

Upland Weed Flora of Southern Sumatera



Nanik Sriyani

A. T. Lubis D. R. J. Sembodo D. Mawardi

H. Suprpto H. Susanto H. Pujisiswanto

T. Adachi Y. Oki



Upland Weed Flora of Southern Sumatera

An Illustrated Weed Identification Book

Chief Author

Nanik Sriyani

(University of Lampung - Indonesia)

Co-Author:

University of Lampung – Indonesia

Agus Tagor Lubis

Dad R. J. Sembodo

Darmaisam Mawardi

Hermanus Suprpto

Herry Susanto

Hidayat Pujisiswanto

Okayama University – Japan

Tadashi Adachi

Yoko Oki

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An Illustrated Weed Identification Book

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Preface

The need for weed identification is increasing along with the increasing need to determine weed values and roles in modern agricultural production systems where weed is a real problem and weed control takes a significant portion of protection budget, mainly for labor and herbicides expenses. Therefore weeds have to be identified properly in order to determine their best means of control and management. The right means of weed management will not only save time and labor, but also save some money by applying the most effective and economical methods.

The characteristics of the problem weeds, such as their family, life cycle, growth habit, etc., will determine what the best control measure to use or the appropriate herbicides to apply, if chemical control is the method of choice. A particular weed may be identified in several ways: utilizing identification books, utilizing confirmed herbarium specimens, and consulting with weed identification experts. Each of these methods has its advantages and limitation, however, using identification books seems to be the most practical and easiest way to identify a particular weed.

Realizing this need, Weed Science Laboratory in the Faculty of Agriculture, University of Lampung, Indonesia in cooperation with Nagoya University and Okayama University, Japan, prepares this identification book to help people in the weed science community identifying weeds they encounter, especially in upland agricultural areas. Photographic color-pictures with short descriptions are used as the bases for identification, therefore those using this book could not expect to find detail morphological and anatomical descriptions of each species. However, we expect that these color-pictures could facilitate the general public interested in knowing or identifying weeds to conduct easier and faster identification. More various users could then use this book: farmers, field practitioners, extension workers, government officials, students, researchers, and weed scientists as a field manual.

Materials for this book had been collected over about one year period, covering some areas in Lampung, South Sumatra, Bengkulu, and Jambi Provinces. At the same time the photos were taken, corresponding species were collected and made into herbariums. After some significant delays and some addition of weed species, finally we can publish these collections of original weed photographs as a book. Funding for field surveys and weed collection was mainly provided by Nagoya and Okayama University, Japan, through a cooperation research project with Prof.



Makoto Kimura and Prof. Yoko Oki. These funding and assistance were sincerely appreciated. Assistance from several other peoples and groups in preparing this book, including the rector of University of Lampung, the Japan Society for the Promotion of Science (JSPS) research group in Sumberjaya Lampung, Weed Science Peer Group in University of Lampung, and friends and colleagues who gave us their support, are greatly acknowledged.

We surely hope that this book will add significantly to the limited collection of upland weed flora identification book available right now in Indonesia. This book may not as perfect as we all desired and might contain some deficiencies, in spite the effort we did to eliminate mistakes. Therefore we hope to hear some suggestions and comments to improve the quality and enlarge the content of this book, for a possible later edition.

Bandar Lampung, Januari, 2014

Nanik Sriyani
Editor in Chief



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Introduction

Weed and Their Role in the Ecosystems

Weed is usually seen as unwanted plants, plants grow on the wrong place, or plants with no value (Radosevich et al, 1997). *Weed Science Society of America* (WSSA) defines weed as unwanted plants which interfere with human activities. Others see weed from ecological point of view so that weed is viewed as pioneer plants, land colonizers, or opportunistic plants. Certain plants are viewed as weeds when their populations exceed certain level which need control (Crawley, 1997). On the other hand, plants perceived as weed for certain groups of people might be seen as important plants for others (Bridges, 1999).

A more comprehensive definition of weed is stated by Ross and Lembi (2008) that define weed as highly competitive plants, persistent and pernicious that interfere with human activities. As a result, the plants are undesirable so that human have an interest to control them. This view sees weed from human point of view and interest. Radosevich et al (1997) called this as an anthropomorphic view of weeds based on human interest. From several definition of weed, we can conclude that certain plant species will be categorized as weed at specific conditions based on human interests. Certain plants become weed or non-weed depend on where and what kind of condition they grow. Human point of view and interest play very important role in determining whether certain plants are viewed as weed. The same species could be viewed as an important weed species in certain place or community, but not in other places or communities, because their different roles in the two places and communities. Therefore Booth et al (2003) concluded that the reason to decide whether certain plant species is weed or non-weed could be very complex.

Succession is a process when a plant community changes over time. The final step in succession is called climax when the plant community reach a stable condition with certain composition of plant species. If the microenvironment remains relatively constant, the change in species composition becomes very slow or even ceases (Radosevich et. al., 1997). Naturally, weed is part of plant communities in the ecosystem, its



occurrence is part of succession process in the plant communities. After a major changes and disturbances in the environment, 'opportunistic' species with broad dispersal power, rapid growth, and short life spans characters usually arrive first and occupy the empty spaces. Cultivated field is a perfect example of secondary succession because it is continuously being disturbed. Therefore, weed, which usually has those characters, will always be found in the natural ecosystem as well as in the agroecosystem as part of natural succession. One of the environment factors that affect the rate of plant succession is the level of nutrient in soil, especially level of N, P, Ca, Mg, dan K. Therefore, the rate of succession shown by the changes in weed species could be a good indicator of soil fertility in certain areas.

Because of their fast growing character, their good ability to disseminate, and their short life cycles, several weeds have the potential as pioneer plants. As an example, *Imperata cylindrica* produced around 44 new rhizomes with total length of 13m consisted of 646 buds in 18 weeks (Sriyani, 1993). The weed high growth rate is a result of its efficient light harvesting capacity. This high growth rate makes weeds easily grown and established in empty spaces, earlier and faster than other plant species, especially compared to cultivated crops. Based on their role in the plant succession process and their ability to grow and established fast, weeds are often classified as pioneer plants and therefore have very important role in maintaining the balance and sustainability of ecosystems.

Weed as an Invasive Alien Species (IAS)

Weed, as important part of an ecosystem, has a significant role in maintaining the balance of the ecosystem. However, if the spread and growth of weed are not managed, especially if the weed is of exotic origin, it can not only reduce crop production and quality, but can also outgrow or replace the native plants and therefore has serious negative effects on the balance of the ecosystem. History have showed us that the spread of many weeds across continents were done intentionally by human for conservation purposes, the search for exotic ornamental plants, cattle feed, and other useful purposes. Purposeful introductions of non-indigenous plants have contributed to numerous benefits to human throughout ages, such as for food, shelter, aesthetic enjoyment, and cultural identity. However, a significant proportion of the introduced species has become invasive in both natural ecosystems and agro-ecosystems, spreading well beyond their intended uses (Groves et. al., 2001)



The term invasive alien species is applied to certain exotic (non-indigenous) plants species when they become uncontrollable in their new habitat. These exotic plants can reduce the dominance of native species or even replace the native species in some cases. As a result, the composition of plants in the plant habitat might be changed unpredictably and the stability of the ecosystem might be affected. Weed species, having a high growth rate and competitive ability, have a very good chance to become an invasive alien species. Therefore, it is important to have serious precaution before introducing certain species to new areas or country, even if its purpose is clear and beneficial.

Weed Negative Impacts

Weed interferes with human interests directly and indirectly. Weed reduces crop production and quality, therefore reducing farmers income, has allelopathic effects on crops, interferes with harvest and other machinery, serves as host for other crop pests, mainly insects and pathogens, and decreases land values (Sembodo, 2010). Weed can also disturb conservation and recreation areas, decreases the quality of the environment, decreases land aesthetic value, as well as affects human and animal health. In general, weed impacts can be classified as economical, environmental, aesthetical, and health impacts (Sriyani, 2010).

Economical impacts of weed is probably the most important impact from crop production point a view. About 80% of economic loss from weed occur from crop production sector, the rest is from forestry, pasture, recreational land, and *real estate* (Bridges, 1999). In reality, loss from weeds might be higher than predicted because the difficulty in assesing the economic value of loss from non-agriculture sectors.

Weed negative impacts to the environment did not gain enough recognition until the last decade, especially in Indonesia. Weed in certain areas majority are non-indegenous plant species which have the ability to dominate or even replace the native plant species and disturb the balance of flora and fauna of an ecosystem. The replacement of natives plant species with non-indegenous weeds can cause ecological impacts that happens long after the introduction. The replacement of indegenous species *Melastoma beccarianum* by *Acacia mangium* in Borneo forest is a good example. *Acacia mangium* seeds grow earlier and faster than *Melastoma beccarianum*, especially in high light intensity condition,



therefore win the competition (Osunkoya et al., 2005). Hejda et al. (2009) concluded that species richness, diversity and evenness were reduced in invaded plots.

The ability of weed to invade a plant community or replace the existing plant species, not only as a consequence of its fast growing ability and prolific seed production, but also because of the presence of vegetative reproduction organs and the release of allelopathic substances. For example, *Imperata cylindrica* is commonly suspected to exude allelopathic substances into its surrounding. In vitro study showed that the presence of *Imperata cylindrica* can suppress the germination rate, shoot and root length, and dry matter weight of corn and longbean seedlings (Sriyani et al., 1996).

Negative impacts of weed is also associated with its control efforts. The use of herbicides, mechanical weeding, slashing and burning, as well as the use of biological control agents, can cause serious ecological impacts. The use of herbicides can increase its residue and leaching in the environment, as well as the possibility of nontarget organism suppression; unmanaged mechanical weeding can cause serious soil erosion; slashing and burning result in air pollution; while unguarded biological control agents to control weeds can spread out in the environment and become an invasive alien species. In coffee plantation in West Lampung, Indonesia, clean mechanical weeding is commonly practiced by local farmer to control weeds. Multiyears study conducted by Sriyani et al. (1999) however, showed that this practice caused soil loss of 25 ton/ha over 6 month period during the rainy season. A fantastic amount of soil loss that could certainly decrease the land quality and productivity in the long run.

The decrease of land aesthetic value because of weed can not be viewed lightly. Significant amount of resources, in terms labour and money, are spent annually to get rid of unwanted weed from recreational areas, sport areas, especially golf and football fields, real estates and housing areas, along train tracks, etc. The negative impacts of weed on the aesthetic values is probably difficult to count in terms of its economic values. However, it is easy to understand that the presence of weed in recreational garden, golf land, or real estate areas will increase the cost of maintenance and decrease the economic values of the areas.

Although probably not widely understood by public, weed negative impacts on human and animal health and safety is a serious issue. This effect includes allergic reaction caused by pollen of several weeds, *Ambrosia*



artemisiifolia for example, and cattle poisoning by *Solanum nigrum*. This allergic reaction can decrease human productivity significantly, in the tropical as well as subtropical regions. Several grasses weeds such as *Cynodon dactylon*, *Eleusine indica*, and *Sorghum halapense*; broadleaves weed *Mimosa invisa* and sedges weed *Cyperus rotundus* cause allergic reaction to human and injure cattles (Sembodo, 2010).

Weed Control Methods

Weed is traditionally controlled by these methods: preventive measures, crop competition and management, mechanical weeding, biological control, and chemical control. Preventive weed control is achieved by preventing the new investation, the spread, and the growth and development of weeds, so that control become limited or even unnescessary. This method includes the use of weed-free seeds, seedlings, or equipments; good sanitation in the crop production areas, and the presence of effective traffic and quarantine laws for plants and crops, as well as quarantine for animal and cattles.

Other form of weed control is achieved by managing good practice in crop production such as: using good seeds or vigorous seedlings; choosing a competitive crop varieties; managing the suitable planting time, crop distance, and soil tillage. The use of companion crops and mulches as well as good crop maintenance (giving sufficient amount of fertilizer and water) are also good means of weed control. In short, any practice that gives a chance or creates conditions so that the crops can grow better outcompeting the weed, is considered as a mean of weed control.

Mechanical weed control is probably the oldest means of weed control known to man and yet still the most widely used method of weed control around the world. Ross and Lembi (2008) even mentioned that this method is the backbone of modern weed control technology, that ranges in complexity from hand hoeing to tillage operation with multi-components and modern machinery. This methods is popular partly because the results are directly seen and for most cases the weed suppression effects is relatively long lasting.

Biological weed control means using biological agents to control weeds. The biological agents are developed from the natural enemies of the target weeds. In their natural habitat, we believe that every organism,



including weeds, has its natural enemies to control the population in check. However, when certain plant grows outside its natural habitat, the plant could grow out of control in the absence of its natural enemies, dominating the new areas and in some cases replacing an indigenous plant. This plant is called an invasive alien species, or in other word, becoming weed for the new habitat, as stated by Westbrooks (1998) that the weeds and invasive plant are synonymous. Therefore, biological control is commonly done by importing the natural enemies of the target weed from its area of origin. By doing this, the natural balance between the weed and its natural enemies is restored and the population of the weed would be maintained in an acceptable level permanently.

After mechanical weed control, chemical weed control using herbicides is probably the second most popular method of weed control used by both small traditional farmers as well as big modern plantation companies. The popularity of herbicides is attributed to its efficiency in time and labor needed to perform a successful control, meaning that chemical control usually require less time and labor. Therefore, for most situations, chemical control is economically beneficial. In addition, the availability of various herbicide types in the market makes farmers able to choose the one best suited to their need. Herbicide is also an effective tools to control weeds in an emergency situation in which time is crucial. We can not, however, exclude the fact that many herbicides producing chemical companies are actively giving information to public, farmers included, that herbicides are relatively safe substances, if it is used with proper precaution. All of these conditions have an important contribution in increasing the popularity of herbicides.

Weed Identification as an Important Step in Weed Control

To have an adequate weed control measure, the right weed identification seems to be one of the first critical steps. The characteristics of the problem weeds, such as their family, life cycle, growth habit, etc., will determine what the best control measure to use or the appropriate herbicides to apply, if chemical control is the method of choice. Perennial weeds which usually have vegetative reproduction organs must be treated differently from annual weeds which usually reproduce mainly by seeds. Light manual weeding or contact herbicides most probably will not be suitable for perennial but effective for annual weeds. Some herbicides are



selective, meaning they are effective for several but not all types weeds, therefore identifying the right type or group of weeds becomes crucial. For example, phenoxy herbicides, such as 2,4-D, only effective for broadleaves weeds, such as *Ageratum conyzoides*. Therefore controlling grasses weed, such as *Cynodon dactylon*, with 2,4-D is certainly a waste of time and money.

A particular weed may be identified in several ways: utilizing identification books, utilizing confirmed herbarium specimens, and consulting with weed identification experts. Each of these methods has its advantages and limitations, therefore an integrated ways should be undertaken to make an exact and scientifically correct identification.

Weed Materials for This Book

Materials for this book had been collected over about one year period, covering some areas in 4 provinces in southern part of Sumatera Island of Indonesia: Lampung, South Sumatra, Bengkulu, and Jambi Provinces, in Indonesia (Figure 1). Weeds were observed from plantation areas (oil palm, rubber, cacao, coffee, coconut, sugarcane, and pineapple), upland paddy field, cassava, corn, soybean, pepper, some vegetables, and also from along roadsides.

Original photos were taken for each weed presented in this book. As the photos were taken, corresponding weed species were collected and made into herbariums. The herbariums are preserved in Weed and Herbicide Management Laboratory in College of Agriculture, University of Lampung, Indonesia.

A total of 122 weed species covering 31 different families are presented in this book. The grass family (*Poaceae*) is represented by the largest number of weeds (26 species), followed by Asteraceae family with 18 weed species. There are also representative of the Fern Family (Pteridophytes) with 10 species covering 9 families, as classified by Beaman and Edward (2007). All of these weed species are the most commonly found species and in most cases the most dominant weed species in their natural habitat. Short description is included for each species to help readers getting better description when conducting the identification. Along with its latin name, we include its synonyms and common (vernacular) names in English and Indonesian, when available.



Each weed is described according to the real condition we observed in the field combined with description we get from several sources from books as well as from electronic materials. The reference books are: Auld and Medd (1987); Beaman and Edwards (2007), Holm et al. (1977); Nasution (1984); Soerjani et al. (1987); and Weed Science Society of America (1989). Beside from the books, a lot of additional materials were gathered from electronic sources, as follows: Botany Boy. Plant Encyclopedia; CABI Invasive Species; Catalog of Life; Encyclopaedia of Life (EOL); Flora of Australia Online; Global Invasive Species Database; Handbook of African Medicinal Plants; JSTOR Global Plants; Kew Royal Botanic Garden; Keys and Fact Sheet; Native Plants Hawaii; Cal's Plant of the Week; Royal Botanic Garden of Edinburgh: Fern of Thailand; The Plant List; The Plant Observatory; Tropicos; Tropilab; USDA Natural Resources Conservation Service; Wikipedia. The Free Encyclopedia; and Wild Life of Hawaii.

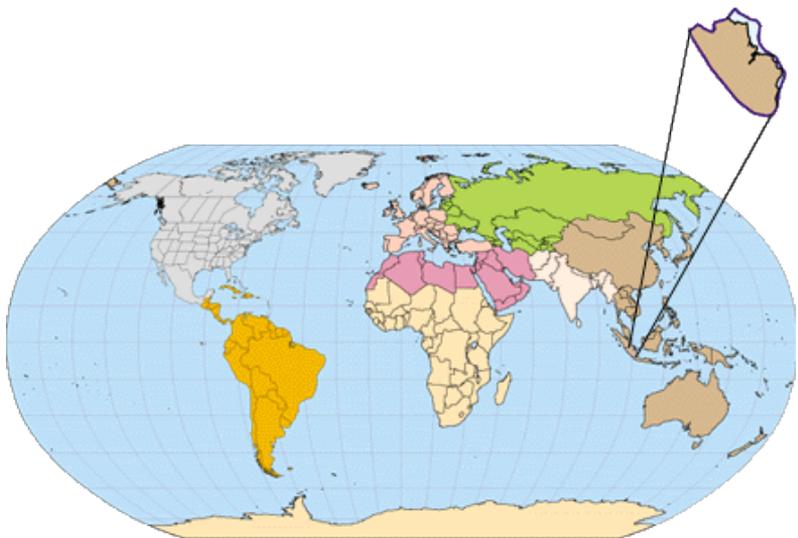


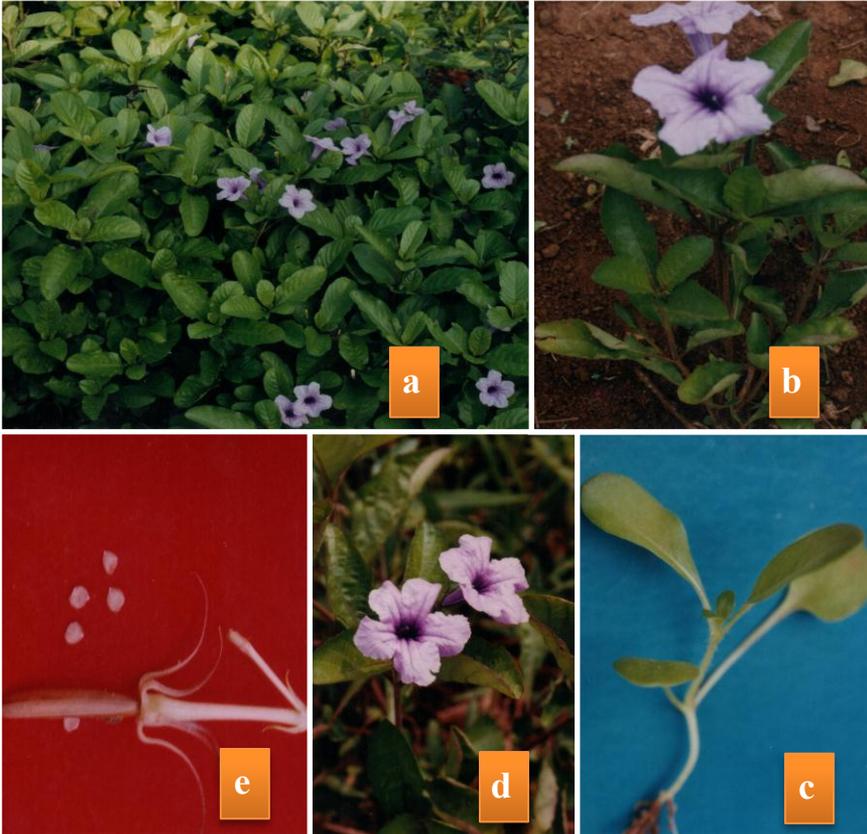
Figure 1. Areas of weed observation and collection in southern part of Sumatra Island of Indonesia, covering Bengkulu, Jambi, Lampung, and South Sumatra Provinces (the zoomed area).



Weed Photos and Descriptions



ACANTHACEAE



Ruellia tuberosa L.

- a. field condition b. adult plant c. juvenile plant d. flowers
e. fruit and seeds

Synonyms : *R. clandestina*

Vernacular names : Cracker plant, Fever root, Minnie root, Popping pod, Snapdragon root (Eng.); Ceplikan (Indon.)

Ecology : The plant is a perennial herb, grows along roadsides, in wastelands and yards, in dry and shady areas. It sometimes becomes a weed in plantation area. Propagation by seeds and vegetative organs. Whole plant can be used as a medicinal herb.

Distribution : Native to the West Indies and become naturalized in tropical regions of the world, especially South and South East Asia. Throughout Indonesia.



AMARANTHACEAE



Amaranthus gracilis Desf.

a. field condition b. adult plant c. juvenile plant d. inflorescence

Synonyms : *A. polystachyus* Wild.; *A. viridis* L., *Euxolus caudatus* Moq. Tand.; *E. polystachyus* Miq.

Vernacular names : Pig weed (Eng.); Bayam (Indon.).

Ecology : Common weed in cultivated areas, waste places, gardens, along roads, upland and *gogo rancah* rice fields, does not grow in very wet places. Prefers sandy soils or those rich in humus and fairly moist. Very common in Java below 300 m, goes up to 600 m. Flowers throughout the year.

Distribution : Commonly found throughout tropical regions of the world and Indonesia.



AMARANTHACEAE



Amaranthus spinosus L.

a. field condition b. adult plant c. juvenile plant d. inflorescence

Synonyms : *Gallaria spinosa* (L.) Nieuwl; *G. spitosa* Nieuwl.

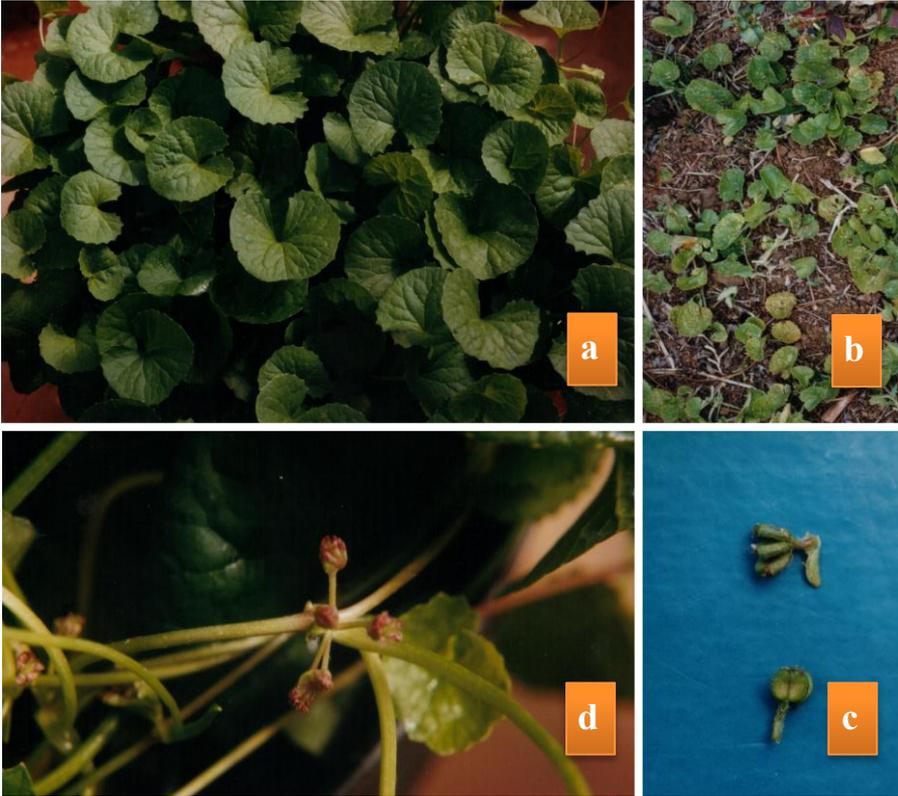
Vernacular names : Needle burr, Spiny pig weed (Eng.); Bayam duri (Indon.).

Ecology : Very common in open, not too dry places, roadside, railways, waste land. Adapted to a wide range of climatic condition. Very noxious weed in maize, upland rice, soybean, pea, tomato, carrot, and sugarcane plantation. Grows well up to 1800 m alt.

Distribution : Throughout tropical regions and Indonesia.



APIACEAE



Centella asiatica (L.) Urb.

a & b. field condition

c. fruits

d. flower

Synonyms

: *Hydrocotyle asiatica* L

Vernacular names

: Indian penny wort (Eng.); Daun kaki kuda, Pegagan gajah (Indon.).

Ecology

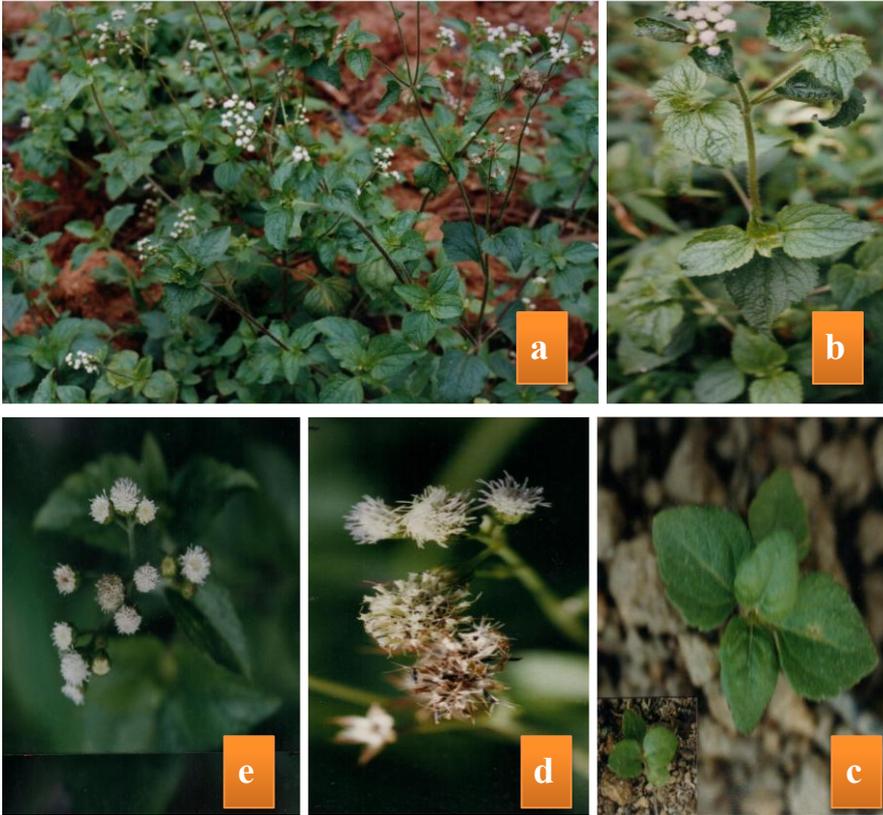
: Common in rather wet roadsides and along ditches. Locally gregarious, at 0 to 2500 m alt.

