

**LECTOTYPIIFICATION OF THE GENUS *GEISSASPIS* WIGHT & ARN.
(FABACEAE - PAPILIONOIDEAE)**

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Two species of *Geissaspis* Wight & Arn. of Indian origin namely, *G. cristata* Wight & Arn. and *G. tenella* Benth. are lectotypified. *G. tenella* var. *malabarica* Sivar. & A. Babu is synonymized here under *G. tenella*.

The genus *Geissaspis* was established by Wight and Arnott (1834) based on collections from Indian Peninsula. In India, the genus was known by two species and one variety, viz. *G. cristata* Wight & Arn., *G. tenella* Benth. var. *tenella*, and *G. tenella* Benth. var. *malabarica* Sivar. & A. Babu. However, a comparative study reveals that *G. tenella* var. *malabarica* did not warrant distinction from its typical variety and as such it is proposed here as a new synonym. *G. cristata* is widely distributed from West Bengal to Kerala and Andaman and Nicobar Islands, while *G. tenella* is restricted to Central and South India. During our studies of Fabaceae in South India, it was noticed that holotypes of these taxa were not designated hence the lectotypification of them become imperative, and the same has been done here.

1. *Geissaspis cristata* Wight & Arn., Prodr.: 218 (1834). (Fig. 1A).

Type citation: ‘*G. cristata* (W. & A.) Wight ! Cat. n. 823. *Zornia disperma* Graham! in Wall.! L. n. 5663. *Hedysarum bijugum*, herb. Klein! *Smithia? cristata*, herb. Wight! Courtallum, in moist soil. Malabar, in rice fields’.

Lectotype (designated here): INDIA, Courtallum, Herb. Wight propr. 823 (K000846467 image!); *Isolectotype* (CAL0000012761!, E00174473!, E00174477!, E00174478!, K000846468!, P02936304!) (Fig. 2).

Residual syntype: INDIA. Malabar, 26 Aug. 1826, *Wallich Cat. n. 5663* (E00174474!, E00174475!, E00174476!, K000846469!, P02936298!).

Distribution: India (Andaman & Nicobar Islands, Goa, Gujarat, Karnataka, Kerala, Maharashtra, Tamil Nadu and West Bengal), Cambodia, China, Myanmar, Nepal, Sri Lanka, Thailand and Vietnam.

Geissaspis cristata was originally described by Wight and Arnott (1834) based on the specimens of Robert Wight from Courtallum. Specimens of Graham and Klein from Malabar region were also cited in the protologue. After extensive surveys in various herbaria, we could find eight sheets of Herb. Wight 823, three sheets at E (E00174473!, E00174477!, E00174478!), two each at CAL (two sheets of CAL0000012761), and K (K000846467!, K000846468!) and one

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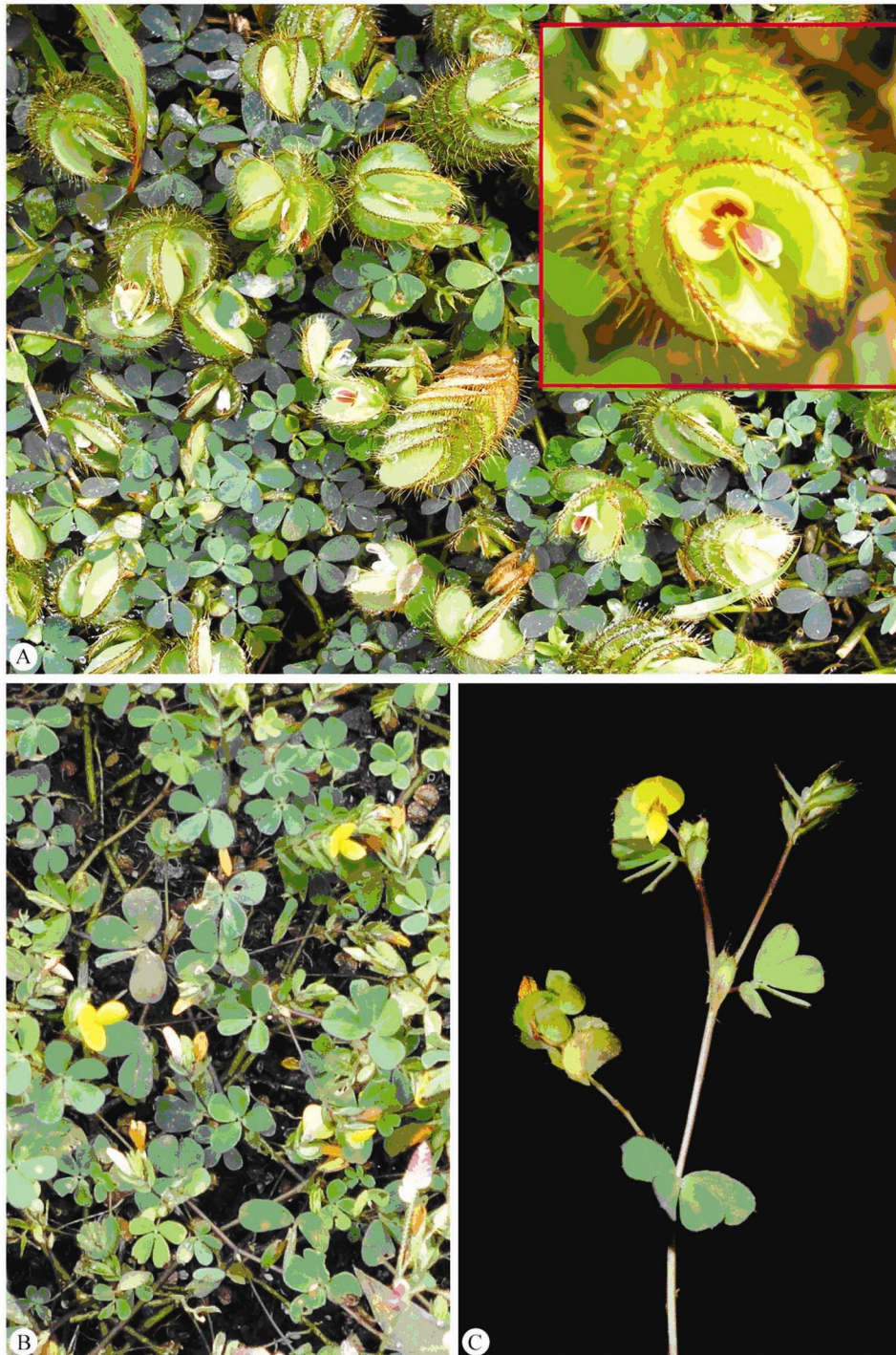


