

Ceropegia concanensis, a new species (Apocynaceae: Ceropegieae) from Western Ghats, India

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Summary. A new species, *Ceropegia concanensis* Kambale, Chandore & S. R. Yadav is described from the Sindhudurg and Kolhapur districts of Maharashtra, India.

Key Words. *Attenuatae*, *Ceropegia attenuata*, Maharashtra.

Introduction

The genus *Ceropegia* L. includes more than 200 species distributed in the Old World ranging from South East Asia, India, Madagascar, Tropical Arabia, Canary Islands, Africa except the Mediterranean region, New Guinea and Northern Australia (Surveswaran *et al.* 2009; Chandore *et al.* 2010). Ansari (1984) revised the genus for India and reported 44 species. Karthikeyan *et al.* (2009) reported about 56 species, two subspecies and three varieties for India. Now there are 64 taxa (58 species, two subspecies and four varieties) of *Ceropegia* in India, including the recently described *C. bhatii* S. R. Yadav & Shendage (2010) from Karnataka, *C. mannarana* P. Umam. & P. Daniel from the gulf of Mannar, Tamil Nadu (Daniel & Umamaheswari 2001) and *C. attenuata* Hook. var. *mookambikae* Diwakar & R. Kr. Singh (2011) from Mookambika Wildlife Sanctuary, Udipi district of Karnataka. About 34 species and one variety of *Ceropegia* are endemic to Western Ghats (Diwakar & Singh 2011) which is the centre for diversity of the genus in India (Yadav 1996; Malpure *et al.* 2006). An interesting new species of *Ceropegia* belonging to series *Attenuatae* Huber collected from Vengurla, Sindhudurg district of Maharashtra, in Aug. 2011, is described and illustrated below. Presently, series *Attenuatae* is represented by 10 species and one variety in India.

Taxonomy

Ceropegia concanensis Kambale, Chandore & S. R. Yadav **sp. nov.** *Ceropegiae attenuatae* similis, corollae lobis tubo brevioribus (contra aequilongis), tubo abrupte dilatato (contra gradatim dilatato), corona exteriori pubescenti (contra dense pubescenti) differt. **Typus:** India, Maharashtra, Sindhudurg, Vengurla, Kambale 3130 (holotypus CAL; isotypi K, SUK).

<http://www.ipni.org/urn:lsid:ipni.org:names:77121671-1>

Perennial erect herbs. *Rootstock* tuberous; tuber 2 – 5 cm in diam.; globose, ovoid or depressed; roots fibrous. *Stem* solitary, more or less pubescent when young, glabrous when mature, terete, unbranched, up to 30 cm high, 1 – 2 mm in diam., green or dark purple. *Leaves* opposite, decussate, subsessile; lamina 3.2 – 6.4 × 0.8 – 1.4 cm, linear, acute, narrowed at base, puberulous on the upper surface and glabrous beneath, ciliolate at margin, midrib prominent. *Flowers* solitary, axillary, or extra axillary; peduncle 3 – 5 mm long, slender, pubescent; pedicels 5 – 6 × 1 – 1.5 mm, slender, pubescent; bracts solitary, subulate, 2 – 3 × 0.2 – 0.4 mm, hairy along the margin. *Sepals* 5-partite, 4 – 7 × 0.3 – 0.6 mm, acute, hairy along the mid-nerve. *Corolla* 5-lobed, 4 – 5.4 cm long, usually slightly curved, purple; corolla tube 3 – 3.5 × 0.2 – 0.25 cm in diam., dilated at base,

