

Plant Authentication at Jose Vera Herbarium (University of the Philippines, Diliman)

As part of the biological assessment of the Dolores River, under the project entitled "River Restoration: Alleviating the Quality and Quantity of Life on the Freshwater Ecosystems," the Institute of Arts and Sciences (IAS) of Mabalacat City College (MCC) faculty namely, Ms. Fienchie Ann B. Yamauchi and Ms. Jenny Lou P. Atienza, in collaboration with City Environment and Natural Resources Office (CENRO), and student trainees from Bachelor of Science in Biology namely, Ms. Giselle O. Santos, Ms. Kanela P. Mandal, Ms. Maria Crezyl P. Chua, Mr. Rhon Remberth P. Cervantes, and Mr. Emerson G. Cauguiran went at Jose Vera Herbarium, University of the Philippines, Diliman on August 24, 2023 (around 10:00 am) to authenticate the plants collected from the two sites of the river, which are Barangay Poblacion and Sta. Ines.

The following are the plants that are authenticated by Ramon Bandong, Facilitator of UP Herbarium;

Specimen 1A.

Scientific Name: *Mikania cordata* (Burm.f.) B.L.Rob., Contr. Gray Herb. 104: 65 (1934)

Common Name: Philippines: Bikas

Taxonomic Tree:

Domain: Eukaryota

Kingdom: Plantae

Phylum: Spermatophyta

Subphylum: Angiospermae

Class: Dicotyledonae

Order: Asterales

Family: Asteraceae

Genus: *Mikania*

Species: *Mikania cordata*

Description

A fast-growing, creeping or winding perennial plant; stem branched, hairy to smooth, ribbed, 3-6 m long; Leaves opposite, heart-shaped or ovoid, leaf blade 3-12 cm long, 2-6 cm wide, petiolate 1-8 cm long, base broad heart-shaped, tip pointed, margin serrate, toothed or whole, almost smooth surface, three to seven veins from the base; flowers small-headed in open panicles with an almost flat top (corymb); axillary and tops 6-9 mm long, with 4 flowers; unrelated bracts 4, obtuse or pointed, 5 to 6 mm long, smooth or nearly smooth with smaller bracts, 3 mm long; corolla white or yellowish-white, about 5 mm long; anthers gray-green or dark gray; white styling; fruit: achene fruit, oblong, 2-3 mm long, five-sided, dark brown, glandular; papus 40-45 hairs, about 4 mm long, white at first, then reddish. Distinguished by the following characteristics: 40-45 red spines, white corolla and 7-7.5 mm long tip.

Specimen 1B. and 2D.

Scientific Name: *Calopogonium mucunoides* Desv.

Common Name: Philippines: Karaparapak and Santing

Taxonomic Tree:

Domain: Eukaryota

Kingdom: Plantae

Phylum: Spermatophyta

Subphylum: Angiospermae

Class: Dicotyledonae

Order: Fabales

Family: Fabaceae

Genus: *Calopogonium*

Species: *Calopogonium mucunoides*

Description

The vine is slightly vines, twisted or crawling, much branched, up to 3 to 5 m long. Stems thin, cylindrical, rough. Leaves alternate, with three leaves; The leaflets are histogram, 2-10 × 1.5-6.5 cm, obtuse to almost rounded, base wedge-shaped to rounded, and lateral leaflets markedly asymmetrical, margined. original; both surfaces are dull, pubescent; The lower surface is clearly ribbed. Inflorescences pseudobulbs in leaf axils, up to 10 cm long; rough spine; bracts are persistent and about 7 mm long. Calyx bell-shaped, 7-8 mm long, hairy, secondary sepals, tail at the apex; corolla blue

or purple, stallion 6-7 mm long, fringed. The fruit is a legume, oblong, flattened, rough, 2-4 × 0.3-0.5 cm in size. Seeds are almost quadrangular, about 3 mm wide, reddish brown and shiny (Acevedo-Rodríguez, 2005).

Specimen 2A.

Scientific Name: *Corchorus* sp.

