



Rediscovery and lectotypification of *Lepidagathis clavata* (Acanthaceae), a steno-endemic species from the northern Western Ghats, India

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Lepidagathis clavata (Acanthaceae) is rediscovered after a lapse of 166 years from Chorla Ghat (type locality) in Karnataka and Chaukul plateau in Maharashtra from the northern Western Ghats, India. Besides, this name is lectotypified here, and the revised description and colour photographs are provided for an accurate and easy identification of this steno-endemic species.

Key words: IUCN, nomenclature, taxonomy

The genus *Lepidagathis* Willdenow (1800: 400) comprises about 100 species and is distributed mainly in the tropical regions of the World (Mabberley 2008). In India, it is represented by 23 species and 8 varieties, of which 20 taxa are endemic to the country (Karthikeyan *et al.* 2009). The major diversity of this genus in India is extant in the Western Ghats with a total of 23 taxa (Nayar *et al.* 2014). During the floristic studies on the lateritic plateaus of the northern Western Ghats, interesting specimens belonging to the genus *Lepidagathis* have been collected from Chorla Ghat (Sada) in Karnataka and Chaukul plateau (Amboli) in Maharashtra. Later, they were identified as *L. clavata* Dalzell (1850: 340) after a thorough scrutiny of protologue, type specimen(s) and relevant literature (Dalzell 1850, Clarke 1885, Cooke 1908, Santapau 1952, Moorthy 2001).

Kshirsagar & Patil (2004) reported *L. clavata* from Jalgaon district in Maharashtra, India. However, an examination of the voucher specimens (SRK 609, 1103), housed at the Herbarium of Department of Botany, M.J. College, Dhule, shows that they were misidentified and are actually *L. trinervis* Nees (1832: 96). Furthermore, the consultation of specimens at various Indian herbaria (BLAT, BSI, CAL, MH, SUK) reveals that this species was only collected twice previously by Dalzell and Stocks respectively. Stocks' (CAL) collection from Concan seems to be contemporary to Dalzell's collection. Thus, the present collections are very significant and form the rediscovery of this species after a lapse of 166 years.

Lepidagathis clavata was described by Dalzell (1850) based on the collection from the Chorla Ghaut [Ghat] in the Syhadree [Sahyadri] Mountains. We traced two specimens collected by Dalzell kept at K (K000950054) and NY (NY00312212) bearing his label annotation without date and locality, both can be considered as the original material. Of these, the specimen at K with the barcode number K000950054 is designated here as the lectotype as it is complete and also agrees well with the description provided in the protologue. According to Rec. 9C of ICN (McNeill *et al.* 2012), the duplicate at NY (NY00312212) is isolectotype. The existence of duplicates of Dalzell's specimens at NY provides additional information to the botanical community who wish to refer his collections since NY was not indicated by Stafleu & Cowan (1976).

In addition, the detailed description along with colour photographs of habit, details of inflorescence, flowers, and floral parts and pollen grains are provided for an accurate and easy identification of this species.

***Lepidagathis clavata* Dalzell (1850: 340). Fig. 1.**

Lectotype (designated here):—INDIA. Karnataka: Chorla Ghat [as 'Ghaut'], s.dat., Dalzell s.n. (K000950054, image!). Image is available from <http://specimens.kew.org/herbarium/K000950054>.

Perennial herb, decumbent, with woody rootstock. Stems 4-angled, with prominent leaf scars at the basal nodes, internodal distances 1–1.3 cm long, glabrous. Leaves sessile, opposite, decussate, rigid, plicate, oblong-lanceolate, 1.7–2 × 0.6–1 cm, truncate at base, entire at margins, spinescent at apex, glabrous; lateral veins 4 or 5 pairs. Inflorescences a spike, solitary,



FIGURE 1. *Lepidagathis clavata* Dalzell. **A.** Habitat (inset: close up). **B.** Habit. **C. & D.** Inflorescence. **E. & F.** Sepals. **G.** Style: hairy with stalked glands. **H.** SEM image of pollen grains. **I.** Seed. **J.** Seed with golden yellowish hygroscopic hairs. **K.** Fire burnt plants.

