A New Species of *Murdannia* Royle (Commelinaceae) from Northern Western Ghats of India

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ABSTRACT: A new species of *Murdannia* Royle (Commelinaceae), *Murdannia brownii* Nandikar & Gurav, is described and illustrated from northern Western Ghats of India. It differs from allied *M. versicolor* (Dalzell) Bruckn. in having obovate, rose-red to flesh coloured petals, elliptic capsule and falsifoveate-glebulate seed surface.

KEY WORDS: Commelinaceae, *Murdannia brownii*, new species, northern Western Ghats, India.

INTRODUCTION

The genus *Murdannia* Royle (nom. cons.), with ca 50 species is pantropical, warm temperate and exhibits greatest diversity in tropical Asia (Faden, 2000). In India the genus is represented by twenty five species (Karthikeyan et al., 1989). Few species of *Murdannia*, shows great similarity in their vegetative structures, that make intricate to determine the species from one another, especially group with axillary thyrses, includes *M. lanuginosa* (Wall. ex C.B.Clarke) G. Bruckn., *M. versicolor* (Dalzell) G. Bruckn. and *M. crocea* (Griff.) Faden. However, they are easily predictable through seed characters and its arrangement in the locules.

During our frequent visits to northern Western Ghats for the survey of Commelinaceae, an interesting *Murdannia* specimen was collected from the high altitude lateritic Morjai Plateau, Kolhapur district in Maharashtra state. On critical examination of floral as well as seed characters using SEM revealed that it is an undescribed species which is described and illustrated here as *Murdannia brownii*.

TAXONOMIC TREATMENTS

Murdannia brownii Nandikar & Gurav, *sp. nov.* Fig. 1

A *Murdannia versicolore* (Dalzell) G. Bruckn. *petalis obovatis roseorubris ad carnosis, ovario c. 1 mm longo, stylo 1-1.2 mm longo, capsula 4- vel 5-seminali, seminibus 1-1.2 mm longis 1 mm latis falsifoveolatis ad glebulosis differt.*

Type: India, Maharashtra, Kolhapur District, Gaganbawda Tahsil, Borbet, Morjai plateau, 16º30'53"N, 73º53'34"E; 970 m, alt., 21 Sept. 2009, *Nandikar M. D. 62* (holotype: BSI; isotype: SUK)

Unbranched or sparsely branched annuals, with thin, fibrous roots. Shoots erect to ascending, ca. 25 cm. long, often rooting at lower nodes; nodes puberulous; internodes green to purple puberulous. Leaves cauline, basal distichous; sheath green, 0.4-0.5 cm long, with a line of cilia along the fused edges, mouth ciliate; lamina ovate, 1-5 × 0.5-1.5 cm, pubescent base cordate, margin undulate, apex acute. Flowers in axillary thyrses, bisexual; pedicel 1-1.5 cm long (when capsule mature it becomes 1.5-1.8 cm long and jointed), ciliate; sepals 3, pale green with purple tinge, elliptic, 5 × 1.2 mm, entire; petals 3, rosy red – flesh-coloured, obovate, 6 × 4 mm, margin undulate. Fertile stamens 3, antesepalous; filaments free, 3 mm long, purple, bearded; anthers whitish yellow, dorsifixed, connective deep to faint blue; pollens monosulcate, elliptic to bean shaped. Staminodes 3, antepetalous; filaments 2 mm long, purple, sparcely bearded; antherode light yellow, basifixed, trilobed. Ovary, elliptic, 1 mm long, glabrous, pale green; style 2 mm long, orange – yellow; stigma simple. Capsule trilocular, trivalved, elliptic, apiculate, 3.5-4 mm long, ca. 2 mm thick, shiny brown. Seeds uniseriate, 4-5 per locules, 1.2 × 1 mm, various in shape trapezoidal-triangular in outline; testa yellowish-brown to grey, falsifoveate-glebulate; hilum elliptic; embryotega lateral.

