the Philippines (Luzon), New Guinea; Weed of cabbage plantations Cibungbulang, Bogor; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali; Undergrowth plant at Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java; Occurs wild throughout the Old World, including SE. Asia. In America it has been introduced and become naturalized.

Impact: Weed in the vegetable fields

Images source: www.natureloveyou.sg

References/Notes: 1, 2, 44, 69, 72, 110.

136 *Enydra fluctuans* Lour.

Synonyms: No synonym are recorded for this species

Asteraceae

Origin: Indochina.

Indonesian names: Godobos.

English names: Water Cress, Marsh Herb.

Description: A trailing marsh annual herb, also floating on water; stem 30-60 cm long, rooting at the nodes. Leaves sessile, 2.5-7.5 cm long, linear-oblong, acute or obtuse, entire or subcrenate. Heads axillary and terminal, sessil, flowers white.

Habitat: Grows in swampy ground in Tropical climate.Native to India, Bangladesh,Burma, Sreelankha and several places in south east Asia.Hingcha or Kankong-kalabau is found inRizal Province in Luzon, being occasional along the banks of small streams in and about Manila. It was certainly introduced, being found also in tropical Africa and Asia to Malaya.InBengal it is commonly known as Hingha and grows plenty in ponds & lakes.

Uses: The leaves of E. fluctuans are somewhat bitter and are eaten as a salad or vegetable in several tropical countries. In Zaïre E. fluctuans has beenreported a favourite food of the hippopotamus.

Distribution: Tropical regions of the world; Malesia: Malay Peninsula, Sumatra, Java, Kalimantan, Sulawesi, Luzon.

Impact: No detail information

Images source: Mpbd.info

References/Notes: 2, 3, 117, 119.

137 *Eragrostis nigra* Nees ex Steud.

Synonyms: *Eragrostis atropurpurea* Hochst. ex Steud.

Poaceae

Origin: India/Ceylon (probably).

Indonesian names: -

English names: Love Grass

Description: Tufted perennials; culms 30-50 cm high, erect; nodes glabrous. Leaves 15-25 x 0.2-0.6 cm, linear, base rounded with a tuft of long hairs; sheath slightly keeled, ciliate towards the mouth; ligule a fimbriate membrane. Panicle 15-30 cm long, lax, branches and pedicels smooth. Spikelets many, pedicelled, 5-6 x 2-3 mm, oblong, black; glumes similar, 2.2 x 0.5 mm, 1-nerved, keeled; florets 5-8, all bisexual; lemma 2.2 x 1 mm, ovate, acute, 3-nerved; palea 2 x 1 mm, oblong, curved, keels smooth.

Figure 671. 1–2. **Eragrostis nigra** Nees ex Steudel, 黑穗画眉草 hei sui hua mei cao. —1. Habit. —2. Spikelet. (FOC 475; FRPS 10(1): 21. 1990. —仲世奇 Zhong Shiqi; redrawn by 孙英宝 Sun Yingbao from 耿以礼 Keng Yi-Li (ed.), Fl. Ill. Pl. Prim. Sin. Gram. pl. 252. 1959).

Habitat: Degraded evergreen forests and grasslands. 900 – 3000 asl

Uses: -

Distribution: West and East Java; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed of cotton plantations Banguntapan (Kabupaten Bantul, Yogyakarta). Sri Lanka, India to China

Impact: Weed of cotton plantations

Images source: foc.eflora.cn

References/Notes: 1, 3, 40, 110.

138 *Eragrostis amabilis* (L.) Wight & Arn.

Synonyms: *Eragrostis tenella* (L.) P.Beauv. ex Roem. & Schult./*E. plumosa* (Retz.) Link/*Cynodon amabilis* (P.Beauv.) Raspail/*Megastachya amabilis* (L.) P.Beauv./*M. tenella* (L.) Bojer/*Poa amabilis* L./*Poa tenella* L.

Poaceae

Origin: Tropics of The Old World.

Indonesian names: Rumput emprit-empritan.

English names: Lovegrass, feather lovegrass.

Description: Annual; caespitose. Culms geniculately ascending, or decumbent; 6–50 cm long. Ligule a fringe of hairs. Leaf-blades 2–9 cm long; 1–3 mm wide.

Inflorescence a panicle.

Panicle open; linear (var insularis), or elliptic, or pyramidal; 2–14 cm long. Primary panicle branches spreading, or appressed (var insularis). Panicle branches glandular; without exudate; glabrous in axils, or bearded in axils.

Spikelets solitary. Fertile spikelets pedicelled.

Spikelets comprising 4–8 fertile florets; with diminished florets at the apex. Spikelets ovate, or obovate; laterally compressed; 1.5–2.5 mm long; breaking up at maturity; disarticulating below each fertile floret. Rhachilla internodes definite.

Glumes deciduous; similar; shorter than spikelet. Lower glume ovate; 0.5–1 mm long; 1 length of upper glume; 1-keeled; 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate; 0.5–1 mm long; 0.8–1 length of adjacent fertile lemma; 1-keeled; 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Fertile lemma oblong, or ovate; 0.7–1 mm long; membranous; keeled; 3 -veined. Lemma midvein without distinctive roughness, or scaberulous. Lemma apex obtuse. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Anthers 3; 0.2 mm long.

Caryopsis with adherent pericarp; ellipsoid; 0.5 mm long.

Habitat: It occurs in crops, waste places, old walls, lawns, roadsides, beach dikes and gardens. It thrives on both permeable and impermeable soils, and is often found in compacted and stony areas.

Uses: -

Distribution: Pantropical. Throughout Indonesia; Cotton plantations South Sulawesi; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap); Weed of cotton plantations Kalitirto (kabupaten Sleman, Yogyakarta).

Impact: Weed of cotton plantations

Images source: Flickr.com

References/Notes: 3, 11, 31, 40, 223, 278, 283.

139 *Eragrostis unioloides* (Retz.) Nees ex Steud.

Synonyms: *E. euchroa* Steud./*E. formosana* Hayata/*Poa rubens* Lam./*Poa unioloides* Retz.

Poaceae

Origin: S. E. Asia.

Indonesian names: Padang togu, rumput udang.

English names: -

Description: Annual or short-lived perennial grass, tufted, with culms 10-80 cm tall, erect or geniculately ascending, sometimes rooting from the lower nodes. Leaf-sheath about 1.5 cm long, striate, purplish, hairy at the mouth; ligule a fringe of hairs; leaf-blade linear with broad base and acute top, 2-20 cm x 2-8 mm, flat or inrolled. Inflorescence a loose or contracted, terminal, usually stiffly erect panicle, up to 20 cm long; spikelets 8-60-flowered, ovoid to oblongoid, 4-16 mm x 2.5-4 mm, strongly compressed, on up to 15 mm long peduncles, usually yellowish but reddish-purple tinged; lower florets all fertile, upper ones caducous, but florets falling in succession from the base up; glumes very densely packed, keel scabrid. Caryopsis obovoid to ellipsoid, laterally compressed, ca. 0.7 mm long, orange-brown. It is a very variable species, the main variation being in the annual to perennial type and in the degree of stoloniferous habit (Manidool 1992).

Habitat: *E. unioloides* can grow from sea-level up to 1250 m altitude, in open or moderately shaded areas, in swampy or paddy fields, roadsides and cultivated land.

Uses: E. unioloides is used as a forage, but not of great importance. Its abundance as a weed in irrigated rice fields (Häfliger and Scholz 1981) makes it useful for grazing after the rice harvest and as a green manure.

Distribution: Tropical Africa and Asia. Throughout Indonesia, except the Lesser Sunda Islands and Papua, as far as known; Tidal areas of South Kalimantan (Banjarmasin, Barambai, Belandean).

Impact: No detail information

Images source: ausgrass2.info

References/Notes: 3, 31, 207.

140 *Erechtites hieraciifolia* (L.) Rafin. ex DC.

Synonyms: No synonym are recorded for this species

Asteraceae

Origin: Tropical America/N. & S. America/N. America.

Indonesian names: -

English names: American fireweed.

Description: - Erect annual or perennial herb, to about 1.5 m tall. Stem ribbed, thinly hairy or subglabrous. Leaves alternate, sessile, lanceolate or oblong-lanceolate, lower narrowed higher boad, truncate or auricle base and acute or subacute apex, higher coarsely dentate-pinnately lobed, lower serrate-dentate. Flower in head, terminal corymbs, campanulate cylindric, heterogamous, marginal flower many serrate, disk-flower numerous. Papaus entirely white, corolla with a yellow top. Achenes brown, appressed-hairy between the ribs.

Habitat: Rocky open woods, eroded slopes, roadsides, railroads.

Uses: -

Distribution: Since long naturalized in Java, collected there for the first time in 1863; locally often a common weed, frequently together with the next species (E. valerianifolia (Wolf) DC; It is adventitious in C. Europe, Hawaii and SE. Asia. Other variety Erechtites hieraciifolia L. var. cacalioides (Fisch. ex Spreng.) Griseb; was also reported in Malesia (Sumatra, Java, Borneo, Flores, Irian Jaya (Biak)).

Impact: A common weed

Images source: fnanaturesearch.org

References/Notes: 1, 2, 70, 120.

141 *Erechtites valerianifolia* (Link ex Wolf) Less. ex DC.

Synonyms: *Erechtites ambigua* DC./*Cacalia prenanthoides* Kunth/*Crassocephalum valerianifolium* (Link ex Wolf) Less./*Gynura rosea* Ridl./*Senecio valerianifolius* Desf./*S. valerianifolius* Rchb.

Asteraceae


Origin: Tropical & Subtropical America.

Indonesian names: Sintrong.

English names: Brazilian fireweed, tropical burnweed.

Description:;.A robust herb with thick ribbed stems, leaves are opposite at the base, but alternate above, deeply divided to 20 x 8 cm; margins are toothed. Flowers in capitula, several clustered together, florets white to mauve; pappus hairs protrude, pink to mauve.

Habitat: -

Uses: -

Distribution: In 1845 accidentally (with coffee-beans) introduced from Brazil, rapidly naturalized throughout not too dry regions of Java; Coffee plantations South Sulawesi; Oil palm plantations (4 years) South Sumatra; Research Centre Plantations Bogor; weed of rubber plantations Cimulang, Bogor; Adventitious iin many other tropical areas including SE. Asia, S. China, Australia & the Pasific Island.

Impact: No detail information

Images source: minnesotawildflowers.info

References/Notes: 1, 11, 13, 15, 47, 70, 121.

142 *Erigeron karvinskianus* DC.

Synonyms: *Erigeron mucronatus* DC./*Erigeron trilobus* Sond./*Felicia erigeroides* DC./*Felicia natalensis* Sch. Bip. ex Walp./*Felicia trinervia* Turcz.

Asteraceae

Origin: C. America.

Indonesian names: -

English names: Mexican fleabane, Latin American fleabane, Santa Barbara daisy or Spanish daisy.

Description: This is a vigorous, spreading perennial plant growing from woody rhizomatous roots to a maximum height of 15cm. Its leaves are located along the stem, the basal leaves dying off as the plant bolts. They are sometimes slightly toothed or lobed near the tips. The inflorescences hold one or more flower heads which are each about 1 cm wide. They have golden yellow disc florets in the center and a fringe of up to 80 white to pinkish ray petals.

Habitat: -

Uses: -

Distribution: In Java in the mountainous regions locally cultivated as an ornamental and sometimes half-wild on earth- and brick-walls.

Impact: No detail information

Images source: delange.org

References/Notes: 1, 88.

143 *Eriocaulon cinereum* R. Br.

Synonyms: *Eriocaulon amboense* Schinz/*Eriocaulon ciliiflorum* F. Muell./*Eriocaulon formosanum* Hayata/*Eriocaulon reductum* Ruhland/*Leucocephala spathacea* Roxb.

Eriocaulaceae

Origin: Tropical Asia.

Indonesian names: -

English names: -

Description: This aquarium plant stays rather small and grows slowly even under good conditions. Its maximal height is approximately 8 cm. Around once a month, E. cinereum can be unearthed for propagation. Cut the part where parent and daughter plant are connected with a sharp tool like a razor blade or a pair of scissors, and pull the plants apart carefully. Due to its small size, E. cinereum is ideal as a foreground plant. In Eastern Asia it is often used in the foreground of so-called Tonina tanks, where it looks like tiny green sea urchins. With its unique appearance it is suitable for accentuating practically any layout.

Habitat: -

Uses: -

Distribution: In Indonesia: Sumatra, Java, Kalimantan and Sulawesi.

Impact: No detail information

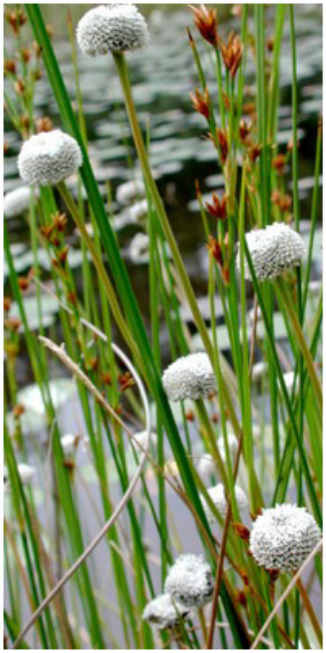
Images source: Flickr.com

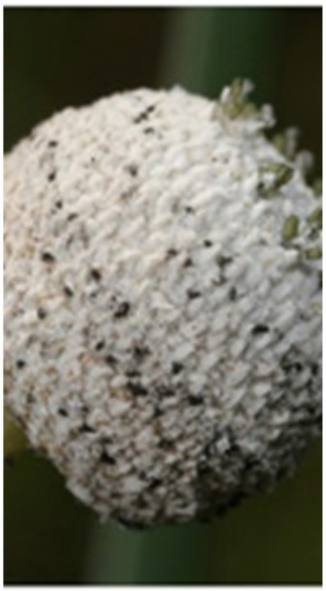
References/Notes: 3, 171.

144 *Eriocaulon decangulare* L.

Synonyms: *Eriocaulon gnaphalodes* Elliott/*Eriocaulon longifolium* Nees/*Eriocaulon statices* Crantz/*Eriocaulon villosum* Willd. ex Körn./*Randalia decangularis* (L.) P. Beauv. ex Desv./ *Symphachne xyroides* P. Beauv. ex Desv.

Eriocaulaceae





Origin: Eastern United States, Mexico and Nicaragua.

Indonesian names: -

English names: Pipewort, tenangle pipewort, hat pin and bog button

Description: Pipeworts are bog or aquatic herbs with a crowded head of tiny flowers on a long, leafless stalk.

Habitat: wetland and some in mountain area

Uses: -

Distribution: In Indonesia: Java, Kalimantan, Sulawesi and Papua.

Impact: No detail information

Images source: delawarewildflowers.org

References/Notes: 3, 235.

145 *Eriocaulon heterolepis* Steud.

Synonyms: *Eriocaulon dianae* Fyson

Eriocaulaceae

Origin: India (Goa, Karnataka, Kerala, Maharashtra, Rajasthan).

Indonesian names: -

English names: Buttonhead Pipewort

Description: -

Habitat: It is an annual plant, grows in marshes and seasonally inundated places. It is locally abundant and seen in open paddy fields, open wetlands, marshy margin of permanent lakes (Ansari and Balakrishnan 1994, 2009; Cook 1996; Yadav and Sardesai 2002).

Uses: -

Distribution: Very rare; in West and East Java, in Kangean Island (N. of Java), also in Sumatra and Sulawesi.

Impact: No detail information

Images source: en.wikipedia.org

References/Notes: 3. 318.

146 *Eriocaulon truncatum* Buch.-Ham. ex Mart.

Synonyms: *Eriocaulon annuum* Milne-Redh./*Eriocaulon ciliipetalum* H.E. Hess/*Eriocaulon glabriflorum* Ridl./*Eriocaulon merrillii* Ruhland ex Perkins/*Eriocaulon suishaense* Hayata

Eriocaulaceae

Origin: Asia.

Indonesian names: -

English names: Short pipe-wort.

Description: Terrestrial, annual, tufted herb, up to 20 cm tall. Roots white or brown, fibrous. Obvious stem absent. Stipules absent. Leaves in a rosette, simple, not lobed or divided, alternate spiral, sessile, linear, more than 2 cm long/wide, glabrous on both sides, margin entire, apex acute, base truncate, parallel-veined. Flowers unisexual, grouped together in a terminal head, sessile, petals 3. Fruit a capsule, opening with 3 valves.

Habitat: Soggy grasslands, borders or water courses, on stones in rivers; often gregarious and often mixed with E. cinerum R.Br. From 15 to 1300 m alt. Flowers all the year round. Lowland irrigrated and rainfed rice fields.

Uses: -

Distribution: Throughout Indonesia, except Kalimantan and the Lesser Sunda Islands.

Impact: No detail information

Images source: oswaldasia.org

References/Notes: 3, 91.

147 *Eriochloa polystachya* Kunth

Synonyms: *Eriochloa punctata* Hochst. ex Steud./*Eriochloa subglabra* (Nash) Hitchc./*Helopus polystachyus* (Kunth) Trin. ex Steud./*Milium polystachyon* (Kunth) Spreng./*Monachne subglabra* Nash/*Piptatherum annulatum* Raddi

Poaceae

Origin: Tropical America, W. Indies.

Indonesian names: -

English names: Carib grass.

Description: Perennial herb. Culms rambling; 100–200 cm long; 3–4 mm diam; rooting from lower nodes. Culm-nodes bearded. Lateral branches ample. Ligule a fringe of hairs; 0.8–1.2 mm long. Leaf-blades 10–25 cm long; 8–15 mm wide. Leaf-blade surface glabrous, or pubescent.Inflorescence composed of racemes. Peduncle 6–12 cm long; pilose above.Racemes 8–15; borne along a central axis; unilateral; 5–8 cm long; secondarily branched. Central inflorescence axis 15–25 cm long; villous. Rhachis narrowly winged; angular; villous on surface. Spikelet packing adaxial.Spikelets solitary, or in pairs. Fertile spikelets pedicelled. Pedicels oblong; unequal.Spikelets comprising 1 basal sterile florets; 1 fertile florets; without rhachilla extension. Spikelets elliptic; dorsally compressed; acute; 3.2–3.6 mm long; falling entire. Spikelet callus globular; incorporating lowest rhachilla internode with adnate lower glume; glabrous.Glumes reaching apex of florets; thinner than fertile lemma. Lower glume oblate; 0.1 length of spikelet; hyaline; 0 -veined. Lower glume lateral veins absent. Lower glume apex truncate, or obtuse. Upper glume elliptic; 1 length of spikelet; membranous; without keels; 5 -veined. Upper glume surface pubescent. Upper glume apex acute; muticous.Basal sterile florets barren; without significant palea. Lemma of lower sterile floret similar to upper glume; elliptic; 1 length of spikelet; 5 -veined; pubescent; acute; muticous. Fertile lemma elliptic; 2.2–2.5 mm long; indurate; without keel. Lemma margins involute. Lemma apex obtuse; mucronate. Palea involute; indurate. Flowers Anthers 3; 1–1.5 mm long.

Habitat: Grows in humid areas with evenly distributed rainfall; withstands waterlogging.

Uses: -

Distribution: Pantropical. Imported in Java long ago and, so far, only found in Java and Tanimbar Islands.

Impact: No detail information

Images source: www.hear.org

References/Notes: 3, 223, 277.

148 *Eryngium foetidum* L.

Synonyms: *E. antihystericum* Rottler

Apiaceae/Umbeliferae

Origin: C. & S. America

Indonesian names: Walangi, walangan, ketumbar jawa, culantro.

English names: Culantro, Mexican coriander and long coriander.

Description: A coarse, biennial herb 15-45 cm high; leaves rosulate and cauline, the blades lanceolate to oblanceolate, up to 30 x 5 cm, crenate to spinulose-serrate; inflorescence heads numerous, cylindric, about 10 x 5 mm, the involucral bracts lanceolate, exceeding the heads, commonly 2-3 cm long; petals white or greenish; fruits greenish, subglobose, about 1.5 mm in diameter» (Smith, 1985; p. 656).

Habitat: This species grow well in waste places, cultivated areas, and along roadsides, considered a troublesome weed because of its spiny leaves (Smith, 1985; p. 656). "Widely cultivated in Hawai'i and may be naturalized" (Wagner *et al.*, 1999; p. 199).

Uses: E. foetidum is widely used in seasoning and marinating in the Caribbean, particularly in Panama, Puerto Rico andTrinidad and Tobago. It is also used extensively in Thailand, India, Vietnam, and other parts of Asia as a culinary herb. It dries well, retaining good color and flavor, making it valuable in the dried herb industry. It is sometimes used as a substitute for cilantro, but it has a much stronger taste. E. foetidum has been used in traditional medicine for burns, earache, fevers, hypertension, constipation, fits, asthma, stomachache, worms, infertility complications, snake bites, diarrhea, and malaria.

Distribution: It has been introduced into Florida and the Old World tropics where it has naturalized in many places. It was introduced into SE. Asia by Chinese, as a subtitute for coriander; it is known in Indo-China, Peninsular Malaysia (since 1888), in Java (since 1896) and in Sumatra (since 1915). It is also cultivated in C. & S. America and occasionally elsewhere, e.g. in Tahiland, Cambodia, Vietnam, the Philippines and Japan.

Impact: No detail information

Images source: Flickr.com

References/Notes: 76, 88, 102, 103.

149 *Eugenia uniflora* L.

Synonyms: *Eugenia costata* Cambess/*Eugenia decidua* Merr./*Luma costata* (Cambess.) Herter/*Myrtus willdenowii* Spreng./*Stenocalyx oblongifolius* O.Berg/*Syzygium michelii* (Lam.) Duthie

Myrtaceae

Origin:

Indonesian names:

English names: Barbados cherry; Brazil cherry; cayenne cherry; Florida cherry; French cherry; pitanga; red Brazil cherry

Description: An evergreen shrub 2-4 m tall or small tree to 7 m, occasionally to 10 m depending on site, with spreading, slender, sometimes crooked branches. Young leaves are notably pink to bronze or dark red, turning shiny dark green above, paler below when mature but turning red in cold, dry weather. Leaves are opposite, simple, ovate or narrowly ovate to lanceolate, 2.5-6(-8) cm long and 1.5-3 cm wide, with 7-9 pairs of lateral nerves and margins entire or slightly and irregularly wavy. Leaf bases are rounded or slightly cordate, apex obtuse to shortly acuminate, glabrous, glossy, and pellucidly dotted. Petioles are 1-3 mm long. Flowers are creamy white, fragrant, (1-)1.5-3 cm across, solitary or in clusters of 2-3(-4) at leaf axils, with slender peduncles, small bracts, a 4-lobed tubular calyx, 8-ribbed, with lobes 3-4 mm long, petals 4, white, thin, obovate and fugacious, with about 50-60 stamens, 0.7-1.1 cm long, with a slightly ridged ovary. The fruit is a succulent pendulous berry, turning from greenish to yellow to orange red or very dark red or blackish when ripe, 2-4 cm in diameter, depressed-globose, conspicuously 8-ribbed, commonly containing 1-3 seeds, though can be with a single large seed or up to 7 small seeds. Skin is thin, with juicy flesh orange-red, acid to sweet, slightly resinous (Rifai, 1992; Langeland and Burks, 1998; PIER, 2013).

Habitat: E. uniflora is commonly found along riverbanks, in forests and forest edges and also in coastal scrub (PIER, 2013). The species is highly adaptable, however and can grow in most terrestrial habitats in suitable climates. There are variable reports, however, regarding tolerance to areas liable to flooding, waterlogging, saline soils or persistent salt spray. In Florida and in the Bahamas it is found invading disturbed hammocks and is also considered weedy in cultivated landscapes, natural areas, including national wildlife refuges and rare scrub habitat (Langeland and Burks, 1998). In Queensland, Australia, E. uniflora is becoming a weed of rainforests, open woodlands, forest margins, urban bushland, gardens, roadsides and riparian vegetation (Biosecurity Queensland, 2011).

Uses: E. uniflora is mainly grown for its edible fruit which is consumed fresh or conserved as jam, a relish or by pickling in vinegar. Fruit flesh contains 0.8-1% protein, 0.4-0.8% fat, 8-12% carbohydrates, 0.3-0.6% fibre, and 0.3-0.5% ash. The vitamin C content is 20-30 mg/100 g and the energy value is 190 kJ/100 g (Rifai, 1992). Fruit juice is 85-90% water but due to the sugar content it can be fermented into a wine, which can then also be processed into vinegar. Furthermore, in Brazil, the fermented juice is also sometimes distilled to produce an alcoholic spirit (Rifai, 1992). The uses, economic and nutritional value and health benefits of E. uniflora fruit, postharvest physiology and handling practices, quality control and processing are described in detail by Vizzotto et al. (2011). Plant parts also have a number of other more minor uses. The bark contains 20-28% tannin and can be processed and used to treat leather. A strong-smelling essential oil is obtained from crushing and distilling the foliage, containing citronellal, geranyl acetate, geraniol, cineole, terpinene, sesquiterpenes and polyterpenes. This has antihypertensive antidiabetic, antitumor, analgesic and insect repellent properties (Rifai, 1992). It has shown antiviral and antifungal activity against microorganisms such as *Trichomonas gallinae*, *Trypanosoma cruzi* and *Leishmania amazonensis*. Plant extracts also show significant anti-inflammatory properties, and are used extensively as a folk remedy in South America against stomach diseases. Various uses in traditional medicine have been reported (Rifai, 1992). A leaf infusion is used in Brazil and Surinam as a stomachic, febrifuge and astringent, in Java the fruits are used to reduce blood pressure. Seeds are extremely resinous and toxic and can be used as a poison. The characteristic 8-lobed 'mini-pumpkin'-like and bright-coloured fruit add to making *E. uniflora* a popular ornamental in suitable climates. It is also commonly used as a hedge, because plants become densely branched when regularly trimmed. It is also planted as a boundary tree, barrier or support (Rifai, 1992).

Distribution: E. uniflora is native to central and eastern areas of South America, specifically to Uruguay, Paraguay, Brazil (Minas Gerais, Parana, Rio Grande do Sul, Rio de Janeiro, Santa Catarina, Sao Paulo), Bolivia (La Paz, Santa Cruz, Tarija), and Argentina (Catamarca, Chaco, Corrientes, Entre Rios, Formosa, Jujuy, Misiones, Salta, Santa Fe, Tucuman) (USDA-ARS, 2013). It is also mistakenly considered by some authors (e.g. Morton, 1987; Rifai, 1992) as native to northern South America, Guyana, Surinam and French Guiana and the north-east of Brazil, which has also tended to be repeated by other sources (e.g. Janick and Paull, 2008). The common names also appear to confuse people regarding its native range, as it is known as Surinam cherry, Barbados cherry and even Florida cherry. It has been widely introduced as a valuable fruit tree throughout the tropical and sub-tropical Americas, and also in many parts of Africa, Asia and the Pacific. Rifai (1992) stated that it was grown all over the tropics and subtropics, though is rare in South-East Asia (Java, Peninsular Malaysia and the Philippines). It was also reported as introduced to the Mediterranean basin including southern Europe and northern Africa (Morton, 1987), though records from such countries are very rare.

Impact: Economic Impact

In the early 1990s, the Florida Nurserymen and Growers Association (FNGA) and the Florida Exotic Pest Plant Council (FLEPPC) asked nurseries to stop the production of 45 potentially invasive plant species that were relatively insignificant in the ornamental horticulture market (Wirth et al., 2004). *E. uniflora* was not included as it was one of 14 additional species designated

as invasive by the FLEPPC, but which the nurseries wanted to continue production of for their high economic value as they are highly ornamental and very widely used in landscaping. A survey indicated that incomes to nurseries of these 14 species across Florida were estimated at US$45 million in 2001, with $34 million from in-state sales and $11 million from sales to out-of-state markets (Wirth et al., 2004). These sales were estimated to translate into combined economic output impacts of $59 million and employment impacts of 800 jobs for Florida›s economy. However, it was argued that these estimated impacts should not be seen as equal to the expected loss if these species were phased out, because if one species is not available consumers are likely to buy another species (Wirth et al., 2004).

Despite this intervention, by the late 1990s *E. uniflora* was still commonly used in gardens in Florida, particularly as a tree or shrub for hedging (Langeland and Burks, 1998).

As a fruit tree, *E. uniflora* is either planted at spacings of 3-4 m, or in rows 5 m apart and 1-2 m between plants within the row (Rifai, 1992). Plants are most productive if left unpruned for a number of years, and fruiting is promoted by application of fertilizers and fruit development responds positively to irrigation (Rifai, 1992).

Environmental Impact

E. uniflora forms dense thickets that displace native plants and prevents their regeneration, replacing native species, reducing the amount of light that reaches the forest floor, and changing the micro-environment of invaded habitats (Biosecurity Queensland, 2011; PIER, 2013).

Stricker and Stiling (2013) found that the emergence, survival and growth of *E. uniflora* seedlings in Florida, USA, was higher than that of two native *Eugenia* species, supporting predictions that invasive *E. uniflora* may possess a competitive advantage. Their study also suggested that measurements of such traits may be useful in determining the likelihood of invasion by newly introduced woody plant species (Stricker and Stiling, 2013).

Social Impact

When bruised, crushed or cut, the leaves and branches have a spicy resinous fragrance, which can cause respiratory discomfort in susceptible individuals.

Images source: Ebay.com(1), en.wikipedia.org(2)

References/Notes: 296

150 *Euphorbia heterophylla* L.

Synonyms: *Euphorbia calyciflora* Sessé & Moc./*Euphorbia geniculata* Ortega/*Euphorbia pandurata* Huber/*Agaloma angustifolia* Raf./*Cyathophora heterophyla* (L.) Raf./*Poinsettia heterophylla* (Ortega) Klotzsch & Garcke/*Tithymalus heterophyllus* (L.) Haw./*Tithymalus prunifolius* (Jacq.) Haw.

Euphorbiaceae

Origin: Mexico & The Antilles.

Indonesian names: Kate mas.

English names: (Mexican) fireplant, painted euphorbia, desert poinsettia, wild poinsettia, fire on the mountain, paint leaf and kaliko plant.

Description: Erect annual herb to 1.5 (rarely to 4) m high. Stems hollow, usually with scattered hairs. Leaves ovate to rhomboid, 0.5–5 cm wide, hairless above, hairless or with a few appressed hairs below, paler toward the base, margins entire or slightly toothed. Capsule 3–4 mm long, 5–6 mm wide, hairless, 3-lobed. Seeds warty, brown or grey, mottled, ovoid, 2.5–3 mm long.

Habitat: Introduced for ornamental purposes, it quickly spreads, becoming a common sight by the side of the roads and rural pathways.

Uses: Ornamental plant.

Distribution: Introduced in Java along time ago; occasionally cultivated and locally naturalized; Sulawesi; Moluccas; Saparua; Lesser Sunda Islands: Bali; Flores; Roti; Timor; Babar; Wetan; Tanimbar; Jamdena-Naturalized in many parts of the Old World Tropics; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: Weed in vegetable fields

Images source: Flickr.com

References/Notes: 1, 5, 70, 88, 147, 293.

151 *Euphorbia hirta* L.

Synonyms: *Euphorbia capitata* Lam./*Euphorbia karwinskyi* Boiss./*Euphorbia nodiflora* Steud./*Euphorbia obliterata* Jacq/*Chamaesyce gemella* (Lag.) Small/*Chamaesyce hirta* (L.) Millsp./*Chamaesyce karwinskyi* (Boiss.) Millsp./*Desmonema hirta* (L.) Raf./*Ditritea hirta* (L.) Raf.

Euphorbiaceae

Origin: Tropical America/C. America.

Indonesian names: Patikan kebo.

English names: Asthma plant, hairy spurge, garden spurge.

Description: Terrestrial annual erect herb, up to 60 cm tall. Taproot white or brown. Stem rounded, solid, hairy, with abundant milksap. Stipules present. Leaves simple, not lobed or divided, opposite, sessile or stalked, elliptic, less than 2 cm long/wide, hairy on both sides, denser pilosityalong the veins in the lower face, more scattered on the upper side; leaf base asymmetric, margin finely dentate, apex acute, base acute, 3-veined not to the top. Flowers unisexual, solitary or grouped together in an axillary cyme, stalked, petals absent. Fruit a capsule opening with 3 valves.

Habitat: E. hirta is a weed of waste places and in crops, occurring up to 2,000 m altitude. It is an invasive plant which spreads very quickly. It is a species of much brightened environment that meets so well on dry grounds as in the wetter zones. However, it is not present in altitude. It prefer the sandy grounds or with gravels. Sunny to lightly shaded, not too moist, grassy sites; along roads, premises, often between stones; locally common. Early colonize of bare land.

Uses: The latex of the plant is used to cure some wounds. The stalks and leaves are used to prepare a drink flavoring the milk of young mothers. It is also popular remedy for coughs, coryza, hay fever, bronchial infections and respiratory disorders. In traditional Cambodian medicine, it is given to expel worms, bowel complaints and as a paste for gonorrhoea and other venereal diseases. A tincture is suitable for spasmodic dyspnoea due to asthma, bronchitis, emphysema and pulmonary, cardiac disorders.

Distribution: In Java an early introduction; at present naturalized in Java and Madura; Pantropical, partly subtropical. Introduced to Indonesia a long time ago; has since spread throughout; Sulawesi: Gorontalo; Minahasa; Muna; Butung; Sula; Mangole; Moluccas: Halmahera, Morotai, Ceram, Amboina; Lesser Sunda Is.:Bali; Lombok; Sumbawa; Flores; Sumba; Roti; Timor; Kai; (Aru)- Pantropic weed of C. America origin; Cotton, Morus alba, pepper, and cacao plantations in South Sulawesi; Onion plantations in South Sumatra; Kalianda, South Lampung; Cihea Cianjur, West Java; Dry land of Flores, NTT; Tidal areas of South Kalimantan (Banjarmasin, Belawang); Kalitirto, Berbah, Sleman, Yogyakarta; Weed of cotton plantations in Banguntapan (Kabupaten Bantul, Yogyakarta), Kebun Segayung (Kabupaten Batang, Central Java), Kebun Gading (Kabupaten Gunung Kidul, yogyakarta) dan kebun Kalitirto (Kabupaten Sleman, Yogyakarta); Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali; Introduced into SE. Asia long ago and nowadays occuring throughout Malesia.

Impact: Weed in vegetable fields

Images source: Flickr.com

References/Notes: 1, 3, 5, 11, 13, 20, 21, 27, 31, 38, 40, 70, 75, 91.

152 *Euphorbia hypericifolia* L.

Synonyms: *Euphorbia boliviana* Rusby/*Euphorbia glomerifera* (Millsp.) L.C. Wheeler/*Euphorbia papilligera* Boiss./*Anisophyllum hypericifolium* (L.) Haw./*Chamaesyce glomerifera* Millsp./*C. hypericifolia* (L.) Millsp./*Ditritea obliqua* Raf.

Euphorbiaceae

Origin: Tropical America.

Indonesian names: -

English names: Spurge.

Description: Annual erect herb, height up to 1 to 1.5 feet; Spread: 0.75 to 1 feet; Bloom Time: Flowers freely; Bloom Color: White; Bloom: White.

Habitat: -

Uses: Garden uses: Abundant bloomer for landscape areas, border fronts, hanging baskets and containers. May be grown as a houseplant.

Distribution: Lower montane zone in Java; Sulawesi; Lesser Sunda Is.: Bali, Lombok, Sumbawa; Flores; Solor; Sumba; Roti; Timor; Southwest: Wetar-Pantropic weed; Kalitirto, Berbah, Sleman, Yogyakarta.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 5, 38, 141.

153 *Euphorbia peplus* L.

Synonyms: *Euphorbia chamaepeploides* Lotsy/*Anisophyllum peplis* (L.) Haw./*Chamaesyce peplis* (L.) Prokh./*Esula peplus* (L.) Haw./*Galarhoeus peplus* (L.) Prokh./*Keraselma peplus* (L.) Raf./*Tithymalus peplis* (L.) Scop./*Tithymalus peplus* (L.) Hill

Euphorbiaceae

Origin: Europe, North Africa & Continental Asia.

Indonesian names: -

English names: Petty spurge, radium weed, cancer weed,or milkweed.

Description: It is an annual plant growing to between 5–30 cm tall (most plants growing as weeds of cultivation tend towards the smaller end), with smooth hairless stems. The leaves are oval-acute, 1–3 cm long, with a smooth margin. It has green flowers in three-rayed umbels. The glands, typical of the Euphorbiacae, are kidney-shaped with long thin horns.

Habitat: -

Uses: The plant's sap is toxic to rapidly-replicating human tissue, and has long been used as a traditional remedy for common skin lesions, including cancer.

Distribution: Once collected near Sarangan on Lawu (Central) as a weed in a kitchen-garden.

Impact: As a weed

Images source: ipmdss.dk

References/Notes: 1, 88, 172, 173, 174.

154 *Euphorbia prostrata* Aiton

Synonyms: *E. perforata* Guss./*E. tenella* Kunth/*E. trichogona* Bertol./*Anisophyllum prostratum* (Aiton) Haw./*Aplarina prostrata* (Aiton) Raf./*Chamaesyce prostata* (Aiton) Small/*Tithymalus prostratus* (Aiton) Samp.

Euphorbiaceae

Origin: Tropical America/West Indies (Jamaica).

Indonesian names: Patikan cina.

English names: Prostrate sand-mat.

Description: This is an annual herb producing slender prostrate stems up to about 20 centimeters long, sometimes purple-tinted in color. The oval-shaped leaves are up to a centimeter long with finely toothed edges. The inflorescence is a cyathium less than 2 millimeters wide, with white petal-like appendages surrounding the actual flowers. There are four male flowers and a single female flower, the latter developing into a lobed, hairy fruit one to two millimeters wide.

Habitat: -

Uses: Euphorbia prostrata extract has been found effective for treatment of bleeding hemorrhoids due to its contents of flavonoids, phenolics and phenolic acids (http://www.bhj.org/journal/2008_5004_october/download/page-577-583.pdf).

Distribution: At present naturalized in Java and Madura; Balitan Maros; Nowadays introduced and widely naturalized throughout the tropics and subtropics. In SE. Asia reported from Thailand, Java, the Philippines, Sulawesi, the Lesser Sunda Islands, the Moluccas and New Guinea, but probably occuring elsewhere as well.

Impact: No detail information

Images source: zimbabweflora.co.zw

References/Notes: 1, 10, 75, 88, 175, 281.

155 *Euphorbia thymifolia* L.

Synonyms: *E. microphylla* Lam./*E. rubrosperma* Lotsy/*Anisophyllum thymifolium* (L.) Haw./*Aplarina microphylla* (Lam.) Raf./*Chamaesyce microphylla* (Lam.) Soják/*Chamaesyce thymifolia* (L.) Millsp

Euphorbiaceae

Origin: Tropical America.

Indonesian names: Patikan china, gelang pasir, krokot china (Javanese), ki mules, nanagkaan gede, useup nana (West Java), jalu-jalu tona (Maluku).

English names: Asthma plant, Pill-bearing spurge, Thyme-leaf spurge, Chiken weed.

Description: It is a monocious, prostate, annual herb with branches up to 25 cm long, with numerous adventitious roots. The stems are with white latex. The leaves are opposite, distichous, simple; blade ovate, measures up to 8 mm x 4 mm; stipules linear 1 mm long, deeply 2-3 toothed. The base unequal, one side cuneate the other side rounded, apex rounded, margins shallowly toothed, glabrous above and sparsely long-hairy beneath. The petioles are 0,5 mm long. Inflorescence is in the form of terminal or axillary cluster of flowers called a cyathium, on short leafy shoots; cyanthia almost sessile, measure 0,5 mm x 0,5 mm, with a funnel-shaped involucre, lobes triangular, minute, margin hairy, gland 4, minute, almost circular, red with very small red appendages, each involucre containing 1 female flower surronded by few male flowers. The flowers are unisexual; male floers sessile, bracteoles hair-like, perianth absent, stamen 1 mm long; female flowers almost sessile, perianth a rim, ovary superior, glabrous, 3-celled, styles 3, minute, 2-fid. The fruit an acutely 3-lobed, almost sessile capsule 1 mm x 1 mm base truncate, short-hairy 3 seeded. The seeds are conical, measure 0,5 mm in diameter, acutely 4-angled, shallowly transversely wrinkled, reddish brown without caruncle.

Habitat: -

Uses: The plant is bitter, acrid, sweet, thermogenic; laxative, diuretic, emmenagogue, aphrodisiac, anthelmintic, antibacterial, vulnerary, alexipharmic, expectorant, bronchodilator, stimulant and depurative.

Distribution: In Java introduced along time ago; at present naturalized in Java; 1-1450 m alt; Sulawesi; Moluccas; Amboina; Lesser Sunda Is.:Sumbawa; Flores-Widespread in the Old World Tropics, often naturalized; Bogor Botanic Garden; Throughout the Old World tropics, apparently not widespread in tropical E. Africa, but advancing there; throughout the Malesian regions.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 5, 30, 75, 112, 176, 177, 178, 179, 180.

156 *Fimbristylis alboviridis* C. B. Clarke

Synonyms: *Cyperus alboviridis* **C.B. Clarke ex Scott-Elliot**

Cyperaceae

Origin: S. E. Asia.

Indonesian names: -

English names: -

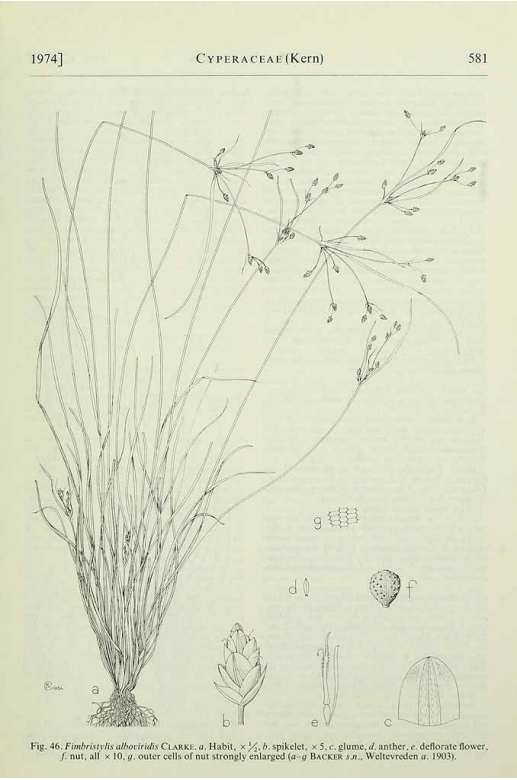


Fig. 46. *Fimbristylis alboviridis* CLARKE. *a*. Habit, × ½, *b*. spikelet, × 5, *c*. glume, *d*. anther, *e*. deflorate flower, *f*. nut, all × 10, *g*. outer cells of nut strongly enlarged (*a–g* BACKER *s.n.*, Weltevreden *a*. 1903).

Description: Erect, tufted, non rhizomatous annuals, 10-15 cm tall; stems compressed, smooth, glabrous. Leaves few, basal, flat, linear, 6 cm long, 1 mm wide; sheath laterally compressed, keeled on the back, 1-2 cm long, brown coloured, mouth oblique, acute, hairy; ligule a fringe of short white hairs. Inflorescence subcompound 3 x 2 cm, loose, rays cymose, ending in single spikelets; bracts 2, suberect, shorter than the inflorescence. Spikelets whitish green, solitary, 5-6 mm long, 2 mm wide, ovoid-acute, brown; rachilla narrowly winged; glumes spiral, basal few empty, ovate-obtuse, apiculate, squarrose, not keeled, 3-nerved with stramineous bands on sides, 2 x 1.5 mm. Stamen 1, anther 0.5 mm long. Style linear, flat, narrowly thickened at base, ciliate in the upper part, 1 mm long; stigmas 2, shorter than the style. Nut obovoid, biconvex, 0.9-1 mm long, 0.7-0.8 mm wide, stramineous, shortly stipitate, verruculose, trabeculate with epidermal cells in 10-16 rows, which are not distinct.

Habitat: It is a herbaceous annual grows in the range of 15-30 cm height. Found at the edges of pools but also in moist and shady places, in dry grassland and along roadsides.

Uses: -

Distribution: Southeast Asia, from India to west Malesia, Philippines. In Indonesia: so far only collected in Java.

Impact: No detail information

Images source: www.plantillustrations.org

References/Notes: 3, 110.

157 *Fimbristylis aphylla* Steud.

Synonyms: *Fimbristylis testui* Cherm./*Fimbristylis vanderystii* De Wild.

Cyperaceae

Origin: S. E. Asia.

Indonesian names: Sie (Tapah); Daun tikar (Manado); Lai, Mansiang macik (West Sumatera); Purun tikus (Lampung, Banjarmasn); Baih-baih, Mansiro baih, M.ibuh, M. Lai, M. pandan (Minangkabau), Mendong (Javanese, Sangir); Nanaiang, Kamun, Berot, Werot, Tehek (North Sulawesi).

English names: -

Description: Tufted perennials; rhizome creeping, woody; culms 60-90 cm tall, acutely 4-5-angled. Sheath rounded, restricted at the base of the stem, very rarely short-bladed. Umbel 7 x 10 cm, globose; bracts filiform; rays many, spreading. Spikelets 4-6 x 3 mm, mostly pedicelled, 50-60 in an inflorescence; glume 2.2 x 1.7 mm, obtuse, 3-nerved, reddish brown. Nut 0.5 x 0.3 mm, obovate, trabeculate, minutely tubercled.

Habitat: Perennial or perhaps also annual found in wet places and swamps.

Uses: -

Distribution: From India to Indochina; in western Malesia and in Philippines. In Indonesia: Sumatra and Java, as far as known; Oil palm plantations (4 years) in South Sumatra.

Impact: No detail information

Images source: -

References/Notes: 3, 13, 110, 167, 301.

158 *Fimbristylis bisumbellata* (Forssk.) Bubani

Synonyms: *Fimbristylis liukiuensis* Tuyama/*Fimbristylis pallescens* (Roxb.) Nees/*Iria bisumbellata* (Forssk.) Kuntze/*Scirpus bisumbellatus* Forssk./*Scirpus pallescens* Roxb.

Cyperaceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Greyish-green, small tufts forming annual, (3-)10-35 cm. Stem terete, 0.5-1 mm diam., glabrous. Leaves c. 1/2 of stem length; sheaths open, villous in upper parts; lowest bladeless, bicarinate, with scarious margins; ligule compact fringe of hairs; blades 0.5-1 mm wide, flat, adaxial side almost glabrous, abaxial side villous esp. in proximal parts, margins towards apex scabrous. Inflorescence to 5 cm diam., with 15-30 spikes, mostly solitary, occasionally a few sessile grouped together; lowest bract usually shorter than inflorescence; peduncles grooved. Spikes 3.5-4.5 x 1.3-1.5 mm, narrowly ellipsoid, more or less angular, acute, light brown to greyish brown; rachis brown to dark brown, with scarious wings; glumes 1.3-1.8 x c. 1 mm, ovate, glabrous or, occasionally, slightly hirsute, keeled, with prominent mid-nerve, arista conspicuous, margins widely scarious, slightly ciliate. Stamens 1, sometimes 0; filaments scarious, compressed; anthers c. 1 mm; style brown, c. 1 mm, flat, ciliate, stylopodium whitish, c. 0.25 x 0.25 mm, stigmas 2. Nut c. 0.8 x 0.7 mm, lenticular, widely obovoid, trabeculate, yellowish to almost white.

Habitat: F. bisumbellata is a herbaceous annual which occurs on the edges of drying pools, in wet flushes, springs, along streams and rivers on sandy river bars. It is also a common weed of rice fields.

Uses: -

Distribution: From the Meditterranean to the tropics of SE. Asia to Australia; rare in Malesia. In Indonesia: with certainty only recorded from Java and Kalimantan.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 148, 162, 167.

159 *Fimbristylis dichotoma* subsp. *podocarpa* (Nees) T. Koyama

Synonyms: *Fimbristylis tomentosa* Vahl/*F. affinis* J. Presl & C. Presl/*F. cincta* Nees//*F. dichotomoides* Tang & F.T.Wang/*F. podocarpa* Nees/*Fimbristylis subtristachya* Steud.

Cyperaceae

Origin: S.E. Asia.

Indonesian names: -

English names: -

Description: Plants annual, cespitose, to 75 cm; rhizomes absent. Leaves nearly distichous, ascending, 1/2–3/4 length of culms; sheath margins ciliolate, adaxial surface sparsely to copiously hirtellous distally; ligule present, complete; blades narrowly linear, 2–4(–5) mm wide, flat to shallowly involute, margins ciliate-scabrid, abaxial surface pilose-hirsute. Inflorescences: anthelae compound, ascending-branched, longer than broad; scapes distally oval or flattened, glabrous to pubescent; longest involucral bract exceeding anthela. Spikelets rusty brown, lanceoloid, 4–6 mm; fertile scales broadly ovate to nearly orbiculate, 2–3 mm, broadly acute, midrib excurrent as mucro or cusp. Flowers: stamens 2; styles 2-fid, flat, fimbriate. Achenes pale to dark brown with pale umbo, lenticular-obpyriform, 1.7–2 mm, finely pitted, appearing nearly smooth, the pits in at least 20 narrow vertical rows per face. 2n = 10.

Habitat: Moist to wet sands, silts or peats of low fields, clearings, waste areas, stream and pond banks, very weedy in ricelands; 0–200m.

Uses: -

Distribution: Tropical Africa, Madagascar, Mauritius, from India to S. China, Micronesia and Tropical Australia, more widely distributed *than F. dhicotoma* (L.) Vahl. in Malesia.

Impact: No detail information

Images source: southeasternflora.com

References/Notes: 3, 88, 141, 169.

160 *Fimbristylis griffithii* Boeckeler

Synonyms: *Fimbristylis aestivalis* var. *glaberrima* Boeckeler/*Fimbristylis aestivalis* f. *glabra* Kük.

Cyperaceae

Origin: Unknown.

Indonesian names: Teki, parang, kodokan, sulang, watu.

English names: -

Description: -Bisa contoh dari spesies Fimbristylis yang lain

Habitat: -

Uses: -

Distribution: Bengal, Burma, Thailand, Indochina, scattered in Malesia. Throughout Indonesia; Sulfat acid soil of Banjar Baru; Trial plantations Banjar Baru, South Kalimantan.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 18, 19.

161 *Fimbristylis ovata* (Burm.f.) J. Kern

Synonyms: *Fimbristylis. compressa* Fern.-Vill./*Fimbristylis. monostachyos* (L.) Hassk./*Abildgaardia compressa* J. Presl & C. Presl/*A. ovata* (Burm.f.) Kral/*Carex ovata* Burm.f./*Iria monostachya* (L.) Kuntze/*Scirpus monostachyus* (L.) Kuntze/*Xyris brasiliensis* Spreng.

Cyperaceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Erect, tufted, rhizomatous perennials; rhizome short, knotty; culms 10-42 cm tall, slender, thickened at base, 3-sided, compressed. Leaves many, 8-26 cm long, 0.5-1 mm wide, slenderly linear, apex subacute, scabrid on upper margins; sheaths 1-5 cm long, straw-coloured. Inflorescence a single terminal spikelet, the lower most glume modified into a setaceous bract, 6-7 mm long. Spikelets 8-15 x 3-6 mm, ovate, acute, slightly compressed, yellow-green. Lower glumes distichous, lower 1-2 glumes empty, awned, the upper ones becoming more or less spirally imbricated, 3-6 x 2-4 mm, broadly ovate, boat-shaped, acute, mucronate, keeled, pale yellowish. Stamens 3. Stigmas 3. Nut 2-2.5 x 1.5-2 mm, obovate, trigonous, shortly stipitate, tuberculate, cream-white.

Habitat: Wet grasslands and marshy areas.

Uses: -

Distribution: Pantropical; everywhere in Malesia, rare in the Malay Peninsula. Throughout Indonesia.

Impact: No detail information

Images source: bp.blogspot.com

References/Notes: 3, 110.

162 *Fimbristylis quinquangularis* (Vahl) Kunth

Synonyms: *Fimbristylis miliacea* (L.) Vahl/*F. angularis* Link/*F. benghalensis* (Pers.) Roem. & Schult.//*F. miliacea* (L.) Vahl//*Iria miliacea* (L.) Kuntze/*Isolepis angularis* Schrad. ex Schult./*I. miliacea* (L.) J. Presl & C. Presl/*Scirpus miliaceus* L./*S. quadrangularis* Thouars/*Trichelostylis angularis* (Link) Nees/*T. miliacea* (L.) Nees/*T. quinquangularis* (Vahl) Nees

Cyperaceae

Origin: Tropical America.

Indonesian names: Babawangan,Panon munding (Sundanese), Tumbaran (Javanese).

English names: Grasslike fimbry and globe fringerush.

Description: Terrestrial, annual or perennial, tufted herb. Roots fibrous, white or brown. Stems erect, flat, solid, glabrous. The stem transversal section is four or five-angled and somewhat flattened. Stipules absent. Leaves simple, not lobed or divided, sessile, linear, more than 2 cm long/wide, margin entire, apex acute, base clasping. Leaf sheath present, rounded or compressed in cross section. Flowers bisexual, grouped together in a terminal umbel, sessile, green or brown, petals absent. Fruit a nut.

Habitat: -

Uses: -

Distribution: Pantropical. Throughout Indonesia; Kalianda, Lampung Selatan; Under growth plant in Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 20, 72, 88, 91.

163 *Fimbristylis schoenoides* (Retz.) Vahl

Synonyms: *F. bispicata* (J.Koenig ex Roxb.) Nees & Meyen/*F. inconstans* Steud./*F. longifolia* S.T. Blake/*Abildgaardia nervosa* J. Presl & C. Presl/*Eleogiton monostachya* (J.Koenig ex Roxb.) A.Dietr./*Iria schoenodes* (Retz.) Kuntze/*Isolepis monostachya* (J.Koenig ex Roxb.) Spreng./*Scirpus monostachyos* J.Koenig ex Roxb./*S. schoenoides* Retz.

Cyperaceae

Origin: S. E. Asia.