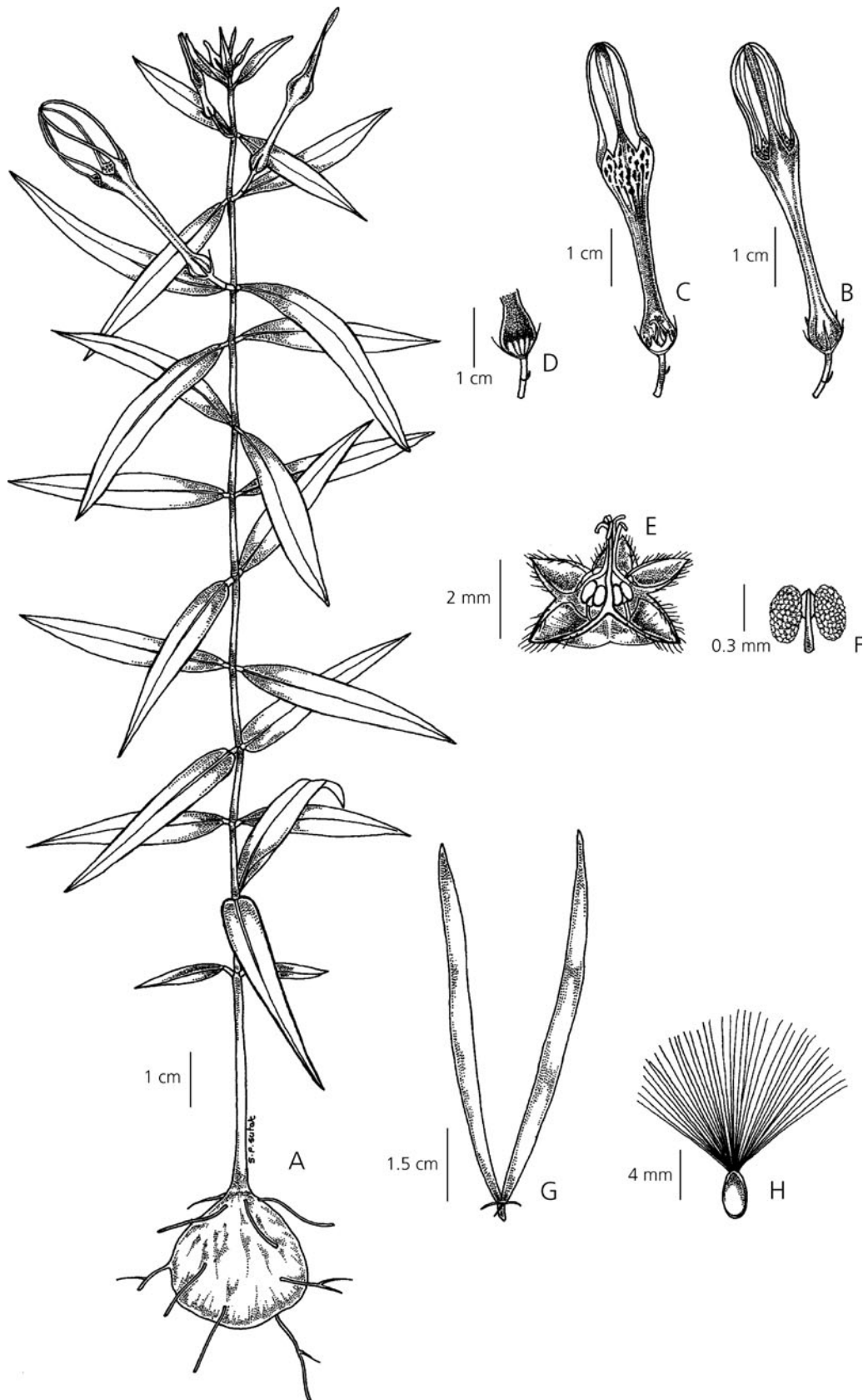


Fig. 1. *Ceropogia concanensis*. A habit; B flower; C longitudinal section of flower ; D longitudinal section of flower showing light windows; E corona; F pollinarium; G follicle; H seed with coma. All from *Kambale 3130*. DRAWN BY S. P. SUTAR.