Distribution

: Tropical regions of the world, throughout Lampung, South Sumatra, Jambi, and Bengkulu provinces of Indonesia.



ASTERACEAE



Ageratum conyzoides L.

a. field condition b. adult plant c. juvenile plant d. seeds e. flowers

Synonyms : *A. album*; *A. cordifolium*; *A. latifolium*; *A. odoratum*; *A. obtusifolium*

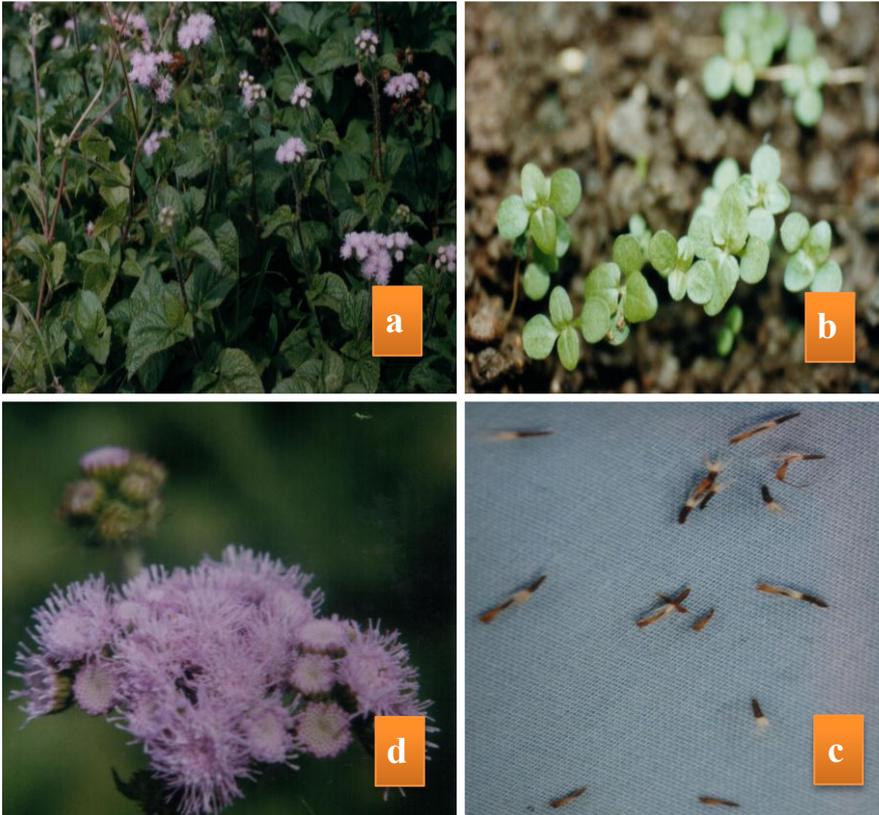
Vernacular Names : Goat weed (Eng); Babandotan, Bandotan, Wedusan (Indon.)

Ecology : Commonly found in moist area in agricultural land, waste places, compounds, road sides, plantation of all kinds, upland rice fields. Thrives up to 3000 m alt. Flowers found year-round and may produce up to 40.000 seeds per plant. Becomes troublesome in plantations after grasses have been suppressed.

Distribution : Throughout tropical and subtropic regions. Introduced in Java Island and has spread throughout Indonesia.



ASTERACEAE



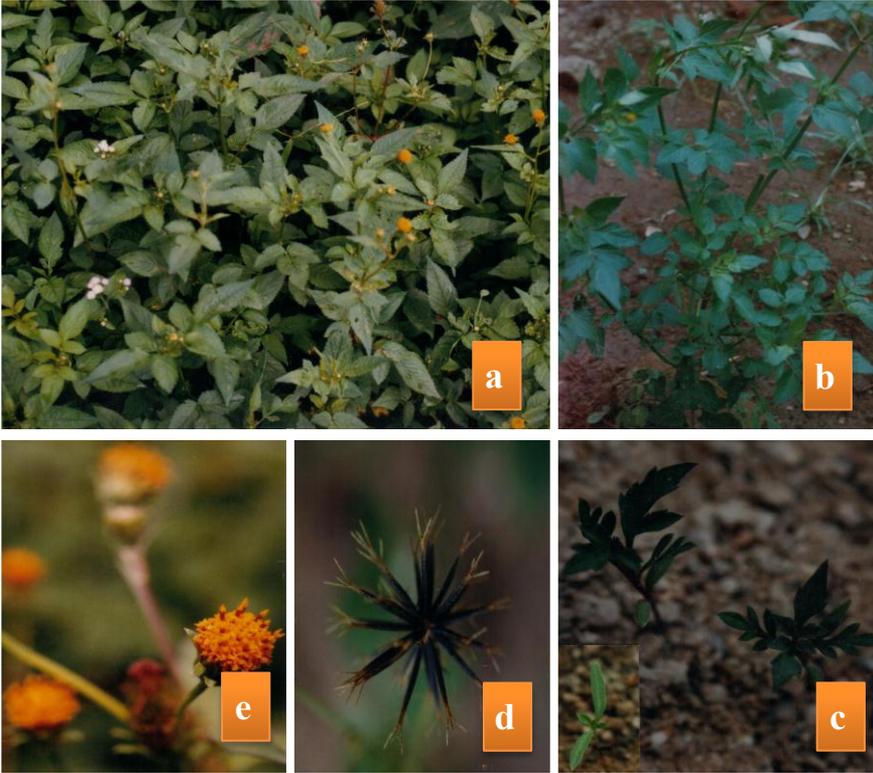
Ageratum haustonianum Mill

a. field condition b. juvenile plants c. seeds d. flowers

- Synonyms** : *A. mexicanum* Sims.
- Vernacular Names** : Blue billy goat, Blue mink, Common ageratum, Floss flower, Goat weed (Eng.); Babandotan, Bandaton, Wedusan (Indon.).
- Ecology** : Native to tropical America. Occurs at higher elevations in highlands also in lower elevation with moist condition. vOften confused with *A. conyzoides*, the difference is the presence of dark bluish purple tubeless flowers arranged in clusters in flower heads.
- Distribution** : Found in tropical and mountainous regions. Worldwide distribution, from South East USA, South Europe, Africa, China, South East Asia, and Australia. Throughout Indonesia.



ASTERACEAE



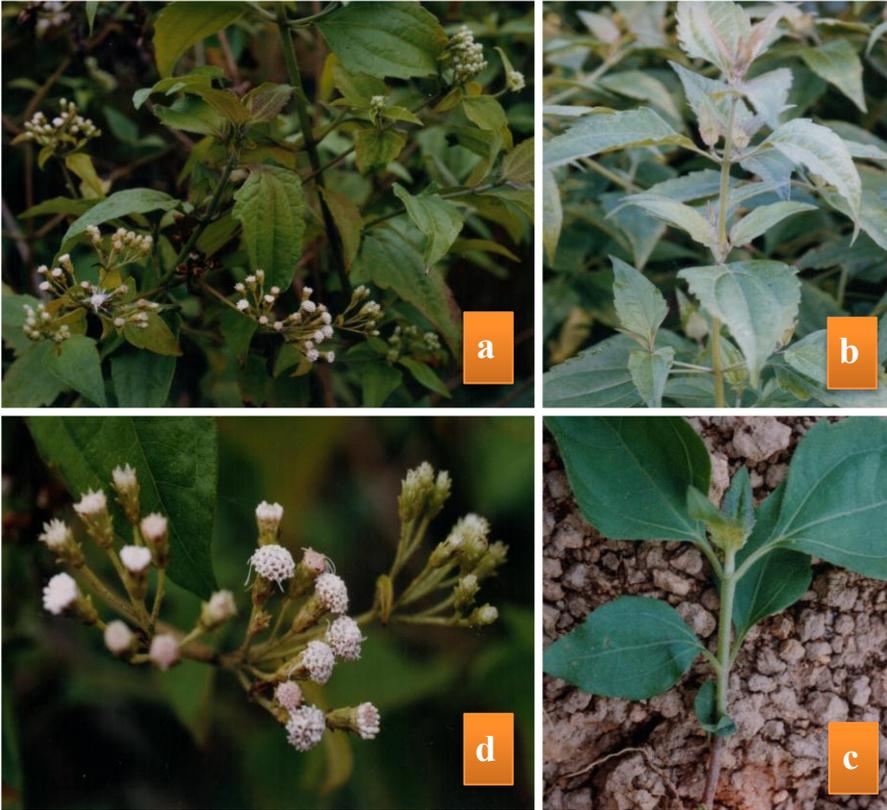
Bidens pilosa L.

a. field condition b. adult plants c. juvenile plants d. seeds e. flowers

- Synonyms** : *B. sundaica* Bl.; *B. chinensis* Auct. non Willd; *B. leucantha* Willd; *B. subalternans* DC.
- Vernacular Names** : Beggar ticks, Blackjack, Spanish needles (Eng); Ajeran, Ketul (Indon.).
- Ecology** : A very common weed, prefers moist soil, grows up to 2300 m alt. Flowers all the year round. There can be up to 4 generations a year. Common in upland rice.
- Distribution** : Throughout tropical regions. Naturalized in Java island and has spread everywhere throughout Indonesia.



ASTERACEAE



Chromolaena odorata (L.) King & Robins.

a. field condition b. adult plant c. juvenile plant d. flowers

Synonyms

: *Eupatorium odoratum* (L.f.) Koster

Vernacular names

: Siam weed (Eng.); Kirinyuh, Merdekaan (Indon.).

Ecology

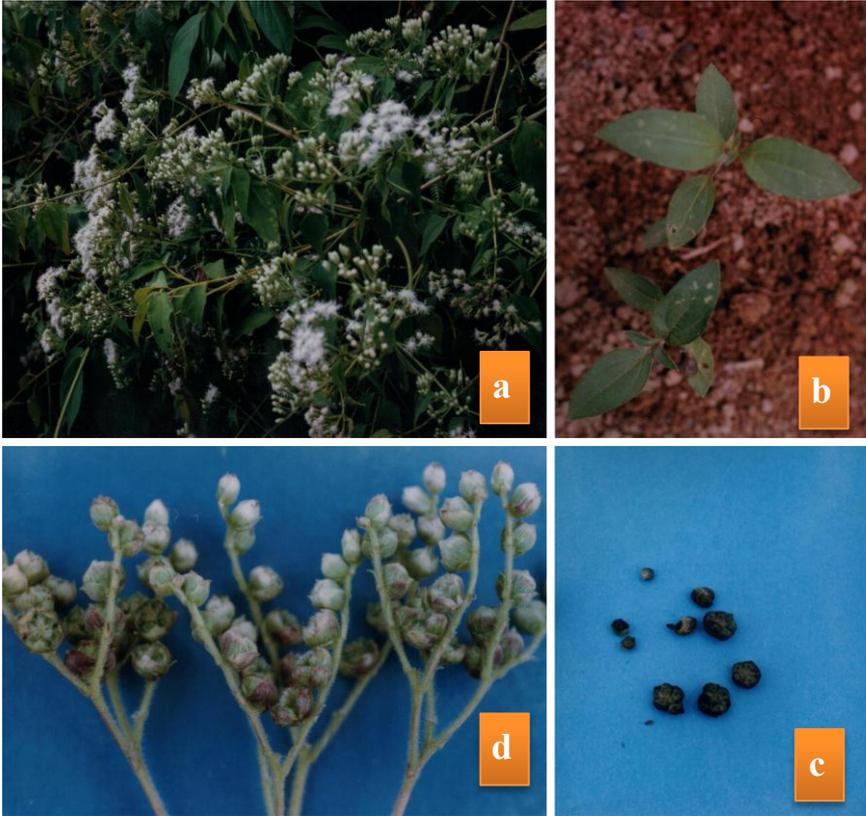
: Prefers well-drained sites, sunny or slightly shaded areas (dies under a closed tree canopy). Found in brushwood, abandoned land and wastelands. Invades clearings rapidly. Grows very quickly and has an enormous seed production. Occurs from 50 to 1000 m alt.

Distribution

: Throughout tropical regions of the world, introduced in Java via Thailand, then spread throughout Indonesia.



ASTERACEAE



Clibadium surinamense L.

a. field condition b. juvenile plants c. seeds d. fruits

Synonyms

: *C. aspera* Aubl., *Trixis aspera* (Aubl.) Sw.

Vernacular names

: Putihah (Indon.)

Ecology

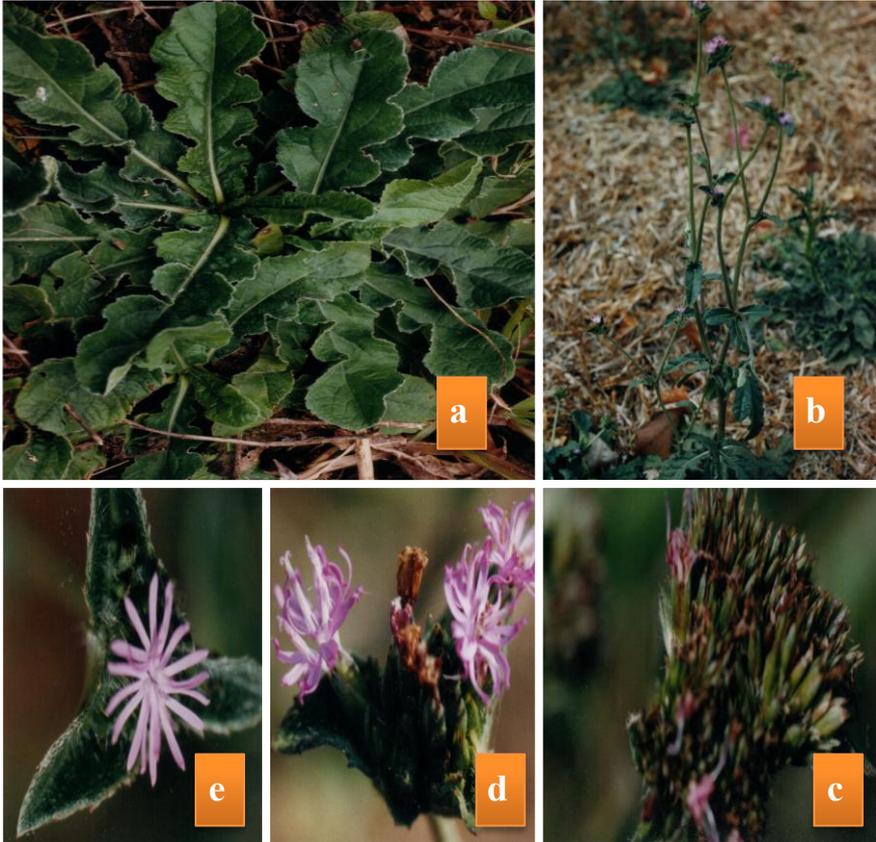
: Common weed in coffee and rubber plantations, found in mountainous area from 90 to 1000 m alt.

Distribution

: Native to tropical America, introduced to Borneo, Java, Sumatra, and Mauritius. Now found throughout Lampung, South Sumatra, Jambi and Bengkulu Provinces of Indonesia.



ASTERACEAE



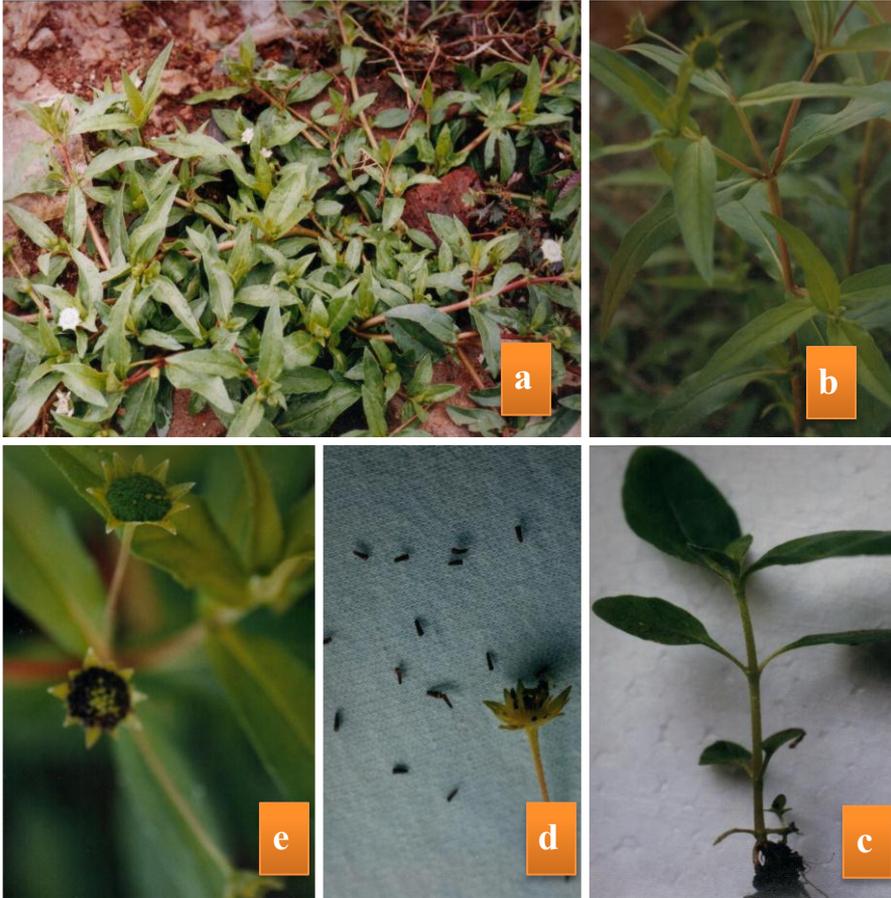
Elephantopus scaber L.

a. field condition b. adult plants c. fruits d & e. flowers

- Synonyms** : *Asterocephalus cochinchinensis* Soreng;
Scabiosa cochinchinensis Lour.
- Vernacular names** : Elephant's foot (Eng.); Balagaduk, Tapak liman,
Tapak tangan (Indon.).
- Ecology** : The plant commonly grows on the soccer fields,
open areas, along road sides, under coconut
plantations, from lower land up to 1200 m alt.
- Distribution** : Throughout tropical and subtropical regions,
throughout Indonesia.



ASTERACEAE



Eclipta prostrata L.

a. field condition b. adult plant c. juvenile plant d. seeds e. fruits

Synonyms

: *E. alba* L. Hassk.; *E. erecta* L. var. *prostrata*.

Vernacular names

: False daisy, White eclipta (Eng.); Daun sipat, Goman, Orang-aring (Indon.)

Ecology

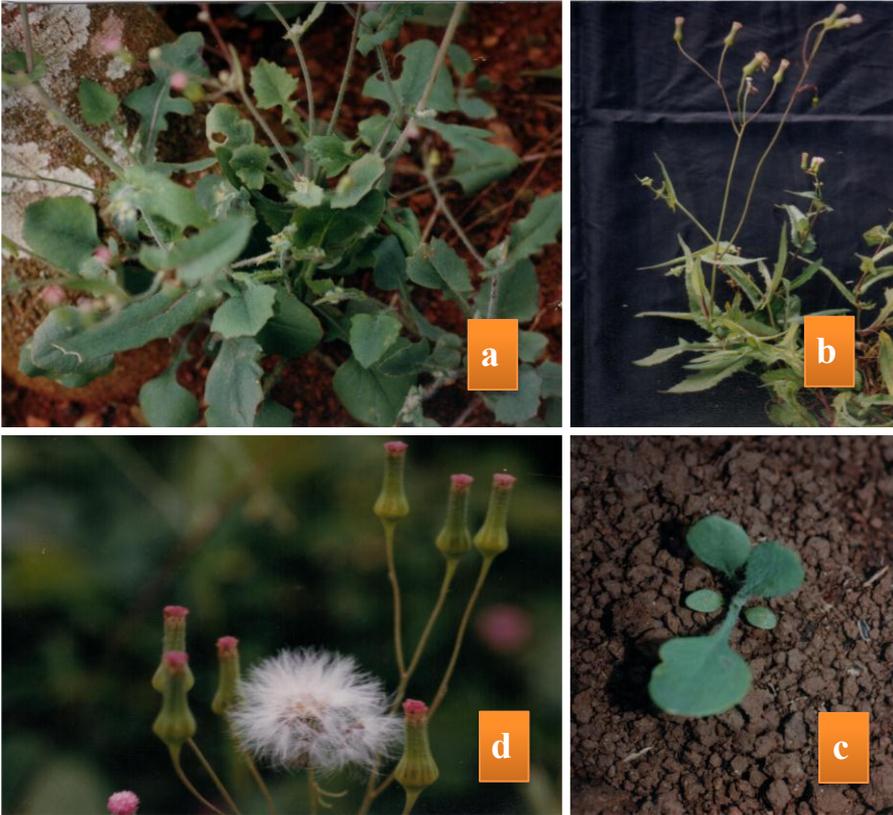
: An annual weed grows in wet areas such as lowland rice fields, levees, and marshes.

Distribution

: Tropical and temperate regions of the world.



ASTERACEAE



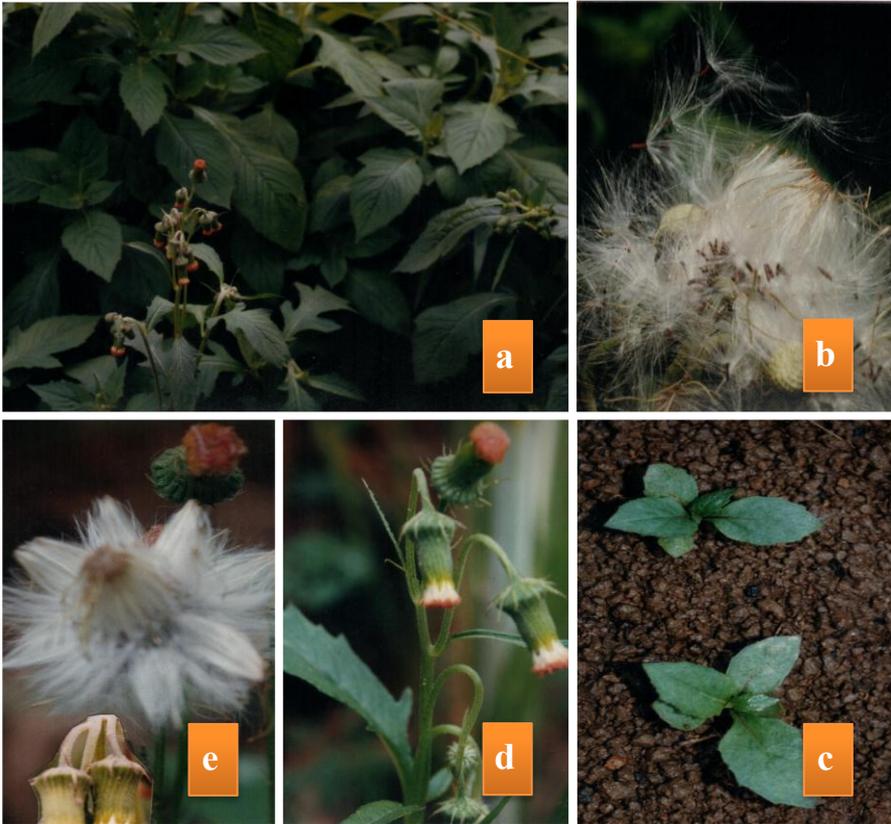
Emilia sonchifolia (L.) DC. Ex Wight

a. field condition b. adult plant c. juvenile plant d. flowers

- Synonyms** : *E. javanica* Robins.; *E. purpurea* Cass.; *Senecio sonchifolius* (L.) Moench; *Cocalia sonchifolia* L.
- Vernacular Names** : Tassel flower (Eng.); Jonge, Patah kemudi, Tespon (Indon.).
- Ecology** : Grows in areas with moist, sunny or slightly shaded locations, along roadsides, ditches, gardens, lawns, shifting cultivation lands, upland rice, tea, rubber and other plantations, from 0 to 3000 m. Locally abundant but always scattered.
- Distribution** : Tropical areas. Throughout Indonesia.



ASTERACEAE



Erechites valerianifolia (Wolf) DC

a. field condition b. achene with pappus c. juvenile plants d & e. flowers

Synonyms

: *Senecio valerianifolius* Link ex Spreng

Vernacular Names

: Burn weed, Guavate, Tropical burn weed (Eng.);
Sintrong (Indon.).

Ecology

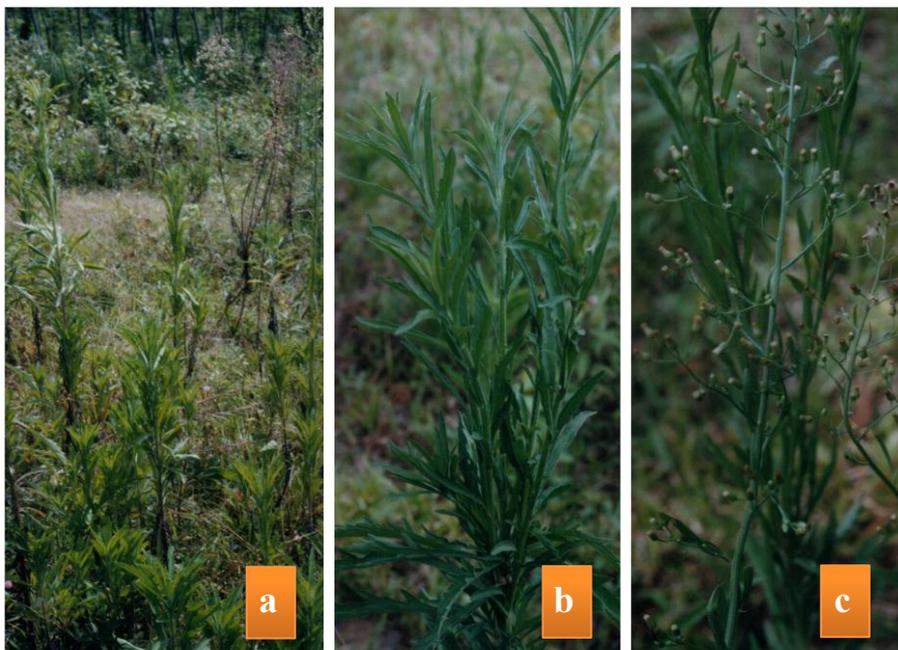
: Grows on secondary forest or paddy field during dry season, on moist soil. Also grows well on new replanted rubber and oil palm plantations.

