Micropera tibetica sp. nov. (Orchidaceae) from southeastern Tibet, China

Yang-Jun Lai and Xiao-Hua Jin

Y.-J. Lai and X.-H. Jin (xiaohuajin@ibcas.ac.cn), Herbarium and State Key Lab of Systematic and Evolutionary Botany, Inst. of Botany, Chinese Academy of Sciences, CN-100093 Beijing, PR China. YJL also at: Graduate Univ. of Chinese Academy of Sciences, CN-100049 Beijing, PR China.

A new species of Orchidaceae, *Micropera tibetica* from Medog County, Tibet, China, is described and illustrated. It is morphologically similar to *M. mannii*, from which it differs by having creamy white flowers, not twisted column, strongly oblique lateral sepals with emarginated apex, and very small lateral lobes of the lip.

The genus *Micropera* Lindl. consists of about 15 species, ranging from the eastern Himalayas to southeast Asia, and extending to New Caledonia, characterized by its short inflorescence, small flowers, saccate or shortly spurred lip, spur with a distinct longitudinal median septum at the base, footless column widening towards apex, long and often twisted rostellum, long and nearly linear stipe, four pollinia or two further split into two unequal semi-globose pairs (Seidenfaden 1988, Lewis and Cribb 2000, Pearce and Cribb 2002, Chen and Wood 2009). Morphologically, *Micropera* is closely related the little known genus *Sarcoglyphis* by sharing several important characters, such as stipe, rostellum, spur and pollinia.

Previously only *M. poilanei* had been reported from Hainan, China (Song et al. 2007). During fieldwork in southeastern Tibet the new species described below was discovered.

Micropera tibetica X. H. Jin et Y. J. Lai sp. nov. (Fig. 1, 2)

Haec M. mannii primo aspectu similis, sed floribus cremeoalbis, columna non torta, sepalis lateralibus valde obliquis emarginatis, et lobis lateralibus parvulis differt.

Type: China, Tibet Autonomous Region, Medog County, Beibeng, epiphytic on trunk, 6 May 2010, X. H. Jin 10391 (holotype: PE!).

Paratype: China, Tibet Autonomous Region, Medog County, Beibeng, epiphytic on trunk, 9 Sep 2009, SET-ET (southeastern Tibet expedition team) 1204 (PE!).

Etymology

The specific epithet refers to the area of origin of the new species, Tibet Autonomous Region.

Description

Climbing epiphytes, stems terete, erect, laxly leafy, to 50 cm long, 0.4 cm thick. Leaves distichous, lanceolate, jointed to sheath, obtuse, 6-9 cm long, 0.8-1.0 cm wide. Inflorescence borne nearly opposite to the leaves, 3-4 cm long, with 3-5 sterile bracts, densely flowered. Peduncle 3 cm long, 1 mm in diameter. Bracts sub-triangular, 1-2 mm long. Flowers creamy white. Ovary and pedicel terete, ribbed, 5-6 mm long, with black glandular pubescense. Dorsal sepal elliptic, acute, 3-veined, reflexed, obtuse, 4 mm long, 2 mm wide; lateral sepals oblong, 2-veined, inner margins connate basally and adnate to the back of the labellum below the column, strongly oblique, broadly obtuse at apex, emarginate; 6 mm long, 2 mm wide. Petals lanceolate with acute apex, 5 mm long, 1.5 mm wide, 2-veined; lip deeply saccate, positioned at right-angles with column, front wall cut away at a right-angle in upper half, 10 mm long; entrance of spur with 2 truncate and erect lateral lobes; mid-lobe minute, about 1 mm long; lateral lobes about 0.5 mm long; with two calli inside the spur cavity, one as a transverse fleshy ridge adnate to the midlobe, the other forming a tube with two linear tongues. Column not twisted, 2 mm long; rostellum sigmoid, beak-like. Capsule suberect, narrowly ellipsoid, 6-ribbed, ca 1.5×0.5 cm. Flowering in May and fruiting in September.