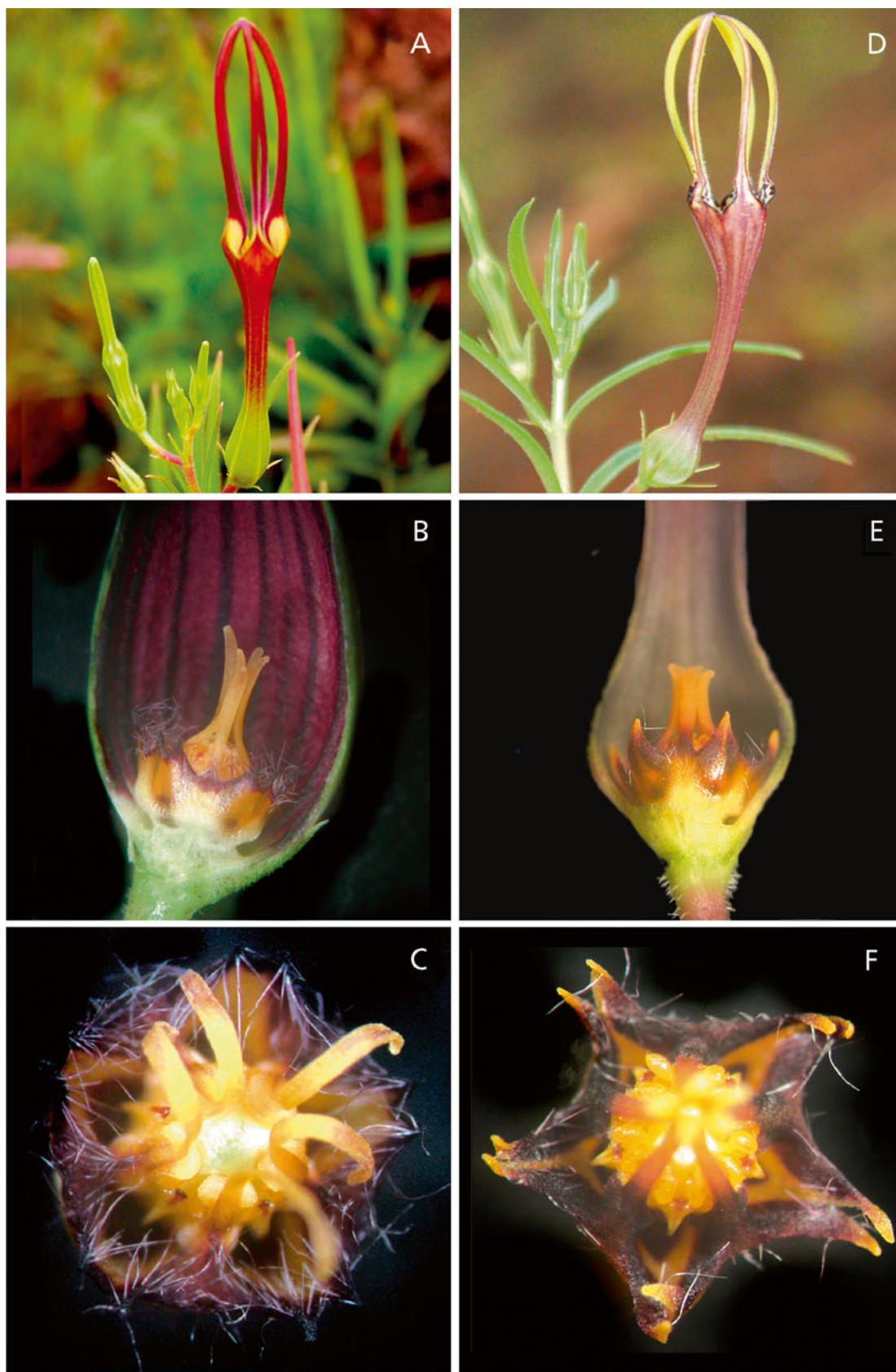


Fig. 2. *Ceropogia attenuata*. A flower; B longitudinal section of flower; C corona. *C. concanensis*: D flower; E longitudinal section of flower; F corona.

Table 1. Comparison between *Ceropegia attenuata* and *C. concanensis*.