terminal, very rarely branched, 7.5–8 cm long, very compact, oblong or sub-clavate, silky pubescent. Bracts ovate, 1–1.2 × ca. 0.4 cm, attenuate at base, spinescent at apex, 3-veined, silky pubescent. Bracteoles linear-lanceolate, 3-veined. Calyx 5-partite, spinescent at apex, pubescent; outer three ovate-lanceolate, slightly longer than inner; inner two linear-lanceolate. Corolla 1.4–1.8 cm long, rose-pink; tube 0.4–0.5 cm long; upper lip shallowly 2-lobed; lobes broadly ovate, with horizontal pink striations throughout; lower lip distinctly 3-lobed; lobes oblong, glabrous within, hairy without; throat blotched with pale brown to yellowish in the middle with horizontal pink striations along either sides within, blotched with pink spots at gibbous part of the lower lip. Stamens 4, all fertile, didynamous; filaments 3–5 mm long, glabrous, filiform; anthers dehiscent through longitudinal slit. Ovary superior, bi-carpellary, supported on the bowl shaped disc; style 1.2–1.4 cm long, hairy intermixed with stalked glands at the lower half, glabrous otherwise. Capsules ovate, ca. 8 × 3 mm, pointed, glabrous, 2-seeded. Seeds ovoid, ca. 5 × 3 mm, oblique at base, 5-veined, acute at apex, greyish black, covered with golden yellowish hygroscopic hairs.

Phenology:—Flowering and fruiting from January to April.

Habitat:—Open lateritic plateaus at elevations of 810–850 m.

Distribution:—Endemic to northern Western Ghats, India.

Conservation status:—*Lepidagathis clavata* is provisionally categorised here as ‘Critically Endangered (CR B1ab (iii) + B2ab (iii))’ according to IUCN Red List Categories and Criteria Version 3.1 (IUCN, 2012). This species is found in few patches at Chaukul plateau (Amboli) in Maharashtra and Chorla Ghat (Sada) in Karnataka. In addition, it is also observed during the present field exploration that the frequent forest fire and infestation of fresh flowers by an insect lead to low fruit set.

Affinities:—*Lepidagathis clavata* is closely allied to *L. prostrata* Dalzell (1850: 138) by having similar corolla and capsule but it greatly differs in its habit from the latter.

Local name:—Koch (Marathi).

Additional specimens examined:—INDIA. Maharashtra: Sindhudurg District, Amboli, Chaukul plateau, 850 m, 24 January 2016, *Kolte & Kambale 262* (BSI); the same locality, 13 February 2016, *Kolte & Kambale 306* (BSI, MH, SUK); Concan, s.dat., *Stocks s.n.* (CAL0000020087). Karnataka: Belgaum District, Sada, Chorla Ghat, 14 April 2016, *Kambale, Kolte & Janarthanam 171* (Herbarium of Department of Botany in Goa University).

Acknowledgements

Authors are grateful to the Directors of Royal Botanic Gardens, Kew and New York Botanical Garden for the digital images of type specimens. We are also thankful to: Dr. P. Lakshminarasimhan and Mr. Samir Patil (BSI) and Dr. Avishek Bhattacharjee (CAL) for sending the herbarium images; Mr. Anup Deshpande (Goa University) for SEM image of pollen grains; Dr. Sanjay Kshirsagar, Dr. P.R. Ghogrey Science College, Dhule, Dr. Gouri Rane, M.J. College, Dhule and Miss. Sayali Patil and Mr. Sandip Gavade (SUK) for sharing literature and herbarium images; Dr. Nilesh Malpure, S.S.G.M. College, Kopergaon, Ahmednagar for helpful discussion. SSK is thankful to the University Grants Commission, New Delhi (F.4-2/2006 (BSR)/BL/14-15/0489 dated 1st July, 2015) for financial assistance.

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