Distribution

: Tropical regions of the world. Very common throughout Indonesia.



ASTERACEAE



Erigeron sumatrensis Retz.

a. field condition b. adult non-flowering plants c. adult flowering plant

- Synonyms** : *E. linifolius* Auct. non Willd.; *Conyza ambigua* DC.
- Vernacular names** : Fleabane (Eng.); Jelantir, Jentik manis, Sembung (Indon.).
- Ecology** : Sunny to lightly shaded dry rather moist regions with weak or proceed dry season. Found on steep embankment of *Imperata* and other grass vegetation. Commonly found along roads, wastelands, and agricultural land in young secondary scrub, in coffee plantation and upland rice.
- Distribution** : Throughout tropical areas. Found for the first time in Java Island, and spread throughout Indonesia.



ASTERACEAE



Galinsoga ciliata (Raf.) Blake

a. field condition b. flowers

- Synonyms** : *G. parviflora* Cav.; *G. quadriradiata* Ruiz & Pav.
- Vernacular names** : Galinsoga (Eng.); Galinsoga (Indon.)
- Ecology** : An annual weed grows in upland fields in perennial or annual crops and along roadsides. Found throughout the year. Sometimes it becomes a problem due to the profuse emergence.
- Distribution** : Tropical and temperate regions of the world.



ASTERACEAE



Grangea maderaspatana (L.) Poir.

a. field condition b. fruit c. flower

- Synonyms** : *Artemisia maderaspatana*, *Cotula maderaspatana* (L.) Willd.
- Vernacular names** : Madras carpet (Eng.); Kembang paku konde (Indon.).
- Ecology** : Common weed occurring in wastelands, near canals, and rainfed rice fields. Low growing, can cover the ground with 60-70 cm in height. Leaves known to have medicinal properties.
- Distribution** : Throughout tropical Asia.



ASTERACEAE



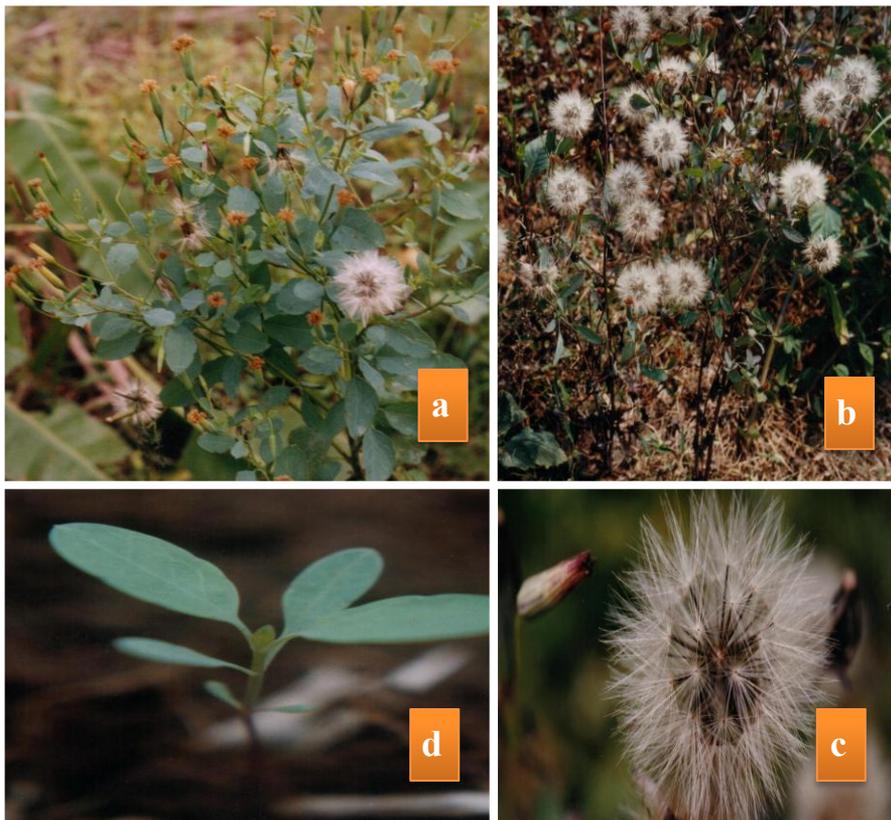
Mikania micrantha Kunth.

a. field condition b. adult plant c. seeds d. flowers

- Synonyms** : *M. scandens* var. *umbrella* (Gardner) Baker
- Vernacular names** : Bitter vine, Chinese creeper, Mile-a-minute (Eng.);
Rayutan, Sembung rambat (Indon.).
- Ecology** : In humid, sunny or shaded habitats. Noxious weed in
plantations (sugar cane, bananas, rubber) and in
upland annual crops.
- Distribution** : The Botanical Garden of Bogor received this species
from Paraguay in 1949. It was used as soil cover in
rubber plantation, and has now spread throughout
Indonesia.



ASTERACEAE



Porophyllum ruderale (Jacq.) Cass.

- a. adult flowering plant b. field condition c. achene with pappus
d. juvenile plant

- Synonyms** : *P. ellipticum* Cass.
Vernacular names : Bolivian coriander, Summer cilantro (Eng.); Mangangora, Seungit (Indon.).
Ecology : Herbaceous annual plant grown in pasture land, humid soil, sunny or slightly shaded locations, prefers fertile soils, found in upland rice fields.
Distribution : Throughout Indonesia.



ASTERACEAE



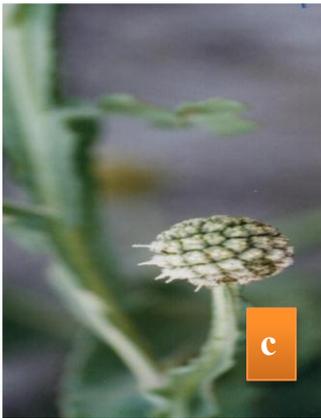
Sonchus arvensis L.

a & b. adult plants c. juvenile plants d. flowers

- Synonyms** : *Sonchoseris arvensis* Fourr, *Sonchus vulgaris* subsp. *vulgaris*
- Vernacular names** : Cornsow thistle, Sow thistle (Eng.); Tempuyung (Indon.)
- Ecology** : In rather wet climates, sunny or very shaded, rather moist sites, swampy grassland, along watercourses, roads, terrace banks, in plantation, and upland rice fields. Usually scattered from 50 to 2200 m alt. Known to have medicinal properties.
- Distribution** : World-wide. In Indonesia has spread in Lampung, Jambi, Bengkulu, and South Sumatra Provinces.



ASTERACEAE



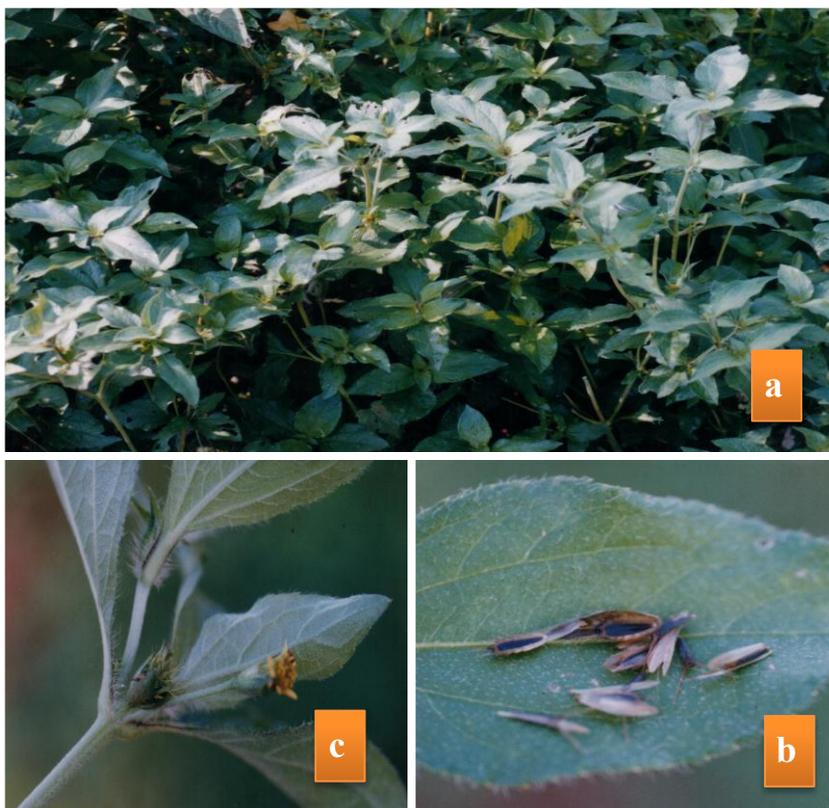
Sphaeranthus africanus L.

a. field condition b. adult plant c. flower

- Synonyms** : *S. alatus*, *S. ovalis*, *S. microcephalus*
Vernacular names : African globe thistle (Eng.); Brincil, Sembung (Indon.).
Ecology : The plant grows in areas with a pronounced dry season, on heavy and lighter soil. Found in margins of ditches and dried out pools and ditches. Locally often gregarious, from 0 to 700 m alt. Known to have medicinal properties.
Distribution : Throughout tropical Africa and Asia to Australia, including Indonesia.



ASTERACEAE



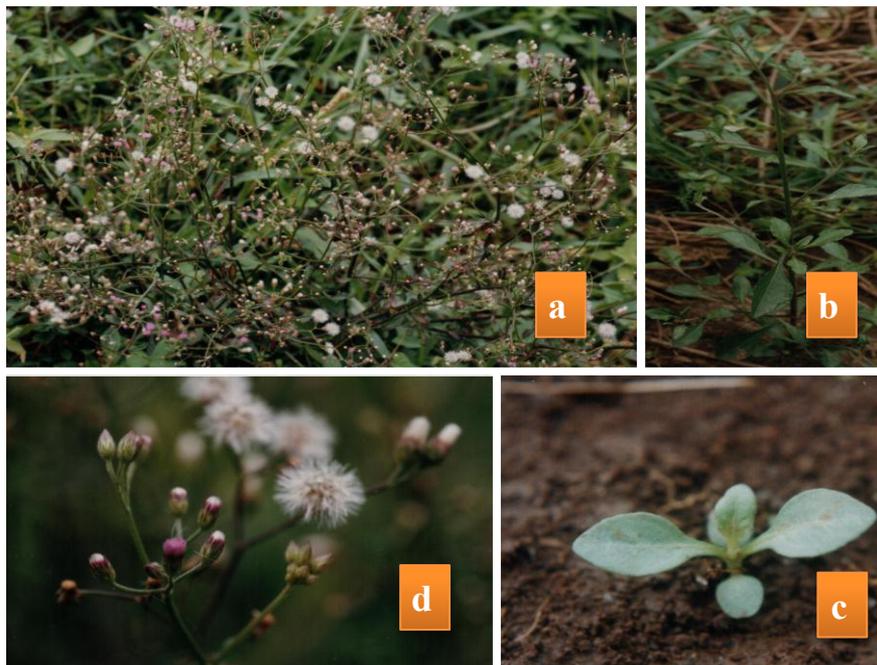
Synedrella nodiflora (L.) Gaertn

a. field condition b. seeds c. flower

- Synonyms** : *Verbesina nodiflora* L.
- Vernacular names** : Cinderella weed, Node weed (Eng.); Bandotan laki, Jukut gendreng, Legetan, Sarunen (Indon.).
- Ecology** : In lightly shaded to sunny open forest, village groves, hedges, along roads and dikes, wastelands, gardens, meadows, upland rice field, plantations (coffee, coconut). Frequently found in disturbed areas. Often gregarious, from 0 to 1200 m alt.
- Distribution** : Native to tropical America and now a pan-tropical weed. Found in Java Island for the first time and now has spread throughout Indonesia.



ASTERACEAE



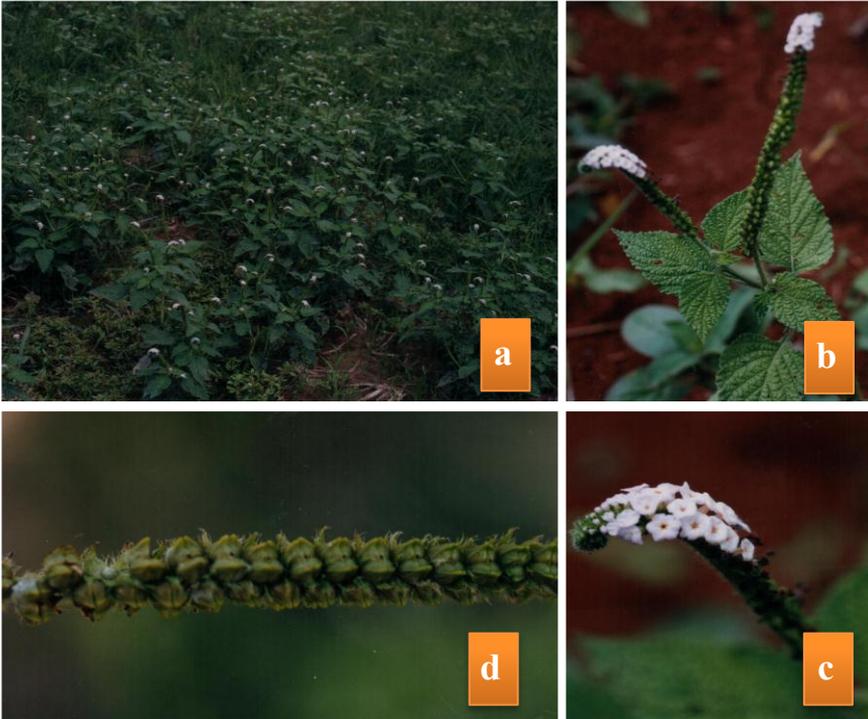
Vernonia cinerea (L.) Less.

a. field condition b. adult plants c. juvenile plant d. flowers

- Synonyms** : *Coryza cinerea*, *V. abbreviata* DC.; *V. laxiflora* Less.; *V. leptophylla* DC.; *V. linifolia* Bl.; *V. parviflora* Reinw.; *V. zollingeriana* Schult. Bip.
- Vernacular names** : Ash coloured fleabane, Little iron weed (Eng.); Buyung-buyung, Lidah anjing, Maryuna, Sesawi langit (Indon.)
- Ecology** : The plant grows in sunny areas along roadsides, in forest border, wastelands, fallow fields, grasslands and upland fields. Occasionally it becomes a harmful weed in upland fields.
- Distribution** : Native to tropical Asia, distributed to subtropical regions of the world.



BORAGINACEAE



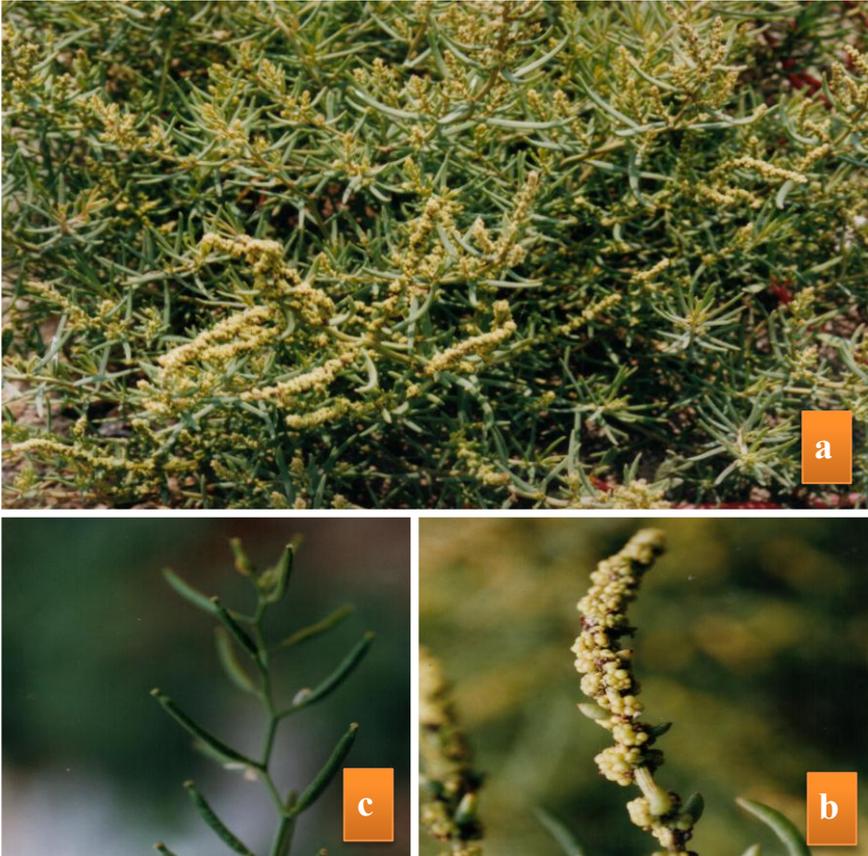
Heliotropium indicum L.

a. field condition b & c. flower and inflorescence d. fruits

- Synonyms** : *Tiaridium indicum* Lehm.
- Vernacular names** : Heliotrope, Indian heliotrope (Eng.); Bandotan lombok, Tusuk konde (Indon.).
- Ecology** : On sunny, periodically moist, or marshy and desiccating sites, waste places, ditch borders, dried-up ditches, and along roadsides. From 0 – 800 m alt., especially above 400 m alt.
- Distribution** : Throughout Lampung, Jambi, Bengkulu, and South Sumatra Provinces.



CHENOPODIACEAE



Suaeda maritima (L.) Dum.

a. field condition b. inflorescence c. fruits

Synonyms

: *S. nudiflora* Moq.; *S. australis* Moq.

Vernacular names

: Sea-blite, Sea-geese-foot (Eng.); Pletekan (Indon.)

Ecology

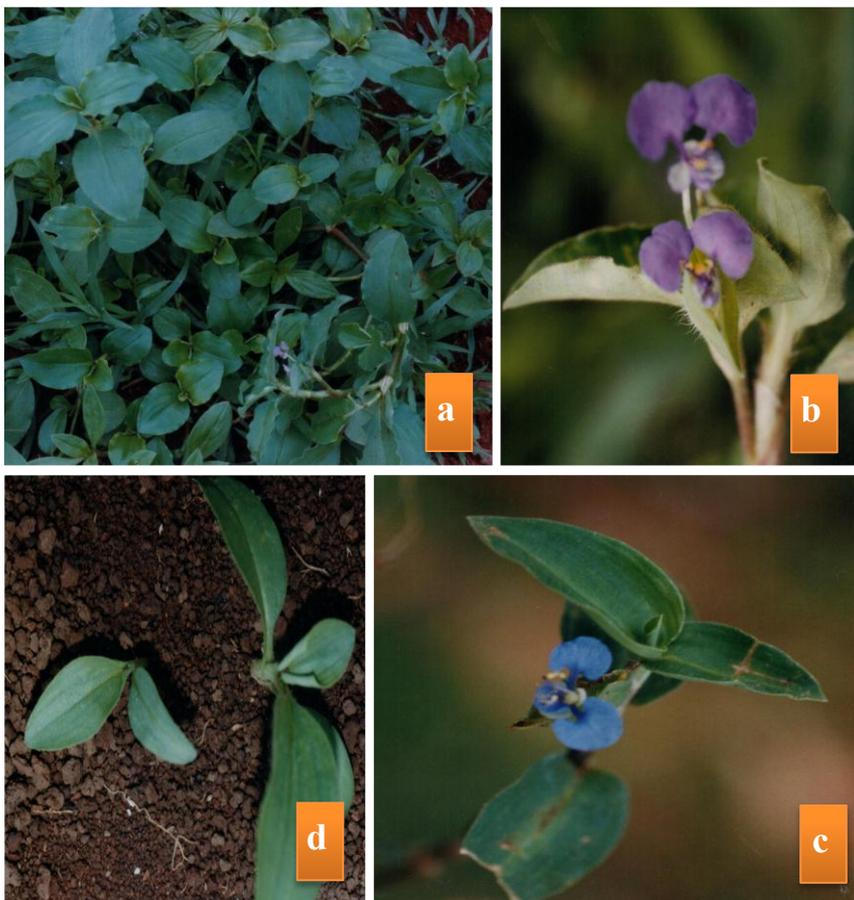
: Grows in highly saline soil and in the border of mangrove forest, along sea shore. Propagation by seeds, used as food in some areas.

Distribution

: Tropical and temperate regions.



COMMELINACEAE



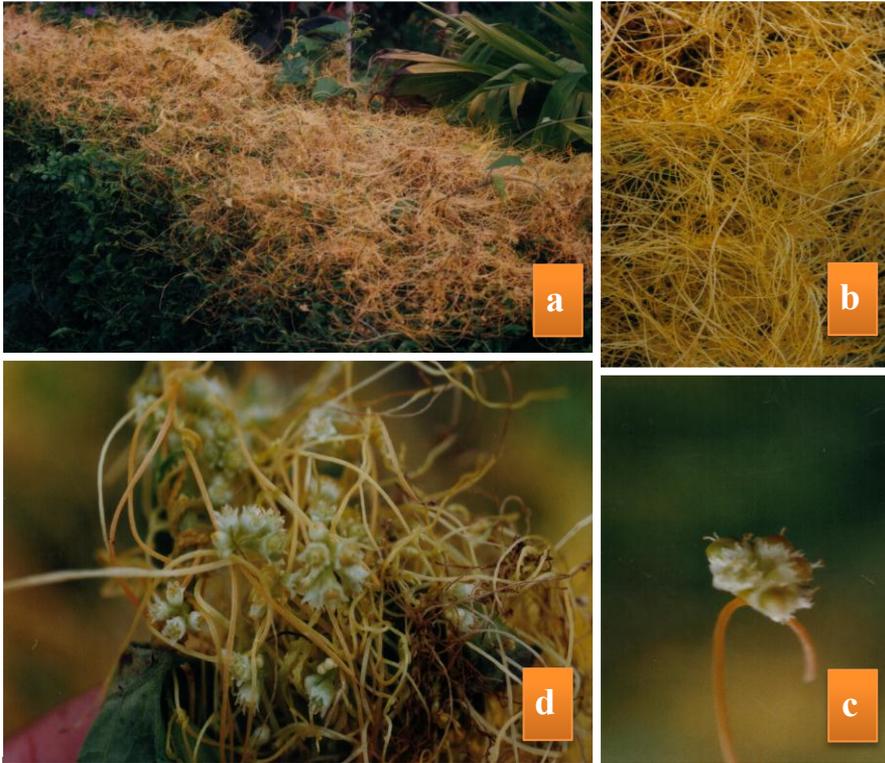
Commelina benghalensis L.

a. field condition b & c. adult flowering plants d. juvenile plants

- Synonyms** : *C. canescens*, *C. kilimandscharica*, *C. obscura*, *C. uncatata*
- Vernacular names** : Benghal dayflower, Spidewort (Eng.); Gewor, Petungan, Tali korang (Indon.).
- Ecology** : In places less moist than those preferred by other species from the same genus, *Commelina*. In sunny or lightly shaded waste places, roadsides, and between stones. Always found in fertile soils rich in humus.
- Distribution** : Native to tropical Asia and Africa. Throughout tropical and subtropical regions of the world.



CONVOLVULACEAE



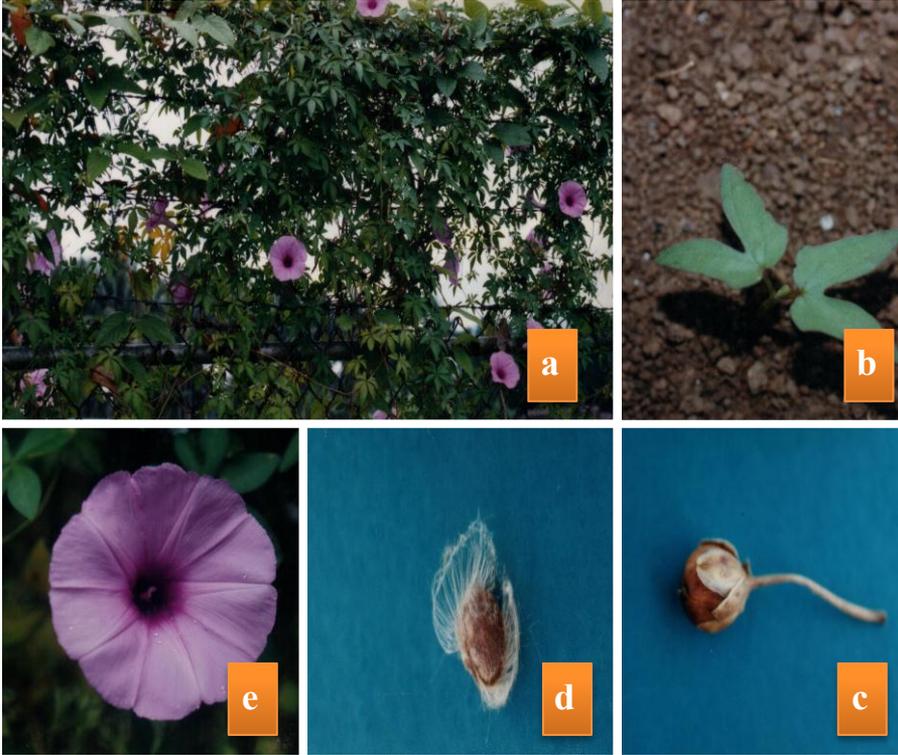
Cuscuta chinensis Lam

a. field condition b. adult plant c & d. fruits

- Synonyms** : *C. maritima* Makino.
Vernacular names : Dodder (Eng.); Tali putri (Indon.).
Ecology : Grows parasitically on various plants through parasitic roots in upland fields, vegetable fields, gardens, along roadsides and seashores. It is harmful to crop plants.
Distribution : Tropical and temperate regions.



CONVOLVULACEAE



Ipomoea cairica L. Sweet

a. field condition b. juvenile plant c. fruit d. seed e. flower

Synonyms

: *Convolvulus caricus* L.; *Ipomoea palmata* Forsk.

Vernacular Names

: Ivy-leaved morning glory, Railways creeper (Eng.); Kangkungan darat (Indon.).

Ecology

: Grows in wastelands, gardens, embankments and in perennial crop fields. Produces flowers throughout the year. It is cultivated as ornamental and its tuberous roots are used as famine relief food.

Distribution

: Native to tropical Asia and distributed widely throughout the world.



