

Short Communication

Drimia raogibikei (Hemadri) Hemadri (Asparagaceae: Scilloideae): Addition to the monocots of Tamil Nadu, India

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(Received: May 31, 2021; Revised: July 27, 2021; Accepted: July 30, 2021)

ABSTRACT

An endemic hysteroanthous geophyte, *Drimia raogibikei* (Hemadri) Hemadri is reported for the first time for Tamil Nadu.

Key words: *Drimia*, Endemic, Monocot, Tamil Nadu

INTRODUCTION

A bulbous monocotyledonous genus *Drimia* Jacq. is well known for its therapeutic value and its bulbs are the source of bufadienolides a cardiac glycoside that are primarily used in cardiac dysfunction (Mulholland, 2013). According to molecular phylogenetic studies (Chase *et al.*, 2009; APG, 2016) the genus belongs to Asparagaceae subfamily Scilloideae tribe Urgineae with about 99 species (POWO, 2021). It is distributed all over Africa, Asia and Europe India but Africa and India are the centre of evolution for *Drimia* (Manning and Goldblatt, 2018; Saha and Jha 2019). About eight species are found in India (Yadav *et al.*, 2021) among them seven are strict endemics (Yadav *et al.*, 2019). The genus is represented by five species in Tamil Nadu, namely *Drimia coromandeliana* (Roxb.) Lehak & P.B. Yadav, *D. indica* (Roxb.) Jessop, *D. jeevae* Karupp. & P. Ravich., *D. polyantha* (Blatt. & McCann) Stearn and *Drimia wightii* Lakshmin.

Floristic surveys carried out in recent years in Bharathidasan University and Narthamalai allowed as collecting some interesting specimens of *Drimia*. With the help of pertinent literature and protologue (Hemadri 2006; Pullaiah *et al.*, 2018; Yadav *et al.*, 2019), we identified the species as *D. raogibikei* (Hemadri) Hemadri. So far, this little-known ephemeral moncotyledon was not reported from the flora of Tamil Nadu (Henry *et al.*, 1989). Hence a detailed description based on fresh collections and photo-plate is provided to facilitate its correct identification in the field.

DESCRIPTION

Drimia raogibikei (Hemadri) Hemadri, Treat. Trib. Med.: 224. 2006; Yadav *et al.* in South African J. Bot. 123: 83. 2019. *Drimia raogibikei* (Hemadri) Pull., Fl. Andhra Pradesh 5: 1930. 2018 (isonym). *Urginea raogibikei* Hemadri, Med. Fl. Pragati Resorts.: 385. 2006. *Indurgia raogibikei* (Hemadri) Mart.-Azorin, M.B.Crespo, M.Pinter & Wetschnig in Phytotaxa 397 (4): 294. 2019 (Figure 1).

Hysteroanthous geophytes; bulbs tunicated, globose or globose-ovoid, 5–8.5 x 4–7 cm with up to 4 cm long neck, sub- outer scales dirty white, inner white, fleshy. Leaves 3–7 appear after flowering, linear-oblong, 20–30 x 1.1–2.0 cm, broad at base, acute at apex, green, glaucous. Scapes solitary, up to 18 cm long, erect, cylindrical, greenish brown. Racemes compact, 4–9 cm long, 15–26-flowered. Bracts ovate or ovate-deltoid, minute, 2–3 mm long, spurred, 1-nerved, minute, caducous. Flowers diurnal, 6–8 mm long, closely arranged, pale yellow–brown, midrib brownish–purple. Pedicels 2–3 mm long, glabrous, greenish-purple. Tepals 6, arranged in two rows (3+3), connate at base, elliptic-oblong, 1-nerved, non-reflexed, light yellow to brown in colour, brownish-purple at midrib; outer tepals lanceolate, slightly larger than the inner, 6–8 mm long; inner tepals oblong, slightly shorter than the outer, 6–7.5 mm long, glabrous. Stamens 6, 4–4.5 mm long; filament 2.5–3 mm long, broad at base, acute at apex, glabrous; anther dorsifixed, as long as the filament, dithecous, pale yellow, introrse, dehiscing through longitudinal slits. Ovary ovoid-oblong, 2.5–3 mm long, sessile, trilocular, ovules many in each locule; style 2.5 mm long, narrow, slightly grooved; stigma sub-globose, trifold, trigonous. Capsules ovoid or oblong-ellipsoid, 12–15 x 8–10 mm, distinctly triquetrous and winged, wing margins purplish brown, glabrous, 8–12-seeded. Seeds ovoid, shiny, 8–10 mm long, black, flat, broadly winged.

