Psilochilus tuerckheimii (Orchidaceae), a new species from Guatemala

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Psilochilus tuerckheimii Kolan. & Szlach., a new orchid species from Guatemala is described, illustrated and placed within an identification key to the Central American species of Psilochilus. The taxonomic affinity of P. tuerckheimii is briefly discussed.

The Neotropical orchid genus Psilochilus is a difficult object to study. The plants usually grow in the very thick litter layer of dense, shady montane or submontane forests, and due to their small size and greenish, inconspicuous flowers they are difficult to find during field studies. Therefore, sufficient herbarium material for morphological examination is very sparse.

Due to its superficial similarity to another vanilloid orchid genus, Pogonia, Psilochilus was synonymized with the former soon after being proposed by Barbosa Rodrigues (1882). Its restoration in the generic rank was proposed by Ames (1922), but subsequently it was often still treated as Pogonia by many orchidologists (e.g. Williams 1956).

The lack of the good material to study was one of the reasons for the confusions in defining Psilochilus’ relationships with other orchid genera and placing it in the existing taxonomic systems. Due to the superficial similarity to the genus to Pogonia it was first classified together with this taxon within Triphoreae (Lindley 1830–1840). Although originally Schlechter (1911–1914) placed both taxa in Nerviliinae, he later changed his mind and transferred both genera together with Monophyllochis to Vanilleae (Schlechter 1926). Dressler and Dodson (1960) proposed placing those plants (together with Nervilla) into Pogoniinae. Over 50 years after the suggestion made by Ames (1922) that Triphoreae should not be placed under Pogoniinae, Brieger (1975) reestablished Schlechter’s Nerviliinae to accommodate Triphora and Nervilla. The reconsideration of Psilochilus’ position resulted in establishment of the new tribe Triphoreae by Dressler (1979). While later classifications varied considerably, the classification of Psilochilus together with Triphora remained. Also the latest studies on the generic taxonomy (Rothacker 2007) supported a close phylogenetic relationship between Psilochilus and Triphora. The genera are easily distinguished by the form of the leaf blade and underground system. The leaf blade is reduced in Triphora and well-developed in Psilochilus. Tuberoid storage organs are known in Triphora, in contrast to Psilochilus where fleshy roots are laxly distributed along rhizome.

While the representatives of Psilochilus are found from Mexico to Brazil, only one, P. macrophyllus, is widely distributed within the whole geographical range of the genus. Our recent research on the Colombian orchids resulted in
ETYMOLOGY: Dedicated to Hans von Türckheim (1853–1920), who conducted botanical explorations in Guatemala at the end of the 19th century and collected the type specimen.

Plant up to about 25 cm tall. Stem leafy throughout. Leaves very short petiolate, petiole less than 0.8 cm long; blade 4–6 cm long, 2–3 cm wide, narrowly ovate, subobtuse. Inflorescence terminal, several-flowered. Floral bracts small, about 5 mm long. Ovary about 15 mm long. Dorsal sepal about 20 mm long, 4 mm wide, somewhat concave, apex obtuse, 3-veined. Lateral sepals 18 mm long, 4 mm wide, oblong-oblancoelate, somewhat falcate, subobtuse, 1-veined. Petals 17 mm long, 3.2 mm wide, narrowly elliptic, somewhat falcate, subacute, 5-veined. Lip about 16 mm long, 6 mm wide, 3-lobed, clawed; claw about 3.5 mm long with two small thickenings at base; lateral lobes about 9 mm long, 2.5 mm wide, obliquely elliptic, apices rounded at apex, distant from middle lobe, curved, directed inwards; middle lobe about 5 mm long, 2 mm wide, narrowly elliptic, shortly obtuse at apex; disc with a median thickened vein running from claw up to lip apex. Gynostemium typical for the genus.

DISTRIBUTION: So far known only from the type locality.

Psilochilus tuerckheimii belongs to the P. macrophyllus complex characterized by a relatively short claw and sessile or subsessile leaves. However, the lip form, especially the shape of the middle lobe, is unique in the genus. The apices of the lateral lobes are falcate, rounded, distant from the middle lobe and directed inwards. In P. macrophyllus lateral lobes of the lip run close to the middle lobe. The ligulate-elliptic lip middle lobe has smooth margins and the disc is ornamented by a single thickened vein running along the disc centre, and two knob-like thickenings at the base. In contrast, the lip middle lobe of P. macrophyllus is suborbicular, with crisped margins, and the disc has several thickened veins (Fig. 2).

Key to the Central American species of Psilochilus

1. Leaves distinctly petiolate ........................................ 2
2. Lip claw not keeled ........................................ P. phystrophifolius
3. Lip claw with a distinct keel ......................... P. carinatus
4. Lip middle lobe narrowly elliptic ........ P. tuerckheimii
5. Lip middle lobe suborbicular ............... P. macrophyllus

Fig. 1. Psilochilus tuerckheimii (drawn by S. Nowak from the holotype). — A: Dorsal sepal. — B: Petal. — C: Lateral sepal. — D: Lip. Scale bars = 10 mm.
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