CONVOLVULACEAE



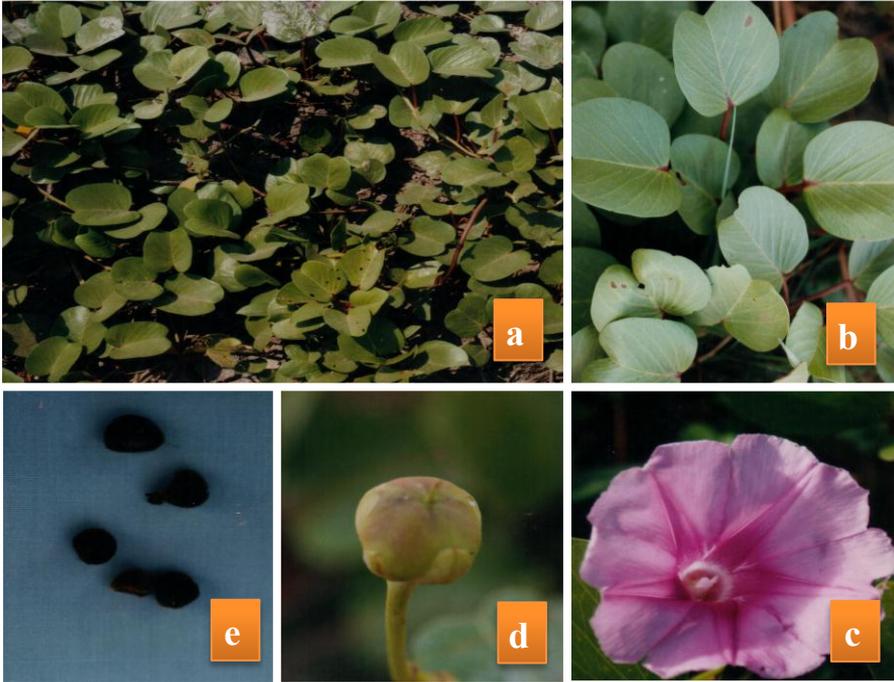
Ipomoea carnea Jacq

a. field condition b. adult plant c. fruits d. flower

- Synonyms** : *I. crassicaulis* (Benth.) B.L. Rob., *I. fistulosa* Mart. Ex Choisy
- Vernacular names** : Pink morningglory (Eng.); Kangkungan rawa (Indon.).
- Ecology** : Grown and cultivated for hedges of agricultural crops. Stems are branched at the base, about 2.5 m long, fistulous and almost glabrous.
- Distribution** : The plant is a shrub native to tropical America, distributed and widely cultivated in the tropical and subtropical regions of the world.



CONVOLVULACEAE



Ipomoea pes-caprae (L) R.Br.

a. field condition b. adult plant c. flower d. fruit e. seeds

- Synonyms** : *Convolvulus pes-caprae* L.; *C. brasiliensis* L.; *Ipomoea biloba* Forsk.
- Vernacular names** : Beach morningglory (Eng.); Kangkungan pantai, Tapak kuda (Indon.).
- Ecology** : Grows near the sea shore in upland fields, perennial crop fields, grasslands and along roadsides. Green leaves are used as fresh vegetable and roots used as a purgative and diuretic.
- Distribution** : Considered to be native to the coast of the Indian Ocean and found mostly near the sea shore in tropical and temperate regions.



CONVOLVULACEAE



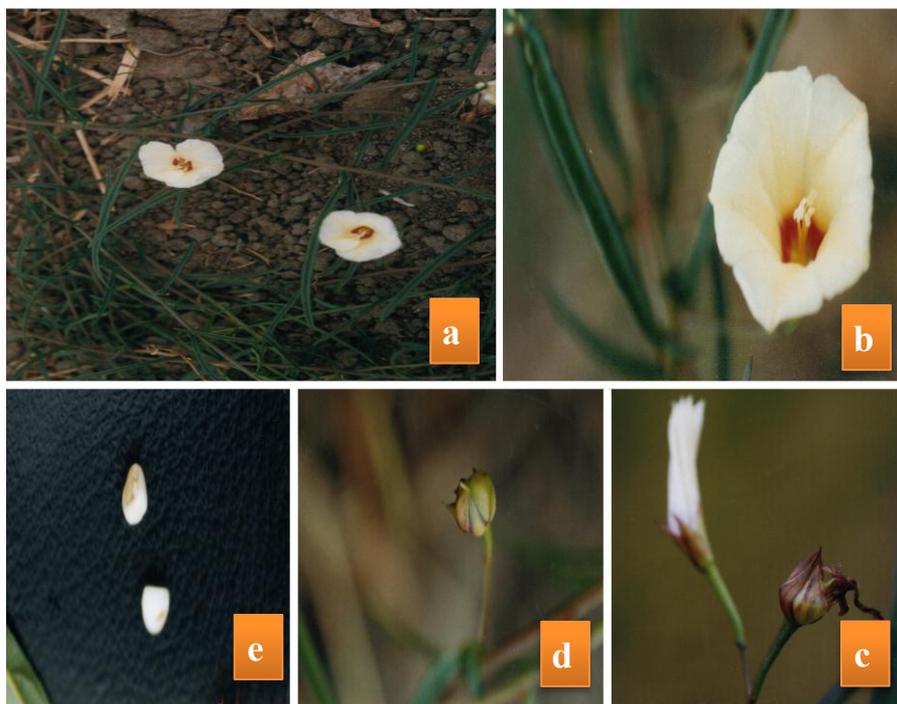
Ipomoea triloba L.

a. field condition b. flowers c. juvenile plant d. fruit

- Synonyms** : *I. krugii*
- Vernacular names** : Threelobe morningglory, Little bell (Eng.); Mantangan (Indon.).
- Ecology** : In sunny sites of bushes, thick hedges, grasslands, waste places, occasionally in foreshore. Found also in upland rice fields. From 0 to 1000 m alt. Flower sthroughout the year.
- Distribution** : Native to tropical America, now spread throughout tropical areas of the world. In Indonresia found throughout South Sumatra, Jambi, Bengkulu, and Lampung Provinces.



CONVOLVULACEAE



Merremia tridentata (L.) Hallier f.

a. field condition b & c. flowers d. fruit e. seeds

Synonyms

: *Convolvulus tridentatus* L.; *C. hastatus* Desr.;
Evolvulus tridentatus (L.); *Ipomoea angustifolia*
Jacq.; *I. filicaulis* Vahl.; *I. tridentata* (L.) Roth;
Merremia hastata (Desr.) Hall.

Vernacular names

: Bind weed (Eng.); Kangkungan perak (Indon.).

Ecology

: A vine grows in grassland, perennial crop fields,
upland fields, and along roadsides.

Distribution

: Distributed in the tropical region of Africa, Asia,
Australia, and the Pacific Ocean Islands.



CONVOLVULACEAE



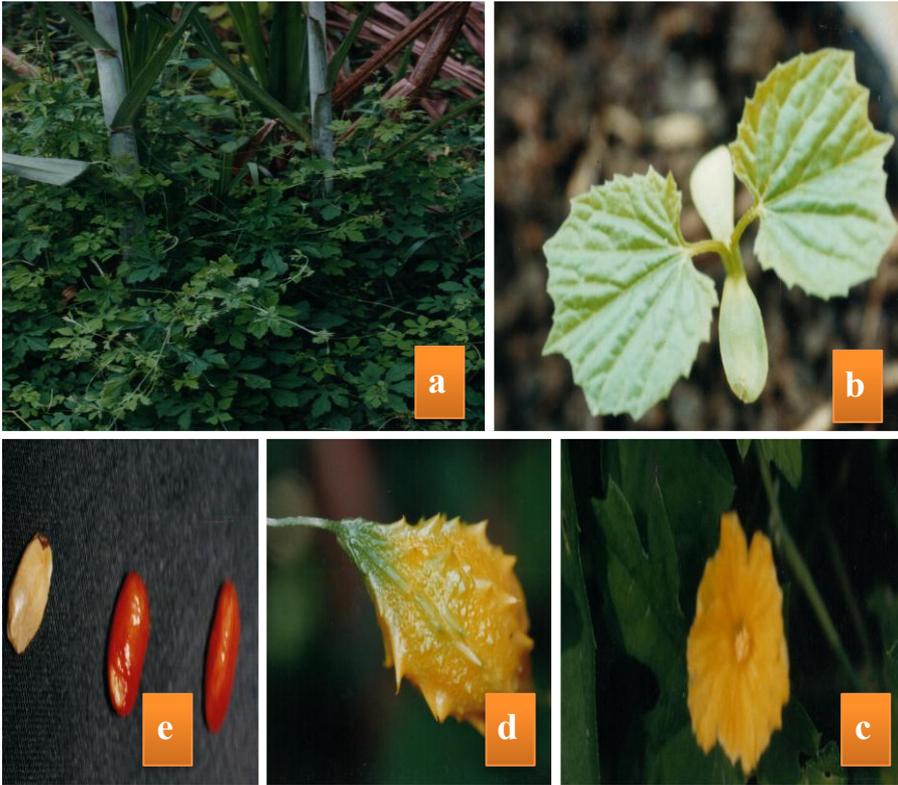
Merremia vitifolia (Burm.f.) Hallier f.

a. field condition b. adult flowering plant c & d. flowers

- Synonyms** : *Convolvulus vitrifolius* Burm. f.; *Ipomoea vitrifolia* (Burm. F) Blume.
- Vernacular names** : Vinelike bind weed (Eng.); Anggur-angguran, Kangkungan kuning (Indon.).
- Ecology** : A vine grows in grasslands, along roadsides, and in the border of forests, sometimes it damages slope of road and hedges by forming a cover.
- Distribution** : Distributed in the tropics in areas at somewhat high elevation.



CUCURBITACEAE



Momordica charantia L

a. field condition b. seedling c. flower d. fruit e. seeds

- Synonyms** : *M. balsamina* Blanco; *M. cylindrica* Blanco; *Cucumis africanus* Lindl.
- Vernacular Names** : African cucumber, Bitter cucumber, Bitter melon (Eng.); Pare pahit (Indon.).
- Ecology** : Grows well under shaded area, is a native tropical plant and becomes dominance in sugarcane plantation.
- Distribution** : Tropical and subtropical regions of the world.



CYPERACEAE



Cyperus aromaticus (Ridley) Mattf. & Kukenth.

a. adult plant b. inflorescences

Synonyms

: *Kyllinga aromatica* Ridley; *K. polyphylla* Willd. ex Kunth.; *K. erecta* Scumach var. *polyphylla* (Kunth) Hooper.

Vernacular names

: Greater kyllinga (Eng); Rumput ganda (Indon.).

Ecology

: The plant forms communities wet areas along roadsides and grasslands, invades agricultural land to become a weed of upland crops.

Distribution

: Distributed in the tropical regions of Africa, Asia, and the Pacific Ocean Islands.



CYPERACEAE



Cyperus brevifolius (Rottb.) Hassk.

a. field condition b. adult plant c. juvenile plant d. inflorescence

- Synonyms** : *Kyllinga brevifolia* Rottb.
- Vernacular names** : Green kyllinga (Eng.); Suket pendul, Teki rowo (Indon.).
- Ecology** : Found in sunny or partly shaded wetlands, along roadsides, grasslands, damp forest clearings, riverbanks, and plantations, up to 1500 m alt., most troublesome at 750 to 2000 m alt.
- Distribution** : Tropical and subtropical areas of the world, throughout Indonesia.



CYPERACEAE



Cyperus compressus L.

a. field condition b. adult plants c. juvenile plant d. inflorescences

- Synonyms** : *C. conglomeratus* Willd., *Chlorocyperus compressus* (L.) Palla
- Vernacular names** : Hedgehog cyperus (Eng.); Dekeng, Teki gedeh (Indon.).
- Ecology** : Common weed in rainfed and upland crops, open grasslands, waste places, roadsides, along riverbanks, also drainage trenches and rice field margin. Lowlands, rarely up to 1000 m alt.
- Distribution** : Tropical, throughout Indonesia, common in Malaysia.



CYPERACEAE



Cyperus cyperoides (L.) Kuntze

a. adult plant

b. inflorescence

c. seeds

Synonyms

: *C. sieberianus* Schum.; *C. umellatus* Benth.; *Mariscus cyperoides* (L.) Urb.; *M. sieberianus* (Schum.) Nees ex Clarke; *M. umbellatus* (Benth.) Vahl.; *Scirpus cyperoides* L.

Vernacular names

: Pacific Island sedge (Eng.); Lilisungan, Teki hijau, Wlingen (Indon.).

Ecology

: Grows in sandy soils sunny or lightly shaded grasslands, old clearings, secondary forests, roadsides, and often a common weed in gardens. Up to 2000 m alt.

Distribution

: Tropics and subtropics of Africa, Asia, throughout Indonesia.



CYPERACEAE



Cyperus iria L.

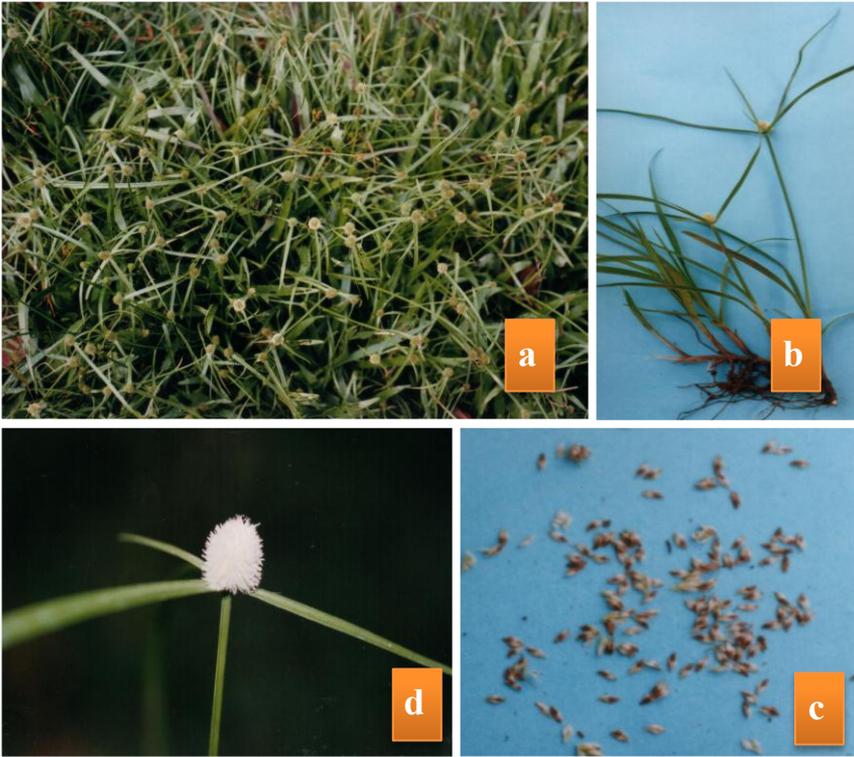
a. adult plant

b & c. inflorescences

- Synonyms** : *C. chrysomelinus* Link, *C. diaphaniria* Steud., *Chlorocyperus iria* (L.) Rikli
- Vernacular names** : Grasshopper's sedge, Umbrella sedge (Eng.); Rumput menderong, Umbung (Indon.).
- Ecology** : Grows on open areas, wet places, waste grounds, ditches, river banks, up to 700 m alt. It grows on all kinds of rice fields, but not a problem in upland rice fields.
- Distribution** : Widely distributed in tropical and subtropical Asia, throughout Indonesia.



CYPERACEAE



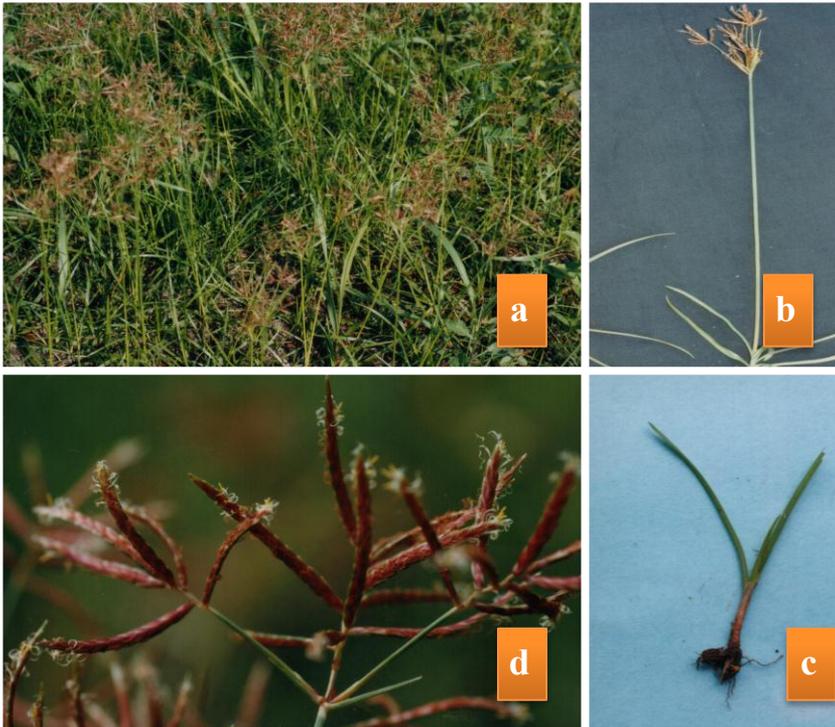
Cyperus kyllingia Endl.

a. field condition b. adult plant c. seeds d. inflorescence

- Synonyms** : *C. monocephalus* F.v.M.; *Kyllingia cephalates* (jacq.), *K. monocephala* Rottb.
- Vernacular names** : White kyllingia, White water sedge, Whitehead spike sedge (Eng.); Teki badot, Wudelan (Indon.).
- Ecology** : Perennial mat forming plant grows in somewhat wet areas along roadsides, in grasslands, yards, perennial crop fields and plantation.
- Distribution** : Native to tropical Asia, distributed to America, Africa, and Australia.



CYPERACEAE



Cyperus rotundus L.

a. field condition b. adult plant c. juvenile plant d. inflorescence

- Synonyms** : *C. purpureo-variegatus* Boeckle, *C. tuberosus* Roxl.
- Vernacular names** : Coco grass, Purple nutsedge, Nut grass (Eng.); Teki (Indon.).
- Ecology** : It is said to be native to India but it is widely distributed in the temperate and tropical regions of the world. The weed grows on the sunny to lightly shaded location, in the gardens, along roadsides, waste places, and in annual and perennial crops. From low and medium altitudes, up to 1800 m alt.
- Distribution** : Warmer parts of the world in many tropical and subtropical countries. Widely distributed throughout Indonesia.



CYPERACEAE



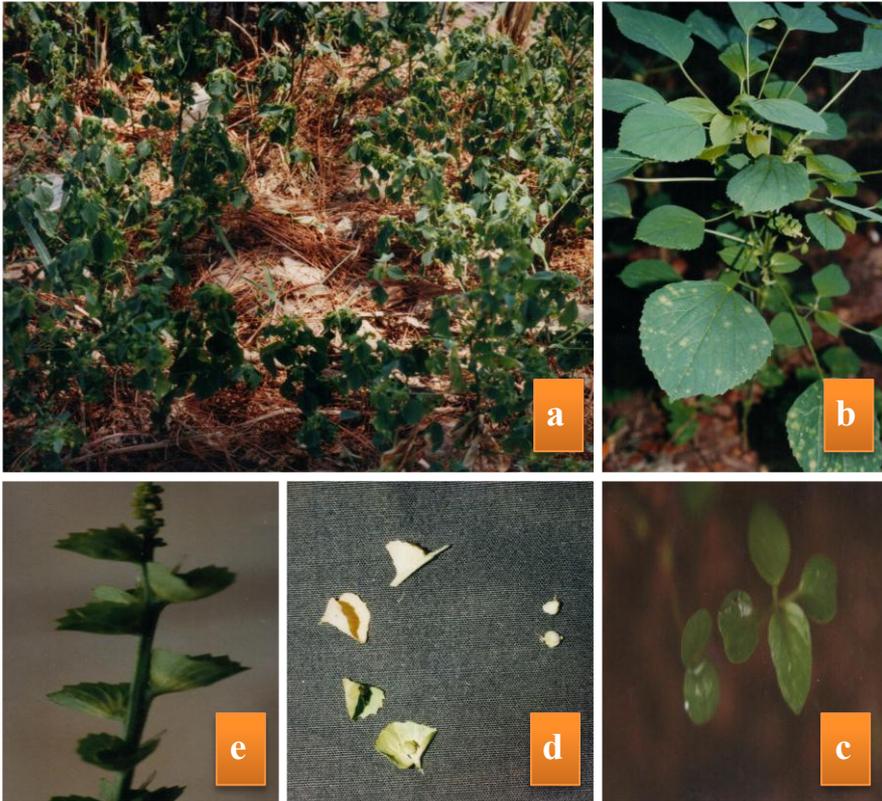
Scleria sumatrensis Retz.

a. field condition b. adult plant c. seeds d. inflorescence

- Synonyms** : *S. setigera*
- Vernacular names** : Sumatran scleria (Eng.); Kerisan, Sesayang gajah, Teki mutiara (Indon.).
- Ecology** : *S. sumatrensis* grows on moist soil, slightly shaded areas under young rubber plantation or commonly on bare soils.
- Distribution** : Throughout South Sumatra, Lampung, Bengkulu, and Jambi.



EUPHORBIACEAE



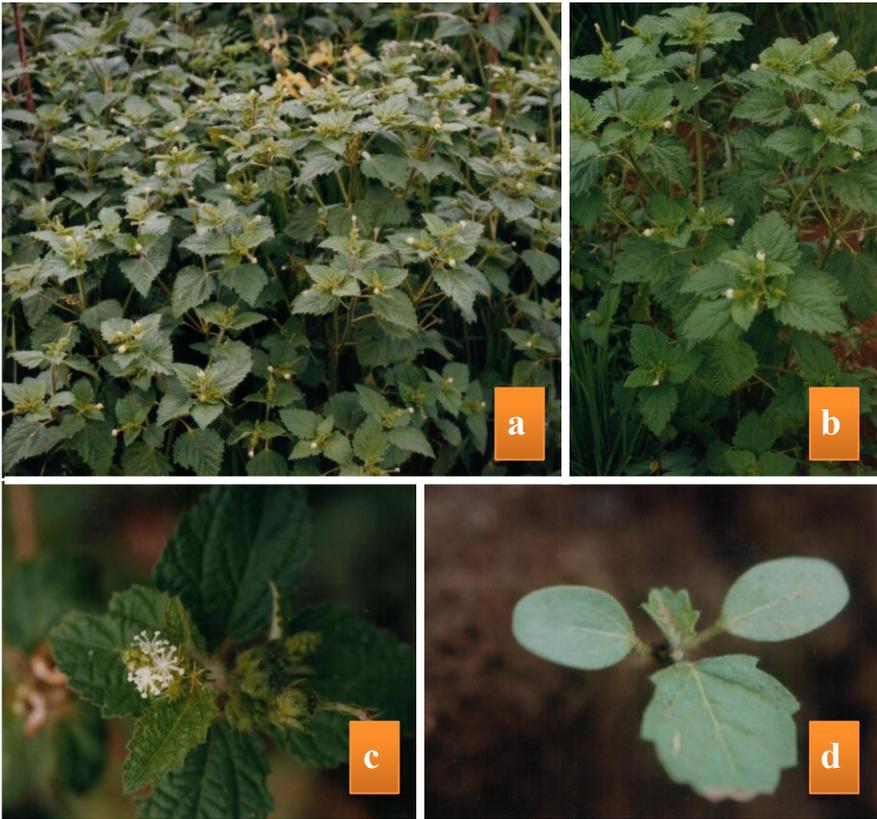
Acalypha australis L.

- a. field condition b. adult plant c. juvenile plant d. fruits
e. inflorescence

- Synonyms** : *A. chinensis* Roxb., *A. gemina* (Lour.) Spreng, *Ricinocarpus australis* (L.) Kuntze
- Vernacular names** : Asian copperleaf, Virginia copperleaf (Eng.); Anting-anting (Indon.).
- Ecology** : Commonly grows under plantations (rubber and oil palm) and light forest, in slightly moist soil, tolerant to shade area, from 0 to 1300 m alt.
- Distribution** : Native to South America, spread across Asia continent. In Indonesia, commonly found in South Sumatra, Lampung, Jambi and Bengkulu.



EUPHORBIACEAE



Croton hirtus L. Herit.

a. field condition b. adult plant c. seedling d. flower and fruit

Synonyms

: *C. glandulosus* var. *hirtus* (L= Herit.) M.A.

Vernacular names

: Croton (Eng.); Jarakan (Indon.).

Ecology

: Sunny to lightly shaded sites, along roadsides, railroad tracks and fields, gardens, low tea plantations; upland rice fields, 0 to 700 m alt.

Distribution

: Introduced in West Java area and spread throughout Indonesia, except in Kalimantan and Sulawesi.



EUPHORBIACEAE



Euphorbia prunifolia Jacq.

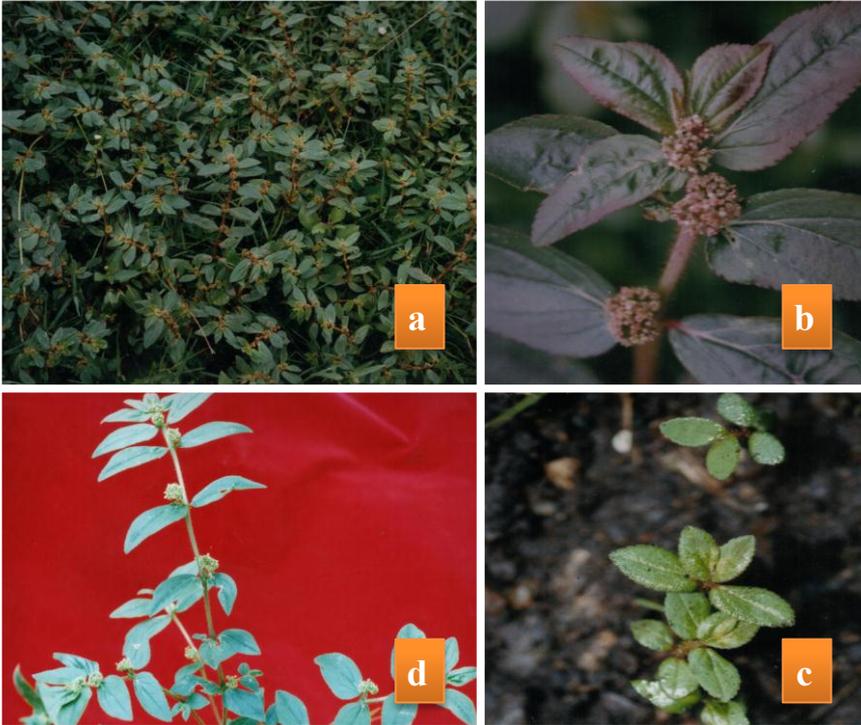
a. field condition

b. fruits

- Synonyms** : *E. geniculata* Ortega.
- Vernacular names** : Painted euphorbia (Eng.); Patikan emas (Indon.)
- Ecology** : Found in roadsides, waste places and fields, coffee plantations, and upland rice fields. Found in sunny to lightly shaded areas from 0 to 1500 m. alt.
- Distribution** : Throughout Sumatra.



EUPHORBIACEAE



Euphorbia hirta L.

a. field condition

b & d. adult plants

c. juvenile plants

Synonyms

: *E. pilulifera* L.; *Chamaesyce hirta* (L.) Millsp.

Vernacular Names

: Hairy spurge, Milk weed (Eng.); Gendong anak (Indon.).

Ecology

: Common on sunny to lightly shaded, not too moist, grassy sites along roads, premises, often between stones, also upland and *gogo rancah* rice fields. Flowers all the year around, with abundant seeds. High percentage of seeds germinate. Early colonizer of bare land.

