

MURDANNIA ASSAMICA, A NEW SPECIES OF COMMELINACEAE FROM INDIA

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Murdannia assamica Nampy & A.Ancy, a new species of *Murdannia* (Commelinaceae) from India, is described and illustrated. It is similar to *Murdannia nudiflora* but differs in the cincinnus, antherode, capsule and seed characters.

Keywords. Commelinaceae, India, *Murdannia*, *Murdannia assamica*, *Murdannia nudiflora*.

INTRODUCTION

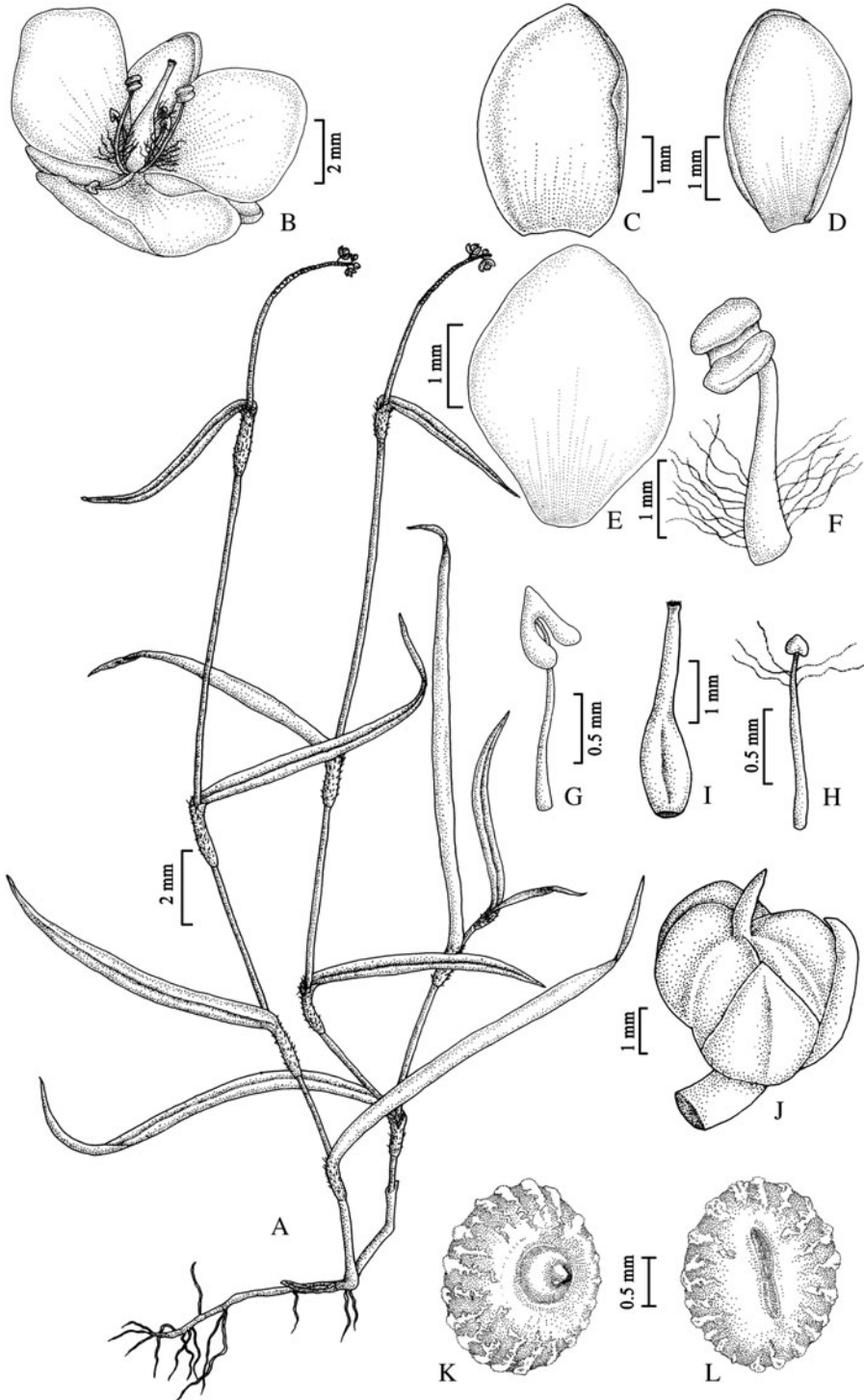
Murdannia Royle, with about 52 species (Govaerts & Faden, 2012), is most diverse in tropical Asia. The highest number of species is in India, where 25 species are found (48% of the total), many of them (c.38%) endemic. Karthikeyan *et al.* (1989) reported 23 species for India. Since then, five additional names have been reported for India, namely *Murdannia striatipetala* Faden (Faden, 2001), *M. fadeniana* Nampy & Joby (Nampy & Joby, 2003), *M. satheeshiana* Joby *et al.* (Joby *et al.*, 2011), *M. brownii* Nandikar & Gurav (Nandikar & Gurav, 2011) and *M. sahyadrica* A.Ancy & Nampy (Nampy *et al.*, 2012). Of these *Murdannia striatipetala* is a new addition as a species endemic to India and Sri Lanka while *M. fadeniana* is the correct name for the plant previously called *M. glauca* in South India. The status of *Murdannia satheeshiana* and *M. brownii* as distinct from known taxa is doubtful. *Murdannia sahyadrica* from the Northwestern Ghats has been very recently described, thus bringing the total number of species in India to 25.

