

The real *Ponerorchis nana* (King & Pantling) Soó resurrected

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Abstract

We report a find of the rare orchid *Ponerorchis nana* (King & Pantling) Soó (Orchidaceae) from Lachung, Sikkim, and compare it with the very different species *P. chusua* with which it has previously been associated. *Ponerorchis nana* is currently known from East Sikkim Eastwards to Central Arunachal Pradesh, and grows on moss-covered cliffs and tree trunks. It seems closely related to *Amitostigma pathakianum*.

Key words: *Ponerorchis nana*, Identity, Reestablished species

Ponerorchis nana (King & Pantling) Soó (Orchidaceae) is a much misunderstood taxon. In Flora of Bhutan (Pearce & Cribb 2002) and on most websites (see references: web-resources) *P. nana* is said to be either very similar to or synonymous with *P. chusua*, and the epithet has been used for both narrow-leaved and broad-leaved small individuals of *P. Chusua* (e.g. Adhikari 2008). The root of the confusion started long ago when King & Pantling (1898) originally described *P. nana* as a variety of *P. chusua* and even hinted at intermediates.

However, *Ponerorchis nana* (Figures 1, 2) is very different from *P. chusua* (Figure 3), in morphology as well as in ecology, and no intermediates are known. Pantling's original drawing (King & Pantling 1898) shows most of its distinctive features: small and delicate growth; a single linear arcuate channeled leaf with shortly clasping base; 1- to 2-flowered (very rarely 3-flowered) inflorescence; flowers less than half the size of those of *P. chusua* and without spots (in *P. chusua* [except in albino forms] with purple spots at base of lip and often also on lateral sepals); lip longitudinally striped, apically three-lobed with fimbriate-dentate lateral lobes considerably larger than the central lobe (in *P. chusua* lobes equal, diverging, entire to crenulate); and tapering spur (in *P. chusua* cylindrical).

Ponerorchis chusua is a very common species at (?1000 –) 3000 – 4300 (– 5000) m on meadows, grasslands, forest glades and roadside ditches throughout the Himalayas to C. China.

Ponerorchis nana seems to be rare, and is known with certainty only from four localities from East Sikkim to Central Arunachal Pradesh. It is much more particular in its habitat requirements and grows on moss-covered cliffs and tree trunks.

Ponerorchis nana (King & Pantling) Soó, Acta Bot. Acad. Sci. Hung. 12: 353. 1966. *Orchis chusua* var. *nana* King & Pantling, Ann. Roy. Bot. Gard. Calcutta 8(2): 304, pl. 402bis. 1898. *Orchis nana* (King & Pantling) Schltr, Repert. Spec. Nov. Regni Veg. 9: 434. 1911. *Ponerorchis chusua* ssp. *nana* (King & Pantling) Soó, Acta Bot. Acad. Sci. Hung. 20: 352.



Figure 1. *Ponerorchis nana* above Lachung, Sikkim, 24 July 2016 (photo AA); **Figure 2.** *Ponerorchis nana*, drawing of live plant (type specimen), R. Pantling in King & Pantling (1898); **Figure 3.** *Ponerorchis chusua* (photo ML) above Lachung, Sikkim (whole plant), July 2016; S of Se La, Arunachal Pradesh, West Kameng (single flower inset), August 2014.

1974. *Chusua nana* (King & Pantling) Pradhan, Indian Orchids 2: 678. 1979. *Ponerorchis chusua* var. *nana* (King & Pantling) R.C.Shrivastava in P.K.Hajra & D.M.Verma (eds), Fl. Sikkim 1: 108. 1996.

Tibet (Xizang): Chumbi (Yadong), 12 000 ft [3658 m], August 1894. *R. Pantling* 326 (K! P! Type). [Figure 2]

Sikkim: Top of Gangtook (possibly Sikkim/Chumbi border area). 9 Sept 1877. *G. King* 4445 (CAL!); Above Lachung near Phuni gate (27° 43' 42" N; 88° 44' 30" E), 3213 m, on a N-facing vertical small cliff face covered with *Plagiochila* sp., margin of forest near stream, several plants in an area of 1–2 square meters. 24 July 2016. *A. Adhikari s.n.* (CAL!), [Figure 1.]

Bhutan: Bumthang district, Tsochen Chen. According to Pearce & Cribb (2002), specimen not seen.

Arunachal Pradesh: Upper Dibang valley, Andra to Tahupani [beyond Mipi], 2500 m. On moss-covered tree trunks and rocks. 7th July 2002. *M. Bhaumik & M.K. Pathak* 4217 (CAL!).

Sine loco: Picture of flower in Jin & al. (2014). Locality not indicated (species not part of their DNA analysis).

Note 1. Reported by Srivastava (1996) (as *P. chusua* var. *nana*) from Singa-le-la and Lachen, but we have not been able to verify these records (not in CAL).

Note 2. Reported by Jalal & al. (2007) from Uttarakhand, but the specimen, *G.S. Rawat* 14781 (WII), is *P. chusua* as it was also later listed by Jalal & Jatanthi (2015).

Note 3. Reported by Adhikari (2008) from Uttarakhand (Nanda Devi National Park), but photos show a plant related to *P. chusua*.

Note 4. Reported by Verma & al. (2015) from “Lahaul & Spiti (Rohtang slopes), Sirmaur (Choordhar)”, with vouchers *Aswal* 6970 (BSD), *Vij & Verma* 312 (PAN), and the total distribution is given as Himachal Pradesh, Uttarakhand, Nepal, Sikkim. The accompanying photo, however, shows *P. chusua* or a similar species.

Note 5. Reported from Shaanxi (China) as *Chusua nana* f. *alba* by Wu & al. (2007), but photo shows a plant similar to *P. chusua*.

Ponerorchis nana is similar to *Amitostigma pathakianum* Battacharjee from Upper Siang, Arunachal Pradesh (Battacharjee 2015) in most characters including habitat preferences, but differs strikingly in shape of lip and length of spur. The genus *Amitostigma* is included in *Ponerorchis* by Jin & al. (2014), and in an all-embracing *Hemipilia* by Tang & al. (2015), and without further evidence we refrain from making a new combination under *Amitostigma*.

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Web-resources

e-Flora of India: <http://efloraindia.nic.in>.

Flora of China on the web: <http://flora.huh.harvard.edu/china>.

<http://www.orchidspecies.com/ponerchusua.htm>

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