Distribution

: Pantropical, partly subtropical. Introduced into Indonesia a long time ago, has since spread throughout Indonesia.



EUPHORBIACEAE



Phyllanthus niruri Auct. non L.

a. adult flowering plant b. fruits

Synonyms

: *Diasperus niruri* (L.), *P. debilis* Klein ex Willd.

Vernacular names

: Lagoon spurge, Niruri (Eng.); Meniran (Indon.)

Ecology

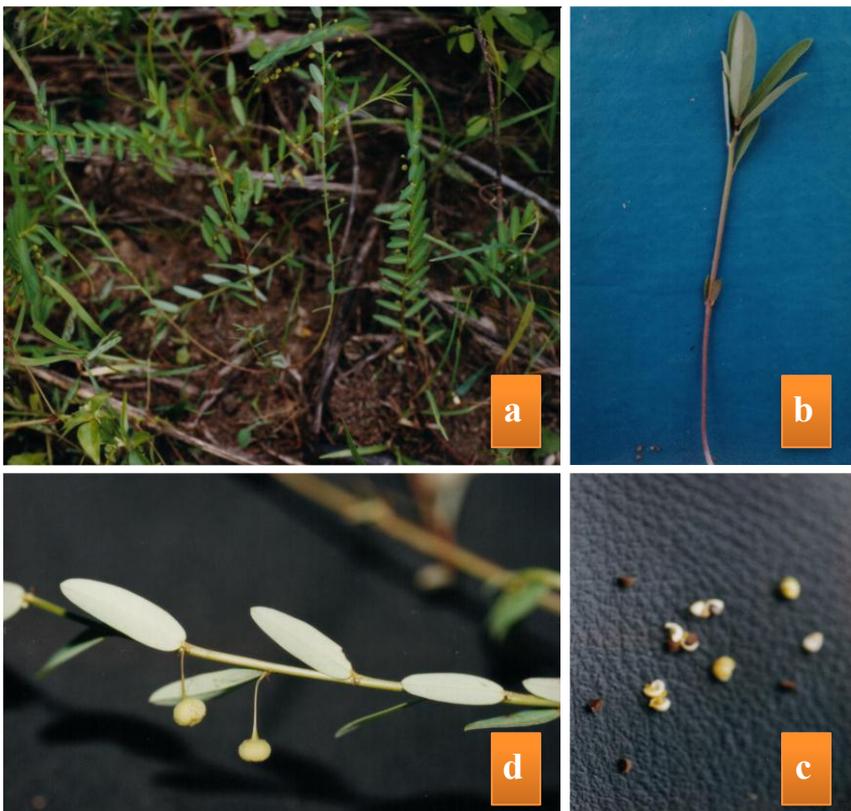
: In sunny or somewhat shaded, moist, preferably fertile soils in gardens and fields, along roadsides, grasslands, and upland and *gogo rancah* rice fields. Found from 0 to 2000 m alt. Locally abundant, but not forming vegetation.

Distribution

: Tropics of Asia, throughout Sumatra.



EUPHORBICEAE



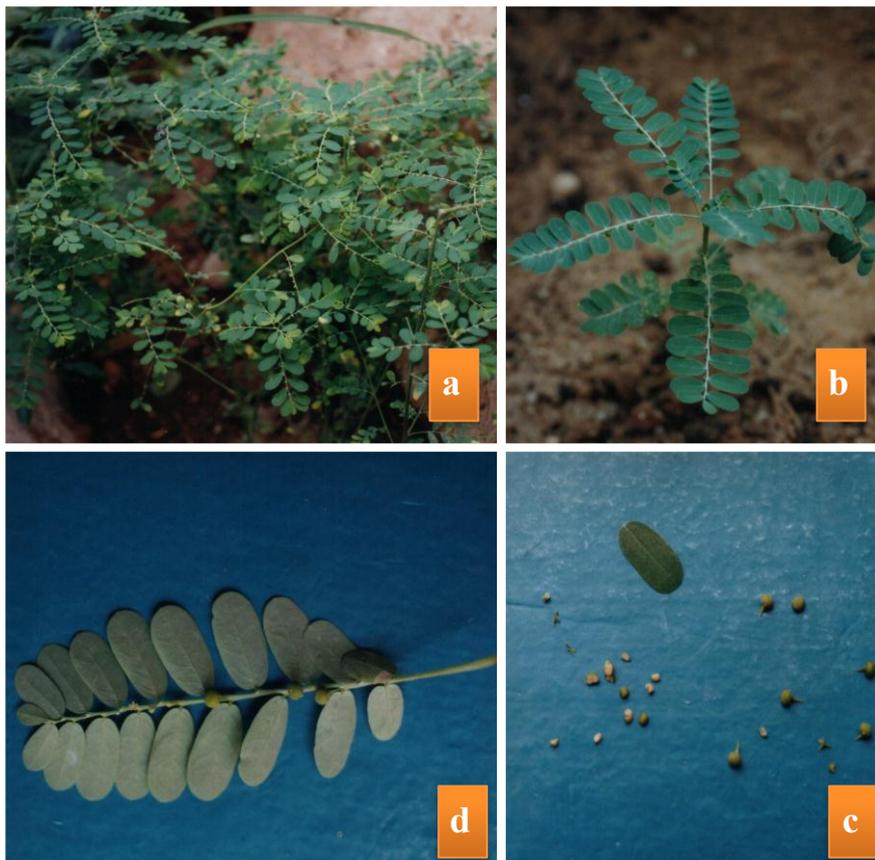
Phyllanthus virgatus G. Forst

a. field condition b. juvenile plant c. seeds d. fruits

- Synonyms** : *Diasperus virgatus* (G. Forst.) Kuntze, *P. simplex* Retz.
- Vernacular Names** : Seed underleaf (Eng.); Meniran (Indon.).
- Ecology** : The plant grows in region with a pronounced dry season, arable lands, grassy spots, from 0 to 750 m alt. It is commonly in upland fields.
- Distribution** : Tropics of Asia, throughout Indonesia.



EUPHORBIACEAE



Phyllanthus urinaria L.

a. field condition b. adult plant c. fruits d. leaf with fruits

- Synonyms** : *Diasperus urinaria* (L.) Kuntze, *P. cantonensis* Hornem.
- Vernacular names** : Chamber bitter, Shatter stone (Eng.); Meniran (Indon.).
- Ecology** : In sunny or somewhat shaded, moist, preferably fertile soils in gardens and fields, along roadsides, in grasslands and upland and *gogo rancah* rice fields. Found from 0 to 2000 m alt. Locally abundant, but not forming vegetation.
- Distribution** : Tropics of Asia. Throughout South Sumatra, Bengkulu, Jambi and Lampung.



FABACEAE



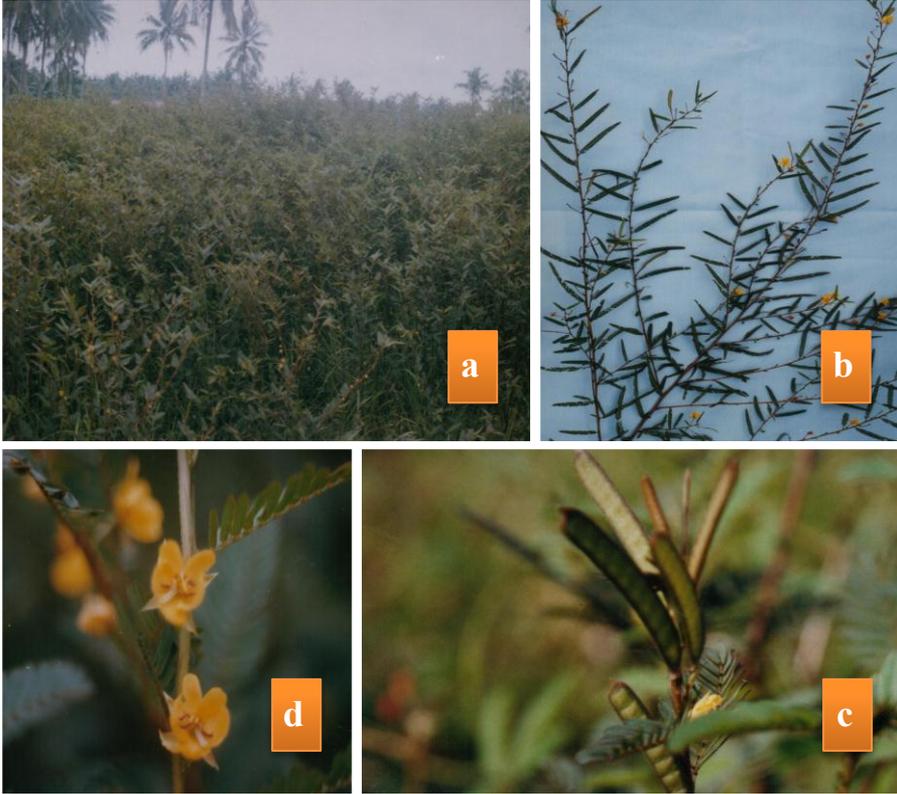
Aeschynomene indica L.

a. field condition b. pods c. flower

- Synonyms** : *A. aspera* (non L.) Hassk.
- Vernacular names** : Joint vetch (Eng.); Dinding, Gedeyan, Katisan, Lorotis (Indon.).
- Ecology** : On soggy or moist, sunny sites along the borders of ditches and pools, wet cultivated land, including *lebak* rice fields, and in regions with or without a pronounced dry season. Found from 0 to 1000 m alt.
- Distribution** : Pantropical, also in the subtropics, throughout Indonesia.



FABACEAE



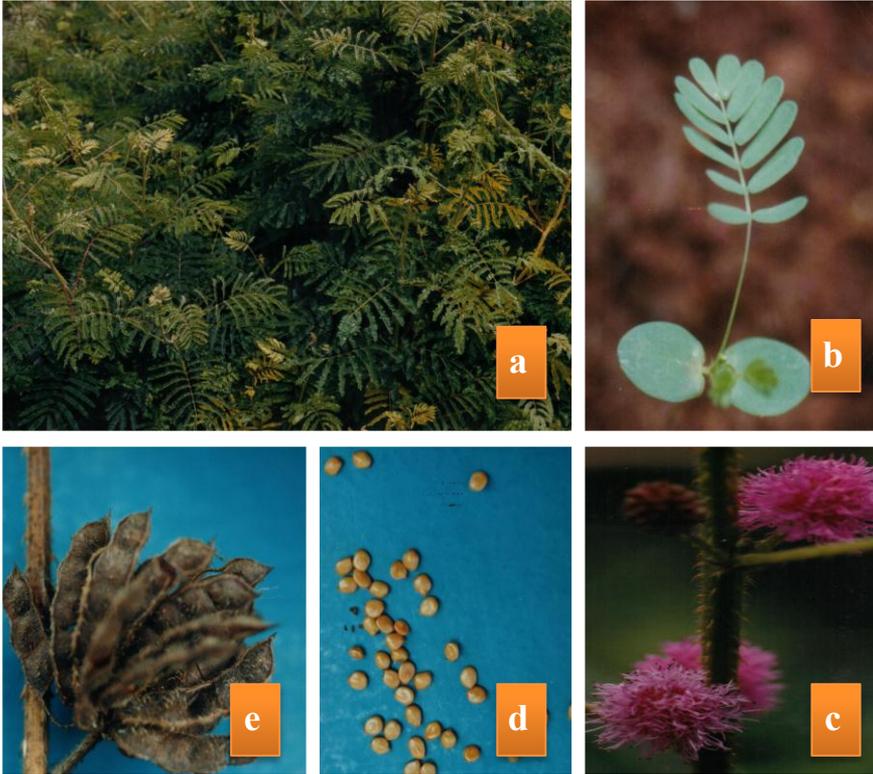
Cassia leschenaultiana DC.

a. field condition b. adult plant c. pods d. flowers

- Synonyms** : *C. mimosoides* ssp. *leschenaultiana* (DC.) Ohashi, *Chamaecrista leschenaultiana* (DC.) Degener
- Vernacular names** : Cassia, Sensitive partridge pea (Eng.); Kasia kuning, Kucingan wadon (Indon.).
- Ecology** : Grows in wastelands, along roadsides, in grasslands, and occasionally it invades arable lands and becomes a weed of perennial crops.
- Distribution** : Tropical and subtropical region.



FABACEAE



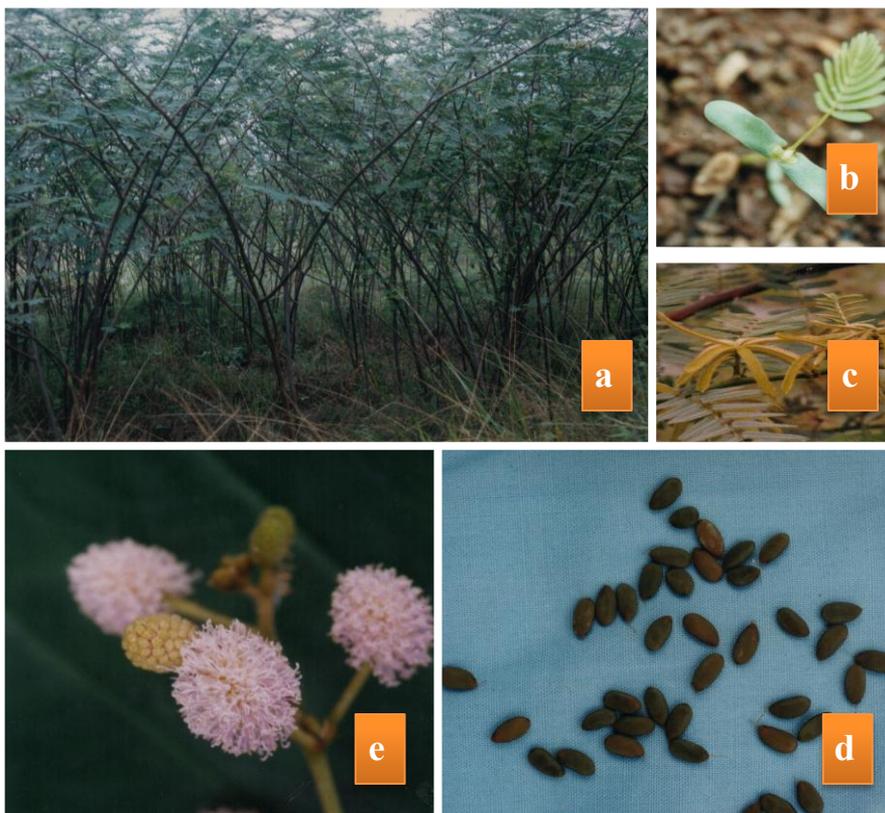
Mimosa invisa Mart. Ex Colla

a. field condition b. seedling c. flower d. seeds e. pods

- Synonyms** : *M. diplotricha*
- Vernacular Names** : Sensitive plant (Eng.); Borang, Kucingan, Rembete (Indon.).
- Ecology** : On light and heavy, moist, often poor soil, in sunny to lightly shaded sites, along drains and watercourses, in ravines, roadsides, also in coconut plantation, corn, and upland rice. Found from 0 to 2000 m alt. Seeds have long dormancy. Regarded as invasive weeds in pasture and filed crops.
- Distribution** : Native to South America, currently found hroughout the tropics



FABACEAE



Mimosa pigra L.

a. field condition b. seedling c. fruits d. seeds e. flowers

Synonyms

: *M. aserata* L., *M. pellita* L.

Vernacular names

: Giant sensitive plant (Eng.); Kucingan besar (Indon.).

Ecology

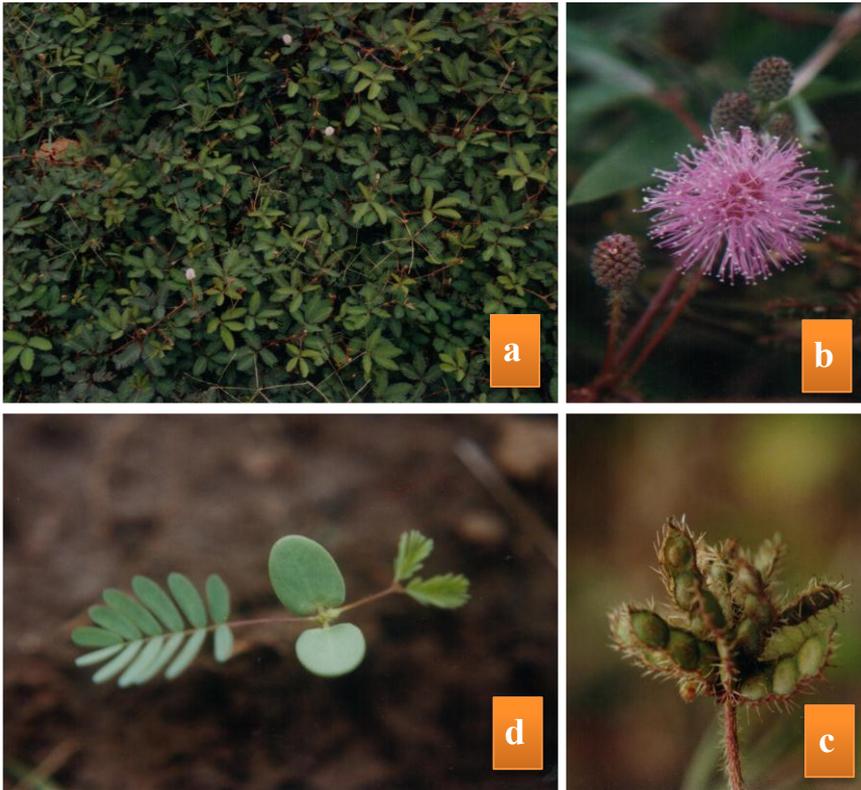
: The plant is a perennial shrub which can reach up to 6 m in height. Common either in lowland up to upland areas, roadsides, and ditchbanks. The root is a well developed taproot. Considered as invasive species and listed as one of the most invasive weeds.

Distribution

: Native to tropical America, now throughout tropic and subtropic regions of the world.



FABACEAE



Mimosa pudica L.

a. field condition b. flower c. fruits d. seedling

- Synonyms** : *M. hispidula* Kunth.
- Vernacular Names** : Common sensitive plant, Sleeping plant, Touch-me-not (Eng.); Kucingan, Putri malu, Sikejut (Indon.).
- Ecology** : A weed of pastures, roadsides, river banks, coconut plantation, and upland rice field in sunny to rather heavily shaded, usually moist places, from 0 to 1000 m alt. Flowers throughout the year. It is not considered to be threatening *Mimosa* specieses, commonly used as ornamental plant.
- Distribution** : Native to Central and South America, naturalized throughout the tropics. Commonly found throughout Indonesia.



FABACEAE



Vicia sativa L.

a. field condition b. adult plant c. fruits and flower d. flowers

- Synonyms** : *V. bacla* Moench.
- Vernacular names** : Common vetch, Garden vetch, Narrowleaf vetch, Vetch (Eng.); Lamtoro kecil (Indon.).
- Ecology** : The plant is an annual herb grows in perennial crop plantations, orchards, arable lands, and along roadsides. Commonly grown as green manure or livestock fodder.
- Distribution** : Tropical and temperate regions of the world.



FERN FAMILY - ADIANTACEAE



Adiantum latifolium Lam.

a. field condition

b. adult plant

c. leaf with spores

Synonyms

: *A. fovearum* Raddi; *A. lucidum* var. *bipinnatum* Mett. ex E. Fourn

Vernacular names

: Broadleaf maidenhair fern (Eng.); Pakis, Paku (Indon.).

Ecology

: The plant prefers humus-rich, moist, well-drained sites, from bottomland soil to vertical rock wall. Commonly used as ornamental plant.

Distribution

: Native to North America. Spread in tropical and subtropical regions of the world, including Australia, New Zealand, Thailand, and Indonesia.



FERN FAMILY - DENNSTAEDTIACEAE



Micropelia speluncae (L.) Moore

a. field condition

b. leaf of an adult plant

c. juvenile plant

Synonyms

: *M. hirta*

Vernacular names

: Limpleaf fern, Lace fern (Eng.); Paku payung, Pakis kurung (Indon.).

Ecology

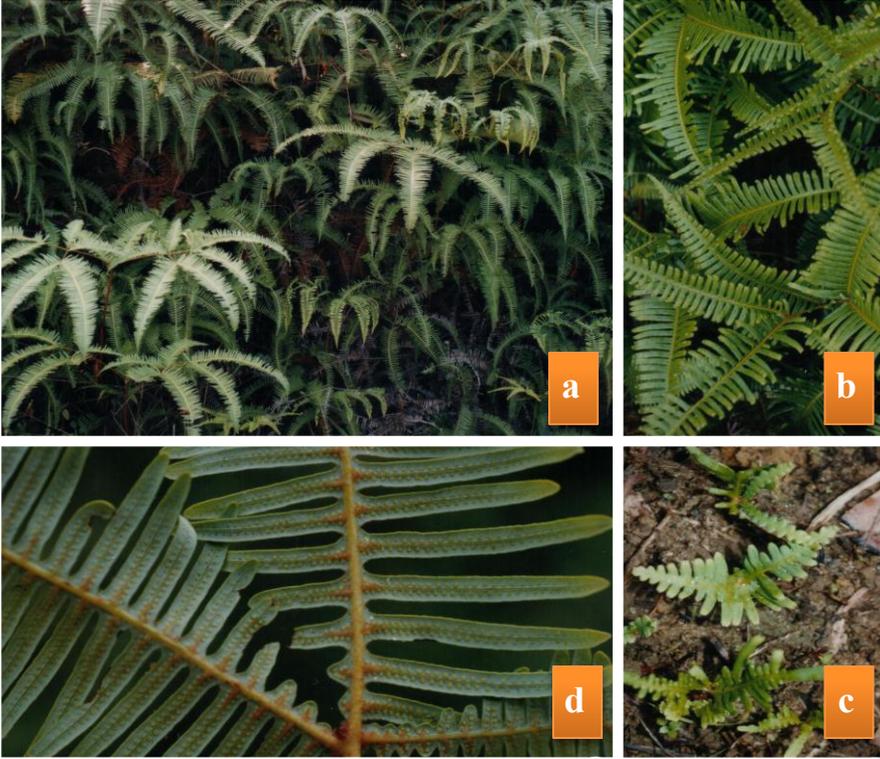
: Terrestrial fern in lowland and hill forest at 600-900 m alt., in established plantation area of perennial crops such as oil palm and rubber.

Distribution

: Tropical and subtropical regions of the world. Found in Hawaii, The Philippines, and Indonesia. Throughout Malaysia to Australia and the Pacific.



FERN FAMILY - GLEICHENIACEAE



Dicranopteris linearis (Burm.f) Und.

a. field condition b. adult plants c. juvenile plants d. leaf with spores

- Synonyms** : *Gleichenia linearis* Clarke.
- Vernacular names** : Forked fern (Eng.); Paku payung, Pakis kurung (Indon.).
- Ecology** : Common fern of well drained, yet moist hillside in both sun and shade areas, usually gregarious and forming a dense colonies that cover large area on secondary forest or plantations on low hillsides, slopy areas, and along roadsides.
- Distribution** : Tropical and subtropical regions of the world. Common and important fern of Hawaii.



FERN FAMILY - NEPHROLEPIDACEAE



Nephrolepis acutifolia (Desv.) Christ

a. leaf of an adult plant

b & c. leaf with spores

- Synonyms** : *Isoloma lanuginosa* J. Sm., *Lindsaea acutifolia*, *L. lanuginosa* (J. Sm.) Hook.,
- Vernacular names** : Australian sword, Creeping sword (Eng.); Baidik (Indon.).
- Ecology** : Grown in light shade at low altitudes, in hill forest and lower mountain forest. Found also in established plantation area of perennial crops such as oil palm and rubber.
- Distribution** : Pantropical, partially also in the subtropics regions of the world. From Africa, Madagascar, to South East Asia to Polynesia, also in Australia.



FERN FAMILY - PTERIDACEAE



Pteris biaurita L.

a & b. adult plants

c & d. leaf with spores

Synonyms

: *Campteria biaurita* (L.) Hook, *Litobrochia biaurita* (L.) J. Sm., *Pteris flavicaulis*, *P. repandula* Link.

Vernacular names

: Brake fern, Thinleaf brake fern (Eng.); Paku, Pakis (Indon.).

Ecology

: Lowland terrestrial species on mountain slopes in light shade or in lower mountain forest at altitude below 1400 m.

Distribution

: Throughout tropical regions of the world. Common in Singapore, Thailand, and Indonesia (Java, Sumatra, and Borneo Islands)



FERN FAMILY - SCHIZAEACEAE



Lygodium circinnatum (Burm. F.) Sw.

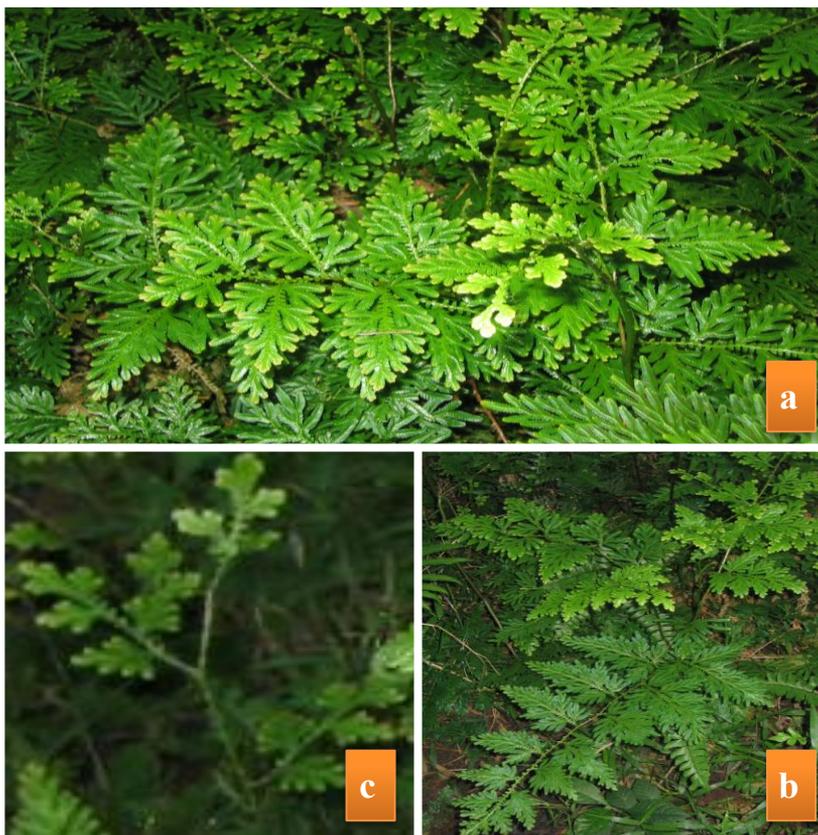
a. field condition

b. juvenile plant

- Synonyms** : *L. conforme* C. Chr., *L. basilanicum* Christ, *Hydroglossum dichotomum* (Cav.) Willd.
- Vernacular names** : Climbing fern (Eng.); Paku kawat (Indon.).
- Ecology** : Grown in light shade in tropical forest at low or medium altitude. Terrestrial climber in the lowland and hill forest, often in disturbed situations at 500-900 m alt. It is considered as problematic invasive weeds in plantations including pine and oil palm plantations.
- Distribution** : Native to tropical regions across the world. Throughout tropical Asia and Australia, across China, Sri Lanka, India, Thailand, Malaysia, and Indonesia.