Fig. 1. A. *Geissaspis cristata* Wight & Arn.; B.&C. *Geissaspis tenella* Benth.

sheet at P (P02936298!). Among them, the specimens housed at K are well preserved and more complete than the rest. Of the two sheets of Herb. Wight. 823 at K, K000846467 well displayed the details of the taxon and allows a more complete comparison with the protologue. K000846467 comprises two specimens which is selected and designated here as the lectotype of *G. cristata*. The other specimens mentioned in the protologue (E00174474!, E00174475!, E00174476!, K000846469!, P02936298!) forms the residual syntypes.

2. *Geissaspis tenella* Benth., Flora 32: 559 (1849).

(Fig. 1B & C).

Type citation: 'Habitat pr. Bolma ad vias'.

Lectotype (designated here): INDIA. Bolma, *s.coll.* 659 (K000846466!)

(Fig. 3).

Geissaspis tenella Benth. var. *malabarica* Sivar. & Babu, Journ. Econ. Tax. Bot. 5: 941 (1984), **syn. nov.**

Holotype: INDIA. Kerala, Malappuram, Calicut University campus, August 1983, *Babu 37408* (MH!); *Isotype*: CALI (!).

Bentham (1849) described *G. tenella* based on specimens from western peninsular India. Baker (1876: 141) cited *s.coll.* 659 as Bentham's original specimen, which is housed presently at K (K000846466). This sheet comprises 3 specimens mounted on a single sheet which is selected and designated here as the lectotype of this taxon.

Geissaspis tenella Benth. var. *malabarica* was described by Sivarajan and Babu (1984) based on the flower colour. According to them the typical variety has lemon-yellow flowers and is restricted to the northern districts of eastwhile Malabar and is nearly absent from the Calicut and Malappuram districts where this species is represented by the maroon-coloured form. The authors quoted the opinion of Dr. R.M. Polhill (pers. comm.) which states that "it is common for the yellow-flowered species in Papilionoideae to have fine red veins or markings and if so, then a red flush is quite often seen on old flowers or as variations between plant populations". The flower colour is not consistent in the plants in Calicut and Malappuram districts and moreover, the standard petal of *G. tenella* var. *tenella* is also tinged with maroon. After critical examination of herbarium (including type) as well as live specimens of both varieties, we did not find any significant differences to separate the two.

Similarly, palynological studies of both varieties also revealed close resemblance, i.e. 3-zonocolpate grains with elliptic and operculate colpi having perforated membrane, prolate-spheroidal shape and reticulate exine ornamentation in both varieties. The only difference is observed in the grain size range, i.e. 18.7–26.3 × 16.2–23.2 μm in var. *tenella* and 18.1–25.9 × 16.4–23.5 μm in var. *malabarica*, which is not sufficient to distinguish var. *malabarica* from the typical variety *tenella*. Therefore, *G. tenella* var. *malabarica* is proposed to place under synonymy of *Geissaspis tenella* Benth.

Distribution: India (Karnataka, Kerala, Maharashtra and Tamil Nadu).



Fig. 2. Lectotype of *Geissaspis cristata* Wight & Arn. (K000846467, © The Board of Trustees of the Royal Botanic Gardens, Kew).



Fig. 3. Lectotype of *Geissaspis tenella* Benth. (K000846466, © The Board of Trustees of the Royal Botanic Gardens, Kew).

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