Flowering & Fruiting: March–May.

Distribution: Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu [present report], endemic.

Biotic association: *Drimia raogibikei* grows on foothills and also in the plains in association with *Aphyllodium biarticulatum*, *Blepharis integrifolia*, *B. maderaspatensis*, *Chloris barbata*, *Cyperus cyperinus*, *Dipcadi montanum*, *Eragrostis viscosa*, *Digitaria longiflora*, *Fuirena ciliaris*, *Grona triflora*, *Heliotropium strigosum*, *Heteropogon contortus*, *Justicia tranquibariensis*, *Paramollugo nudicaulis*, *Perotis indica*,

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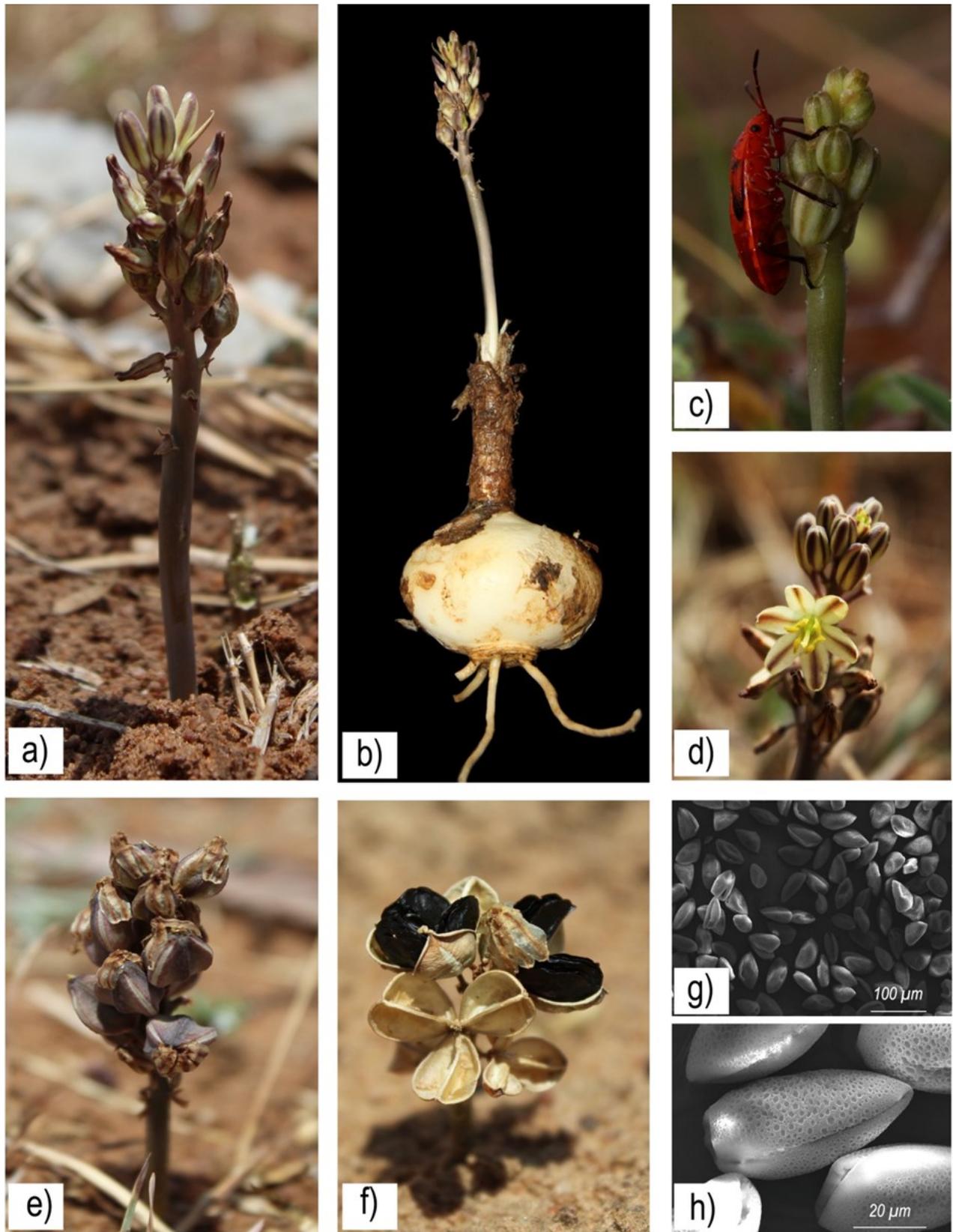