FERN FAMILY - SELAGINELLACEAE



Selaginella pallescens (C. Presl) Spring

a. field condition b. adult plant c. juvenile plant

- Synonyms** : *Lycopodium pallescens* C. Presl., *L. cuspidatum* Link., *Selaginella cuspidata* Link, *S. emmeliana* Van Geert, *S. cordata* Klotzsch,
- Vernacular names** : Moss fern (Eng.); Paku moss (Indon.).
- Ecology** : The plant needs partial to full shade, well-drained rich soil and humid conditions. Forming an attractive groundcover in shady perennial crop plantations. *Selaginella* is actually neither a moss nor a fern, but a member of certain phylum of plants (Plant of the Week, 2014)
- Distribution** : Native to North and South America. Throughout tropical and subtropical regions of the world.



FERN FAMILY - THELYPTERIDACEAE



Christella dentata (Forssk.) Holttum

a. field condition

b. adult plant

c. leaf with spores

- Synonyms** : *Cyclosorus dentatus* (Forssk.) Ching, *Dryopteris dentata* (Forssk.) C. Chr.
- Vernacular names** : Downy maiden fern, Downy shield fern, Downy wood fern, Soft fern (Eng.); Paku (Indon.).
- Ecology** : Found on the margin of rain forest or in more open forest, along river stream, as well as in established perennial crop plantations, with adequate moisture.
- Distribution** : Native to the tropics, with tropical cosmopolitan distribution. Widespread in the tropical America, Africa, South East Asia, Australia, and new Zealand.



FERN FAMILY - THELYPTERIDACEAE



Pneumatopteris callosa (Blume) Nakai

a. field condition b. adult plant c. leaf with spores

Synonyms : *Aspidium callosum* Blume, *A. multijugum* Christ, *Cyclosorus callosa* (Bl.) Ching, *Dryopteris callosa* (Bl.) C. Chr.

Vernacular names : Air fern (Eng.); Paku, Pakis (Indon.).

Ecology : Terrestrial fern grown on high rainfall areas, on secondary forest or plantations areas, along roadsides.

Distribution : Throughout tropical Africa, Asia, Australia, Pacific Islands, and Hawaii, including Brunei, Malaysia, and Indonesia. Found in the island of Borneo, Java, Seram, Sumatera, and Sulawesi of Indonesia.



FERN FAMILY - WOODSIACEAE



Acystopteris irregularis (C. Presl) Holttm

a. field condition b. leaf with immature spores

c & d. leaf with mature spores

- Synonyms** : *Aspidium irregulare*, *Pleocnemia irregularis*, *Tectaria irregularis* (C. Presl) Copel
- Vernacular names** : Pakis sayur (Indon.).
- Ecology** : Grown in open places of light to dense forests at low to medium altitude, on rather dry slope. Very common in ridge slope.
- Distribution** : Throughout tropical and subtropical regions of the world, from Himalaya to Japan, Cambodia, Burma, Thailand, Singapore, and Indonesia.



LAMIACEAE



Hyptis capitata Jacq.

a. field condition b. adult flowering plant c. seeds e. fruits

- Synonyms** : *Clinopodium capitatum* (Jacq.) Sw., *Hyptis romboidea* M. Martens & Gablotti
- Vernacular names** : Knob weed (Eng.); Bodongan, Daun puseran, (Indon.).
- Ecology** : The plant grows in sunny or lightly shaded places, along ditches, in moist parts of secondary forest, roadsides, in upland fields, from 0 to 1300 m alt. Preferred disturbed areas and cultivated lands.
- Distribution** : Native to Central America, now spread throughout the tropics. Introduced in Java Island in the 1800s, then distributed throughout Indonesia.



LAMIACEAE



Hyptis brevipes Poit.

a. field condition b. adult plant c. seeds d. flowers

- Synonyms** : *H. acuta* Benth, *H. melanosticta* Griseb, *Mesosphaerum brevipes* (Poit.)
- Vernacular names** : Lesser round weed (Eng.); Genggeyan, Godong puser, Kaneja (Indon.).
- Ecology** : Weed of waste places, becoming abundant in fallow ground. Commonly found in forest margin, plantation crops, as well as rain-fed and upland rice fields. Becoming abundant in fallow ground. Grows well under wet climatic conditions, rare in seasonally dry areas; from 0-1200 m alt.
- Distribution** : Pantropical, naturalized in Indonesia, now spread throughout Indonesia.



LAMIACEAE



Hyptis suaveolens (L.) Poit.

a. field condition

b. flowers

- Synonyms** : *Ballota suaveolens* L.; *Bysteropogon graveolens* Blume, *B. suaveolens* (L.), *Hyptis graveolus* Schrank
- Vernacular names** : Bachelor button, Bitter mint, Chinese mint, Mint weed (Eng.); Ruku-ruku (Indon.).
- Ecology** : An annual herb grows in sunny areas along roadsides, forest border, wastelands, fallow fields, orchards, pastures, and upland fields. A harmful weed in palm orchards and perennial crops. Known to have medicinal properties.
- Distribution** : The plant is native to tropical Central and South America which became widely naturalized in the wetter tropical regions of the world.



LAMIACEAE



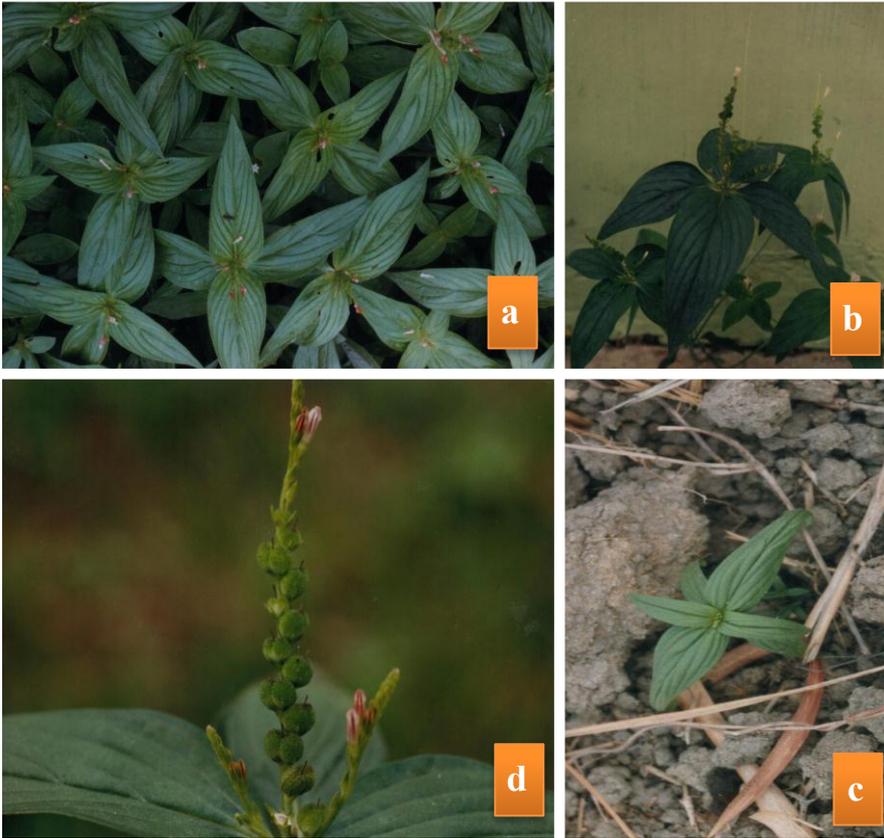
Leucas lavandulifolia Sm.

a. field condition b. juvenile plant c. fruits d. flowers

- Synonyms** : *L. linifolia* (Roth) Spreng, *L. malabarica* W. Theob, *Hetrepta lavandulifolia* (Sm.) Raf.
- Vernacular names** : Leucas (Eng.); Lenglangan, Paci-paci (Indon.).
- Ecology** : Very common in open or waste areas with a pronounced dry season, and also in areas with a short dry period, on grassy sites, roadsides, fallow and neglected arable lands, often very numerous, at low to medium altitude from 0 to 1500 m. Known to have medicinal properties.
- Distribution** : Throughout Indonesia. Distributed throughout Southern China, India, Malaysia, The Philippines, and Fiji.



LOGANIACEAE



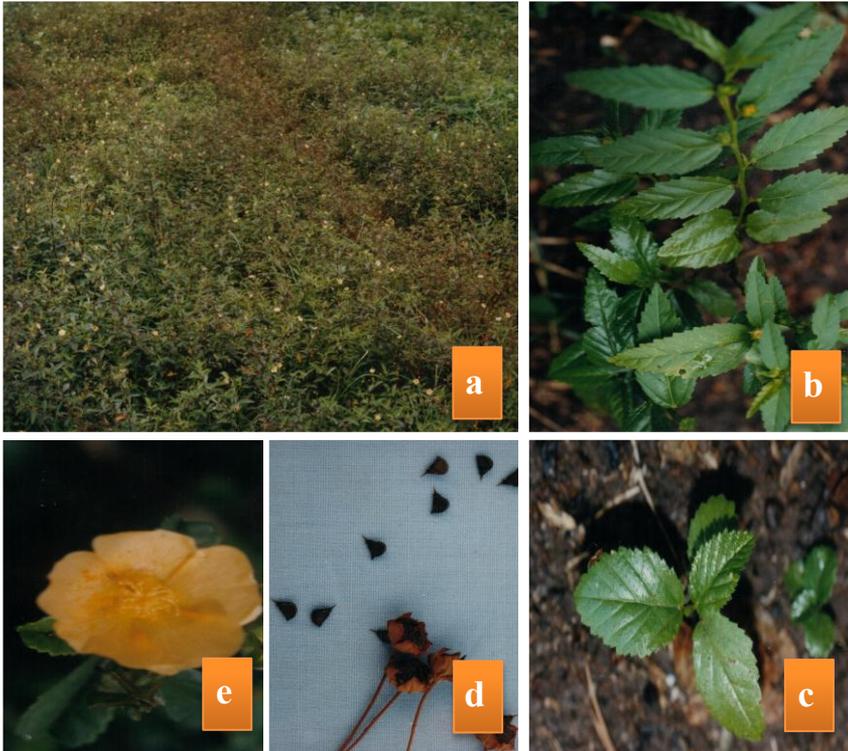
Spigelia anthelmia L.

a. field condition b. adult plant c. juvenile plant d. flowers & fruits

- Synonyms** : *Anthelmia quadriphylla*; *Spigelia abyssineca* Walp.
- Vernacular names** : Indian pink, Pink root, Worm bush, Worm grain, Worm grass, Worm weed (Eng.); Platikan, Mrican (Indon.).
- Ecology** : Common weed of abandoned farm lands, deciduous forest and semi savannah. Found along riverbanks, arable lands, upland rice fields, gardens, roadsides, and waste places; up to 600 m alt. Known to have medicinal properties.
- Distribution** : Native to the West Indies and South America, naturalized in tropical West Africa, spread throughout Indonesia and Malaysia.



MALVACEAE



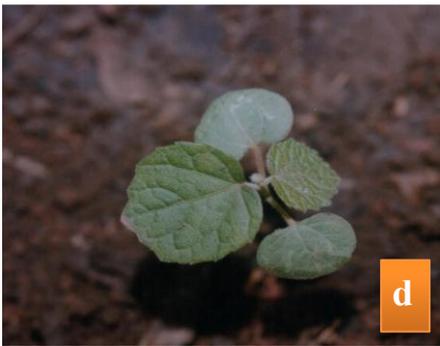
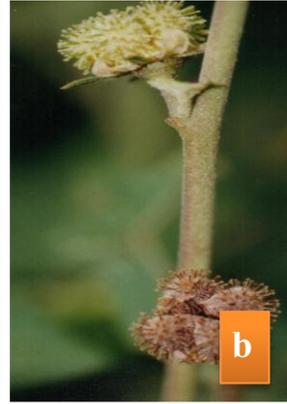
Sida rhombifolia L.

- a. field condition b. adult plant c. juvenile plant d. seeds
e. flower

- Synonyms** : *Malva rhombifolia*, *Sida retusa* Auct. non L.
Vernacular names : Arrowleaf sida, Common sida, Paddy's lucerne (Eng.); Guri, Sidagori (Indon.).
Ecology : In sunny or lightly shaded, not too moist sites, preferably grasslands, also roadsides, lawns, waste ground, coconut plantation, and upland and *gogo ranch* rice fields, from 0 to 2100 m alt. Known to have medicinal properties.
Distribution : Native and distributed throughout the tropics and subtropics. Widespread in Indonesia and Australia.



MALVACEAE



Urena lobata L

a. field condition b. fruits c. flower d. juvenile plant

- Synonyms** : *U. americana* Lf., *U. grandiflora* D.C., *U. sinuata* Swartz. Non L.; *U. tomentosa* Wall. Non Blume, *U. trilobata* Vell.
- Vernacular names** : Bur mallow, Cadillo, Caesar weed, Congo jute (Eng.); Pulutan (Indon.).
- Ecology** : Commonly grows in open places, along roadsides, wastelands, and occasionally invades agricultural land at low to medium altitude. This weed now becomes a harmful weed in the young oil palm plantation. Known to have medicinal properties.
- Distribution** : Native to Asia, but now widely distributed in the tropical and subtropical regions of the world.



MELASTOMATACEAE



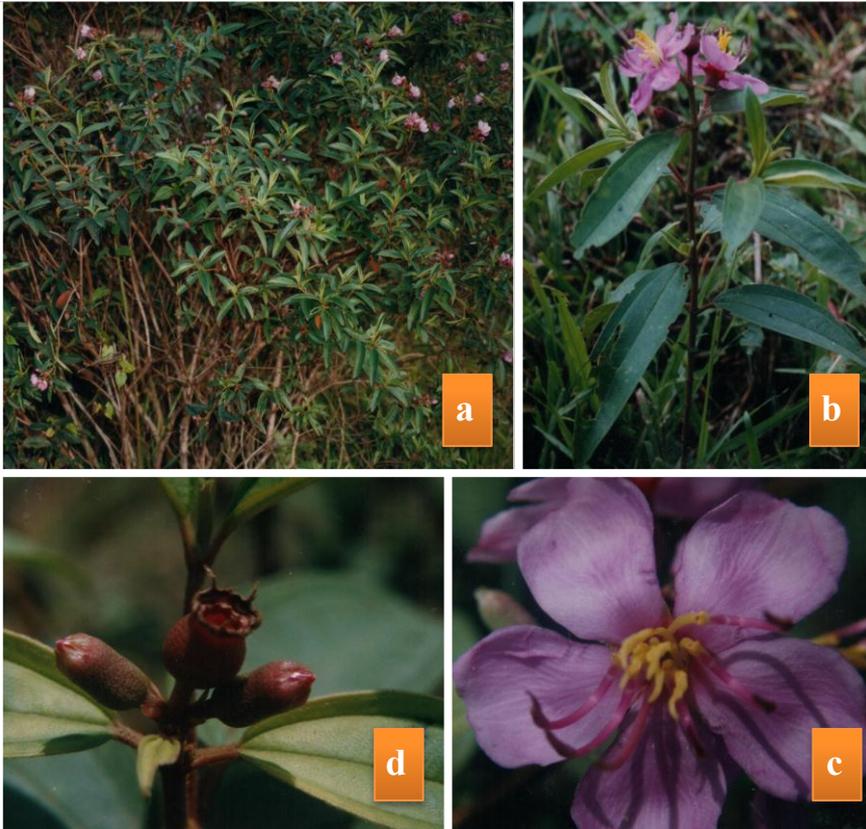
Clidemia hirta (L.) D. Don

- a. field condition b. adult plant c. juvenile plant d. fruits
e. flowers

- Synonyms** : *C. crenata* D.C., *Melastoma elegans* Aublet, *M. hirsatum* L., *M. hirta* L.
- Vernacular Names** : Clidemia, Koster's curse, Soap bush (Eng.); Akar kala, Harendong (Indon.).
- Ecology** : Perennial plant grows on secondary forest, rubber, and coffee plantations with poor weed management and low solar energy come to those areas, from lower altitude up to 2000 m alt. Invasive species in many tropical regions of the world.
- Distribution** : Originally from America neo tropic. Pantropical, partly subtropical areas, from East Africa, India, Sri Lanka, South East Asia, Australia, and Hawaii.



MELASTOMATACEAE



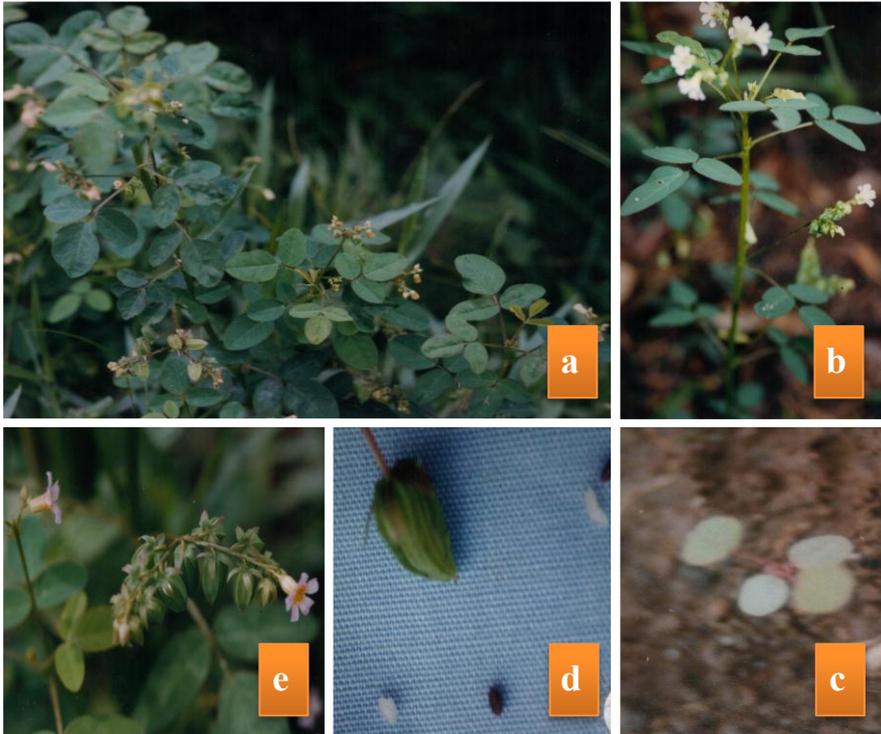
Melastoma affine D. Don

a. field condition b. adult plant c. flower d. fruits

- Synonyms** : *M. candidum* D. Don., *M. malabathricum* L.; *M. polyanthum* Blume, *M. normale* D. Don.
- Vernacular names** : Banks melastoma, Blue tongue, Malabar melastoma, Melastoma (Eng.); Harendong, Senggani, Senduduk (Indon.).
- Ecology** : Common under shaded rubber and oilpalm plantations, upland and tidal rice fields in *Imperata* fields and other grassy areas, rain forest margin, disturbed rain forest, and secondary forests. In some places this species forming pure stands. From 0 up to 2100 m alt.
- Distribution** : Tropical Asia, throughout India, South East Asia, including Indonesia, and Australia.



OXALIDACEAE



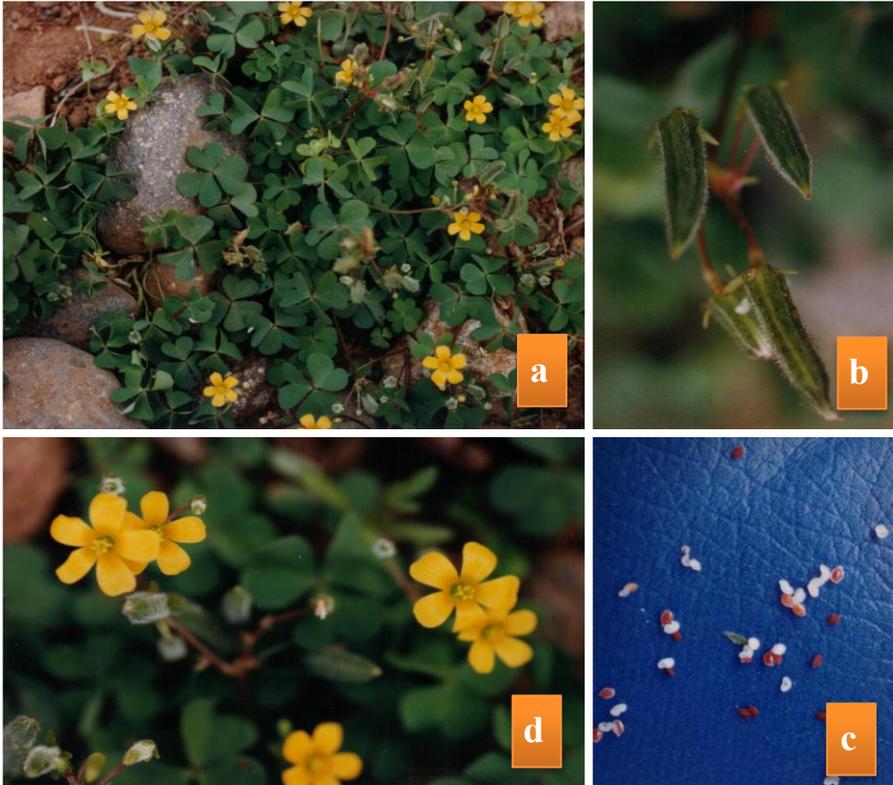
***Oxalis barrelieri* L.**

a. field condition b. adult plant c. seedling d. fruit
e. flowers & fruits

- Synonyms** : *O. bahiensis*, *O. sepium* var. *picta*
- Vernacular Names** : Barrelier, Lavender sorrel, Wood sorrel (Eng.); Belimbing, Calincing (Indon.).
- Ecology** : Found around gardens, roads, and rivers, in hedges, fields, village groves, grassy shaded places; from 0 to 1500 m alt. Also found in upland rice fields.
- Distribution** : Native to West Indies and Central and South America, cultivated and naturalized in many tropical countries. In Indonesia first found near Bogor, West Java, nowadays spread in Sumatra, Java, and Irian Jaya.



OXALIDACEAE



Oxalis corniculata L

a. field condition b. fruits c. seeds d. flowers

- Synonyms** : *O. javanica* Bl.; *O. pusilla* Salisb., *O. repens* Thunb., *O. villosa* M. Bieb, *Xanthoxalis corniculata* (L.) Small.
- Vernacular names** : Creeping oxalis, Creeping wood sorrel, Procumbent yellow sorrel, Yellow sorrel (Eng.); Calincing, Semanggi gunung (Indon.).
- Ecology** : This perennial herb grows everywhere, in agricultural fields, along roadsides, in gardens and lawns.
- Distribution** : Cosmopolitan distribution from the tropical to subtropical regions of the world.



OXALIDACEAE



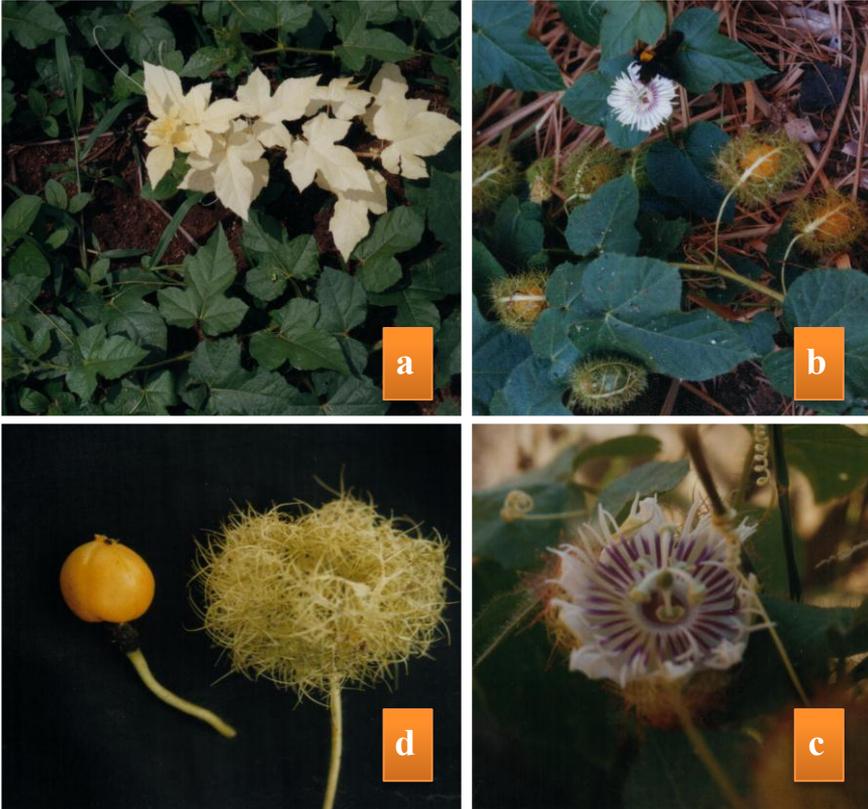
Oxalis latifolia Kunth

a. field condition b. flowers

- Synonyms** : *Ionoxalis martiana* (Zucc.) Small, *I. vallicola* Rose, *Oxalis martiana* Zucc., *O. vallicola* (Rose) R. Kunth
- Vernacular names** : Broadleaf sorrel, Pink garden sorrel, Wood sorrel (Eng.); Semanggi (Indon).
- Ecology** : Grows in perennial crop fields and agriculture areas, along roadsides, wetland, and disturbed sites. It is shade-tolerant but grows also in sunny areas.
- Distribution** : Native to America, now found worldwide in tropical regions and became invasive in some tropical areas including Australia and Indonesia.



PASSIFLORACEAE



Passiflora foetida L.

a. field condition b. adult plant c. flower d. fruit

- Synonyms** : *Decaloba obscura* (Lindl.) M. Roem, *Dysosmia foetida* M. Roem, *D. hastata* M. Roem, *P. balansae* Lodd, *P. baraquiniana* Lem., *P. hirsuta* Lodd
- Vernacular names** : Climbing vine, Love-in-a-mist, Redfruit passion flower, Stinking passion flower, Wild water lemon (Eng.); Ceplukan blungsun, Pacea, Sentiet (Indon.).
- Ecology** : In wet areas or in areas with a pronounced dry season, in hedges, wastelands, roadsides, sugar cane plantation, and also common at annual upland crops. From 0 to 1000 m alt.
- Distribution** : Pantropical. Native to South America, now spread throughout South East Asia and Hawaii, including Indonesia.