Indonesian names: -

English names: -

Description: Annual or perennial, 25-50 cm. Stem slender, terete or compressed, deeply grooved, grey-green. Leaves c. 1/2 of stem length; sheaths to 12 cm, brown, two uppermost longer than other, tight, mouth straight or oblique; ligule c. 0.2 mm, a fringe of hairs, not or slightly arched; blades c. 0.7 mm wide, resembling stem, canaliculate, margins involute, apex long, flat, scabrous. Inflorescence of 1-3 spikes; peduncles to 12 mm, with tubular prophyll; bracts glume-like, 3.4-6.5 mm, incl. arista of 1-4 mm. Spikes 5.4-6.2 x 3.8-4.2 mm, with 30-35 glumes, ovoid or ellipsoid, smoothly rounded, yellow-brown; spike rachis c. 0.8 mm diam., deeply notched, winged with pieces (remnants) from glume bases, reddish brown; glumes 2.5-3 mm, cymbiform, rounded, obtuse to acute, yellowish brown, with 4-6 paler nerves on both sides, glossy. Stamens 3, anthers 0.6-0.8 mm; style caducous, flat, ciliate above, stylopodium 0.3 x 0.2 mm; stigmas 2. Nut 1.6-1.9 x 1.1-1.2 mm, incl. stipe c. 0.2 mm, obovoid, bi- finely reticulate, pale yellow brown, glossy.

Habitat: Mostly wet disturbed open places.

Uses: -

Distribution: S.E. Asia, India, S. China, from Taiwan to Tropical Australia, introduced but still rare in America, scattered in Malesia. Throughout Indonesia, except Sulawesi, the Moluccas, and Papua, as far as known; East Africa (rare), India, Indo-China, Taiwan, Peninsular Malaysia, Sumatra, Borneo, Java, the Lesser Sunda Islands (Bali and Nusa Tenggara), the Philippines, and Tropical Australia; introduced into N. America.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 80, 162, 168.

164 *Fimbristylis umbellaris* (Lam.) Vahl

Synonyms: *Fimbristylis globulosa* (Retz.) Kunth/*Fimbristylis efoliata* Steud./*Fimbristylis torresiana* Gaudich.//*Dichostylis torresiana* Gaudich./*Iria globulosa* (Retz.) Kuntze/*Isolepis globulosa* (Retz.) Schult./*Scirpus globulosus* Retz./*Scirpus umbellaris* Lam./*Trichelostylis globulosa* (Retz.) Nees

Cyperaceae

Origin: S. E. Asia.

Indonesian names: Sie(Tapah); Daun tikar (Manado); Lai, Mansiang macik (West Sumatra), Purun tikus (Lampung, Banjarmasin); Baih-baih, Mansiro baih, M. ibuh,M. lai, M. pandan (Minangkabau); Mendong (Java, Sangir); Nanaiang, Kamun,Berot, Werot, Tehek (North Sulawesi); Tiohu (Gorontalo); Tokogu (Buol);Tuyu(Palu).

English names: Fimbry, fimbristyle, or fringe-rush.

Description: - Bisa contoh dari spesies Fimbristylis yang lain

Habitat: -

Uses: -

Distribution: From India trough China to Micronesia and Polynesia; scattered in Malesia. Throughout Indonesia; Tidal areas of South Kalimantan (Banjarmasin) and Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: catalog.digitalarchives.tw

References/Notes: 3, 31, 88.

165 *Fuirena ciliaris* (L.) Roxb.

SynonymsSynonim: *F. glomerata* Lamk./*F. rottboellii* Nees/*F. striata* Llanos/*Scirpus aristatus* Willd./*S. ciliaris* L.

Cyperaceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Erect, tufted, non-rhizomatous annual herbs; culms 10-34 cm tall, slender, obtusely angular, 2-4-noded, pubescent. Leaves 2.5 - 9 x 0.3-0.6 cm, linear or linear-lanceolate, base rounded, apex acute, wholly pubescent, 3-5-nerved, basal leaves reduced to bladless sheaths; sheaths to 2.5 cm long; ligules 1-2 mm long, hairy. Inflorescence with 1 to 3 glomerulous clusters of spikelets; clusters 1-2 cm across, bearing 4-10 spikelets; bracts leaf-like. Spikelets 5-10 x 2.5 - 3.5 mm, ovate or oblong-elliptic, squarrose, pubescent. Glumes spiral, 1.5-2 x 1 mm, oblong-obovate, pubescent, 3-nerved; awn c. 1 mm long, recurved. Hypogynous bristles 3, scabrid. Hypogynous scales 3, c. 1 x 0.5 mm, longitudinally rectangular with 3-denticulate apex, base long-stipitate. Stamens 3. Stigmas 3, papillose. Nuts c. 1 x 0.5 mm, obovate to elliptic, triquetrous.

Habitat: Grows in seasonally wet ground, swamps, pools and lake edges. Also in seasonally flooded grasslands and savannas. Appears to be tolerant of disturbance and grows in rice paddies and other very wet cultivated areas.

Uses: -

Distribution: Tropics of Asia and Africa, also in Australia. Throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 110.

166 *Galinsoga parviflora* Cav.

Synonyms: *G. hirsuta* Baker/*Adventina parviflora* (Cav.) Raf./*Baziasa microglossa* Steud./*Sabazia microglossa* DC./*Stemmatella sodiroi* Hieron./*Vigolina acmella* (Roth) Poir./*Wiborgia acmella* Roth/*W. parviflora* (Cav.) Kunth

Asteraceae

Origin: Peru.

Indonesian names: Rumput liar kuning; Batakacut, Balaketut, Jukut saminggu, Balinggang (Sundanese); Bribil, Kuningan, Mondreng, Pakelele (Javanese).

English names: Gallant soldier.

Description: Galinsoga parviflora is a annual growing to 0.6 m (2ft). It is in flower from May to October. The flowers are hermaphrodite (have both male and female organs) and are pollinated by Insects, self.The plant is self-fertile.

Habitat: Cultivated Beds.

Uses: -

Distribution: Long ago introduced in Java and there a very common weed; Naturalized in Java; Tropical America origin, now world-wide; Tropical. Temperate and subtropical regions. Has spread throughout Indonesia, except Kalimantan and the Moluccas; Madiredo village, kecamatan Pujon, kabupaten Malang; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: A common weed, of tea plantations and vegetable fields

Images source: wikimedia.com

References/Notes: 1, 3, 22, 34, 70, 95.

167 *Gigantochloa apus* (Schult.) Kurz

Synonyms: *Gigantochloa kurzii* Gamble/*Arundarbor apus* (Schult.) Kuntze/*Bambusa apus* Schult. f./*Oxytenanthera apus* (Schult.) E.G. Camus/*Schizostachyum apus* (Schult.) Steud.

Poaceae

Origin: Myanmar and S. Thailand.

Indonesian names: Tali Bambu, bambu tali, pring tali, pring apus.

English names: Tropischer Bambus /Tropical Bamboo.

Description: Rough clump making by the culms of 4-13 cm in diameter and 8-30m high.Culm sheath is persistent on culm, so that it is easy to find this species, because of looking like white sheath.It is said the shoot is bitter, but delicious if cooked after sunk into mud for 3 or 4 days. Height:15 - 30 Meter, diameter 10 - 16 Centimeter. Cultivated in Guangzhou, Hua'an and in many regions of South-East-Asia.

Habitat: -

Uses: In Java this bamboo is sidely used for construction, roof, bridge materials and making various baskets.

Distribution: It was possibly introduced to Java during prehistoric human migrations. In Java it is now widely cultivated, but wild or naturalized populations of G. apus also occur on Mt. Salak (West Java) and in Blambangan (East Java). In Indonesia it has spread to South Sumatra, Central Sulawesi and Central Kalimantan. Occasionally it is cultivated in experimental or botanical gardend in the tropics.

Impact: No detail information

Images source: Foris-Indonesia

References/Notes: 50, 222.

168 *Gigantochloa balui* K.M. Wong

Synonyms: No synonym

Poaceae

Origin: Uncertain/(possibly) Indo China.

Indonesian names: Bambu Abe.

English names: -

Description: Perennial; caespitose. Rhizomes short; pachymorph. Culms erect; 1000–1200 cm long; 60–80 mm diam; woody. Culm-internodes terete; thin-walled; 20–40 cm long; light green; distally pubescent. Lateral branches dendroid. Bud complement 1. Branch complement one, or two, or three. Culm-sheaths pubescent; with appressed hairs; with white hairs; auriculate; with 2.5 mm high auricles; ciliate on shoulders. Culm-sheath ligule 4 mm high. Culm-sheath blade lanceolate; spreading, or reflexed. Leaf-sheath auricles erect; 1 mm long. Ligule an eciliate membrane; 1 mm long. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate; glaucous. Leaf-blade surface pubescent; hairy adaxially.

Habitat: -

Uses: -

Distribution: This bamboo is always found in association with settlement in Sabah Sarawak (Malaysia), Brunei and W. Kalimantan (Indonesia) but has never been noted in situations where it might be truly considered wild.

Impact: No detail information

Images source: www.tropicalbamboo.com

References/Notes: 50, 196, 223.

169 *Gigantochloa manggong* Widjaja

Synonyms: No synonym

Poaceae

Origin: Not known.

Indonesian names: bamboo manggong, prong manggong, tiying jahe.

English names: -

Description: Perennial; caespitose; clumped densely. Rhizomes short; pachymorph. Culms erect; 1000–1500 cm long; 50–70 mm diam; woody. Culm-internodes terete; thick-walled; 31–35 cm long; light green, or mid-green; smooth. Lateral branches dendroid. Buds or branches absent from lower quarter of culm. Branch complement several; with 1 branch dominant. Culm-sheaths tardily deciduous; 30–33 cm long; yellow; hispid; with appressed hairs; with dark brown hairs; truncate at apex; auriculate; with 2–4 mm high auricles; glabrous on shoulders. Culm-sheath ligule 5 mm high; dentate. Culm-sheath blade triangular; deciduous; erect; 18–25 cm long; 90–110 mm wide. Leaf-sheaths deciduous; hispid. Leaf-sheath auricles erect; 1 mm long. Ligule an eciliate membrane; 1 mm long; erose. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath; petiole 0.2–0.4 cm long. Leaf-blades lanceolate; 27–29 cm long; 30–40 mm wide. Leaf-blade surface glabrous.

Habitat: Grow wild in dry tropical areas and lowland.

Uses: Construction (wall, rood, poles and frame), raw materials for toothpick, chopstick, and satay stick, and good for pulp and paper.

Distribution: It grows wild in East Java (Meru Betiri National Park, Soko, Licin, Kalisetail) and in Bali (Candikuning), but it is quite rare; Occasionally it is also planted in botanical or experimental gardens (Java:Purwodadi, Bandung; India; Amherst).

Impact: No detail information

Images source: www.flickr.com

References/Notes: 50, 196, 223.

170 *Gigantochloa nigrociliata* (Buse) Kurz

Synonyms: *Gigantochloa andamanica* (Kurz) Kurz/*Bambusa andamanica* Kurz/*Bambusa nigrociliata* Buse/*Oxytenanthera nigrociliata* (Buse) Munro/*Pseudoxytenanthera nigrociliata* (Buse) T.Q.Nguyen/*Schizostachyum serpentinum* Kurz

Poaceae

Origin: Not known.

Indonesian names: Awi lengka (Indonesia - Sundanese), Awi ular (Indonesia - Sundanese), Bambu lengka, Tiying tabah (Bali).

English names: -

Description: Perennial; caespitose; clumped loosely. Rhizomes short; pachymorph. Culms erect; 1500–2000 cm long; 30–60 mm diam; woody. Culm-internodes terete; thin-walled; 20–35 cm long; light green; distally pubescent. Lateral branches dendroid. Culm-sheaths tardily deciduous; 11–18.5 cm long; hispid; with appressed hairs; with dark brown hairs; auriculate; with 2–4 mm high auricles. Culm-sheath ligule 2–3 mm high; dentate. Culm-sheath blade triangular; erect, or spreading; 6–10 cm long; 20–35 mm wide; acute. Leaf-sheath auricles erect; 1 mm long. Ligule a ciliolate membrane; 1–2 mm long. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath; petiole 0.3–0.6 cm long. Leaf-blades lanceolate; 19.5–35 cm long; 25–45 mm wide. Leaf-blade surface puberulous; hairy abaxially.

Habitat: -

Uses: -

Distribution: It grows wild in Indonesia (West Java and North Sumatra) and in S. Thailand. Formerly it also occured widely in East Java, Bali and East Indonesia where it has become rare.

Impact: No detail information

Images source: bambooland.com.au

References/Notes: 50, 223, 282.

171 *Gigantochloa robusta* Kurz

Synonyms: No synonym

Poaceae

Origin: Unknown.

Indonesian names: Awi mayan, Buluh riau (West Sumatra), Rebong (Singapore), Rebung (Indonesia), Tiying jelepung (Bali).

English names: -

Description: Perennial; caespitose; clumped densely. Rhizomes short; pachymorph. Culms erect; 1500–2000 cm long; 70–90 mm diam; woody; with aerial roots from the nodes. Culm-internodes terete; thin-walled; 30–40 cm long; light green and yellow; striped; distally pubescent. Lateral branches dendroid. Culm-sheaths deciduous; 17–35 cm long; hispid; with dark brown hairs; truncate at apex; auriculate; with 7 mm high auricles; ciliate on shoulders; shoulders with 5 mm long hairs. Culm-sheath ligule 5 mm high; fimbriate. Culm-sheath blade triangular; reflexed; 10–14 cm long; 35–50 mm wide. Leaf-sheath oral hairs setose; 5 mm long. Leaf-sheath auricles erect; 1 mm long. Ligule a ciliate membrane; 1 mm long. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath; petiole 0.4 cm long. Leaf-blades lanceolate; 15–27 cm long; 25–50 mm wide. Leaf-blade surface pubescent; hairy abaxially.

Habitat: -

Uses: -

Distribution: Found growing wild in Java (Banten and Banyuwangi). It is mainly known from cultivation in Sumatra, Mentawai Islands, Java and Bali.

Impact: No detail information

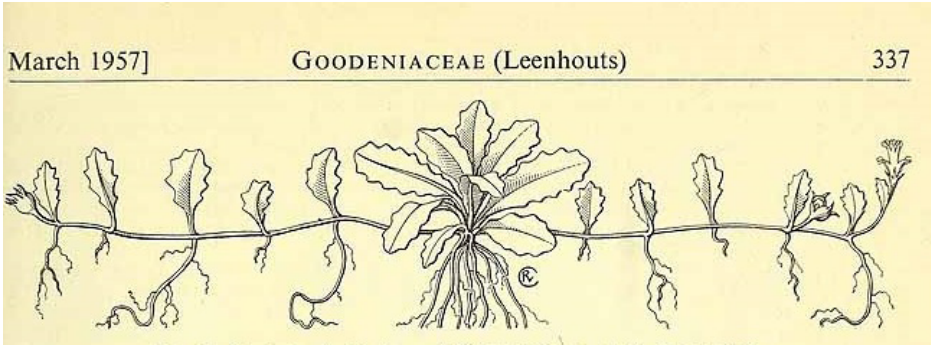
Images source: bambooland.com.au

References/Notes: 50, 223, 282.

172 *Goodenia konigsbergeri* (Backer) Backer ex Bold.

Synonyms: No synonym

Goodeniaceae



Origin: Unknown.

Indonesian names: -

English names: -

Description: Creeping, glabrous (except hair-tufts in the axil of young leaves) slightly succulents, annual herbs. Stem has a rooting, terete, slender, up to 50 cm long. Leaves is radical and cauline, pale green, obovate to spathulates. Flowers are solitary, axillary, 7-10 mm long, and glabrous. Stamens 2.5 – 5 mm long and connective acuminate. Seeds, 2-6, elliptic, compressed.

Habitat: dry rice fields, of heavy, poorly drained clay-flats, in open places, restricted to low altitudes, up to 400 m, in distinctly seasonal regions, often gregarious. Flowering during Dec-August and fruiting during Febr-May.

Habitat: -

Uses: -

Distribution: Siam, Cambodia, and Malaysia, Java (from Indramayu eastward), Madura, Kangean and Timor.

Impact: Becoming a weed in dry rice-fields.

Images source: plantillustrations.org

References/Notes: 3, 317.

173 *Grangea maderaspatana* (L.) Poir.

Synonyms: *Grangea strigosa* Gand./*Artemisia maderaspatana* L./*Cotula anthemoides* Lour./*Cotula maderaspatana* (L.) Willd./*Tanacetum aegyptiacum* Juss. ex Jacq.

Asteraceae


Origin: India.

Indonesian names: Marcella; Kembang paku konde, Serawan hutan (Indonesia).

English names: Madras Carpet.

Description: Madras Carpet is a herb commonly seen in flat bunches in harvested fields, dry river and pond beds. This hairy, branched herb spreads from the roots and grows up to 70 cm in height. The buds are white and woolly. The leaves are alternate, stalkless, deeply cut, and divided into toothed lobes. Yellow flowering heads are borne opposite the leaves, and are short- stalked, rounded, and 8-10 mm across. The flowers are small, very numerous. The involucral-bracts are ovate, thick, rigid, and hairy. The achenes are cylindric, glandular, and about 2 mm long. The papus-hairs are connate, ending in a short, fimbriate tube.

Habitat: -

Uses: Leaves are regarded in India as a valuable stomachic possessing deobstruent and antispasmodic properties, and are prescribed as an infusion and an electuary in cases of obstructed menses and hysteria.

Distribution: Africa, Srilanka, India, China, Indochina, Malesia (Sumatra, Java, Sumba, Timor, and Luzon); Tropical Asia. In Indonesia: in Java, Sumatra and the Lesser Sunda Island; Tidal areas of South Kalimantan (Belandean, Handil Manarap).

Impact: No detail information

Images source: flickr.com

References/Notes: 2, 3, 31, 125.

174 *Hackelochloa granularis* (L.) Kuntze

Synonyms: *Menisuris granularis* (L.) L.f. *Mnesithea granularis* (L.) de Koning & Sosef/*Rottboellia granularis* (L.) Roberty/*Rytilix granularis* (L.) Skeels/*Tripsacum granulare* (L.) Raspail

Poaceae

Origin: Pantropics.

Indonesian names: -

English names: Pit-Scale Grass

Description: Annual. Culms erect; 5–100 cm long. Culm-nodes bearded. Leaf-sheaths loose, or inflated; hirsute; with tubercle-based hairs. Ligule a ciliolate membrane. Leaf-blade base cordate. Leaf-blades linear to lanceolate; 2–15 cm long; 4–12 mm wide. Leaf-blade surface hirsute; with tubercle-based hairs. Leaf-blade margins ciliate.

Habitat: Growing in open and wooded grassland, along roadsides and as a weed of alfalfa, cotton and maize 400–1800 m.

Uses: -

Distribution: Pantropical. Throughout Indonesia.

Impact: No detail information

Images source: www.westafricanplants.senckenberg.de

References/Notes: 3, 223.

175 *Heliotropium curassavicum* L.

SynonymsSybonym: *Heliotropium angustifolium* Raf./*Heliotropium chilense* Bertero/ *Heliotropium glaucum* Salisb./*Heliotropium portulacoides* DC. ex Bello/*Coldenia succulenta* Peter

Boraginaceae

Origin: Coastal areas of S. America.

Indonesian names: -

English names: Seaside Heliotrope, Salt Heliotrope, Monkey Tail, Quail Plant and "Chinese parsley".

Description: This is a perennial herb which can take the form of a prostrate creeper along the ground to a somewhat erect shrub approaching 0.5 m (1.6 ft) in height. The stem and foliage are fleshy, with the leaves thick and oval or spade-shaped. The plentiful inflorescences are curled, coiling double rows of small bell-shaped flowers. Each flower is white with five rounded lobes and a purple or yellow throat. The fruit is a smooth nutlet.

Habitat: Agricultural areas, coastland, estuarine habitats, range/grasslands, ruderal/disturbed.

Uses: Medicines.

Distribution: Many years ago in Bogor Botanic Garden on soil of Peruvian origin; In Malesia ocasionally occuring as a weed in Java and the Philippines.

Impact: As a weed

Images source: floradecordoba.com.ar

References/Notes: 1, 75, 88, 104.

176 *Heliotropium indicum* L.

Synonyms: *Heliophytum indicum* (L.) DC./*Eliopia riparia* Raf./*Eliopia serrata* Raf./*Tiaridium indicum* (L.) Lehm./*Heliotropim cordifolium* Moench

Boraginaceae

Origin: Asia.

Indonesian names: Sangketan, Gajahan, langun, uler-uleran, sangketan, cocok bero, Tlale gajah, tulale gajah (Javanese), Bandotan lombok,; Buntut tikus, ekor anjing, tusuk konde (Sumatera).

English names: Indian heliotrope, Indian turn-sole, Erysipela plant.

Description: Terrestrial, annual, erect herb, up to 75 cm tall. Taproot white or brown. Stems erect, grooved, hollow, hairy. Stipules absent. Leaves simple, not lobed or divided, alternate, spiral, or sometimes basal ones opposite, stalked, ovate, more than 2 cm long/wide, hairy, scabrous, margin entire, apex acute, base obtuse or rounded, pinnately veined. Flowers bisexual, grouped together in a many-flowered, terminal, elongated cyme, blue with a orange throat, petals 5, fused. Fruit nut-like.

Habitat: Waste places and settled areas.

Uses: In fusion of the leaves and young shoots are used to treat nettle rash. Infusion of the flowers taken in small doses regulates menstruation, where large doses are abortive. Decoction of the leaves are used as a vermifuge. Juice of the leaves is antiseptic and anti-inflammation and applied to wounds, sores, boils, gum-boils and pimples on the face. Boiled with castor oil, it is applied to scorption bites. It is also employed locally in nophthalmia, when the cornea is inflamed or excoriated.

Distribution: Throughout Indonesia, except Papua and the Moluccas; Weed of cabbage plantations Cibungbulang, Bogor.

Impact: Weed of cabbage plantations

Images source: jamunusantara.com

References/Notes: 3, 44, 88, 91, 298.

177 *Hybanthus attenuatus* (Humb. & Bonpl. ex Schult.) Schulze-Menz

Synonyms: *Calceolaria riparia* (Kunth) Kuntze/*Ionidium riparium* A. Gray/*Mercurialis glabra* M.E.Jones

Violaceae

Origin: S. America.

Indonesian names: -

English names: Green violet.

Description: Erect annual herb to 50 cm tall, sometimes much-branched. Stems terete, hollow, with 2 or 3 longitudinal rows of hairs. Leaves alternate, shortly petiolate; blade ovate to oblong, 3-8 - 1-3 cm. Flowerszygomorphic, solitary in leaf axils; peduncle 2 cm long. Sepals 5, subequal, 2-4 mm long. Petals 5, unequal; upper petals white, 2.5-3.5 mm long; lateral petals 4-4.5 mm long, purple-striped; lower petal white, oval to kidney-shaped, 8-10 mm long including a claw 4-5 mm long. Fruit a nodding, globular capsule, 4-5 mm long, elastically dehiscent. Seeds subglobose with a crater-like top, smooth, black speckled with white.

Habitat: Disturbed situations and cultivation.

Uses: -

Distribution: In Indonesia, has so far been found only in C Java (1978).

Impact: No detail information

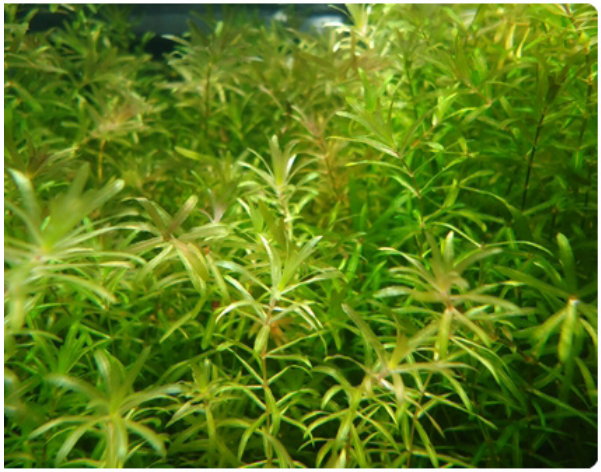
Images source: phytoimages.siu.edu

References/Notes: 3, 103, 194.

178 *Hydrilla verticillata* (L.f.) Royle

Synonyms: *Hydrilla lithuanica* (Rchb.) Dandy/*Hydrilla polysperma* Blatt./*Elodea verticillata* (L.f.) F. Muell./*Hydrospondylus submersus* Hassk./*Serpicula verticillata* L.f./*Udora verticillata* (L.f.) Spreng./*Vallisneria verticillata* (L.f.) Roxb.

Hydrocharitaceae



Origin: -

Indonesian names: Ganggang hijau.

English names: Waterthyme.

Description: Rhizomes and erect stems with turions; subterranean turions cream-brown, appearing as tubers, surface smooth; turions from erect stems olive-green, covered with short, stiff scales. Leaves 8--15(--20) ′ 1.2--4 mm, margins serrulate. Inflorescences: spathe of 2 connate bracts. Flowers 1 per spathe; staminate pedicels 0.5 mm; pistillate flowers with floral tube 10--50 mm; ovary 1-locular. 2n = 32.

Habitat: It grows in a variety of aquatic habitats ranging from acidic to basic, oligotrophic to eutrophic, fresh to brackish, and from a few centimeters to a meter or more if light penetrates that deeply.

Uses: -

Distribution: From S. and E. Europe, Africa, S. and E. Asia to Australia, very common in W. Malesia. Throughout Indonesia; Tidal areas of South Kalimantan (Banjarmasin).

Impact: No detail information

Images source: flickr.com

References/Notes: 3, 31, 162, 196.

179 *Hydrocotyle sibthorpioides* Lam.

Synonyms: *Hydrocotyle monticola* Hook. f./*Hydrocotyle rotundifolia* Roxb. ex DC./*Hydrocotyle tenella* Buch.-Ham. ex D. Don/*Chondrocarpus sibthorpioides* Sweet/*Hydrocotyle keelungensis* Liu, Chao & Chuang

Apiaceae/Umbeliferae

Origin: Asia.

Indonesian names: Semanggi gunung.

English names: Lawn Marshpennywort.

Description: Menyusul

Habitat: It is highly adaptable and can live on dry land as well as in waterbodies. It is considered an invasive weed in lawns, boggy areas and on the banks of small rivers and rivulets in many regions.

Uses: Hydrocotyle sibthorpioides is a wonderful fore- and middleground plant in the aquarium.

Distribution: Australia, Tropical Asia, Africa (?), S. America,. Everywhere in Malesia. Throughout Indonesia; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali

Impact: As a weed in the vegetable fields

Images source: wikimedia.org

References/Notes: 3, 70, 171, 225, 281

180 *Hydrolea spinosa* L.

Synonyms: *H. capsularis* (L.) Druce/*H. elegans* A.W. Benn./*H. trigyna* Sw./*Lycium capsulare* L./*Nama elegans* (A.W. Benn.) Kuntze/*N. spinosa* (L.) Kuntze/*Reichelia guianensis* Spreng./*Sagonea palustris* Aubl./*Wigandia herbacea* Choisy

Hydrophyllaceae

Origin: Tropical America.

Indonesian names: Jeruju.

English names: Spiny false fiddleleaf.

Description: -

Habitat: -

Uses: -

Distribution: Long ago introduced in Java; found there for the first time about 1893; regions between Jakarta and Bogor; Northern part of West Java; Tidal areas of South Kalimantan (Banjarmasin, Barambai, Belandean, Sakalagun).

Impact: No detail information

Images source: wikimedia.org

References/Notes: 1, 3, 31, 236, 237.

181 *Hydrolea zeylanica* (L.) Vahl

Synonyms: *H. arayatensis* Blanco/*H. inermis* Lour./*H. javanica* Blume/*Beloanthera oppositifolia* Hassk./*Nama zeylanica* L./*Steris aquatica* Burm. f./*S. javanica* L.

Hydrophyllaceae

Origin: India.

Indonesian names: -

English names: Ceylon hydrolea.

Description: Terrestrial, perennial, tufted or prostrate her. Roots fibrous, white or brown. Stem rounded, solid, glabrous or hairy, rooting at the nodes. Stipules absent. Leaves simple, not lobed or divided, alternate spiral, stalked, lanceolate, hairy on both sides, margins entire, apex acute, base acute, one veined or pinnately veined. Flowers bisexual, solitary or grouped in a terminal or axillary inflorescences, stalked, petals 5, white or blue. Fruits a capsule, opening with 2 valves.

Habitat: In permanently or periodically swampy or inundated sites; in areas with or without a pronounced dry season; pools, river-banks; often occur gregariously. From 0-1000 m alt. lowland-irrigated rice fields.

Uses: Medicinal use:In traditional Cambodia medicine, the leaves are prescribed for intestinal disorders. Macerate, the leaves are applied and callous ulcers for soothing and healing properties. It also possesses some antiseptic properties.Young shoots are eaten as a vegetable; leaves are used as a poultice for ulcers.

Distribution: India, W. Malesia, Philippines. Throughout Indonesia, except the Moluccas and Papua, as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 91.

182 *Hymenachne amplexicaulis* (Rudge) Nees

Synonyms: *Hymenachne acutigluma* (Steud.) Gilliland/*H. pseudointerrupta* C. Muell./*Agrostis monostachya* Poir./*Panicum acutiglume* Steud./*P. amplexicaule* Rudge/*P. hymenachne* Desv.

Poaceae

Origin: India.

Indonesian names: -

English names: -

Description: Tall, stoloniferous perennial, culms to 2 m; panicles narrow 15 cm long (Henty, 1969).

Habitat: In shallow water at the margins of swamps and slow rivers in the tropics of Australia and Papua New Guinea.

Uses: -

Distribution: India, Burma, Thailand. Throughout Indonesia, except the Lesser Sunda Island, as far as known; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 31, 207.

183 *Hypericum mutilum* L.

Synonyms: *Hypericum crux-andreae* (L.) Crantz/*Hypericum euphorbioides* A. St.-Hil./*Hypericoides crux-andreae* (L.) Poir./*Ascyrum michauxii* Spach/*Brathys euphorbioides* Spach/*Knifa brevistylis* Raf./*Sarothra mutila* (L.) Y. Kimura

Hypericaceae

Origin: Asia.

Indonesian names: -

English names: -

Description: Terrestrial, annual, tufted herb, up to 40 cm tall. Roots fibrous, white or brown. Stem erect or procumbent, quadrangular, solid, glabrous. Stipules absent. Leaves simple, not lobed or divided, opposite, sessile, ovate, less than 2 cm long/wide, glabrous on both sides, dots present, margin entire, apex obtuse, base cordate, parallel-veined. Flowers bisexual, grouped in a terminal one to few-flowered cyme, stalked, petals 5, yellow. Fruits a capsule, opening with 3 valves.

Habitat: Wet or marshy sites; ditches, stream banks to dry places, roadsides and road banks, terrace banks, sunny places; 0-3400 m alt; sometime abundant. Upland rice fields.

Uses: -

Distribution: From Japan, S. Korea and S.E. China to Ceylon; Australia, New Zealand, Hawaii; throughout Malesia. Throughout Indonesia, except the Moluccas and Lesser Sunda Islands, as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 91.

184 *Hyptis brevipes* Poit.

Synonyms: *H. acuta* Benth./*H. melanosticta* Griseb./*H. radiata* Kunth/*Lasiocorys poggeana* (Briq.) Baker/*Leucas globulifera* Hassk./*L. poggeana* Briq./*Mesosphaerum brevipes* (Poit.) Kuntze/*Pycnanthemum subulatum* Blanco/*Thymus biserratus* Blanco

Lamiaceae

Origin: Mexico.

Indonesian names: Mata munding (Sundanese).

English names: -

Description: Erect herb 0.5-1.5 m tall. Stems with a single deep longitudinal groove. Leaves opposite, narrowly lanceolate to oblong, 4-8 - 1-2.5 cm, with toothed margins; petiole 0.5-1 cm, hairy. Flowers in pale green globose heads, on axillary stalks 5-12 mm long; flower heads 6-8 mm diameter, expanding to 8-14 mm diameter in fruit, bracts linear to narrowly lanceolate, 4-6 mm long. Calyx gland-dotted, tubular, 3-5 mm long in fruit. Corolla irregular, 5-lobed, 3-4 mm long, white. Anthers purple. Fruit a brownish black, minutely wrinkled nutlet, 0.7 mm long. Habitat:Weed of waste places, becoming abundant in fallow ground. Prefers a wet tropical climate, less common in regions with a seasonal wet/dry regime. 0-1200 m altitude. Weed of plantation crops, rice, fallow ground and forest margins. Potential pasture weed.

Habitat: -

Uses: -

Distribution: Since long naturalized in Java; common in West and Central Java, less common in East Java; Pantropical., a long time ago naturalized in Indonesia. Throughout Indonesia; Oil palm plantations (4 years) South Sumatra; Cihea Cianjur, West Java; Sugarcane factory garden Camming, South Sulawesi; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Handil Manarap) and Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 3, 13, 21, 25, 31, 103, 194, 291.

185 *Hyptis capitata* Jacq.

Synonyms: *Hyptis decurrens* (Blanco) Epling/*Clinopodium capitatum* (Jacq.) Sw./*Mesosphaerum capitatum* (Jacq.) Kuntze/*Pycnanthemum decurrens* Blanco/*Hyptis mariannarum* Briq.

Lamiaceae

Origin: Tropical America.

Indonesian names: -

English names: Knob-weed; Hyptis.

Description: Stem: Flowers and fruits as a shrub about 1-2 m tall.

Leaves: Leaf bearing twigs +/- 4-angled, leaves and stems emit a strong odour when crushed. Leaf blades about 6-14 x 1.5-6 cm with numerous pale glands visible on the underside. Upper surface of the leaf blade clothed in quite stout septate hairs. Hairs on the underside of the leaf blademuch more slender than those on the upper surface.

Flowers: Flowers in dense globular heads. Calyx about 3-4 mm long, pubescent on the outer surface, inner surface glabrous except at the base. Corollaabout 5-6 mm long. Anthers pink, red-brown or purple with a yellow gland on the back. Ovary 4-lobed, glabrous, style inserted in the centre of the lobes.

Fruit: Calyx pubescent, persistent, enclosing the nutlets. Nutlets +/- ovoid, about 1.2-2 mm long with a bilobed scar at the base. Nutlets not swelling or becoming transformed in any way when boiled in water.r

Habitat: Altitudinal range from near sea level to 750 m. Usually found on degraded farmland and along roads and clearings in lowland rain forest.

Uses: -

Distribution: Since long naturalized in Java and Madura; Pantropical, introduced in Java in 1880. Throughout Indonesia; Cashew nuts plantations South Sulawesi; Cihea Cianjur, West Java; Undergrowth plant at Puwodadi Botanical Garden, Kabupaten Pasuruan, East Java.

Impact: No detail information

Images source: Foris-Indonesia

References/Notes: 1, 3, 11, 21, 72, 118.

186 *Hyptis pectinata* (L.) Poit.

Synonyms: *Hyptis persica* (Spreng.) Poit./*Ballota parviflora* Sessé & Moc./*Brotera persica* Spreng./*Bystropogon pectinatus* (L.) L'Hér./*Clinopodium imbricatum* Vell./*Mentha perilloides* L./*Mesosphaerum pectinatum* (L.) Kuntze/*Nepeta persica* Poit. ex Benth./*Pogostemon perilloides* (L.) Mansf./

Lamiaceae.

Origin: Tropical America.

Indonesian names: -

English names: -

Description: Slender erect herbaceous subshrub with 4-angled puberulent stems; foliage aromatic if rubbed and crushed; leaves ovate or ovate-elliptic, cuneate to rounded (even subcordate) at base, acute or blunt at tip, puberulent or glabrescent dorsally, crenate-serrate, 2-9 cm long, 1-6 cm wide; flowers subsessile, white to pale violet, in cymules axillary to reduced leaves, subtended by linear pubescent bracts 1-3 mm long; calyx about 2 mm, enlarging in fruit to 4 mm; corolla 2.5 mm, lower lip darker; filaments somewhat pubescent; nutlets oblong, 1 mm long, black.» «Robust plants may reach up to 4 m tall.

Habitat: -

Uses: -

Distribution: Since long naturalized in West Java between Bogor and Sukabumi.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 103, 195.

187 *Hyptis suaveolens* (L.) Poit.

Synonyms: *Ballota suaveolens* L./*Bystropogon suaveolens* (L.) L'Hér./*Gnoteris villosa* Raf./*Hyptis graveolens* Schrank/*Marrubium indicum* Blanco/*Mesosphaerum suaveolens* (L.) Kuntze/*Schaueria graveolens* (Blume) Hassk./*Schaueria suaveolens* (L.) Hassk.

Lamiaceae

Origin: Tropical America.

Indonesian names: Gringsingan.

English names: Pignut, chan.

Description: Terrestrial, annual, erect, aromatic herb, up to 200 cm tall. Taproot white or brown. Stem quadrangular, hollow, (glandular) hairy. Leaves simple, entire, opposite, stalked, ovate, hairy on both sides, margin coarsely dentate, papillae present, apex acute, base cordate or rounded, pinnately veined. Flowers bisexual, gouped together in an axillary head, sessile, petals 5, white. Fruit a nut.

Habitat: Widely spread at low altitudes.

Uses: -

Distribution: Since long introduced in Java and Madura; Now distributed and naturalized pantropically, including SE. Asia. Occasionally cultivated in Mexico and India.

Impact: No detail information

Images source: telmajr.files.wordpress.com

References/Notes: 1, 76, 88, 91, 283.

188 *Impatiens balsamina* L.

Synonyms: *Impatiens coccinea* Sims/*Impatiens cornuta* L./*Impatiens stapfiana* Gilg/*Balsamina angustifolia* Blume/*B. mollis* G. Don

Balsaminaceae

Origin: India & SE. Asia.

Indonesian names: Bunga pacar air, Sumatera: Lahine, paruinai, Jawa: pacar cai, pacar banyu; Kimhong (Jakarta), Nusatenggara: pacar foya, pacar aik; Sulawesi: Tilang-gele duluku, kolendingi unggaagu; Bunga jabelu, giabebe, gofu, laka gofu, bunga taho, inai anyer. (Maluku).

English names: Garden balsam, garden jewelweed, rose balsam, touch-me-not.

Description: It is an annual plant growing to 20–75 cm tall, with a thick, but soft stem. The leaves are spirally-arranged, 2.5–9 cm long and 1–2.5 cm broad, with a deeply toothed margin. The flowers are red, pink, purple, or white, and 2.5–5 cm diameter; they are pollinated by bees and other insects, and also by nectar-feeding birds. The ripe seed capsules undergo explosive dehiscence.

189 *Imperata cylindrica* (L.) Beauv.

Synonyms: *Imperata allang* Jungh., *I. angolensis* Fritsch, *I. arundinacea* Cirillo, *I. dinteri* Pilg., *Lagurus cylindricus* L., *Saccharum cylindricum* (L.) Lam., *S. thunbergii* Retz.

Poaceae

Habitat: Waste places in and around villages. Cultivated Beds.

Uses: Antibiotic, cancer, cathartic, diuretic, emetic, expectorant, poultice, tonics, warts.

Distribution: In Java often cultivated, and sometimes naturalized; It is widely cultivated and often naturalized in tropical and subtropical regions. Throughout SE. Asia it is commonly grown in gardens; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java.

Impact: Weed of tea plantations

Images source: wikimedia.org

Origin: Tropical Asia.

Indonesian names: Alang-alang

English names: Blady grass, cogon grass, kunai grass or Japanese bloodgrass.

Description: Perennial rhizomatous. Grows from 0.6–3 m (2–10 feet) tall. Leaves about 2 cm wide near the base of the plant and narrow to a sharp point at the top; margins finely toothed and embedded with sharp silica crystals. The main vein a lighter colour than the rest of the leaf and tends to be nearer to one side of the leaf. Upper surface hairy near the base of the plant while the underside usually hairless. Roots up to 1.2 m deep, but 0.4 m is typical in sandy soil.

Habitat: agricultural areas, coastland, natural forests, planted forests, range/grasslands, riparian zones, ruderal/disturbed, scrub/shrublands, urban areas, wetlands.

Uses: Imperata cylindrica is used as thatch, short-term forage production, soil stabilisation and paper making (Watson & Dallwitz 1992, in Dozier et al. 1998). In surveys conducted in the coastal/derived savanna (Benin and Nigeria) and southern Guinea savanna (Ivory Coast) in Africa some farmers indicated that I. cylindrica was an important source of cheap roofing material, animal fodder and medicines. Silica bodies in the leaves contribute to its unpalatability to grazers (Coile & Shilling 1993, in Dozier et al. 1998). I. cylindrica was imported and distributed by the United States Department of Agriculture for use as a forage grass and for soil erosion control. In the United States, an ornamental variety of the grass is promoted for landscape use (Johnson & Shilling 2009). Although the ornamental varieties, known as ‹Rubra,› ‹Red Baron,› or ‹Japanese Blood Grass› are not aggressive, plants grown from callus tissue can revert to the invasive form (Greenlee 1992, in Dozier et al. 1998).

Distribution: Pantropical. Throughout Indonesia; Morus alba, cacao, cashew nuts and oil palm plantations in South Sulawesi; Young rubber plantations (3 years) in South Sumatra; Sadeng village, Kabupaten Bogor; Sugarcane plantations Takalar; Sulfat acid soil of Banjar Baru; Experimental garden Banjar Baru, South Kalimantan; Bandar Lampung; Dry land of Flores-NTT; Tidal areas of South Kalimantan (Banjarmasin, Barambai, Belandean, Belawang, Sakalagun) and Central Kalimantan (Unit Tatas); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Kp. Muara, Kab. Bogor; Weed of cotton plantations Segayung (Kabupaten Batang, Central Java); Undergrowth plant Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java.

Impact: Weed of tea and cotton plantations

Images source: Flickr.com

References/Notes: 3, 6m, 11, 13, 16, 17, 18, 19, 26, 27, 31, 34, 39, 40, 72, 75, 88, 104.

190 *Ipomoea cairica* (L.) Sweet

Synonyms: *Batatas cavanillesii* (Roem. & Schult.) G. Don, *B. senegalensis* G. Don, *Convolvulus cairicus* L., *C. Limphaticus* Vell., *Ipomoea cavanillesii* Roem. & Schult./*I. vesiculosa* P. Beauv./

Convolvulaceae

Origin: Africa & Asia.

Indonesian names: Ubi kates, telo kates (West Java).

English names: Cairo morning glory, five-fingered morning glory, ivy-leaved morning glory, mile a minute vine,morning glory, oastal morning glory.

Description: Perennial herb with twining and trailing stems. Roots tuberous and plant rooting at nodes. Plants hairless. Leaves round in outline, 3–10 cm long and wide, leaf stalk 2–6 cm long. Inflorescence axillary, 1–3 flowered. Capsule almost globe-shaped, 9–12 mm wide, with 2 chambers, splitting into 4 valves, contains up to 4 seeds. Seeds dark brown to black, 5–6 mm long, flattened ovoid, hairy with pale brown long hairs on outer ridges.

Habitat: A weed of waste areas, disturbed sites, rainforest margins, open woodlands, bushland, gardens, fences, coastal sand dunes and vegetation growing near waterways (i.e. riparian areas). It inhabits tropical, sub-tropical and warmer temperate environments (especially near the coast).Agricultural areas, natural forests, planted forests, ruderal/disturbed.

Uses: Ornamental plant.

Distribution: Locally naturalized iin West Java; Tidal areas of South Kalimantan (Banjarmasin, Sakalagun); Weed of tea plantations Ciliwung Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java.

Impact: Weed of tea plantations

Images source: survival.org.au

References/Notes: 1, 31, 34, 104, 108, 147.

191 *Ipomoea fistulosa* Mart. ex Choisy

Synonyms: *Ipomoea carnea* Auct. non Jacq./*Ipomoea crassicaulis* (Bth.) B. L. Robins.

Convolvulaceae

Origin: Tropical America.

Indonesian names: Kangkung hutan.

English names: Bush morning-glory.

Description: An erect, sparsely branched shrub growing about eight feet. tall; leaves with a long stalk, the blades essentially hairless, lanceolate, five to eight inches long and about two inches broad, with a long-tapering tip and a truncated or shallowly heart-shaped base; flowers borne in small clusters in the axils of the uppermost leaves, funnel-shaped with five shallow lobes on the margin, three to four inches across, pink to lavender or purple but darker in the throat, opening only in the morning.

Habitat: It has been collected in a variety of habitats, from maritime strands and dry fields to wet bottomlands and roadside ditches in the following countries: Collier, Lee, Manatee, Monroe and Pinellas.

Uses: Medicines plant.

Distribution: In Java cultivated and naturalized at medium altitudes; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap, Sakalagun); From Florida and Mexico, through the Caribbean to Brazil and Paraguay, spread throughout the Pacific and SE. Asia, up to Pakistan. Occasionally cultivated in SE. Asia and India.

Impact: No detail information

Images source: gardenweb.com

References/Notes: 1, 31, 80, 161.

192 *Ipomoea triloba* L.

Synonyms: *Batatas triloba* (L.) Choisy, *Convolvulus trilobus* (L.) Desr., *Ipomoea blancoi* Choisy, *I. eustachiana* Jacq./*I. galapagensis* Andersson, *I. triloba* var. *quinquefolia* Kuntze.

Convolvulaceae

Origin: Tropical America.

Indonesian names: -

English names: Three-lobe morning glory, Littlebell, Aiea morning glory. caapi; caapi-doux; little bell; morning glory; wild potato; wild slip

Description: A herbaceous, annual twining vine with milky sap, simple leaves and pink to pale-purple funnel-shaped flowers. Stems prostrate and twining, usually much branched, 1-3 m long, glabrous or sometimes sparsely pubescent, more densely pubescent on the nodes. Leaves simple, alternate, petiolate; leaf blades broadly ovate to orbicular, 2-12 cm long and 2-10 cm broad, bases cordate; leaf margins entire, coarsely dentate, or deeply 3-5 lobed. Inflorescences axillary, with dense several-flowered cymes, occasionally 1-flowered; peduncles 1-10 cm long, stout, angular, glabrous, minutely verruculose toward the apex. Flowers mostly pink to pale-purple (sometimes white, especially in West Africa (Heine, 1963)), often with darker centre and pale mid-petal areas; pedicel 3-10 mm, firm, angular, thickened at apex, glabrous; sepals 5, free, 6-10 mm long, with 3-5 large, raised central veins, corolla funnel-shaped, 1.8-2 cm long, 1.8-2.5 cm across, glabrous, strongly narrowed at the base, the limb with 5 short, obtuse, mucronulate lobes; stamens 5, attached to the inside of the corolla tube; anthers and filaments white, mostly included, very rarely longer than the corolla tube, filaments densely hairy at base, sparsely covered with curved hairs in lower half; ovary globose, pilose, with a white nectary. Fruit a subglobose, bristly pubescent, thin-walled capsule, 5-6 mm long and in diameter, 2-celled, 4-valved; seeds usually 4 per capsule, subglobose, 2.5-3.2 mm long, dark-brown. (After Austin, 1978.).

Habitat: Altitudinal range from near sea level to 250 m. Usually grows in riparian situations in open forest areas but also found along roads in rain forest.

Uses: -

Distribution: Naturalized in Java and Madura; Pantropical. Throughout Indonesia, except Kalimantan as far as known; Tidal areas of South Kalimantan (Banjarmasin).

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 3, 31, 88, 118, 296.

193 *Isachne globosa* (Thunb.) Kuntze

Synonyms: *Agrostis globosa* (Thunb.) Poir., *Aira violacea* Willd. ex Steud., *Eriochloa globosa* (Thunb.) Kunth, *Helopus globosus* (Thunb.) Steud., *Isachne adstans* (Steud.) Miq., *I. australis* R. Br., *I. dispar* Trin./*Milium globosum* Thunb., *Panicum adstans* Steud., *P. dispar* (Trin.) Steud.

Poaceae

Origin: S. Asia.

Indonesian names: Rumput waderan, kasurian, waderan, babantalan, beubeuntaran, kakasuran, and wawaderan

English names: Swamp millet, globose chigozasa.

Description: Annual, or perennial. Glands annular. Culms erect, or geniculately ascending, or decumbent, or prostrate; 10–90 cm long; rooting from lower nodes. Leaf-sheaths glabrous on surface, or pilose; outer margin hairy. Ligule a fringe of hairs; 1–4 mm long. Leaf-blade base cuneate, or broadly rounded, or cordate. Leaf-blades linear, or lanceolate, or ovate; 1–10 cm long; 4–20 mm wide. Leaf-blade margins unthickened, or cartilaginous; scaberulous.

Habitat: Usually grows in and beside fresh water.

Uses: Bor (1960) states that it is palatable to cattle, but a troublesome weed in rice.

Distribution: S. Asia. Throughout Indonesia, except the Moluccas as far as known; Tidal areas of Central Kalimantan (Unit Tatas); Widely distributed throughout the tropics and subtropics of Africa, the Indian subcontinent, SE. Asia and Australia; occuring to a lesser extent in N., C. & S. America, and also occuring in warm temperate areas, being recorded at latitudes of 450 in New Zealand and Japan.

Impact: Isache globosa appears to have the potential to become a serious weed of rice and wetlands in warm regions of the United States.

Images source: Flickr.com

References/Notes: 3, 31, 91, 109, 223, 312, 313.

194 *Isachne pulchella* Roth

Synonyms: *Isachne miliacea* Roth., *I. miliacea* var. *dispar* (Trin.) Hack., *Panicum bellum* Steud., *Sphaerocaryum pulchellum* (Roth) Merr., *Steudelella pulchella* (Roem. & Schult.) Honda.

Poaceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Herbs, culms tufted, creeping; erect ones to 40 cm; nodes densely pilose. Leaves flat, 1.5-4 × 0.4-0.6 cm, pilose; ligule to 0.2 cm. Panicles open, contracted, to 5 cm. Spikelets obovoid, to 0.15 cm; florets unequal; pedicels to 0.5 cm, glandular; glumes elliptic, to 0.18 cm, membranous, glabrous; lower glume 5-veined; upper glume similar to lower; lemmas elliptic, to 0.16 cm, puberulous.

Habitat: It grows in marshy places of hilly areas (Kabeer & Nair, 2009). Damp areas in forested areas, shallow water, gregarious and forming patches.

Uses: -

Distribution: S. Asia and Malesia. Throughout Indonesia, except the lesser Sunda Islands, the Moluccas and Papua. Lowland irrigated and rainfed ricefields; Tidal areas of South Kalimantan (Belandean); In the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 31, 70, 110.

195 *Ischaemum rugosum* Salisb.

Synonyms: *Andropogon arnottianus* Steud, /*A. griffithsiae* Steud., *A. rugosus* Steud., *Colladoa distachya* Cav., *Ischaemum colladoa* Spreng.//*Meoschium arnottianum* Nees, *M. griffithii* Nees & Arn., *M. rugosum* (Salisb.) Nees, *Tripsacum distachyum* (Cav.) Poir.

Poaceae

Origin: S.E. Asia.

Indonesian names: Suket blembem (Javanese), jukut randan (Sundanese).

English names: -

Description: A vigourous perennial or annual (in strongly desiccating soil) tufted grass, sometimes with stilt roots, rooting at the nodes, with erect, slanting or ascending, often much branched culms, up to 1.5 m tall. Leaf-sheath long-auricled, ciliate along outer margin, densely soft hairy on node; ligule a brownish truncate membrane, 1-7 mm long; leaf-blade linear, 10-40 cm × 1-4 cm, apex acute, rarely hairy with long slender hairs. Inflorescence terminal, well exerted, composed of 2 racemes that are firmly appressed together and interlocked when young, separating when mature, each 3-12 cm long; spikelets binate, dissimilar, one sessile at the abaxial side of the rachis, one stalked at the adaxial side, provided with a short blunt hairy callus; sessile spikelet 5-6 mm long, 2-flowered, lower floret male or neuter, upper one bisexual; lower glume strongly transversely 5-7-ribbed, and winged above; upper lemma deeply 2-cleft and with 1-2 cm long awn which is twisted basally; pedicelled spikelet more or less reduced, pedicel upto 2 mm long, hairy, confluent with the callus. Caryopsis ovoid, 2 mm long, brown. It is a very variable species. Two varieties have been distinguished: var. rugosum, with developed pedicelled spikelets, and var. segetum Hackel, with much reduced pedicelled spikelets; they are not separated geographically.

Habitat: Ischaemum rugosum is an opportunistic and effective colonizer of open, disturbed or newly cleared areas. Although a sun-loving plant it can persist in sites receiving only 30-35% of full sunlight. It occurs at altitudes of up to 2400 m in the Philippines. I. rugosum is particularly well adapted to wet sites, and is often found in rice fields or low lying areas that are periodically flooded (Baki and Manidool 1992).

Uses: Ischaemum rugosum is used as forage. It is a serious weed in many crops, particularly in rice fields (Pancho1991). It also provides suitable material for compost and mulch. In times of scarcity the grain is eaten by people.

Distribution: Tropical Asia, tropical America and W. Africa (introduced), Pasific Islands. Throughout Indonesia, except Sulawesi, the Moluccas and Papua, as far as known.

Impact: No detail information

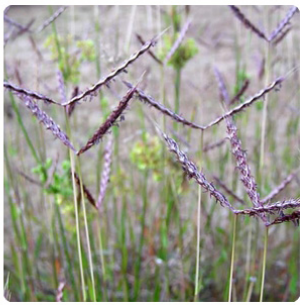
Images source: plantnet-project.org

References/Notes: 3, 2

196 *Ischaemum timorense* Kunth

Synonyms: *Andropogon blumii* Steud., *A. timorensis* (Kunth) Steud., *Ischaemum macrurum* Stapf ex Ridl./*I. villosissimum* Honda/*I. zeylanicola* Bor.

Poaceae



Origin: Tropical Asia.

Indonesian names: Jukut jampang manggung (Sundanese), rumput apet (Sumbawa).

English names: Centipede grass, lucuntu grass.

Description: A spreading stoloniferous perennial or annual, creeping and rooting in lower part, erect, slanting or scrambling in upper part with culms up to 1 m high. Leaf-sheath 3-6 cm long, white-hairy on the nodes and often with long hairs at the mouth, the outer margin and the back; ligule a short fringed membrane, sometimes long ciliate; leaf-blade lanceolate to linear-lanceolate, 2-16 cm × 3-15 mm, base obtuse or petiole-like, apex acute, adpressed long-hairy, or glabrous above. Inflorescence terminal, composed of 2(-3) closely opposed racemes, each 2-15 cm long; spikelets in pairs, one sessile, one pedicelled; alternately on one side of the triangular rachis; spikelets similar, 2-flowered, green or tinged with purple, lower floret male, upper floret bisexual; sessile spiklet 5-7 mm long, at the base swollen and stipe-like and white-hairy, lower glume with two acute lobes at apex, upper glume with a short 2-3 mm long awn, upper lemma 2-lobed with a 10-16 mm long awn in the middle. Caryopsis ellipsoid, 1-2 mm long.