Phenology: Flowering and fruiting September – November and flowers open between 10 am – 12 noon.

Distribution and habitat**:** Northern Western Ghats of India, annual herb, adapted to high altitude lateritic plateaus.

Specimens examined: Paratypes: INDIA, Karnataka**,** Belgaum district, Kankumbi, 27.9.2009, *M.D. Nandikar* 117, (SUK); Jambhoti, on the way of Kankumbi lateritic slope 27.9.2009, *M. D. Nandikar* 118, (SUK).

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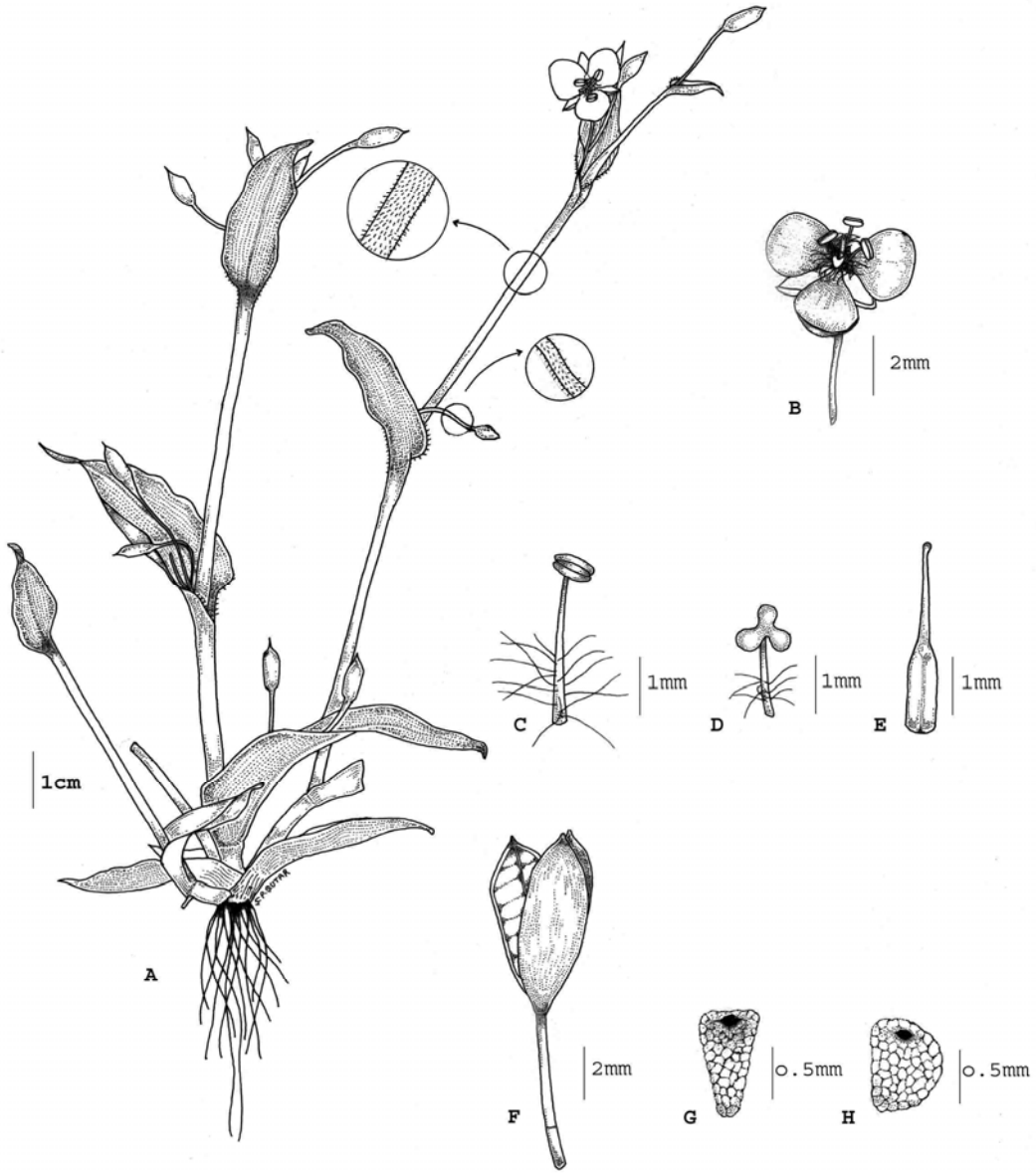