During scientific surveys in the plains of Assam, Northeast India in 2009 and 2011 interesting specimens of *Murdannia* were collected by the authors in woodland near the rail station of Goalpara town. They were spread over a wide area along the forest floor. Another population was also found near Paikan, on the way to Krishnai, in the same district. On further examination these proved to be an undescribed species, which we name and illustrate here.

SPECIES DESCRIPTION

***Murdannia assamica* Nampy & A.Ancy, sp. nov. Figs 1, 2C–D.**

Murdannia assamica is close to *M. nudiflora* (L.) Brenan but differs in having a 2–3 cm long cincinnus with c.30 flowers, hastate or knob-like antherodes, widely



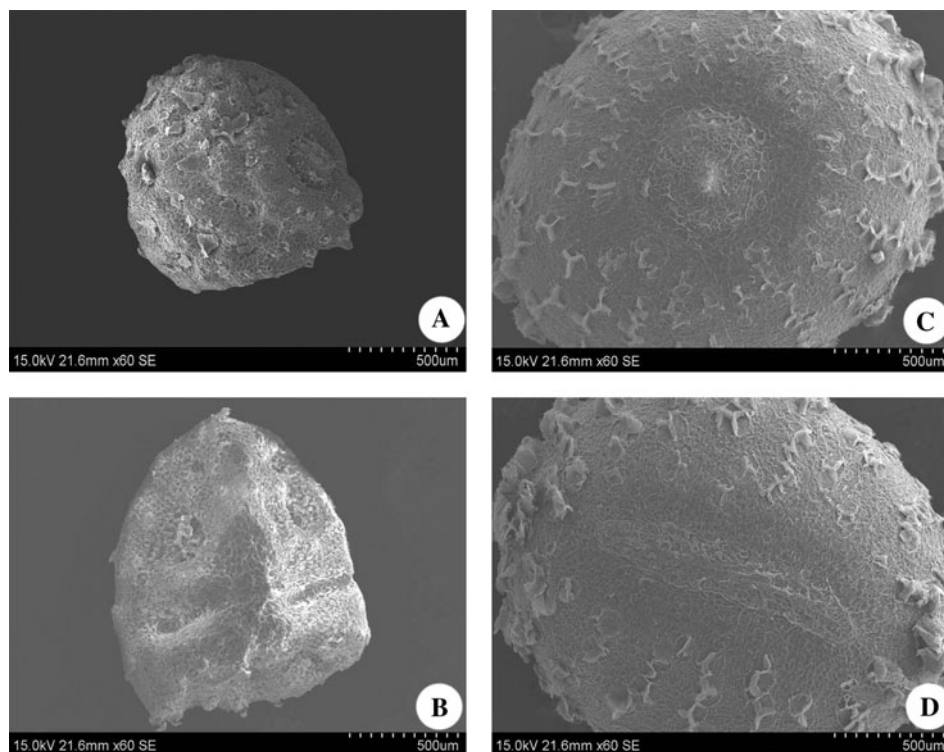


FIG. 2. SEM micrographs of seeds of *Murdannia nudiflora* (L.) Brenan and *M. assamica* Nampy & A.Ancy. A–B, *M. nudiflora*: A, dorsal view; B, ventral view. C–D, *M. assamica*: C, dorsal view; D, ventral view. A–B from Anna Ancy & Santhosh Nampy 2310 (DEV), C–D from the holotype.

obovate capsules and 1-seeded locules as opposed to a 1–1.5 cm long cincinnus with c.12 flowers, 3-lobed antherodes, elliptic capsules and 2-seeded locules in *M. nudiflora*. – Type: India, Assam, Goalpara District, Goalpara town rail station, 26°07'26.73"N, 90°37'18.26"E, 50 m, 6 ix 2009, Anna Ancy & Santhosh Nampy 2376 (holo DEV; iso CALI, L).