Habitat: As I. timorense establishes readily from seed and spreads by rooted stolons, it is an opportunistic colonizer of bare or disturbed areas. Hence it is common along roadsides, terraces, ditches and forest margins, and it is a weed in agricultural crops. It is found most frequently in areas with 800-2000 mm annual rainfall, but is not adapted to either dry or waterlogged sites or to heavy soils. It grows under full or partial (30-50%) sunlight (Ipor et al. 1992).

Uses: I. timorense is a fodder species of minor importance in South-East Asia. It is useful for protecting soil against erosion and in providing material for mulch, but can be a weed in annual and perennial crops. Particularly in Indonesia it is a common weed in rainfed rice.

Distribution: Malesia. Throughout Indonesia, except Kalimantan and Papua, as far as known; cashew nuts plantations in South; Tidal areas of South Kalimantan (Banjarmasin, Belandean) and Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 11, 31, 207.

197 *Jatropha curcas* L.

Synonyms: *Castiglionia lobata* Ruiz & Pav., *Curcas adansonii* Endl., *C. purgans* Medik., *C. indica* A. Rich., *Jatropha afrocurcas* Pax, *Manihot curcas* (L.) Crantz, *Ricinus americanus* Mill., *R. jarak* Thunb.

Euphorbiaceae

Origin: Tropical Ameroca/Mexico & C. America.

Indonesian names: Jarak pagar, jarak kosta, jarak budeg (Sundanese); jarak gundul, jarak pager (Javanese); kalekhe paghar(Madura); jarak pager (Bali); lulu mau, paku kase, jarak pageh (Nusa Tenggara); kuman nema (Alor); jarak kosta, jarak wolanda, bindalo, bintalo,tondo utomene (Sulawesi); ai huwa kamala, balacai, kadoto (Maluku).

English names: Barbados Nut, Purging Nut, Physic Nut, or JCL (abbreviation of Jatropha curcas Linnaeus).

Description: Shrub or tree to 6 m, with spreading branches and stubby twigs, with a milky or yellowish rufescent exudate. Leaves deciduous, alternate but apically crowded, ovate, acute to acuminate, basally cordate, 3 to 5-lobed in outline, 6–40 cm long, 6–35 cm broad, the petioles 2.5–7.5 cm long. Flowers several to many in greenish cymes, yellowish, bell-shaped; sepals 5, broadly deltoid. Male flowers many with 10 stamens, 5 united at the base only, 5 united into a column. Female flowers borne singly, with elliptic 3-celled, triovulate ovary with 3 spreading bifurcate stigmata. Capsules, 2.5–4 cm long, finally drying and splitting into 3 valves, all or two of which commonly have an oblong black seed, these ca 2 × 1 cm

Habitat: The plant can grow in wastelands and grows on almost any terrain, even on gravelly, sandy and saline soils.

Uses: Biofuel, jet fuel, carbon dioxide sequestration.

Distribution: In Java an early introduction and locally naturalized; cultivated as a living fence throughout the area; In C. of Malesia widely cultivated; It was introduced long ago in all tropical regions like Florida and S. Africa. It is cultivated throughout the Malesian regions, though especially in the drier areas

Impact: No detail information

Images source: biogeodb.stri.si.edu

References/Notes: 1, 5, 75, 88, 181, 182, 183, 184, 314.

198 *Jatropha gossypiifolia* L.

Synonyms: *Jatropha gossypiifolia* var. *elegans* (Pohl) Müll.Arg./*Jatropha elegans* (Pohl) Klotzsch/ *Adenoropium elegans* Pohl/

Euphorbiaceae

Origin: Tropical America.

Indonesian names: Jarak pagar merah, jarak ulung, jarak landi.

English names: Cotton leaf, Physic Nut, Wild Physic Nut, bellyache bush, wild cassada, red fig-nut flower

Description: Much-branched, deciduous, somewhat succulent, monoecious shrub up to 3 m tall; rhizome thick, with orange-pink to brownish sap; bark smooth, green, peeling off in thin grey layers; stem and young leaves dark purple, glabrous. Leaves alternate; stipules c. 5 mm long, divided into many segments, gland-tipped; petiole 8–12 cm long, with simple to 3-fid glandular hairs; blade broadly ovate in outline, 6–10 cm × 8–14 cm, shallowly to deeply 3(–5)-lobed, base shallowly cordate, lobes obovate to oblanceolate, middle lobe longest, apex acute, margins glandular and minutely toothed, otherwise glabrous. Inflorescence a sparingly flowered leaf-opposed cyme, with a solitary female flower terminating each major axis and male flowers in lateral cymules; peduncle up to 6 cm long, shortly hairy; bracts linear-lanceolate, c. 1.5 cm long, acuminate, margin with glandular hairs. Flowers unisexual, regular, 5-merous, dark red; male flowers with elliptical-lanceolate calyx lobes c. 3 mm long, glandular at margins, petals fused in lower half, lobes obovate, c. 4 mm long, disk composed of 5 free glands, stamens 8, in 2 distinct whorls, the 5 outer fused to halfway, the inner 3 almost completely fused; female flowers with calyx lobes and petals twice as large as in male flowers, disk shallowly 5-lobed, ovary superior, globose to shallowly 3-lobed, 6-ribbed, 3-celled, styles 3, c. 2 mm long, fused at base, stigma 2-lobed. Fruit a somewhat fleshy to dry, globose to 3-lobed capsule, c. 1 cm in diameter, sparingly hairy to glabrous, green becoming brownish, dehiscent into 2-valved cocci, usually 3-seeded. Seeds ellipsoid, c. 7.5 mm × 4.5 mm, glabrous, pale grey-brown, caruncle with many lobes, dark brown. Seedling with epigeal germination.

Habitat: This species is most commonly found in drier tropical environments, but is sometimes also naturalised in sub-tropical and semi-aridregions. It is a weed of degraded pastures, open woodlands, monsoon vine forests, grasslands, riparian vegetation, coastal foreshores, roadsides, disturbed sites, waste areas and old or abandoned gardens.

Uses: Gastro-intestinal diseases, dermatological problems.

Distribution: Naturalized in Java and Madura on several places in dry areas at low altitudes; It has been introduced as an ornamental elsewhere in Tropical America and in many parts of the Old World tropics, especially West Africa and Malesia, and regularly escapes from cultivation.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 75, 94, 108, 112, 185.

199 *Juncus prismatocarpus* R. Br.

Synonyms: *Juncus commutatus* Steud./*J. prismatocarpus* subsp. *Prismatocarpus*.

Juncaceae


Origin: S. E. Asia.

Indonesian names: -

English names: -

Description: Tufted perennial.Culms ± flattened, 10–40 cm long, 1.3–3.0 mm diam.Leaves pluritubulose, spread along culms, shorter or equalling culms; blade compressed, 1.3–3.2 mm wide; auricles 0.3–1.0 mm long. Inflorescence terminal, diffuse, 5–17 cm long; flowers clustered at apex of branches, 5–25 per cluster and 4–40 clusters per inflorescence; involucral bract, 1 well-developed, 3–14 cm long, shorter than or rarely as long as inflorescence. Tepals straw-brown to red-brown, with narrow hyaline margins; outer tepals 2.5–3.5(-4.1) mm long, ± equalling inner tepals. Stamens 3, shorter than outer tepals; anthers 0.4–0.7 mm long.Capsule longer than outer tepals by up to 3 mm, narrow-ovoid, acuminate, tapering evenly to long beak or narrowing more abruptly at very apex, golden brown.

Habitat: This rush grows in swamps and peat bogs as well as in wet grasslands and stream sides.

Uses: -

Distribution: Ceylon, S.E. to E. Asia, Australia, New Zealand. In Indonesia: Sumatra, Java, Papua, as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 109, 110.

200 *Jussiaea linifolia* Vahl

Synonyms: *Fissendocarpa linifolia* (Vahl) Bennet/*Jussiaea linifolia* Vahl/*J. hyssopifolia* G.Don/*J. weddellii* Micheli//*Ludwigia micrantha* (Kunze) Hara

Onagraceae

Origin: America.

Indonesian names: -

English names: -

Description: Annual or perennial herbs, or shrubs, rarely trees to 30 m tall, often with epidermal oil cells, usually with internal phloem. Leaves simple, spirally arranged, opposite, or occasionally whorled, entire or toothed to pinnatifid; stipules present and usually caducous, or absent. Flowers perfect and hermaphroditic or occasionally unisexual, actinomorphic or zygomorphic, (2-)4(-7) -merous, axillary, in leafy spikes or racemes or solitary, or occasionally in panicles, all but Ludwigiawith distinct floral tube, nectariferous within. Sepals green or colored, valvate. Petals as many as sepals or rarely absent, variously colored, imbricate or convolute and occasionally clawed. Stamens as many as sepals in one series or 2 Ã— as many as sepals in 2 series [in Lopezia Cavanilles reduced to 2 or 1 plus 1 sterile staminode]; anthers versatile or basifixed, dithecal, sometimes cross-partitioned, opening by longitudinal slits; pollen grains almost always united by viscin threads, shed as monads, tetrads, or polyads. Ovary inferior, with as many carpels and locules as sepals, septa sometimes thin or absent at maturity; placentation axile or parietal, ovules 1 to many per locule, in 1 or several rows orclustered, anatropous, bitegmic; style 1; stigma with as many lobes as sepals or clavate to globose. Fruit a loculicidal capsule or indehiscent nut or berry. Seeds small, smooth or variously sculptured, sometimes with a coma [or wing], with straight oily embryo, endosperm lacking.

Habitat: Ditches, marshes and other damp to wet places

Uses: -

Distribution: Established in Java and Madura; Pantropical. Throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 3, 188, 315.

201 *Lantana camara* L.

Synonyms: *Camara vulgaris* Benth./*Lantana antillana* Raf./*L. asperata* Vis./*L. crocea* Jacq./*L. glandulosissima* Hayek/*L. mixta* Medik./*L. undulata* Raf./*L. urticifolia* Mill.

Verbenaceae

Origin: Tropical America.

Indonesian names: Kembang telek, tembelekan.

English names: Lantana, sage, wild sage.

Description: Low erect or subscandent, vigorous shrub with stout recurved prickles and a strong odour of black currents;grows up to 1.2-2.4 metres (or even more); Root system very strong, and it gives out a new flush of shoots even after repeated cuttings. Leaf ovate or ovate-oblong, acute or subacute, crenate-serrate, rugose above, scabrid on both sides; Flower small, usually orange, sometimes varying from white to red in various shades and having a yellow throat, in axillary heads, almost throughout the year; Fruit small, greenish-blue black, blackish, drupaceous, shining, with two nutlets, almost throughout the year, dispersed by birds. Seeds germinates very easily.

Habitat: Agricultural areas, coastland, natural forests, planted forests, range/grasslands, riparian zones, ruderal/disturbed, scrub/shrublands, urban areas, wetlands.

Uses: Lantana camara has several uses, mainly as a herbal medicine and in some areas as firewood and mulch (Sharma et al. 1988; Sharma and Sharma 1989, in Day et al. 2003). In some countries, it is planted as a hedge to contain or keep out livestock (Bradley 1988, Ghisalberti 2000 in Day et al. 2003). There has been much work conducted, especially in India, on the chemical constituents of lantana; extracts from the leaves exhibit antimicrobial, fungicidal, insecticidal and nematicidal activity (Chavan and Nikam 1982, Sharma and Sharma 1989, Begum et al. 2000, in Day et al. 2003). The use of lantana extracts as potential biocides has been suggested. For example, aqueous leachate at 1–3% can kill water hyacinth, a troublesome weed in many tropical countries (Saxena 2000, in Day et al. 2003). Its application as a weedicide would depend on the size of the waterbodies being treated and the cost of extraction of the leachate. Verbascoside, which possesses antimicrobial, immunosuppressive and antitumor activities, has been isolated (Mahato et al. 1994, in Day et al. 2003). Lantanoside, linaroside and camarinic acid have been isolated and are being investigated as potential nematocides (Begum et al. 2000, in Day et al. 2003). Lantana oil is sometimes used for the treatment of skin itches, as an antiseptic for wounds (Anon. 1962), and externally for leprosy and scabies (Ghisalberti 2000). Plant extracts are used in folk medicine for the treatment of cancers, chicken pox, measles, asthma, ulcers, swellings, eczema, tumors, high blood pressure, bilious fevers, catarrhal infections, tetanus, rheumatism, malaria and atoxy of abdominal viscera (Anon. 1962, Kirtikar and Basu 1981, Ghisalberti 2000, in Day et al. 2003).

Distribution: Naturalized in Java and Madura; Cashew nuts plantations in South Sulawesi; Oil plantations (4 years) in South Sumatra; Tidal areas of South Kalimantan (Banjarmasin, Sakalagun); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Introduced and naturalized throughout the tropics and subtropics.

Impact: Weed of tea plantations

Images source: Foris-Indonesia

References/Notes: 1, 11, 13, 31, 34, 75, 104, 252.

202 *Lantana trifolia* L.

Synonyms: *Camara trifolia* (L.) Kuntze/*Lantana annua* L./*L. dubia* Royle/*L. pilosa* Kunth/*L. pittieri* Moldenke/*Lippia purpurea* Dum. Cours./*L. schliebenii* Moldenke

Verbenaceae

Origin: America/West Indies.

Indonesian names: -

English names: Shrub verbena.

Description: Height: 2 to 5 feet; Spread: 1 to 3 feet; Bloom Time: Seasonal bloomer; Bloom Color: Pink, White, Lavender; Bloom: Lavender, white, pink.

Habitat: Easily grown as bedding plants in average, medium moisture, well-drained soils in full sun. Tolerates poor soils.

Uses: Garden uses (Annual bedding plant. Containers. Houseplant).

Distribution: Naturalized in Java, not in very dry regions.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 75, 141.

203 *Leersia hexandra* Sw.

Synonyms: *Asprella australis* (R.Br.) Roem. & Schult., *Blepharochloa ciliata* Endl., *Homalocenchrus hexandrus* (Sw.) Kuntze, *Hygroryza ciliata* (Retz.) Steud., *Leersia abyssinica* Hochst. ex A.Rich., *L. australis* R.Br., *L. capensis* C. Muell, *Oryza hexandra* (Sw.) Döll, *Pharus ciliatus* Retz., *Pseudoryza ciliata* (Retz.) Griff., *Zizania ciliata* (Retz.) Spreng.

Poaceae

Origin: Tropical America.

Indonesian names: -

English names: Swamp rice grass, swamp cut grass (southern Africa), lambedora grass (Venezuela).

Description: A scrambling, stoloniferous perennial with leaf-blades 5-13 mm wide, and growing to 40-60 cm high. Leaves bright green, very rough and unpleasant to handle. Spikelets like rice, but much smaller. They are scabrid and often strongly flushed with brick-red or orange, an unusual colour in grass spikelets. Panicle branches are nearly always zig-zag, at least after the spikelets have fallen

Habitat: Sea-level to 2 200 m.

Uses: -

Distribution: Pantropical and sometimes subtropical. Was still rare in Java in 1860, but now common and has spread throughout Indonesia, except the Moluccas, as far as known; Cihea Cianjur, West Java; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap) and Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 21, 31.

204 *Leptochloa chinensis* (L.) Nees

Synonyms: *Cynodon virgatus* Willd./*Eleusine chinensis* F.Muell./*L. eragrostoides* Steud. *L. tetraquetra* J. Presl /*Poa chinensis* L./*P. sinensis* J.F.Gmel.

Poaceae

Origin: Tropical Asia.

Indonesian names: Timunan (Javanese), bebontengan (Sundanese), jangkiri (Flores).

English names: Red sprangletop.

Description: An aquatic or semi-aquatic tufted annual or perennial, with stout to slender, erect or geniculate culms up to 1.5 m tall, often rooting at the lower nodes. Leaf-sheath loose, subglaucous, smooth, up to 10 cm long; ligule a fringed, hairy membrane, 1-2 mm long; leaf-blade linear, up to 50 cm x 1 cm, long-attenuate, flat or folded, scabrid above. Inflorescence 10-60 cm long, composed of numerous slender racemes scattered along an elongate central axis; racemes flexuous, 2-13 cm long, erect or laxly ascending; spikelets 3-7 flowered, narrowly elliptical-oblong, 2-3 mm, subsessile, often purplish, disarticulating above the glumes and between the florets; glumes unequal, scabrid on the back of the nerves; lemmas hairy on the nerves, awnless. Caryopsis ellipsoid-oblongoid, 6-9 mm long, brown, smooth or wrinkled. L. chinensis is an abundant seed producer.

Habitat: L. chinensis grows from near sea level up to 1400 m altitude. It is adapted to moist, swampy places in open habitats, especially if disturbed, on heavy or light soils. It flowers over most of the year.

Uses: L. chinensis is used as fodder. It is a troublesome weed in rice fields (Häfliger and Scholz 1981), but farmers collect and feed it to their animals. In East Africa the grain is used as famine food.

Distribution: S. and S.E. Asia northeast and southeast of Japan, and Australia. Throughout Indonesia.

Impact: No detail information

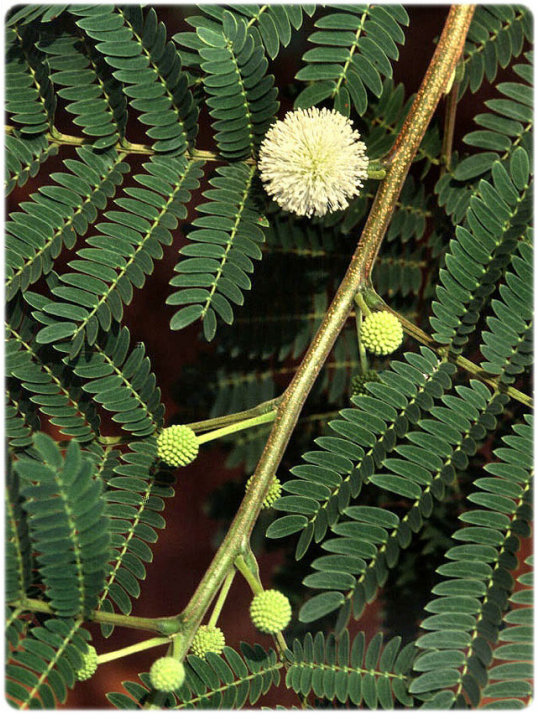
Images source: Flickr.com

References/Notes: 3, 207.

205 *Leucaena leucocephala* (Lam.) de Wit

Synonyms: *Acacia frondosa* Willd./*A. glauca* (L.) Willd./*A. leucocephala* (Lam.) Link/*Leucaena glabra* Benth./*L. glauca* Benth./*Mimosa glauca* L./*Mimosa leucocephala* Lam.

Fabaceae Leguminosae



Origin: Native to southern tropical America

Indonesian names:

English names: Coffee bush, cow tamarind, horse tamarind, jumbie bean, leadtree, leucaena, white leadtree, wild tamarind, mlusina, lusina (Kiswahili)

Description: A shrub or small tree usually growing 2-10 m tall, but occasionally reaching 15 m or more in height.

The younger stems green and usually densely covered in fine greyish coloured hairs (finely pubescent). Older stems have a relatively smooth, greyish or greyish-brown, bark with numerous small raised spots (lenticels).

The leaves (up to 35 cm long) twice-compound (bipinnate) and have 3-10 pairs of branchlets (pinnae). Leavesalternately arranged along the stems and borne on stalks (petioles) 2-5 cm long. A small raised structure (gland) usually present on the leaf stalk (petiole), or just below where the lowest pair of branchlets (pinnae) meet; pinnae 2-10 cm long and each bears 5-22 pairs of leaflets (pinnules). Leaflets (7-21 mm long and 1.5-5 mm wide) elongated (narrowly-oblong to lanceolate) in shape with pointed tips (acute apices), and are either hairless (glabrous) or have hairy (ciliate) margins.

Flowers borne in dense globular clusters (12-30 mm across), which look like a 'pompom' when the flowers open. These clusters are borne in the leaf forks (axils) on stalks (peduncles) 2-6 cm long, with one to three clusters present in each leaf fork (axil). Each of the small flowers has five tiny sepals (2-2.5 mm long), five small greenish-white coloured petals (2-4 mm long), and ten prominent pale yellow or whitish coloured stamens (6-10 mm long).

Fruit elongated (linear), flattened, pods with a pointed tip (beaked apex); pods (8-22.5 cm long and 10-20 mm wide) initially green in colour, but turn brown or reddish-brown as they mature. Several pods usually develop from each flower cluster. Each of pods contains 10-25 hard seeds

(6-10 mm long and 3-6 mm wide),glossy brown, flattened (compressed), and somewhat oval (elliptic-oblong) in shape.

Habitat: A very troublesome weed of riparian zones (banks of watercourses) and roadsides in tropical and subtropical regions. It is also found in open woodlands, gardens, parks, waste areas, disturbed sites and on coastal foreshores and offshore islands.

Uses: Leucaena leucocephala is widely cultivated, mostly in farming situations, for forage (leaves and shoots), firewood, poles, medicine (roots), shade, soil conservation and improvement, tannin, dye. It is also planted as a windbreak, a garden ornamental and as an urban shade tree. In Uganda, it was introduced in tea plantations and as a host for the vanilla orchid (Vanilla planifolia) and later planted among other crops as a nitrogen fixer.

Distribution: Locations within which Leucaena leucocephala is naturalised include parts of South America (outside its native range), Asia, southern USA, southern Europe, Australia, Africa and many oceanic islands with warm climates.

Impact: Leucaena leucocephala grows very fast in suitable sites; pollarding and coppicing to form dense, homogenous thickets that are difficult to control once established. Invaded areas become unusable and inaccessible with most other vegetation replaced. L. leucocephala constitutes a threat to native biodiversity. Once L. leucocephala establishes itself it displaces native vegetation and can promote suitable conditions for the establishment of even more aggressive invaders. The mimosine in the leaves of L. leucocephala can cause hair loss, infertility and stomach problems in livestock, especially those that are not ruminants.

L. leucocephala is an environmental weed in many parts of the world. It has been nominated as among 100 of the "World's Worst" invaders by the IUCN Invasive Species Specialist Group and it has been listed as a noxious weed in Western Cape South Africa (prohibited plants that must be controlled. They serve no economic purpose and possess characteristics that are harmful to humans, animals or the environment) and a Category 2 invader (invaders with certain qualities, e.g. commercial use or for woodlots, animal fodder, soil stabilisation, etc. These plants are allowed in certain areas under controlled conditions). in the rest of the country.

Images source: en.wikipedia.org

References/Notes: 108

206 *Limnocharis flava* (L.) Buchenau

Synonyms: *Alisma flavum* L., *Damasonium flavum* (L.) Mill., *L. emarginata* Humb. & Bonpl., *L. flava* var. *indica* Buchenau, *L. plumieri* Rich/

Alismataceae

Origin: Tropical America Amerika Selatan/Tropical & subtropical America.

Indonesian names: Genjer, paku rawan.

English names: Yellow Sawah Lettuce, Yellow Burr Head or Yellow Velvetleaf.

Description: A roughly 50 cm tall plant growing in clumps. Leaves triangular-shaped Hollow stems glabrous. Inflorescences have a very characteristic shape, producing three-lobed yellow flowers about 1.5 cm in diameter. Fruits spherical. Seeds carried away by currents.

Habitat: Yellow Burr Heads grow generally wherever there is not very deep stagnant fresh water, in swampy areas. It sometimes invades rice fields where it can become a weed. As an invasive species it has become a pest in some wetlands in other parts of the world.

Uses: Food.

Distribution: In 1870 collected in Java for the first time as a wildgrowingplant near Mesteer Cornelis (Jakarta) but possibly introduced long before that time at present copiously naturalized in the W. half of the island, much less in the E. half, not yet found in Madura; SE. Asia. Has spread throughout Indonesia, except the Moluccas and Papua; - West Java (Bogor, Jakarta, Ciampea (Bogor), Cibodas; (Cianjur), Bandung, Rangkasbitung, Malingping, Sajiran, Klapa Nunggal, G. Guntur, Jasinga, Sukabumi, Purwakarta, J. Sembung, Cirebon, Cicurug, Kiara Tanjung, Rarahan Darmaga); Central Java (Banyumas, Pekalongan, Rawabening, Purwokerto, Wonosobo, Kedu); East Java (Jember, Situbondo, Pasuruan); Lampung (Teluk Betung, Lampung, Danau Ranau); North Sumatra (Danau Toba, Serdang, Sibolangit, Samosir, Medan, Karo, Asahan); West Sumatra (Kerinci, Padang Panjang); Bengkulu; South Sumatra (Plaju); DI Aceh (G. Leuseur); South Kalimantan (Banjarmasin); East Kalimantan (Samarinda); South Sulawesi (Danau Tempe); Tidal areas of South Kalimantan (Banjarmasin, Barambai, Handil Manarap, Kertak Hanyar, Sungai Tabuk); It was introduced into SE. Asia more than century ago. Now it occurs naturalized in Indonesia, Malaysia, Burma, Thailand, Sri Lanka.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 3, 12, 31, 69, 88, 158, 159.

207 *Ludwigia adscendens* (L.) H. Hara

Synonyms: ***Jussiaea adscendens*** L./***Jussiaea fluviatilis*** Bl./***Jussiaea repens*** (non Forst.) L.

Onagraceae

Origin: Tropical Asia.

Indonesian names: Krangking.

English names: Creeping water primrose, water dragon, marshy jasmine

Description: Aquatic or terrestrial, annual herbs, sometimes partially submerged, stems prostate or end branches erect, up to 2 m long, free floating or rooting in the substrate, rhizomes and stolons usually present, rooting at the nodes. Roots white or brown, fibrous and with spongy floating organs. Stems rounded or triangular, solid, glabrous. Stipules present, triangular, glabrous. Leaves simple, entire, alternate, stalked, lanceolate to elliptic or obovate, more than 2 cm long/wide, glabrous, margin entire, apex rounded, base acute or attenuate, pinnately veined.Flowers bisexual, solitary, axillary, stalked or sessile, small, less than 2 cm, petals 5, white. Fruit a capsule, opening irregularly or in longitudinal pieces.

Habitat: In rather dry to very dry climates, in pools, ditches. from 0-1600 m alt. Lowland-irrigated, rainfed, and rice fields.

Uses: -

Distribution: Tropical continental S. E. Asia. Throughout Indonesia; Wet land of Flores, NTT; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 27, 31, 91, 289.

208 *Ludwigia perennis* L.

Synonyms: *Isnardia multiflora* Guill. & Perr., *I. parviflora* (Roxb.) Kuntze, *Jussiaea caryophyllea* Lam., *Jussiaea perennis* (L.) Brenan, *udwigia caryophyllea* (Lam.) Merr. & F. P. Metcalf, *L. gracilis* Miq., *L. leucorrhiza* BI., *L. lythroides* BI., *L. multiflora* (Guill. & Perr.) Walp., *L. parviflora* Roxb.

Onagraceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Erect herbs. Leaves 2-6 × 0.5-15 cm, elliptic-lanceolate, base attenuate, apex acute to acuminate, glabrous. Flowers sessile, 4-merous. Calyx tube adnate to ovary; lobes 4, c. 2 mm long, ovate acuminate. Petals 4-5 mm long, elliptic, yellow. Stamens 4; filaments short. Ovary 1-1.5 cm long, linear, 4-celled, 4-angled. Ovules many. Capsule 1-2 cm long, linear, subterete, 4-ribbed. Seeds ellipsoid.

Habitat: It is an annual found in wet places, sandy river beds, along streams, and in rice fields. It is found growing at an altitude upto 1500 m.

Uses: It is an important medicinal plant in ayurveda and siddha systems of medicine.

Distribution: In Indonesia as far as known in: Sumatra, Java, Sulawesi.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 110, 148.

209 *Ludwigia peruviana* (L.) H. Hara

Synonyms: ***J. hirta* Lam./*J. macrocarpa* Kunth/*J. sprengeri* hort. ex L.H. Bailey/*Ludwigia hirta* (L.) M. Gómez/*L. peruviana* (L.) H. Hara/*Oenothera hirta* L.**

Onagraceae

Origin: Tropical America.

Indonesian names: -

English names: Ludwigia, Peruvian primrose, Peruvian primrosebush, Peruvian primrose-willow, water-primrose.

Description: Perennial, sometimes deciduous, wetland shrub that can grow to 3 and 4 m. Stems brownish green, heavily branched, and hairy when young. Leaves alternate, rarely opposite, ovate, 5-10 cm long, 1-3 cm wide, and hairy. Flowers solitare,bright yellow and quite showy and bisexual, 2-4 cm in diameter, but the 4(-5) petals last for only a day. Sepals 4, pale green,8-12 mm long; Petals 1-3 cm long. Fruitan erect capsule. Seed light brown, subglobular, and 0.6-0.8 mm long. Root system consists of a woody taproot with laterals close to the surface and sometimes with white spongy vertical pneumatophores, especially in water.

Habitat: lakes, water courses, wetlands.

Uses: Sydney Olympic Park Authority (2004) has found that, "L. peruviana has poor wildlife value. However it does form small floating islands that can provide refuge for water birds.»

Distribution: In Java frequently naturalized; Pantropical. Introduced into Java a long time ago and has now spread throughout Java and Sumatra.

Impact: No detail information

Images source: alabamaplants.com

References/Notes: 1, 3, 104.

210 *Ludwigia octovalvis* (Jacq.) P. H. Raven

Synonyms: *Epilobium fruticosum* Lour./*Jussiaea angustifolia* Lam./*J.blumeana* DC./*J. jnghuhniana* Miq./*J. octovalvis* (Jacq.) Sw./*J. pubescens* L./*J. suffruticosa* L./*Ludwigia angustifolia* (Lam.) M. Gómez/*Ludwigia pubescens* (L.) H. Hara. /*Oenothera octovalvis* Jacq.

Onagraceae

Origin: S. America.

Indonesian names: Cacabean.

English names: Willow Primrose, false primrose, Jamaica loostrife, primrose willow, swamp primrose, water primrose, wild clove, yellow willow herb.

Description: An erect, stout, well-branched robust herb of damp or flooded areas; woody at the base (probably) and shrubby at times, growing up to 4 m withlong stiff hairs sometimes appressed and oriented in one direction. Stems may be red-brown;Leaves alternately arranged,light green, may turn red upon aging, narrowly lanceshaped to ovate, up to 15 cm long, 0.4-4 cm wide, densely velvety both sides, narrowed at base and tip, 12-22 veins on each side of midrib. Leaf-stalk short. Sepals 4, ovate or lanceshaped, 0.8-1.3 cm long by 1-7.5 mm wide. Flowers occur singly in leaf axils and at branch ends. Petals 4, pale to bright yellow, 0.6-2 cm long, 0.4-1.7 cm wide, broadly obovate and may be shallowly notched at tip. Fruit a thin-walled, 4-angled, narrowly cylindrical, 8-ribbed capsule, 3-5 cm long, 2-8 mm in diameter, velvety, terminated by persistent sepals, color by vary from green to pale or reddish brown, or purplish, stalk up to 1 cm.

Habitat: Grows in wet soils and shallow water, such as drainage ditches, borrow pits, sloughs, marshes, ponds, seasonally flooded bottoms, river banks, and rice paddies. Soil type within those sites is apparently not very important. Primrose willow grows from near sea level to at least 800 m in elevation (Missouri Botanical Garden 2002). It prefers full sun and tolerates no more than side shade. The species grows singly or in clumps.

Uses: In herbal medicines, preparations of the leaves are used to treat

diarrhea, dysentery, as a laxative and a vermifuge, and to relieve headache, chest pains, and rheumatoid pain

Distribution: Pantropical. Throughout Indonesia; Cihea Cianjur, West Java; Tidal areas of South Kalimantan (Banjarmasin, Barambai, Belandean, Handil Manarap, Kertak Hanyar, Sungai Tabuk).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 21, 31, 125, 289, 316.

211 *Luffa acutangula* (L.) Robx.

Synonyms: *Cucumis acutangulus* L./*C. lineatus* Bosc/*C. megacarpus* G. Don, *Luffa acutangula* var. *acutangula*/*L. drastica* Mart./*L. fluminensis* Roem./*L. gosa* Ham./*Momordica tubiflora* Wall.

Cucurbitaceae

Origin: India.

Indonesian names: Gambas, Oyong.

English names: Angled Luffa, Chinese Okra, Dish Cloth Gourd, Ridged Gourd, Sponge Gourd, Vegetable Gourd, Strainer Vine, Ribbed Loofah, Silky Gourd, Ridged Gourd, Silk Gourd.

Description: -

Habitat: It is also grown as a houseplant in places with colder climates.

Uses: Commercially grown for its unripe fruits as a vegetable. Mature fruits are used as natural cleaning sponges.

Distribution: It ranges from central and eastern Asia to southeastern Asia.

Impact: No detail information

Images source: omafra.gov.on.ca

References/Notes: 88, 299, 300, 30

212 *Marsilea crenata* C. Presl

Synonyms: -

Marsileaceae

Origin: Southeast Asia.

Indonesian names: Semanggi.

English names: Dwarf four leaf clover

Description: An aquatic fern growing in deep water,. Rhizomeslender, creeping bearing fronds at intervals as well as on short lateral branches. Roots develop at the base of each frond. Fronds erect, with a long stipe that can be as long as 30 cm. At the tips of the fronds the 4 leaflets that float on the water surface, each triangular in shape with the outer edge rounded and somewhat irregular, 2 × 1.8 cm. Sporangia develop in sporocarps near the base of the stipes. Spores two types, megaspores and microspores. (form small prothalli each with single archegonium) and microspores (produce very reduced prothalli bearnig male cells only).

Habitat: it often grows in rice fields. It is a hardy plant that tolerates poor light conditions and high temperatures.

Uses: The leaves of *Marsilea* crenata are part of the East Javanese cuisine of Indonesia, especially in the city of Surabaya where they are served with sweet potato and Pecel spicy peanut sauce. The young fronds are eaten as a vegetable and the plants are used as cattle feed in Thailand when grass is scarce.

Distribution: Pantropical. Throughout Indonesia; In wet land area Flores, NTT; Tidal areas of South Kalimantan (Handil Manarap, Kertak Hanyar, Sungai Tabuk).

Impact: No detail information

Images source: Wikimedia.org

References/Notes: 3, 27, 31, 88, 196, 242, 317.

213 *Melastoma malabathricum* L.

Synonyms: *Melastoma affine* D. Don/*M. candidum* D. Don/*M. cavaleriei* H. Lév. & Vaniot/*M. esquirolii* H. Lév. /*M. normale* D. Don/*M. polyanthum* Blume

Melastomataceae

Origin: Asia.

Indonesian names: Harendong.

English names: -

Description: Shrub to 6 m high and 11 cm dbh. Stipules absent. Leaves opposite, ovate, 6–12 cm long, 2–4 cm wide, discolorous, covered with short, stiff hairs; main veins 3, and 2 less conspicuous intramarginal veins; petiole up to 10 mm long. Inflorescences short, terminal, of 5–11 subsessile flowers. Hypanthium cup-shaped, 7–10 mm long. Sepals 5, c. 4 mm long. Petals 5, circular, purple to mauve or rarely white, up to 20 mm long. Anthers curved, the longer with prominent appendages, the shorter with smaller appendages.Fruit semi-succulent, ± globose, c. 8 mm long, yellowish-grey, fleshy capsules densely covered with hairs, opening to expose brightly coloroured to black seeds with aril

Habitat: In open sites in mixed dipterocarp (large gaps), coastal, and sub-montane, forests up to 2700 m altitude, but most common in heavily degraded forests. Often along roads and in clearings. Common along rivers, on hillsides and on ridges

Uses: The roots are used as a mouth-wash for toothache. An extraction of the leaves are used to cure wounds and against stomach problems and diarrhea. The fruits are edible

Distribution: Tropical Asia. Throughout Indonesia; Cacao and oil palm plantations South Sulawesi; Oil palm plantations (4 years) South Sumatra; Sulfat acid Soils Banjar Baru, Lampung; Tidal areas of South Kalimantan (Banjarmasin, Barambai, Belandean, Belawang, Sakalagun, Kertak Hanyar, Sungai Tabuk) and Central Kalimantan (Unit Tatas and Pangkuh); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed of young rubber plantations at PT. Palem Baja, Talang Petaling, Palembang.

Impact: Weed of young rubber plantations

Images source: pbase.com

References/Notes: 3, 11, 13, 18, 31, 34, 41, 109, 196, 318.

214 *Melinis repens* (Willd.) Zizka

Synonyms: *Erianthus repens* (Willd.) P. Beauv./*Melinis argentea* Mez/*M. rosea* (Nees) Hack./*Monachyron roseum* (Nees) Parl./*Monachyron tonsum* (Nees) Parl./*Panicum tonsum* (Nees) Steud./*Rhynchelytrum repens* (Willd.) C.E. Hubb., *Rhynchelytrum roseum* (Nees) Stapf & C.E. Hubb. ex Bews/*Saccharum repens* Willd./*Tricholaena repens* (Willd.) C.L. Hitchc./*T. rosea* Nees/*T. rosea* (non Nees) Back/*T. tonsa* Nees

Poaceae

Origin: Tropical Africa.

Indonesian names: -

English names: Glenwood grass.

Description: -

Habitat: Agricultural areas, range/grasslands, ruderal/disturbed, scrub/shrublands, wetlands.

Uses: -

Distribution: Africa to Arabian Pen Red-hairy from cultivated in Java as an ornamental in gardens, possibly also cultivated for fodder, running wild in many places; give impression of becoming naturalized.

Impact: No detail information

Images source: wikimedia.org

References/Notes: 1, 104.

215 *Merremia peltata* (L.) Merr.

Synonyms: *Convolvulus peltatus* L./ *Ipomoea nymphaeifolia* Blume/*Ipomoea peltata* (L.) Choisy/ Ipomoea petaloidea Choisy/*Operculina bufalina* Hallier f./*Operculina petaloidea* Ooststr./*Spiranthera peltata* (L.) Bojer

Convolvulaceae

Origin: -

Indonesian names: Mantangan

English names: Merremia

Description: Robust perennial vine with stems growing from a large subterranean tuber, climbing to 30 m. Stems have a milky juice. Leaves peltate, almost round, but with an abruptly acuminate or mucronate apex, up to 30 cm across, glabrous. Inflorescences axillary, up to 40 cm long with several to many flowers. Sepals 20 mm long, corolla funnel-shaped 5-7 cm long, usually white, but yellow-flowered forms occur in W. Malaysia. Capsule 4-celled, about 15 mm across.

Habitat: A plant of the humid tropics, favouring the edges of primary and secondary lowland rainforest, thickets and plantations. From sea level up to 700 m.

Uses: *M. peltata* is used by some people for healing skin burns (Englberger, 2009).

Distribution: An Old World species ranging from East Africa through the Indian Ocean, South and South-East Asia to many islands of the Pacific

Impact: Noted to be a dominant species in forest plantations in Western Polynesia, Solomon Islands and Indonesia (Whistler (1983), Neil (1982a) and Nazif and Pratiwi (1991), respectively).

Images source: Flickr.com(1), comfsm.fm(2)

References/Notes: 104, 296

216 *Mikania micrantha* Kunth.

Synonyms: *Eupatorium denticulatum* Vahl/*E. orinocense* (Kunth) Gómez de la Maza/*Kleinia alata* G. Meyer/*Mikania alata* (G. Mey.) DC./*M. denticulata* (Vahl) Willd./*M. orinocenis* Kunth/*M. subcrenata* Hooker & Arnott/*M. umbellifera* Gardner/*Willoughbya cissampelina* (DC.) Kuntze/*Willoughbya micrantha* (Kunth) Rusby

Asteraceae

Origin: C. & S. America.

Indonesian names: Mikania, rumput selaput tunggul, sembung rambat (Javanese), caputuheun (Sundanese).

English names: Bitter Vine or Climbing Hemp Vine or American Rope.

Description: A branched, slender-stemmed perennial vine. Leaves arranged in opposite pairs along the stems and heart-shaped or triangular with an acute tip and a broad base. Leaves may be 4-13 cm long. Flowers, each 3-5 mm long, arranged in dense terminal or axillary corymbs. Individual florets white to greenish-white. Seed black, linear-oblong, five-angled and about 2mm long;each seed has a terminal pappus of white bristles that facilitates dispersal by wind or on the hair of animals (Pacific Island Ecosystems at Risk).

Habitat: *Mikania micrantha* is native to Central and South America, where it grows in and near forests, along rivers and streams and in disturbed areas such as roadsides.

Uses: It is used to heal cuts and stop minor external bleeding in Fiji but its medicinal properties are still yet to be fully discovered.

Distribution: Widely distributed in S. America; The Botanic Garden of Bogor received this species from Paraguay in 1949. In 1956 it was used as a soil cover in rubber, and has now spread throughout Indonesia; Oil palm plantations (4 years) South Sumatra; Cihea Cianjur, West Java; Oil palm plantations Medan; Bandar Lampung; Weed of rubber plantations Cimulang, Bogor; West Java (Leuwi Liang, Cigudeg, Semplak); Lampung (Terbanggi, Way Besay, Baturaja Ogan Komering Ulu, Banjarsari, Bendosari, G. Terang Kemiling, Terbanggi); South Sumatra(Musi Banyuasin, Sungkai Selatan, Ogan Komering Ilir); Riau (Kp. Pinang Siak Hulu, Kampar); West Sumatra (Limau Manis, Padang); Jambi(Tebing Tinggi, Batanghari); West Sumatra(Batang Asam Pulau, SW. of Lubuk Alung; Tanjung Anau, Kota nan Gadang, Payakumbuh; Lembah Anai, Padang Pariaman; Bukit Kajai, SE. of Lubuk Sikaping; Lurah Barangin, Bonjol; Sungai Pisang, S. of Padang; NW. of G. Talamau, Rimbo Panti Nature (Paasaman); Anduring, N. of Padang; Laing Solok); It was first observed in Fiji in 1907, in Java 1951 and is now found in India, Sri Lanka, Malaysia, Indonesia, the Philippines, New Guinea and several Pacific Island.

Impact: Weed of rubber plantations

Images source: Foris-Indonesia

References/Notes: 2, 3, 13, 21, 24, 26, 47, 59, 80, 88, 104, 126.

217 *Mikania scandens* (L.) Willd.

Synonyms: *Mikania scandens* var. *scandens/Willoughbya scandens*

Asteraceae

Origin: Eastern and Central United States

Indonesian names: -

English names: Climbing Hempvine, Climbing Hempweed, and Louse-Plaster.

Description: Perennial herb which grows as a branching vine. Leaves oppositely arranged at swollen nodes on the stem; triangular or heart-shaped, sometimes toothed blades up to 15 cm long by 11 cm wide. Heads clustered inpanicles,about half a cm long and is enclosed in narrow, sometimes purple-tinged phyllaries. Flowers pinkish, purplish, or white. Fruit dark-colored, resinous achene about half a cm long, including its pappus of white or purplish bristles.

Habitat: Forest edges, pinelands and prairies.

Uses: This plant is cultivated as a cover crop and a livestock fodder. It is also grown as an ornamental plant and it is used in butterfly gardens. It is used in traditional medicine systems of the Indian subcontinent as a treatment for gastric ulcers, wounds, and insect bites and stings.

Distribution: Eastern North America west to Texas and south to the Monroe County Keys; West Indies, Mexico, Central America and South America. Rare in the Monroe County Keys and very rare or absent in the middle Keys.

Impact: No detail information

Images source: wildflowerhunter.files.wordpress.com

References/Notes: 88, 305, 307

218 *Millingtonia hortensis* L.f.

Synonyms: *Bignonia azedarachta* König & Sims/*Bignonia cicutaria* K.D. Koenig ex Mart./*Bignonia hortensis* (L.f.) Oken/*Bignonia suberosa* Roxb./*Millingtonia dubiosa* Span.

Bignoniaceae

Origin: Burma.

Indonesian names: -

English names: Indian Cork Tree.

Description: Fine tree, fast growing, but with brittle wood, liable to be damaged by storms. In favourable positions it can grow to 24 m tall. The ashy bark cracked and furrowed and the numerous fissures make removal of the cork an easy matter. Between January and March the leaves are shed and renewed during April and May, although the tree is never quite naked. The long leaves bear two or three widely spaced pinnae, each with five or seven smooth leaflets, oval, pointed and slightly round-toothed. Each is from 2.5 to 7.5 cm. long. Sometimes the lower pinnae, are again divided and bear one pair of three leaved pinnae, one or two pairs of leaflets and one leaflet at the end. Flowers silvery white, delightfully fragrant. Upright open clusters with arching blooms terminate every branchlet. Each flower a tiny bell-shaped calyx, a long slender tube of palest green dividing into four waxy, white petals and several conspicuous yellow anthered stamens. Many flowers delicately tinted with rose. As the flowers are short-lived, the flower sprays mostly consist largely of long whitish buds, while the ground below is spangled with innumerable little stars. Fruit very long and narrow, pointed at both ends and contains thin flat seeds.

Habitat: -

Uses: Ornamental plant, The flowers can be rolled liked tobacco for smoking as a treatment for throat ailments, and the extract of the leaves has good antimicrobial activity. Used as tea, its dried flowers make a good lung tonic.

Distribution: Naturalized in Java. Locally planted in parks and along roads; sometimes seemingly wild.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 125, 157.

219 *Mimosa diplotricha* Sauvalle

Synonyms: *Mimosa invisa C.* Mart./*M. longisiliqua* Lam./*Morongia pilosa* Standl./*Schrankia brachycarpa* Benth./*Schrankia pilosa* (Standl.) J.F.Macbr.

Mimosaceae

Origin: Tropical & Subtropical America (Brazil).

Indonesian names: Simeduri-dura (Melayu), jukut borang (Sunda).

English names: Giant false sensitive plant, giant sensitive plant, nila grass.

Description: Shrubby or sprawling annual vine which may also behave as a perennial. Stems bunching, often scrambling over other plants. Additionally, they distinguished by four-angles, each of which consisting a line of sharp, hooked prickles. Leaves bright green, feathery and fern-like and arranged in an alternating pattern, with each leaf divided into five to seven pairs of segments. Each segment carries about twenty pairs of very small leaflets which close up when disturbed or injured and at night.

Habitat: Mimosa diplotricha grows best in tropical regions: high moisture and in highly fertile soils. It is known to thrive under full sunlight conditions.

Uses: -

Distribution: In Java since long naturalized in many regions., also cultivated as a cover plant; In 1900 recorded for the first time in C. Java, on the Lawu volcano. Throughout Indonesia; Tropical America, now introduced to all tropic Malesia: Malaya, Sumatra, Java, Borneo, Philippines (Luzon), Lesser Sunda Islands (Flores, Timor), New Guinea, and probably spreading everywhere (var diplotricha); Balitan Maros; Morus alba plantations South Sulawesi; Onion plantations South Sumatra; Takalar sugarcane plantations; Kalianda, South Lampung; Sugarcane plantations Camming, South Sulawesi; Dry land of Flores, NTT; Weed of cotton plantations in Segayung (Kabupaten Batang, Central Java), Gading (Kabupaten Gunung Kidul, Yogyakarta); Weed of cabbage plantations in trails garden SPLPP UNPAD, Bandung; Weed of chili plantations Cibungbulang, Bogor; Undergrowth plant at Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java; Its distribution is now pantropical. It was probably accidentally introduced into SE. Asia in the 19th Century. In the early 20th Century it was taken into cultivation in Java and Sumatra and from there to other countries in SE. Asia. A true-breeding, spineless form was discovered in Java in 1942 and soon taken into cultivation; yhis form spread to most countries of S. and SE. Asia to lesser extent of Africa.

Impact: Weed of cotton, cabbage, and chili plantations.

Images source: Flickr.com

References/Notes: 1, 3, 4a, 6h, 10, 13, 17, 20, 25, 27, 40, 43, 44, 72, 80, 104, 252.

220 *Mimosa pigra* L.

Synonyms: *Mimosa asperata* L./*M. brasiliensis* Niederl./*M. canescens* Willd./*M. ciliata* Willd./*M. hispida* Willd./*M. polyacantha* Willd.

Mimosaceae

Origin: Tropical America.

Indonesian names: Putri malu.

English names: Bashful plant, catclaw mimosa, giant sensitive plant, giant sensitive tree, giant trembling plant, mimosa.

Description: Erect, much branched prickly shrub reaching a height of 3-6 m. Stems greenish at first but become woody, up to 3 m long, and have randomly scattered, slightly recurved prickles 0.5 cm long. Leaves bright green, 20-25 cm long and bipinnate, consisting of about 15 pairs of opposite primary segments 5 cm long with sessile, narrowly lanceolate leaflets that fold together when touched or injured and at night. Flowers pink or mauve, small, regular and grouped into globular heads 1-2 cm in diameter. Heads borne on stalks 2-3 cm long, with two in each leaf axil, while the corolla has four lobes with eight pink stamens. Fruit thick hairy, 20-25 seeded, flattened pod borne in groups in the leaf axils, each 6.5- 7.5 cm long and 0.7-1cm wide. Fruit turns brown when mature, breaking into one-seeded segments. Seeds brown or olive green, oblong, flattened, 4-6 mm long, and 2 mm wide.

Habitat: Agricultural areas, coastland, natural forests, planted forests, range/grasslands, riparian zones, ruderal/disturbed, scrub/shrublands, urban areas, water courses, wetlands.

Uses: -

Distribution: In West Java since along time naturalized; Tropical S. America, but now pantropical and spreading rapidly in tropical Asia; In Malesia recorded from Sumatra, Java, Kalimantan; -West Java: Cibinong, Jabaru, S. Ciliwung, Depok (Bogor), Serang, Citeras (Banten), Tanggerang, Lebak Bolang, Rangkasbitung, Cagar Alam Jasinga, Cianjur, Buahbatu (Bandung), Rawa Tembaga (Bekasi), Haurgeulis (Indramayu); -DKI Jakarta: Tanjung Priuk, Kali Sunter, Jalan Tol Jagorawi, Jabotabek, Jalan tol Cengkareng; -DI Yogyakarta: Yogyakarta; - Central Java: Mertoyu, Magelang, Banyumas, Cilacap; - East Java: Waduk Bening, Waduk Saradan, Surabaya, Madiun; - DI Aceh: Banda Aceh; - North Sumatra: Sibolangit; - West Sumatra: Solok; - East Kalimantan: Tenggarong, Samarinda; - Tidal areas of South Kalimantan (Belawang, Sakalagun) and Central Kalimantan (Unit Tatas); - Sungai Mahakam, East Kalimantan; - Wasur National Park, Papua.

Impact: No detail information

Images source: wikimedia.org

References/Notes: 1, 4a, 6i, 28, 31, 55, 66, 67, 104.

221 *Mimosa pudica* L.

Synonyms: *Mimosa hispidula* Kunth/*M. pudica* var. *Pudica*

Mimosaceae

Origin: Tropical America/S. America.

Indonesian names: Putri malu.

English names: Sensitive plant, sleepy plant and the touch-me-not.

Description: Stem erect in young plants, but becomes creeping or trailing with age;can hang very low and become floppy;slender, branching, and sparsely to densely prickly, growing to a length of 1.5 m (5 ft). Leaves bipinnately compound, with one or two pinnae pairs, and 10-26 leaflets per pinna. Petioles prickly. Pedunculate (stalked) pale pink or purple flower heads arise from the leaf axils in mid summer with more and more flowers as the plant gets older. Heads globose to ovoid, 8–10 mm in diameter (excluding the stamens). On close examination, it is seen that the floret petals are red in their upper part and the filaments are pink to lavender. Fruit consists of clusters of 2-8 pods from 1–2 cm long each, these being prickly on the margins;pods break into 2-5 segments and contain pale brow

n seeds some 2.5 mm long.

Habitat: It grows mostly in shady areas, under trees or shrubs.

Uses: -

Distribution: Since a very long time naturalized in Java; Pantropical. Throughout Indonesia; The three varieties are all found in Malesia; 0-1000 m alt; Morus alba plantations South Sulawesi; Oil palm plantations (4 years) South Sumatra; Trials garden of Banjar Baru, South Kalimantan; Oil palm plantations Medan, North Sumatra; Dry land of Flores, NTT; Tidal areas of South Kalimantan (Banjarmasin, Barambai, Handil Manarap); Kalitirto, Berbah, Sleman, Yogyakarta; In the vegetable fields in the dry seasons in Candi Kuning, Bali; Undergrowth plant at Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java; It occurs commonly throughout SE. Asia, usually along road-sides and on wasteland.

Impact: No detail information

Images source: wikimedia.org

References/Notes: 1, 3, 4a, 6j, 11, 13, 19, 24, 27, 31, 38, 70, 72, 75, 88, 283.

222 *Mitracarpus hirtus* (L.) DC.

Synonyms: *Borreria remotifolia* DC./*Diodia villosa* Moc. & Sessé ex DC./*Mitracarpus villosus* (Sw.) DC./*M. diffusus* (Willd. ex Roem. & Schult.) DC./*M. scaber* Zucc./*Spermacoce diffusa* Willd. ex Roem. & Schult./*Spermacoce hirta* L./*Spermacoce villosa* Sw.

Rubiaceae

Origin: N. W. Africa (Senegal), along the Nile.

Indonesian names: -

English names: -

Description: Erect or spreading annual herb (5)9–40 cm. tall, with unbranched or sparsely to much-branched stems; branchlets pubescent with short curled ± appressed hairs and often with spreading ones as well, the older with epidermis eventually peeling; sometimes quite woody at the base. Leaf blades 1–6 × 0.3–2.3 cm., elliptic, subacute at the apex, cuneate at the base, glabrescent to scabrid-pubescent above, glabrescent or glabrous beneath save for hairs on the main nerves; margins often scabrid; petiole c. 1 mm. long, often densely pubescent and with ciliate margins; stipule sheath 1–3 mm. long, divided into 6–9(15) often colleter-tipped fimbriae, 1–5 mm. long, ciliate. Inflorescences numerous, present in most axils, subglobose, (0.5)0.8–1.8 cm. in diam; flowers sessile or almost so; bracteoles filamentous, white, 1–2 mm. long. Calyx tube 1–1.4 mm. long; limb tube 0.15–0.4 mm. long; lobes 4, 2 oblong-lanceolate, green with hyaline margins, rather thick, 1.3–2.3(3) mm. long, and 2 hyaline, 0.55–1.5 mm. long, triangular-lanceolate, narrower than the others, all with usually ciliate margins and often hairy below. Corolla white, glabrous or slightly hairy outside; tube 1.4–1.9 mm. long; lobes 0.6–1 x 0.3–0.9 mm, ovate. Flowers showing very slight heterostyly, the anthers varying in their degree of exsertion; style 1.1–1.6 mm. long; stigma 0.3–0.5 mm. long. Capsule straw-coloured, c. 1 mm. long and wide. Seeds pale yellow-brown, 0.8 x 0.5 mm., compressed ellipsoid-rectangular, of very characteristic appearance, dorsally resembling a rectangle with a square portion removed from each corner, ventrally separated into 4 distinct areas by 4 impressed lines radiating from the hilum, rugulose and reticulate.