PIPERACEAE



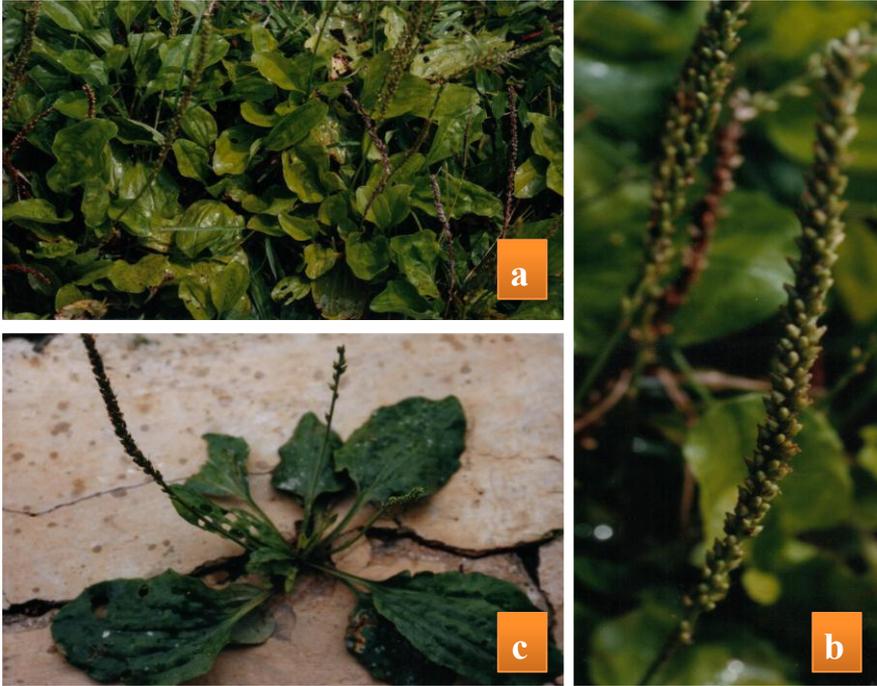
Peperomia pellucida (L.) Kunth.

a. adult plant b. field condition c. inflorescence

- Synonyms** : *Micropiper pellucidum* (L.) Miq., *Peperomia concinna* Haw., *P. translucens* Trel, *P. gemella* Miq.; *Piper concinnum* Haw., *P. pellucidum* L.; *P. exigua* Miq.
- Vernacular names** : Clear weed, Pepper elder, Shining bush, Silver bush (Eng.); Sirihan, Suruhan (Indon.).
- Ecology** : Annual plant that grows well in shady, wet and fertile areas in gardens, nurseries, upland and perennial crop fields and occasionally it becomes weed of upland crops. Known to have medicinal properties.
- Distribution** : Native to tropical America and become widely naturalized in the tropical regions of the world., especially in Asia and America.



PLANTAGINACEAE



Plantago major L.

a. field condition

b. inflorescence

c. adult plant

- Synonyms** : *P. asiatica* Linn., *P. crenata* Blanco; *P. detressa* Willd, *P. erosa* Wall; *P. halophile*, *P. lanceolata*, *P. media* Blanco.
- Vernacular names** : Broadleaved plantain, Common plantain, Great plantain, Whiteman's foot (Eng.); Daun urat, Greges otot, Kiurat (Indon.).
- Ecology** : Grows in sunny grasslands, wastelands, and farm roads. It tolerates hard soil, often observed at high elevations and sometimes becomes a problem weed in agricultural lands and various areas of temperate regions.
- Distribution** : Native to Europe but became naturalized in the tropical regions. Throughout Indonesia.



PLUMBAGINACEAE



Plumbago zeylanica L.

a. field condition b. fruits c. seeds d. flowers

- Synonyms** : *P. auriculata* L., *P. scandens* L.
- Vernacular names** : Ceylon leadwort, Doctor bush, White leadwort, White plumbago (Eng.); Daun encok, Godong encok, Poksor, Tapak dara (Indon.).
- Ecology** : The plant grows in sunny or slightly shady areas in vacant or wastelands and is occasionally cultivated. Known to have medicinal properties.
- Distribution** : Pantropical distribution, from tropical Africa, India, and South Asia.



POACEAE



Andropogon chinensis (Nees) Merr.

a & b. field condition

c. adult plants

d. inflorescence

Synonyms

: *A. ascinodis* C.B. Clarke, *A. patris*

Vernacular names

: Bluestem grass (Eng.); Rumput glagahan (Indon.).

Ecology

: This perennial grass grows on slopes, in wastelands, and fallow fields at high elevations and occasionally becomes a weed in reclaimed lands.

Distribution

: Distributed throughout tropical regions, from South Africa to Asia, including China, Indo-China, South East Asia. Throughout Indonesia.



POACEAE



Axonopus compressus (SW.) Beauv

a. field condition b. adult plant c. inflorescence d. juvenile plants

- synonyms** : *Anastrophus compressus* (SW.) Schlechtend.; *Panicum platycaulon* (Poir.) O.K.; *Paspalum compressum* (SW.) Raspail; *P. platycaulon* Poir.
- vernacular names** : Blanket grass, Carpet grass, Savannah grass (Eng.); Pahitan (Indon.).
- ecology** : The plant grows in either everwet or in area with a pronounced dry season, in sunny to shaded, somewhat moist sites, but not in soggy places, in lawn, grassy roadsides, rubber, coconut and other perennial plantations. The plant is usually forming a dense mat-like cover.
- distribution** : Tropical and sub tropical regions of the world



POACEAE



Brachiaria distachya (Linn.) Stapf

a. field condition

b. adult plant

- Synonyms** : *B. milliformis* (Presl.) Chase.; *B. subquadripara* (Trin.) Hitchc.; *Panicum distachyum* (non L.) Back.
- Vernacular names** : Small-flowered alexander grass (Eng.); Blabahan, Gajihan, Suket manggala batu (Indon).
- Ecology** : The plant grows on slightly to rather deeply shaded sites, but also on sunny areas, along roadsides, under hedges, in the secondary forests, and plantations.
- Distribution** : Tropical region.



POACEAE



Centotheca lappacea (L.) Desv.

a. adult plant

b. inflorescence

- Synonyms** : *C. latifolia* Trin., *C. longilumina* Ohwi, *Cenchrus lappaceus* L. Sp. Pl.
- Vernacular names** : Jukut kidang, Rumput lilit kain, Suket lorodan (Indon.).
- Ecology** : Grows on slightly shaded sites, moist or slightly dry areas, in forest margin, commonly becomes weed on rubber and oil palm plantations.
- Distribution** : Tropical region around the world, from West Africa to the Pacific. Throughout Indonesia.



POACEAE



Cenchrus echinatus L.

a. field condition b. inflorescence c. seeds

- Synonyms** : *C. pungens* H.B.K.; *C. brevisetus* Fourn.; *C. viridis* Spreng.; *C. quinquevalis* Ham. Ex Wall.
- Vernacular names** : Southern sandbur (Eng.); Kakawitan (Indon.).
- Ecology** : The plant is occasionally observed around harbors, grows well in relatively dry soil and become a weed of upland crops, fruit trees and plantation crops, and also along roadsides.
- Distribution** : The plant is native to Central America and it became naturalized in the tropical and subtropical regions of the world, throughout Sumatra Island of Indonesia.



POACEAE



Chloris barbata Sw.

a. field condition b. seeds c. adult flowering plant d. inflorescence

- Synonyms** : *Andropogon barbatus* Lin.; *Chloris inflata* Link.; *C. longifolia* Steud.; *C. rufescens* Steud.
- Vernacular names** : Peacock-plume grass, Plush grass, Swollen-finger grass, (Eng.); Korosan (Indon.).
- Ecology** : An annual grass commonly grows in sunny areas along roadsides, in wastelands, grasslands, upland and perennial crop fields.
- Distribution** : Native to tropical America, introduced and naturalized in the tropical to the southern temperate regions of the world.



POACEAE



Chrysopogon aciculatus (retz.) Trin.

a. field condition b. adult plant c. inflorescence d. spikelet

- Synonyms** : *Andropogon aciculatus*
- Vernacular names** : Grass seed, Lesser spear grass, Love grass, Mackie's pest, Needle grass, Pilipiliula (Eng.); Rumpit jarum (Indon.).
- Ecology** : Extremely common grass in pasture, grows on sunny areas, along roadsides, soccer fields, hedges, in secondary forests, and also slightly open plantations, at low altitude. Considered as invasive species in many areas.
- Distribution** : Native to the tropics of Asia, Polonesia, and Australia. Throughout Indonesia.



POACEAE



Cynodon dactylon (L.) Pers.

a. field condition b. adult plants c. seeds d. inflorescence

- Synonyms** : *C. stellatus* Willd; *C. arcuatus* Pres.; *C. parviglumis* Ohwi; *Capriola dactylon* (L.) O.K.
- Vernacular names** : Bermuda grass, Carpet grass, Couch grass (Eng.); Grintingan, Rumput kawatan (Indon.).
- Ecology** : Sunny to lightly shaded, dry or moist (not marshy) sites, also on hard soils, fallow lands, along roadsides, grasslands, *gogo rancah* and lebak rice fields, up to 2100 m alt. Prefers medium to heavy soils, grows on alkaline and acidic soils, survives floods and droughts.
- Distribution** : Pantropical and subtropical, throughout Sumatra Island of Indonesia.



POACEAE



Cyrtococcum acrescens (Trin.) Stapf.

a. field condition

b. adult flowering plants

- Synonyms** : *C. patens*, *Panicum acrescens*, *Panicum patens*
- Vernacular names** : Bow grass (Eng.); Empritran, Kretekan, Rumput telur ikan (Indon.).
- Ecology** : The plant grows on fertile soil, slightly moist, shaded areas. Common in plantation such as rubber, oil palm, coffee, or cacao, in secondary forest, from 0 to 1300 m alt.
- Distribution** : Pantropical, from India to the Pacific, throughout Sumatra Island of Indonesia.



POACEAE



Cyrtococcum oxyphyllum (Hochst. ex Steud.) Stapf

a. field condition

b. inflorescence

- Synonyms** : *Panicum hermaphroditum* Steud, *P. oxyphyllum* Hochst. ex Steud; *P. pilipes* Nees & Arn. ex Buse.
- Vernacular names** : Shining panic grass (Eng.); Kretekan, Rumput kretekan (Indon.).
- Ecology** : The plant grows on slightly moist soil, tolerant to shady area, in rainforest, swamp forest, from 0 to 1300 m alt. Commonly grows under rubber and oil palm plantations.
- Distribution** : Throughout South East Asia countries. Common in South Sumatra, Lampung, Jambi, and Bengkulu Provinces in Indonesia



POACEAE



Dactyloctenium aegyptium (L.) Richt.

a. field condition b. adult plant c. seeds d. inflorescence

- Synonyms** : *D. aegyptiacum* Willd.; *Eleusine aegyptia* (L.) Desf.; *Cynosurus aegyptius* L.
- Vernacular names** : Beach wire grass (Eng.); Katelan, Rumput dringoan, Tapak jalak (Indon.)
- Ecology** : Found in arable lands and waste places, prefers light sandy soils in open sunny places, dry or somewhat moist. Locally often abundant, up to 1000 m alt. Common at annual upland crops.
- Distribution** : Pantropical, some extensions in the subtropics. Throughout Sumatra Island of Indonesia.



POACEAE



Digitaria ciliaris (Retz.) Koel.

a. field condition

b. adult plant

Synonyms

: *D. adscendens* Henr.; *D. fimbriata* Link; *Panicum adscendens* H.B.K.; *Paspalum ciliare* DC.

Vernacular names

: Crab grass, Summer grass (Eng.); Jalamparan, Suket cakar ayam (Indon).

Ecology

: Found in waste places, often on sand also along beaches, on dunes, in lawns, plantations, disturbed lands, and upland rice fields, up to 2000 m alt.

Distribution

: Native to the tropical regions. Widespread distribution in cultivated areas in the tropics as well as subtropics.



POACEAE



Echinochloa colonum (L.) Link

a. field condition b. seeds c. juvenile plant d. inflorescence

- Synonyms** : *E. crus-galli* (L) Beauv. ssp. *colonum* Honda; *Oplismenus colonum* (L.) H.B.K.; *Panicum colonum* L.; *Milium colonum* (L) Moench.
- Vernacular names** : Corn panic grass, Jungle rice, Little barnyard grass (Eng.); Jajagoan, Tuton (Indon.).
- Ecology** : In sunny or lightly shaded places, moist or soggy but not long-inundated soils, along drains. When the soil desiccates, it persists in moister places, often abundant. Up to 3000 m alt. Common problem in rice fields and sugar cane plantation. Regarded as invasive species.
- Distribution** : Cosmopolitan distribution. Found in Africa, China, Japan, South East Asia, Hawaii, as well as West and South U.S., Central and South America. Very common throughout Indonesia.



POACEAE



Eleusine indica (L.) Gaertn.

a. field condition b. adult plant c. juvenile plant d. inflorescence

- Synonyms** : *Chloris repens* Steud., *Cynosorus indicus* L.; *Cynodon indicus* (Gaertn.) Raspail, *Eleusine japonicum* Steud, *E. polydactyla* Steud.
- Vernacular names** : Crowfoot grass, Goose grass, Indian goose grass, Wire grass, (Eng.); Rumpul belulangan (Indon.).
- Ecology** : On sunny or lightly shaded, not too dry sites, along irrigation field borders and canals, along roadsides, in gardens, arable lands of many crops. Adapted to a broad ecological altitude, from behind the sea shore to 2000 m alt. Invasive in some areas.
- Distribution** : Pantropical and subtropics distribution. Found from South and East U.S., Central America, West Africa, South China, South East Asia, and Hawaii. Throughout Indonesia.



POACEAE



Eragrostis tenella (L.) Beauv. ex R.&S.

a. adult plant

b. inflorescence

- Synonyms** : *E. amabilis* (L.) Wight & Arn. Ex Hook. Et Arn; *E. plumosa* (L.) Link; *Poa tenella* L.
- Vernacular names** : Japanese love grass (Eng.); Empritran, Karukuan, Pekingan (Indon.).
- Ecology** : Annual grass common in lawns, waste places, hard trampled grounds, between stones, on old walls, beach dikes, on permeable and impermeable soils, usually in areas with a pronounced dry season; sometimes becoming very abundant up to 900 m alt. Regarded as invasive species.
- Distribution** : Native to tropical Asia. Introduced and widely distributed throughout tropical areas of Africa, Amerika, and Asia. Commonly found throughout Indonesia.



POACEAE



Imperata cylindrica L. Beauw

a & b. field condition c & d. flower e. rhizomes and new growth

- Synonyms** : *I. arundinacea* Cyr., *I. cylindricus* L.
- Vernacular names** : Cogon grass, Cotton wool grass, Silver spike grass, Sword grass (Eng.); Alang-alang, Ilalang (Indon.).
- Ecology** : A colonizer of disturbed land, often dominant. Sunny to lightly shaded, dry to slightly moist sites, along roadsides, railways, abandoned farm land, and pine and harwood forest. Very common weed of annual crops, in plantations, upland rice fields up to 3000 m alt. Prolific seed producer, up to 3000 seeds per plant.
- Distribution** : Pantropical distribution. Naturalized and widespread in the humid tropics, limited distribution in warm temperate regions. Throughout Indonesia.



POACEAE



Oplismenus compositus (L.) Beauv.

a. field condition b. adult plants c & d. inflorescence

- Synonyms** : *Panicum compositum* L.
- Vernacular names** : Awned panic grass, Running mountain grass (Eng.); Jampang kerincing, Suket rayapan (Indon.).
- Ecology** : A perennial weed grows in rubber, coffee, and oil palm plantation especially at low weed management or old plantation, forest hill and forest floor. Grows on light soils, low moisture, and shaded areas, commonly together with *Paspalum conjugatum* and *Axonopus compressus*. Found from 0 to 2200 m alt.
- Distribution** : Throughout tropical regions, throughout Sumatra Island of Indonesia.



POACEAE



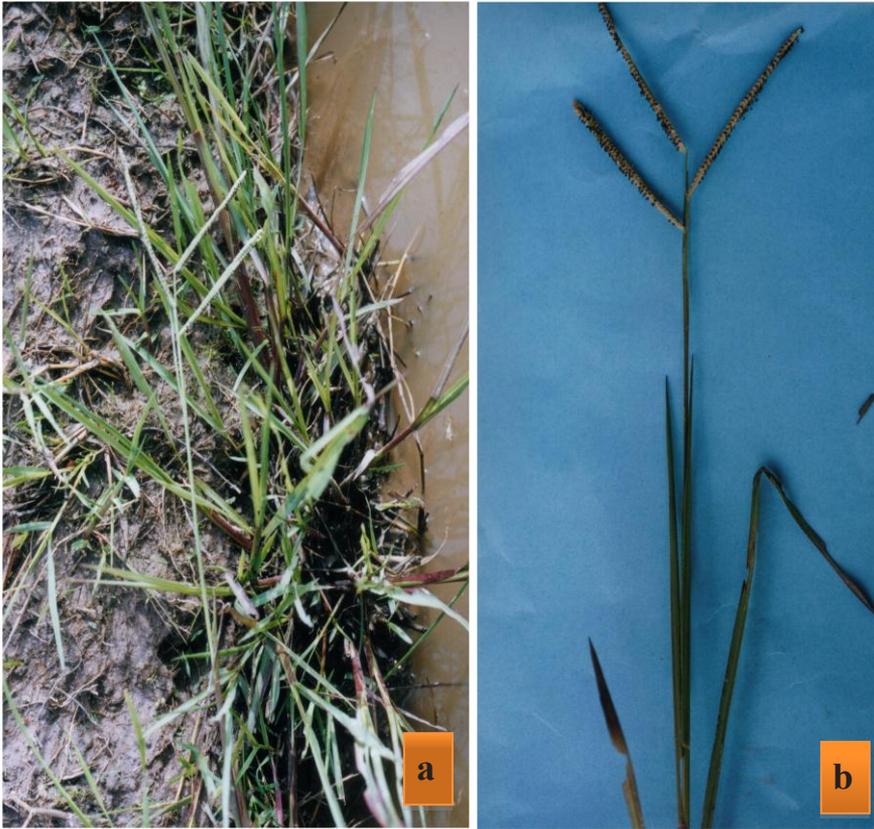
Panicum maximum Jacq.

a. field condition b. adult plant c. seeds d. inflorescence

- Synonyms** : *P. polygamum* Sw.; *P. laeve* Lank.; *P. heynii* Roth; *P. sparsum* Schumach.; *P. pamplermoussense* Steud.
- Vernacular names** : Guinea grass (Eng); Kerunong padi, Suket balungan (Indon).
- Ecology** : This highly palatable perennial grass is cultivated for forage and hay and sometimes it escapes to become a weed. Adapted to various conditions, but grows well in shaded, damp areas under trees and along rivers.
- Distribution** : Originated from Africa, but now found and cultivated in almost all tropical regions as well as in the temperate regions around the world.



POACEAE



Paspalum commersonii Lamk.

a. field condition

b. adult flowering plant

- Synonyms** : *P. auriculatum* Presl.; *P. dissectum* var. *grande* Nees; *P. orbiculare* Forst., *P. polystachyum* R. Br., *P. scrobiculatum* L.
- Vernacular names** : Koda grass (Eng.); Genjaran, Rumput belang (Indon.).
- Ecology** : This perennial grass is found in wet open areas, along ditches, roadsides, in cultivated areas, including upland annual crops, plantation crops, and tidal rice field. Found up to 1800 m alt.
- Distribution** : Pantropical, found in Africa, Asia, Australia, and in the U. S. Throughout Indonesia.



POACEAE



Paspalum conjugatum Berg.

a. field condition b. adult plant c. juvenile plant d. inflorescence

- Synonyms** : *P. africanum* Poir., *P. ciliatum* Lam.,
P. longissimum Hoch. ex Steud., *P. tenue* Gaert.
- Vernacular names** : Buffalo grass, Hilo grass, Sour grass, Sour crown grass
(Eng.); Jampang pahit, Pahitan, Rumput pahit, Rumput
canggih (Indon.).
- Ecology** : This annual plant grows on various habitats, from
slightly shaded to sunny areas, in everwet areas,
roadsides, under hedges, in secondary forests and
plantations. Often abundant and forming dense masses,
which suppress seedlings of other plants. May grow
from lowland areas up to 2000 m alt.
- Distribution** : Native to tropical America, but now commonly found
in many tropical and subtropical regions around the
world. Very abundant in Indonesia, Philippines, and
Pacific Islands.



POACEAE



Rhynchelytrum repens (Willd.) C.E. Hubb.

a & d. field condition b. adult plant c. inflorescence

- Synonyms** : *R. roseum* (Nees) Stapf et Hubb.; *Panicum teneriffae* var. *rosea* F.M. Bailey; *Tricholaena repens* Hitchc; *T. rosea* Nees.
- Vernacular names** : Natal grass, Natal redtop (Eng.); Rumput natal (Indon.).
- Ecology** : The plant grows in dry areas along roadsides, wastelands and border of farmland, invades agricultural land to become a weed of upland crops.
- Distribution** : Native to Africa and become naturalized in the tropical and subtropical regions of the world. Throughout Indonesia.



POACEAE



Setaria pallide-fusca (Schum.) Stapf & Hubb.

a. adult plant

b. inflorescence

- Synonyms** : *S. glauca* (L.) Beauv. var *pallide-fusca* (Schum.); *S. pumila* (Poir.) Roem. & Schult., *Panicum pallide-fusca* Schum.
- Vernacular names** : Cattail grass, Garden bristlegrass, Hairy bristle grass, Yellow bristle grass (Eng.); Petungan (Indon.).
- Ecology** : Annual grass grows in sunny to moderately shaded, neither too dry nor too swampy, light to heavy soils, fallow fields, gardens, roadsides, grasslands, disturbed areas, and cultivated lands. Commonly grows together with *Imperata*, locally abundant. From 0 to 2000 m alt.
- Distribution** : Probably native to Micronesia, now found throughout tropical areas. Common throughout Indonesia.



POACEAE



Setaria palmifolia (J. Koenig) Stapf

a. adult plant

b. inflorescence

- Synonyms** : *Chamaeraphis palmifolia* (Willd. ex Poir) Kuntze; *Panicum palmifolia* J. Koenig; *P. plicatum* Willd.; *P. neurodes* Schult.; *Setaria lemii* (Steud) Miq.
- Vernacular names** : Bristle grass, Broadleaf bristle grass, Palm grass (Eng.); Rumput daun pisang, Suket saheum (Indon.).
- Ecology** : Robust perennial grass grows in lightly shady areas in forests, wastelands and perennial crop fields. A weed of field crops in mountainous areas, plantations, forestry, as well as rice field.
- Distribution** : Native to Asia, widely distributed in West Africa and Asia, including Japan. Introduced and become naturalized in Central America, Pacific Islands, and Australia. Throughout Indonesia.



POACEAE



Setaria plicata (Lamk.) T. Cooke

a. field condition b. adult plant c. juvenile plant d. inflorescence

Synonyms

: *Panicum barbatum* (non Lamk.) Back.

Vernacular names

: Giant foxtail (Eng.); Jamarak, Jambean, Suket lemon (Indon.).

Ecology

: The plant grows on slightly to rather deeply shaded sites, but also on sunny areas, in secondary forests, and commonly a problem in perennial plantations (coconut, oil palm, cacao, sugar cane, fruits, etc.).

Distribution

: Throughout tropical and subtropical regions. Very common throughout Indonesia.



POACEAE



Sporobolus diander (Retz.) P. Beauv.

a. field condition

b. inflorescence

- Synonyms** : *Agrostis diandra* Retz.; *Sporobolus diandrus* (Retz.) P. Beauv.; *Vilfa retzii* Steud.
- Vernacular names** : Lesser dropseed, Sacaton grass (Eng.); Rumput telur belalang (Indon.).
- Ecology** : Grows along roadsides, gardens, football fields, and upland crops. A problem under seed bed or young plantation (rubber, oil palm, coffee). It grows from 0 to 700 m alt.
- Distribution** : Widely distributed in the tropical regions of the world, but also found in subtropical regions. Reported in India, Pakista, Sri Lanka, and Australia. Throughout Indonesia.



POACEAE



Themeda arguens (L.) Hack.

a. field condition b. inflorescence c. adult plant

- Synonyms** : *Anthisfria arguens* (L.) Willd.; *A. frondosa* R. B.; *Stipa arguens* L. L.; *Themeda frondosa* (R.Br.) Merr.
- Vernacular names** : Christmas grass, Lesser tassel grass (Eng.); Kakasangan, Rumput merakan (Indon.).
- Ecology** : Grows along roadsides and railways. It is common in young rubber plantation, open areas or slightly shaded with fertile soil. Found from 0 -1200 m alt.
- Distribution** : **Found in** tropical regions of the world in Asia, South East Asia, Northern Australia, Pacific Islands, and South East United States. Throughout Indonesia, especially in Sumatra Island.



POLYGONACEAE



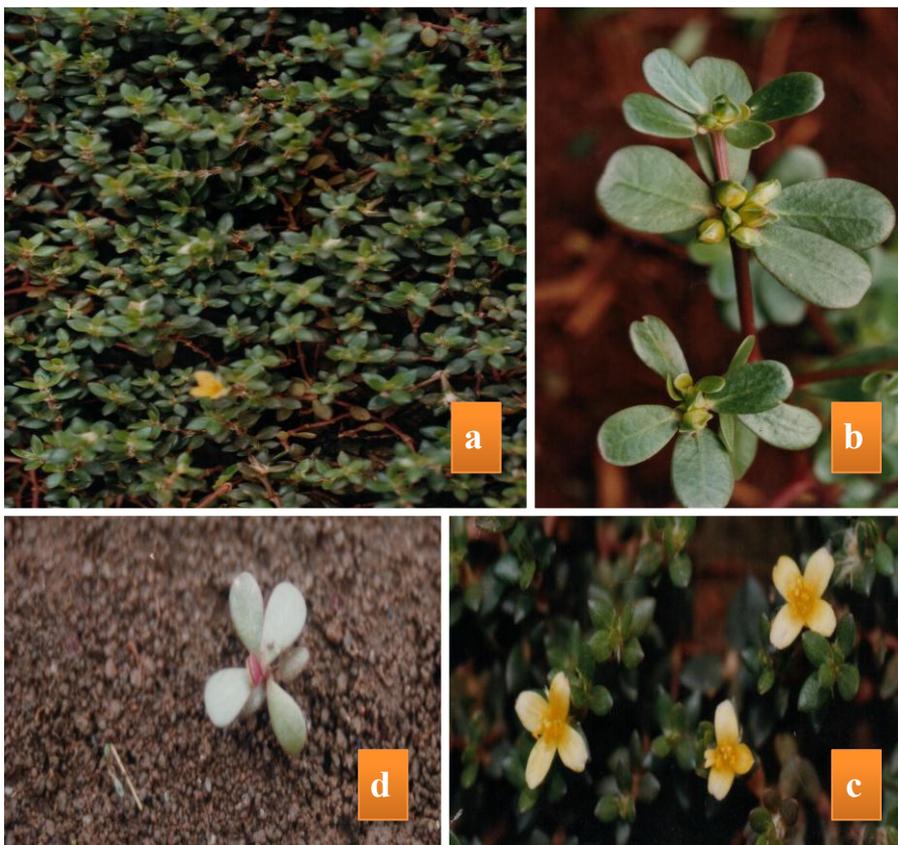
Antigonon leptopus Hook. & Arn.

a. field condition b & c. inflorescence

- Synonyms** : *Corculum leptopus* (Hook. & Arn.) Stuntz.
- Vernacular names** : Chain of love, Coral creeper, Coral vine, Mexican creeper (Eng.); Kembang mayang merambat, Konde mayang merambat (Indon.).
- Ecology** : Grows in wastelands, roadsides, in vacant land and farmyards, forest margin, and disturbed areas. Occasionally twines to fruit trees or garden trees to become a harmful weed. Regarded as invasive species in some areas.
- Distribution** : Native to Mexico and cultivated as an ornamental plant in the tropical and subtropical regions of the world. Introduced and naturalized in Africa, Asia, and Southern United States. Found in Sumatra Island of Indonesia.