Common Name: Philippines: Jute

Taxonomic Tree:

Kingdom: Plantae

Phylum: Tracheophyta

Class: Magnoliopsida

Order: Malvales

Family: Malvaceae

Genus: *Corchorus*

Description

Tap rooted annual or perennial herbs, [subshrubs], or shrubs. Stems erect to ascending or decumbent, hairy, hairs simple or stellate, usually unbranched or few-branched. Leaves petiolate; stipules caducous to sub-persistent, filiform; blade unlobed, oblong to ovate obovate, apically awned or not, glabrous or hairy; petals [4 or]5, yellow, obovate to oblanceolate, glands absent; stamens [4-]10-70[-100], on androgynophore; ovary 2-4[-10]-locular; ovules 2-50 per locule; styles 1, simple, short-cylindric; stigmas peltate or discoid, usually irregularly crenulate or lobulate. Capsules are typically cylindric to short-ellipsoid, occasionally subglobose, 2-4[-10]-valved, glabrous or hairy, and loculicidal in dehiscence. 4-10[-30] seeds per locule, angular, smooth, or pitted. $x = 7$.

Specimen 2B.

Scientific Name: *Mimosa pudica*

Common Name: Philippines: Babain, Huya-huya, Kirom-kirom, Makahiya, Makahiyang babae, Sipug-sipug, Torog-torog, and Tuyag-tuyag.

Taxonomic Tree:

Domain: Eukaryota

Kingdom: Plantae

Phylum: Spermatophyta
Subphylum: Angiospermae
Class: Dicotyledonae
Order: Fabales
Family: Fabaceae
Subfamily: Mimosoideae
Genus: *Mimosa*
Species: *Mimosa pudica*

Description

M. pudica is a thorny, low-growing perennial shrub with many branches. It can grow 15-100 cm tall and can be erect, although it prefers a trailing, sprawling growth pattern. The stems are woody at the base, rigid, cylindrical, reddish-brown or purple in color, hairy, and dotted with prickles along the internodes. The prickles are compressed, somewhat curled, firm, and extremely sharp, measuring 3-4 mm in length. The root is lengthy and strong. The leaves are hairy, bipinnate, and dark green. The pinnae are arranged palmately, with two pairs (sometimes just one pair) originating close together from the tip of the petiole. The petiole is around 2.5 cm long, while the pinnae are 2.5-5 cm long.

Specimen 2C.

Scientific Name: *Eclipta prostrata* - EPPO code ECLAL (*Eclipta alba*)

Common Name: English: False daisy

Taxonomic Tree:

Domain: Eukaryota
Kingdom: Plantae
Phylum: Spermatophyta
Subphylum: Angiospermae
Class: Dicotyledonae
Order: Asterales
Family: Asteraceae
Genus: *Eclipta*
Species: *Eclipta prostrata*

Description

Morphological Parameters

It is a branching (sometimes roots at nodes) annual herb that grows up to 30-40 cm tall. The stem is cylindrical or flat, rough due to appressed white hairs, and the nodes are conspicuous and greenish to brownish. The opposite leaves are sessile to sub-sessile, 2.0 to 6.2 cm long, 1.5-1.9 cm wide, oblong, lanceolate, sub-entire, acute to sub-acute, and strigose, with appressed hairs on both surfaces.

Floral Parameters

Flowers are white, solitary or two on unequal axillary peduncles, with involucre bracts that are oblong, obtuse or acute, strigose with appressed hairs. Disc flowers are tubular, with a four-toothed corolla. Stamens have 5 filaments that are epipetalous and free, and the anther is joined into a tube with an obtuse base. The pistil has two capillaries. The ovary is unilocular and inferior, with one basal ovule. The fruit is an achenial cypsela, with one seed, a cuneate shape, a slender wing, and a brown color.

Specimen 3A

Scientific Name: *Panicum sp.*

Common Name: Panic Grass

Taxonomic Tree

Domain: Eukaryota

Kingdom: Plantae

Phylum: Tracheophyta

Class: Liliopsida

Order: Poales

Family: Poaceae

Genus: *Panicum*

Description

The Panicum grasses are an extensive and varied group of plants, including both annual and perennial species. They often have clusters of leaves and may spread through stolons or rhizomes (underground stems). The flowers of these plants are typically arranged in dense clusters, known as panicles, which may be either terminal or lateral in orientation. These flowering clusters are an important identifier of Panicum grass species and can vary widely in size, color, and structure.

Specimen 4A

Scientific Name: *Blumea* sp.