Annual ascending herb, basally 2- or 3-branched. *Roots* fibrous, from base and from lower nodes which touch the soil. *Stem* light purple towards base; internodes 6–10 cm long, green, glabrous but with a line of hairs. *Leaves* cauline, alternate, usually reduced distally on the shoot; sheath 0.3–1 cm long, green with slight purple tinge, minutely pubescent, ciliate at apex and along the fused margin; lamina linear-lanceolate,



FIG. 1. *Murdannia assamica* Nampy & A.Ancy. A, habit; B, single flower; C, bracteole; D, sepal; E, petal; F, stamen; G–H, staminodes; I, gynoecium; J, capsule; K, seed dorsal view; L, seed ventral view. Drawn by Suhana M. from the holotype.

6–15 × 0.5–0.7 cm, base narrowly rounded, margin scabrous, hyaline, apex acute to acuminate, both surfaces glabrous to puberulent. *Inflorescence* terminal, a single pedunculate cincinnus; peduncle glabrous, 2–2.5 cm long; cincinni 2–3 cm long, c.30-flowered; bracteoles ovate, 5–6 mm long, caducous, pale green. *Flowers* bisexual and male, closely placed on the cincinnus axis, opening at c.10.00 hours in the morning, withering at c.12.00 noon; pedicel 1–1.5 × 0.5 mm, glabrous, slightly bending. *Sepals* 3, free, elliptic, equal to subequal, 3.5–4 × 1–1.2 mm, pale green, glabrous. *Petals* 3, free, elliptic, 4–5.1 × 1.5–2 mm, lilac, glabrous, margin entire. *Stamens* 2, antesepalous, dorsifixed; filaments hairy on the lateral sides basally; anther lobes elliptic, 0.4–0.6 mm long; dehiscence longitudinal; pollen white, elliptic. *Staminodes* 4, three antepetalous, with antherodes hastate or knob-like, white; filaments glabrous or with 1–3 hairs; one antesepalous with antherode knob-like and filaments with 3–6 hairs. *Ovary* elliptic to ovate, glabrous; style white, 1.6 mm long, glabrous; stigma papillate. *Capsule* widely obovate, 4.1 × 4 mm, glabrous, light brown, dehiscent, trilocular. *Seed* 1 per locule, elliptic, 2–2.2 × 1.8–2 mm; testa brown, smooth with raised white flaky material on the surface; embryotega dorsal; hilum linear.

Distribution. Known only from Goalpara District in Assam.

Habitat and ecology. Among woods and on wayside, in shade, in alluvial soil.

Phenology. August–November, flowering time 10.00–12.00 hours.

Etymology. The species is named after Assam, a floristically rich state of Northeast India, which includes the type locality, Goalpara.

Conservation status. Critically Endangered CR B1ab(i,iii,v) B2ab(ii,iii,v). Due to increasing human interference the collection localities near Goalpara town rail

TABLE 1. Morphological differences between *Murdannia assamica* and *M. nudiflora*

Character	<i>M. assamica</i>	<i>M. nudiflora</i>
Cincinnus	2–3 cm long, c.30-flowered	1–1.5 cm long, c.12-flowered
Pedicel	1–1.5 mm long, slightly bending	2.5–4.5 mm long, straight to ascending
Bracteole	5–6 mm long	1.5–3.5 mm long
Sepals	3.5–4 × 1–1.2 mm	2–3 × 1.5 mm
Antherode	Hastate or knob-like	3-lobed
Capsule	Widely obovate	Elliptic
Seeds	1 per locule, 2–2.2 × 1.8–2 mm, smooth with raised white flaky material	2 per locule, 1.3–1.7 × 1.1–1.4 mm, foveolate-reticulate to foveolate or radiately ridged, with numerous pale warts around depressions
Embryotega	Dorsal	Lateral to semilateral
Hilum	Linear	Oblong to elliptic

station (approximate area 5–6 km²) and near Paikan (< 1 km²) are under threat. The two localities are 22 km apart. As the species is so far known only from a few localities in the Goalpara District of Assam, and this area is subject to urbanisation, there is a high possibility that the species will disappear in the foreseeable future. A seed bank of *Murdannia assamica* has been established at St Joseph's College.

Additional specimens examined. INDIA. Assam, Goalpara District, Goalpara town rail station, 4 ix 2011, *Anna Ancy & Santhosh Nampy* 4606 (DEV); near Paikan, way to Krishnai, 4 ix 2011, *Anna Ancy & Santhosh Nampy* 4676 (DEV).

Murdannia assamica is similar to *M. nudiflora* in general appearance, in their caducous bracts, inflorescence pattern, flower colour and in their two fertile stamens and four staminodes. It can be differentiated from the latter by the characters given in Table 1. A prominent to less prominent basal rosette and secondary inflorescences are sometimes found in *Murdannia nudiflora*, but they are lacking in *M. assamica*.

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