Habitat: Weed in gardens and cultivations on sandy soil, also by roadsides, dambos, dry rocky hills etc 510–1200 m.

Uses: Medicinal uses: Leaves used for eczema.

Distribution: Has been observed in West Java, in the Karawang area.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 223, 261.

223 *Momordica charantia* L.

Synonyms: *Cucumis argyi* H.Lév./*Cucumis intermedius* M.Roem./*Momordica chinensis* Spreng./*M. elegans* Salisb./*M. indica* L./*Sicyos fauriei* H. Lév.

Cucurbitaceae

Origin: Unknown.

Indonesian names: Pare, paria.

English names: Bitter melon, bitter gourd or bitter squash.

Description: A much branched annual climber. Leaves simple, deeply lobed, cordate, orbicular and membranous. Tendrils single, slender and elongate. Flowers unisexual, yellow in long peduncles. Fruits 3 valved capsules, with numeruous trinagular tubercles. Seeds many with irregular surfaces.

Habitat: -

Uses: Plant pacifies vitiated pitta, kapha diabetes, skin disease, constipation, worm infestation, burning sensation, wound, ulcers, inflammation and general debility.

Distribution: Pantropical distribution, with wild and cultivated population; It was possibly first domesticated in E. India and S. China. It now has a pantropical distribution, with wild and cultivated population.

Impact: No detail information

Images source: newenglandwild.org

References/Notes: 6d, 69, 75, 88, 124.

224 *Monochoria hastata* (L.) Solms

Synonyms: *Carigola hastata* (L.) Raf./*Monochoria chinensis* Gand./*M. dilatata* (Buch.-Ham.) Kunth/*M. hastifolia* C. Presl./*M. sagittata* Kunth/*Pontederia dilatata* Buch.-Ham./*Pontederia hastata* L.

Pontederiaceae

Origin: E. Asia/Tropical S. & SE. Asia.

Indonesian names: Wewean.

English names: Arrow Leaf Pondweed, arrow-leaf monochoria, hastate-leaf pondweed.

Description: Arrow-leaf Pondweed is an emergent aquatic herb with stems approximately 0.7-1.2 m long. The basal leaves are arrow-shaped. Inflorescence of 25-60 flowers is in a dense spike 6-9 cm long. Flowers 13-16 mm long, purple or whitish. One anther coloured blue, c. 6 mm long, the other 5 anthers yellow and c. 4 mm long. Seed capsule, 7 mm long and 5-6 mm diameter.

Habitat: -

Uses: Ornamental in water gardens. Plant is considered alterative, tonic and cooling. Juice of leaves is applied to boils. Rhizomes are powdered with charcoal and used for scurf.

Distribution: Tropical S. and S.E. Asia, Malesia, N. Australia. Throughout Indonesia, except the Lesser Sunda Islands and the Moluccas; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap, Kertak Hanyar, Sungai Tabuk); Native in tropical S. & SE. Asia extending to N. Australia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 31, 69, 125, 269.

225 *Monochoria vaginalis* (Burm.f.) C.Presl

Synonyms: *Boottia mairei* H. Lév./*Gomphima vaginalis* (Burm.f.) Raf./*Monochoria junghuhniana* Hassk./*M. linearis* Miq., *M. ovata* Kunth/*M. plantaginea* (Roxb.) Kunth./*Pontederia lanceolata* Wall. ex Kunth/*P. pauciflora* Blume/*P. vaginalis* Burm.f.

Pontederiaceae

Origin: S. Asia.

Indonesian names: Eceng padi.

English names: Heartleaf false pickerelweed and oval-leafed pondweed.

Description: Annual or perennial herb, growing in water from a small rhizome. Leavesshiny green, up to ca.12 cm long and 10 cm wide, borne on rigid, hollowpetioles. Inflorescence bears 3-25 flowers which open underwater and all around the same time. Tepals six, purple-blue in colour. Fruit capsule about a centimeter long which contains many tiny winged seeds.

Habitat: An annual or pseudo-annual in flooded rice fields, but may grow as a perennial in constantly flooded areas. Also found in ditches, ponds, and swamps.

Uses: This is a widespread species which faces no major threats. It is considered as an invasive plant in some countries and as a useful medicinal herb in Asia.

Distribution: S.E. Asia to China and Japan, Malesia. Throughout Indonesia; Wet land of Flores-NTT; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap, Kertak Hanyar, Sungai Tabuk); Kp. Muara, Kab. Bogor; Throughout SE. Asia, extending also to China, Japan, Fiji Islands and N. Australia. It has become naturalized in Hawaii, California and in rice filed in Russia and Italy. It is sometimes cultivated as a vegetable.

Impact: No detail information

Images source: tcp-ip.or.jp

References/Notes: 3, 27, 31, 39, 70, 88, 148, 196

226 *Myriophyllum aquaticum* (Vell.) Verdc.

Synonyms: *Enydria aquatica* (Vell.) Verdc./*Myriophyllum brasiliense* (Cam.)/*Myriophyllum proserpinacoides* (Gillies ex Hook. & Arn.)

Haloragaceae

Origin: South America -

Indonesian names: - -

English names: Water feather, parrot's feather, Brazilian water-milfoil -

Description: Perennial herbs. Stems very robust with adventitious roots forming at the nodes. Submerged leaves, 1.5-3.5 cm long and have 20-30 divisions per leaf; limp and often appear to be decaying. Emergent leaves 2-5 cm long and have 6-18 divisions per leaf; bright green.

Flowers white, inconspicuous and form where emergent leaves attach to the stem. -

Habitat: Myriophyllum aquaticum occurs in freshwater lakes, ponds, streams and canals. It has been found to thrive in well lit, high nutrient waters. -

Uses: Myriophyllum aquaticum has been introduced worldwide for use in indoor and outdoor aquaria. It is also a popular aquatic garden plant. However, these uses cannot compensate for this plant's overall negative impacts. -

Distribution: Locations within which Myriophyllum aquaticum is naturalised include Australia, southern and eastern Africa, warm and cool temperate Europe and some islands in tropical and temperate parts of the world. -

Impact: Myriophyllum aquaticum can rapidly colonise wetlands and forms dense mats that obstruct boat passage, trap sediments and crowd out native vegetation. Light is strongly reduced and water flow impeded (Weber, 2003).

M. aquaticum has been included in the Global Invasive Species Database (GISD 2005). It has been listed as a noxious weed in South Africa (prohibited plants that must be controlled. They serve no economic purpose and possess characteristics that are harmful to humans, animals or the environment) and in several Australian states. No detail information

Images source: Flowgrow.de-

References/Notes: 108

227 *Nicandra physalodes* (L.) Gaertn.

Synonyms: *Atropa daturifolia* Thore/*Boberella nicandra* E.H.L. Krause/*Calydermos erosus* Ruiz & Pav./*Nicandra minor* Hort. ex Fisch./*Pentagonia physalodes* (L.) Hiern/*Physalis daturifolia* Lam./*Physalodes peruviana* Kuntze

Solanaceae

Origin: Peru.

Indonesian names: Nandina.

English names: Shoofly plant.

Description: Annual plant, up to is 2-5' tall, branching occasionally. Stems angular and largely hairless. Leaves alternate, up to 8" long and 4" across (excluding the petioles), ovate-cordate and sparsely pubescent; margins shallowly lobed, bluntly dentate, or undulate. Petiole long and slender, tilting at an upward anglewith few hairs near its base, otherwise it is hairless. Inflorescence axilarry. Flowers often nod downward, but sometimes erect. Corolla spreading, light blue or lavender with 5 shallow lobes. Corolla throat white. Stamens 5; anthers light yellow with single pistil. Flowers ca. 1–1½" across when fully open; diurnal and short-lived. The blooming period occurs during the summer and lasts about 2-3 months. Only a few flowers remain open at the same time. Calyx shorter than flowers and divided into 5 sepals. Sepal ovate-sagittate. Fruit about ½" across and divided into 5 cells (sometimes only 3-4 cells). It has a dry texture and is full of seeds. Root system consists of a taproot. This plant spreads by reseeding itself.

Habitat: It was introduced into the United States from tropical America as an ornamental plant. Habitats include areas adjacent to flower gardens, areas along roadside ditches, cropland, and fallow fields. This species is occasionally cultivated in flower gardens because of the moderately attractive flowers. It prefers disturbed areas, and usually doesn't persist in the wild.

Uses: Nicandra physalodes was originally introduced as a garden plant (ornamental). It is also known to have medicinal and insecticidal properties. The latter attribute is the reason for it being sometimes known as shoo-fly.

Distribution: Naturalized in Java, introduced long ago; Dieng-Plateau (Central Java); In the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 70, 108, 199, 254.

228 *Ocimum americanum* L.

Synonyms: *Ocimum africanum* Lour./*O. album* Roxb./*O. brachiatum* Blume/*O. canum* Sims/*O. hispidulum* Schumach. & Thonn./*O. incanescens* Mart./*O. stamineum* Sims/*O. thymoides* Baker

Lamiaceae

Origin: India

Indonesian names: -

English names: Hoary Basil, Rosary Basil, Basil, Thai Basil, Sweet Basil

Description: An annual aromatic much-branched herb, 15-60 cm high. Leaves 2.5-3.8 cm long, elliptic-lanceolate, acute at both ends. Flowers small, white, in rather close whorls, in spiciform racemes, up to 20 cm long. Nutlets 1.25 mm long, ellipsoid, black.

Habitat: -

Uses: Basil is commonly used fresh in cooked recipes. In general, it is added at the last moment, as cooking quickly destroys the flavor. The fresh herb can be kept for a short time in plastic bags in the refrigerator, or for a longer period in the freezer, after being blanched quickly in boiling water. The dried herb also loses most of its flavor, and what little flavor remains tastes very different, with a weak coumarin flavor, like hay. Basil is one of the main ingredients in pesto—a green Italian oil-and-herb sauce. The most commonly used Mediterranean basil cultivars are "Genovese", "Purple Ruffles", "Mammoth", "Cinnamon", "Lemon", "Globe", and "African Blue". The Chinese also use fresh or dried basils in soups and other foods. In Taiwan, people add fresh basil leaves to thick soups (Chinese: ; pinyin: gēngtāng). They also eat fried chicken with deep-fried basil leaves. Basil (most commonly Thai basil) is commonly steeped in cream or milk to create an interesting flavor in ice cream or chocolates (such as truffles). The leaves are not the only part of basil used in culinary applications, the flower buds have a more subtle flavor and they are edible. Thai basil is also a condiment in the Vietnamese noodle soup, phở.

Distribution: Occurs wild and cultivated throughout Tropical Africa & Tropical Asia. In SE. Asia it has been reported from continental parts, from Indonesia and Papua New Guinea. Its occurence in the Philippines is doubtful. It has also been introduced into tropical America and some Islands of the West Indies.

Impact: No detail information

Images source: onlineplantguide.com

References/Notes: 69, 117.

229 *Oldenlandia corymbosa* L.

Synonyms: *Hedyotis corymbosa* (L.) Lam./*Hedyotis burmanniana* Wight & Arn./*Hedyotis ramosa* (Roxb.) Blume./*Gerontogea biflora* Cham. & Schltdl./*Gerontogea corymbosa* (L.) Cham. & Schltdl./*Oldenlandia burmanniana* G. Don/*Oldenlandia ramosa* Roxb.

Rubiaceae

Origin: Unknown/Africa & India.

Indonesian names: Rumput siku-siku.

English names: Diamond flower.

Description: Terrestrial, annual, erect or prostrate herb, up to 50 cm long. Roots fibrous, white or brown. Stems quadrangular, solid, glabrous, Stipules present, laciniate. Leaves simple, not lobed or divided, entire, opposite, stalked, linear, lanceolate, or elliptic, usually more than 2 cm long/wide, glabrous on both sides, margin entire, apex acute, base acute, one-veined,. Flowers bisexual, solitary or grouped together into an axillary cyme, sessile or stalked, petals 4, white. Fruits a capsule, opening with apical pores or slits.

Habitat: In sunny, not too wet sites, especially on hard or stony soil on roadsides, base of walls, gardens, premises, lawns, fallow fields; often abundant. Up to 1500 m alt. Rainfed, upland and lowland rice fields.

Uses: -

Distribution: Asia. Throughout Indonesia; Grassland and pathway of Bogor Botanical Garden; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap) and Central Kalimantan (Unit Tatas); Pantropical distribution, throughout Malesia.

Impact: No detail information

Images source: nysp-runner-plants.blogspot.com

References/Notes: 3, 30, 31, 75, 88, 91.

230 *Oldenlandia diffusa* (Willd.) Roxb.

Synonyms: *Hedyotis diffusa* Willd./*Oldenlandia pauciflora* Roxb. ex Wight & Arn

Rubiaceae

Origin: Unknown.

Indonesian names: Rumput lidah ular.

English names: An annual diffuse flaccid weed, stems numerous, prostrate, often rooting at the nodes. Leaves subsessile, 2-3.2 cm long, linear or linear-lanceolate, acute. Flowers very small, white, usually solitary, sessile or on very short pedicels. Capsules broader than long, very truncate and flat on the top.

Description: -

Habitat: Decoction of the plant is used in biliousness, fever and gonorrhoea. The herb is antitumour against Ehrlich cancer cells in mice. Hexane extract is cytotoxic to both human and mouse cancer cells (Asolkar et al., 1992).

Uses: -

Distribution: Asia. Throughout Indonesia; From Sri Lanka, India, S. China and Japan to Malesia; also in tropical America.

Impact: No detail information

Images source: bizearch.com

References/Notes: 3, 75, 117, 262.

231 *Oryza rufipogon* Griff.

Synonyms: *Oryza glumipatula* Steud./*Oryza meridionalis* N.Q. Ng/*Oryza nivara* S.D. Sharma & Shastry/*Oryza paraguayensis* Wedd. ex E. Fourn./*Oryza sativa* var. *abuensis* Watt/*Oryza sativa* var. *bengalensis* Watt.

Poaceae

Origin: Asia.

Indonesian names: Padi burung, padi hantu

English names: Wild rice, brown-bread rice, perennial wild red rice; red rice; red-bearded rice; wild red rice

Description: Perennial, tufted, and scrambling grass with nodal tillering; plant height variable (1-5 m) depending on the depth of water; panicles open; spikelets usually 4.5-10.6 mm long and 1.6-3.5 mm wide with awns usually 4-10 cm long; anthers >3 mm reaching 7.4 mm long.

Habitat: Found in swamps and marshes, in open ditches, swampy grassland, ponds, along river banks, at the edges of lakes, and in or at the margins of rice fields, commonly found in deep water areas (0.2-4 m). Grows in clay/loam soil and black soil, in full sun.

Uses: -

Distribution: Afghanistan; Australia; Bangladesh; Brazil; Cambodia; China (Guangdong, Guangxi, Hunan, Jiangxi, Yunnan); Colombia; Ecuador; Egypt; Guyana; Hong Kong; India (Andhra Pradesh, Assam, Bihar, Goa, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal); Indonesia (Jawa, Kalimantan, Papua, Sulawesi); Iran, Islamic Republic of; Iraq; Korea, Democratic People's Republic of; Korea, Republic of; Lao People's Democratic Republic; Malaysia; Myanmar; Nepal; Pakistan; Papua New Guinea; Peru; Philippines; Senegal; Sri Lanka; Swaziland; Taiwan, Province of China; Tanzania, United Republic of; Thailand; United States; Venezuela, Bolivarian Republic of Vietnam.India, Burma, Thailand, and Tropical Africa and America. Throughout Indonesia, except the Lesser Sunda Islands, Sulawesi and the Moluccas, as far as known; Tidal areas of South Kalimantan (Banjarmasin, Barambai) and Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 31, 114

232 . *Oxalis barrelieri* L.

Synonyms: *Acetosella barrelieri* (L.) Kuntze/*Lotoxalis barrelieri* (L.) Small/*Oxalis amazonica* Progel/*O. colombiensis* R. Knuth/*O. lilloana* R. Knuth/*O. sepium* A. St.-Hil. var. picta Prog.

Oxalidaceae

Origin: Tropical S. America.

Indonesian names: Belimbing tanah, blimbing-blimbingan (Jawa), cacalincingan (Sunda)

English names: Lavender Sorrel, Barrelier's Woodsorrel.

Description: -

Habitat: -

Uses: -

Distribution: Established in West Java in many places, in Central and East Java locally; Cultivated and naturalized in many tropical countries. In Indonesia: found near Bogor 1888, occurs nowadays in Sumatra, Java and Papua; Oil palm plantation Medan, North Sumatra; Undergrowth plant Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java; It has naturalized in many areas. It was first observed in Java 1888. In SE. Asia it is common in Indonesia (Sumatra, Java, Bangka, Irian Jaya), Peninsular Malaysia and Papua New Guinea

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 3, 24, 72, 76, 196, 243, 283.

233 *Oxalis debilis* Kunth var corymbosa (DC.) Lourteig

Synonyms: *Oxalis corymbosa* DC./*O. grandifolia* DC./*O. martiana* Zucc./*O. violacea* auct./*Acetosella grandifolia* (DC.) Kuntze/*Acetosella martiana* (Zucc.) Kuntze/*Ionoxalis martiana* (Zucc.) Small

Oxalidaceae

Origin: Brazil & the West Indies/ tropical S. America.

Indonesian names: -

English names: Lilac oxalis, pink shamrock, large flowered pink sorrel, large-flowered pink-sorrel, lilac oxalis, pink shamrock, pink wood sorrel, pink wood-sorrel, pink woodsorrel, violet wood-sorrel, violet woodsorrel.

Description: Stems and leaves: Parent bulb produces many small bulbils 3-6 mm long. Leaves have petioles (leaf stalks) 5-30 cm long and blades divided into three heart-shaped leaflets, 2-4.5 × 2-5.5 cm. Leaves are spotted on the undersides.

Flowers and fruit: Flowers are funnel-shaped with five pink, mauve petals 1.5-2 cm long. Flowers are borne in bunches at the top of an erect stalk which emerges from the mature bulb. Flowering occurs in spring and summer. Fruits are rarely produced, the plant usually reproduces asexually via bulbs.

Habitat: Common weed of gardens and lawns.

Uses: As ornamental and with infested ground.

Distribution: In Java at 450-1450 m alt., naturalized in many places; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed of potato plantations Koto Baru, Kabupaten Tanah Datar, West Sumatra; Naturalized in many areas and is a common pot plant. It was introduced into Java from Sydney before 1848. In SE. Asia it is common but occasionally cultivated in Indonesia (Java, West Sumatra), Peninsular Malaysia and the Philippines.

Impact: No detail information

Images source: keyserver.lucidcentral.org

References/Notes: 1, 34, 42, 76, 108.

234 *Oxalis intermedia* A Rich.

Synonyms: *Ionoxalis intermedia* (A. Rich.) Small

Oxalidaceae

Origin: Mexico & the West Indies/C. & Tropical S. America.

Indonesian names: -

English names: West Indian wood sorrel. Broadleaf woodsorrel

Description: Plants perennial, acaulescent, rarely without leaves, glabrous or sparsely pubescent, arising from a cluster of brownish sessile- appearing bulblets or a bulb producing numerous slender stolons with bulblets at the apices; bulb scales (3–)5–7-nerved. Leaves all basal; leaflets 3, obtriangular to broadly obtriangular, 20–50 mm, lobed 1/5–1/3 length, lobes apically truncate, bright green above, paler beneath, oxalate deposits absent; petioles 10–22 cm. Flowers 3–12(–18) in umbelliform cymes, semi-homostylous; scapes 7–30 cm; sepal apices with a pair of orange tubercles; petals 8–12 mm, usually lavender to purple, less commonly pink or white. Capsules ellipsoid, 3–8 mm, glabrous, usually seed-sterile and without fruit. 2n= unknown.

Habitat: Anthropogenic (man-made or disturbed habitats), meadows and fields.

Uses: -

Distribution: In West and East at 1250-1550 m alt., locally naturalized; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; In the vegetable field in the dry and rainy seasons in Candi Kuning, Bali; It has naturalized in many areas. In SE. Asia it occurs in Indonesia (Java), where it was already abundant before 1924.

Impact: Weed of tea plantations

Images source: alltomtradgard.se

References/Notes: 1, 34, 70, 76, 244.

235 *Panicum brevifolium* L.

Synonyms: *Isachne biflora* (Lam.) C.Cordem./*I. lamarckii* Kunth/*I. tricarinata* Roth/*P. arborescens* L., *P. biflorum* Lam./*P. ovalifolium* Poir./*P. tricarinatum* (Roem. & Schult.) Steud.

Poaceae

Origin: Continental Asia (probably).

Indonesian names: -

English names: Short-leaved panicum, shortleaf panic grass

Description: Annual. Culms rambling; 15–100 cm long; rooting from lower nodes. Leaf-sheaths outer margin hairy. Ligule a ciliate membrane. Leaf-blade base amplexicaul. Leaf-blades ovate; 5–10 cm long; 10–25(–38) mm wide; membranous. Leaf-blade venation with distinct cross veins. Leaf-blade surface glabrous, or pilose. Leaf-blade apex acute.

Habitat: In Sri Lanka, "common in shade along forest edges, embankments, river banks, and in secondary vegetation at elevations from sea level to 1300 m

Uses: -

Distribution: Africa: west tropical, west-central tropical, northeast tropical, east tropical, southern tropical, south, and western Indian ocean. Asia-temperate: China and eastern Asia. Asia-tropical: India, Indo-China, and Malesia. South America: Brazil. West and Central Java; Pantropical, also subtropical, in the New World from the southern USA to Argentina. Throughout Indonesia, so far not found in the Lesser Sunda Islands and the Moluccas; Morus alba plantations, South Sulawesi; Young rubber plantation.

Impact: No detail information

Images source: hkwildlife.net

References/Notes: 1, 223.

236 *Panicum maximum* Jacq.

Synonyms: *Megathyrsus maximus* (Jacq.) B.K.Simon & Jacobs/*P. bivonianum* Brullo, Miniss., Scelsi & Spamp./*P. heynii* Roth/*P. laeve* Lam./*P. praelongum* Steud./*Urochloa maxima* (Jacq.) R.D. Webster

Poaceae

Origin: Tropical Africa. *Africa*: Angola, Benin, Botswana, Cameroon, Cote D'Ivoire, Democratic Republic of Congo (Zaire), Eritrea, Ethiopia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mozambique, Namibia, Nigeria, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe. *IndianOcean*: Madagascar,Mauritius. *Asia*: Yemen

Indonesian names: -

English names: Guinea grass. Guinea grass, Tanganyika grass, buffalograss (English speaking countries); hhash el gînâ (Arab countries); pasto guinea, mijo de guinea (Argentina); capim guine, capim-colonião, capim de Angola, capim de feixe, erva da Guine' (Brazil); ratatana, gini-opilli (Ceylon); da shu, yang cao (China); talapi, tinikarati (Cook Islands); suur hirss (Estonia); capime guiné, fataque, herbe de guinée, panic élevé (French speaking countries); guineagras (German speaking countries), giiniigaas, gini ghaus gini hullu (India); rumput banggala, rumput gajah, suket londo (Indonesia); erba di guinea (Italian speaking countries); ginea kibi (Japan); rebha luh-buluhan, rumput benggala, rumput sarang sesak (Malaysia), gini ghans (Nepalese);

zaina, pasto guinea (Peru); gramalote (Puerto Rico); gewone buffelsgras (South Africa); ya-kinni (Thailand); saafa (Tonga), güyana otu (Turkey); vao kini (Samoa); hierba de india (Venezuela); co kê to (Vietnam).

Description: Perennial, or annual (rarely); caespitose. Rhizomes short. Butt sheaths pubescent. Culms erect, or geniculately ascending; robust, or of moderate stature, or slender; (25–)75–200(–450) cm long; without nodal roots, or rooting from lower nodes. Culm-internodes distally glabrous, or hispid, or pilose. Culm-nodes glabrous, or bearded. Leaf-sheaths wider than blade at the collar, or as wide as blade at the collar. Ligule a ciliate membrane. Leaf-blades linear, or lanceolate; (6–)12–40(–100) cm long; (4–)12–35 mm wide. Leaf-blade surface glabrous, or pubescent, or pilose. Leaf-blade apex acuminate. Inflorescence a panicle. Panicle open; oblong, or pyramidal; 12–45(–60) cm long. Primary panicle branches ascending, or spreading; whorled at lower nodes. Spikelets solitary. Fertile spikelets pedicelled. Pedicels straight, or flexuous; glabrous, or bearing a few hairs; hairy at tip. Spikelets comprising 1 basal sterile florets; 1 fertile florets; without rhachilla extension. Spikelets oblong; dorsally compressed; obtuse, or acute; (2.5–)3–4.5(–5) mm long; falling entire. Glumes dissimilar; reaching apex of florets; thinner than fertile lemma. Lower glume ovate; 0.33–0.5 length of spikelet; membranous; without keels; 3 -veined. Lower glume surface glabrous, or pubescent. Lower glume apex obtuse, or acute. Upper glume ovate; 1 length of spikelet; membranous; without keels; 5 -veined. Upper glume surface glabrous, or pubescent. Upper glume apex acute. Basal sterile florets male, or barren; with palea. Lemma of lower sterile floret similar to upper glume; ovate; 1 length of spikelet; membranous; 5 -veined; without grooves; glabrous, or pubescent; acute. Fertile lemma oblong; dorsally compressed; 2.5–5 mm long; indurate; pallid; without keel. Lemma surface rugose. Lemma margins involute. Lemma apex obtuse. Palea involute; indurate. Palea surface rugose.

Habitat: Sea-level to 2 500 m.

Uses: -

Distribution: Europe: southeastern. Africa: north, Macaronesia, west tropical, west-central tropical, northeast tropical, east tropical, southern tropical, south, middle Atlantic ocean, and western Indian ocean. Asia-temperate: western Asia, Arabia, China, and eastern Asia. Asia-tropical: India, Indo-China, Malesia, and Papuasia. Australasia: Australia and New Zealand. Pacific: southwestern, south-central, northwestern, and north-central. North America: south-central USA, southeast USA, and Mexico. South America: Mesoamericana, Caribbean, northern South America, western South America, Brazil, and southern South America. In Java often cultivated for cut-fodder, especially below 1000 m alt; Balitan Maros.

Impact: No detail information

Images source: prota4u.org

References/Notes: 1, 10, 207.

237 *Panicum paludosum* Roxb.

Synonyms: *P. compositum* var. *paludosum* (Roxb.) Trimen/*P. decompositum var. paludosum* (Roxb.) Trimen/*P. natans* J.Koenig ex Trin./*P. proliferum* var. *paludosum* (Roxb.) Stapf/*P. telmatodes* Balansa

Poaceae

Origin: India.

Indonesian names: -

English names: Chesapeake panic grass

Description: Aquatic or semi-aquatic perennials. Culms 30-80 cm long, spongy below, erect or geniculate and rooting at the lower nodes; nodes glabrous. Leaves 5-21 × 0.5-1 cm, linear-lanceolate, base subcordate, margins scaberulous, apex acute; sheaths to 8 cm long; ligules a ring of white hairs. Panicles 7-18 cm long, spreading, effuse; branches to 8 cm long, opposite or alternate. Spikelets 3-4.5 mm long, elliptic-lanceolate, acuminate. Lower glume c. 1 mm long, orbicular. Upper glume c. 3 × 1 mm, ovate, acute. Lower floret usually barren. Upper floret bisexual. First lemma c. 3 × 1 mm, elliptic-lanceolate, acuminate. Palea c. 2 mm long, oblong or absent. Second lemma c. 2.5 × 1 mm, elliptic, acute, subcoriaceous. Palea c. 2 × 1 mm, elliptic, subcoriaceous, auricled at base. Stamens 3; anthers orange. Ovary ovate; stigma pink. Grains c. 1 mm long, oblong.

Habitat: Paddy fields, marshes and still waters.

Uses: -

Distribution: Western Malesia, India, Srilanka. Throughout Indonesia, except the Lesser Sunda Islands and the Moluccas, as far as known.

Impact: No detail information

Images source: plants.usda.gov

References/Notes: 3, 110.

238 *Panicum repens* L.

Synonyms: *P. arenarium* Brot./*P. chromatostigma* Pilg./*P. ischaemoides* Retz/*P. littorale* C. Mohr ex Vasey/*P. nyanzense* K. Schum./*P. tuberosum* Llanos

Poaceae

Origin: Asia or Africa.

Indonesian names: -

English names: Torpedo grass (United States), cheno (India), limanota (Zambia), creeping panicum (Zimbabwe, Africa), panic rampant, muran (Iraq)

Description: Rhizomatous, creeping perennial, rooting at the base, 30-90 cm tall. Leaf-blades usually inrolled when dry, 5-15 cm × 5-12 mm with scattered hairs on the upper surface. Inflorescence an open panicle 6-20 cm long, branches ascending, spikelets 3 mm long, acute and gaping at the tip. Fruit glossy white. Young shoots covered by leaf-sheaths (hence "torpedo grass")

Habitat: Coastland, lakes, riparian zones, water courses.

Uses: Hossain et al. (2001b) state that, «P. repens is also recognized as a pasture grass, and it could be harvested five to seven times a year in tropical and subtropical areas. A higher amount of rhizomes and roots makes a loose mat-like structure in soil up to 50cm in depth, and indicates that this species could be used for soil erosion control.»

Distribution: Malaysia, Africa, Sri Lanka, India, Burma, Thailand, United States. Pantropical and subtropical. Introduced in Java in the 1850. Throughout Indonesia, except the Moluccas; Young rubber plantations (3 years) in South Sumatra; Dusun Lebo, desa Madiredo, kecamatan Pujon, kabupaten Malang; Dry land sugarcane plantations Pelaihari, South Kalimantan; Bogor Botanic Garden; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Belawang, Handil Manarap); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Kp. Muara, Kab. Bogor,; Weed of cotton plantations Kalitirto (Kabupaten Sleman, Yogyakarta); Weed of potato plantations Koto Baru Kabupaten Tanah Datar, South Sumatra; Weed of cabbage plantations at experimental garden SPLPP UNPAD, Bandung; Undergrowth plant Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java.

Impact: Weed of tea, potato, and cabbage plantations.

Images source: Flickr.com

References/Notes: 3, 6n, 11, 13, 22, 23, 30, 31, 34, 39, 40, 42, 43, 44, 72, 104.

239 *Parkinsonia aculeata* L.

Synonyms: *Parkinsonia thornberi* M. E. Jones

Caesalpiniaceae

Origin: America.

Indonesian names: -

English names: Retama, Paloverde, Mexican Palo Verde, Jerusalem thorn, Lluvia de Oro.

Description: Spiny shrub or a small tree, 2-8 m (6.6-26 ft) tall, with a maximum height of 10 metres (33 ft). Stem single or multiple and many branches with pendulous leaves. Leaves and stems hairless, alternate and pinnate, 15-20 cm long. petiole flat, edged by two rows of 25–30 tiny oval leaflets; leaflets soondeciduous in dry weather (and during the winter in some areas) leaving the green petioles and branches tophotosynthesize.Branches grow double or triple sharp spines 7–12 mm (0.28–0.47 in) long at the axils of the leaves. Flowers yellow-orange and fragrant, 20 mm (0.79 in) in diameter, growing from a long slender stalk in groups of eight to ten. Sepals five; petals five, four of them clearer and rhomboid ovate, the fifth elongated, with a warmer yellow and purple spots at the base.Flowers pollinated by bees.Fruit aseedpod, leathery in appearance, light brown when mature.

Habitat: Parkinsonia aculeata has a high tolerance to drought, simply attaining shorter stature. In moist and humus-rich environments it becomes a taller, spreading shade tree. This plant prefers a full sun exposure, but can grow on a wide range of dry soils (sand dunes, clay, alkaline and chalky soils,etc.), at an altitude of 0–1,500 metres (0–4,900 ft) above sea level.

Uses: -

Distribution: In Central and East Java in the plains cultivated as an ornamental, and locally run wild.

Impact: No detail information

Images source: herbarium.biol.sc.edu

References/Notes: 1, 88.

240 *Paspalum cartilagineum* J. Presl

Synonyms: *P. adelogaeum* Steud./*P. akoense* Hayata/*P. auriculatum* J.Presl/*P. borbonicum* Steud./*P. orbiculare* G.Forst./*P. scrobiculatum* L./*P. scrobiculatum* var. *commersonii* (Lam.) Stapf/*P. serpens* J.Presl ex Trin./*P. zollingeri* Steud.

Poaceae

Origin: India.

Indonesian names: -

English names: -

Description: -

Habitat: -

Uses: -

Distribution: Srilanka, India. Throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3.

241 *Paspalum conjugatum* P. J. Bergius

Synonyms: *Digitaria conjugata* (P. J. Bergius) Schult./*Panicum conjugatum* (P. J. Bergius) Roxb./*Paspalum africanum* Poir./*Paspalum ciliatum* Lam./*Paspalum longissimum* Hochst. ex Steud./*Paspalum sieberianum* Steud.

Poaceae

Origin: Tropical America.

Indonesian names: Jampang pahit (Sundanese), paitan (Javanese), klamaran (Madura).

English names: Buffalo grass, carabao grass, sour paspalum.

Description: A vigorous, creeping perennial with long stolons, rooting at nodes, with culms ascending to erect, 40-80(-100) cm tall, branching, solid, slightly compressed. Leaf-sheath stronglycompressed, usually 30-50 mm long, ciliate on the margins; ligule collar-shaped, about 1 mm long; leaf-blade linear or lanceolate-acuminate, 8-20 cm x 5-12 mm, glabrous to sparsely pubescent. Inflorescence well exerted with two or occasionally three diverging racemes, 7-16 cm long; spikelets solitary, imbricate, flattened ovate, up to 2 mm long, with long hairs on the margins; lower glume absent, upper glume with a fringe of long hairs (1 mm) along its margin. Caryopsis broadly ovoid, plano-convex, about 1 mmlong, dark brown.

Habitat: P. conjugatum grows from near sea-level up to 1700 m altitude in open to moderately shaded places. It is adapted to humid climates. It is found growing gregariously under plantation crops and also along stream banks, roadsides and in disturbed areas.

Uses: P. conjugatum is used as a forage for grazing or in cut-and-carry systems, and is rated as a very important natural pasture grass in coconut plantations. It is occasionally used as a lawn grass and is also regarded as an important weed in rice and plantation crops. The Iban of Borneo use leaf decoctions in the treatment of wounds and sores, and in the Sepik area of Papua New Guinea crushed spikelets are used for the same purpose (Manidool 1992).

Distribution: Naturalized in Java and Madura; Pantropical. Throughout Indonesia; Coffee and cacao plantations in South Sulawesi; Research Centre Plantations in Bogor; Sulfat acid soil of Banjar Baru; Experimental garden of Banjar Baru, South Kalimantan; Cihea Cianjur, West Java; Oil palm plantations in Medan; Sugarcane plantations Camming, South Sulawesi; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Sakalagun, Handil Manarap) and Central Kalimantan (Unit Tatas, Pangkuh); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed of potato plantations Koto Baru Kabupaten Tanah Datar, South Sumatra; Weed of rubber plantations Cimulang, Bogor

Impact: Weed of tea, potato, and rubber plantations.

Images source: toyogreen.com

References/Notes: 1, 3, 6o, 11, 15, 18, 19, 21, 24, 25, 31, 34, 42, 46, 47, 207.

242 *Paspalum distichum* L.

Synonyms: *Anastrophus paspalodes* (Michx.) Nash/*Digitaria disticha* (L.) Fiori & Paol./*D. paspalodes* Michx./*Dimorphostachys oaxacensis* (Steud.) E.Fourn. ex Hemsl./*Milium distichum* (L.) Muhl./*M. paspalodes* (Michx.) Elliott/*Panicum digitaria* (Poir.) Latirr./*P. paspaliforme* J.Presl/*P. digitaria* Poir./*P. paspaloides* (Michx.) Scribn./*P. paspaliforme* J. Presl

Poaceae

Origin: Unknown.

Indonesian names: -

English names: Salt-water couch (eastern Australia), sea-shore paspalum (United States, Western Australia).

Description: A perennial with long creeping rhizomes and stolons; culms erect, from 15-60 cm. Leaves stiff, narrow, about 15 cm long; racemes usually two; spikelets elliptical, 3.5-4 mm long. It differs from P. paspaloides in that the upper glume is glabrous with the mid-nerve sometimes suppressed; the leaf-blades are usually narrower, up to 4 mm wide, often less, folded and with inrolled margins; racemes up to 4 cm long, often less, usually spreading horizontally or deflexed; lower glume absent.

Habitat: Altitude range just above sea-level.

Uses: -

Distribution: Tropical and subtropical. Recently recorded from Java and Sumatra; Cihea Cianjur, West Java; Dusun Lebo, desa Madiredo, kecamatan Pujon, kabupaten Malang.

Impact: No detail information

Images source: wikimedia.org

References/Notes: 3, 21, 22, 207.

243 *Paspalum longifolium* Roxb.

Synonyms: *P. cognatum* Steud./*P. flexuosum* Klein ex J. Presl/*P. houttuynii* H.C. Hall ex de Vriese/*P. platycoleum* Ridley/*P. scrobiculatum* p.p. (non L.) Backer/*P. sumatrense* Roth

Poaceae

Origin: Tropical Asia and northern Australia including Samoa islands.

Indonesian names: -

English names: Long Leafed Paspalum.

Description: Marsh grass. Culms erect, to 120 cm high. Leaves 20-30 cm long, 0.5-0.6 cm wide, linear-lanceolate. Inflorescence racemose spikes, 5-9, arranged alternately on the peduncle; racemes 4-7 cm long. Spikelets 0.05-0.1 cm, sub-orbicular, arranged in 4 rows on the broad flat rachis. Lower glume 0; upper ovate-orbicular, as large as spikelets. Lemma dissimilar. Lower floret empty; upper bisexual. Stamens 3. Styles 2.

Habitat: It can be seen on mountain slopes, field margins, in moist and swampy places, but not very common.

Uses: Its grains are cooked like rice. This species have been identified as soil moisture indicators in Taiwan

Distribution: India, Burma, Thailand, Malesia, Australia. Throughout Indonesia. Australia (Northern Territory, Queensland); Bangladesh; Cambodia; China (Fujian, Guangdong, Guangxi, Hainan, Yunnan, Zhejiang); India (Andaman Is., Assam, Bihar, Gujarat, Kerala, Nagaland, Orissa, Tamil Nadu, Tripura, West Bengal); Indonesia; Japan; Malaysia; Myanmar; Nepal; Philippines; Samoa; Singapore; Sri Lanka; Taiwan, Province of China; Thailand; Vietnam

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 110, 243.

244 *Paspalum scrobiculatum* L

Synonyms: *Paspalum adelogaeum* Steud./*P. akoense* Hayata/*P. amazonicum* Trin./*P. borbonicum* Steud./*P. cartilagineum* J. Presl/*P. commersonii* Lam./*P. scrobiculatum*var. *commersoni* (Lamk) Stapf.

Poaceae


Origin: Africa.

Indonesian names: -

English names: Kodo millet

Description: Perennials; culm tufted, 15-20 cm tall. Blade acuminate, 5-10 cm long, 3-5 mm wide, both surfaces pilose-tomentose; sheath hirsute, compressed, shorter than internode; ligule membranaceous, truncate, ca. 2 mm long. Racemes 2 or more, 2-3 cm long; rachis flattened and winged, 1.5 mm wide. Spikelets in 2-rows, ca. 2 mm long, pubescent-villous; lower glume absent; upper glume membranaceous, 3-5- veined; lower lemma as long as spikelet; lower palea oblong, obtuse, base contracted; upper lemma cartilaginous, obtuse, margins narrowly incurved, indurate; anther ca. 0.8 mm long.

Habitat: Tropics and subtropics of the Old World. Taiwan, at plains in moist place.

Uses: In India, kodo millet is ground into flour and used to make pudding.In Africa it is cooked like rice. It is also a good choice for animal fodder for cattle, goats, pigs, sheep, and poultry. In Hawaii, var. scrobiculatum is found to grow well on hillside slopes where other grasses do not flourish. It has the potential to be grown as a food source on hillside farms. It may also have potential to be used as grass ties on hillside plots to prevent soil erosion, while also providing a famine food as a secondary purpose. It has been noted that it makes a good cover crop.

Distribution: Pantropical. Throughout Indonesia; Sulfat acid soil of Banjar Baru; Experimental garden Banjar Baru, South Kalimantan; Cihea Cianjur, West Java; Tidal areas of South Kalimantan (Belandean) and Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 18, 19, 21, 31, 162.

245 *Poa annua* L.

Synonyms: *Aira pumila* Pursh *Catabrosa pumila* (Pursh) Roem. & Schult./*Ochlopoa annua* (L.) H.Scholz/*Poa aestivalis* J. Presl/*Poa algida* Trin. *Poa bipollicaris* Hochst./*Poa hohenackeri* Trin./*Poa meyenii* Nees & Meyen/*Poa ovalis* Tineo/*Poa puberula* Steud./*Poa royleana* Nees ex Steud.

Poaceae

Origin: Unknown.

Indonesian names: -

English names: Biscuit grass, jointgrass (English-USA), knot grass, knottweed, salt grass, saltwater couch (English), saltwater paspalum, seashore crowngrass (English-USA), seashore grass, seashore paspalum, silt grass, swamp couch, water couch.

Description: Perennial stoloniferous grass. Stolons range from slender and wiry to stout and somewhat fleshy. Culms slightly compressed, between 2.5 and 5 (-10) dm long. Sheaths often keeled, and have small auricles; ligule membranous, ca. 0.5 mm long, with a ring of soft white hairs behind it, the hairs sometimes up to 5 mm long; blades usually stiff, ascending at an uniform angle, 2.5-15cm × 3-8 mm wide at base, narrower than summit of sheath, apex attenuate, involute, base abruptly contracted. Racemes 2 (-5), opposite or closely approximate, at first erect and appressed together, usually spreading or reflexed at maturity, often subfalcate, 1.5-7.5cm long, rachis naked at base, 1-2 (-2.5) mm wide, triangular, flexuous, margins minutely scabrous; spikelets pale, solitary, imbricate, oblong, 3-4.5 mm long, 1.2-1.5 mm wide; first glume rarely developed, second glume and first lemma equal, thin, 3-7-nerved, the midnerve of both usually obscure, glabrous; first lemma usually transversely undulate, sometimes conspicuously so; second lemma convex, usually 3-5-nerved, apex with a few short, stiff cilia, otherwise glabrous; palea flat, 0-2-nerved, similar to lemma. Caryopsis narrowly obovate, slightly concavo-convex, 2.5-3 mm long, subacute.

Habitat: Coastland, estuarine habitats, wetlands.

Uses: Haynes et al. undated state that seashore paspalum (Paspalum vaginatum) makes a high-quality turfgrass because of its minimal fertility and pesticide requirements. Furthermore, its tolerance of a wide range of conditions such as drought, saline or recycled water, varying soil pH, extended periods of low light intensity, flooding or extended wet periods as well as its resistance to insects, disease and wear mean it can be planted and grow where other species would not survive. It is frequently used in landscaping and as a turf grass in golf courses. P. vaginatum has historically been used for erosion control, as forage food for cattle and horses, by wild geese for feed. It is also used for wetland restoration and site reclamation on oil and gas well sites (Gates, 2003). Loch et al. 2003 suggest that P. vaginatum is suitable for use as a part of the management of salt-affected lands in Australia. Again, its saline-tolerant and overall survivability traits make it stand out from other turfgrassses.

Distribution: Pantropical and subtropical. Throughout Indonesia; Muara Village, Kab. Bogor.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 39, 104.

246 *Passiflora edulis* Sims

Synonyms: *P. diaden* Vell./*P. gratissima* A. St.-Hil./*P. incarnata* L./*P. pallidiflora* Bertol./*P. pomifera* M. Roem./*P. rigidula* J. Jacq./*P. rubricaulis* Jacq./*P. vernicosa* Barb. Rodr.

Passifloraceae

Origin: Brazil, Paraguay and Northern Argentina

Indonesian names: Markisa

English names: Passion fruit (UK and US), passionfruit (Australia and New Zealand), and purple granadilla(South Africa).

Description: -

Habitat: -

Uses: Stimulant, tonic, oil. In Indonesia, there are two types of passionfruit (local name: markisa), white flesh and yellow flesh. The white one is normally eaten straight as a fruit, while the yellow variety is commonly strained to obtain its juice, which is cooked with sugar to make thick syrup.

Distribution: In Java 1000-1700 m alt., cultivated, and in West Java profusely escaped on some mountains; Mt. Gede Pangrango; Spread to all tropical and subtropical regions by Europe and Australia in the 19th Century. In SE. Asia mainly cultivated as a living fence.

Impact: No detail information

Images source: toptropicals.com

References/Notes: 1, 32, 48, 88, 95.

247 *Passiflora foetida* L.

Synonyms: *Decaloba obscura* (Lindl.) M. Roem./*Dysosmia foetida* (L.) M. Roem./*Dysosmia gossypiifolia* M. Roem./*Granadilla foetida* (L.) Gaertn./*Passiflora balansae* Chodat/*Passiflora variegata* Mill./*P. vesicaria* L./*Tripsilina foetida* (L.) Raf.

Passifloraceae

Origin: Tropical America.

Indonesian names: Rambusa.

English names: Wild maracuja, Bush Passion fruit, marya-marya, wild water lemon, stinking passion-flower, love-in-a-mist or running pop.

Description: Perennial vine, the stems hispid, with tendrils; leaves 3-parted; segments-apices acute; leaf base cordate; both sides hispid-hirsute; blades 3,5-10 cm long, 4-12 cm wide; petiole 2-6 cm long; flowers solitary in axils, 3-5 cm wide, purple and white on pedicels 2-7 cm long; fruit yellow to orange; subglobose, thin leathery-skinned, nearly 2cm think, with many seeds; pulp scanty, sweetly tart. The very finely laciniate bracts enclosing the fruit probably gave rise to the curious common name.

Habitat: Agricultural areas, ruderal/disturbed.

Uses: Cultivated - Medicinal/culinary purposes (Randall, 2003).

Distribution: Fully established in Java & Mad; Pantropical. Introduced into Java along ago, and has since spread throughout Indonesia; Cotton and Morus alba plantations in South Sulawesi; Oil palm plantations (4 years) in South Sumatra; Sulfat acid soil of Banjar Baru, Lampung; Bandar Lampung; Tidal areas of South Kalimantan (Banjarmasin, Barambai, Belandean, Belawang, Sakalagun, Handil Manarap, Sungai Tabuk) and Central Kalimantan (Unit Tatas); Now cultivated and run wild in SE. Asia.

Impact: No detail information

Images source: rausach.com.vn

References/Notes: 1, 3, 6k, 11, 13, 18, 26, 31, 48, 88, 104, 196, 208, 209.

248 *Passiflora suberosa* L.

Synonyms: *Anthactinia walkeri* M. Roem./*Cieca globosa* M. Roem./*C. suberosa* (L.) Moench/*Granadilla suberosa* (L.) Gaertn./*Meioperis suberosa* (L.) Raf./*Monactineirma suberosa* (L.) Bory/*P. globosa* Vell., *P. hirsuta* L./*P. walkeri* Wight/

Passifloraceae

Origin: S. America.

Indonesian names: Markisa.

English names: Corky passionflower, corkystem passionflower, devil's pumpkin, indigo berry, wild passionfruit.

Description: Perennial vine, climbing via tendrils, to 6 m high on supporting vegetation. Lower stems corky and rooting when in contact with the ground. Leaves 3–10 cm long on stalk 0.5–2 cm long. Flower campanulate white with purple base are without petals, 0.5-2.4 cm in diameter with 5 greenish-yellow or white sepals. Peduncles (usually paired) 0.9-1.7 cm long with a 1 mm hypanthium. Fruit globe-shaped, mostly 1–1.5 cm wide, initially green ripening dark purple to black and containing numerous seeds. Seeds 3–4 mm long.

Habitat: natural forests, range/grasslands, ruderal/disturbed, scrub/shrublands.

Uses: -

Distribution: In West and Central Java naturalized; Gede Pangrango National Park; Introduced in the middle of 19th Century for experimental "adaption for climate" use alien species that has potential economic value.

Impact: No detail information

Images source: taibif.org.tw

References/Notes: 1, 32, 88, 104, 147.

249 *Pennisetum polystachyon* (L.) Schult.

Synonyms: *Cenchrus retusus* Sw./*C. setosus* Sw./*Gymnotrix geniculata* Schult./*Panicum longisetum* Poir./*Pennisetum triticoides* (Poir.) R. & S./*P. setosum* (Sw.) L. Rich

Poaceae

Origin: Tropical Africa.

Indonesian names: -

English names: Mission grass.

Description: An annual or perennial; culms simple or branched, the branches often flowering. Spikelets 3-5 mm; false spike 8-10 mm, rarely 6-15 mm wide, excluding the bristles; longest bristle 15-25 mm long, the others more than twice as long as the spikelet. When mature, the spikelets break off at the central axis together with the bristles (Chippendall & Crook, 1976). It produces few tillers per plant (Mishra & Chatterjee, 1968).

Habitat: Pennisetum polystachion thrives on difficult conditions and is adaptable. It prefers high rainfall but tolerates short drought periods; it is adapted to a wide range of soils from light sandy to waterlogged clay soil. Pennisetum polystachion can grow under 80% shade and on poor fertility soils.

Uses: Mission grass is a valuable fodder either grazed or cut to be used as hay by cattle. Its nutritive value and palatability is high before seedling and drops dramatically after it; it is thus recommended to prevent flowering by 6-week cutting intervals.

Distribution: Tropics of Africa and Asia. Throughout Indonesia; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java.

Impact: Weed of tea plantations

Images source: Flickr.com

References/Notes: 3, 6p, 34, 207, 277.

250 *Pennisetum purpureum*

Synonyms: *Gymnotrix nitens* Andersson/*Pennisetum benthamii* Steud./*P. flexispica* K.Schum./*P. nitens* (Andersson) Hack./*P. pallescens* Leeke/*P. pruinosum* Leeke

Poaceae

Origin: Tropical Africa.

Indonesian names: Rumput gajah.

English names: Elephant or elefante grass, Napier grass, gigante (Costa Rica).

Description: A robust perennial with a vigorous root system, sometimes stoloniferous with a creeping rhizome. Culms usually 180-360 cm high, branched upwards. Leaf-sheaths glabrous or with tubercle-based hairs; leaf-blades 20-40 mm wide, margins thickened and shiny. Inflorescence a bristly false spike up to 30 cm long, dense, usually yellow-brown in colour, more rarely purplish (Chippendall, 1955).

Habitat: Sea-level to 2000 m.

Uses: -

Distribution: In Java plant for cut-fodder and highly estimated; sometimes running wild.

Impact: No detail information

Images source: taibif.tw

References/Notes: 1, 207, 252.

251 *Peperomia pellucida* (L.) Kunth

Synonyms: *Micropiper pellucidum* (L.) Miq./*Peperomia concinna* (Haw.) A. Dietr./*P. knoblecheriana* Schott/*P. translucens* Trel.//*Piper concinnum* Haw./*Piper pellucidum* L./*Verhuellia knoblocheriana* (Schott) C.DC.

Piperaceae

Origin: Tropical America/C. & S. America.

Indonesian names: Tumpangan air.

English names: -

Description: Peperomia pellucida is an annual, shallow-rooted herb, usually growing to a height of about 15 to 45 cm. it is characterized by succulent stems, shiny, heart-shaped, fleshy leaves and tiny, dot-like seeds attached to several fruiting spikes. It has a mustard-like odor when crushed.

Habitat: Flowering year-round, the plant is found in various shaded, damp habitats all over Asia and the Americas. It grows in clumps, thriving in loose, humid soils and a tropical to subtropical climate.

Uses: Peperomia pellucida has been used as a food item as well as a medicinal herb. Although mostly grown for its ornamental foliage, the entire plant is edible, both cooked and raw.

Distribution: In Java and Madura, 1-1000 m alt., abundantly naturalized; Bogor Botanic Garden; Tidal areas of Sout Kalimantan.

Impact: No detail information

Images source: michibikuhikari.blogspot.com

References/Notes: 1, 30, 31, 88.

252 *Pericamphylus* sp.

Synonyms:

Menispermaceae

Origin: Eastern Himalayas, southern china, taiwan, indo-china, thailand and Burma (Myanmar).

Indonesian names: Akar gomet, Celuru, Areuy Geureung.

English names: -

Description: -

Habitat: -

Uses: -

Distribution: Found in primary and secondary forest, particulary in clearings and thickets, up to 1700 m altitude, and is locally common. It is a sun loving plant although some shade may be required in the early stages of growth.

Impact: No detail information

Images source: Flickr.com

References/Notes: 252

253 *Persicaria barbata* (L.) H. Hara

Synonyms: *Persicaria omerostroma* (Ohki) Sasaki/*Pogalis barbata* (L.) Raf., *Polygonum barbatum* L./*Polygonum kotoshoense* Ohki/*Polygonum omerostromum* Ohki.

Polygonaceae



Origin: Asia or Africa.

Indonesian names: Jukut carang.

English names: Jointweed, knotgrass, smart-weed.

Description: Terrestrial or aquatic, perennial, erect herb, up to 200 cm long, Roots fibrous, white or brown. Stems erect or procumbent, round, hollow, thickened at nodes, glabrous or hair. Stipules present, sheath-like, hairy. Leaves simple, not lobed or divided, alternate spiral, stalked, more than 2 cm long/wide, hairy on both sides, margin entire, apex acute, base acute or rounded, pinnately veined. Flowers bisexual, grouped together into a terminal spike, stalked, white or pink, petals not visible.Fruit a nut.

Habitat: In shallow fresh or brackish water; pools, marshy sites, along drains; often abundant and often gregarious. Up to 800 m alt. Lowland-irrigated, and tidal rice fields.

Uses: -

Distribution: Africa, Asia to Australia. Throughout Indonesia;*Morus alba* plantations in South Sulawesi.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 11, 91, 271.

254 *Phyla nodiflora* (L.) Greene

Synonyms: *Blairia nodiflora* (L.) Gaertn./*Diototheca repens* (Bertol.) Raf./*Lantana repens* Sessé & Moc./*Lippia nodiflora* (L.) Michx./*Lippia repens* (Bertol.) Spreng./*Piarimula chinensis* (Lour.) Raf., *Phyla incisa* Small/*Platonia nodiflora* (L.) Raf./*Verbena nodiflora* L./*Verbena repens* Bertol./*Zappania nodiflora* (L.) Lam./*Zappania repens* (Bertol.) Bertol.

