

Hemipilia basifoliata (Orchidaceae) – an addition to the orchid flora of India

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Abstract. The rare temperate orchid *Hemipilia basifoliata* (Finet) Y.Tang & H.Peng is reported here as a new species in the flora of India from Lower Dibang Valley District in the state of Arunachal Pradesh (north-eastern India). This small-sized orchid was found growing at 2400 m asl (28°14'7"N, 95°53'55"E) in June 2024. Its morphological description as well as photographs of plant habit and dissected floral parts are provided.

Key words: *Hemipilia basifoliata*, Arunachal Pradesh, Eastern Himalayas, Lower Dibang Valley, new record, India

1. Introduction

During routine floristic research in the Lower Dibang Valley District of Arunachal Pradesh, the first author collected a few plants of the genus *Hemipilia* Lindl., earlier known as *Ponerorchis* Rchb.f. The collected specimens looked morphologically similar to *Hemipilia puberula* (King & Pantl.) Y.Tang & H.Peng, a species endemic to the East Himalayas, but differed in having a higher number of flowers (4-6) and glabrous sepals than *H. puberula* with fewer flowers (2-3) and pubescent sepals (abaxially). After a critical revision of specimens, perusal of relevant literature (King & Pantling 1898; Pearce & Cribb 2002; Tang *et al.* 2015; Tam *et al.* 2017; Singh *et al.* 2019; eFloras 2024; POWO 2024), and comparison of the protologues and original drawings of type material (Finet 1901), the species was identified as *Hemipilia basifoliata* (Finet) Y.Tang & H.Peng, an extremely rare plant, which was earlier reported only from south-central China. Thus, the species is reported here as a new addition to the orchid flora of India. Its morphological description

and photographs of dissected floral parts are provided below.

2. Taxonomic description

Accepted name: *Hemipilia basifoliata* (Finet) Y.Tang & H.Peng, BioMed Centr. Evol. Biol. 15(96): 26. 2015.

Synonyms: *Peristylus tetralobus* Finet f. *basifoliatum* Finet, Rev. Gen. Bot. 13: 525. 1901. *Orchis basifoliata* (Finet) Schltr., Notes Roy. Bot. Gard. Edinburgh 5: 95. 1912. *Amitostigma basifoliatum* (Finet) Schltr., Repert. Spec. Nov. Regni Veg. Beih. 4: 92. 1919. *Ponerorchis basifoliata* (Finet) X.H.Jin, Schuit. & W.T.Jin, Molec. Phylogen. Evol. 77: 51. 2014.

Description: Plants 10-15 cm tall. Tuber subglobose, 5-8 mm long. Stem with 2 tubular sheaths at base. Leaf 1, located at middle of stem, green, sessile, somewhat porrect, narrowly oblong-lanceolate, conduplicate, 5-7 cm × 0.5-1 cm, apex acute. Inflorescence terminal, laxly 4-6-flowered, somewhat secund; peduncle ebracteate, 5-7 cm long; rachis 3-6 cm long, green, hairless;



Fig. 1. *Hemipilia basifoliata* (Finet) Y. Tang & H. Peng

floral bracts ovate-lanceolate, 3-6 mm long, equal or shorter than ovary, apex acute to acuminate. Flowers secund, white, often tinged pinkish red, with purple spots on lip; ovary and pedicel 5-7 mm long. Sepals 3-3.5 mm \times ca. 1.7 mm, 1-veined, apex obtuse; dorsal sepal ovate-oblong, concave; lateral sepals spreading to reflexed, oblong, oblique. Petals connivent with dorsal sepal and forming a hood, rhombic-ovate, 2.5-3 mm \times ca. 1.5 mm, 1-veined, apex acute. Lip broadly obovate, 8-11 mm \times 7-8 mm, 3-lobed at middle; lateral lobes oblong, slightly falcate, 4-6 mm \times ca. 2.5 mm, apex irregularly obtuse-toothed; mid-lobe obovate-flabellate, 4-5 mm \times 4-6 mm, base cuneate, apex divided into 2 small lobules; spur pendulous, straight to slightly incurved, cylindrical, 2-3 mm long, apex obtuse. Column very small, ca. 1.8 mm long.

Flowering: August-September.

Habitat: Terrestrial on moss-covered rocks on slopes; elevation 2400 m.

Specimen examined: India, Arunachal Pradesh, Lower Dibang Valley, Mayodia (28°14'7"N, 95°53'55"E June 2024, K. Chowlu & Ajit Ray (ARUN).

Distribution: China (south-central), India (Arunachal Pradesh: reported here).

Conservation status: *Hemipilia basifoliata* is found in Sichuan and Yunnan Provinces in China and Arunachal Pradesh in India. The species has been classified as vulnerable [VU: B1ab(i,iii,v) + B2ab(i,iii,v)] in China by Qin *et al.* (2017). In India only one location is now known, with a very small subpopulation size of fewer than 20 mature individuals. Further studies are needed to assess the actual population size and its threat status in this country.

Etymology: The specific epithet *chandrasedkharanii* was given in honour of Dr. N. Chandrasekharan Nair, D.Sc., Former Joint Director, Botanical Survey of India, Southern Circle, Coimbatore (MH), for his valuable contributions to Indian botany.

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Fig. 2. *Hemipilia basifoliata* (Finet) Y.Tang & H.Peng

Explanations: A-C – plant *in situ*, D – plant habit, E – basal part showing a tuber, F – rachis, G-H – flower, I – sepals and petals, J – lip with attached ovary, K – lip

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