Fig. 1. *Murdannia brownii* Nandikar & Gurav. A: Habit. B: Flower. C: Stamen. D: Staminode. E: Pistil. F: Capsule. G, H: Seed, dorsal view (from the holotype).

Etymology: The species is named after eminent Scottish botanist Robert Brown in appreciation of his great contribution to Commelinaceae.

Note: *Murdannia brownii* is closely allied to *M. versicolor* and, in view of the great variability in that species; authors were not tempted to treat it as a new species. However, in the field *M. brownii* plants were quite distinct and being recognizable by their reproductive characters like rosy-red to flesh coloured, obovate petals (Fig. 2A). Fruiting specimens had generally less seeds per locules as compare to *M. versicolor* and distinctive seed surface (Figs. 2 C, E). In addition, *M. brownii* is strictly restricted to high altitude lateritic plateaus whereas *M. versicolor* is widespread from low to high altitude plateaus. The differences between the two species are given in Table 1.

Authors observed wide populations of *M. brownii* from few localities, which were first, appeared as *M. versicolor*, but after critical examination we are able conclude its identity. Similarity in the vegetative emergence with *M. versicolor* might be the reason behind the negligence of this species by earlier workers and possible emergence of *M. versicolor* as a common species in northern Western Ghats.

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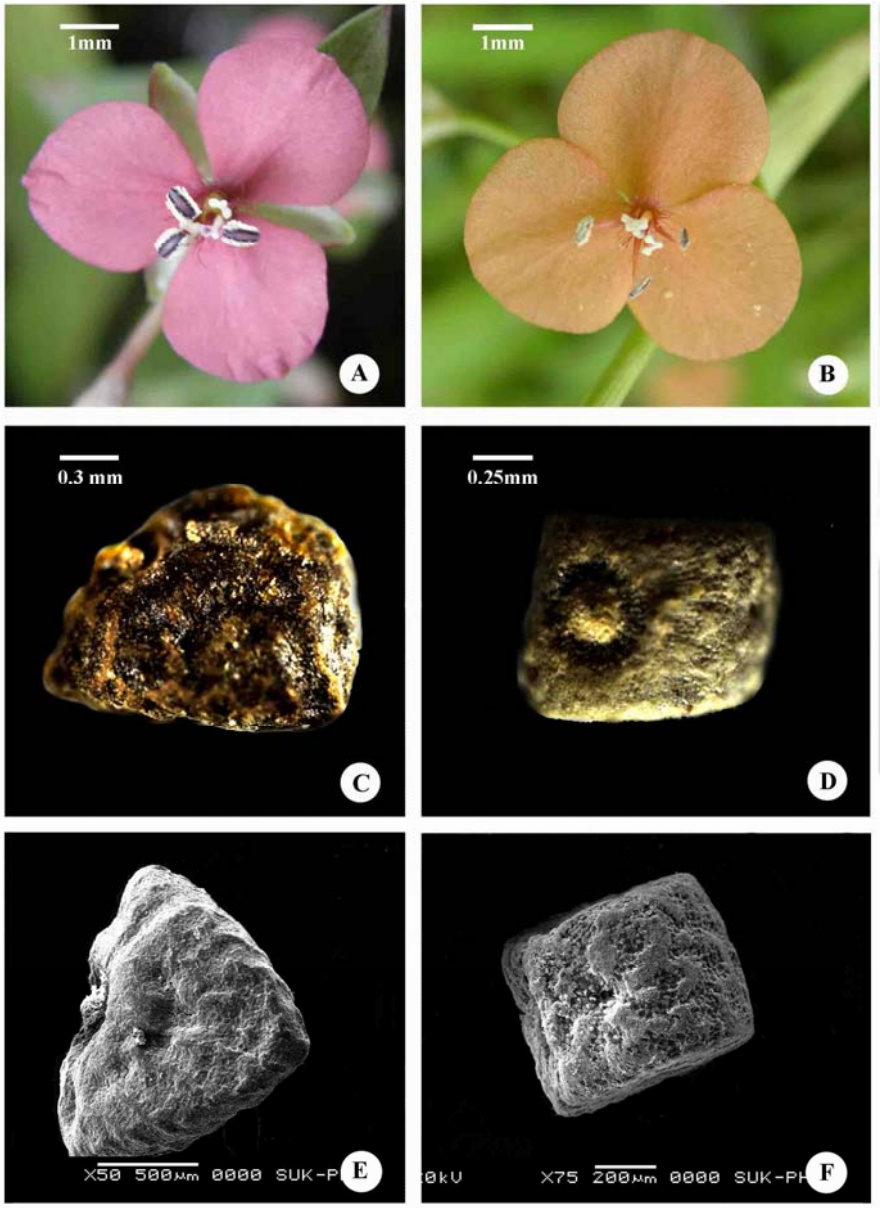