Verbenaceae

Origin: California

Indonesian names: -

English names: Frog fruit, saw-tooth fogfruit, turkey tangle, matchweed.

Description: Perennial, grow up to 0.2 m by 1 m (3ft 3in). It is hardy to zone 10. It is in flower from May to September. The flowers are hermaphrodite (have both male and female organs).

Habitat: It is often grown as groundcover, and is sometimes present in yards as a lawn weed.

Uses: As ornamental (A great groundcover for full sun and part shade areas, with trailing foliage and charming, mini-verbena-like flowers. Would also do well as a pot plant)

Distribution: Pantropical. Throughout Indonesia.

Impact: No detail information

Images source: museum2.utep.edu

References/Notes: 3, 88, 95, 251.

255 *Phyllanthus buxifolius* (Blume) Müll.Arg.

Synonyms: *Diasperus buxifolius* (Blume) Kuntze/*Scepasma buxifolia* Blume

Phyllanthaceae

Origin: Unknown.

Indonesian names: Seligi.

English names: -

Description: -

Habitat: -

Uses: -

Distribution: Cultivated for fences or as an ornamental, in Java also occasionally met with as an escape; Bali, Flores (cult.)-Philippines, Borneo, Java.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 5, 196.

256 *Phyllantus pulcher* (Baill.) M. A.

Synonyms: *Diasperus pallidifolius* Kuntze/*Diasperus pulcher* (Wall. ex Müll.Arg.) Kuntze/ *Epistylium pulchrum* Baill./*Phyllanthus asteranthos* Croizat/*P. lacerilobus* Croizat//*Reidia glaucescens* Miq.

Euphorbiaceae

Origin: Malay Peninsula.

Indonesian names: -

English names: -

Description: Shrub, up to 1,5 m high. Leaves distichous with 15-30 pairs along each branchlets. Stipules triangular-lanceolate, 3-4 × 1,5-2 mm, reddish brown in colour, antire or obscurely serrulate. Petiole 0,8-1,5 mm. Leaf blade obliquely oblongto ovate-oblong, 1,8-2 × 0,8-1,3 cm, membranous, abaxillary grey-green, adaxially green, margins slightly revolute. Lateral veins have 4-6 pairs, obscure. Inflorescence bisexual axilary fascicle, usually with several male and one female flower. Flowers with ciliate bracts at the base Male flowers with delicate pedicels, 5-10 mm. Sepals 4, ovate-triangular, measuring 2-3 × 1-2 mm, dark red in colour and margind lacerate. Disk glands 4, square or reniform in shape, measure 0,5-0,7 mm wide, flat and membranous. Stamens 2 while the filaments are short and cornnate. Anthers longitudinally dehiscent. Female flowers with filamentous pedicels, 15-23 mm. Sepal 6, ovate-triangular in shape, 3,5-4 × 1,5 mm, margins lacerate, midrib thicker abaxially; disk disk-shaped, fleshy, surrounding ovary at base, apex 6-lobed; ovary subglobose, smooth and 3-celled. Styles 3, spreading, bifid at apex. Fruiting pedicels measure 2,5 cm while the sepals are persistent. Capsules subglobose in shape measure 3 mm in diameter, brownish in colour and smooth.

Habitat: -

Uses: Decoction of the plant has multiple medicinal values. It can be used as an eye wash, fomentations for nasal ulcers, abscesses, pruritus, fever and renal problems in children. Decoction of the whole plant can relieve stomachache. Paste of the leaves or sap is applied on aching tooth for relieve. The decoction of the roots is a remedy for hypertension.

Distribution: In Java cultivated as a hedge-plant, also naturalized in the environs of Jakarta & Bogor; It is found from Burma (Myanmar), and Indo-China towards Thailand, Peninsular Malaysia, Sumatra, Borneo, Java and the Lesser Sunda Islands; cultivated in Sri Lanka, Tanzania and the West Indies; occasionally escaping.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 75, 112, 186, 187.

257 *Phyllantus urinaria* L.

Synonyms: *Diasperus urinaria* (L.) Kuntze/*Phyllanthus alatus* Blume/*P. croizatii* Steyerm./*P. lauterbachianus* Pax./*P. leprocarpus* Wight/*P. rubens* Bojer ex Baker

Phyllanthaceae

Origin: Tropical Asia.

Indonesian names: Meniran.

English names: Chamberbitter, gripeweed, shatterstone, stonebreaker or leafflower.

Description: Annual plant with the main stem erect, unbranched or sparsely branched and seldom more than a foot tall. The side branches with their two rows of alternate leaves resemble a compound leaf. The leaves themselves are finely hairy, nearly sessile (stalkless), oblong to narrowly obovate, blunt at the apex, and ½ - ¾ inch long. The unisexual flowers are whitish, tiny and inconspicuous, and they are borne singly or in small clusters in the axils of the leaves. The female flowers develop rapidly after pollination to produce sessile, roundish, slightly flattened, rough-textured capsules. These capsules are about 1/8 inch in diameter when ripe, and are held beneath the leaves.

Habitat: The plant is common throughout the state, primarily in cultivated areas such as lawns, gardens, home landscapes and nurseries. It thrives in sun or shade. So far, it has not become invasive in natural areas.

Uses: -

Distribution: It was introduced into America and Africa and nowadays an almost pantropical weed; throughout the Malesian region.

Impact: Pantropical weed

Images source: plants.usda.gov

References/Notes: 75, 88, 161, 283.

258 *Physalis peruviana* L.

Synonyms: *Alkekengi pubescens* Moench/*Boberella peruviana* (L.) E.H.L.Krause/*Physalis esculenta* Salisb./*P. latifolia* Lam./*P. tomentosa* Medik.

Solanaceae

Origin: S. America.

Indonesian names: Ceplukan badak.

English names: Goldenberry.

Description: Soft-wooded, short-lived shrubs up to ca. 1 m tall, straggly with age, all parts densely pubescent with erect, simple or glandular hairs up to 1 mm long. Leaves simple, alternate, usually geminate, 1 larger than the other, ovate-acuminate, often 6 cm long, 4 cm wide, margins entire or rarely with a few blunt lobes, apex acuminate, base cordate, petioles 2 to 3 cm long. Flowers perfect, actinomorphic, solitary in the leaf axils, pedicellate; calyx connate in lower, 5-lobed, veins often prominent, the lobes acumunate-triangular, ca. 1 cm long, distinct at apex; corolla yellow with well-defined purplish brown spots at base, 15 to 20 mm in diameter, the limb rotate or shallowly 10-lobed, the tube swollen into shallow nectary pouches between the filaments, densely pubescent with pale yellowish dendritic hairs below the spots and around the nectaries; style 5 to 7 mm long. Berries pale yellow, drying pale brown, aromatic, succulent, globose, 1.5 to 2 cm in diameter, enclosed in the inflated calyx 3 to 3.5 cm long. Seeds numerous, pale brown, discoid, 1.75 to 2 mm long, minutely shallowly reticulate, embryo curved, endosperm present.

Habitat: Agricultural areas, natural forests.

Uses: Physalis peruviana is used as an ornamental plant; consumed (fruit); berries used for making jams; used in traditional medicine (USDA-ARS 2003; Motooka et al. 2003).

Distribution: Naturalized in Java; Pantropical. Throughout Indonesia, except Sulawesi and Papua, as far as known; Oil palm plantations (4 years) in South Sumatra; Generally found in SE. Asia but not cultivated.

Impact: No detail information

Images source: greenspire.se

References/Notes: 1, 13, 48, 88, 104, 164.

259 *Piper aduncum* L.

Synonyms: *Artanthe adunca* (L.) Miquel/*Artanthe elongata* (Vahl) Miq./*P. aduncifolium* Trel./*P. elongatum* Vahl./*Steffensia adunca* (L.) Kunth/*Steffensia elongata* (Vahl) Kunth

Piperaceae

Origin: S. America.

Indonesian names: Sirihan.

English names: Bamboo piper, spiked pepper.

Description: Shrub or small tree, up to 7m tall and 10 cm or more in stem diameter, with short silt roots and medium-hard, brittle wood; foliage and twigs aromatic. Branches erect, but with drooping twigs and swollen, purplish nodes. Leaves alternate, distichous, elliptic, 12-22cm long, shortly petiolate; lamina scabrid above, with sunken nerves, softly hairy beneath. Inflorescence a leaf-opposed, curved spike on a 12-17cm peduncle, white to pale yellow, turning green with maturity. Flowers crowded in regular transverse ranks. Perianth absent; usually 4 stamens. Fruit a 1-seeded berry, compressed into greyish, wormlike spikes. Seeds brown to black, 0.7-1.25mm long, compressed, with a reticulate surface.

Habitat: Agricultural areas, natural forests, ruderal/disturbed.

Uses: Provides food and cover for wildlife, can be used for revegetating disturbed areas, and contributes to the biomass of forests (Francis, 2003). P. aduncum stakes are used in Papua New Guinea to create terraces for agriculture and to prevent erosion (Bourke, 1997). Wood can be used for basic construction, fuel, stakes and fences. Has ornamental value and the fruit is used to season food. Essential oils from this species have antibacterial properties and may also be used as an insecticide and a molluscicide. Tea made from the leaves and roots is used to treat diarrhea, dysentery, vomiting, ulcers, and can also be used for the control of bleeding (Francis, 2003).

Distribution: A century ago introduced in the Botanic Garden at Bogor (± 250 m alt.); Widespread in C. & S. America, from Mexico to Brazil and in the West Indies. It has many regions in Malesia.

Impact: No detail information

Images source: nysp-runner-plants.blogspot.com

References/Notes: 1, 76, 104, 287.

260 *Pistia stratiotes* L

Synonyms: *Apiospermum obcordatum* (Schleid.) Klotzsch/*Limnonesis commutata* (Schleid.) Klotzsch/*Pistia commutata* Schleid./*Pistia obcordata* Schleid./*Pistia occidentalis* Blume/*Zala asiatica* Lour.

Araceae

Origin: Africa or South America.

Indonesian names: Apu-apu, selada air, kubis air, Kiapu (Sunda), Kayu apu (Java).

English names: Water cabbage, water lettuce, Nile cabbage, or shell-flower.

Description: Free-floating, stoloniferous plant with sessile leaves in rosettes. Leaves pale-green, up to 20 cm long and 10 cm wide, mostly spathulate to broadly obovate with a rounded to truncate apex, with 7-15 prominent veins radiating fanwise from the base; both surfaces, in particular the lower surface, covered by a dense mat of white woolly hairs. Inflorescence axillary, solitary, ascending; spathe 1.3-1.5 cm long, convolute and adnate to the spadix below, spreading above, whitish; spadix with a single pistillate flower at base, and with 2-8 staminate flowers above, shorter than the spathe. Flowers unisexual, the perianth wanting; stamens 2; ovary 1-locular, with numerous ovules, the style slender, the stigma penicillate. Fruit thin-walled, many-seeded. Seeds cylindrical, rugulose.

Habitat: The growth habit can make it a weed in waterways. It is a common aquatic weed in the United States, particularly in Florida where it may clog waterways. It has the potential to reduce the biodiversity of a waterway.

Uses: Water lettuce is often used in tropical aquariums to provide cover for fry and small fish. It is also helpful as it outcompetes algae for nutrients in the water, thereby preventing massive algal blooms.

Distribution: Pantropical, very widely distributed. Everywhere in Indonesia, except Kalimantan and the Lesser of Sunda Island; Dry land of Flores, NTT; Tidal areas of Kalimantan Selatan (Banjarmasin, Handil Manarap)

Impact: No detail information

Images source: nergispeyzaj.com.tr

References/Notes: 3, 27, 31, 88

261 *Plectranthus rotundifolius* (Poir.) Spreng.

Synonyms: *Coleus parviflorus* Benth./*Coleus tuberosus* (Blume) Benth./*Calchas parviflorus* (Benth.) P.V.Heath/*Germanea rotundifolia* Poir./*Majana tuberosa* (Blume) Kuntze/*Nepeta madagascariensis* Lam./*Plectranthus tuberosus* Blume/*Solenostemon rotundifolius* (Poir.) J. K. Morton

Lamiaceae

Origin: India/Madagascar or Tropical Africa.

Indonesian names: -

English names: -

Description: Erect herb, lower half stem creeping, adult roots often swollen into oblong, 2-4 cm long tubers. Stem rather obtusely quadrangular, more or less deeply furrowed, pubescent. Leaves obovate, crenate-serrate, rounded at base, thinly pubescent on the nerves. Inflorescent panicles, terminal with 5 distinct nerves. Flowers medium size, bright or pale violet,

Habitat: -

Uses: -

Distribution: In Java locally cultivated for the dible fruits and naturalized; Bandar Lampung; It is frequently cultivated in Madagascar, tropical and S. Africa, Sri Lanka, India, throughout continental Asia to Peninsular Malaysia, Sumatra, Java, the Moluccas and possibly the Philippines.

Impact: No detail information

Images source: wikimedia.org

References/Notes: 1, 26, 78.

262 *Pluchea indica* (L.) Less.

Synonyms: *Baccharis indica* L./*Conyza corymbosa* Roxb./*C. foliolosa* Wall.ex DC./*C. indica* (L.) Blume ex. DC./*Erigeron denticulatum* Burm,f./*E. Denticulatus* Burm.f.

Asteraceae

Origin: Australia.

Indonesian names: Beluntas, lamutasi, lenabou.

English names: Indian camphor-weed, Indian fleabane, and Indian pluchea.

Description: Erect, much-branched shrub growing 1-2 m in height. Branches are shortly hairy when young, later glabrous. Leaves are bright pale green, papery and almost glabrous, obovate, up to 8 cm long, 2-4 cm wide, the margins toothed, and the leaves aromatic when crushed. The base is cuneate and almost sessile. The inflorescence comprises an almost corymbose, compact cluster of heads, each having many ray florets, only a few disc florets, subtended by an involucre of 3-7 series of deltoid bracts. Each head about 6-7 mm long, 5 mm broad on a peduncle 0-10 mm long. Individual ray florets with corolla 3-5 mm long; disc florets, 2-7, have a 5-lobed purple corolla. In fruit the reddish-brown achene, 1 mm long, 0.3 mm wide, has 5-7 ribs, and a white pappus of up to 20 bristles, about 5 mm long.

Habitat: Riparian zones, wetlands.

Uses: The plant contains the compounds β-sitosterol and stigmasterol, which have antidiabetic properties. The β-sitosterol isolated from the root extract can also neutralize the venom of Russell›s viper (Daboia russelii) and the monocled cobra (Naja kaouthia).

Distribution: Riparian zones, wetlands. P. indica occurs in lowland riparian zones, wetland, coastal brackish marshes and other saline areas, mangroves and tidal flats. It is occasionally found inland in forested areas but the species does not tolerate dense shade.

Impact: No detail information

Images source: nysp-runner-plants.blogspot.com

References/Notes: 88, 308, 309, 310, 311.

263 *Poa annua* L.

Synonyms: *Aira pumila* Pursh *Catabrosa pumila* (Pursh) Roem. & Schult./*Ochlopoa annua* (L.) H.Scholz/*Poa aestivalis* J. Presl/*Poa algida* Trin. *Poa bipollicaris* Hochst./*Poa hohenackeri* Trin./*Poa meyenii* Ness & Meyen/*Poa ovalis* Tineo/*Poa puberula* Seud./*Poa royleana* Nees ex Steud.

Poaceae

Origin: Europe.

Indonesian names: Rumput air.

English names: Annual bluegrass.

Description: Annual herbs,grows in dense clumps and has a low, spreading growth form. Stems erect or bending,grow up to 30 cm in length. Leaves light green to yellowish green in colour, paler and softer than most grass species. Leaf blades flat and hairless, measuring 1-14 cm × 1-5 mm, canoe-shaped tips. Flower heads triangular and whitish green in colour. Spikelets solitary, oblong, flat, 3-10mm long, with 2-10 florets and unequal glumes. Lemmas rounded to pointed, 2.5-4mm long, smooth, keeled and hairy at base. Margins of glumes and lemmas purplish on some plants. Ligules prominent, rounded and membranous, 0.5-5 mm long. Root system is shallow, horizontal and penetrates two to three centimetres below the ground.

Habitat: Coastland, range/grasslands, riparian zones, ruderal/disturbed, water courses.

Uses: This plant has medium palatability as cattle fodder (USDA, 2002).

Distribution: Naturalized in Java; Dusun Lebo, desa Madiredo, kecamatan Pujon, kabupaten Malang; Pathway of Bogor Botanical Garden.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 22, 30, 104, 254.

264 *Pogostemon auricularius* (L.) Hassk.

Synonyms: *Dysophylla auricularia* (L.) Blume/*Eusteralis auricularia* (L.) M.R. Almeida/*Mentha auricularia* L./*Mentha foetida* Burm.f.

Lamiaceae

Origin: S. E. Asia.

Indonesian names: ke kucing (Aceh), ketumpang (Javanese), kambing kambing (Kalimantan).

English names: -

Description: An erect or procumbent, strong smelling annual herb, 30—80 cm tall, stem simple or laxly branched, weak, bluntly 4-angular, pubescent with spreading hairs, pinkish. Leaves decussate, elliptical to ovate, 4-6 cm x 2-3 cm, base cuneate, apex acute, margin irregularly serrate, except near the base, membranaceous, pubescent and glandular on both surfaces; petiole 2—10 mm long, hairy; stipules absent. Inflorescence composed of crowded verticillasters, forming a dense terminal spike, 4-8 cm long; bracts narrowly elliptical, long ciliate; calyx subcampanulate, gland-dotted outside, 1.2-1.5 mm long, 5-toothed, teeth subequal, triangular, ciliate; calyx in fruit urn-shaped, 2.5-3.5 mm long, teeth often incurved over the nutlets; corolla 2-3.5 mm long, tube slender, exserted, lobes 4, equal, obtuse, pubescent, lavender, pale pink or white; stamens 4, subequal, filaments 3.5-4 mm long, slender, upper half villous, lilac; style 5 mm long, bifid; disk 0.3 mm long. Fruit consisting of 4 dry 1-seeded schizocarpous nutlets enclosed in the persistent calyx, nutlets ellipsoid, 0.6 mm x 0.4 mm, finely reticulate, brown. Seedling with epigeal germination; hypocotyl 1-2 mm long, glandular; cotyledons triangular, 2 mm long, apex obtuse; epicotyl hairy, greenish to purplish; first leaves 2, ovate, 3.5 mm long, margin crenate, nerves prominent, hairy, glandular underneath

Habitat: on sunny, constantly or periodically humid localities, borders of ditches, dams and upland rice fields, grassy wasteland and thickets. It is locally often common, from the lowland to 2000 m altitude.

Uses: In Peninsular Malaysia and Indo-China, Pogostemon auricularius is commonly used in the treatment of simple stomach problems in children. The pounded leaves, sometimes mixed with lime, are applied as a poultice on the abdomen. In Indonesia, a poultice made from the leaves is also applied as a cure for diarrhoea, colic, worms, sores, kidney problems, and a sore throat. The leaves are chewed in Java against colic and flatulence. In Indo-China, a decoction is drunk to cure malaria, whereas a lotion is applied as a rubefacient against rheumatism. In Thailand, roots, stems or leaves are used as a diuretic or antipyretic. Pogostemon auricularius has also been mentioned as a potential anti-carcinogen.|The ground leaves of Pogostemon glaber Benth. are externally applied to relieve pain and itching of mosquito bites. In Malesia, an infusion of leaves of several Pogostemon species, e.g. Pogostemon auricularius, Pogostemon cablin, Pogostemon heyneanus Benth. and Pogostemon verticillatus (Roxb.) Bhatti & Ingr., is taken to allay painful menstruation. The leaves are also added to bath water to alleviate rheumatism. Pogostemon heyneanus is also known to be used as a carminative and diuretic, and as an insecticide for stored cereals. From the leaves of Pogostemon cablin (Blanco) Benth. an important essential oil, patchouli oil, is produced. The leaves are also put between clothes as an insect repellent, and the volatile oil is also used as an insect and leech repellent

Distribution: Throughout S. E. Asia to S. China and throughout Malesia. Throughout Indonesia, except the Lesser Sunda Islands, as far as known; Cashew nuts plantations South Sulawesi; Tidal areas of Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: blog.xuite.net

References/Notes: 3, 11, 31.

265 *Polygala paniculata* L.

Synonyms: *Polygala paniculata* f. *humilis* Chodat/*Polygala paniculata* f. *leucoptera* S.F. Blake/*Polygala paniculata* var. *leucoptera* S.F. Blake/*Polygala variabilis* Hassk.

Polygalaceae

Origin: Tropical America from Mexico and the Antillies to Brazil.

Indonesian names: Jukut rindik, sasapuan, katumpang lemah (Sundanese).

English names: Island snake-root.

Description: An annual, erect, much-branched, glandulous herb that can grow up to 50 cm tall. Leaves lance-shaped to linear-lance-shaped, measure 5-20 mm × 1-4 mm and acute at apex. Lower leaves in pseudo-whorls. Racame axillary or terminal and 5-12 cm long. Bracts and bracteoles early cauducous. Flowers 1,5-2 mm long, with lance-shaped sepals, obtuse and with weakly 3-veined wings. Upper petals lance-shaped, whitish, often purple tinged, with non-eared keel and 2 bundles of 6 appendages approximately. Filaments joined except for the uppermost part. Ovary orbicular, with straight style, subapically curved and widened in an asymmetrical and wide cup. Upper side is with a hair tuft while the inner side is with a stigmatic lobe. Capsule alittle longer than the wings; elliptical, 2 mm long, notched and not winged. The seed is oblong, where its micropilar side is with a deeply 2-fid aril, black and hairy.

Habitat: Natural forests, ruderal/disturbed.

Uses: This species is used as a medicinal plant against snake bites and blenorrhagias (which is the reason why this is the species of Polygala with the largest distribution).

Distribution: Introduced in Java in 1845, at present very abundant in West Java, less common in Central and East Java; Pantropical. Has now spread throughout Sumatra, Kalimantan, and Papua; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java.

Impact: Weed of tea plantations

Images source: sites.google.com

References/Notes: 1, 3, 34, 104, 112, 275.

266 *Polytrias indica* (Houtt.) Veldkamp

Synonyms: *Andropogon diversiflorus* Steud./*A. firmandus* Steud./*E. nana* Keng & S.L.Chen/*E. praemorsa* (Nees) Stapf ex Ridl./*Ischaemum indicum* (Houtt.) Merr./*Phleum indicum* Houtt./*Pollinia diversiflora* (Steud.) Nash/*Pollinia praemorsa* Nees ex Steud./*Polytrias diversiflora* (Steud.) Nash/*P. praemorsa* (Steud.) Hack.

Poaceae

Origin: Old world tropics in South and Southeast Asia.a.

Indonesian names: Java grass.

English names: Batiki Bluegrass, Indian Murainagas, Toto Grass

Description: -

Habitat: Not confined to wetlands but often grows in common places, rice fields, along ditches and canals. It mostly grows in cultivated fields, moist places and on hill slopes. It is very common by the road sides, in wastelands, margin of forests and open grassland.-

Uses: It is used as a fodder.-

Distribution: India, Burma, Malesia, China. Throughout Indonesia, except the Moluccas, as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 88.

267 *Porophyllum ruderale* (Jacq.) Cass.

Synonyms: *Cacalia glandulosa* Salisb./*C. porophyllum* L./*C. ruderalis* (Jacq.) Sw./*Kleinia glandulosa* Moc. & Sessé, *K. porophyllum* (L.) Willd./*K. ruderalis* Jacq./*P. ellipticum* (L.) Cass./*P. macrolepidium* Malme/*Tagetes integrifolia* Muschl.

Asteraceae

Origin: C. & S. America.

Indonesian names: Ketumbar Bolivia, Senggit mangga ngora (Sundanese).

English names: Bolivian coriander, papalo.

Description: Annual plant growing in a multibranching airy manner with blue-green leaves 1-2.5 inches long. Leaves oval and small with elongated transculent oil glands occurring at 4 each wavy notch in the leaf. Flowers purple to brownish green starbust at the ends of the branches.

Habitat: -

Uses: -

Distribution: In 1945 collected for the first time (near Bogor); since then rapidly naturalizing; S. and C. America; Introduced in Malesia

Impact: No detail information

Images source: fireflyforest.com

References/Notes: 1, 2, 3, 88, 229.

268 *Portulaca oleracea* L.

Synonyms: *P. consanguinea* Schltdl./*P. fosbergii* Poelln./*P. latifolia* Hornem./*P. parvifolia* Haw./*P. retusa* Engelm. /*P. sylvestris* Montandon

Portulacaceae

Origin: India or N. Africa.

Indonesian names: Krokot.

English names: Verdolaga, Pigweed, Little Hogweed, or Pursley, and Moss rose.

Description: Annual succulen herbs, up to 40 cm in height. Stems smooth, reddish, mostly prostrate. Leaves alternate, clustered at stem joints and ends. Flowers yellow with five regular parts and up to 6 mm wide. Seeds formed in a tiny pod, which opens when the seeds are mature. Purslane has a taproot with fibrous secondary roots and is able to tolerate poor, compacted soils and drought.

Habitat: -

Uses: Culinary usage, nutrition.

Distribution: Pantropic & in subtropics. Throughout Indonesia; Cotton plantations in South Sulawesi; Onion plantations in South Sumatra; Kalianda, South Lampung; Dusun Lebo, desa Madiredo, kecamatan Pujon, kabupaten Malang; Tidal areas of South Kalimantan (Banjarmasin); Kalitirto, Berbah, Sleman, Yogyakarta; Weed of cotton plantations Segayung (Kabupaten Batang, Central Java), Gading (Kabupaten Gunung Kidul, Yogyakarta) and Kebun Kalitirto (Kabupaten Sleman, Yogyakarta); Weed of potato plantations Koto Baru Kabupaten Tanah Datar, South Sumatra; Dominance weed of garlic in Batu, East Java; In the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali;

Impact: It is a cosmopolitan weed (wild and cultivated). Mexico and Australia are considered to be centres of diversity; in SE. Asia.

Images source: chalk.richmond.edu

References/Notes: 3, 11, 13, 20, 22, 31, 38, 40, 42, 45, 69, 70, 88, 268.

269 *Pseudelephantopus spicatus* (Juss.) Gleason

Synonyms: *Ageratum dubium* Blanco/*Ageratum quadriflorum* Blanco/*Elephantopus dubius* Blanco/*Matamoria spicata* La Llave

Asteraceae

Origin: Tropical America. Mesoamerica, South America and the West Indies.

Indonesian names: -

English names: Elephant Weed.

Description: Perennial herbs, 10–40 cm tall. Stems erect, inconspicuously ribbed, puberulous. Leaves simple, rosulate or alternate at base, 5–15 by 1.5–5 cm, obovate or oblanceolate, margin slightly serrate to entire, apex obtuse or rounded, base cuneate or attenuate, subcoriaceous; upper surface puberulous without glands, lower surface puberulous with filiform hairs and capitate glands; lateral veins 9–15-paired; petioles up to 2 cm long. Capitulescences terminal and axillary, capitula 1-4 aggregated in clusters supported by foliaceous bracts, clusters arranged in a spike. Capitula tubular, 14–17 mm long. Receptacle flat, 1–1.5 mm in diam., glabrous. Florets bisexual and fertile. Involucres oblong, in 2 series, 10–11 mm long. Phyllaries 8, decussate, light green, margin entire or piliferous, outer surface pilose without glands; the outer lanceolate, apicies acute; the inner ones obovate-lanceolate or oblong, apices acute. Florets 4; corollas salverform, white, zygomorphic, glabrous; corolla tubes 5–9 mm long; corolla lobes 2.5–2.8 mm long. Anthers 1.5–2 mm long, apical appendage acute, base acute. Styles white, 5–9 mm long, branches ca. 2 mm long, inner surface covered with stigmatic papillae. Achenes clavate, 4–5 mm long, pubescent with densely twin hairs, without glands, 10-ribbed. Pappus in 1 series, often of 2 sizes and bent at the tip, bristles 6–9, 2–6 mm long.

Habitat: On roadsides, open fields and disturbed sites.

Uses: It is used to make brooms, fodder and medicinal.

Distribution: In 1917 collected for the first time in Java (near Bidara Cina, S. of Meester Cornelis, Jakarta; ± 25 m alt.) in a well-shaded native village, then already numerous, from there introduced in Bogor (1919, West Java; ± 250 m alt.) and Pasuruan (1925, East,; ± 4 m alt.). introduced in tropical Africa and Asia. In SE. Asia, reported very locally in Java and widespread for the Philippines; also in Vietnam, S. China and Taiwan.

Impact: No detail information

Images source: conabio.gob.mx

References/Notes: 1, 75, 118, 127.

270 *Psidium guajava* L.

Synonyms: *Guajava pyrifera* (L.) Kuntze/*Myrtus guajava* (L.) Kuntze/*Myrtus guajava* var. *pyrifera (L.)Kuntze/Psidium aromaticum/Psidium cujavillus Burm. f./ Psidium guava* Griseb *Psidium igatemyensis* Barb. Rodr./ *Psidium pomiferum* L./ *Psidium pumilum* Vahl/ *Psidium pyriferum* L.

Myrtaceae

Origin:

Indonesian names: Jambu Biji

English names: Apple guava; Brazilian guava; common guava; Guinea guava; lemon guava; pear guava; tropical guava; yellow guava

Description: Shallow-rooted shrub or small tree, up to 10 m tall, branching from the base and often producing suckers. Bark smooth, green to red-brown, peeling off in thin flakes. Young twigs four-angled and ridged, pubescent. Leaves opposite, with translucid punstations; petiole 3-10 mm long; blade elliptic to oblong, 5-15 x 3-7 cm, glabrous above, finely pubescent beneath, veins prominent below. Flowers solitary or in two- to three-flowered axillary cymes, about 3 cm in diameter; four to six calyx lobes, 1-1.5 cm long, irregular; petals four to five, white, 1-2 cm long; stamens numerous, 1-2 cm long; ovary 4-5-locular; style 1.5-2 cm long, stigma capitate. Fruit a berry, globose, ovoid or pyriform, 4-12 cm long, surmounted by the persistent calyx lobes; exocarp green to yellow; mesocarp fleshy, white, yellow, pink or red, sour to sweet and aromatic. Seeds numerous, yellowish, bony, reniform, 3-5 mm long, embedded in a pink or white pulp.

Habitat: Psidium guajava thrives in both humid and dry climates at altitudes of 0-1500 m (or up to 2100 m in some regions). However, the optimum yield occurs in regions with a mean temperature range of 20-30°C, and a uniform annual rainfall of 1000-2000 mm. World Agroforestry Centre (2002) describe its original habitats savannah/shrub ecotones or frequently disturbed land. In its exotic range, P. guajava is an invader of forests and forest edges, pastures and grasslands, and riparian habitats (Cronk and Fuller, 1995; Weber, 2003). In South Africa it also invades savannah and roadside habitats (Henderson, 2001) and in Florida it grows in <hammocks, pinelands and under cypress> (Langeland and Burks, 1998).

Uses: P. guajava is an ideal home garden fruit tree due to its hardiness, high yield, long supply season and high nutritive value. It is grown in orchards or incorporated into agroforestry systems in India, and is widely planted (or has spread) in Africa. Details of fruit production are given by Verheij and Coronel (1991). The potential for developing guava for a larger and wider commercial market appears to be limited, mainly by its short shelf life and its susceptibility to fruit flies. However, opportunities for expanding the processed fruit market appear to be good, in South-East Asia and in other regions.

The fruit is usually eaten raw, both green and ripe (when it becomes fragrant). It is also stewed and used in shortcakes and pies. After removing the seeds, the pulp is made into preserves, jam, jelly, juice and nectar. Well-made guava jelly is deep wine-coloured, clear, of very firm consistency, and retains something of the pungent musky flavour of the fresh fruit. Guava paste (or guava cheese as it is known in the West Indies) is made by evaporating the pulp with sugar; it is eaten as a sweetmeat. The fruit, peeled, halved and cooked in light syrup, is canned and the juice and nectar are also preserved in this way. Guava powder is a good source of vitamin C and pectin. In some Asian countries the leaves are used in cooking, and medicinally against diarrhoea; they can also be used for dyeing and tanning. The wood is moderately strong and durable indoors; it is used for handles and in carpentry and turnery (Verheij and Coronel, 1991), and also for building timbers, woodware and carvings. The flowers provide nectar for bees and contribute to honey production.

Distribution: The native distribution range of P. guajava is uncertain. Many botanists consider the species to be native to tropical America, probably from southern Mexico to South America, but its distribution has been greatly extended through cultivation and it is now widespread throughout the tropics and subtropics. Currently, this species is naturalized in the Old World tropics and in the West Indies (Cronk and Fuller, 1995). Some authors consider P. guajava native to Asia, perhaps due to the fact that Linnaeus in 1753 described this species based on Old World collections. However, P. guajava was reported under the name guayabo by Fernandez de Oviedo in 1535 as being widely distributed in the West Indies, both cultivated and in the wild. This is only a few decades after the discovery of the New World and therefore very unlikely that the species was introduced and was able to spread across the West Indies in such a short period of time. The species was presumably introduced into the West Indies by ancient human migration from northern South America.

Impact: Economic Impact

P. guajava can cause economic impacts through the alteration of pasture habitat and because it is a host to the Caribbean fruit fly *Anastrepha suspensa*, a pest which can also affect citrus (Langeland and Burks, 1998). However, the economic costs of loss of pasture and costs of control must be weighed against the economic benefits accrued from the sale of fruits and processed products as commercial crops.

Environmental Impact

This species covers large areas of the Galapagos Islands where it outcompetes native forest species (Cronk and Fuller, 1995). Similarly it is an invader of *Acacia* forest on Hawaii (Cronk and Fuller, 1995). Henderson (2001) classifies this species as a habitat transformer. Some authors, e.g. Smith (1998), believe it may have allelopathic effects on other plants. It is well known for forming dense thickets that can suppress the growth of native species.

Social Impact

The social impact may be considered as only positive, due to the financial and nutritional benefits from fruit production, processing and consumption.

Images source: Ebay.com

References/Notes: 296

271 *Pycreus pumilus* (L.) Nees

Synonyms: *Cyperus pumilus* L./*Cyperus commutatus* Steud./*Cyperus nitens* Retz./*Cyperus pumilus* L./*Dichostylis nitens* (Retz.) Palla/*Juncellus pumilus* Peter/*Pycreus nitens* (Retz.) Nees/*Pycreus patens* (Vahl) Cherm./*Pycreus pumilus* (L.) Domin

Cyperaceae

Origin: Asia.

Indonesian names: -

English names: -

Description: Herbs, annual, cespitose. Stem triquetrous, 0.5 – 1 mm thickCulms trigonous, 1–35 cm × 0.5–1 mm, glabrous. Leaves flat, 5–20 cm × 1–2 mm. Inflorescences: heads ± digitate, 8–26 mm diam; rays 1–6, 0.5–5 cm; bracts 3–4, ± horizontal, flat, 3–18 cm × 1–2 mm. Spikelets 6–25, ovoid to linear-lanceoloid, compressed, 4–15 × 1–2 mm; floral scales 8–28(–40), clear, laterally ribless, ovate, 1.4–1.6 × 0.8 mm, apex awned, awn excurved, 0.3–0.5 mm. Flowers: stamens 1–2; anthers 0.2 mm; styles 0.5 mm; stigmas 0.3 mm. Achenes dark brown to black, sessile, obovoid, 0.6 × 0.4 mm, apex obtuse, apiculate, surfaces minutely punctate.

Habitat: -

Uses: -

Distribution: Indochina, S. China, Taiwan, Queensland, scattered in Malesia; varieties in America and Africa. Throughout Indonesia except Papua, as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 162.

272 *Pycreus sanguinolentus* (Vahl) Nees

Synonyms: *Cyperus* levis F. Muell. ex C.B. Clarke*Cyperus sanguinolentus* Vahl/*Cyperus albidus* Lam./*Cyperus areolatus* R.Br./*Cyperus concolor* Steud./*Cyperus eragrostis* (non Lamk.) Vahl/*Cyperus teysmannii* Boeckeler/*Pycreus albidus* (Lam.) M.R. Almeida/*Pycreus eragrostis* Palla/*Pycreus sanguinolentus* (Vahl) Nees.

Cyperaceae

Origin: Eastern hemisphere.

Indonesian names: -

English names: Purple-glume flat sedge.

Description: Annuals with fibrous roots or perennials with short rhizomes; culms tufted, forming small clumps 5-60 cm tall. Leaves basal, shorter than to slightly longer than the culm, 0.5-2 mm wide, apex acute; sheaths brown. Inflorescences umbelliform or occasionally contracted into a more or less lobed, head-like, umbelliform cluster, rays 2-5, 1-5 cm long, spikes densely bearing 4-20 spikelets; involucral bracts 3-4, unequal, the lower ones longer than the inflorescence; spikelets 10-24-flowered, oblong-elliptic, flattened, 6-15 mm long, 2-2.5 mm wide, obtuse, rachilla not winged; glumes dark purple to brownish black with broad pale margins, thick, membranous, ovate, 1.8-2 mm long, apex obtuse, the keel green, 3-nerved; stamens 2-3; stigmas 2. Achenes dark brown, obovate to obovate-orbicular, lenticular, 1-1.3 mm long, contracted to a short-acuminate apex.

Habitat: In Hawai'i, naturalized in wet sites, 910-920 m. In China (native), "sparse forest margins, grasslands on mountain slopes, meadows, swamps, lake margins, sunny places at river margins or shallow water, valleys, wet places along trails, field margins, old fields; below 100-3400 m.

Uses: -

Distribution: Warmer parts of the eastern hemisphere; tropical Africa, from the Black Sea trough C. and E. Asia to Japan and Australia; often common in Malesia. Throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 103, 164.

273 *Rottboellia cochinchinensis* (Lour.) Clayton

Synonyms: *Aegilops fluviatilis* Blanco/*Manisuris exaltata* Kuntze/*Ophiuros appendiculatus* Steud/*Rottboellia arundinacea* Hochst. ex A.Rich./*R. denudata* Steud./*R. setosa* J.Presl./*Stegosia cochinchinensis* Lour./*Stegosia exaltata* (Kuntze) Nash

Poaceae


Origin: India.

Indonesian names: Doekoet kikisian.

English names: Corn grass, fowl grass, itch grass, jointed grass, Kelly grass, kokoma grass, lisofya, prickle grass, Raoul grass, rice grass.

Description: Erect, up to 4 m tall, profusely tillering annual grass, pale, green-coloured foliage, brace roots near the base of the plant, a cylindrical spikelet seedhead and siliceous hairs on the leaf sheath that can penetrate and irritate the skin. Inflorescence cylindrical raceme, 3-15cm long. Inflorescence consist of a sessile spikelet, pedicellate spikelet and internode. Pedicel fused to the swollen floral internode. Spikelets awnless, 3.5-6 ×2.5-3 mm wide.

Habitat: Agricultural areas, range/grasslands, ruderal/disturbed.

Uses: -

Distribution: Tropical and Subtropical Old World to N. & NE. Australia. Pantropical. Throughout Indonesia, except Kalimantan, as far as known; Coconut hibrids plantations in South Sulawesi.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 6q, 11, 104.

274 *Rhodomyrtus tomentosa* (Aiton) Hassk.

Synonyms: *Cynomyrtus tomentosa* (Aiton) Scriv./*Myrtus canescens* Lour./*Myrtus tomentosa* Aiton

Myrtaceae

Origin: SE. Asia & W.-half of Malaysia.

Indonesian names: Kemunting.

English names: Rose Myrtle.

Description: Evergreen shrub, growing up to 4 m-12 feet tall. Leaves opposite, leathery, 5–7 cm long and 2-3.5 cm broad, three-veined from the base, oval, obtuse to sharp pointed at the tip, glossy green above, densely grey or rarely yellowish-hairy beneath, with a wide petiole and an entire margin. Flowers solitary or in clusters of two or three, 2.5–3 cm diameter, with five petals which are tinged white outside with purplish-pink or all pink.

Habitat: It grows in coasts, natural forest, riparian zones,wetlands, moist and wet forests, bog margins, from sea level up to 2400 m elevation.

Uses: It is a popular ornamental plant in gardens in tropical and subtropical areas, grown for its abundant flowers and sweet, edible fruit The fruit can be made into pies and jams, or used in salads. In Vietnam, the fruits are used to produce a wine called rượu sim.

Distribution: In Java sometimes cultivated; Rubber plantations (3 years) of South Sumatra.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 13, 48, 88, 192, 193, 283.

275 *Rhynchospermum verticillatum* Reinw. ex Blume

Synonyms: *Carpesium scandens* Schult.f. ex Miq./*Leptocoma racemosa* Less./*Zollingeria scandens* Sch.Bip.

Asteraceae

Origin: -

Indonesian names: -

English names: -

Description: Perennial herbs, rhizome very short. Stems erect, rigid, 25-100 cm tall, usually divaricately branched in upper part, minutely puberulous. Leaves 5-15 ×2.5-4 cm, shallowly undulate-toothed on upper half, short setulose on both surfaces, basal leaves withered at anthesis; lower cauline leaves oblanceolate or oblong-oblanceolate, apex acute, base narrowed to petiole, middle leaves many, densely arranged, lanceolate, acuminate at both ends, gradually smaller upward. Heads 3-4 mm long, 4-5 mm across, solitary or in short racemes or panicles in successive leaf axils. Peduncle 5-15 mm long, pubescent. Involucre broadly campanulate, ca. 2 mm long, 3-4 mm across, bracts in 3-series, subequal,scarious, oblong, obtuse, ca. 1.6 mm long, glabrous, margins thinly membranaceous, ciliate. Ray florets many in 2 or 3 rows, corolla ligulate, rather thick, white, 0.7-1 mm long, glandular dotted, ligules entire or bifid. Disc florets bisexual, corolla yellowish, ca. 1 mm long, glandular dotted, limb campanulate, 5-lobed. Achenes oblanceolate-oblong, flat, 1.8-2 ×ca. 0.8 mm, glandular dotted. Pappus white, capillary, bristles 1.5 mm long, early deciduous. Fl. Jul-Jan. Chromosome number, 2n = 18.

Habitat: -

Uses: -

Distribution: As the genus; Malesia (Sumatra, Java, Sabah (Mt. Kinibalu)).

Impact: No detail information

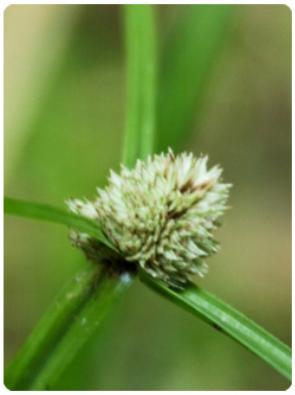
Images source: Flickr.com

References/Notes: 2, 162.

276 *Rhynchospora colorata* (L.) H.Pfeiff.

Synonyms: *Cyperus kyllingia* Endl./*Dichromena ciliata* Pers./*Dichromena colorata* (L.) C.L.Hitchc./*Kyllinga colorata* (L.) Druce/*Rhynchospora persooniana* (Nees) Griseb/*Rhynchospora leucocephala* (Michx.) Boeckeler/*Schoenus coloratus* L./*Schoenus stellatus* Lam.

Cyperaceae



Origin: Asia.

Indonesian names: Rumput kenop.

English names: White kyllinga.

Description: A smooth perennial plant, with creeping underground rhizome. Leaves many, short; leaf sheaths thin, membranous, pale to purplish. Inflorescence at first snowy white, fulvous after anthesis with 1-4 glomerules of spikelets; central glomerule ovoid-globose to ellipsoid, the lateral ones when present much smaller. Flower stems often 3 to 18 inches high, ridged, soft, with three to four dark brown leafy bracts at the top. Spike 1 (rarely 2 to 3), ovoid to round, 1/4 inch in diameter; spikelets white, numerous, 1- to 2-flowered; flower scales membranous, strawlike. Fruit a nut, brown (6).

Habitat: A weed in waste and grassy places. Occasionally used as a lawn grass in shady areas.

Uses: -

Distribution: Tropics and subtropics of Asia, less common in the tropical Africa and Australia, rare in tropical America, widely distributed in Malesia. Throughout Indonesia; Oil palm plantations (4 years) South Sumatra; Shifting cultivations Timor, NTT; Cihea Cianjur, West Java; Bogor Botanic Garden; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap); Weed of tea plantations Ciliwung Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Kp. Muara, Bogor, West Java; Weed of potato plantations Koto Baru Kabupaten Tanah Datar, South Sumatra; Common in tropical and warm temperate Asia, less common in tropical Africa and Australia and rare in S. America; common throughout Malesia.

Impact: Weed of tea and potato plantations

Images source: Foris-Indonesia

References/Notes: 3, 13, 14, 21, 30, 31, 34, 36, 39, 42, 75, 196, 300.

277 *Rhynchospora corymbosa* (L.) Britton

Synonyms: *Calyptrostylis articulata* (Roxb.) Nees/*Calyptrostylis florida* (Rudge) Nees/*Cephaloschoenus articulatus* (Roxb.) Nees/*Dichromena corymbosa* (L.) J.F. Macbr./*R. aurea* Vahl/*Rhynchospora corymbifera* Nees/*R. florida* (Rudge) Schult, *Schoenus articulatus* Roxb., *S. corymbosus* (L.) Pers./*S. floridus* Rudge/*Scirpus corymbosus* L.

Cyperaceae

Origin: Unknown.

Indonesian names: -

English names: -

Description: Stem attains a height of about 1.5 m but also flowers and fruits when smaller.Leaf blades about 70-150 x 1-2.5 cm bases sheathing. Margin finely toothed and similarly the midrib on the underside of the leaf blade. Flowers enclosed in about 4-6 bracts (glumes). Tepals consist of six scabrous bristles about 2-3 mm long. Stigma bifid at the apex. Fruits almost spindle-shaped, about 6-7 mm long, divided into a soft upper part and a harder lower part with the dividing line marked by a distinct groove. Bristles persistent at the base of the fruit.

Habitat: Altitudinal range in northern Australia from near sea level to 750 m. Usually grows in swampy situations, sometimes on the edge of rain forest or in disturbed rain forest.

Uses: -

Distribution: Tropics and subtropics of the world. Throughout Indonesia; Tidal areas of South Kalimantan (Banjarmasin, Belandean) and Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 31, 118.

278 *Richardia brasiliensis* Gomez

Synonyms: *R. adscendens* (DC.) Steud./*R. emetica* (Mart.) Schult./*R. rosea* (A.St.-Hil.) Schult./*R. sericea* Walp./*Richardsonia adscendens* DC./*R. brasiliensis* (Gomes) Klotzsch/*R. emetica* Mart./*R. rosea* A.St.-Hil./*R. sericea* Walp./*Spermacoce ascendens* Sessé & Moc.

Rubiaceae

Origin: S. Tropical America.

Indonesian names: Goletrak beuti (Sundanese).

English names: Mexican Clover; White Eye.

Description: Perennial (or ? annual) prostrate herb, often forming a mat from a central taproot; stems 7-40 cm. long, densely covered with spreading hairsLeaf blades 1-6.5 × 0.4-2.7 cm., elliptic, acute or subacute at the apex, very narrowly attenuated to the base, the apparent petiole up to 1.5 cm. long, mostly with short hairs all over the upper surface and on the margins and nerves beneath; basal narrowed part with longer hairs; stipular sheath 1-3.5 mm. long, with 3-5 fimbriae, 1-4 mm. long, usually with long hairs. Inflorescences 0.7-1.2 cm. in diam; bracts ovate-elliptic, rounded at the base, the long ones 1.5-3.5 × 0.65-2 cm., the short ones 1-1.7 cm × 4-9.5 mm., sometimes lacking, with a similar indumentum to that on the leaves, save that there are much longer hairs towards the base; basal part of bracts often subhyaline. Calyx tube 1.2-1.7 mm. long; lobes 5-6, 1-1.5 × 0.3-1 mm., ovate-triangular, the margins conspicuously ciliate, basal united part of the limb 0.5-1 mm. long. Corolla white often tinged pink, 2.7-3.2 mm. long; lobes 4-6, 1-1.4 x 0.5-0.8 mm. Style 3-4 mm. long, the branches 0.2-0.5 mm. long; stigmas 0.2-0.3 mm. long, spathulate. Fruit cocci brown, 2-2.6 × 1.4-1.6 mm., oblong-obovoid, inner face with smooth depressed area (i.e. actual septum of ovary) almost as broad as the face, dorsal face covered with short flat hairs which are longer in the middle or a mixture of papilla-like hairs and longer hairs. Seeds brown, 2.5 × 1.8 mm., compressed oblong-obovoid, with ventral face Broadly grooved, with 2 short basal projections 0.1 mm. long.

Habitat: Altitudinal range from near sea level to 880 m. Grows in disturbed areas, openings and along roads and tracks in rainforest, Eucalypt forest, various types of woodland and grassland.

Uses: In Brazil this plant is used medicinally as an antiemetic and for diabetes.

Distribution: Equador to N. Argentina.Introduced into Java before 1900. In Indonesia: Sumatra, Java and Kalimantan, as far as known; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Weed of cotton plantations Banguntapan (Kabupaten Bantul, Yogyakarta).

Impact: Weed of tea and cotton plantations.

Images source: saveourwaterwaysnow.com.au

References/Notes: 1, 3, 34, 40, 88, 118, 196, 198.

279 *Ricinus communis* L.

Synonyms: *Cataputia major* Ludw./*C. minor* Ludw./*Croton spinosus* L./*Ricinus angulatus* Thunb./*R. inermis* Mill./*R. macrocarpus* Popova/*R. minor* Mill./*R. speciosus* Burm.f./*R. spectabilis* Blume/*R. vulgaris* Mill./

Euphorbiaceae

Origin: Norteastern Africaand the Middle East.

Indonesian names: Jarak (Javanese), jarak (Sundanese), jarak (Bali), kaleke (Madura), alale (Gorontalo), tangang-tangang jarak (Makasar).

English names: Castor Bean, Ricin, Castor Oil Plant

Description: Evergreen herbaceous or semi-woody large shrub or small tree up 5 meters tall. Leaves palmate with 5-11 deeply incised lobes, glossy, green to purplish or reddish-green, 30-75 cm across with long petioles. Stem green to reddish-purple, have hollow internodes. Inflorescencce with greenish yellow flowers, borne in spikes up to 30 cm. Female flowers on the top half of the spike and have conspicuous red stigmas. The male flowers on the lower half of the spike have showy yellow anthers. The female flowers followed by reddish brown, egg shaped capsules about 2.5 cm long, thickly covered with soft flexible spines. Each capsule contains three seeds that look like fat, swollen dog ticks and deadly poisonous.

Habitat: On Rocky hillsides and in waste places, fallow fields, along road shoulders and at the edges of cultivated lands.

Uses: The oil and seed of Castor Bean have been used as folk remedies for: warts, cold tumors, indurations of the abdominal organs, whitlows, lacteal tumors, indurations of the mammary gland, corns, and moles, etc.

Castor Oil is a cathartic and has labor-inducing properties. Ricinoleic acid has served in contraceptive jellies. Ricin, a toxic protein in the seeds, acts as a blood coagulant. Oil is used externally for dermatitis and eye ailments. Seeds, which yield 45–50% of a fixed oil, also contain the alkaloids ricinine and toxalbumin ricin, and considered purgative, counter-irritant in scorpion-sting and fish poison. Leaves can be applied to the head to relieve headache and as a poultice for boils. Castor Bean is considered anodyne, antidote, aperient, bactericide, cathartic, cyanogenetic, discutient, emetic, emollient, expectorant, insecticide, lactagogue, larvicidal, laxative, POISON, purgative, tonic, and vermifuge, castor or castoroil is a dangerous ingredient in folk remedies for abscess, anasarca, arthritis, asthma, boils, burns, cancer, carbuncles, catarrh, chancre, cholera, cold, colic, convulsions, corns, craw-craw, deafness, delirium, dermatitis, dogbite, dropsy, epilepsy, erysipelas, fever, flu, gout, guineaworm, headache, inflammation, moles, myalgia, nerves, osteomyelitis, palsy, parturition, prolapse, puerperium, rash, rheumatism, scald, scrofula, seborrhea, skin, sores, stomachache, strabismus, swellings, toothaches, tuberculosis, tumors, urethritis, uteritis, venereal disease, warts, whitlows, and wounds. (Duke, J.A. and Wain, K.K. 1981. Medicinal Plants of the World.)

Distribution: In Java not rarely naturalized; It is now grown in most drier areas of the tropics and subtropics and in many temperates areas with a hot summer. It naturalizes easily and grows in many areas as a ruderal plant.

Impact: No detail information

Images source: fossilflowers.org

References/Notes: 1, 49.

280 *Rivina humilis* L.

Synonyms: *Piercea acuminata* Raf./*P. glabra* Mill./*P. obliquata* Raf./*Rivina obliquata* Raf./*R. portulaccoides* Nutt./*Solanoides laevis* (L.) Moench/*S. pubescens* Moench

Phytolaccaceae

Origin: America.

Indonesian names: Getih-getihan.

English names: Pigeonberry, Rouge Plant, Baby Peppers, Bloodberry, and Coralito.

Description: Erect, evergreen, perennialvine-like herb, reaching a height of 0.4–2 m (1.3–6.6 ft). Leaves up to 15 cm (5.9 in) × 9 cm (3.5 in);petiole 1–11 cm (0.39–4.3 in) in length. Flowers racemes, 4–15 cm (1.6–5.9 in) long with peduncle 1–5 cm (0.39–2.0 in) in length and pedicels 2–8 mm (0.079–0.31 in) long. Sepals 1.5–3.5 mm (0.059–0.14 in) in length and white or green to pink or purplish. Fruit glossy, bright red berry 2.5–5 mm (0.098–0.20 in) in diameter.

Habitat: R. humilis can be found in forests, thickets, shell middens, hammocks, roadsides, and disturbed areas at elevations from sea level to 1,700 m (5,600 ft).[4] It requires less than partial sun and is tolerant of full shade. It is also tolerant of salt spray and saline soils.

Uses: Pigeonberry is cultivated as an ornamental in warm regions throughout the world and is valued as a shade-tolerant groundcover. It is also grown as a houseplant and in greenhouses.

Distribution: Since many years (collected already 1858) naturalized in Java and Madura.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 88, 196, 212, 213, 214, 215, 216, 217, 218.