PORTULACACEAE



Portulaca oleracea L.

a. field condition b. adult plant c. flowers d. juvenile plant

- Synonyms** : *P. sativa* Haw.
- Vernacular names** : Purslane (Eng.); Gelang, Krokot gelang, Poslen (Indon.).
- Ecology** : Found on open places, prefers moist fertile soils, sunny or slightly shaded, not marshy sites; near human dwellings, arable lands, roads sides, old walls, in young plantations, and upland rice fields. From 0 to 2700 m alt.
- Distribution** : Pantropic and subtropics. Commonly found throughout Indonesia.



RUBIACEAE



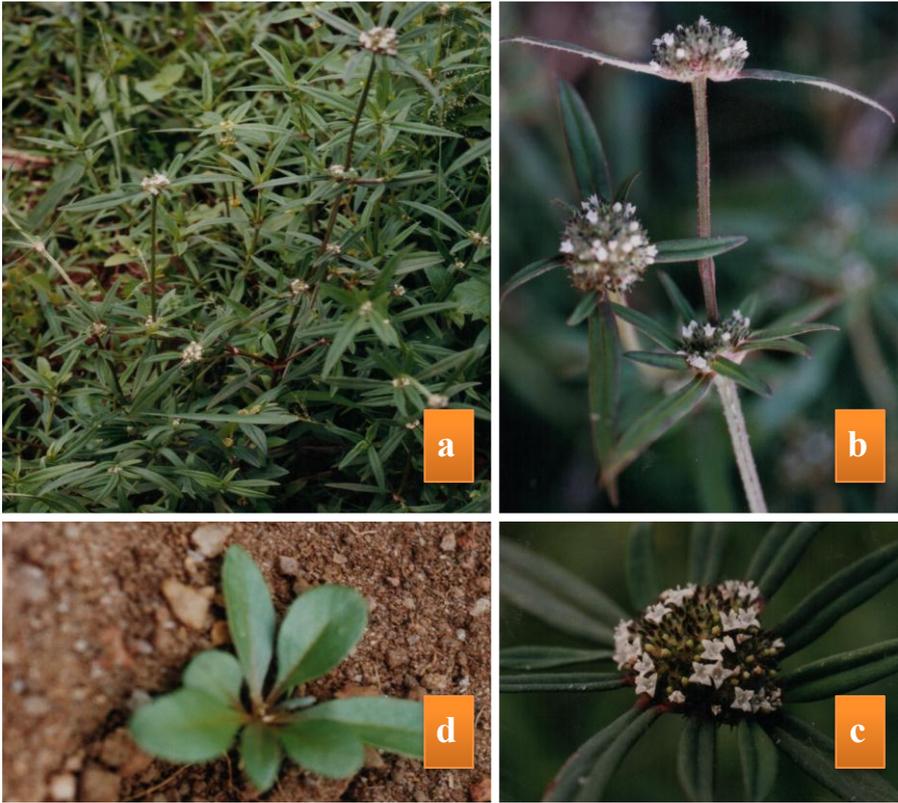
Borreria alata (Aubl.) DC.

a. field condition b. adult plant c. flowers d. fruits e. juvenile plant

- synonyms** : *B. latifolia* (Aubl.) K. Schum; *B. scaberrima* Bold; *Spermacoce alata* Aubl., *S. latifolia* Aubl.
- vernacular names** : Button weed (Eng.); Kentangan, Rumput setawar (Indon.).
- ecology** : Perennial herb grows in sunny or lightly shaded fallow fields or those with a second crop, along roads, steep riverbanks, tea, cassava, and upland rice fields. Prefers sandy soils, but grows also on poor soils.
- distribution** : Native to Mexico and Central America, naturalized in tropical Africa, China, India, and South East Asia. Widely distributed in Indonesia, especially in Java, Borneo, and Sumatera Islands.



RUBIACEAE



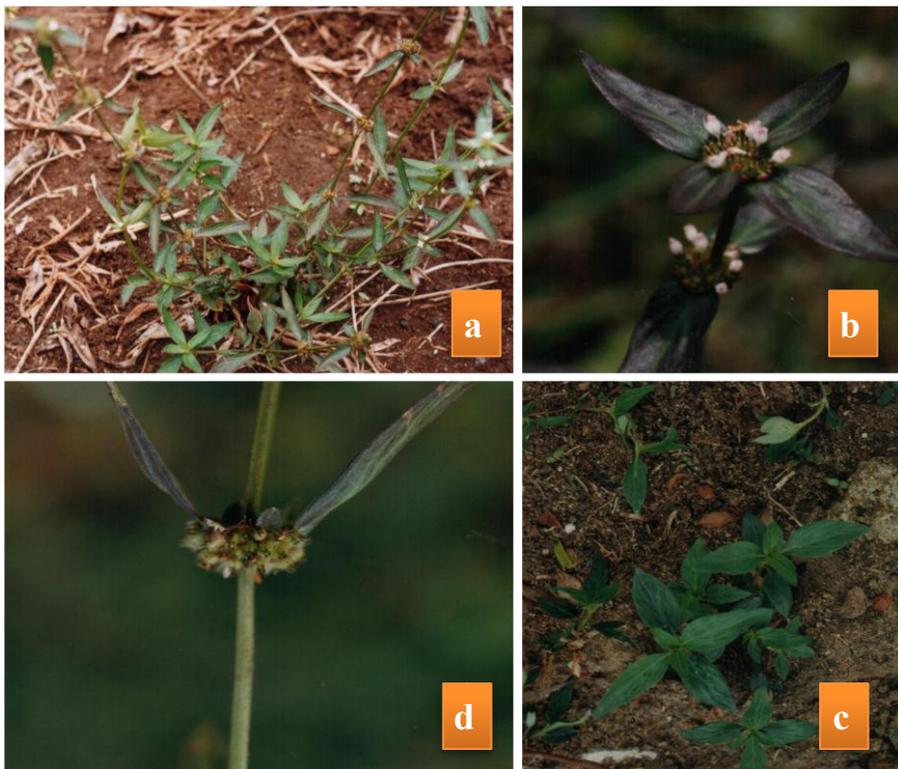
Borreria distans (Kunth.) DC.

a. field condition b. flowering plant c. flowers d. juvenile plant

- Synonyms** : *Diodella apiculata* Willd. Ex Roem & Schult; *D. arenosa* DC.; *D. rigida*; *Spermacoce apiculata* Willd. Ex Roem & Schult; *S. rigida* Kunth.
- Vernacular names** : Button weed, Stiff Button weed (Eng.); Kentangan (Indon.).
- Ecology** : Found in roadsides and near water courses, cultivated land, locally common in regions with a pronounced dry season. From 0 to 1200 m alt.
- Distribution** : Native to Central America (Puerto Rico and Virgin Islands). Introduced to Indonesia in the 1920s in Java Island, and since has spread to other islands throughout the country.



RUBIACEAE



Borreria laevis (Lamk.) Griseb.

a. field condition b. adult plant c. juvenile plants d. fruits & flowers

- Synonyms** : *Spermacoce laevis* Lamk.
- Vernacular names** : Button plant (Eng.); Jugul, Katumpang, Kentangan merah (Indon.).
- Ecology** : The plant grows well in hard soil in somewhat dry and sunny areas along roadsides, in grasslands and farmyards, and also becomes a weed of various upland crops. Known to have medicinal properties.
- Distribution** : Native to tropical America, naturalized in tropical and subtropical regions. Throughout Indonesia.



RUBIACEAE



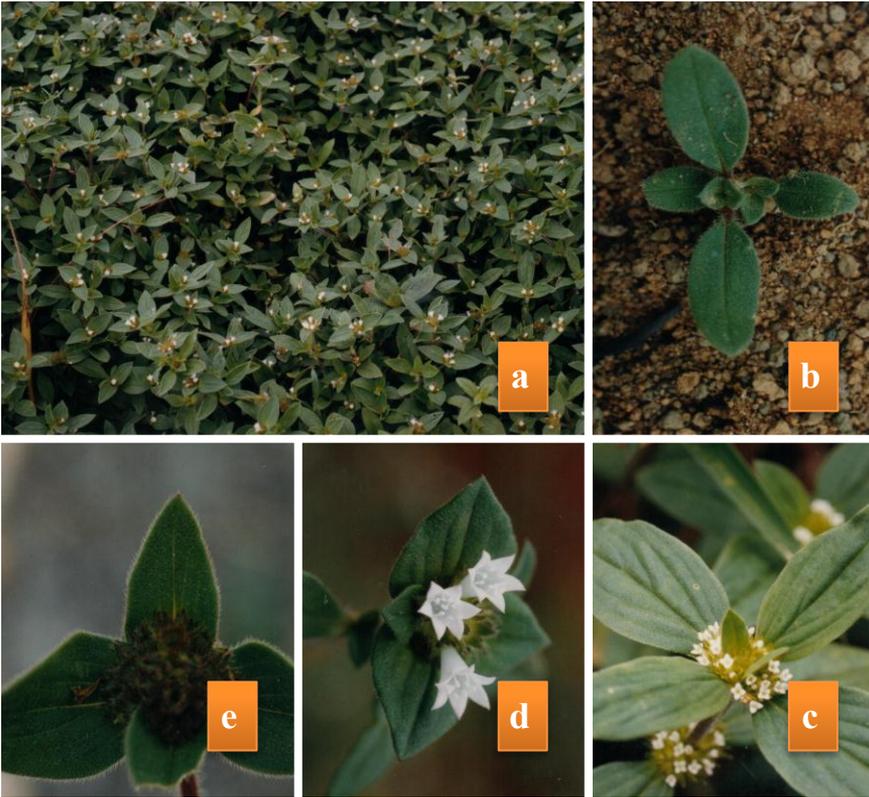
Hedyotis corymbosa (L.) Lamk.

a. field condition b. adult flowering plant

- Synonyms** : *H. ramosa* Bl.; *Oldenlandia affinis* Blanco; *O. brumanniana* G. Don.; *O. corymbosa* L.; *O. romosa* Roxb.
- Vernacular names** : Diamond flower, Oldworld diamond-flower, Wild chayroot (Eng.); Katepan, Rumput mutiara, Urek-urek polo (Indon.).
- Ecology** : In sunny, not too wet sites, along roadsides, base walls, gardens, fallow fields; often abundant. Up to 1500 m alt. Common in cassava, maize, and pineapple plantations. Known to have medicinal properties.
- Distribution** : Pantropical distribution. Native to tropical and subtropical Asia. Throughout Indonesia.



RUBIACEAE



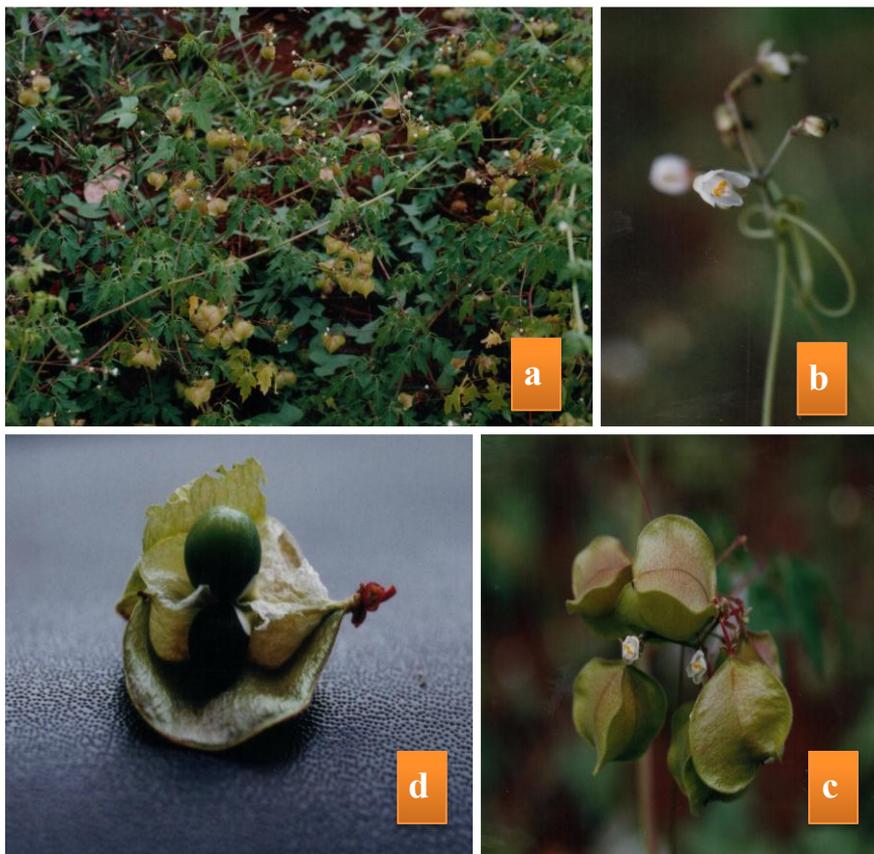
Richardia brasiliensis Gomez

a. field condition b. juvenile plant c & d. flowers e. fruits

- Synonyms** : *Richardsonia brasiliensis* (Gomez) Hayne.
- Vernacular names** : Brazil pusley, Tropical Mexican clover, White eye (Eng.); Jemprah, Jukut babi (Indon.).
- Ecology** : In sunny or lightly shaded, not too dry sites, found in roadsides, disturbed sites, pasture, lawn, and gardens. Commonly found in cassava, corn, pineapples, and upland rice. Up to 2000 m alt. Known to have medicinal properties.
- Distribution** : Cosmopolitan distribution. Found in North Eastern Australia and South Eastern United States. Introduced into Indonesia before 1900, now spread throughout South Sumatra, Bengkulu, Jambi, and Lampung Provinces.



SAPINDACEAE



Cardiospermum halicacabum L.

a. field condition b. flowering plant c & d. fruits

- Synonyms** : *C. microcarpum*
- Vernacular names** : Balloon plant, Ballon vine, Love in a puff (Eng.);
Pepare kurung, Parean (Indon.).
- Ecology** : Grows along roadsides, waste and vacant lands, and occasionally become weed in agricultural land. Sometimes the plant is cultivated as an ornamental and leaves are consumed as a vegetable. Known to have medicinal properties.
- Distribution** : Widely distributed in tropical and temperate Africa and Asia. Found in South Eastern United States. Throughout Indonesia.



SCROPHULARIACEAE



Scoparia dulcis L.

a. field condition b. adult flowering plant c. flowers and seeds

- Synonyms** : *Capraria dulcis*; *Gratiola micrantha*; *Scoparia grandiflora*; *S. ternata* Forsk.
- Vernacular names** : Goat weed, Sweet broom weed (Eng.); Jaka tua (Indon.).
- Ecology** : Found in fallow fields, roadsides, old walls, in everwet regions or not too dry regions; on all kinds of soils, from 0 – 1600 m alt. Known to have medicinal properties.
- Distribution** : Distributed around the world, from India, the Philippine, Indonesia, to Florida in the U. S. Throughout Indonesia.



SOLANACEAE



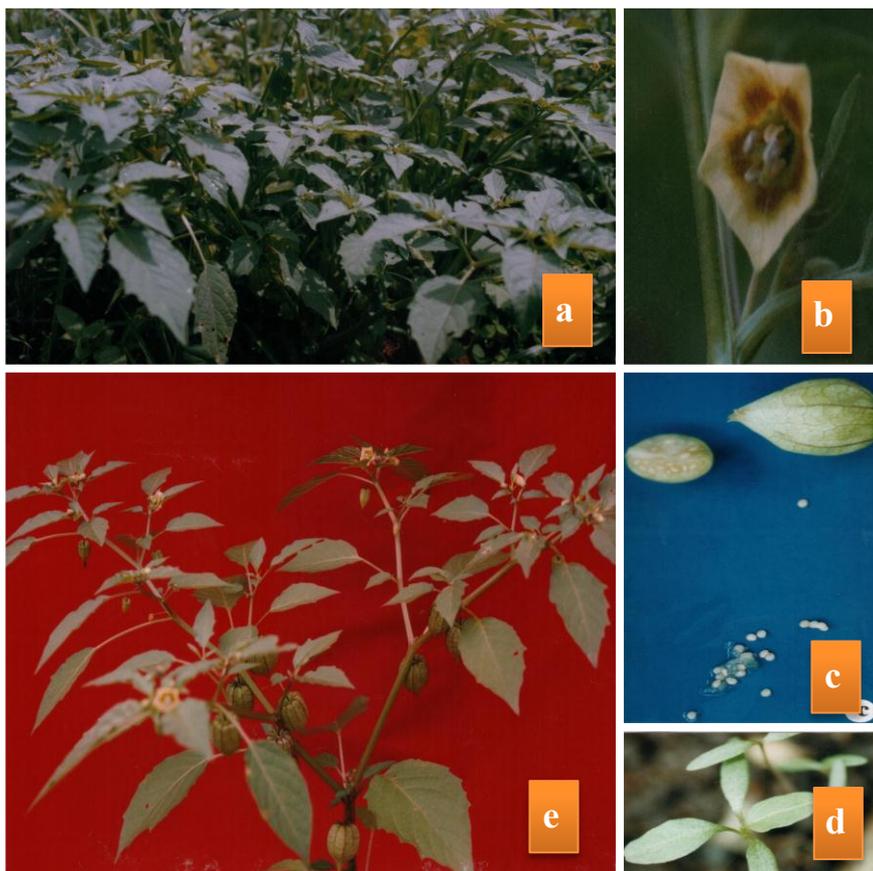
Datura alba Rumph. Ex Ness.

a. field condition b. flower c. seeds d. fruits

- Synonyms** : *D. chlorantha* Hook.; *D. fastuosa* L.; *D. metel* L.
Vernacular names : Devil's trumpet, Horn of plenty, Metel, Thorn apple (Eng.); Kecubung putih (Indon.).
Ecology : This perennial herb grows in grasslands, upland fields, along roadsides, railways, and in wastelands. Known to have medicinal properties.
Distribution : Cultivated world-wide for its chemical and ornamental purpose. Found in warmer part of tropical and temperate regions of the world. Found in Sumatera Island.



SOLANACEAE

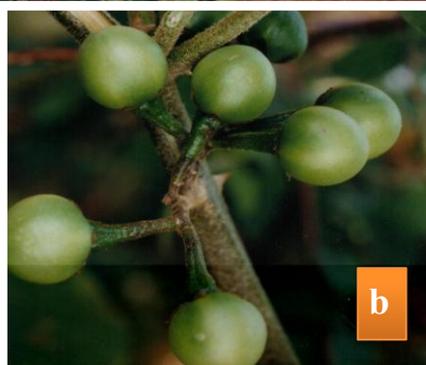
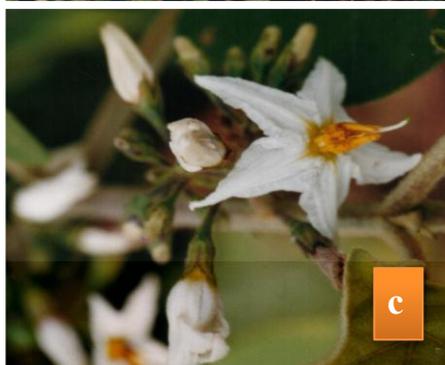


- Physalis angulata* L.**
- a. field condition b. flower c. fruits and seeds d. juvenile plant
 e. adult flowering plant

- Synonym** : *P. ciliata* Sieb. et Zucc.; *P. dubia* Link; *P. linkiana* Nees; *P. peruviana* Auct. (non L.)
- Vernacular names** : Wild categooseberry (Eng.); Cecendetan, Ceplukan (Indon.).
- Ecology** : Found in sunny to somewhat shaded, not too dry, fertile spots in fields, wastelands, fallow fields, along roads, and in open secondary forest, from 0 to 1500 m alt.
- Distribution** : Pantropical distribution. Throughout Sumatra Island of Indonesia.



SOLANACEAE



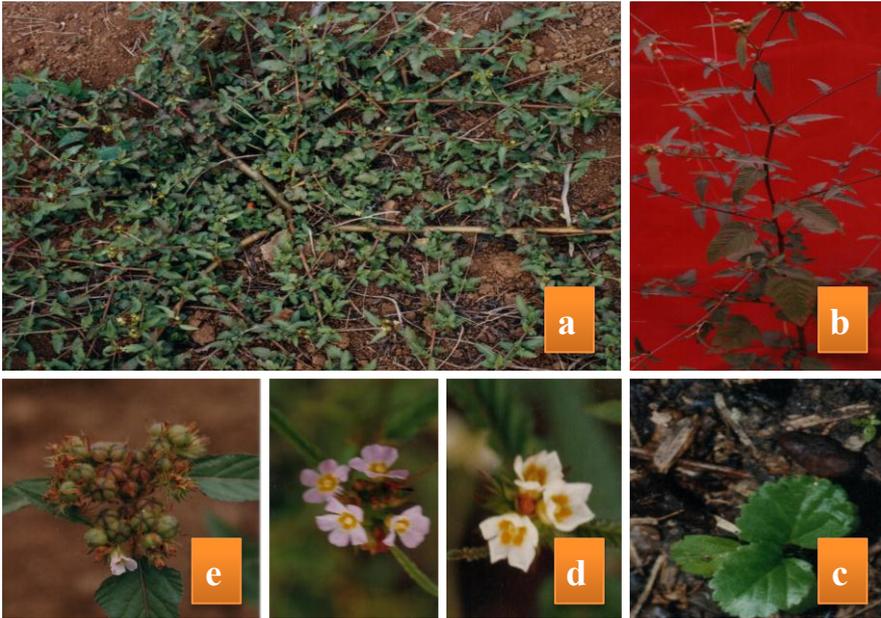
Solanum torvum Swartz

a. field condition b. fruits c. flowers

- Synonyms** : *S. indicum* L.
- Vernacular names** : Black nightshade (Eng.); Takokak (Indon.).
- Ecology** : Commonly grows along roadsides, in vacant and agricultural lands, and it can grow in considerably dry soil.
- Distribution** : Native to tropical America, became naturalized in the tropical and subtropical regions of the world. Found in Java and Sumatera Islands of Indonesia.



STERCULIACEAE



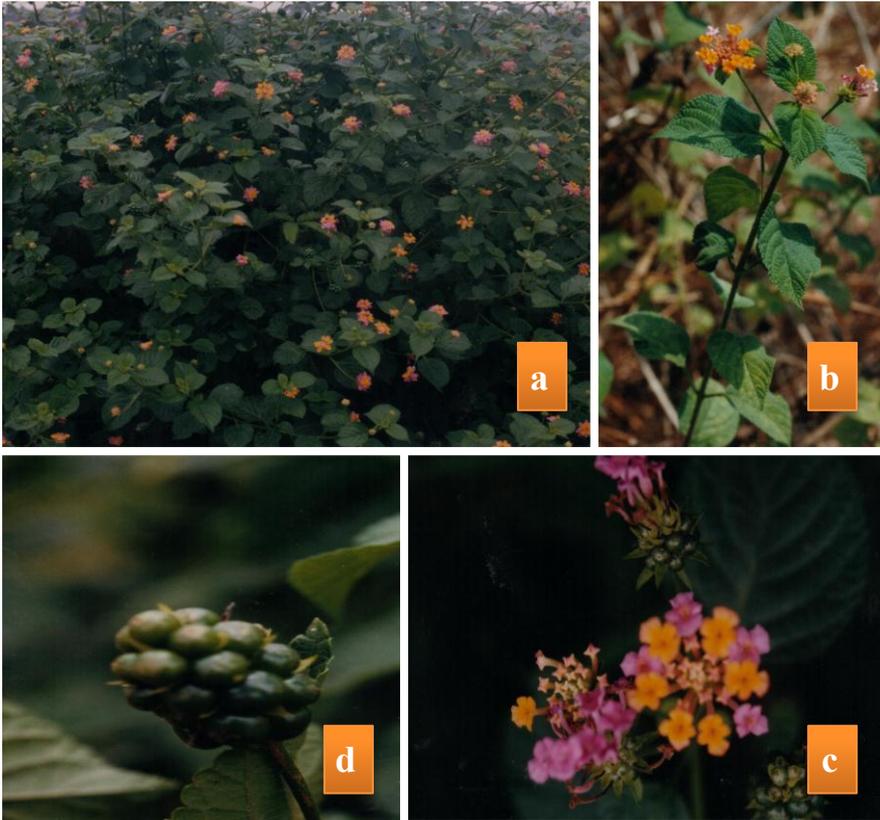
Melochia corchorifolia L

- a. field condition b. adult plant c. juvenile plant d. flowers
e. fruits

- Synonyms** : *M. concatenata* L
- Vernacular names** : Wire bush (Eng); Gendiran, Jaring, Orang-aring (Indon).
- Ecology** : On light and heavy, moist, often poor soils, in sunny to lightly shaded sites along drains and water-courses, in ravines, roadsides, coconut plantations, and upland rice fields, from 0 to 2000 m alt. Seeds have a long dormancy and dies off after long dry spells.
- Distribution** : Pantropical and subtropical distribution. Introduced to Central Java on Lawu volcano, then distributed throughout Indonesia.



VERBENACEAE



Lantana camara L.

a. field condition b. adult plant c. flowers d. fruits

- Synonyms** : *L. auleata* L.
- Vernacular names** : Common lantana (Eng.); Kembang tahi ayam, Tembelean (Indon.).
- Ecology** : Commonly grows in wastelands, perennial crop fields, gardens, along roadsides, and occasionally invades upland fields.
- Distribution** : *L. camara* is a native shrub of tropical America, distributed to tropical Asia and temperate region of the world. Very common weed throughout Indonesia.



VERBENACEAE



Stachytarpheta indica (L.) Vahl.

a. field condition b. adult plant c. seeds d. flowers

Synonyms

: *S. bogoriensis* Z. & M.

Vernacular names

: Blue porter weed, Jamaica vervain, Indian snake weed, Nettle-leaved vervain (Eng.); Gajihan, Jarong (Indon.).

Ecology

: Found in sunny to lightly shaded, preferably not too heavy soils in regions with a strong dry season, along roads, fields, coconut plantation, fallow, and waste lands, from 0 to 1500 m alt. Known to have medicinal properties.

Distribution

: Pantropical distribution, native to the Caribbean. Found in India, South East Asia, and West tropical Africa. Throughout Indonesia.



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