Fig. 2. A, C, E: *Murdannia brownii.* A: Flower. C, E: Seed (C: dorsal view with lateral embryotega; E: SEM dorsal view). B, D, F: *Murdannia versicolor.* B: Flower. D, F: Seed (D: lateral view showing embryotega; F: SEM dorsal view).

Table 1. Comparison of selected morphological characters of *Murdannia brownii* Nandikar & Gurav and *Murdannia versicolor* (Dalzell) G. Bruckn.

Characters	*Murdannia brownii*	*M. versicolor*
Petals		
shape	obovate	semi-orbicular
colour	rosy red to flesh-coloured	yellowish orange
Ovary	1 mm long	1.5 mm long
style	1 - 1.2 mm long	1.2 - 1.5 mm long
Capsule		
length	3.5 - 4 mm long	5-6 mm long
Seeds		
per locule	4 - 5 seeded	7 - 9 seeded
length	1-1.2 × 1mm	0.7 - 1 × 0.6 mm
surface	falsifoveate – glebulate	rugose to scrobiculate

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LITERATURE CITED

Dalzell, N. A. 1851. Commelinaceae. Hooker's Journal Botany and Kew Garden Miscellany **4**: 136.

Faden, R. B. 2000. Commelinaceae. In: Dassanayke, M. D. and W. D. Clayton (eds.), A Revised Handbook to the Flora of Ceylon. **XIV:** 116-196. Oxford & IBH Publishing, New Delhi, India.

Karthikeyan, S., S. K. Jain, M. P. Nayar and M. Sanjappa. 1989. *Florae Indicae Enumeratio Monocotyledonae*. Flora of India Series 4. Botanical Survey of India, Calcutta. pp. 27-30.

印度西高止山脈北部水竹葉屬（*Murdannia* Royle, 鴨跖草科, Commelinaceae）的新種

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摘要：本文描述並說明分布於印度西高止山脈北部一水竹葉屬（*Murdannia* Royle, 鴨跖草科, Commelinaceae）之新種 – *Murdannia brownii* Nandikar & Gurav。它與變色水竹葉（*M. versicolor* (Dalzell) Bruckn）的不同在於具有倒卵形、玫瑰紅色至肉色的花瓣，橢圓蒴果和假蜂巢狀 – 圓隆起狀（falsifoveate-glebulate）的種子表面。

關鍵詞：鴨跖草科、*Murdannia brownii*、新種、西高止山脈北部、印度。

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