281 *Rorippa indica* (L.) Hiern

Synonyms: *Cardamine atrovirens* (Hornem.) Kuntze/*Clandestinaria indica* (L.) Spach/*R. Sinapsis* (Burm.f.) Ohwi & Hara/*Radicula indica* (L.) J.M. Macoun/*Nasturtium indicum* (L.) DC./*Rorippa atrovirens* (Hornem.) Ohwi & H. Hara./*Sisymbrium atrovirens* Hornem./*S. indicum* L./*S. sinapis* Burm. f.

Brassicaceae

Origin: Europe through central Asia, Africa, and North America.

Indonesian names: -

English names: Indian Field-Cress, variableleaf yellowcress, yellow cress.

Description: Perennial herb with short rhizomes. Stem erect or sometimes rising, usually branching below, angled. Basal and lower leaves stalked, elliptical to lanceshaped-oblong, pinnately cut or irregularly toothed, up to 15 cm long and 4 cm wide. Upper leaves shortly stalked or stalkless, lanceshaped, irregularly toothed, pointed, base sometimes eared. Inflorescence corymb, elongating later. Flowers approximately 3-5 mm in diameter, bright yellow. Flower stalk 2-3 mm long, perianth double, segments free. Sepals 2-3 mm long, elliptical-oblong, spreading. Petals 3-4 mm long, usually longer than sepals, bright yellow, spoon-shaped, stamens 6. Fruit narrow elongated. Seed capsule, 15-25 cm × 1-1.5 mm wide, narrowly linear, slightly curved.

Habitat: Bog Garden; Cultivated Beds.

Uses: Vegetable and medicines.

Distribution: Asia, Africa. Throughout Indonesia; Weed in the vegetable fileds in the dry and rainy seasons in Candi Kuning, Bali.

Impact: Weed in the vegetable fileds

Images source: www7a.biglobe.ne.jp

References/Notes: 3, 70, 95, 125.

282 *Rosa multiflora* Thunb.

Synonyms: *Rosa polyantha* Siebold & Zucc./*Rosa quelpaertensis* H.L,v.

Rosaceae

Origin: Eastern Asia., China & Japan.

Indonesian names: -

English names: Multiflora rose, baby rose, Japanese rose, many-flowered rose, seven-sisters rose.

Description: Scrambling shrub climbing over other plants, up to 3–5 m tall, with stout stems with recurved thorns (sometimes absent). Leaves 5–10 cm long, compound, with 5-9 leaflets and feathered stipules. Flowers produced in large corymbs, each flower small, 1.5–4 cm diameter, white or pink, borne in early summer. Hips reddish to purple, 6–8 mm diameter.

Habitat: It tolerates a wide range of soil, moisture and light conditions and is able to invade fields, forests, prairies, some wetlands and many other habitats.

Uses: Rosa multiflora is grown as an ornamental plant, and also used as a rootstock for grafted ornamental rose cultivars. for erosion control and as a living fence.

Distribution: In Java at 1000-2500 m alt., often cultivated and sometimes seemingly growing wild (originally cultivated!).

Impact: Forms dense thickets that invade pastures and crowd out native species.

Images source: Flickr.com

References/Notes: 1, 88, 220, 265.

283 *Rostellularia sundana* Bremek.

Synonyms: *Justicia procumbens* L.

Acanthaceae

Origin: India

Indonesian names: -

English names: Water Willow

Description: -

Habitat: -

Uses: Aquatic plants.

Distribution: Java and the Lesser Sunda Island,

Impact: No detail information

Images source: gunungandong.wordpress.com

References/Notes: 3

284 *Rotala indica* (Willd.) Koehne

Synonyms: *Ameletia acutidens* Miq./*Ameletia elongata* Blume/*Ameletia indica*DC./*Ameletia uliginosa* Miq./*Ammannia acutidens* Miq./*Ammannia elongata* Blume/*Peplis indica* Willd/*Rotala uliginosa* (Miq.) Nakai

Lythraceae

Origin: India, Tropical America.

Indonesian names: -

English names: Indian toothcup.

Description: The stems of the plant grow up to 30 or 40 centimeters long. Leaves are decussate, arranged oppositely in perpendicular pairs along the stems. The leaves are oval with thick, whitish, cartilaginous margins and measure up to 2 centimeters long. Flowers occur in leaf axils singly or in short, spikelike inflorescences. Each has four triangular sepals and four tiny pink petals.

Habitat: -

Uses: This aquatic plant is best known as a popular aquarium plant.

Distribution: Pantropical. Throughout Indonesia, except Sulawesi and Papua, as far as known.

Impact: No detail information

Images source: flowgrow.de

References/Notes: 3, 88.

285 *Rotala mexicana* Schltdl. & Cham.

Synonyms: *Ammannia mexicana* (Cham. & Schltdl.) Baill./*Ammannia rosea* Poir./*Ammannia rotala* F.Muell/*Ammannia verticillaris* Baill./*Hypobrichia spruceana* Benth./*Rotala rosea* (Poir.) C.D.K. Cook/*R. leptopetala* (BI.) Koehne/*R. pentandra* (Roxb.) Blatt. & Hallb./*R. rosea* (Poir.) C.D.K. Cook/*Ammannia petandra* BI.

Lythraceae

Origin: Asia.

Indonesian names: -

English names: -

Description: Amphibious or marshy annuals; stem erect or creeping, simple or branched, to 20 cm tall. Leaves decussate, 8-20 x 3-6 mm, linear-lanceolate to ovate, cuneate to obtuse at the base, apex acute or obtuse. Flowers monomorphic, sessile, solitary in the axils of the bractiform leaves. Bracteoles 0.5-1 mm long, linear or filiform, not exceeding the calyx tube. Calyx tube c. 1.5 mm long, campanulate; lobes 5, minute, triangular, the alternating appendages subulate, equalling the lobes. Petals 5, pink, c. 0.5 mm long, obovate. Stamens 5, included, inserted just below the middle of calyx tube. Ovary globose; stigma capitate. Capsule c. 2 mm across, globose, 3-valved, exceeding the calyx. Seeds sub-ovoid, brownish.

Habitat: It grows in wetlands and rice fields, near sea level to 1,000-1,800 m asl.

Uses: -

Distribution: Central/South America, Africa, Asia, Australia. Throughout Indonesia; except the Lesser Sunda Islands and the Moluccas, as far as known. Predominant in W. Java, less frequent in C. and E. Java.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 110.

286 *Ruellia tuberosa* L.

Synonyms: *Cryphiacanthus barbadensis* Nees/*Dipteracanthus clandestinus* C. Presl

Acanthaceae

Origin: The West Indies.

Indonesian names: Pletesan.

English names: Minnie Root, Fever Root, Snapdragon Root and Sheep Potato.

Description: Small biennial plant with thick fusiform tuberous roots and striking funnel-shaped violet-colored flowers. It reaches an average height of about 25 cm in moist and shady environments.

Habitat: It grows often as a weed even in ruderal habitats.

Uses: This plant has antinociceptive and anti-inflammatory properties. In folk medicine and Ayurvedic medicine it has been used as adiuretic, antidiabetic, antipyretic, analgesic, antihypertensive, gastroprotective, and to treat gonorrhea. It is also used as a natural dye for textiles.

Distribution: Since many years naturalized in Java and Madura (in 1901 already comon weed near Weltevreden (West Java).

Impact: No detail information

Images source: Foris-Indonesia

References/Notes: 1

287 *Rumex acetosella* L.

Synonyms: *Acetosa acetosella* Mill./*Acetosa arvensis* Montandon/*Acetosa multifida* Chaz./*Acetosella acetosella* (L.) Small/*Acetosella multifida* (L.) Á. Löve/*Lapathum arvense* Lam./*Rumex arvensis* (Lam.) Dulac/*Rumex multifidus* L.

Polygonaceae

Origin: Eurasia and the British Isles. The temperate regions of the N. hemisphere.

Indonesian names: Rumex.

English names: Sheep sorrel, dock, field sorrel, red sorrel, sheep sorrel, small sorrel, sorrel, sour weed.

Description: Dioecous spreading perennial herb with creeping rhizomes. Stems numerous, erect and branchy, 10-50 cm in tall. Lower leaves with petioles, lanceolate, 1-5 cm × 1.5-2 mm, lanceolate or ovoid-lanceolate top part and two smaller blades. Upper leaves prostrate, lanceolate or lanceolate-linear. A membranous sheath surrounds the stem at each node. Flowers arranged in branched loose, leafless, terminal panicles 3-40 cm long; consist of three scale-like sepals and three petals. Male and female flowers borne of separate plants; male flowers orange-yellow with a single basal ovule, sepals reddish yellow, red or purplish or rarely pale green; female flowers red-orange with six anthers, sepals pure red to dark red or purplish. Fruits (achenes/nuts), often small (0.9-1.5 x 0.6-1mm), pale yellow-brown to slightly reddish brown, smooth, shiny and enclosed in three persistent flower scales.

Habitat: Agricultural areas, natural forests, planted forests, ruderal/disturbed.

Uses: In its native range Rumex acetosella provides food for larvae of butterfly species that may be in decline, including the meadow brown butterfly (Maniola jurtina) and the scarce copper (Lycaena virgaureae) (Schneider et al., 2003).While sheep sorrel contains oxalic acid which is poisonous to some livestock and wildlife species (Cal-IPC in Alaska Natural Heritage Program, 2006), it is grazed by mule deer. The seeds are rich food source for birds (Wilson et al.,1999 in Alaska Natural Heritage Program, 2006).It has also been used for revegetation in mining regions. (Alaska Natural Heritage Program, 2006) and is eaten as a food in Turkey. A recent study demonstrated that it has antioxidant properties (Alpinar et al., 2009).

Distribution: Naturalized near Lalijiwo on Arjuno (East Java).

Impact: No detail information

Images source: naturespot.org.uk

References/Notes: 1, 104, 271.

288 *Rumex alpinus* L.

Synonyms: *Acetosa alpina* Moench

Polygonaceae

Origin: Europe.

Indonesian names: -

English names: Alpine dock, Monk's Rhubarbs

Description: Perennial, upto 1.2 m (4ft) by 0.3 m (1ft in) at a medium rate. Stem erect, striated and unbranched until just below the inflorescence. Leaves very large, ovate-round, with long stout leaf stalks and irregular margins; basal leaves hairless on upper surface and some hairs beside the veins on the lower surface; upper leaves alternate, smaller and more elongated. Flowers arranged in much-branched, dense terminal compound panicles; hermaphrodite, dioecious and anemophilous. Perianth segments in two whorls of three. The outer ones recurved and the inner ones form fruit valves, roundly, wider than long, with cordate bases and entire margins. Stamens six, a pistil formed of three fused carpels and three styles. Fruits brown, three-sided achenes.

Habitat: In high –altitude environments rich in nitra es, at elevation of up to 2,000 to 2,400 metres (6,600 to 7,900 ft) above sea level. It can be found in arable land, fields, yards, rubbish dumps, roadsides and shores. Along the banks of streams and by the sides of roads, it is also found near human habitations, in hilly areas.

Uses: Mmedicinal use (Astringent; Laxative).

Distribution: In high mountains of western, central and eastern Europe. Run wild on Mt Gede (West Java).

Impact: No detail information

Images source: gerhard.nitter.de

References/Notes: 1, 95, 274.

289 *Rumex crispus* L.

Synonyms: *Lapathum crispum* (L.) Scop./*Rumex odontocarpus* Sandor ex Borbás

Polygonaceae

Origin: All temperate regions.

Indonesian names: -

English names: Curly dock, yellow dock.

Description: Perennial herb with erect flowering stems 30-160 cm in length. Basal leaves up to 40 cm x 11 cm, lanceolate or oblong-lanceolate, subacute, tapering from middle to an obtuse point;upper cauline leavesless crisped than basal leaves, with petioles up to 6 cm in length. Leaf margins of cauline leaves vary from nearly flat (such as in var. uliginosus) to strongly crisped. It has a fleshy taproot which is smaller and less branched than that of R. obtusifolius.Inflorescence panicle with few, short, erect branches. Flowers crowded in whorls,usually distinct except towards the ends of branches. Perianth (petals and sepals) segments orbicular-deltoid,green coloured at flowering but become brown. One to three of perianth segments have tubercles (corky protuberance), usually one large and two minute. Achene (fruit) 3.5-6 x 3-6 mm,enclosed within inner perianth segments; margin entire or minutely denticulate. Seeds or maritime plants usually heavier than those of inland forms.

Habitat: Agricultural areas, range/grasslands, riparian zones, ruderal/disturbed, scrub/shrublands, urban areas.

Uses: Rumex crispus has been used for medicinal purposes as a laxative, astringent, rheumatic tonic and to treat blood diseases, skin disease and jaundice. It can also be used for sore throats and coughs (Grieve, 1959 in Cavers & Harper, 1964).

Distribution: In Java locally established.

Impact: No detail information

Images source: gobotany.newenglandwild.org

References/Notes: 1, 104, 273.

290 *Rumex sagittatus* Thunb.

Synonyms: *Acetosa sagittata* Johnson & Briggs, *Rumex scandens* Burch.

Polygonaceae

Origin: S. Africa.

Indonesian names: -

English names: Rambling dock, turkey rhubarb, Climbing dock

Description: Perennial climber with stems to 3 m or more long. Leaves with blade to 7 (rarely to 10) cm long, with spreading basal lobes; leaf stalk at least as long as leaf blade. Capsule wings straw coloured to purplish. Nuts 3-sided about 3 mm long and about 1.7 mm wide.

Habitat: Bush and shrubland margins, tussockland, fernland, bare land and dune areas.

Uses: -

Distribution: In East Java cultivated as a vegetable, locally running wild.

Impact: No detail information

Images source: florealpes.com

References/Notes: 1, 147, 272.

291 *Sacciolepis indica* (L.) Chase

Synonyms: *Aira indica* L./*Hymenachne indica* (L.) Buse/*H. phalarioides* (Roem. & Schult.) Nees/*Neurachne peekelii* Lauterb./*Panicum angustum* Trin./*Panicum arcuatum* R. Br./*Panicum phalaroides* Roem. & Schult./*Sacciolepis angusta* (Trin.) Stapf.

Poaceae

Origin: India.

Indonesian names: -

English names: Glenwood grass.

Description: Annual. Culms geniculately ascending, or decumbent; slender; 10–100 cm long; with aerial roots from the nodes. Leaf-sheath auricles absent, or erect; 0–2 mm long. Ligule a ciliolate membrane. Leaf-blades 2–20 cm long; 1–7 mm wide. Leaf-blade surface ungrooved; scaberulous. Inflorescence a panicle. Panicle spiciform; linear, or oblong; 1-13 cm long. Primary panicle branches accrescent to a central axis; with lateral stumps on axis. Panicle axis with rounded ribs. Spikelets solitary. Fertile spikelets pedicelled. Spikelets comprising 1 basal sterile florets; 1 fertile florets; without rhachilla extension. Spikelets ovate; laterally compressed; gibbous; 2-3 mm long; falling entire. Glumes reaching apex of florets; thinner than fertile lemma. Lower glume ovate; 0.33-0.66 length of spikelet; hyaline; without keels; 3-5 -veined. Lower glume apex acute. Upper glume elliptic; gibbous; 1.3-2 length of adjacent fertile lemma; 1 length of spikelet; membranous; without keels; 5-7 -veined. Upper glume lateral veins ribbed. Upper glume surface glabrous, or pubescent. Upper glume apex acute. Basal sterile florets male, or barren; with palea. Lemma of lower sterile floret similar to upper glume; elliptic; 1 length of spikelet; membranous; 5-7 -veined; ribbed; glabrous, or pubescent; acute. Palea of lower sterile floret 0.1-0.2 length of lemma. Fertile lemma elliptic; dorsally compressed; 1-2 mm long; coriaceous; shiny; without keel; 5 -veined. Lemma margins involute. Lemma apex obtuse. Palea involute; coriaceous.

Habitat: Agricultural areas, range/grasslands, ruderal/disturbed, scrub/shrublands, wetlands.

Uses: -

Distribution: Tropical and Subtropical Old World.Asia, Australia, Polynesia and Africa. Throughout Indonesia, except the Moluccas, as far as known; Tidal areas of South Kalimantan (Handil Manarap, Sungai Tabuk) and Central Kalimantan (Unit Tatas).

Impact: No detail information

Images source: ausgrass2.info (1), wikimedia.org (2)

References/Notes: 3, 31, 104, 223.

292 *Sacciolepis interrupta* (Willd.) Stapf.

Synonyms: *Hymenachne interrupta* (Willd.) Buse/*Panicum interruptum* Willd./*Panicum uliginosum* Roth/*Sacciolepis simaoensis* Y.Y.Qian

Poaceae

Origin: Unknown.

Indonesian names: -

English names: Cupscale grass

Description: Vigorous aquatic perennials. Culms 25-90 cm long, erect, creeping or geniculate, spongy and floating, rooting at the nodes below; nodes glabrous. Leaves 5-30 × 0.3-1.2 cm, lanceolate or linear, base rounded, apex acute or acuminate; sheaths to 16 cm long; ligules ovate, membranous. Panicles 4-25 cm long, spiciform, interrupted. Spikelets 3-5 mm long, ovate-lanceolate. Lower glume 1-1.5 × 1 mm, ovate-oblong. Upper glume 3-5 × 1-2 mm, ovate-lanceolate. Lower floret male or barren. Upper floret bisexual. First lemma similar to the upper glume. Palea 2-3 mm olong, oblong, hyaline. Second lemma 2-3 x 1-1.5 mm, ovate-oblong, subcoriaceous. Palea 2-3 mm long, elliptic, 2-keeled, hyaline. Stamens 3; anthers violet. Stigmas pink. Grains c. 2 mm long, ovoid. Fruit caryopsis with adherent pericarp; ellipsoid. Hilum punctiform.

Habitat: Wetlands.

Uses: Sacciolepsis interrupta used as fodder agri-horticulture (land conservation)

Distribution: From W. Africa to S. China. Throughout Indonesia; Tidal areas of South Kalimantan (Handil Manarap).

Impact: No detail information

Images source: slwcsupdates.blogspot.co.id

References/Notes: 3, 31, 110.

293 *Salix tetrasperma* Roxb.

Synonyms: *Pleiarina tetrasperma* (Roxb.) N. Chao & G.T. Gong

Salicaceae

Origin: Continental Asia and perhaps also some parts of West Malesia.

Indonesian names: -

English names: Indian willow.

Description: Deciduous trees, to 25 m high, bark 10-12 cm thick, pale brown, rough, vertically fissured; blaze red; young branches silky pubescent. Leaves simple, alternate; stipules lateral, ovate, cauducous; petiole 10-25 mm, slender, glabrous, grooved above; lamina 6-15 × 2-5 cm, ovate, lanceolate or ovate-lanceolate; base acute or rounded; apex acuminate; margin serrate, glabrous and shining above, glaucous beneath, coriaceous; lateral nerves 10-18 pairs, pinnate, close, prominent, intercostae reticulate, faint. Flowers unisexual, in axillary catkins, to 6 cm long, minutely silky villous; male yellowish; female greenish; bracts ovate, 2 × 2 mm, densely woolly; perianth absent; stamens 5-12, unequal, free, with 2 glands at the base; anthers basifixed; disc yellow, ovary stalked, superior, 1-celled, ovoid, 4-6 ovuled; stigma 2, branched again. Fruit a capsule, 4 mm, 2-4 valved; seeds 1-4, oblong, with long deciduous hairs.

Habitat: Along riverbanks in semi-evergreen forests.

Uses: Dried leaves mixed with sugar given in rheumatism, epilepsy, venereal diseases, stone in the bladder, piles and swellings. Bark used as a febrifuge.

Distribution: From Afghanistan and the Punjab eastwards throughout SE. Asia and southern China; in Malesia in Peninsular Malaysia, Sumatra, Java, Lesser Sunda Islands (Bali and Nusa Tenggara), E. Kalimantan and the Philippines. In Peninsular Malaysia only male sex has been introduced.

Impact: No detail information

Images source: wikimedia.org

References/Notes: 1, 80, 88, 110, 260.

294 *Salvinia adnata* Desv.

Synonyms: *Salvinia molesta* D.S. Mitch.

Salviniaceae

Origin: S. America.

Indonesian names: Kiambang.

English names: African payal, African pyle, aquarium water-moss, giant salvinia, giant salvinia, kariba weed, koi kandy, salvinia, water fern, water spangles.

Description: Free floating aquatic fern. Rhizom horizontal, two types of fronds (buoyant and submerged). Stems rootless, about 10 cm long. Leaves borne in threes; appear 2-ranked, but with 3rd leaf finely dissected, resembling roots; rounded to somewhat broadly elliptical, up to 2 cm long, base cordate, upper surface with 4-pronged hairs joined at the tips (resembling an egg beater), lower surface hairy. Spores in a nutlike sporocarp, trailing beneath.

Habitat: Lakes, water courses, wetlands.

Uses: Floating aquatic weeds have been used for mulch, compost, fodder, paper making, handicrafts and bio-gas generation (Howard and Harley, 1998). The main impediment to the commercial use of floating aquatic weeds such as Salvinia is their high water content, which is often up to 90% of the harvest wet weight. Thus a large proportion of the harvest is water, while only a small proportion is actually plant matter.

Distribution: Tanah Jawa, Rawa Pening, South Kedu, Waduk Sempor; Eastern Batanghari, Lampung; East Kalimantan; Sentani Lake, Jayapura.

Impact: No detail information

Images source: wellgrowhorti.com

References/Notes: 51, 52, 53, 54, 104.

295 *Salvinia cucullata* Roxb. ex Bory

Salviniaceae

Origin: Temperate zone of the northern half of the old world.

Indonesian names: -

English names: Asian watermoss.

Description: Floating fern with hairy stems. Uppermost (floating) leaves entire at apex, to 1.2 cm long, broader than long with margins curving upwards and inwards; upper leaf surfaces with papillae in irregularly curved rows, the tips not joined. Sporocarps form on the submerged, rootlike lower leaves.

Habitat: The species will occur in most types of standing water body, including lakes, ponds, tanks and seasonal pools.

Uses: -

Distribution: SE. Asia from India to W. Australia. Throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 103, 148.

296 *Salvinia natans* (L.) All.

Synonyms: *Marsilea natans* L.

Salviniaceae

Origin: Temperate zone of the northern half of the old world.

Indonesian names: Rumput ganepo.

English names: Floating fern, floating watermoss, floating moss, or commercially, Water Butterfly Wings.

Description: Cosmopolite floating fern, 1-3 cm. Leaves light green with small hair and cuticular papillae, nickel-sized.

Habitat Grow on still water in full sun to part shade. Scatter small bunches of plants on the water surface after last frost date.

Uses: Rain Garden, Suitable as Annual, Water Plant, Will Naturalize.

Distribution: SE. Asia from Africa to C. Europe. In Indonesia so far found in Java and Sulawesi.

Impact: No detail information

Images source: botanikaiforum.com

References/Notes: 3, 141, 196, 257, 258, 259.

297 *Schoenoplectiella articulata* (L.) Lye

Synonyms: *Eleocharis incurvata* (Roxb.) Schult./*Holoschoenus incurvatus* (Roxb.) A.Dietr./*Isolepis articulata* (L.) Nees, *I. incurvata* (Roxb.) Nees/*Scirpus articulatus* L./*S. incurvatus* Roxb./*S. articulatus* (L.) Palla

Cyperaceae

Origin: Asia or Africa.

Indonesian names: -

English names: Bullrush.

Description: Tufted plant, up to 20-50 cm high. Rhizomes shortly creeping. Stems rather spongy, terete, leaflesswhen dry, often transversely septate. Leaf sheaths 10-25 cm, terete, obliquely truncate at mucronate mouth. Involucral bract 1, erect, culmlike, usually longer than culm, with many transverse septate nodes. Inflorescence a pseudolateral head with many spikelets. Spikelets sessile, ovoid, 7-9 × 4-4.5 mm, many flowered. Glumes brownish yellow with dark brown lines, deltoid-ovate, 5-5.5 mm, concave, thinly membranous, veins many and ± conspicuous, apex with a costa excurrent into a mucro. Perianth bristles absent. Stamens 3; stigmas 3. Nutlet yellowish gray at maturity, obovoid, 2-2.2 mm, 3-sided, smooth.

Habitat: Moist places, pond margins

Uses: In India, plant is used as a purgative. In the Jaipur district, used for vomiting. In Bangladesh, roots and branches used for baby's vomiting and diarrhea. The juice from well-grounded roots given to babies before breakfast.

Distribution: From the Mediterranean trough Africa and S. Asia to Northern Australia. In Indonesia: in Java, the Lesser Sunda Islands, Sulawesi and Papua, as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 113.

298 *Schoenoplectus juncoides* (Roxb.) Lye

Synonyms: *Hymenochaeta juncoides* (Roxb.) Nakai/*Schoenoplectus juncoides* (Roxb.) Palla/*S. ohwianus* (T.Koyama) Holub/*Scirpus juncoides* Roxb./*S. ohwianus* T. Koyama/*S. timorensis* Kunth

Cyperaceae

Origin: Asia.

Indonesian names: -

English names: Bulrush.

Description: Tufted in clumps and without a distinct rhizome. Culms upright, 15-70 cm tall, 1-4 mm thick, subterete or obtusely several-angled, light-green, dull, and clothed by a few tight bladeless sheaths at the base. The lower basal sheaths are 3-4 cm long, brownish and scale-like; upper sheaths 5-15 cm long, pale-green and obliquely truncate at the mucronate orifice.The inflorescencepseudolateral head with 1-12 spikelets without branches. The bract almost erect, 5-15 cm long, subacute at the apex, with one furrow on the ventral side and dilated at the base. Spikeletsoblong to ovoid-oblong, 6-18 mm long, 3-6 mm wide, straw coloured, contracted to subobtuse at the apex and densely many-flowered.Glumes oval to ovate-oval, 3-4 mm long, 1.8-2.7 mm wide, thickly membraneous, pale and brown-tinged,apex rounded to shallow-emarginate and mucronate,keel broad, green, and one- to three-nerved. Achenesbroadly obovate, unequally biconvex, 1.8-2 mm long, 1.5 mm wide, suddenly contracted to a cuneate base, rounded to a mucronate apex, the sides maturing dark brown, shiny and transversely wrinkled; style 2-2.2 mm long, somewhat flattened; two stigmas, but occasionally with a rudimental third one. There are four to six hypogynous bristles, retrorsely scabrous except for base, the longer four as long as or slightly surpassing the achene, remainder half as long as the achene or shorter.

Habitat: *Schoenoplectus juncoides* found in fresh-water, wetlands, and rice field

Uses: -

Distribution: From India, China and Japan to Hawaii, S. E. Asia to tropical Australia; in Malesia more common in western part. Throughout Indonesia. Except the Moluccas, as far as known.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 233.

299 *Schoenoplectiella lateriflora*

Synonyms: *Isolepis juncoides* Miq./*I. oryzetorum* Steud./*Schoenoplectus lateriflorus* (J.F.Gmel.) Lye/*S. oryzetorum* (Steud.) V.I. Krecz. *Scirpus lateriflorus* J.F. Gmel./*S. oryzetorum* (Steud.) Ohwi.

Cyperaceae

Origin: S. E. Asia.

Indonesian names: -

English names: -

Description: Erect, non-rhizomatous annual herbs, 10-40 cm tall; culms tufted, smooth. Leaves reduced to bladeless sheaths; sheaths 2-3, 4-12 cm long, membranous, mouth truncate. Inflorescence pseudolateral head like or corymbose, upto 4 short rays, 1-2 cm long; bracts 1-2, lower one much exceeding the inflorescence, look like as the continuation of the stem, lower bract if present very short. Spikelets 5-8 by 2-3 mm, oblong-acute, straw-coloured; rachilla persistent, not winged. Glumes spiral, 1.5-2.5 by 1.5-2 mm, ovate-acute, mucronate, keeled, 3-nerved, margins hyaline. Hypogynous bristles absent. Stamens 3; anthers c. 0.5 mm, connective bristly at top. Style c. 0.5 mm; stigma 3, as long as the style. Nuts 1-1.5 x 1 mm, obovoid, trigonous, apiculate, transversely wrinkled, black.

Habitat: It is common weed of paddy fields, flooded areas and in marshy places.

Uses: -

Distribution: S. E. Asia; from India to S. China and Taiwan; Australia; western part of Malesia; Philippines (Luzon). In Indonesia: Java and the Lesser Sunda Islands, as far as known.

Impact: No detail information.

Images source: -

References/Notes: 3.

300 *Schoenoplectiella mucronata* (L.) J. Jung & H. K. Choi

Synonyms: *Eleocharis triangulata* (Roxb.) Sieber ex C.Presl/*Heleophylax mucronatus* (L.) Schinz & Thell./*Hymenochaeta preslii* (A.Dietr.) Nakai/*Isolepis mucronata* (L.) Fourr./*Schoenoplectiella mucronata* (L.) J. Jung & H.K. Choi/*Scirpus mucronatus* L./*S. preslii* A. Dietr./*S. sundanus* Miq./*S. triangulatus* Roxb.

Cyperaceae

Origin: Asia.

Indonesian names: Mendongan(Javanese), mangsiang agam, kumbueh, mansiro hitam (minang).

English names: Roughseed Bulrush, Bog Bulrush.

Description: Plants perennial (or annual?); rhizomes hard. Culms sharply trigonous, 0.4–1 m × 2–3 mm. Leaves 1–2; sheath fronts not pinnate-fibrillose; ligules absent; blades absent. Inflorescences capitate; proximal bract divergent to reflexed or rarely erect, trigonous, adaxially channeled, 1–10 cm. Spikelets 4–20, 7–12 × 4 mm; scales orange-brown to straw-colored, central region often greenish, broadly obovate, 3–3.5 × 2–2.5 mm, margins ciliolate, apex obtuse to broadly acute, entire, mucronate. Flowers: perianth members 6, brown, bristlelike, equaling achene, stout, retrorsely spinulose; anthers 0.8 mm; styles 3-fid (or some 2-fid in same spikelet). Achenes dark to blackish brown, thickly plano-convex to obtusely trigonous, broadly obovoid, 1.7–2.2(–2.5) × 1.2–1.7 mm; beak 0.2 mm.

Habitat: Occurs almost always under natural conditions in wetlands.

Uses: Schoenoplectiella mucronata used as foods for animal, medicines or ethnobotanical materials.

Distribution: Warmer parts of the Old World, from S. Europe to Japan and trough S. S.E. Asia to Australia; rare in tropical Africa. Throughout Indonesia. Except the Moluccas, as far as known; Tidal areas of South Kalimantan (Banjarmasin, Belandean).

Impact: No detail information

Images source: natureloveyou.sg

References/Notes: 3, 31, 234.

301 *Scoparia dulcis* L.

Synonyms: *Ambulia micrantha* Raf./*Capraria dulcis* (L.) Kuntze/*Gratiola micrantha* Nutt./*Scoparia grandiflora* Nash/*Scoparia ternata* Forssk.

Scrophulariaceae

Origin: Tropical America.

Indonesian names: Jaka tua.

English names: Sweet Broom Weed, Sweet Broom Wort.

Description: Annual and branched herb with wiry stems, growing up to 1 m tall. Narrowly elliptic, almost stalkless leaves arranged oppositely or in whorls of 3. Leaves 3-4 cm × 1-1.5 cm, with serrated margins. Flowers hermaphrodite, usually axillary, 6-7 mm in diameters, 4-fid, rotate, regular, white; sepals 4-5, gamosepalous, regular, calyx lobes oval-oblong, 2.5-3.0 mm × 0.8-1.0 mm, 3-nerved, glabrous, ciliate at the margin, persistent. Corolla pale yellow to white, corona present, tube densely hairy at the throat, lobes 2-4 mm long, apex obtuse, slightly curvy, upper lobes slightly larger than others.Stamens 4, exerted, greenish; filament inserted at the top of the corolla tube, glabrous; anthers dorsifixed, style erect, c. 2 mm long; stigma truncate to 2-partite, sometimes notched. Ovarygreen. Fruitcapsule,.

Habitat: Wasteplaces.

Uses: It is traditionally used in treatment of diabetes, dysentery, earache, fever, gonorrhea, headaches, jaundice, snake bite, stomach problems, toothache, warts.

Distribution: Naturalized in Java; Onions plantations in South Sumatra.

Impact: No detail information

Images source: phytoimages.siu.edu

References/Notes: 1, 13, 110, 125, 256.

302 *Senecio vulgaris* L.

Synonyms: *Erigeron senecio* Sch.Bip. ex Webb & Berthel/*Senecio vulgari-humilis* Batt. & Trab./*Senecio vulgaris* subsp. *Vulgaris*/*Senecio vulgaris* var. *Vulgaris.*

Asteraceae

Origin: Eourope, N. Africa & Continental Asia.

Indonesian names: -

English names: Common groundsel,old-man-in-the-spring, ragwort.

Description: Erect, perennials herbs, with or without a rhizome,10-41 cm tall. Leaves simple, the radical usually petiolate, narrowly deltoid, oblanceolate or elliptic, the cauline commonly sessile, margins more or less dentate, pinnately veined. Heads small, usually in terminal, homogamous and discoid. Phyllaries 5-22, usually free. Receptacle flat. Disk flowers 3-many, corolla yellow. Anthers oblong to linear. Style-arm recurved. Fruits achenes, cylindrical, ribbed; pappus capillary, numerous, thin, white, often denticulate.

Habitat: Ruderal and weed.

Uses: Common groundsel as a medicinal herb does not seem to be recommended very often since 1931, when it was recommended as a diaphoretic, an antiscorbutic, a purgative, a diuretic and ananthelmintic, which was a demotion as it was previously suggested for the expelling of gravel of the kidneys and reins by Pedanius Dioscorides in the 70s-90s, for use as poultices by John Gerardin the late 16th century and as a cure for epilepsy by Nicholas Culpeper in the 17th century.

Distribution: In Java up to now only on Mt. Tengger (East Java).

Impact: A common weed in fields and garden.

Images source: cals.ncsu.edu

References/Notes: 1, 88, 105, 127.

303 *Senna bicapsularis* (L.) Roxb.

Synonyms: *Cassia bicapsularis* L./*Cassia berterii* Colla/*Adipera spiciflora* Pittier/*Cathartocarpus bicapsularis* (L.) Ham./*Chamaefistula inflata* G.Don/*Isandrina arborescens* Raf.

Caesalpiniaceae

Origin: America.

Indonesian names: -

English names: Rambling Senna (formerly «cassia»), Christmas Bush, Money Bush, and Yellow Candlewood.

Description: Erect-drooping shrub, growing up to 3.5 m tall. Leaves spirally arranged, paripinnate, 2.5–9 cm long, with six to eight leaflets. Leaflets oval-oblong-obovate very obtuse, rounded or submarginate,with a minute mucro, 1.6–4.5 cm long and 1.1–2.3 cm broad. Stipules widely patents, green, deciduous.Flowers terminal, produced a few together on short racemes, each flower, yellow, 12–16 mm long.

Habitat: -

Uses: -

Distribution: In West Java and Central, Java here and there cultivated as an ornamental, locally run wild.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 88, 232.

304 *Senna obtusifolia* (L.) H.S.Irwin & Barneby

Synonyms: *Cassia obtusifolia* L./*Cassia humilis* Collad/*Cassia toroides* Roxb./*Cassia toroides* Raf./*Diallobus falcatus* Raf./*Diallobus uniflorus* Raf.

Fabaceae

Origin: This species is thought to be native to southern and eastern USA, Mexico and tropical America.

Indonesian names: -

English names: Sicklepod, Chinese senna, cheporon (Pokot), emang, emany (Turkana)

Description: Annual or biennial shrub,up to 2.5 m tall, but usually less than 2 m in height.Stem numerous, branched, sprawling, 1.5-2 m long; usually softly hairy (pubescent) when young, but become mostly hairless (glabrescent) with age; lower stems often sprawl along the ground in open areas. Leaves pinnate, alternate, petiole 15-20 mm long; leaflets two or three pairs, 17-65 mm × 10-40 mm, egg-shaped, tips rounded, glabrous or sparsely hairy, margin entire usually edged with cilia; gland in the rachis, 1-3 mm long. Flower yellow, 10-15 mm across, pedicels 7-28 mm long; sepal five, green, 5.5-9.5 mm long; petal five, yellow or pale yellow, 8-15 mm long; stamen seven, anthers 3-5 mm long. Fruits slender, sickle-shaped, 6-18 cm × 2-6 mm, cylindrical in cross-section and curved downwards and resembles a sickle in shape. Seed 3-6 mm long, dark brown, shiny, rhomboid or irregular in shape.

Habitat: *Senna obtusifolia* is a weed of disturbed sites, waste areas, roadsides, riparian zones (banks of watercourses), floodplains, drainage channels, open woodlands, fallow land, crops and pastures in wetter tropical and subtropical environments. It usually grows as a pasture weed but is sometimes found along roads and in disturbed areas in rain forest.

Uses: Senna obtusifolia can be used as a medicinal plant, a green manure for poles, hedges and for fuelwood

Distribution: Locations within which Senna obtusifolia is naturalised include south-eastern and several Pacific islands.

Impact: Senna obtusifolia is regarded as an environmental weed in Kenya. It also affects other parts of the world including northern Queensland, the Northern Territory and northern Western Australia.S. obtusifolia has been listed as a noxious weed in South Africa.

Images source: publish.plantnet-project.org(1), amberastrophil.blogspot.com(2), tneppc.org(3)

References/Notes: 108

305 *Senna pendula* (Willd.) H.S. Irwin & Barneby

Synonyms:*Cassia bicapsularis* sensu Bojer/*C. pendula* Willd./*Chamaefistula pendula* (Willd.) G.Don.

Caesalpiniaceae

Origin: America.

Indonesian names: -

English names: Cassia, senna.

Description: Spreading shrub, up to 3 m high. Leaves 4–8 cm long; gland 1, between 2 lowest leaflets, erect; leaflets 3–6 pairs, broad-oblanceolate to obovate, the largest 20–50 mm long, 10–15 mm wide; petiole 20–40 mm long. Peduncles 3–4 cm long; pedicels 20–25 mm long. Fertile stamens 6 or 7; 3 largest anthers to 8 mm long, 2 longest filaments 15 mm long, central lower filament 4 mm long; 2 of 3 lower stamens with long C-curved filaments almost at right angles to the plane of floral symmetry. Pods cylindrical, 10–14 cm long, 8–12 mm diam., straw-coloured.

Habitat: A weed of waterways, gardens, disturbed sites, waste areas, roadsides, closed forests, forest margins and urban bushland in tropical, sub-tropical and warmer temperate regions.

Uses: Ornamental plant.

Distribution: Perhaps locally cultivated in Java; Tropical and subtropical S. America; very rare in Malesia.

Impact: Elsewhere occuring as a weed.

Images source: Flickr.com

References/Notes: 1, 4b, 109, 111.

306 *Senna siamea* (Lam.) H.S.Irwin & Barneby

Synonyms: *Cassia siamea* Lam./*Cassia arborea* Macfad./*Cassia florida* Vahl/*Cassia gigantea* DC./*Cassia sumatrana* Roxb/*Senna sumatrana* (DC.) Roxb./*Sciacassia siamea* (Lam.) Britton & Rose

Leguminosae

Origin: SE. Asia.

Indonesian names: Javanese: Juwar (Sundanese,Betawi); Johar (Jateng, Banyuwangi); Sumatera: Bujuk, dulang; Johor (Melayu).

English names: -

Description: A small to medium tree, up to 15-20 m tall, with a short bole and low branching high crown. Leaves pinnate, alternate, rachis 25-30 cm long, with a marked furrow, 8-13 pairs of leaflets of different size. Leaflets oblong, rounded at the base and at the apex, slightly retuse. Upper side dark green and shining, underside dull-green, shortly haired. Flowers yellow, up to 3.5 cm long, in dense racemes at the end of the shoots, and in their axils. Racemes 15-30 cm long. Glabrous, brown, slightly curved pods in dense clusters, up to 25 cm long with ca 20 seeds in each. Originates from India, Burma, Sri Lanka, Indonesia and Malaysia.

Habitat: The plant grows exclusively in forests in tropical South-East Asia and in Thailand they are found mainly in low-lying (sea level) regions.

Uses: Leaves:Treatment of diabetes, disturbances in the association of the element Fire (Asian view of bodily functions), Bubo (lymph node swelling), urine stones, general deficiency conditions, Beri Beri (Singhalese: great weakness), classic deficiency of avitaminose by lack of vitamin B1 (thiamine) in gastrointestinal disorders - malabsorption - meals taken with polished rice etc., antihypertensive, insomnia (sleeplessness), against dysentery and disorders of the large intestine.

Distribution: In Java and Madura., 1-1000 m alt., often planted (mostly as a road-side tree), and not rarely ± running wild, but not truly naturalized; Kecamatan Jumantono, Kabupaten Karang Anyar, Surakarta; It is widely planted throughout the tropics and is locally naturalized.

Impact: No detail information

Images source: sith.itb.ac.id

References/Notes: 1, 29, 80, 125, 160.

307 *Sesamum radiatum* Schumach. & Thonn.

Synonyms: *Sesamopteris radiata* (Schumach. & Thonn.) DC. ex Meisn.

Pedaliaceae

Origin: Africa.

Indonesian names: -

English names: Benniseed, black benniseed, black sesame.

Description: Annual herb, 1.2 -1.5 m tall. Leaves opposite, or toward the top of the plant, alternately arranged,lance-shaped to oval and up to 12 cm long,smooth-edged or serrated. Flowers occur singly in the leaf axils,pink to purple in color, sometimes white, and somewhat bell-shaped, 5 cm long. Fruit capsule, up to 3.5 cm long. Seeds roughly 3 mm long.

Habitat: This plant grows wild in savanna and other habitat types. It is also a weed of fields and homesteads. It can grow on poor, rocky soils and it flowers even through drought conditions.

Uses: -

Distribution: Elsewhere (e. g. Sumatra and Borneo) run wild; possibly occuring also somewhere in Java.

Impact: No detail information

Images source: florafaunaweb.nparks.gov.sg

References/Notes: 1, 88, 210, 211.

308 *Setaria pumila* (Poir.) Roem. & Schult.

Synonyms: *Oplismenus helvolus* (L.f.) P.Beauv./*Panicum helvolum* L.f./*Panicum pumilum* Poir./*Pennisetum helvolum* (L.f.) R.Br./*Setaria pallide-fusca* (Schumach.) Stapf & C.E. Hubb./*Setaria dasyura* Schlecht./*Setaria pumila* (Poir.) Roem. & Schult./

Poaceae

Origin: Unknown.

Indonesian names: -

English names: Garden bristle grass, hairy-tail grass, yellow bristlegrass, foxtail, Queensland pigeon grass (Australia), cat's tail grass (Fiji).

Description: A loosely tufted annual grass, up to of 300-900 mm tall. Leaves 45-170 mm × 5-9 mm. Culm nodes glabrous. Inflorescencea spike-like panicle, normally ten times longer than wide. Spikelet axes subtended by 6-10 bristles that end beyond the spikelet and are often bright yellow in colour, but sometimes dark purple-brown. Spikelets in pairs, not in distinct long-and-short combinations, 2.0-2.8 mm long. Spikelet-bearing axes persistent. Spikelets with involucre of bristles.Female-fertile spikelets dorsiventrally compressed, falling with the glumes. Lemmas are firmer than the glumes, rugose, hairless, have the margins tucked into the palea, 1-5 nerved,awnless and apiculate. There are two relatively large, membranous, awnless glumes, the lower one of which is 3-nerved. The lower lemma very finely rugose.

Habitat: Occurs in tropical areas, usually where the annual rainfall exceeds 500 mm per annum. Grows in disturbed places, including gardens, cultivated areas, old lands and along the side of roads, especially where additional water collects in the rainy season.

Uses: A relatively good natural grazing species, although leaf production is moderately low (Van Wyk & Van Oudtshoorn, 1999). It is a serious weed in some areas, especially since it only germinates late in the season once most control measures have already been applied. The grass can be made into a good hay. In Lesotho sheaves of grain are tied together using rope made from culms of S. pumila that are twisted together. In some areas this grass plays an important role in stabilising bare soil to protect it from erosion.

Distribution: Tropics of Africa, Asia to Polynesia and Australia. Throughout Indonesia.

Impact: No detail information

Images source: biglobe.ne.jp

References/Notes: 3, 207.

309 *Setaria plicata* (Lam.) T. Cooke

Synonyms: *Setaria excurrens* (Trin.) Miq./*Chamaeraphis excurrens* (Trin.) Kuntze/*Chamaeraphis plicata* (Lam.) Kuntze/*Panicum asperatum* Kunth/*Panicum excurrens* Trin./*Panicum plicatum* Lam./

Poaceae

Origin: Tropical America.

Indonesian names: Jamarak.

English names: -

Description: Perennial; caespitose. Culms erect, or decumbent; robust; 45–130 cm long; 3–6 mm diam. Culm-nodes pubescent. Leaf-sheaths keeled; papillose; pilose; with tubercle-based hairs; outer margin hairy. Leaf-sheath oral hairs ciliate. Ligule a fringe of hairs; 3 mm long. Leaf-blade base tapering to the midrib. Leaf-blades lanceolate (narrowly); tapering towards sheath; plicate; 10–40 cm long; 1–3 mm wide. Leaf-blade surface papillose; rough on both sides; glabrous, or pilose, or hispid; hairy on both sides; leaf-blade apex attenuate.

Habitat: Moist grasslands.

Uses: -

Distribution: Since more than three-quarters of a century naturalized in Java; Young rubber plantations in South Sumatra; Oil palm plantations in Medan, North Sumatra; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java.

Impact: Weed of tea plantations

Images source: No detail information

References/Notes: 1, 13, 24, 34, 110, 223, 276.

310 *Setaria verticillata* (L.) P. Beauv.

Synonyms: *ChaetochloaVerticillata* (L.)(Scribn.)/*Ixophorusverticillatus* (L.) Nash/*Panicum adhaerens* Forssk./*Panicum aparine* Steud./*Panicum asperum* Lamk./*Panicum respiciens* (A. Rich.) Hoschst ex Steud *Panicum rottleri* (Spreng) Nees/ *Panicum verticillatum* L.

Poaceae

Origin: -

Indonesian names: Kamala; Oehoe

English names: Rough Bristle Grass; Tropical Barbed Bristle Grass; Whorled Pigeon Grass (Australia)

Description: Loosely tufted annual grass, up to 1 m high;Branches spreading geniculately and often rooting at the lower nodes.Nodes glabrous, often dark-coloured. Leaves up to 30 cm long and 1-1.5 cm wide,apex acute, thin, soft with distinct veins, usually glabrous. Sheathwith ciliate margin in the temperate form.Ligule short fringe of hairs, 1-2 mm long.Inflorescence narrow, spike-like panicle, 5-15 cm long, more or less cylindrical but somewhat lobed with the rachis visible in places.Spikeletsin clusters on short branchlets around the rachis. Individual spikelets2-2.4 mm long, each subtended by 1-3 bristles, 2-8 mm long,retrorsely barbed, making them cling to fur and clothing, and often to other inflorescences.Lower glume less than half as long as the spikelet;upper glume as long as, and hiding the finely wrinkled upper lemma. Caryopsispale brown, broadly ovoid, slightly dorsiventrally compressed, 1.2-1.5 mm long.

Habitat: *Setaria verticillata* is a plant of disturbed areas, especially in annual and perennial crops, but also along roadsides and in waste places over a wide ecological range between northern and southern temperate areas including the sub-tropics and tropics, where it also occurs at high altitude, e.g. in East Africa. It is a species mainly of disturbed ground and is not reported as a problem in natural vegetation. While it has been reported to prefer shady damp sites, it is rarely found in wetlands (PIER, 2008).

In Hawaii, Wagner *et al.* (1999) report that it is "naturalized and common in dry, disturbed areas, including coastal sites, along roadsides, urban areas, agricultural land, and kiawe forest, 0-820 m."

Uses: Setaria verticillata has not been cultivated for human use but Austin (2006) reports archaeological evidence for it being gathered for human food in the past. In South Africa the seeds of S. verticillata are used to produce malt for beer. In Nambia, the Topnaar people harvest S. verticillataseeds and use them in making porridge (ISSG, 2012).

In the younger, vegetative stages, *S. verticillata* can provide palatable and nutritious forage for livestock. Holm et al. (1977) note that it may become dominant in the early stages of fallow in East Africa and provide valuable grazing before it is suppressed by perennial grasses.

Bor (1979) records that the dried inflorescences of *S. verticillata* have been used as a layer on top of stored grains to protect them from rats.

Distribution: Setaria verticillata is a native of the Old World but has been introduced into North and South America. The extent of its natural range in Europe and Asia is uncertain. Bor (1979) indicates that it is widely distributed in the Old World Tropics and introduced into America, whereas PIER (2008) indicates it is native to Europe only, and USDA-ARS (2012) states its origin as palaeotropical and lists countries in North Africa and temperate Asia as part of the native range. Wagner et al. (1999) state that its native range is Europe but that it is widely naturalized.

The diploid form corresponding to *S. adhaerens* has a generally tropical distribution, while the tetraploid *S. verticillata* s.s. has a more temperate distribution. Thus in Israel, the diploid tropical form is common and the tetraploid form rare, while in the USA, the temperate tetraploid *S. verticillata* is present in all mainland states except seven south-eastern states, whereas the tropical diploid *S. adhaerens* is almost restricted to the most southern states (USDA-NRCS, 2008). The form without retrorse barbs, var. *ambigua* occurs sporadically throughout the range of *S. verticillata* s.s.

Impact: Economic Impact

Holm *et al.* (1979) record *S. verticillata* as a serious or principal weed in Hawaii, Israel, Lebanon, Kenya, Peru, South Africa, Spain, Tanzania, Turkey, Tunisia and Zambia. It is one of the three most serious weeds of maize in Israel and Spain (Holm *et al.*, 1977), and is among the most prevalent weeds of lucerne in Macedonia (Kostov and Pacaoski, 2006). It is present in more than 25% of cotton fields in parts of Turkey (Gözcü and Uludag, 2005), was the most abundant grass weed in sunflower in Botswana (Abdullahi, 2004), and affects a wide range of crops in Yemen (Al-Kathiri, 1994). It is especially troublesome in high altitude wheat crops in eastern Africa (Holm *et al.*, 1977). It causes significant damage to maize crops and can displace native grasses (Dekker, 2003).

As well as competing with a very wide range of tropical and temperate crops, it can cause difficulties during harvesting when the inflorescences become entangled with themselves and with the crop. It is classed by PIER (2008) as 'invasive' in many of the Pacific Islands and Pacific Rim countries including Australia and New Zealand.

S. verticillata can act as an alternative host for the nematodes *Meloidogyne* spp. and *Pratylenchus pratensis*, and for the viruses; Maize mosaic virus, Maize streak virus, Wheat spot mosaic virus, Barley stripe mosaic virus, Cereal chlorotic mottle virus and Wheat streak mosaic virus (Holm *et al.*, 1977).

Images source: Wikimedia.org(1), zimbabweflora.co.zw(2)

References/Notes: 104, 296

311 *Sida acuta* Burman f.

Synonyms: *Malvastrum carpinifolium* (L.f.) A. Gray/*Malvinda carpinifolia* (L.f.) Medik/*Malvinda carpinifolia* (L.f.) Moench/*Sida balbisiana* DC/*Sida berlandieri* Turcz/*Sida bodinieri* Gand

Malvaceae

Origin:

Indonesian names: galoenggang; sadagori

English names: broom grass; broomweeds; cheeseweed; clock plant; common fanpetals; common wireweed; morning mallow; prickly sida; southern sida; spiny-head sida; wire weed

Description: Sida acutasmall, erect, perennial shrub, branching profusely from the base,usually ranges from 30-150 cm in height, but grows to 3 m in favourable conditions in northern Australia.Stemsfibrous to almost woody, with a tough stringy bark. Taprootdeep and tough.Leaves alternate, lanceolate, acute, tapering towards both ends and on a short, hairy petiole 3-6 mm long, margins toothed, hairs smooth or sparse stellate, undersurface veins prominento,2-9 cm by 0.5-4 cm. Stipules 2, at the base of each leaf, assymetric with one frequently much narrower than the other.Flowersyellow, solitary, 1-2 cm in diameter and on a short stalk 0.3-0.8 cm long.Petals 5, joined at the base and with a shallow notch at the apex. Fruit hard, brown capsule, 3-5 mm in diameter, breaking into 5-8 triangular segments. Each segment contains one seed and has a pair of sharp awns or 'beaks' 1-1.5 mm long which attach readily to animal fur or clothing.Seeds small, reddish-brown to black, wedge-shaped, deeply indented on both sides, rounded on the back and about 1.5 mm long.

Habitat: *Sida acuta* is found on most soil types, except seasonally flooded clays or soils derived from limestone (APB, 1993). It competes vigorously with other plant species, but does best in disturbed habitats in tropical or sub-tropical regions with a distinct wet and dry season. It has a deep taproot and can withstand drought, mowing and shallow tillage. It is a weed of degraded pastures, tree plantations, cereals, root crops, vegetables, planted forests, lawns, roadsides, and waste places (Pitt, 1992; Flanagan *et al*., 2000). In habitats where it occurs, it tends to flourish in riparian areas near watercourses. It has been reported at up to 1500 m altitude in Indonesia, at medium and higher elevations in Kenya and in the foothills of the Andes in Peru (Holm *et al*., 1977; Waterhouse & Norris, 1987; Parsons & Cuthbertson, 1992).

Uses: Cattle will graze S. acuta to a limited extent while the growth is still tender and it is utilized for livestock or poultry in some areas where it has been introduced (Egunjiobi, 1969; Serra et al., 1997), although it apparently exhibits some long-term toxicity to cattle (Furlan et al., 2008). Serra et al. (1997) observed that it had relatively high mineral content in pastures grazed by goats in the Philippines. Within its natural range it may provide valuable forage for wildlife such as white-tailed deer (Williams & Baxley, 2006).

It is regarded as a good source of fibre and a substitute for jute in Malaysia. It is used to make brooms in parts of South America and elsewhere, and is considered to have medicinal properties in parts of Asia and Africa (Waterhouse & Norris, 1987). Surveys among indigenous people identified *S. acuta* as an important source of traditional medicines in Africa, Asia and Central America (Karou *et al*., 2007). These uses include treating infections, fever, malaria, asthma, headache, diarrhea, skin diseases, dysentery, gonorrhea, rheumatism, eye cataracts and snakebite. It is seen as a valuable plant for treating nervous and urinary diseases and blood, bile and live disorders (Khare *et al*., 2002).