Character	<i>Ceropegia attenuata</i>	<i>C. concanensis</i>
Corolla lobes	as long as corolla tube	shorter than corolla tube
Corolla tube	gradually dilated towards base	abruptly dilated towards base
Outer corona	densely hairy	sparsely hairy

glabrous, purple outside, pale yellowish green at dilated base, striate with dark purple lines inside in upper half and dark purple with light windows in lower half; corolla lobes 1.2 – 1.6 cm long, narrowly linear, folded on their back, connate at the tips, yellowish green to reddish yellow, pubescent on margins, corolla lobe bases sometimes blotched with dark purple spots. *Corona* biseriate, 4 – 5 mm long; outer corona cupular, entire, deeply bifid at the time of shading; segments acute, sparsely ciliate along the margin; inner corona of 5 linear lobes, erecto-divergent at apex, purple at lower half and yellow at upper half. *Pollinia* yellow, attached to brown pollen carriers by short caudicles. *Pollinarium* 0.3 × 0.2 mm. *Follicles* in pairs, up to 8 × 0.3 cm, straight, erect, tapering at both ends, glabrous. *Seeds* c. 4 × 2 mm, brown, ovate-oblong; coma c. 1 cm long, white, silky. Figs 1 and 2, Table 1.

DISTRIBUTION. India: Sindhudurg and Kolhapur districts of Maharashtra.

SPECIMENS EXAMINED. INDIA. Maharashtra: Sindhudurg, Vengurla, 15°52.507'N, 73°37.229'E; alt. 82 m, 28 Aug. 2011, *Kambale* 3130 (holotype CAL; isotypes K, SUK); Kolhapur, Tillari, 15°47.465'N, 74°10.778'E, alt. 742 m, 8 Aug. 2010, *Kambale* 3131 and 15 Aug. 2010, *Chandore* 1531 (SUK).

HABITAT. Grows in grasslands on lateritic plateaus; alt. 50 m (Devgad) to 750 m (Tillari). Typical associates are *Dimeria* spp., *Eriocaulon* spp., *Euphorbia antiquorum* L. *Glyphochloa* spp., *Hedyotis pumila* L. f., *Impatiens tomentosa* Heyne, *Leucas aspera* (Willd.) Link, *Rhaphicarpa longiflora* Wight ex Benth., *Striga gesnerioides* (Willd.) Vatke etc.

CONSERVATION STATUS. The species is restricted to lateritic plateaus around Vengurla and Devgad in the Sindhudurg district and Tillari in the Kolhapur district

of Maharashtra. In spite of intensive survey this species could not be located from other regions in the Konkan and Sahyadri ranges. The area of occupancy at each locality is about 5 km² and the species is sparsely distributed in the region. We located about 50 individuals at each locality. According to IUCN criteria, the species falls under the category Critically Endangered: CR B1ab (i, ii) (IUCN 2001; 2010). Tubers of the species are edible, and exploited by local people and conversion of lateritic plateaus for mango cultivation are the major threats to the species. **PHENOLOGY.** Flowering July – Aug.; fruiting Sept. – Oct. **ETYMOLOGY.** The specific epithet is given after the region of occurrence i.e. the Konkan.

NOTES. *Ceropegia concanensis* is similar to *C. attenuata* but differs from it in the characters listed in Table 1. *C. attenuata* shows a wide range of distribution and variation in corolla (Fig. 3A – J). It is found in the Western Ghats from Mumbai (Maharashtra) in the north to Kumta (Karnataka) in the South. It is also reported from the state of Rajasthan. The colour of the flower ranges from yellowish green to deep purple (Fig. 3A – J). Length of the flower is also variable and ranges from 5.0 cm – 7.2 cm.

Diwakar & Singh (2011) recently described a variety of *C. attenuata* viz. *C. attenuata* var. *mookambikae* from Karnataka. After critical analysis of the specimens of *C. attenuata* var. *mookambikae*, we are of the opinion that it may not deserve a varietal status since the characters (colour of the corolla, size of the corolla, pedicel length etc.) mentioned by Diwakar & Singh (2011) show a continuous range of variation from Mumbai in the north to Kumta in the south. This range of variation has been depicted in Fig. 3.



Fig. 3. Range of variation in the corolla of *Ceropogia attenuata* from various populations. A & C Kumta, Karnataka; B Goa; D Sulgeri, Karnataka; E & F Chiplun and Devgad, Maharashtra; G & H Ratnagiri, Maharashtra; J Mumbai, Maharashtra. PHOTOS BY S. R. YADAV.

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