

Herminium humidicola (Orchidaceae: Orchidoideae), an addition to the Orchid Flora of India

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Abstract: *Herminium humidicola* (K.Y. Lang & D.S. Deng) X.H. Jin, Schuit., Raskoti & L.Q. Huan, a rare alpine orchid, is reported here as an addition to the flora of India from Tawang District in Arunachal Pradesh. The miniature sized orchid was found growing at 4530 m elevation. Morphological description of *H. humidicola* along with photographs of habit and dissected floral parts are provided.

Keywords: *Androcorys*, Arunachal Pradesh, Eastern Himalaya, New report.

Introduction

The genus *Herminium* L. with around 52 accepted species (POWO, 2023) is widely distributed from Europe through most of continental Asia to Japan, the Malay Archipelago and New Guinea, with the centre of diversity in the Himalayan region (Raskoti, 2013; Raskoti *et al.*, 2017; Wang *et al.*, 2017). Raskoti *et al.* (2016) proposed to include *Androcorys* Schltr., *Bhutanthera* Renz, *Frigidorchis* Z.J. Liu & S.C. Chen and *Porolabium* Tang & F.T. Wang as well as certain misplaced species of *Platanthera* Rich. and *Peristylus* Blume in *Herminium* based on morpho-molecular data.

The species of *Herminium* are predominantly terrestrial, characterized by having a globose to subglobose tuber, lip with spurred or concave base and pollinia with reduced caudicles (Raskoti *et al.*, 2017); whereas *H. humidicola* is characterized by

having a subcorymbose inflorescence and flowers without bract (Raskoti *et al.*, 2016).

During a joint botanical exploration by some researchers of Orchid Research Centre, Tipi and Central National Herbarium, Botanical Survey of India, Howrah, in the high-altitude regions of Arunachal Pradesh, a miniature sized terrestrial orchid was observed by one of the authors (PSK) at Bumla Pass in Tawang District. The species was later identified as *Herminium humidicola* (K.Y. Lang & D.S. Deng) X.H. Jin, Schuit., Raskoti & L.Q. Huang, a species earlier known only from the Qinghai (Tibetan region) in China.

The present report adds one more species of *Herminium* from within the geo-political boundaries of India. A morphological description of *H. humidicola* along with photographs of habit and dissected floral parts are provided (Fig. 1) to facilitate identification of the species.

Taxonomic Treatment

Herminium humidicola (K.Y. Lang & D.S. Deng) X.H. Jin, Schuit., Raskoti & L.Q. Huang, *Cladistics* 32(2): 210. 2016; Raskoti, Schuit., W.T. Jin & X.H. Jin, *PhytoKeys* 79: 43. 2017. *Type*: CHINA, Qinghai, Maqen Xian, Dawu Xiang, Muchang, SE of Maqen, N 34°20'03", E 100°30'34", 3980 m, 05.08.1993, T.N. Ho, B. Bartholomew & M. Gilbert 807 (holo HNWP [Acc. no. 172080 digital image!]; iso GH [GH00243080 digital image!]; PE [PE01432248 digital image!]; BM [BM000577762 digital image!]; CAS (*n.v.*), MO [MO04651284 digital image!]).

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Peristylus humidicola K.Y. Lang & D.S. Deng,
Novon 6: 190. 1996.

Bhutanthera humidicola (K.Y. Lang & D.S. Deng)
Ormerod, Taiwania 48: 139. 2003.

Frigidorchis humidicola (K.Y. Lang & D.S. Deng)
Z.J. Liu & S.C. Chen, J. Fairy Lake Bot. Gard. 6(3):
17. 2007.

[Note: All above three names are homotypic
synonyms of *Herminium humidicola* (K.Y. Lang
& D.S. Deng) X.H. Jin, Schuit., Raskoti & L.Q.
Huang]

Plants 2.5–3.5 cm tall. Tuber globose, 5–7 × 4–6
mm; roots two, thick, fleshy. Stem sheathed at
base. Leaves 2, opposite, ovate-elliptic, c. 1.3 × 1.1
cm, apex acute; petioles enclosed by two white



Fig. 1. *Herminium humidicola* (K.Y.Lang & D.S.Deng) X.H.Jin, Schuit., Raskoti & Lu Q.Huang: **a & b.** Plant in-situ; **c & d.** Habit; **e & g.** Flower; **h & i.** Flower with sepals removed; **j.** Dorsal sepal; **k.** Lateral sepals; **l.** Petals; **m.** Column with dehiscent pollinarium; **n.** Column with attached pollinarium, ovary and pedicel; **o.** Lip; **p.** Pollinarium (from *J. Tsering* 50255; photos by J. Tsering)..

tubular sheaths forming a pseudostem, 8–17 mm long. Inflorescence up to 2.5 cm tall, sub-corymbose, densely 3–5 flowered. Flowers green to yellowish green, 8 mm across, ebracteate; sepals apically white margined, surface warty; pedicel and ovary 7–8 mm long. Dorsal sepal suborbicular, hood shaped, 3–3.2 × 2.5–3 mm, apex obtuse; lateral sepals ovate-elliptic, 4–4.6 × 2.4–2.6 mm, apex acute. Petals orbicular, 3–3.2 × 3.1–3.3 mm, surface papillose, apex obtuse. Lip 3-lobed, ca. 6 × 3 mm, lateral lobes narrowly triangular, tooth-like, c. 0.5 mm long; midlobe ligulate-linear, 3–3.5 × 1–1.5 mm at middle, spur c. 2 mm long, slightly bent. Column 1.5–1.8 mm long; rostellum triangular, short-armed. Pollinarium c. 1.2 mm long; pollinia c. 0.8 mm long, obovoid; caudicles c. 0.13 mm long; viscidium milky white, disc like. Fruit not seen.

Flowering & fruiting: Flowering and fruiting from July to August.

Habitat: Terrestrial in open alpine grassland along with mosses and other dwarf herbs; the plants growing widely scattered in low numbers; elevation around 4530 m.

Distribution: China (Gansu, Qinghai, Tibet), India (Arunachal Pradesh; reported here).

Specimens examined: INDIA, **Arunachal Pradesh**, Tawang, Bulma Pass, N 27°43'14", E 91°53'30", 27.07.2023, *J. Tsering* 50255 (OHT).

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