



Western Ghats Special Series

AN ENDEMIC AND CRITICALLY ENDANGERED SPECIES, *GYMNEMA KHANDALENSE* SANTAPAU (APOCYNACEAE: ASCLEPIADOIDEAE) - A NEW RECORD TO GOA STATE, INDIA

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Anjunem Lake is located on Sanquelim-Belgaum Highway in the northern Goa District of Goa State. It lies between 15°36'56"N & 74°05'21"E and situated at an elevation of 121m. During the floristic exploration of Keri-Satteri forests of Goa State, one of us (SPK) collected *Gymnema khandalense* Santapau (Apocynaceae: Asclepiadoideae), hitherto not recorded from Goa State (Rao 1986; Naithani et al. 1997). The genus *Gymnema* R. Br. is represented by 14 species and two varieties in India (Karthikeyan et al. 2009). This species was described by Santapau based on his collections from Khandala (Pune District) in 1949 and since then it has not been collected from the type locality. This endemic species was thought to be quite rare and possibly extinct (Sundararaghavan

& Singh 1983, 1984). However, Kothari & Moorthy (1983) collected it from Masadi forest, Roha, Raigad District, Maharashtra after a lapse of 34 years. Subsequently, Sasidharan & Swarupanandan (1994) reported its extended distribution in Kerala from Vazhachal forests in Thrissur District. Yadav & Sardesai (2002) recorded it from Panhala, Kolhapur District of Maharashtra. Recently, Udayan et al. (2004) reported it from another place in Kerala, from Nilakkal forests, Pathanamthitta District. This species has been categorized as rare by Kothari (1990) and Walter & Gillett (1998), Critically Endangered by Mishra & Singh (2001) and Vulnerable (Sundararaghavan & Singh 1984; Sardesai et al. 2006). Since it forms a new record to Goa State, a brief description, phenology, and distribution along with a photo plate has been provided to facilitate its easy identification.



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Gymnema khandalense

Santapau in Kew Bull. 1948: 486. 1949 & in Rec. Bot. Surv. India 16(1): 172. 1953; Santapau & Irani in Bot. Mem. Univ. Bombay 4: 49. 1962; Kothari & Moorthy in J. Bombay Nat. Hist. Soc. 80: 259. 1983; Sasidh. & Swarupanandan. in J. Econ. Taxon. Bot. 18: 633. 1994; M.R. Almeida, Fl. Maharashtra 3(A): 245. 2003; Karthik. & al., Fl. Pl. India – Dicotyl. 1: 171. 2009. *Bidaria khandalensis* (Santapau) A.P. Jagtap & N.P. Singh in Biovigyanam 16: 62. 1990, in J. Econ. Taxon. Bot. 22: 232. 1998 & in Fasc. Fl. India 24: 67. 1999; Kothari & Moorthy, Fl. Raigad Distr.: 237, f. 1993; D.K. Mishra & N.P. Singh, End. Threat. Fl. Pl. Maharashtra: 126. 2001; A.P. Jagtap & Das Das in

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N.P. Singh et al., Fl. Maharashtra State - Dicot. 2: 337. 2001; Sardesai et al. in Indian J. Forest. 29: 181. 2006.

A large woody climber. Stems corky, winged at maturity, 6–8 cm across, pubescent when young; latex milky to yellowish-white. Leaves opposite, broadly elliptic-ovate, 8–12×7–9 cm, truncate at base, acute-acuminate at apex, sub-coriaceous, densely tomentose below. Flowers in axillary, umbellate cymes; peduncles c. 1cm long; pedicels c. 7mm long. Calyx lobes oblong, 1–1.4 mm long, acute at apex, pubescent at margins and outer surface, yellowish-green. Corolla campanulate, 3–3.5×1–1.3 mm, yellow; lobes triangular, ciliolate at margins, fleshy, pubescent inside. Corona 5, adnate,

ridges slightly protruding to corolla tube, hairy. Pollinia yellow; corpusculum red. Gynostegium c. 2mm long. Follicles lanceolate, 8–10 × c. 0.5cm, densely pubescent, white-dotted.

Specimens examined: 11.iii.2012, Sanquelim-Belgaum Highway, Keri-Sateri Forests, Anjunem Lake, North Goa District, Goa, coll. S.P. Kavade, Reg. No. 651 (BSI and Herbarium of Department of Botany, University of Pune) (Images 1 & 2).

Flowering and Fruiting: October–January.

Distribution: Endemic to Western Ghats-Maharashtra: Kolhapur (Amba, Dajipur, Manoli, Panhala, Udegiri); Pune (Karli, Khandala); Raigad (Masadi Forest,