Habitat, distribution and biogeography

Micropera tibetica was found growing epiphytically on tree trunks in tropical evergreen forest at about 1500 m a.s.l. This



Figure 1. *Micropera tibetica* X. H. Jin et Y. J. Lai sp. nov. (A) habit, (B) flower, lateral view of flower, (C) front view of flower, (D) dorsal sepal, (E) petal, (F) lateral sepal, (G) column and lip, side view, (H) pollinia, (I) infructescence. Drawn by Yun-Xi Zhu.



Figure 2. *Micropera tibetica* X. H. Jin et Y. J. Lai sp. nov. (A) inflorescence, (B) flower, lateral view, (C) dorsal sepal, petal, lateral sepal, column and lip, pollinia. Photograph by Xiao-Hua Jin.

new species is endemic to Tibet, recorded so far only from Beibeng, Medog County.

Although far north of the Tropic of Cancer, southeastern Tibet is considered to be a tropical region with many diverse and endemic orchid species and genera. Lang (1980) stated that the orchid flora in Tibet comprises 64 genera and 192 species with 2 varieties, of which 36 are endemic to China, and most of which are distributed in Medog and Zayu counties. This new species of *Micropera*, together with the occurrence of many other tropical orchids, such as *Luisia* sp., *Malleola* sp., *Phreatia* sp., *Paphiopedilum* sp., indicates that southeastern Tibet biogeographically belongs to the tropical region.

Conservation status

As may happen with newly discovered taxa, only one population of *M. tibetica* was discovered in its type locality, which makes it difficult to estimate its conservation status. We here tentatively consider the new species to be 'Endangered' (EN), according to IUCN red list criterion

Blab (iii) (IUCN 2001), based on its known area of occupancy and continuing decline of habitat due to the increasing effects of agriculture.

Similar species

Apart from *Micropera tibetica*, there are three species of the genus distributed in the Himalayas, viz. *M. mannii* (east Himalaya to Assam), *M. obtusa* (central Himalaya to Thailand), and *M. rostrata* (south Tibet) (Tang and Wang 1951). These species share many floral characters with each other, such as a tri-lobed lip, small lateral lobes, and a lip joined at the back to the base of the column. However, it is not difficult to distinguish them. *Micropera tibetica* differs from *M. mannii* by having an untwisted column and emarginate lateral sepals, and from *M. rostrata* by its creamy white flowers, emarginate lateral sepals and small lateral lobes of the lip. In addition, *M. tibetica* is easily distinguished from *M. obtusa* by having black glandularpubescense on the pedicel and a white lip. A dichotomous key to distinguish these four species is given below:

National Natural Science Foundation of China (31107176) and a grant from Chongqing Nanshan Botanic Garden.

Acknowledgements – We are indebted to the officials of Chinese Forest Bureau and Tibet Forest Bureau for their kind help during the fieldwork. This research was supported by a grant from

References

- Chen, S. C. and Wood, J. J. 2009. *Micropera*. In: Wu, Z. Y. et al. (eds), Flora of China. Vol. 25. Science Press, Miss. Bot. Gard. Press, p. 445.
- IUCN 2001. IUCN red list categories and criteria, ver. 3.1. - IUCN Species Survival Commission.
- Lang, K. Y. 1980. A study on the geographical distribution and floristic features of Xizhang (Tibet) orchid flora. – Acta Phytotax. Sin. 18: 391–407.
- Lewis, B. A. and Cribb, P. J. 2000. *Micropera.* In: Lewis, B. A. and Cribb, P. J. (eds), Orchids of the Solomon Islands and Bougainville. R. Bot. Gard. Kew, pp. 286–287.
- Pearce, N. R. and Cribb, P. J. 2002. *Micropera.* In: Pearce, N. R. and Cribb, P. J. (eds), The orchids of Bhutan. R. Bot. Gard. Edinburgh, R. Gov. Bhutan, Thimphu, pp. 531–533.
- Seidenfaden, G. 1988. Orchid genera in Thailand XIV. Opera Bot. 14: 120–126.
- Song, X. Q. et al. 2007. New records of Orchids from Hainan, China. – Acta Phytotax. Sin. 45: 324–328.
- Tang, T and Wang, F. T. 1951. Contributions to the knowledge of eastern Asiatic Orchidaceae II. – Acta Phytotax. Sin. 1: 27–28.