Its medical uses stem largely from relatively high levels of alkaloids and flavanoids, facilitating medicinal uses such as treatment of wounds or use as an antipyretic (Edeoga *et al*., 2005; Karou *et al*., 2007). Extracts of *S. acuta* exhibit antimicrobial activity on a variety of human infectious agents, including *Staphylococcus aureus*, *Escherichia coli*, *Bacillus subtilis, Pseudomonas aeruginosa* and *Mycobacterium phlei* (Anani *et al*., 2000; Ekpo & Etim, 2009). Leaf extracts exhibit activity against bacteria but not against fungi, whereas root abstracts exhibit some activity against pathogenic fungi (Ekpo & Etim, 2009). Extracts from *S. acuta* exhibited strong antimalarial activity (Karou *et al*., 2003). Extracts from the root were found to possess strong hepatoprotective effects, thus validating traditional uses of *S. acuta* to treat liver disease (Sreedevi *et al*., 2009). Whole plant extracts were found to neutralize the effects of the venomous snake *Bothrops atrox* in Columbia (Otero *et al*., 2000).

S. acuta is able to accumulate heavy metals, and therefore may serve a phytoremediation role in contaminated sites (Gupta & Sinha, 2007). Extracts of *S. acuta* were also found offer protection of stored grains from the fungal pathogens *Sitophilus oryzae* and *Prostephanus truncatus* (Niber, 1994). Okunalo *et al*. (2007) used *S. acuta* as an indicator plant to detect contaminant levels in Kaduna, Nigeria.

Distribution: Sida acuta is native to Central America, but has spread throughout the tropics and sub-tropics in the Pacific, Asia and Africa (Holm et al., 1977; Waterhouse & Norris, 1987; Parsons & Cuthbertson, 1992).

Impact: Economic Impact

Sida acuta is a vigorous competitor in degraded pastures, tree plantations, groundnuts, cereals, root crops, vegetables, planted forests, lawns, roadsides and waste places (Holm *et al*., 1977; Ham & Eastick, 2004), with the most serious infestations seen in pastures and rangeland (Holm *et al*., 1977; Schmutterer & Koch, 1979). Its lack of palatability help enable *S. acuta* to produce monospecific stands in pasture settings (Nuwanyakpa *et al*., 1983). *S. acuta* is considered amongst the ten most serious weeds in New Caledonia, Solomon Islands and Vanuatu (Waterhouse, 1985; Waterhouse & Norris, 1987), and is regarded by Holm *et al*. (1977) as among the 76 most serious

weeds of the world. *S. acuta* was listed as one of 24 top invasive plant candidates for biological control among Pacific Island Countries and Territories, seven of which listed it as an important pest (Dovey *et al*., 2004). In Papua New Guinea, up to 80,000 ha in the Markham-Ramu valleys, were infested with thick stands of *S. acuta* up to 1.5 m in height following a drought year in 1997 (Kuniata & Korowi, 2004). Livestock owners were forced to cull numerous animals as a result. In the wake of the explosive increase in the *S. acuta* population, herbicide use was estimated to cost one company about $136,000 per year to control *S. acuta* on 37,000 ha of infested ranchland (Orapa, 2005). As a perennial weed *S. acuta* is most commonly recorded as a problem in perennial crops, where it has ample time for full development. Where weed succession advances to later seral stages, its perennial nature gives *S. acuta* and advantage (Afolayan, 1988). However, it establishes and flowers almost as rapidly as an annual and is able therefore to create problems in many crop situations.

Foliage of *S. acuta* has been observed to cause poisoning in cattle, with consumption of even a relatively small amount of foliage over an extended period of time leading to lisosomal storage disease (Furlan *et al*., 2008).

Sida acuta also provides food, shelter and reproductive sites for insect pests of commercial crop plants. It is a major host of *Anomis flava* (cotton semi-looper), *Maconellicoccus hirsutus* (pink hibiscus mealybug), lantana mealy bug (*Phenacoccus parvus*), Okra mosaic virus (OMV), White-fly Transmitted Gemini (WTG) viruses and the recently characterized Sida yellow mosaic China virus (SiYMCNV) (Waterhouse, 1997; Umaharan *et al*., 1998; Xiong *et al*., 2005). It is also a wild host of *Crocidosema plebejana* (cotton tipworm), *Phenacoccus manihoti* (cassava mealybug) and the cotton insect, *Dysdercus ruficollis*. The pathogen *Calonectria quinqueseptata* (leaf spot of Hevea spp.) is also associated with *S. acuta* (Sulochana *et al.*, 1982). The Sida yellow mosaic virus has been characterized on *S. acuta* and could potentially infect crops associated with the weed (Hernandez-Zepeda *et al*., 2007).

Environmental Impact

Impact on Habitats

Sida acuta may infest riparian areas, reducing habitat quality, as seen in Australia (Metcalfe, 2001). However, in some cases *S. acuta* may have a positive influence in reducing streambank erosion (Kumar *et al*., 1996). Simulated rainfall tests demonstrated the ability of transplanted seedlings to prevent loss of nitrogen in such settings (Kumar *et al.*, 1997).

Impact on Biodiversity

The formation of monospecific stands of this tough, spiny shrub in rangeland areas negatively impacts biodiversity (Lonsdale *et al*., 1995; Flanagan *et al*., 2000). *S. acuta* may also invade nearby natural areas; for example populations of *S. acuta* were identified infesting Australia's Kakadu National Park, a world heritage site that is home to hundreds of species of native plants and animals (Cowie & Werner, 1993). Seeds of *S. acuta* were found being transported on the wheels of tourist vehicles within the same park (Londsdale & Lane, 1994). *S. acuta* is a larval host of the native butterfly, *Hypolimnas bolina* in Australia (Kemp, 1998). In its native range *S. acuta* provides forage for wildlife such as white-tailed deer, as well as cover for wildlife species like bobwhite quail, rabbits, and wild turkeys (Williams & Baxley, 2006).

Social Impact

Where *S. acuta* has formed dense populations in pastures and rangelands, such as Papua New Guinea, northern Australia and many of the Pacific Islands, it has greatly impacted local economies, and demanded concerted control efforts. This has resulted as a strain on the already limited resources in these jurisdictions. The relatively low cost solution of introducing effective biological agents, such as *Calligrapha pantherina* has thus been much sought after in the south Pacific region (Flanagan *et al*., 2000; Dovey *et al*., 2004; Kuniata & Korowi, 2004; Julien *et al*., 2007).

Images source: westafricanplants.senckenberg.de(1), eattheweeds.com(2), zimbabweflora.co.zw(3)

References/Notes: 296

312 *Sida glabra* Mill.

Synonyms: *Sida arguta* Sw./*Sida cearensis* Ulbr./*Sida endlicheriana* C.Presl/*Sida glutinosa* Cav./*Sida nervosa* DC./*Sida rupicola* Hassl./*Sida verruculata* DC./*Sida willdenowii* D. Dietr.

Malvaceae

Origin: America.

Indonesian names: -

English names: -

Description: Small hirsute subshrubs, up to 80 cm tall. Leaves alternate-spiral, simple, ovate-cordate, apex acuminate, base cordate, margin crenate-serrate. Flower solitary or 5-7 flowered lax racemes, yellow to orange with a pink throat. Fruit schizocarp, enclosed in the calyx, smooth or faintly rugose, hairy at apex, mericarps 5, 3-gonous, beak 2-lobed

Habitat: Found on the waysides, disturbed slopes from 800-1200 m.

Uses: Leaves are cooked and eaten in cases of bleeding piles. Juice of the whole plant, pounded with a little water is given in doses of ¼ seer for spermatorrohea, rheumatism, and gonorrhoea. Made into paste with juice of palmyra tree, it is applied locally, in elephantiasis.

Distribution: In West and Cenral Java, locally naturalized.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1.

313 *Sida rhombifolia* L.

Synonyms: *Sida adjusta* Marais,/*Sida alba* Cav./*Sida ruderata* Macfad./*Diadesma rhombifolia* (L.) Raf./*Malva rhombifolia* (L.) E.H.L.Krause/*Napaea rhombifolia* (L.) Moench

Malvaceae

Origin: Asia.

Indonesian names: Sidaguri.

English names: Paddy's lucerne, jelly leaf, and also somewhat confusingly as Cuban jute,Queensland hemp, and Indian hemp.

Description: Erect small shrub, branching from base, up to 1 m high. Plants develop a thick taproot. Stems pale green with fibrous bark. Leaves lanceolate, 1.5–8.5 cm long, 0.6–4 cm wide; dull green above, greygreen below; margins irregularly toothed; on stalk 1–6 cm long, with stipules 0.5–1 cm long at the base. Fruit 5–6 mm wide separating into 1-seeded mericarps (fruitlets). Mericarps 2–2.5 mm long, dark brown, vertically 2-ribbed on the back.

Habitat: This species is usually confined to waste ground, such as roadsides and rocky areas, stock camps or rabbit warrens, but can be competitive in pasture, due to its unpalatability to livestock.

Uses: Arrowleaf sida has significant medicinal applications for which it is cultivated throughout India. The pounded leaves are used to relieve swelling,the fruits are used to relieve headache, the mucilage is used as an emollient, and the root is used to treat rheumatism (Parrotta 2001).

Distribution: Pantropical, also in the subtropics. Throughout Indonesia; Pepper plantations South Sulawesi; Oil palm plantations (4 years) South Sumatra; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; In the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: Weed of tea plantations

Images source: keys.trin.org.au

References/Notes: 3, 11, 13, 34, 70, 88, 147, 281.

314 *Sigesbeckia orientalis* L.

Synonyms: *Minyranthes heterophylla* Turcz./*Sigesbeckia caspica* Fisch. & C.A. Mey./*Sigesbeckia gracilis* DC./*Sigesbeckia humilis* Koidz./*Sigesbeckia iberica* Willd.

Asteraceae

Origin: -

Indonesian names: Menyuwun, Jabung, Limpungan, Jabungan (Javanese); Nampong (Sundanese).

English names: Small yellow crown beard.

Description: Erect much branched herbs, branches furcated, 0.1-1 m tall. Stem subangular, hispidulous, often tinged with purple, 2-8 mm thick; internodes 10-16.5 cm long. Lower leaves with 1-5 cm long, more or less winged petioles, deltoid- or ovate-oblong, 5-20 cm × 1.5-12 cm, base cuneate and attenuate, margins coarsely irregularly dentate, apex obtuse, apiculate, chartaceous, 3-nerved, appressed-hispidulous on the upper side, shortly pubescent and glandular on the lower side, higher leaves smaller, sessile or nearly so, oblong-lanceolate, 2 cm × 0.5 cm, dentate or entire, apex acute, more or less long-attenuate. Heads terminal and in the axils of the upper leaves, peduncles filiform, 0.5-3 cm long, with patent glandular hairs. Involucre 1-seriate; phyllaries linear-spathulate, 5, apex obtuse or rounded, 6-15 mm long, herbaceous, bearing numerous patent glandular hairs, 5 mm long, inner ones without glands, 4 mm long. Ray flowers 3, tube of the corolla 1 mm long, ligule deltoid-obovate, 2 mm long. Disk flowers 8, corolla 2 mm long. Fruits achenes, obpyramidal, 4-angular, truncate, tipped by a rim, black, glabrous, 4-5 mm long.

Habitat: Isle of Bourbon, ruderal, sunny roadside, old lading, c. 500-2400 m alt.

Uses: Used by Creoles as a protective covering for wounds, burns, etc. The juice when applied to the skin leaves a coating similar to that of collodion. Creoles call it 'Colle Colle' - Stick Stick.

In China it is used as a remedy for ague, rheumatism, and renal colic; used in Britain chiefly as a cure for ringworm in conjunction with glycerine. Used in Mauritius Islands for syphilis, leprosy and various skin diseases.

Distribution: (Sub) tropics of Old World, introduced in Brazil and Rumania; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: Weed in the vegetable fields

Images source: www7a.biglobe.ne.jp

References/Notes: 2, 70, 128.

315 *Silene gallica* L.

Synonyms: *Corone gallica* Fourr./*Cucubalus sylvestris* Lam./*Cucubalus variegatus* Lam./*Lychnis cerastoides* (L.) Scop./*Silene anglica* L./*Silene cerastoides* L./*Silene giraldii* Guss.

Caryophyllaceae

Origin: Europe and North Africa

Indonesian names: -

English names: Catchfly, small-flowered catchfly, and windmill pink.

Description: Annual herb,up to 40 or 45 cm tall, its branching stem coated in long, curling hairs and shorter, glandular hairs. Leaveslance-shaped leaves,up to 3.5 cm long low on the plant, and smaller on the upper parts. Flowersin a terminal inflorescence at the top of the stem, and some appear in the leaf axils calyx tubular; sepals fused lined with ten green or purple-red veins. It is coated in long hairs. It is open at the tip, revealing five white, pink or bicolored petals, each with a small appendage at the base.

Habitat: Roadside.

Uses: Emollient, ophthalmic.

Distribution: In Java once found subspontaneous on Hyang plateau (East Java).

Impact: No detail information

Images source: Flickr (1,3), newenglandwild.org (2)

References/Notes: 1, 88, 95.

316 *Solanum erianthum* D.Don

Synonyms: *S. adulterinum* Buch.-Ham.ex Wall.

Solanaceae

Origin: West Indies, C. America & Mexico.

Indonesian names: Terung teter.

English names: Potato Tree; Tobacco Tree; Tobacco, Wild; Nightshade; Flannel Bush; Wild Tobacco.

Description: Evergreen, shrub or small tree. Twigs, petioles and leaf blades unarmed but densely clothed in stellate hairs. Upper and lower surfaces leaf blade hairy; leaf blade 8-24 cm × 4-15 cm; petiole 1-10 cm long; lateral veins about 6-9. Inflorescence branched, many-flowered. Pedicels about 5-10 mm long, densely stellate hairy. Calyx 4-7 mm long, lobes about 1-2.5 mm long, both stellate hairy on the outer and inner surfaces. Corolla about 13-19 mm diam., outer surface stellate hairy, inner surface glabrous. Anthers about 2.5-3 mm long. Ovary clothed in straight hairs. Fruits globular, about 10 mm diam., outer surface stellate pubescent. Seeds about 1.5-2 mm long. Embryo horseshoe-shaped,cotyledons about as wide as the radicle.

Habitat: Altitudinal range in CYP and NEQ from 250-1000 m. Grows in disturbed areas in upland rain forest particularly along roads. Usually found in areas where the rainfall is at the lower end of the range which supports rain forest and where the nutrient status of the soil is higher than average.

Uses: In West Africa a leaf decoction of Solanum erianthum is taken for its diuretic and purgative properties to cure malaria, leprosy and venereal diseases and it is also taken to stimulate the liver functions. In tropical Asia the leaves are considered a potent medicine for expelling all impurities through the urine, in particular to treat leucorrhoea and also as an abortifacient. Pounded leaves are applied as a poultice to treat haemorrhoids and scrofula. Heated leaves are applied to the forehead against headache. A decoction of the leaves is drunk to treat vertigo. A decoction of the roots is applied to treat violent body pains or to relieve digestive troubles; it is also given to treat dysentery, diarrhoea and fever. The root bark is used as an antiphlogistic and to treat arthritis. The fruits are an ingredient of arrow poison. Although the fruits are considered poisonous, causing nausea, headache and cramps, in South-East Asia they are sometimes eaten when cooked. In southern India the fruits are prepared as a curry. In the Philippines the velvety leaves are used to remove grease from dishes. Solanum erianthum is considered suitable as a shade plant for coffee, but in Ghana it is considered an undesirable shade plant. In the Caribbean Solanum erianthum is planted as an ornamental.

Distribution: It is now an almost pantropical weed, although hardly penetrating S. America. Probably introduced into the Philippines by the Spanish in the 16th Century, from where it has spread throughout the Malesian archipelago and to mainland Asia and Australia.

Impact: No detail information

Images source: visoflora.com

References/Notes: 75, 118, 253.

317 *Solanum torvum* Swartz

Synonyms: *Solanum ficifolium* Ortega/*S. mayanum* Lundell

Solanaceae

Origin: The Antiles.

Indonesian names: Takokak, terung pipit.

English names: Turkey berry, Devil's Fig, Prickly Nightshade, Shoo-shoo Bush, Wild Eggplant, Pea Eggplant, Pea Aubergine.

Description: Evergreen, widely branched, prickly shrub or small tree, to 5 m tall, 2-8 cm in basal diameter; twigs stellate tomentose. Stems armed with stout, flattened prickles, usually straight or slightly curved, bark is gray and nearly smooth with raised lenticels. Leaves alternate, simple, clearly petioled; blades oval to elliptic, unlobed to strongly lobed, to 25 cm long; bases assimetris, tips pointed; surfaces densely stellate hairy below, less dense above, with usually a few long prickles on midveins. Flowers many, in large branched clusters, with simple, mostly glandular hairs on axes; corolla bright white, to 2.5 cm across, lobed about 1/3 of its length; lobes not recurved; stamens with prominent anthers. Fruits erect, subglobose berry, to 1.5 cm wide, yellow when ripe.

Habitat: Given an equal start after disturbance, turkey berry quickly overtops most herbs, grasses and other shrubs. It grows best in full sunlight and does well in light shade or shade for part of the day, but cannot survive under a closed forest canopy. Turkey berry single plants, groups and thickets are most frequently seen on roadsides, vacant lots, brushy pastures, recently abandoned farmland, landslides and river banks.

Uses: -

Distribution: Pantropical weed. Occasionally it is also cultivated, especially in S., SE., and E. Asia.

Impact: Pantropical weed

Images source: Foris-Indonesia

References/Notes: 69, 88.

318 *Sonchus arvensis* L.

Synonyms: *Hieracium arvense* (L.) Scop./*Sonchus exaltatus* Wallr./*Sonchus hantoniensis* Sweet/*Sonchus laevissimus* Schur/*Sonchus nitidus* Vill./*Sonchus vulgaris* Rouy/*Sonchoseris arvensis* Fourr./*S. decora* Fourr.

Asteraceae

Origin: Europe & S. W. C. Asia, Eurasian /Asia.

Indonesian names: Tempuyung.

English names: Corn Sow Thistle, Dindle, Field Sow Thistle, Gutweed, Swine Thistle, Tree Sow Thistle, Field Sowthistle.

Description: Robust perennial herbs, 5-10 cm tall erect, single stem, branches near the top into several flower stalks, with a strong taproot. Broken stems emit a sticky milky bitter juice with a sour odor. Leaves alternate; lower leaves radical, deeply lobed; upper leaves clasp the stem, oblong, spathulate-oblong or lyrate-pinnately lobed, 6-38 × 1-8 cm, base sagittate with rounded auricles, margins acutely shortly dentate, apex with a large terminal lobe, mucronate at the apex, blue-green, often purplish, upper ones smaller. Peduncles 1-8 cm long, coarsely glandular-bristly, at first white-floccose. Heads combined into widely branched corymbs, 2-2.5 cm long. Outer phyllaries densely clothed with coarse glandular bristles. Corolla 2-2.5 cm long, yellow, on the black often reddish, often turning brownish-red with age. Fruits achenes, 4-4.5 mm long, ribs 5 on both surfaces, transversely rugose by fine tubercles; pappus 1.5 cm long.Seeds tufted, dispersed by the wind.

Habitat: Spreads vegetatively as well as through windborn seeds. Each tiny piece of root can grow another plant.It colonizes in cultivated fields, pastures, woodlands, roadsides and gardens.

Uses: -

Distribution: In the West half of Java naturalized in many places; rare in C. and E; Introduced elsewhere. Has spread throughout Indonesia except the Moluccas and Papua; at dusn Lebo, Mardiredo village, kecamatan Pujon, kabupaten Malang; Bogor Botanic Garden; Weed of potato plantations Koto Baru, Kabupaten Tanah Datar, South Sumatra; Distributed from Afganistan through S. Asia and Indo-China to Taiwan. In Malesia it occurs in the Philippines and Indonesia (Java).

Impact: Weed of potato plantations

Images source: flora.nhm-wien.ac.at

References/Notes: 1, 2, 3, 22, 30, 42, 69, 88, 129, 130.

319 *Sonchus asper* (L.) Hill

Synonyms: *Sonchus aemulus* Merino/*Sonchus borderi* Gand./*Sonchus carolinianus* Walter/*Sonchus cuspidatus* Blume/*Sonchus decipiens* (De Not.) Zenari/*Sonchus fallax* Wallr./*Sonchus glaber* Thunb

Asteraceae

Origin: Europe, N. Africa & Continental Asia.

Indonesian names: Jombang (Sundanese) Deligiyu (East Java).

English names: Sharp-fringed Sow Thistle, Prickly Sow Thistle, Spiny Sow Thistle, or Spiny-leaved Sow Thistle.

Description: Annual herbs, 0.8-0.9 m tall, glabrous. Lower leaves oblanceolate or spathulate, undivided or lobed, mid-cauline leaves often runcinate-pinnatifid, 4-18 by 0.5-5 cm, base cordate, margins very acutely dentate, teeth pungent, up to 4 mm long, apex acute, sometimes purple on the lower surface. Peduncle 1-3.5 cm long. Heads 1.5 cm long; Involucre 1 cm long, phyllaries more or less obtuse, glabrous. Corolla 1 cm long. Fruits achenes, without tubercles, not transversely rugose on the 3 ribs; pappus 1 cm long.

Habitat: This plant is native to Europe, but is also a common weed in North American roadsides, landscapes, and pastures.

Uses: Its edible leaves make a palatable and nutritious leaf vegetable.

Distribution: Introduced into Java already before 1826 and naturalized; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: Cosmopolitan weeds, occuring from the Arctic zone to the tropics

Images source: floravascular.com

References/Notes: 1, 2, 69, 70, 88.

320 *Sonchus oleraceus* L.

Synonyms: *Sonchus angustissimus* Hook.f./*Sonchus australis* Hort. ex Trev./*Sonchus ciliatus* Lam./*Sonchus gracilis* Phil./*Sonchus laevis* Vill./*Sonchus longifolius* Trevir./*Sonchus pallescens* Panc./*Sonchus sundaicus* Blume/*S. umbellifer* Thunb.

Asteraceae

Origin: Europe, N. Africa & Continental Asia.

Indonesian names: Tempuyung.

English names: Common sowthistle, sowthistle, annual sowthistle, common milk sowthistle, milk thistle, milkweed, thalaak, colewort, hares lettuce, soft thistle.

Description: Simple or branched annuals, 0.1-1.25 m tall. Stems5 angled, hollow stemdark green (sometimes tinted with a reddish-purple tinge). Leaves oblong, oblong-ovate or lyrate, base sagittate, basal auricles usually with a tooth obliquely pointing downwards, margins very acutely irregular dentate, teeth not pungent, apex acute or rarely rounded, glaucous on the lower surface, lowermost radical, more or less narrowed into a petiole, pinnatifid-pinnati-partite with irregular, acutely aciculate-dentate lobes and often with a triangular or ovate acute terminal lobe. Peduncle 1-5 cm long. Headsyellow,5-6mm in diameter, borne on stalks at the ends of branches, in an irregular terminal panicle (a compound inflorescence with a main axis and lateral branches which are further branched, and in which each axis ends in a flower or bud), with or without hairs. Involucre 8-9 mm long. Phyllaries obtuse, glabrous or with very few gland-hairs; corolla 1 cm long, light-yellow, sometimes tinged with purple. Fruitachene, 2.5-4 mm by 1 mm, brown, 3-ribbed on each face, wrinkled with narrow margins and compressed and obovoid in shape.Seedslight with white parachutes of silky hairs (pappus);. pappus 5-8 mm long.

Habitat: Habitats include most soil types, fields, pastures, roadsides, gardens and edges of yards, vacant lots, construction sites, and waste places.

Uses: used as a food source in the Mediterranean (Leonti et al. 2006). It is also eaten in Africa, both cooked and raw. It is also used to treat a wide variety of infections, diseases and other medicinal uses. A few examples include use as a sedative, a diuretic and to treat salmonella infection, anaemia, wars, eye problems, liver infections, and as a cure for opium addiction (Grubben & Denton, 2004).

Distribution: Introduced into Java already before 1826 and naturalized; Introduced in subtropical to temperate areas elsewhere; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: Weed in the vegetable fields

Images source: gobotany.newenglandwild.org

References/Notes: 1, 2, 3, 69, 70, 104, 111.

321 *Spathodea campanulata P. Beauv.*

Synonyms: *Bignonia tulipifera* Schum/*Spathodea danckelmaniana* Büttner/*Spathodea nilotica* Seem/*Spathodea tulipifera* (Schum) G. Don

Bignoniaceae

Origin: -

Indonesian names: -

English names: Fireball; Flame Of The Forest; Flame Tree; Fountain Tree; Gabon Tulip Tree; Nandi Flame; Nile Flame; Squirt Tree; Tulip Tree; Uganda Flame

Description: Medium to large tree, up to 35 m tall,175 cm in diameter.Trunk stout and sometimes buttressed, thick branches spotted with small white lenticels. Leaves usually opposite (rarely 3 at a node), very widely diverging, up to 50 cm long, (7-) 11-15 (-17) leaflets broadly elliptic or ovate, entire, to 15 x 7.5 cm, with 7-8 principal veins on each side, puberulent and prominent beneath, apex very slightly acuminate, base somewhat asymmetrically obtuse, lower leaflets tending to be reflexed, petiolule short, 2-3 mm, rachis nearly straight, brownish-puberulent, petiole up to 6 cm long, thickened at base. Raceme 8-10 cm long on a peduncle of about the same length, with a pair of reduced leaves about halfway up, rachis and pedicels thick, brownish puberulent, bracts subtending pedicels lanceolate, curved, about 1 cm long, caducous, pair of bractlets near summit of pedicel similar, opposite; calyx strongly curved upward, asymmetric, about 5 cm long, tapering, somewhat ribbed, splitting at anthesis to within a few mm of base along dorsal curve, apex horn-like, blunt, exterior brownish sericeous puberulent; corolla bright vermilion or scarlet, 10-12 cm long, mouth of limb about 7 cm across, lobes about 3 cm long, obtuse, margins strongly crispate, orange-yellow; filaments about 5 cm long, dull orange anthers arcuate, linear, very dark brown, 15 mm long; style yellow, 8 cm long, stigma reddish. Fruit capsules are lanceolate, slightly compressed, 17-25 x 3.5-7 cm.

Habitat: *Spathodea campanulata* grows naturally in secondary forests in the high forest zone and in deciduous transition and savannah forests. In Pohnpei it favours wet areas (Englberger, 2009). It may also appear as a pioneer species in the native range, such as it being one of the species that naturally colonizes grasslands in Uganda. Where introduced, it invades both abandoned agricultural land and closed forest and has become a weed in abandoned pasture sites in Puerto Rico where it may become dominant (Rivera & Aide, 1998) and is a weed in coffee plantations in Cuba (Herrera-Isla *et al*., 2002), and is highly invasive in Tahiti, French Polynesia in cloud forests up to 1300 m (PIER, 2008).

Uses: It can rehabilitate degraded land through its rapid growth. The wood is creamy-white, soft and light; it is suitable for rough carpentry, crates and shuttering. The seeds are used as food in Africa, and plant extracts are used in African traditional medicine. A poison used to kill animals is extracted from the hard central portion of the fruit. However, its main use is as an ornamental tree. However, it is sometimes not recommended as a street tree as the heavy branches have a tendency to break in wind and can pose a risk to those underneath. It has also limited value as a fodder.

Distribution: It is indigenous to Africa with a native range that extends along the west coast from Guinea to Angola and inland across the tropical rainforest region to southern Sudan and Uganda, however, the exact limits are uncertain, and nativity in neighbouring countries is possible, or it is introduced in the extremes of this range. Several report (e.g. ICRAF, 2008) a more restricted native range to the west, only as far as Ghana and stretching further at the eastern extreme to include Ethiopia to Zambia, and the broader range is accepted here.

Impact: Economic Impact

It is a weed in coffee plantations in Cuba (Herrera-Isla *et al*., 2002), thus having a negative economic impact. As an important and valuable ornamental, however, it must have a positive impact in terms of sales.

Environmental Impact

Spathodea campanulata forms thickets which can shade and out-compete surrounding plants, including trees. It is spreading rapidly on many Pacific islands, where it invades disturbed areas, abandoned agricultural land and native forests (Englberger, 2009).

Images source: freebird-chaithra.blogspot.com(1),invasionesbiologicas.blogspot.com(2), biogeodb.stri.si.edu(3)

References/Notes: 296

322 *Spergula arvensis* L.

Synonyms: *Alsine arvensis* Crantz/*Arenaria arvensis* Wallr./*Spergula linicola* Boreau/*Spergula maxima* Weihe/*Spergula vulgaris* Boenn./*Spergularia arvensis* (L.) Cambess.

Caryophyllaceae

Origin: Europe.

Indonesian names: Damar waja.

English names: Corn Spurrey.

Description: Annual herbs. Leaves whorled, threadlike, bright green. Flower hermaphrodite, axilar, white. Seeds black, roughned by minute tubercles with narrow light coloured wing on the margin.

Habitat: Cultivated Beds.

Uses: Diuretic.

Distribution: In East-half of Java, run wild in many places.

Impact: No detail information

Images source: missouriplants.com

References/Notes: 1, 95, 269.

323 *Spermacoce alata* Aubl.

Synonyms: *Borreria alata* (Aubl.) DC./*Borreria bartlingiana* DC./*Borreria eradii* Ravi/*Borreria fockeana* Miq./*Borreria latifolia* (Aubl.) K. Schum./*Borreria scabrida* DC./*Spermacoce aspera* Aubl./*S. latifolia* Aubl./*Tardavel latifolia* (Aubl.) Standl.

Rubiaceae

Origin: Tropical America.

Indonesian names: -

English names: Winged False Buttonweed.

Description: Prostrate, ascendent or erect herb, usually branched from the base 5 – 75 cm tall. Stems fleshy, quadrangular, distinctly 4-winged, pilose on the wing. The wings of the internodes often crispy, stipule interpetiolar present. Leaves rather thick, simple, entire, penninerved, opposite, sessile or shortly stalked, elliptic to ovate-elliptic, acutish or obtuse. Flower bisexual, actinomorphic, small, in few - to many-flowered axillary clusters, corolla mauve, rarely white. Fruit capsule 3-4 mm long, hairy, crowned by calys lobes. Seeds ellipsoid, plano-comvex with a ventral groove, smooth.

Habitat: -

Uses: -

Distribution: Introduced long ago in Java, now run wild in West Java; In Indonesia: Sumatra, Java, and Kalimantan, as far as known;Oil palm plantations in South Sulawesi; Young rubber (3 years) and oil palm (4 years) and onion plantations in South Sumatra; Research Centre Plantations Bogor; Sugarcane plantations Takalar; Experimental garden Banjar Baru, South Kalimantan; Dry land sugarcane plantations Pelaihari, South Kalimantan; Oil palm plantations in Medan, North Sumatra; Sugarcane plantations Camming Factory, South Sulawesi; Grassland and pathway of Bogor Botanical Garden; Tidal areas of South Kalimantan (Handil Manarap) and Central Kalimantan (Unit Tatas); Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Kp. Muara, Bogor, West Java; Weed of cotton plantations Segayung (Kabupaten Batang, Central Java); Weed of chili plantations Cibungbulang, Bogor; Weed of rubber plantations Cimulang, Bogor.

Impact: Weed of tea, cotton, chili, and rubber plantations.

Images source: Flickr.com

References/Notes: 1, 2, 6r, 11, 13, 15, 17, 19, 23, 24, 25, 30, 31, 34, 40, 44, 46, 47, 120.

324

Spermacoce exilis (L.O.Williams) C.D.Adams

Synonyms: *Borreria repens* DC./*Borreria exilis* L.O.Williams/*Spermacoce mauritiana* Gideon

Rubiaceae

Origin: Tropical America.

Indonesian names: Pacific false buttonweed.

English names: -

Description: Annual or perennial decumbent herbs, 5 – 40 cm tall with erect or ascendent branches. Stems 4-winged, obliquely patent or retrosely with rather long white hairy. Stipules interpetiolar, conate and adnate to the leaves, forming a thin sheat, apical devided into very narrow lobes. Leaves simple, entire, opposite with very short petiole, elliptic to oblong-elliptic or ovate, base rounded and cuneate, apex acutish or obtuse, margins shortly bristled. Flower bisexual, actinomorphic, in many-flowered, axillary and terminal bundles, bracts not visible, calyx laterally compressed, corolla white, shorter than calyx, tube very short, white. Fruits capsule, laterally compressed, crowned by the erect calyx lobes. Seeds oblong, brown, finely tuberculate.

Habitat: -

Uses: -

Distribution: Pantropical. Throughout Indonesia, except Sulawesi and the Moluccas, as far as known; Oil palm plantations in South Sulawesi; Sulfat acid soils Banjar Baru; Experimental garden Banjar Baru, South Kalimantan; Grassland and pathway of Bogor Botanical Garden; Tidal areas of South Kalimantan (Handil Manarap).

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 11, 18, 19, 30, 31, 264.

325 *Spermacoce laevis* Lam.

Synonyms: *Borreria laevis* (Lamk) Griseb. /*Spermacoce capitellata* willd. ex Roem. & Schult./ *Spermacoce riparia* Cham. & Schltdl./*Tardavel laevis* (Lam.) Standl.

Rubiaceae

Origin: Tropical America.

Indonesian names: Bulu lutung.

English names: -

Description: An erect, annual to perennial herb, which mainly branches from the base. The stems are or ascending. It can grow up to 15-50 cm tall with long and thin taproot. The leaves are oblong-lance-shaped, measure 2,6-6 cm x 0,8-2 cm, acuminate at apex, smooth and usually tinged dark purple. The lateral veins are conspicuous below. The fascicles are axillary, dense and slender bracts between the flowers are visible. The sepal is narrowly obconical, sparsely hairy, 4-lobed and with narrow lobes 0,5-1 mm long while the petal is funnel-shaped, about 3 mm long, white, glabrous inside tube, with ovate lobes, often purplish-rimmed and aparsely hairy inside. The capsule is obconical and 2-3 mm long.

Habitat: Occurs in regions with a short or pronounced rainy seasons, on sunny or lightly shaded localities, in grassland, along roadsides, in rice fileds, often on hard soils, often on hard soils, often abundant, from sea level up to 1200(-2000) m altitude.

Uses: -

Distribution: Long ago introduced into Java, especially West Java; Introduced in Java long ago; almost pantropic. Throughout Indonesia, except Kalimantan as far as known; Clove and cacao plantations in South Sulawesi; Oil palm (4 years) plantations in South Sumatra; Shifting cultivations of Timor, NTT; Grassland and pathway of Bogor Botanical Garden; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java.

Impact: Weed of tea plantations

Images source: Flickr.com

References/Notes: 1, 11, 13, 14, 30, 34, 112, 196.

326 *Spermacoce ocymifolia* Willd. ex Roem. & Schult.

Synonyms: *Diodia ocymifolia* (Willd. ex Roem. & Schult.) Bremek./*Borreria alternans* Bello/*Borreria ocymifolia* (Willd. ex Roem. & Schult.) Bacigalupo & Cabral/*Hemidiodia ocymifolia* (Willd. ex Roem. & Schult.) K.Schum./*Spermacoce alternans* (Bello) Kuntze/*Spermacoce asperula* (DC.) Govaerts/*Spermacoce neovirgata* Govaerts

Rubiaceae

Origin: Tropical America.

Indonesian names: -

English names: Slender buttonweed.

Description:
Scrambling **herb** with a tap root. **Stems** 1-4 m long, often with numerous lateral branches, square in cross-section and with long hairs on the angles. **Leaves** yellowish-green, lanceolate, 1.8-6.3 - 0.7-2.8 cm; leaf blade scabrous above with dense tubercular hairs, smooth below; petiole 1-5 mm long. **Flowers** 1-8 in axillary clusters at most nodes, each flower 1.5-3 mm long with 4 mauve or white petals. **Seeds** dark blackish red, 2-4 mm long, 1.5 mm wide, 0.8 mm thick.

Habitat: A strand plant, often near high water mark; grassland and bushland at low altitudes, and a weed of cultivation.

Uses: -

Distribution: In West Java run wild.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 263.

327 *Spermacoce sphenocleoides* Oliv. & Hiern/*S. suberiflorus* Hayata.

Asteraceae

Origin: Africa.

Indonesian names: Sembung gantung, ki heuleut (Sundanese), sembung delan, brincil (Javanese).

English names: East Indian Globe Thistle.

Description: Erect herbs, often much branched, 0.25-0.5 m tall or more. Plants glabrate. Stem winged, 3-5 mm thick, sparsely pilose, wing entire or nearly so, branches often spreading. Leaves decurrent along the stem, oblanceolate-elliptic, oblanceolate, or oblong-lanceolate, 1.5-7 by 0.3-1.8 cm, margin subentire or minutely repando-denticulate, apex acutely mucronate, sparsely crispy pilose on both sides. Peduncles usually winged, 0.5-5 cm long. Glomerules pedunculate, globose or subglobose, 6-9 mm wide, at base with a few obovate-lanceolate, acute to acuminate, shortly pilose, glandular bracts. Heads numerous. Phyllaries about 7 or more, oblong-spathulate or obovate-spathulate or obovate-oblong, 2-3 mm long, margins distally faintly undulate, apex apiculate. Receptacle shortly obconical. Ray flowers: corolla obovoid or ovoid-cylindrical, sub-cartilaginous in the lower part, abruptly narrowed into the short conical-cylindrical upper part, glabrous, 1-1.5 mm long, on a short stipe.

Habitat: In open, rather damp waste places in and about towns at low and medium altitudes throughout the Philippines.

Uses: Leaves used as pot-herb.Used as anthelmintic, as powder, 2 to 4 grams, with a little molasses or syrup. Bitter and aromatic, used for diseases of the stomach and intestines for tonic and stimulant effect. Decoction of leaves and tops used as stomach tonic and also employed as antiblenorrhagic. In Ayurveda, plant pacifies vitiated vata, pitta epilepsy, migraine, jaundice, fever, cough, hemorrhoids, helminthiasis, skin diseases. In Bengal, plant used as tonic, vermifuge and diuretic. In Indo-China, used as emollient and resolvent; applied as poultice to any ailing body part. Juice of leaves used as gargle in inflammation of the throat.

Distribution: Africa, Madagascar, India, Srilanka to China (Kwantung) and Australia, Malesia(Malay Peninsula, Singapore, Simulue, Sumatra, Java, Lombok, Borneo, Sulawesi, Luzon, Mindoro, Basilan); Throughout Indonesia; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Handil Manarap).

Impact: No detail information

Images source: Flickr.com

References/Notes: 2, 3, 31, 113.

328 *Sphaeranthus indicus* L.

Synonyms: *Sphaeranthus hirtus* Willd./*Sphaeranthus mollis* Roxb./*Sphaeranthus mollis* Roxb. ex DC.

Asteraceae

Origin: India.

Indonesian names: Sembung gantung, ki heuleut (Sundanese), sembung delan, brincil (Javanese).

English names: East Indian Globe Thistle, Indian sphaeranthus.

Description: Annual herbs,much branched, strongly-scented with winged stem and the wings toothed. Leaves alternate,obovate-oblong, narrowed at the base, dentate and serrate, 1-3 cm long. Peduncles 2-4 cm long with broad, deeply crenate wings. Flowersin purple spherical heads, 8-15 mm, consisting of numerous tiny flowers,purple,stamens pale-purple. Heads globose-ellipsoid, 12-15 mm long, purple at anthesis. Phyllaries white, apex purple. Female flower: corolla tube 2-2.5 mm long. Bisexual flower 2.3-3 mm long; hardened basal part much inflated. Achenes with patent-erect hairs, eglandular.

Habitat: Common rabi weed found in rice fields, 0-15 m alt

Uses: According to Ayurveda, this herb is hot, laxative, digestible, tonic, fattening, alterative, anthelmintic and alexipharmic. It is used in insanity, tuberculosis, indigestion, bronchitis, spleen diseases, elephantiasis, anaemia, pain in uterus and vagina, piles, asthma, leucoderma, dysentery, vomiting, hemicrania, etc.

Distribution: Srilanka, India into Burma, N. Australia, Malesia (Java, Lombok, Sumatra, Sulawesi); Tropical Asia; Throughout Indonesia, except Kalimantan, the Moluccas and Papua; In Indonesia not in Kalimantan, the Moluccas and Irian Jaya.

Impact: Now spread pantropically as a weed.

Images source: Flickr.com

References/Notes: 2, 3, 81, 125, 291, 297.

329 *Sphagneticola trilobata* (L.) Pruski

Synonyms: *Acmella brasiliensis* Spreng./*Acmella spilanthoides* Cass./*Buphthalmum procumbens* Desf./*B. repens* Lam./*Complaya trilobata* (L.) Strother/*Polymnia crenata* (Rich.) Poir./*Seruneum trilobatum* (L.) Kuntze

Asteraceae

Origin: Tropical America.

Indonesian names: -

English names: Singapore Daisy, Creeping-oxeye, Trailing Daisy, and Wedelia.

Description: Spreading, mat-forming perennial herb, up to 30 cm hall.Stems rounded, up to 40cms long, rooting at nodes and with the flowering stems ascending, glabrous or slightly hirsute. Leaves sessile, fleshy, hairy, 4–9 cm by 2–5 cm wide, serrate or irregularly toothed, normally with pairs of lateral lobes, and dark green above and lighter green below. Peduncles 3–10 cm long. Involucres campanulate to hemispherical, about 1 cm high; chaffy bracts are lanceolate, rigid. Heads axillary, 2-2.5 cm broad. flowers bright yellow ray florets of about 8-13 per head, rays are 6–15 mm long; disk-corollas 4–5 mm long. Ray flowers: corolla broadly ligullate, toothed, 1 cm by 4 mm; style 3- branched. Disk flowers: corolla tubular, 5 mm long, lobes deltoid, tomentose; anthers shortly sagittae at the base, subobtuse at tip; style 2-branched, branches acute, tomentose at the upper part. Fruits achene, glandular, tomentose at the upper part. Pappus crown of short fimbriate scales.

Habitat: It has a very wide ecological tolerance range, but grows best in sunny areas with well-drained, moist soil at low elevations.

Uses: As an ornamental groundcover.

Distribution: Now widely cultivated and escaping.

Impact: No detail information

Images source: calphotos.berkeley.edu

References/Notes: 2, 88, 131, 132, 133, 134, 135.

330 *Spigelia anthelmia* L.

Synonyms: *Spigelia domingensis* Gand./*Spigelia fruticulosa* Lam./*Spigelia nervosa* Steud./*Spigelia quadrifolia* Stokes/*Spigelia stipularis* Progel

Loganiaceae

Origin: Tropical America.

Indonesian names: -

English names: West indian pinkroot.

Description: Slender annual, 15-45 or 60 cm tall, arising from a cluster of shallow roots. Stems most often simple or irregularly few branched. Branches nearly leafless. Floriferous at tips, rather succulent, weak, glabrous, occasionally glaucous. Blades broadly rhomboid-ovate to narrowly lanceolate, acuminate, scabrellous on upper surface, glabrous beneate except for scattered. Spikes 1-several, usually 3, simple or branching, erect or ascending, generally rather uniformly 15- to 30-flowered from the base. Flowers early shriveling and inconspicuous; calyx lobes lance-acuminate, subequal, 2 mm long; corolla pale straw-colored, purplish toward the tip, 5-8 mm long; lobes low-triangular, early reflexed; stamens included. Capsule finely echinate above the base. Seeds ovate, low-rounded on back, about 1 mm long.

Habitat: -

Uses: Used in many herbal remedies, it may be used to treat conditions of the heart and eye, among others. It can also be employed in ridding the body of intestinal parasites. Alkaloids present within spigelia anthelmia make it effective against heart disease. Other heart problems, such as mururs, rheumatic heart disease, angina, and valve disorders have been treated with the herbal remedy. Pinkroot can help relieve general chest pain, especially that which extends into the chest, arms, and throat, as well. The herb works as a laxative, too, in addition to having antibacterial properties.

Distribution: Tropical W. Africa, Malesia. Inadvertently imported into Java in 1845 and spread throughout Sumatra, Java, and the Lesser Sunda Islands; Kalitirto, Berbah, Sleman, Yogyakarta.

Impact: No detail information

Images source: gezondheidsweb.blogspot.com

References/Notes: 3, 38, 237, 296.

331 *Spilanthes iabadicensis* A. H. Moore

Asteraceae

Origin: Unknown.

Indonesian names: Gletang, jotang kecil.

English names: -

Description: Annual herbs, 10-30(-50) cm tall. Stems one to several from base, erect to ascending or occasionally decumbent, green to purple, glabrous to moderately pilose. Petioles 0.5-1.5 cm long. Leaf blades lanceolate, narrowly ovate or ovate, 1.3-5 × 0.3-2.5 cm, apex acute to acuminate, margins sinuate to dentate, base attenuate to cuneate. Peduncles 1.2-3 cm long, sparsely pilose. Capitula radiate, solitary or 2 or 3, terminal, ovoid, 5-8 mm high, 4-6 mm in diameter. Ray flowers 4-7, bisexual, corollas yellow to orange-yellow, 1.5-3.5 mm long, tube 0.5-1.5 mm long, limb trifid, 1-2 mm long, 0.5-1.5 mm wide. Disc flowers 68-148, bisexual, yellow to orange-yellow, 4-merous, corolla 1-1.6 mm long, tube 0.2-0.5 mm long. Achenes black, 1.2-1.8 mm long, 0.4-0.6 mm wide; pappus pale brown, of 2 sub or unequal bristles.

Habitat: This species found in the wet and disturbed habitats.

Uses: -

Distribution: Throughout Indonesia, except Papua; Tidal areas of South Kalimantan (Banjarmasin, Belandean, Handil Manarap); Occurs in S. America but also common weeds in SE. Asia including Papua New Guinea.

Impact: A common weed

Images source: 121.10.6.135

References/Notes: 3, 31, 69, 88, 196.

332 *Spilanthes ocymifolia* (Lam.) A. H. Moore

Synonyms: *Bidens humilis* Sessé & Moc/*B. ocymifolia* Lam./*Spilanthes ocymifolia* var. *Ocymifolia*/*S. ocymifolia* f. *Ocymifolia*

Asteraceae

Origin: -

Indonesian names: Jutang sawah.

English names: -

Description: -

Habitat: -

Uses: -

Distribution: -

Impact: No detail information

Images source: freeflowerpictures.net

References/Notes: -

333 *Stachytarpheta indica* (L.) Vahl

Synonyms: *S. angustifolia* (Mill.) Vahl/*S. angustissima* Moldenke/*S. elatior* Schrad. ex Schult./*S. surinamensis* Miq. ex Pulle/*Valerianoides indica* (L.) Medik./*Verbena angustifolia* Mill./*Verbena indica* L./*Zappania angustifolia* (Mill.) Poir./*Zappania indica* (L.) Lam.

Verbenaceae

Origin: Tropical America.

Indonesian names: Jarong lalaki, pecut kuda.

English names: Indian snakeweed, nettle-leaved vervain.

Description: Terrestrial, annual or perennial, erect subshrub, up to 200 cm tall. Taproot white or brown. Stem quadrangular, solid, glabrous or hairy. Stipules absent. Leaves simple, not lobed or divided, opposite, stalked, elliptic or ovate, more than 2 cm long/wide, usually airy on both sides, margin coarsely dentate, apex acute or obtuse, base obtuse our rounded, pinnately veined. Flowers bisexual, grouped together in a terminal spike, sessile, petals 5, blue, with white throat. Fruits a nut.

Habitat: Sunny to lightly shaded, preferably not too heavy soils in regions with a strong dry season; along roads, fields, coconut plantations and mango groves, fallow and waste lands; often gregarious. From 0-1500 m alt. Upland rice fields.

Uses: The plant is abrotifacient; used for treating intestinal worms, venereal diseases, ulcers, dropsy and stomach ailments. It is also used in purulent ulcers, fevers and rheumatic inflammations. Juice of the plant is used against cataract and open sores. Infusion of the bark is used against diarrhoea and dysentery. Leaves are used in cardiac troubles and rubbed in sprains and bruises.

Distribution: Pantropical. Throughout Indonesia; Oil plantations (4 years) in South Sumatra; Sugarcane plantations Camming Factory in South Sulawesi; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Undergrowth plant at Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java.

Impact: Weed of tea plantations

Images source: Flickr.com

References/Notes: 3, 13, 25, 34, 72, 91, 117, 250.

334 *Stachytarpheta jamaicensis* (L.) Vahl

Synonyms: *Stachytarpheta bogoriensis* Zoll. & Moritzi/*S. pilosiuscula* Kunth, *Abena jamaicensis* (L.) Hitchc./*Verbena americana* Mill./*V. jamaicensis* L./*V. pilosiuscula* (Kunth) Endl./*Zappania jamaicensis* (L.) Lam.

Verbenaceae

Origin: Tropical America.

Indonesian names: Pecut kuda.

English names: Blue porterweed, Blue snakeweed, Brazilian tea, Jamaica vervain.

Description: Erect and branched half-woody plant, 1-1.5 m tall. Stems terete, the younger ones slightly angled. Leaves elliptic to oblong-ovate, 2.5-10 cm long, with pointed tips and toothed margins, base decurrent on the petiole. Spikes terminal, rather slender, 10-30 cm long, 3-4 mm thick, green nad continuous. Calyx small, oblique and 4-toothed. Corolla deep blue, 1 cm long. Fruits enclosed in the calyx, appressed to and somewhat sunk in the rachis, smooth, oblong and about 4 mm long.

Habitat: A weed of forests and forest margins, native bushland, roadsides, disturbed sites, waste areas, waterways, floodplains, coastal environs, gardens, plantation crops and pastures in tropical and sub-tropical regions.

Uses: The fresh leaves are consumed in bush tea as a "cooling" tonic and blood cleanser, to treat "asthma" and "ulcerated stomachs".

Distribution: Quite established in Java and Madura; Especially in Western part of Java.

Impact: No detail information

Images source: Flickr.com

References/Notes: 1, 108, 125, 248, 249.

335 *Stellaria media* (L.) Vill.

Synonyms: *Alsine apetala* Kit. ex Nyman/*Alsine barbata* Stokes/*Alsine brachypetala* Opiz/*Alsine glabella* Jord. & Fourr./*Alsine media* L./*Alsinella wallichiana* Sw./*Arenaria vulgaris* Bernh.,

Caryophyllaceae

Origin: Europe.

Indonesian names: -

English names: Chickweed.

Description: Annual herb, 0.1 m tall. Stem weak, much branched, juicy, pale green and slightly swollen at the joints. Leaves succulent, egg-shaped, with a short point, pale green and quite smooth, with flat stalks below, but stalkless above. Flower star like, white, petals narrowed deeply cleft, not longer than the sepals.

Habitat: Cultivated Beds.

Uses: Antirheumatic, astringent, carminative, demulcent, depurative, diuretic, emmenagogue, expectorant, galactogogue, laxative, ophthalmic, poultice, refrigerant, TB, vulnerary.

Distribution: Naturalized in Java; Weed in the vegetable fields in the dry and rainy seasons in Candi Kuning, Bali.

Impact: Weed in the vegetable fields

Images source: jardin-mundani.com

References/Notes: 1, 70, 95.

336 *Striga asiatica*

Synonyms: *Striga asiatica* var. *asiatica*/*Striga hirsuta* var. humilis Benth.,/*Striga lutea* Lour./ *Striga lutea* var. *bicolor* Kuntze

Scrophulariaceae

Origin: -

Indonesian names: Radja Tawa; Rumput Siku-Siku

English names: Cane-Killing Weed; Red Witch Weed; Witchweed

Description: The height of the weed is variable, but rarely exceeds 30-40 cm, while some forms may be no more than a few centimetres high. Most other morphological characters are also variable. In vigorous plants there may be many branches, while small individuals or ecotypes may be unbranched. Length of the normal-looking green leaves may vary from 1 to 5 cm but leaf shape is generally narrowly lanceolate. Stem and leaves are sparsely covered in scabrid hairs.

Flowers are arranged in many-flowered terminal and axillary inflorescences, each sessile flower subtended by a small leafy bract and two minute bracteoles. The calyx is tubular, about 5 mm long, with ribs corresponding to the midribs and between adjacent segments, basically 10 in number, but an additional rib or ribs usually develop in some or all of the calyces, to give commonly 11 to 14 ribs, but never the consistent 15 seen in e.g. *S. angustifolia*. The corolla is also tubular, about twice the length of the calyx and with a sharp bend just below the expanded lobes, across which the width is usually 5 to 10 mm. Five stamens are attached within the corolla tube and there is a single style with a small round stigma, mounted on a capsule, about 5 mm long, containing several hundred seeds. Each seed is about 0.3 mm long and only weighs about 5 µg. These seeds can survive in soil for at least 10 years and some reports suggest longevity up to 20 years.

Flower colour is highly varied in *S. asiatica*. The forms attacking crops in South Africa and East Africa are generally red-flowered, with a yellow-flowered variant also present in some localities, while those in the Indian sub-continent and Myanmar are almost invariably white. Both red- and white-flowered forms attack crops in Arabia. Yellow-flowered forms attack crops sporadically in West Africa and South-East Asia including Thailand, Indonesia and China. The weed may exist in several different forms within a single region, though usually showing a different host range. Small, almost leafless, yellow-flowered forms occur commonly on wild hosts in Africa, while very small, pink and deep purple-flowered forms occur in India and South-East Asia. The range of colour forms is further documented by Cochrane and Press (1997).

While there is nothing obviously parasitic about the shoot system, the root system is relatively

rudimentary and highly specialized. The radicle of the seedling penetrates a host and forms a primary haustorium less than 1 mm in diameter. As it develops, the seedling produces adventitious roots from the axils of lower scale leaves which ramify and form secondary haustoria on contact with other host roots. While numerous, these roots are quite fragile and break easily when the plant is uprooted, leaving an almost rootless shoot base.

Habitat: Most of the agriculturally important *Striga* species favour relatively dry, infertile soil conditions and are typically problems in the semi-arid tropics of Africa and Asia. *S. asiatica* follows this characteristic, but in some countries, e.g. in Indonesia and other South-East Asian countries, some forms of the species attack wild grasses under much wetter conditions. Apart from spilling into such wetter ecologies, *S. asiatica* also occurs just south and north of the tropical belt, in South Africa and the USA, respectively. In many countries, *S. asiatica* is associated with sandy soil conditions, as in Tanzania (Doggett, 1965) but it can occur on a wide range of soil types (Robinson, 1960).