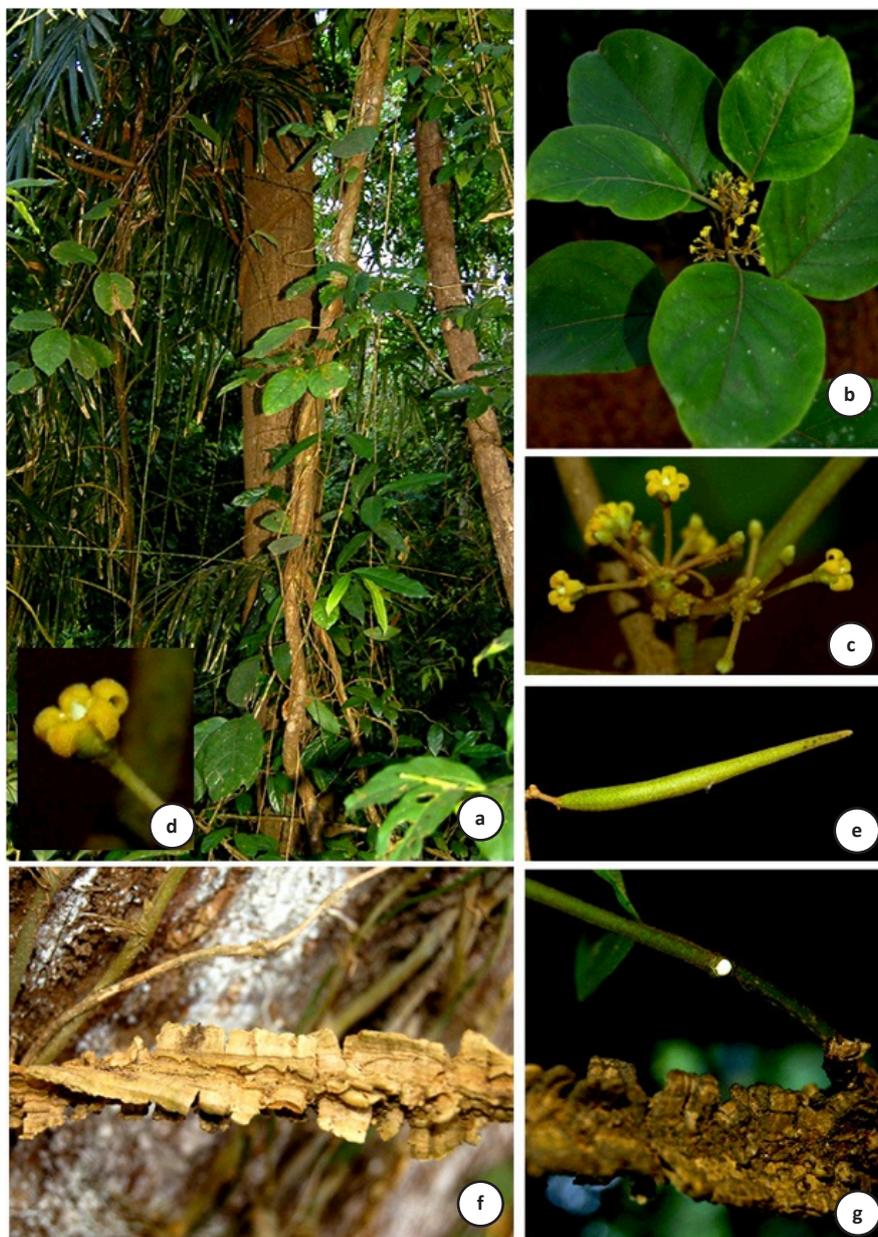


Image 1. *Gymnema khandalense*
Santapau

a - Habitat; b - Flowering twig;
c - Inflorescence; d - Single flower;
e - Follicle; f - Corky bark; g - Yellowish
milky latex. © Shrinath P. Kavade



Image 2. Herbarium image

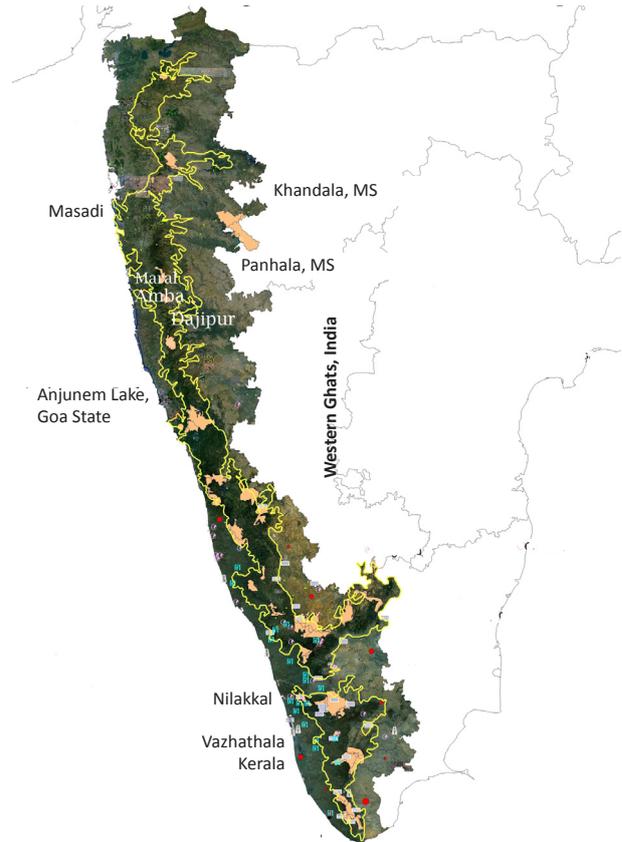
Roha); Ratnagiri (Maral-Marleshwar). Goa: Keri-Satter forests. Kerala: Pathanamthitta (Nilakkal forests, near Sabarimala); Thrissur (Athirapally, Vazhachal) (Image 3).

Ecology: Growing at an elevation of about 120m (15°36'56"N & 74°05'21"E) in shady places of dense semi-evergreen forests climbing on *Terminalia chebula* Retz. along with *Calamus thwaitesii* Becc. Other associates are *Pothos scandens* L., *Anamirta cocculus* (L.) Wight & Arn., *Chonemorpha grandiflora* (Roth) M.R. Almeida & S.M. Almeida, *Dalbergia horrida* (Dennst.) Mabb., *Ixora brachiata* Roxb., *Atalantia racemosa* Wight and *Combretum albidum* G. Don.

A total of 10 mature individuals were observed.

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Image 3. Distribution map of *Gymnema khandalense* Santapau

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