Common Name: Ngai Camphor, Sambong

Taxonomic Tree

Domain: Eukaryota

Kingdom: Plantae

Phylum: Tracheophyta

Class: Magnoliopsida

Order: Asterales

Family: Asteraceae

Genus: *Blumea*

Description:

The members of this group of plants are typically herbs or shrubs, with a height up to 4 meters, and have a simple or branched stem, either erect, ascending, or sprawling. The leaves are alternate, simple, and often pinnately lobed, linear-lanceolate to oblanceolate, with a serrated or dentate edge, a rounded to tapered base, and sessile or short petioles. The inflorescence is a discoid capitulum, arranged in either lax, compact corymbs, or panicles, or occasionally solitary. The involucre is often hemispherical, with involucral bracts arranged in multiple rows, which are narrow and often pubescent on the back. The flowers have a tubular corolla, usually yellow, and are often arranged in several rows of marginal flowers that are female with a filiform corolla that is 2-4-lobed. The disk flowers are bisexual, with a corolla that is 5-lobed, and alternate with the corolla lobes. The ovary is inferior, the style is exerted, and the fruit is an oblong achene with 5 or 10 ribs. The pappus is composed of numerous, slender, toothed bristles, and are white or yellowish-white to red. The germination is epigeal, and the first pair of leaves is opposite, while subsequent leaves are alternate.

Specimen 5A

Scientific Name: *Cyperus rotundus* L.

Common Name: Nutgrass, Purple Nutsedge

Taxonomic Tree

Domain: Eukaryota

Kingdom: Plantae

Phylum: Magnoliophyta

Class: Liliopsida

Subclass: Commelinidae

Order: Cyperales

Family: Cyperoideae

Subfamily: Cyperoideae

Genus: *Cyperus*

Species: *Cyperus rotundus* L.

Description:

C. rotundus L. is a perennial plant that typically reproduces through its rhizomes, which are initially white and fleshy with scale leaves. Over time, they may become woody or "wiry." It has leaves arranged in groups of three, with each leaf ranging from 6 to 10 millimeters in width and 10 to 35 centimeters in length. The leaves are dark green, shiny, and have a wrinkled appearance when cross-sectioned. The rachis, which refers to the main vein of the leaf, is vertical, unbifurcated, smooth, triangular, and measuring between 10 and 60 centimeters. Towards the terminal regions of nutgrass, clusters of narrow spikelet clusters can be found, which generally measure 0.3 to 1 inch (0.8 to 2.5 centimeters) in length and 0.07 inches (2 millimeters) in width. Each spikelet cluster typically bears between 10 and 40 flowers, which have pointed and compressed shapes, as well as reddish-brown or purplish-brown coloration. It produces small fruits in the form of achenes with a three-angled shape.

Specimen 5B

Scientific Name: *Ricinus communis* L.

Common Name: Castor Bean

Taxonomic Tree

Domain: Eukaryota

Kingdom: Plantae

Phylum: Magnoliophyta

Class: Magnoliopsida

Subclass: Rosidae

Order: Euphorbiales

Family: Euphorbiaceae

Genus: *Ricinus*

Species: *Ricinus communis* L.

Description:

R. communis L. is a perennial plant that can grow up to 16.4 feet (5 meters) tall. Its stem can be red, green, or purple in color, and it has leaves that can grow up to 11.8 inches (30 centimeters) in diameter. The leaves are palmate, meaning that they are divided into many segments that radiately extend from a single point. The flowers of castor beans are yellow and contain many branching stamens and pediculate (with a very short stalk) calyx with five parts. The plant blooms from August to November, with capsules that are about 1.5 centimeters in diameter and covered in sharp spines that are red, green, or purple. The seeds are also mottled and have colors ranging from black to copper.

Specimen 5C

Scientific Name: *Synedrella nodiflora* L.

Common Name: Node Weed, Cinderella Weed

Taxonomic Tree

Domain: Eukaryota

Kingdom: Plantae

Phylum: Magnoliophyta

Class: Magnoliopsida

Subclass: Asteridae

Order: Asterales

Family: Asteraceae

Genus: *Synedrella*

Species: *Synedrella nodiflora* L.

Description:

This is a shrubby plant with woody stems that branch in pairs and become fairly rough near the base. The leaves are simple, opposite, and roughly oval or egg-shaped, measuring up to 10 cm long and 5 cm wide, with a pointed apex and a wedge-shaped base. The petioles, which are up to 3 cm long, have wings at their base. The leaves have separated margins, which means the edges are not consistent, and the lower surface is downy to the touch. The flower-heads are clustered at the ends of the branches, and they have yellow florets. It is an annual plant that reproduces through

seeds. It can thrive in a wide range of habitats, including cultivated crops and lawns, roadsides, waste areas, and shaded areas.

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Photo Documentation