Figure 1. *Drimia raogibikei* (Hemadri) Hemadri; A. Habit; B. Entire plant with bulb; C. Inflorescence close-up with pest; D. Flower close-up; E. Fruiting twig; F. Capsule exposed with seeds; G. SEM of Seeds.

Polygala arvensis, *Portulaca pilosa*, *Ruellia prostrata*, and *Striga angustifolia*.

Note: Hemadri (2006) and Yadav *et al.* (2019) opined that *D. raogibikei* is a distinct species often confused with *D. wightii* (\equiv *Urginea congesta* Wight) in the past by many workers (Rajgopal and Reddy, 1987; Dixit and Yadav, 1989; Yadav and Dixit, 1990; Patil and Yadav, 1992, 1993). The species is easily recognizable by the pale yellow or brown coloured hysteranthous flowers that are arranged in 15–20 cm long, compact racemes.

Yadav *et al.* (2019) included Tamil Nadu along with Andhra Pradesh, Karnataka and Maharashtra as areas of distribution for *D. raogibikei*; however the species was not included in the distribution map as well as in the specimen examined section. Recently Karuppusamy and Ravichandran (2021) described a new species namely *Drimia jeevae* from Alamparai Hills but they erroneously compared the new species with *D. razii* and *D. wightii* but it very closely resembles *D. raogibikei*. Furthermore the morphological characters of *D. jeevae* fall within the variation range of *D. raogibikei*. We didn't have a chance to examine the type specimens of *D. jeevae*, hence we are not in a position to comment on the taxonomic status of the species and it will be planned to evaluate later.

Specimens examined: INDIA. Tamil Nadu, Tiruchirappalli Dist., Bharathidasan University campus, 6 April 2021, *R. Rajendran et al.* 552 (Alagappa University Herbarium); Tiruchirappalli Dist., foothills of Narthamalai, 120m a.s.l., 15 April 2021, *C. Rajesekar et al.* 154 (Alagappa University Herbarium).

CONCLUSION

The greatest hindrance to conservation management is the knowledge gap, mainly for distribution of species (Kiew and Rafidah, 2021). To lock the knowledge gap, it is necessary to recognize and survey the similar habitats to know the exact population size. Due to urbanization, the present collection localities are facing serious threat. Therefore urgent conservation measures are necessary for the conservation of this endemic ephemeral because rapid urbanization leads to the intense transformation and devastation of natural landscapes and original habitats of local flora (Ghahremaninejad *et al.*, 2021).

ACKNOWLEDGEMENTS

Authors (RR, CR & RK) thank the MHRD-RUSA 2.0 [F.24/51/2014-U, Policy (TNMulti-Gen), Department of Education Government of India] for financial assistance. The second author (RR) is grateful for the award of Junior and Senior Research Fellowship of the DST-PURSE (Bharathidasan University Ref. No. 41891/E8/2010 dt. 06.02.2012) and Project Fellow of the UGC-SAP DRSII (Bharathidasan University Ref. No. 43278/P2/2010 dt. 16.05.2019).

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