Uses: -

Distribution: S. asiatica is probably indigenous in most of the countries in which it now occurs in Africa and Asia, though it has apparently spread and increased in importance within many of them in recent decades. The one clear example of long-distance introduction has been into the USA, where an infestation already covering about 200,000 hectares was only recognized in 1956. In this case, the red-flowered form of the weed is presumed to have originated by accidental importation from Africa. It is not recorded from any other country of North or South America. Occurrence in Australia was reported as in doubt by Carter et al. (1996), and it is now officially declared absent (EPPO, 2009). A record of S. asiatica in New Zealand in an earlier edition of the Compendium was erroneous and has been deleted.

Impact: Economic Impact

Holm et al. (1979) list *S. asiatica* as a serious or principal weed in Pakistan, India, South Africa, Zimbabwe, Zambia and Mauritius; also in the USA and Uganda, though it has now been all but eradicated in the USA and the record for Uganda is dubious. It is also known now to be serious in parts of Togo (Agbobli and Huguenin, 1987), in S. Ethiopia (Matiyas Mercuria, 1999), in Tanzania (Mbwaga, 1996), in Botswana (Riches, 1989), in Swaziland (Stringer et al., 2007), in Malawi (Kroschel et al., 1996), in Mozambique (Davies, 1999) and in Madagascar (Elliott et al., 1993). A recent survey by Groote et al. (2008) suggests over 1 million ha of maize (80% of the crop) affected by *S. asiatica* in Malawi and over 250,000 ha in Angola, with much smaller areas in Zimbabwe, Zambia, Mozambique, Namibia and South Africa.

The main host crops parasitized by *S. asiatica* are sorghum, maize, millets, rice and sugarcane in both Africa and Asia. The millets attacked include pearl millet mainly in West Africa but also locally in Sudan, East Africa, southern Africa and western India; finger millet (*Eleusine coracana*) in East Africa and India; and the minor millets *Setaria italica, Paspalum scrobiculatum, Panicum miliare* and *Panicum miliaceum*locally in India. Irrigated crops are not generally attacked; hence, rice is only attacked when being grown as an upland rainfed crop. Crop damage is especially severe under conditions of marginal rainfall and low soil fertility, and can lead to total failure of any of the above crops. Estimating crop loss has always proved difficult but data from India

(Vasudeva Rao et al., 1989) and Togo (Agbobli and Huguenin, 1987) suggest that loss may often be equivalent to 1% of crop yield for each plant of *S. asiatica* per m^2, though it may sometimes be much lower than this. Overall losses in infested fields of southern India were estimated to be about 21%. Average losses of maize due to *S. asiatica* in Malawi were estimated at 28% in infested fields and 4.5% for the country as a whole (Kroschel et al., 1996).

Environmental Impact

S. asiatica is not known to have any significant impact on natural vegetation or on biodiversity.

Social Impact

S. asiatica is not thought to have any significant social impact beyond the farmers whose crops are affected.

Images source: Copperflora.org

References/Notes: 104, 296

337 *Struchium sparganophorum* (L.) Kuntze

Synonyms: *S. africanum* Beauverd/*S. herbaceum* P.Browne ex J.St.-Hil./*Ethulia struchium* Sw./*E. sparganophora* L./*Sparganophorus fasciatus* Lam. ex Poir./*S. sparganophorus* (L.) C.Jeffrey

Asteraceae

Origin: Tropical America.

Indonesian names: -

English names: -

Description: Erect herbs, commonly 25-70 cm. tall, subsoil horizontal stem rooting. Stems simple or much branched, stout, terete, sparsely short-pilose or almost glabrous, 4-5 mm thick at the lower part, gradually attenuate to the apex to about 1 mm thick; internodes 1-6 cm long. Leaves sessile or on 5-13 mmpetioles, blades thin, mostly oblanceolate or elliptic, 3-16 by 0.5-6 cm, acuminate, attenuate to the base, conspicuously or obscurely and coarsely serrate, very sparsely and inconspicuously strigillose or glabrate, punctate on both surfaces. Heads 1-8 together, sometimes with one or more small elliptic leaves at the base (1-1.5 cm by 3-4 mm), hemispheric, about 50-flowered; involucres 4-5 mm. high; phyllaries appressed, with broad, pale margins, abruptly contracted into a short, spinulose tip. Involucre 3 mm long. Corolla lobes acute. Fruits achenes glabrous, glandular, 1.5-2 mm. long, the crown whitish, about half as long as the achene.

Habitat: In Fiji, "a naturalized weed at elevations up to about 150 m on rocky shores of rivers, along roadsides, and in pastures, usually in damp places" (Smith, 1991; p. 259). "Occasional on streamsides and other wet places in central Upolu" (Whistler, 1988; 12). In Guatemala (native), "wet thickets or forest, often a weed in banana plantations, at or little above sea level". Roadsides, bush, primary lowland rain forest, under coconut & rubber trees, swappy areas, 12-200 m alt.

Uses: -

Distribution: Since long naturalized in Java (first collection in 1875, near Jakarta) many localities in West Java, a few in East Java; moreover in Triangle Jatiroto-Jember-Puger (East Java); Introduced into Tropical Africa, Comores, Madagascar, Thailand, Malay Peninsula, Indonesia, New Guinea, Fiji Island.

Impact: No detail information

Images source: nysp-runner-plants.blogspot.com

References/Notes: 1, 2, 103, 136.

338 *Swietenia macrophylla* King.

Synonyms: *Swietenia belizensis* Lundell/*Swietenia candollei* Pittier/*Swietenia krukovii* Gleason/*Swietenia tessmannii* Harms.

Meliaceae

Origin: Central and South America

Indonesian names: Mahoni Daun Besar

English names: Big Leaved Mahogany, Broad Leaved Mahogany; Honduras Mahogany; Large Leaved Mahogany; Mahogany.

Description: At heights reaching 200 feet, the big-leaf mahogany tree shoots through the top of the rainforest canopy. This majestic tree, which can live upward of 350 years, is an integral part of the rainforest ecosystem and an important resource for local communities. Its dark brown, flaky bark has a sweet odor, and the tree bears a gray-brown fruit and small white flowers. With leaves that can reach lengths of 20 inches, it has earned its "big-leaf" name; nonetheless, in a number of Latin American countries it's called simply caoba (in English, "mahogany").

Habitat: With an extensive geographical range, big-leaf mahogany can be found throughout much of southern Mexico, Central America and into South America (with southern limits in Brazil and Bolivia). Found within wet and dry tropical forests, it grows in a variety of soil types.

Uses: -

Distribution: The Asian countries which grow the majority of Swietenia macrophylla are India, Indonesia, Malaysia, Bangladesh, Fiji, Philippines, Singapore, and some others, with India and Fiji being the major world suppliers.

Impact: -

Images source: en.wikipedia.org

References/Notes: 88, 112, 296, 312.

339 *Synedrella nodiflora* (L.) Gaertn.

Synonyms: *Blainvillea latifolia* (L.f.) DC./*Eclipta latifolia* L.f./*Ucacou nodiflorum* (L.) Hitchc., *Verbesina nodiflora* L., *Wedelia cryptocephala* Peter

Asteraceae

Origin: C. and South America.

Indonesian names: Jotang kuda, babadotan lalaki, jukut berak kambing atau jukut gendreng (Sundanese); bruwan, gletang warak, krasuk, atau serunen (Javanese); serta gofu makeang (Ternate).

English names: Cindrella Weed, Nodeweed, Pig grass, Synedrella.

Description: Herb, erect, much branched, 25-100 cm tall. Stem repeatedly furcated, subangular, 2-5 mm thick, finely glandular, internodes 7-21 cm long. Petiole 0.5-3.5 cm long, narrowly alate, bases form a ridge across the twig and this ridge resembles a stipular scar. Leaves subpetiolate; blade ovate or elliptic, 1.5-10 by 0.5-6 cm, base attenuate, margins crenate-serrate, apex acute, appressed on both sides. Heads terminal, solitary or 2-7 together, sessile or on 1-45 mm long peduncle, cylindrical, becoming campanulate, 10-20-flowered. Phyllaries 2-seriate, 4 or 5, narrowly oblong, outer ones acute, hispidulous, finely glandular, 9 mm long, inner ones subobtuse, glabrous, 7 mm long; obtusely 2- or 3-dentate. Pales oblong-linear, apex rounded. Disk flowers 6-10, corolla 4 mm long. Anthers fused to one another but the filaments are free. Pollen yellow. Stigmas hairy.Fruit achene,4-5 mm long, ribbed, black or dark-brown, often verrucose, glabrous, equipped with hairy spines by which fruits adhere to clothes, etc. Cotyledons wider than the radicle.

Habitat: Altitudinal range from near sea level to 800 m. Usually grows as a weed of agricultural land and waste places but also found in monsoon forest, vine thickets, and in clearings and along roads in rain forest.

Uses: Young shoots can be eaten as a cooked vegetable, and the shoots are fed to pigs in Papua New Guinea. Crushed leaves have been used as a treatment for rheumatism, and when mixed with those of other plants to relieve stomach pains.

Distribution: Introduced in Java before 1888 (first collection, then numerous); at present a common weed of cultivated grounds; Bogor Botanic Garden,; Weed of tea plantations Ciliwung, Tugu Utara, Kecamatan Cisarua, Kabupaten Bogor, West Java; Kp. Muara, Bogor, West Java; Weed in the vegetable fields in the rainy seasons in Candi Kuning, Bali; undergrowth plant in Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java. This species also found in Sumatera (Aceh, North, South and West Sumatera, Riau, Jambi, Bengkulu, Lampung)

Impact: present a common weed of cultivated grounds; As a weed of tea plantations and vegetable fields.

Images source: wikimedia.org

References/Notes: 1, 2, 3, 30, 34, 36, 39, 70, 72, 118, 125.

340 *Syzygium cumini* (L.) Skeels

Synonyms: *Calyptranthes caryophyllifolia* Willd./ *Calyptranthes oneillii* Lundell/*Eugenia cumini* (L.) Druce/ *Eugenia jambolana* Lam./*Eugenia caryophyllifolia* Lam./*Eugenia cumini* L.

Myrtaceae

Origin: Bangladesh, India, Nepal, Pakistan, Sri Lanka, Malaysia, The Philippines

Indonesian names: Jamblang, Juwet.

English names: Black Plum Tree; Indian Blackberry; Jambolan; Jambolan; Jamun; Java Plum; Java Plumtree; Malabar Plum; Portuguese Plum.

Description: Tree, up to 12-15(30) m tall,broad crown up to 11 m diameter, trunk 0.6-0.9 m diameterBark rough, cracked, flaking and discoloured on the lower part of the trunk, becoming smooth and light-grey higher up. Leaves evergreen, turpentine smell, opposite, 5-25 cm by 2.5-10 cm; blade oblong-oval or elliptic, blunt or tapering to a point at the apex; pinkish when young, becoming leathery, glossy, dark-green above, lighter beneath, with a conspicuous, yellowish midrib when mature. Flowersfragrant, in clusters 2.5-10 cm long, each being 2.5 cm by 1.25 cml, with a funnel-shaped calyx and 4-5 united petals, white at first, becoming rose-pink, shedding rapidly to leave only the numerous stamens. Fruit in clusters of just a few or 10-40, round or oblong, often curved, 1.25-5 cm long, turning from green to light-magenta, then dark-purple or nearly black or a white-fruited; usually astringent, sometimes unpalatably and the flavour varies from acid to fairly sweet.Skinthin, smooth, glossy,adherent. Pulp purple or white, very juicy, and normally encloses a single, oblong, green or brown seed, up to 4 cm long, though some fruits have 2-5 seeds tightly compressed within a leathery coat, and some are seedless.

Habitat: *S. cumini* prefers moist locations and will tolerate waterlogging thus is commonly found on riverbanks, but it can also survive, but less well, on drier sites once established. In its native range it is commonly cultivated and thus found in and around homesteads and agricultural land. In the Pacific where it has proved most invasive, it is generally a more lowland species such as in Fiji, but may be found up to 700 m Hawaii and has naturalised in inland forests in Fiji (PIER, 2008). It invades coastal bush and savanna in South Africa (SABONET, 2006).

Uses: It is a multipurpose tree which is highly valued for its medicinal uses, edible fruits, for fodder, for strong heavy timber and good fuelwood. It is mainly found as a home garden fruit tree, although it is also found wild in secondary forests. It is also a host plant of the tasar silkworm, and a good source of nectar for honeybees. It is a sacred tree to Hindus and Buddhists. Seeds used to be traded for medicinal use until the end of the 1700s, when they were widely exported from India to Malaysia and Polynesia, and from the West Indies to Europe. The tree is grown as shade for coffee in India, and being wind-resistant is sometimes planted in dense rows as a windbreak, and if topped regularly, such plantings form a dense, massive hedge.

S. cumini fruit have a sweet or sub-acid flavour with little astringency, and are eaten raw or made into tarts, sauces and jam. More astringent fruits may be improved by treating them in a similar way to olives, i.e. by soaking them in salt water or leaving fruit stand after pricking them and rubbing them with salt, and all but the most inferior fruits can be made into juice which is similar to grape juice. When extracting juice from cooked fruit, just draining without squeezing will make it less astringent. White-fleshed fruit is high in pectin and makes very stiff jam unless cooking is brief, but the common purple-fleshed fruit yields a richly coloured jam but lacks pectin and requires the addition of a commercial gelling agent, or it must be combined with pectin-rich fruits such as unripe or sour guavas, or ketembillas. Good quality juice is excellent for sherbet, syrup and 'squash'. In India, the latter is made into a bottled drink prepared by cooking crushed fruits and pressing out the juice, then adding sugar, water, citric acid and sodium benzoate. In Goa, India and the Philippines, *S. cumini* fruit are made into a Port-like wine and distilled liquors, brandy and 'jambava'. Vinegar, extensively made throughout India, has an attractive clear purple colour with a pleasant aroma and mild flavour.

Flowers are abundant and the tree has a high value in apiculture, for example in the Western Ghats, India at elevations above 1000 m with an annual rainfall of 750-1000 mm where they are the main source for *Apis dorsata*. The honey is of fine quality but ferments in a few months unless treated. The leaves have served as fodder for livestock and as food for tassar silkworms in India, having approximately 9% crude protein. In Zanzibar and Pemba, Tanzania, people use young shoots for cleaning their teeth. An essential oil distilled from leaves is used to scent soap and is blended with other materials in making inexpensive perfume. Bark yields durable brown dyes of various shades depending on the mordant and the strength of the extract, and contains 8-19% tannin being much used in tanning leather and preserving fishing nets. The heartwood is red, reddish-grey or brownish-grey, with close, straight grain, but is hard and difficult to work. It is durable in water and resistant to borers and termites though tends to warp slightly. In India, it is commonly used for beams and rafters, posts, bridges, boats, oars, masts, troughs, well-lining, agricultural implements, carts, solid cart wheels, railway sleepers and the bottoms of railroad cars, and is sometimes made into furniture but has no special qualities. It is a fairly satisfactory

fuel. *S. cumini* has received far more recognition in folk medicine and in the pharmaceutical trade than for any other use. Medicinally, the fruit is stated to be astringent, stomachic, carminative, anti-scorbutic and diuretic, and is used to treat acute diarrhoea, dysentery, dyspepsia, asthma, bronchitis, enlargement of the spleen, urine retention, for sore throat, mouth ulcers, spongy gums, and stomatitis, to treat ringworm of the scalp, burns, as an enema, diabetes mellitus or glycosuiria, as seed extracts are reported to lower blood pressure by 34.6% and this action is attributed to the ellagic acid content.

Distribution: The more restricted native distribution as described by Morton (1987) is accepted in this datasheet, who argued that other countries recorded as native, e.g. Himalayan Asia, south China, South East Asian islands, East Africa, eastern Australia, etc. (USDA-ARS, 2008) are actually due to introduction in pre-history. S. cumini is thus here accepted as only native to India, Sri Lanka and Myanmar.

Impact: Economic Impact

S. cumini has a positive economic impact via the provision of nutritious fruit, timber and as a traded ornamental. No costs for the control of *S. cumini* are available.

Social Impact

The tree is venerated in South Asia by Buddhists and Hindus. It is considered sacred to the Hindu gods Krishna and Ganesha and is commonly planted near Hindu temples (Morton, 1987). Where used as a street and ornamental tree, heavy fruiting can lead to masses of fruits littering pavements, roads and gardens, rapidly fermenting producing an unpleasant small and attracting insects, and as such many people want such trees replaced.

Environmental Impact

This large evergreen tree forms a dense cover and when forming a monoculture it can prevent other species from regenerating and growing, and although it is not an aggressive invader of undisturbed forest like the closely related *S. jambos*, it is known to prevent the reestablishment of native lowland forest.

It can also prevent the growth of desirable forage species.

Images source: Toptropical.com

References/Notes: 104, 296

341 *Taraxacum campylodes G. E. Haglund*

Synonyms: *Crepis taraxacum* (L.) Stokes/*Leontodon taraxacum* L./*Taraxacum officinale* Weber ex. F. H. Wigg./*T. subspathulatum* A.J. Richards/*T. vulgare* (Lam.) Schrank.

Asteraceae

Origin: Europe & Continental Asia.

Indonesian names: Jombang.

English names: Dandelion.

Description: Stemless, strongly-rooted, perennials with strong tap root, 5 to 40(-70) cm tall. Foliage is upright-growing or horizontally orientated;petioles unwinged or narrowly winged. Leaves 5-45 cm by 1-10 cm; blade oblanceolate, oblong or obovate; bases narrowing to the petiole; margins shallowly lobed to deeply lobed; lacerate or toothed with sharp or dull teeth. The yellow flower heads lack receptacle bracts and all the flowers, which are called florets, are ligulate and bisexual. Heads solitary, on long, leafless, fistular, glabrous peduncles, homogamous. Flower many, bisexual. Involucre campanulate. Phyllaries lanceolate, obtuse, herbaceous, outer ones shorter, many-seriate, inner ones 1-seriate, membranaceous-margined. Receptacle flat, naked. Corolla usually yellow, ligulate, with a runcate, dentate apex. Anthers with a sagitate base and filiform basal lobes, apex obtuse. Style beneath the bifurcation shortly hairy, arms rather long, obtuse, shortly hairy. Fruits achenes, narrowly obovoid-oblong, beaked, ribbed, glabrous, mostly produced by apomixis.[6]

The calyculi (the cuplike bracts that hold the florets) are composed of 12 to 18 segments: each segment is reflexed and sometimes glaucous. The lanceolate shaped bractlets are in two series, with the apices acuminate in shape. The 14- to 25-mm wide involucres are green to dark green or brownish-green, with the tips dark gray or purplish. The florets number 40 to over 100 per head, having corollas that are yellow or orange-yellow in color.

Habitat: The dandelion is a common colonizer of disturbed habitats, both from wind blown seeds and seed germination from the seed bank.

Uses: Diuretic and laxative, rheumatic problems, blood purifier, salad and stir-fries, wine, coffee.

Distribution: It is now distributed almost all over the world. In the Malesian region has been introduced and naturalized in Peninsular Malaysia, West Java and the Philippines (Benguet Province). It is sometimes cultivated as a vegetable for medicinal aplications.

Impact: No detail information

Images source: tidygardens.eu

References/Notes: 75, 88, 137, 138.

342 *Thunbergia grandiflora* (Roxb. ex Rottler) Roxb.

Synonyms: *Flemingia grandiflora* Roxb. ex Rottler/*Pleuremidis grandiflora* (Roxb.) Raf./ *Thunbergia cordifolia*(Nees)/*Thunbergia chinensis* Merr./*Thunbergia lasei* Gamble.

Acanthaceae

Origin: This species is native to the Indian sub-continent, southern China and Myanmar.

Indonesian names: -

English names: Bengal clock vine; Bengal trumpet vine; blue thunbergia; blue trumpet vine; large thunbergia; sky vine; skyflower vine; trumpet vine

Description: Perennial), vigorous, climber, Vines to 15 m or longer, woody Stems 4-angled, sulcate, pubescent;younger stems green, hairy (pubescent), quadrangular; the older stemsquite thick when mature, usually turn brown in colour and become somewhat rounded in shape. Petiole 1-7 cm, grooved, pubescent. Leaves blade ovate to triangular-ovate, 5–10 × 4–8 cm, papery, both surfaces pubescent, palmately 3–7-veined, base subcordate to truncate, margin undulate, irregularly angular on basal half, or rarely entire, apex acuminate to acute. Flowers solitary, paired in leaf axils, or arranged in terminal racemes with 2–4 flowers per node; peduncle 4–7 cm, sulcate, pubescent; rachis pubescent with large cyathiform glands; apical inflorescence bracts subulate to linear-subulate, 2–6 × 1–1.5 mm, pubescent; bracteoles oblong to ovate, 2.5–4 × 1.5–2.2 cm, both surfaces pubescent, 5–7-veined, base truncate, margin entire or ciliate, apex acute with a short

mucro. Calyx ca. 2 mm, annular, unlobed, densely pubescent. Corolla bluish with a yellowish throat, 4–6 cm, outside glabrous; tube basally cylindric and ca. 3 mm wide for ca. 7 mm then gradually widened to ca. 5 cm at throat; limb sub-actinomorphic; lobes ovate, ca. 3 × 2.5 cm. Staminal filaments 7–9 mm; anther thecae pubescent, basally appendaged. Style glabrous; stigma with 2 subequal lobes. Fruits capsule, 1.2–1.5 cm, pubescent, basal part 1.3–1.8 cm in diam., beak ca. 2.5 cm. Seeds ovate in outline, compressed,verrucose. Fl. Aug–Jan, fr. Nov-Mar. $2n = 56$.

Habitat: A weed of riparian zones (banks of watercourses), disturbed closed forests, forest margins, open woodlands, roadsides, fence-lines, gardens and plantation crops in tropical and subtropical regions.

Uses: Thunbergia grandiflora can be used as a medicinal plant, a green manure, for poles, hedges and for fuelwood. It is widely grown as a garden ornamental and wall covering in Kenya.

Distribution: T. grandiflora is native to India, parts of China and south Asia, but widely cultivated and naturalized in tropical and subtropical regions. Currently it can be found in Mexico, Central America, the West Indies, South America, tropical Africa, Southeastern Asia, Australia, and the Pacific Islands (USDA-ARS, 2012; PIER, 2012).

Impact: Thunbergia grandiflora has an extensive tuberous root system can be weigh up to 70kg. The root system persistently sprouts from its many buds when cut back or pruned. Tubers can damage river banks, paths, fences and building foundations. It is a vigorous climber and can smother vegetation up to 12 metres above ground, reducing light levels for lower vegetation. The weight of the stems can kill treesduring infestations. Although it is not currently regarded as a major threat in Kenya, Tanzania and Uganda, it is an important weed in Australia where is can infest agricultural lands and in some conservation areas can establish 100 per cent ground cover and exclude all native vegetation.

Images source: biogeodb.stri.si.edu(1), almostedenplants.com(2)

References/Notes: 108, 296

343 *Tithonia diversifolia* (Hemsley) A. Gray

Synonyms: *Helianthus quinquelobus* Sessé & Moc./*Mirasolia diversifolia* Hemsl./*Tithonia diversifollia* var. *Diversifolia*/*Urbanisol tagetiflora* var. *diversifolius* (Hemsl.) Kuntze/*Urbanisol tagetiflora* var. *flavus* Kuntze

Asteraceae

Origin: Mexico & Cenral America/ Tropical S. America (?)

Indonesian names: Harsaga, kembang mbulan (Javanese), srengenge leutik (Sundanese).

English names: Tree marigold, Mexican tournesol,Mexican sunflower, Japanese sunflower or Nitobe chrysanthemum.

Description: Perrenial or robust shrubs, 1-2 m tall, with subterraneous stolons, 1-3 m tall. Petiole 2-10 cm long, on either side at base with caduceus auricles. Blade ovate, ovate-rhomboid, or ovate-oblong, 7-32 by 4-25 cm, base attenuate and tapering, margin serrate, apex very acute; upper surface dark-green, lower grayish-green, both surfaces thinly shortly hairy and minutely glandular. Involucre campanulate. Heads 6-14 cm diameter, pales oblong, pale during anthesis 12 mm long, at last dark brown, 15 mm long. Ray flowers 12-14; corolla ligules 48-69 mm long, yellow. Disk flowers: corolla 7.5-10 mm. Anthers black with a yellow apex. Fruits achenes, 5-8 mm long.

Habitat: Disturbed sites, agricultural areas, along roadsides, waste grounds, edge of old coffee plantations, 0-1150 m alt.

Uses: In Japan, towards the end of the Meiji Period, they were imported as ornamental plants although seldom cultivated there. Having a characteristic bitter taste, they were used to induce a fever to help fight poisoning, although not used for direct medicinal purposes. They are sold in herbal medicine markets in Taiwan. It is the provincial flower of Mae Hong Son Province, Thailand. It is the unofficial symbol of Da Lat city, Vietnam.

Distribution: Naturalized in many tropical regions; already long before 1900 introduced in Java, in present cultivated as an ornamental, as a hedge-plant or in order to protect taluses from erosion; especially above 200, often running wild. They also introduced in Sumatera (Aceh, North and West Sumatera, Jambi and Lampung) Now introduced to southern part of East Asia, South Africa and Southeast asia and escaped; Introduced into most tropical countries, often naturalized.

Impact: No detail information

Images source: cookislands.bishopmuseum.org

References/Notes: 1, 2, 80, 88, 139, 140.

344 *Tithonia rotundifolia* (Mill.) S. F. Blake

Synonyms: *Tagetes rotundifolia* Mill./*Tithonia aristata* Oersted/*Tithonia rotundifolia* Mill/*Tithonia speciosa* (Hook.) Hook. ex Griseb./*Tithonia tagetiflora* Kuntze/*Tithonia uniflora* Desf. ex J.F. Gmel.

Asteraceae

Origin: Florida, Louisiana, Mexico, Central America and the West Indies.

Indonesian names: -

English names: Red sunflower, giant Mexican sunflower, Japanese sunflower, Mexican sunflower, shrub sunflower, tree marigold.

Description: Perennial, subshrubby, up to 3 m tall. Leaves ovate to deltoid, alternate, entire or lobed dark green, tip acute to cuneate, base cordate, winged petiole, margin serrate. Infloresence capitulum. Flower bisexual; ray flowers 9-13, corolla orange coloured, ligules 20-33 mm long; disk flower 10-12 mm. Fruit achene, faintly 4-angular, 6-8 mm long.

Habitat: Tithonia rotundifolia invades savanna grasslands, roadsides, degraded land and riparian zones (banks of watercourses). This species also grow in disturbed open spaces like abandoned construction sites. They can grow vigorously and survive even under less favourable conditions, c. 10-1000 m alt.

Uses: Gardenornamental, plant for bedding, summer pot and container plants, attractive for bees

Distribution: Commonly found in Sumatera (Aceh, North Sumatera, Lampung) as an ornamental.

Impact: No detail information

Images source: calphotos.berkeley.edu

References/Notes: 2, 108, 141.

345 *Tribulus terrestris* L.

Synonyms: *Tribulus lanuginosus* L./*Tribulus saharae* A. Chev.

Zygophyllaceae

Origin: World tropical to warm temperate.

Indonesian names: -

English names: Puncture vine.

Description: Tribulus terrestris is a taprooted herbaceous perennial plant that grows as a summer annual in colder climates. The stems radiate from the crown to a diameter of about 10 cm to over 1 m, often branching. They are usually prostrate, forming flat patches, though they may grow more upwards in shade or among taller plants. The leaves are pinnately compound with leaflets less than 6 mm (a quarter-inch) long. The flowers are 4–10 mm wide, with five lemon-yellow petals. A week after each flower blooms, it is followed by a fruit that easily falls apart into four or five single-seeded nutlets. The nutlets or "seeds" are hard and bear two to three sharp spines, 10 mm long and 4–6 mm broad point-to-point. These nutlets strikingly resemble goats' or bulls' heads; the "horns" are sharp enough to puncture bicycle tires and lawn mower tires and to cause painful injury to bare feet.

Habitat: The trailing plant is common in sandy soil throughout India and Ceylon.

Uses: It has been reported that the seeds or nutlets have been used in homicidal weapons smeared with the juice of Acokanthera venenata in southern Africa.

Distribution: Cultivated in Central Java as medicinal plant; Occurs throughout NSW and other mainland states.

Impact: No detail information

Images source: trocandofraldas.com.br

References/Notes: 82, 83, 84, 88, 201, 245.

346 *Tridax procumbens* (L.) L.

Synonyms: *Balbisia canescens* Rich./*B. divaricata* Cass./*B. elongata* Willd./*B. pedunculata* Ortega ex O.Hoffm.

Asteraceae

Origin: Tropical America/C. America, part of S. America (Bolivia, Columbia, Peru, Venezuela).

Indonesian names: Gletang, katumpang (Sundanese) gletangan, cemondelan, gobesan, londotan, orang-aring, prepes, sangga langit, sidawala, srunen (Javanese) tar-sentaran, taroto (Madura).

English names: Coat buttons and tridax daisy.

Description: Herb, prostate, obliquely erect in the upper part, 0.3-0.8 m tall. Stem branched, often rooting at the nodes, patently hirsute, intrenodes 1.5-9 cm long. Petiole 2-15 mm long. Blades ovate-elliptic, 1.5-5.5 × 0.5-3.5 cm, base cuneate, margins irregularly coarsely serrate or lobed, apex acute or subobtuse, patently hispid at both sides. Heads on straight, patently hirsute, 5-40 cm long peduncles, tapering to the apex. Involucre 3-seriate, 5-7 mm long; outer phyllaries ovate to ovate-lanceolate, shortly acuminate and obtuse, herbaceous, densely hirsute, inner ones oblong, mucronate, longer than the outer ones, membranaceous, sparsely pilose. Pales acute, membranaceous, oblong, lanceolate. Ray flowers 5 or 6; corolla 4-5 mm long, tube thin, ligule broadly oval, about as long as tube. Disk flowers: corolla with recurved pilose lobes. Achenes densely pilose, 2 mm long; pappus 5-6 mm long, hairs many, finally radiating.

Habitat: This weed can be found in fields, meadows, croplands, disturbed areas, lawns, and roadsides in areas with tropical or semi-tropical climates, 0-700 m dpl.

Uses: Tridax procumbens is known for several potential therapeutic activities like antiviral, anti oxidant antibiotic efficacies, wound healing activity, insecticidaland anti-inflammatory activity. Some reports from tribal areas in India state that the leaf juice can be used to cure fresh wounds, to stop bleeding, as a hair tonic. Despite these known benefits, it is still listed in the United States as a Noxious Weed and regulated under the Federal Noxious Weed Act.

Distribution: Long ago introduced in Java, collected there for the first time in 1875 and naturalized; pan(sub) tropically introduced elsewhere, e. g. in Sumatera; India and SE. Asia; Pepper plantations South Sulawesi; Weed of cotton plantations Banguntapan (Kabupaten Bantul, Yogyakarta); Undergrowth plant Purwodadi Botanic Garden, Kabupaten Pasuruan, East Java; Introduced and now naturalized in many tropical countries.

Impact: Weed of cotton plantations

Images source: flowering-plants.blogspot.com

References/Notes: 1, 2, 3, 11, 40,72, 80, 88, 142.

347 *Trimezia martinicensis* (Jacq.) Herb.

Synonyms: *Cipura semiaperta* Heynh./*Cipura martinicensis* (Jacq.) Kunth/*Iris martinicensis* Jacq./*Lansbergia caracasana* de Vriese/*Lansbergia martinicensis* (Jacq.) Baker/*Marica martinicensis* (Jacq.) Ker Gawl./*Marica semiaperta* Lodd./*Poarchon fluminensis* Allemão/*Remaclea funebris* C. Morren/*Sisyrinchium galaxioides* Gomes/*Trimezia galaxioides* (Gomes) Ravenna/*T. meridensis* Herb./*Tritonia riparia* Cordem./*T. semiaperta* (Lodd.) Ravenna/*Vieusseuxia martinicensis* (Jacq.) DC./*Xanthocromyon herbertii* H.Karst.

Iridaceae

Origin: Mexico.

Indonesian names: -

English names: Yellow Walking Iris, Forenoon Yellow Flag.

Description: Short, about 3–4 mm (0.12–0.16 in) long, comparable in length to its anthers, which are about 4 mm (0.16 in) long.The leaves of T. martinicensis are only about 1.3 cm (0.5 in) wide.

Habitat: -

Uses: -

Distribution: In Java occasionally cultivated as an ornamental; also naturalized near Bogor on and around a native cemetery.

Impact: No detail information

Images source: wikimedia.org

References/Notes: 1, 88, 238, 239, 240, 241.

348 *Typha latifolia* L.

Synonyms: *Massula latifolia* (L.) Dulac/*Typha ambigua* Schur ex Rohrb/*Typha crassa* Raf./*Typha elongate* Dudley/*Typha engelmannii* A. Br. Ex Rohrb/*Typha intermedia* Schur

Typhaceae

Origin:

Indonesian names: -

English names: Broad-Leaved Reedmace; Bulrush; Cattail; Common Cattail; Common Cattail; Cooper's Reed; Giant Reed-Mace; Great Cattail; Soft-Flag

Description: Rhizomatous, erect thick-stemmed perennial herbs, Rhizomes up to 70 cm long, 0.5-3 cm diam. Stems 1-3 m tall. Leaves linear, light green, flat with a sheath at the base, extending to flowering spikes, 15-25 mm wide. Spike-like terminal, cylindric. Unisexual flowers include a pistillate portion below the staminate portion, forming a continuous spike 12-35 mm in diameter. Staminate flowers have hair-like bracteoles; bracteoles absent in pistillate flowers. Pollen grains formed in tetrads. Nutlike achenes about 1.5 mm long. Seeds eventually break off generally by wind or water and are transported via long slender hairs.

Habitat: *Typha latifolia* grows in a wide variety of wetland habitats. Niches include marshes, wet meadows, lakeshores, roadside ditches, seacoast estuaries, pond margins, bogs or fens as well as rice paddies (Grace and Harrison, 1986). Salt tolerance is limited, but it does grow in marine wetlands with moderate salinity, and likewise can tolerate acidity (Hotchkiss and Dozier, 1949; Smith, 1967a,b; Hootsmans and Weigman, 1998). Communities occupied by *T. latifolia* range from early to late successional stages. Although it is a dominant species in many wetlands forming high densities, in other wetlands it occurs as scattered individuals or clumps. It also may occupy somewhat drier sites, such as along the edge of marshy woodlands or among woody shrubs (Grace and Wetzel, 1981a). It tends to prefer shallower water zones than *T. angustifolia* (Grace and Wetzel, 1981b). The only type of agricultural habitat where *T. latifolia* regularly occurs is in rice paddies (Mitich, 2001).

Uses: Economic Value

T. latifolia and other *Typha* species were historically used by many indigenous peoples (Turner, 1981; Gott, 1999). Various parts of the plant may be eaten, e.g. rhizomes as a cooked vegetable or as a source of flour; pollen also in the genesis of flour; shoots may be eaten raw or cooked; spikes may be eaten raw, boiled or used as soup stock (Fernald et al., 1958; Turner, 1981).

Historically *T. latifolia* has been used throughout the world as building material, bedding, basketry, shoemaking, rope and paper manufacture and within a variety of herbal applications (Ramey, 1981; Mitich, 2001). Fluff from fruiting spikes has been employed as tinder and insulation, dressing burns, and stuffing pillows, mattresses and various other articles. Still today *Typha* species are seen as having a large unrealized potential, and new uses are envisioned, such as biomass production or as a modern-day food crop (Morton, 1975; Pratt et al., 1980; Ciria et al., 2005). Other relatively new uses include water purification, bioremediation (Carranza-Alvarez et al., 2008; Chun and Choi, 2009; Moore et al., 2009), as a bioindicator of pollution (Mirka et al., 1996) or the production of chemical products (Staba, 1973). A recent investigation looked at the potential of *T. latifolia* to bioremediate naphthenic acids produced in extraction of petroleum from Alberta's tar sands (Headley et al., 2009).

T. latifolia is cultivated as an ornamental. It is often sold commercially and planted for wildlife habitat and in wetland restoration.

Social Benefit

The environments created by *T. latifolia* frequently hold great importance in terms of recreational value, and are highly prized by outdoor enthusiasts including hunters, fishermen, and naturalists.

Environmental Services

The value of *T. latifolia* and its congeners to a variety of wildlife has been well documented (Grace and Harrison, 1986). Certain types of wildlife such as red-winged blackbirds and muskrats in North America have a very close association with cattail marshes (Skinner and Skinner, 2008). *T. latifolia* also can be an indicator of the nutrient balance of a given system, as well as an agent to promote balance through nutrient cycling (Craft, 2007). *T. latifolia* grew more rapidly in response to increased carbon dioxide, which may indicate some potential for the maintenance of *T. latifolia* populations to ameliorate climate change, depending on the litter dynamics in a given system (Sullivan et al., 2010).

Distribution: *T. latifolia* is a cosmopolitan species, with its native range encompassing large regions on all continents, except Antarctica, Africa and Oceania.*T. latifolia* is known to occur in at least seven African countries (USDA-ARS, 2010). It is recorded as having been established as a non-native species in six countries (Australia, Indonesia, Malaysia, New Zealand, Papua New Guinea, the Philippines) and the USA state of Hawaii (Global Invasive Species Database, 2006). In New Zealand, it is not presently established but it has been found within the nursery/aquarium trade (Champion et al., 2007). *T. latifolia* is currently recorded as naturalized in low-lying wet areas on three of the Hawaiian islands: Kauai, Hawaii (the big island), Maui and Oahu (Wagner et al., 1999; HISP, 2008; PIER, 2009). Given the ability of *T. latifolia* to thrive in a broad array of temperature or semi-tropical habitats from the Arctic circle to 30°S latitude (Sculthorpe, 1967), *T. latifolia* may also be established on other oceanic islands with suitable wetland habitats (but not recorded). It is also increasingly seen as taking on invasive characteristics in some countries where it is native (Shih and Finkelstein, 2008; Olson et al., 2009). Furthermore, the hybrid product of *T. latifolia* and *T. angustifolia*, *T. x glauca* tends to be more invasive than *T. latifolia* (Olson et al., 2009).

Impact: Economic Impact

T. latifolia is more commonly referred to as a weed in Europe and North America than in other regions in its native range. *T. latifolia* infests irrigated systems and aquacultural systems, e.g. in Australia, India, and Romania, and is a problem affecting irrigated rice in Morocco and Russia. It is a common rice weed in USA (*Oryza sativa*) and also occurs in rice in Greece, India, Iran, Mexico, the Philippines, and Portugal (Mitich, 2001). A California survey found 47% of rice fields contained *T. latifolia* (McIntyre and Barrett, 1985). In Hawaii, establishment of *T. latifolia* threatens production of taro (HISP, 2008).

Excessive populations of *T. latifolia* may invade canals, ditches, reservoirs, cultivated fields, and farm ponds; it may impact recreational lakes negatively and reduce biodiversity and displace species more desirable for certain kinds of wildlife (Morton, 1975; Grace and Harrison, 1986; Thieret and Luken, 1996).

Environmental Impact

Impact on Habitats

The ability of *T. latifolia* to dominate wetlands on a large scale, and rapidly create large amounts of biomass enables these plants to play major roles in nutrient cycles. A wetland without *Typha* invaded by *T. glauca* exhibited large changes in the sediment characteristics, including ten times as much soluble ammonium, nitrate and phosphate, indicating the wetland was unable to remove nutrients effectively (Angeloni et al., 2006). A key to understanding many wetland systems with large populations of *T. latifolia* is the dynamics of the litter produced through the lifecycle of this highly productive plant that goes through repeated cycles of re-birth and decay (Farrer and Goldberg, 2009). Establishment or expansion of *T. latifolia* populations may also greatly influence fire dynamics (Gucker, 2008).

Impact on Biodiversity

In Hawaii, wetlands are home to rare endemic birds such as the Hawaiian stilt (*Himantopus himantopus knudseni*) and the Hawaiin duck or koloa maoli (*Anas wyvilliana*) which are threatened

by infestations of *T. latifolia* (HISP, 2008). Likewise, there are vulnerable indigenous wetland species in other geographic regions being invaded by *T. latifolia* such as New Zealand, Australia and parts of Southeast Asia. The ability of *T. latifolia* to quickly spread once it is introduced to an area is augmented by the potential seen in recent years for hybridization with other *Typha*species (Galatowitsch et al., 1999), although more work needs to be carried out to understand the nature of such hybridization (Shih and Finkelstein, 2008; Zhang et al., 2008).

Social Impact

T. latifolia is a well-known plant to many people around the world, and often an indicator of healthy wetlands, which are increasingly recognized as providing significant ecosystem services in the global environment. However, in contexts where *T. latifolia* negatively impacts the environment, particularly wildlife, a negative social impact results as well (Motivans and Apfelbaum, 1987; HISP, 2008).

Images source: Nwplants.com

References/Notes: 296

349 *Uraria lagopodoides* (L.) DC.

Synonyms: *Uraria aequilobata* Hosok./*Uraria alopecuroides* (Roxb.) Sweet/*Uraria lagopoides* (Burm.f.) DC./*Doodia alopecuroides* Roxb./*Doodia lagopodioides* Roxb./*Hedysarum lagopodioides* L./*Lespedeza lagopodioides* Pers./*Lespedeza lagopoides* Pers.

Papilionaceae

Origin: Asia

Indonesian names: Ekor tupai

English names: Prickitch.

Description: Terrestrial, perennial, erect herb, up to 150 cm tall. Taproot white or brown. Stems rounded, solid, glabrous or hairy. Stipules present, triangular. Leaves compound, trifoliolate, alternate spiral, stalked, leaflets ovate, more than 2 cm long/wide, hairy below, margin entire, apexrounded, base rounded, pinnately veined. Flowers bisexual, grouped together in a terminal raceme, stalked, petals 5, dark purple. Fruit a flat pod.

Habitat: Uncommon to occasional in lawns and waste places. In Fiji, common on grassy slopes in the dry zone, especially along leeward coasts, and it may be found up to 750 m elevation as a weed in pastures, plantations, villages, and waste places. In Niue, occasionally seen in old pastures or waste places, where it is locally common. In Tonga, occasional as a weed in plantations and waste areas.

Uses: -

Distribution: S. E. Asia. Throughout Indonesia.

Impact: No detail information

Images source: Flickr.com

References/Notes: 3, 91, 288.

350 *Urochloa glumaris* (Trin.) Veldkamp

Synonyms: *Brachiaria paspaloides* (J.Presl) C. E. Hubb./*Brachiaria ambigua* A. Camus/*Panicum glumare* Trin./*Panicum infidum* Steud./*Urochloa ambigua* (A.Camus) Pilg./*U. glabra* Brongn./*U. paspaloides* J.Presl

Poaceae

Origin: Unknown.

Indonesian names: -

English names: Signal grass.

Description: Herbs, culms creeping, rooting at base, branching, erect flowering stems to 75 cm tall; leaf-sheaths keeled, with bulbous-based hairs on the margins and the keel, 4-5 cm. long; blades cordate at the base, linear-acuminate, hairy on the both faces with bulbous-based hairs and scabrid on the often purple margin, up to 15 cm long by 6 mm wide; ligule fringed with hairs, about 1.2 mm deep. Inflorescence well exserted, main axis soft-hairy, bearing usually 3 one-sided racemes, each with a flattened rachis and bearing the spikelets on one side in pairs alternately along both sides of the midrib, or sometimes on short branchlets of 3-4 spikelets near the base of the raceme, when paired, one spikelet sessile, the other pedicelled, pedicel 1-1.5 mm long. Spikelets many, about 4.2 x 1.5 mm; lower glumes 5-nerved, narrowly boat-shaped with a distinct point, glabrous, 3.2 mm long; upper glumes similarly shaped but not quite so pointed, 7-nerved, 3.8 mm long; lower floret neuter or male; lemma 5-nerved, similarly shaped, 3.6 mm long; palea nil; upper floret hermaphrodite; lemma indurated, light straw-coloured, the nerves evident, 2.6 mm long, with a very distinct apiculus 0.4 mm long, clasping the similarly indurated palea. A palea vestige about 0.4 mm long sometimes present with the lower lemma. Stamens 3; anthers yellow, 1.2 mm long. Stigmata purple. Caryopsis oval, flattened.

Habitat: Grassland.

Uses: -

Distribution: Srilanka, India, Burma, Thailand, Malesia. Throughout Indonesia, except Kalimantan as far as known; Tidal areas of South Kalimantan (Banjarmasin).

Impact: No detail information

Images source: cieer.org

References/Notes: 3, 31, 110, 286.

351 *Utricularia aurea* Lour.

Synonyms: *Utricularia blumei* (A. DC.) Miq./*Utricularia calumpitensis* Llanos/*Utricularia confervifolia* Jacks. ex D. Don/*Utricularia extensa* Hance/*Utricularia pilosa* (Makino) Makino/*Utricularia reclinata* Hassk.

Lentibulariaceae

Origin: Asia.

Indonesian names: Ganggang.

English names: Golden- or leafy-bladderwort.

Description: Terrestrial or aquatic, annual or perennial, herb, (partially) submerged, up to 50 cm long, insectivorous. Stems round, glabrous. Stipules absent. Leaves simple, finely divided, whorled at top, alternate spiral along the stem, sessile, each with a 1-3 bladder-like traps. Flowersbisexual, grouped into an axillary or terminal raceme, petals 2, yellow. Fruit capsule, opening with a circumsessile lid.

Habitat: Deep to shallow, stagnant or sluggishly flowing fresh water in ditches, pools, fishponds, lakes; from 0-1500 m alt., Irrigated-lowland, and tidal rice fields.

Uses: -

Distribution: From India to China and from Japan to Australia; throughout Malesia. Throughout Indonesia; Tidal areas of South Kalimantan (Banjarmasin, Handil Manarap, Kertak Hanyar).

Impact: No detail information

Images source: wikimedia.org

References/Notes: 3, 31, 91, 291.

352 *Vaccaria hispanica* (Mill.) Rauschert

Synonyms: *Vaccaria pyramidata* Medik./*Vaccaria grandiflora* Jaub. & Spach,/*Vaccaria hispanica* Mill./*Vaccaria parviflora* Moench/*Vaccaria segetalis* (Neck.) Garcke ex Asch./*Vaccaria vulgaris* Host/*Dianthus inclusus* Walp./*Gypsophila vaccaria* Sm

Caryophyllaceae

Origin: Europe.

Indonesian names: -

English names: -

Description: Plants 30-70 cm tall. Stems gray-green, apically branched, glabrous. Leaves 3-9 × 1.5-4 cm, apex acute. Bracts lanceolate, midvein green. Calyx green, 1-1.5 cm × 5-10 mm, 5-angled, submembranous between angles; calyx teeth triangular, margin scarious; glabous in fruit. Petals 1.4-1.7 cm × 2-3 mm; claw greenish, narrowly cuneate; limb pink, emarginated, sometimes erose. Stamens included. Styles slightly exserted. Capsule 8-10 mm. Seeds red-brown to black, ca. 2 mm, granulate.

Habitat: -

Uses: -

Distribution: In Java near Bogor (250 m alt.) once found as weed among sowings of America origin.

Impact: As a weed

Images source: dkimages.com

References/Notes: 1.

353 *Verbena brasiliensis* Vell.

Synonyms: *Verbena approximata* Briq./*Verbena chacensis* Moldenke/*Verbena hansenii* Greene/ *Verbena isabellei* Briq/*Verbena quadrangularis* Vell.

Verbenaceae

Origin: -

Indonesian names: -

English names: -

Description: Annual or short-lived perennial herb with erect, hispid, quadrangular stems of 1-2.5 m tall. Upper branches are 4-9cm long, opposite, and ascending. Opposite, elliptic leaves are simple and serrate, 4-10 cm by 0.8-2.5cm wide. Leavesgenerally hispid, with veins on undersides bearing large bristles. Bracted flowers borne on terminal, loosely arranged spikes,0.5-4.5cm by 4-5cm, arranged in triads. Bract lanceolate,subtend the 5-lobed calyx, 2-3.5 mm long, with lobes united nearly to the apex. Corolla bluish purple, salverform, zygomorphic, and is exserted from the calyx slightly.Tube 2.75-3.25 mm long and lobes are less than 1mm in length. Bracts, calyx, and corolla tube are all pubescent. Anthers are attatched in the upper part of the corolla tube. Fruit schizocarp,usually produces 2 brown nutlets, 1.2-1.9mm long (Radford, Ahles, and Bell, 1968, Yeo, 1990).

Habitat: *Verbena brasiliensis* is a facultative wetland species that can be found both in wetland/ riparian areas as well as in drier, upland habitat (USDA, 2007). In its native areas it is found in dry fields and arable land as a weedy species (Verloove, 2006), but in areas in which it is invasive it thrives in riverine areas or roadsides, old fields, and other disturbed areas (Hoagland and Johnson, 2004; Verloove, 2006).

Uses: No detail information

Distribution: Native range: South America: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, and Uruguay (Yeo, 1990).

Known introduced range: *Verbena brasiliensis* is now found in coastal Europe (Verloove, 2006) where it is naturalised in Spain, Italy, Portugal and Georgia. It is ephemeral in Belgium and Great Britain. It has also been introduced to southern Africa (Yeo, 1990), Australasia (Wu *et al*., 2004; Yeo, 1990), and North America (USDA, 2007).

Impact: Verbena brasiliensis is an invasive plant that may threaten native plants species by displacing them (SE-EPPC, 2007). It is considered a significant invasive species of the mid-south United States (Maddox, Byrd, and Madsen, 2005), and is prohibited on National Forest System Lands of the United States (SE-EPPC, 2007).

Images source: mozambiqueflora.com

References/Notes: 104.

354 *Verbena officinalis* L.

Synonyms: *Verbena adulterina* Hausskn./*Verbena domingensis* Urb./*Verbena riparia* Raf. ex Small & A.Heller/*Verbena rumelica* Velen./*Verbena spuria* L./*Verbena vulgaris* Bubani/*Vitex adulterina* Hausskn.

Verbenaceae

Origin: Europe/Mediterranean region.

Indonesian names: -

English names: Vervain.

Description: Perennial herb,taprooted, stem mostly 1 from the base, erect to ascending-erect, 25-60(-120) cm, very sparsely hirsute-strigose. Leaves mostly an proximal half of stem, ovate to lanceolate, margins strongly revolute. Fruiting spike, open-elongate or sometimes denser with overlapping fruits, 6-20 cm, rachis densely and persistently stipitate-glandular; floral bracts ovate-lanceolate, slightly shorter than the calyces, hispid-hirsute, spitate-glandular, margins ciliate.Corolla tubes 2.5-3 mm, 0.5-1 mm longer than the calyces, limbs 2-3 mm in diam; leaf margins counsely and unevenly crenate to incised-crenate, not revolute.

Habitat: Common Vervain is native to Europe. Nowadays, the plant is widely naturalized all over the globe. It grows on waste places and prefers moist, well-drained soils.

Uses: Analgesic;Antibacterial; Anticoagulant; Antipruritic; Antirheumatic; Antispasmodic; Antitumor; Astringent; Bach; Birthing aid; Depurative; Diaphoretic; Diuretic; Emmenagogue; Galactogogue; Stimulant; Tonic; Vulnerary.

Distribution: Once collected as an adventive in grassfield in West Java; It is a species of temperate and subtropical regions. It is found at both low and higher elevations in SE. Asia, e.g. in Java, New Guinea, Luzon, N. Thailand and Vietnam. It was introduced for its ornamental value or traditional use in folk medicine in Europe. In general it has become a weed as a follower of cultivation.

Impact: No detail information

Images source: plantsystematics.org

References/Notes: 1, 75, 95, 247.

355 *Verbesina alata* L.

Synonyms: -

Asteraceae

Origin: The West Indies.

Indonesian names: -

English names: Capitaneja.

Description: Annual herb, 40-60)cm. . It makes glossy, dark green leaves and losely branching stalks topped by rich orange flower discs. Easily grown in any rich, well drained soil in a sunny spot. Sow seeds in pots in mid spring at some 20°C in a sunny spot.

Habitat: -

Uses: -

Distribution: In and around Bogor, locally run wild and very rarely cultivated, not really naturalized.

Impact: No detail information

Images source: fotocommunity.com (1), gardenweb.com (2)

References/Notes: 1, 231.

356 *Watsonia marginata* (L.f.) Ker Gawl.

Synonyms: *Antholyza marginata* (L.f.) Page ex Steud/*Ixia marginata* (L.f.) Aiton/*Ixia sceptrum* Baker/*Gladiolus glumaceus* Thunb./*Gladiolus marginatus* L.f./*Watsonia glumacea* (Thunb.) Aschers. & Graebn./*Watsonia alba* Arderne.

Iridaceae

Origin: S. Africa.

Indonesian names: -

English names: Watsonia,

Description: Watsonia marginata is a very pretty plant, with attractive foliage and gorgeous spikes of cup-shaped pink or white flowers. It is easily distinguished from other species of Watsonia by both by its leaves and its flowers. The leaves are made distinctive by being unusually broad, bluish-green in color and with pronounced, heavily thickened, yellowish margins. Theflowers are cup-shaped and Ixia-like compared to its tubular-flowered relatives. This species is a deciduous, winter-growing, summer-dormant corm. Each corm produces 3 - 4 broadly sword-shaped, bluish-green leaves with pronounced yellowish margins and prominent midribs. Towards the end of their growing season, each corm sends up one straight, tall flower spike, each spike reaching a height of 1.2 - 1.5 m occasionally as high as 2 m. The spike has a large number of short branches which are closely pressed against the main axis of the flower stalk, each carrying a few flowers, with the whole spike carrying up to ±50 densely packed flowers. The pollinator is the honeybee. The fruit is a small, rounded, woody capsule of several angular brownish seeds with prominent membranous ridges.

Habitat: -

Uses: -

Distribution: In Java the mountain regions occasionally cultivated as an ornamental.

Impact: No detail information

Images source: www.plantzafrica.com

References/Notes: 1, 315.

357 Zehneria scabra (Linn. f.) Sond.

Synonyms: *Bryonia cordata* Thunb./*Bryonia scabra* L.f./*Melothria perpusilla* (Blume) Cogn.

Cucurbitaceae

Origin: -

Indonesian names: -

English names: Cape zehneria, Wild Cucumber, South African zehneria

Description: Perennial climber which climbs using tendrils. Leaves heart-shaped and lobed, with distant spiny teeth on the margin. Flowers small, white. Fruits look like miniature watermelons, and taste like cucumber.

Habitat: -

Uses: The plant is useful in the treatment of jaundice and kidney affection other than stone. In kidney problems, the boiled decoction of the shoots of the plant and equal proportion, mixed with molasses is prescribed as remedy.

Distribution: -

Impact: No detail information

Images source: Flickr.com

References/Notes: 125, 162.

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