

**A NEW VARIETY OF *DIMERIA CONNIVENS* HACK. (POACEAE)
FROM INDIA**

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Dimeria Robert Brown (1810) is well known paleotropical genus belonging to Poaceae (Andropogoneae - Dimeriinae) (Clayton and Renvoize, 1986). Globally, it is represented by c. 65 species distributed in tropical Asian region and in India by c. 40 species (Bor, 1953, 1960; Clayton and Renvoize, 1986; Clayton *et al.*, 2006; Kiran Raj, 2008; Kiran Raj *et al.*, 2015, 2016). *Dimeria* is characterized by equal and divergent binate racemes with laterally compressed spikelets.

While exploring the plant wealth of Satkosia Tiger Reserve, first author has collected an interesting *Dimeria* species from Banigoccha Reserve Forest, Mahanadi Wildlife Division. After critical examination of the specimens with available literature and comparison with allied species, it is revealed that the species is distinct from *Dimeria connivens* and therefore, recognized it as a new variety of *Dimeria connivens* Hack. A key to the varieties of *D. connivens* in India is also provided.

Taxonomy

***Dimeria connivens* Hack. var. *roxburghiana* K.C. Mohan & Prasanna, var. nov. (Plate 1).**

Diagnosis: *Dimeria connivens* var. *roxburghiana* is similar to var. *connivens*, but differs in habit, number and length of the racemes, broadly winged corky upper glume and linear-lanceolate lower lemma (Table 1).

Type: INDIA, Odisha, Nayagarh, Satkosia Tiger Reserve, 20° 24' 15.5" N; 084° 44' 09.3"E, 201 masl elevation, 30 September, 2016, Chandramohan 8354 (*Holotype:* CAL!; *Isotype:* BSID!).

Annuals. Culms erect, 40–50 cm high; nodes hairy, clothed with leaf sheath. Leaf sheath terete, margins pilose with tubercle based hairs, 2.0–2.5 cm long, loose, uppermost spathiform; ligule membranous, ciliate at apex, 0.5–0.6 cm long; leaf blade linear-lanceolate, 7–9 × 0.2–0.3 cm, glabrous on both sides and tubercle based hairy along margins, margins more or less wavy, acuminate at apex. Racemes 2 or 3, erect, eventually divergent, 4.2–7.0 cm long. Rachis narrowly winged, triquetrous, ciliate along margins, 0.9–1.0 mm wide, zig-zag. Spikelets solitary, up to 4.1 × 1.2 mm, falling entire at maturity; pedicels thick, 0.3–0.4 mm long, glabrous; raceme internodes 1 mm long; callus oblong, minute, hairy. Lower glume linear-lanceolate, 3.5–3.8 × 0.2–0.3 mm long, acute to acuminate at apex, sub-coriaceous, 1-keeled, pilose along keel, margins hyaline, ciliate on outer surface. Upper glume elliptic-oblong, 4.1–4.3 × 0.9–1 mm, acute at apex, sub coriaceous, 1-keeled, winged all along the keel, pilose, margins hyaline, ciliate on outer surface. Florets 2; lower barren, epaleate, upper bisexual. Lower lemma lanceolate, 1.8–1.9 mm, hyaline, acute, margins ciliate towards the apex. Upper lemma elliptic, 2.8–3.0 × 0.8–1.0 mm, 2-lobed at apex, awned from the sinus, 1-nerved; awn geniculate, 10–11 mm long. Stamens 2; anthers 1 mm long. Palea very narrow. Caryopsis lanceolate, 2.0–2.4 × 0.2–0.3 mm, brown.

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Plate 1. *Dimeria connivens* var. *roxburghiana* var. nov. A. Habit; B. Rachis; C. Spikelet; D. Lower glume; E. Upper glume; F. Upper lemma; G. Lower lemma; H. Caryopsis.

Flowering and fruiting: September – October.

Etymology: The species is named after William Roxburgh, the father of Indian Botany.

Distribution and ecology: *Dimeria connivens* var. *roxburghiana* is collected from the single locality from Satkosia Tiger Reserve with few individuals. It grows in open rocky slopes in deciduous forests in association of *Dimeria mooneyi* and *Striga angustifolia*.

Conservation status: As per the IUCN guidelines version 4.0 (IUCN, 2014), the species falls under the category Data Deficient (DD), as it is known from a single location and its population is scanty.

Table 1. Morphological comparison between *Dimeria connivens* var. *connivens* and *Dimeria connivens* var. *roxburghiana*.

Characters	<i>Dimeria connivens</i> var. <i>connivens</i>	<i>Dimeria connivens</i> var. <i>roxburghiana</i>
Habit	Culms 10–40 cm long	Culms 40–50 cm long
Leaf blades	Confined to the base of the culms, sometimes all along culms; blade 0.5–7.5 cm long	All along culms; blade 7–9 cm long
Raceme	2, 3–6 cm long	2 or 3, 4.2–7.0 cm long
Rachis	c. 0.5 mm wide; triquetrous in section	c. 1 mm wide; more or less circular in section
Lower glume	Narrowly ovate	Linear-lanceolate
Upper glume	Oblong, narrowly winged all along keel	Elliptic-oblong, broadly winged all along the keel
Lower lemma	Narrowly obovate, acute at apex, 1.0–1.3 mm long	Linear-lanceolate, acute at apex, 1.8–1.9 mm long

Key to the varieties of *Dimeria connivens*

1. Rachis c. 0.5 mm wide; lower glume narrowly ovate; lower lemma narrowly obovate, 1.0–1.3 mm long. *D. connivens* var. *connivens*
- Rachis c. 1 mm wide; lower glume linear-lanceolate; lower lemma linear-lanceolate, 1.8–1.9 mm long. *D. connivens* var. *roxburghiana*

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References

- Bor, N.L. 1953. Notes on Asiatic grasses XI. The genus *Dimeria* R. Br. in India and Burma. Kew Bull. 7: 553–592.
- Bor, N.L. 1960. *The Grasses of Burma, Ceylon, India, and Pakistan* (excluding Bambuseae). Pergamon Press, London.
- Brown, R. 1810. *Prodromus florae Novae Hollandiaeetinsulae Van Diemen*, 1. J. Johnson, London, 204 pp.
- Clayton, W.D. and Renvoize, S.A. 1986. *Genera Graminum. Grasses of the World*. Kew Bull. Add. Ser. XIII. 389 pp.

- Clayton, W.D., Vorontsova, M.S., Harman, K.T. and Williamson, H. 2006 (onwards). GrassBase – The Online World Grass Flora. <<http://www.kew.org/data/grasses-db.html>>. Retrieved on 2 March 2015.
- IUCN. 2014. IUCN Red List categories and criteria, version 2. IUCN Species Survival Commission.
- Kiran Raj, M.S. 2008. Taxonomic revision of the sub-tribe *Dimeriinae* Hack.: Andropogoneae (Poaceae - Panicoideae) in Peninsular India. Ph.D. thesis (Unpublished). University of Calicut, India, pp.1–409.
- Kiran Raj, M.S., Sivadasan, M., Veldkamp, J.F., Alfarhan, A.H. and Amal Tamimi, A.S.M. 2015. A revised infrageneric classification of *Dimeria* R. Br. (Poaceae: Andropogoneae). Bangladesh J. Plant Taxon. **22**(1): 47–54.
- Kiran Raj, M.S., Sivadasan, M., Dileep, P. and Alfarhan, A.H. 2016. A new subspecies of *Dimeria hohenackeri* Hochst. ex Miq. (Poaceae) from India. Bangladesh J. Plant Taxon. **23**(1): 27–31.

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