

A new species of *Pterichis* (Orchidaceae) from Ecuador

Marta Kolanowska & Dariusz L. Szlachetko

Summary: A new species of *Pterichis*, *P. elliptica*, is described based on Ecuadorian material. It resembles *P. pauciflora*, but can be easily distinguished from this species based on the lip form. Morphological characteristics of the novelty are complemented with illustrations and taxonomic notes. The updated key to Ecuadorian species of *Pterichis* is provided.

Keywords: biodiversity, Cranichidinae, Neotropics, orchids, taxonomy, new species

The Andean orchid flora remains poorly recognized and numerous new species from this region are described every year (e.g. NOGUERA-SAVELLI et al. 2008; CARNEVALI & CETZAL-IX 2012). Unfortunately, transformations of the mountain vegetation in South America caused by human activities and global climate warming severely disturb the environmental sustainability of high-Andean forest, subparamo and paramo (BUYTAERT et al. 2006). This habitat loss is by far the main threat to most orchids (HÁGSATER & DUMONT 1996), especially to those strictly related to specific bioclimatic conditions of high mountains. The diversity of such plants deserves particular attention of taxonomists.

Our recent studies were focused on the genus *Pterichis* which was described in 1840 by John Lindley based on a Peruvian plant. The majority of species is distributed along the Andes from Colombia and Venezuela in the north to Bolivia in the south, and only a few occur in Costa Rica and Jamaica. Plants grow usually in subparamo or paramo, but some population were also found in the high-montane forest. As currently recognized, the genus comprises about 30 species characterized by the presence of tuberous, clustered roots, loosely sheathed scape and rosulate leaves which are often absent during flowering time. The non-resupinate flowers are arranged in loosely to densely flowered racemes. The floral bracts and the ovaries are densely ciliate or pubescent. The sessile, concave lip is usually ornamented with a series of knob-like, swollen cells along distal and/or apical margins. The revision of herbarium material collected in Colombia resulted recently in description of several new species from this country (KOLANOWSKA & SZLACHETKO 2013 a,b; SZLACHETKO & KOLANOWSKA 2013).

During the examination of Ecuadorian Cranichidinae we came across a distinctive *Pterichis* species which does not fit the morphological characteristics of any existing taxon and it is hereby described as new species.

Materials and methods

Dried herbarium specimens, over 100 in total, deposited or borrowed from AMES, COL, CUV, FMB, HUA, K, MO, NY, P, PSO, RPSC, VALLE and W were examined according to the standard procedures. Every studied specimen was photographed and data from the label were taken. Presence and form of the leaf as well as length and surface of the scape were studied

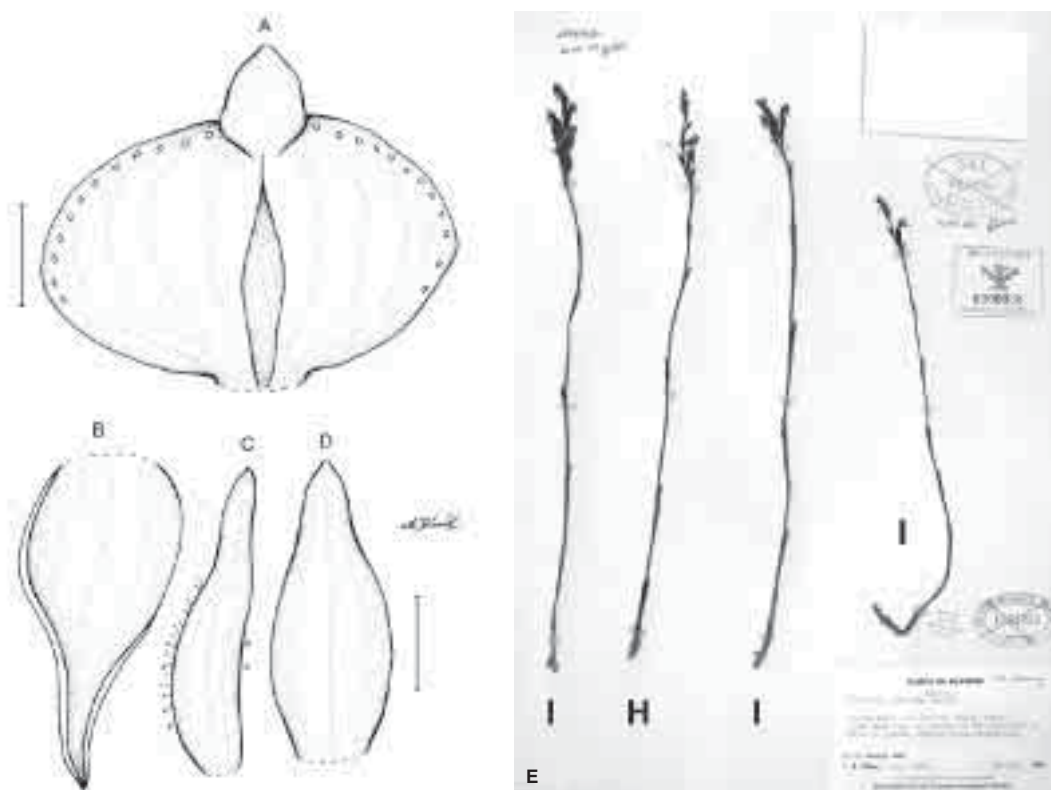


Figure 1. *Pterichis elliptica* Kolan. & Szlach. A – lip; B – lateral sepal; C – petal; D – dorsal sepal. Scale bars = 2 mm. Drawn by A. Król from the holotype. E – types (H = holotype, I = isotypes).

first. The examination of the vegetative structures included form and number of tubular sheaths enveloping the scape. Details of the inflorescence, e.g. the form of the floral bracts and ovaries, were observed under a stereoscopic microscope. The perianth parts were studied after softening flowers in boiling water.

Description and taxonomy

Pterichis elliptica Kolan. & Szlach., sp. nov. (Fig. 1)

Diagnosis. Species similar to *P. pauciflora* Schltr., but with obliquely oblong-lanceolate petals and transversely elliptic lip.

Type. Ecuador, Zamora-Chinchipe, Road from Loja to Zamora, km 14, 2800 m, 18 Nov 1961, *Dodson & Thien* 1326 [RPSC 0000936-H, holotype!; RPSC 0000936-I, isotypes!] (Fig. 1 E).

Description. Plant up to 30 cm tall. Leaves apparently absent during flowering. Scape erect, sparsely glandular at the base, densely near the apex, with 4–5 sheaths. Spike up to 5 cm long, 3–6-flowered. Floral bract 8 mm long, elliptic-lanceolate, acute to acuminate, glabrous. Pedicel 2 mm long, glabrous. Ovary 10 mm long, densely glandular. Flowers yellow striped with orange-red, sepals sparsely glandular at the apices. Dorsal sepal 6.5 mm long, 2 mm wide, ovate, obtuse, 3-veined. Petals 6.5 mm long, 1.5 mm wide, apically agglutinated with dorsal sepal, obliquely oblong-lanceolate, obtuse, ciliate near the middle, 3-veined. Lateral sepals 6 mm long, 3 mm wide, obliquely ovate, obtuse, apically canaliculated, 4-veined. Lip 6 mm long in total, 8.5 mm wide

New *Pterichis* from Ecuador

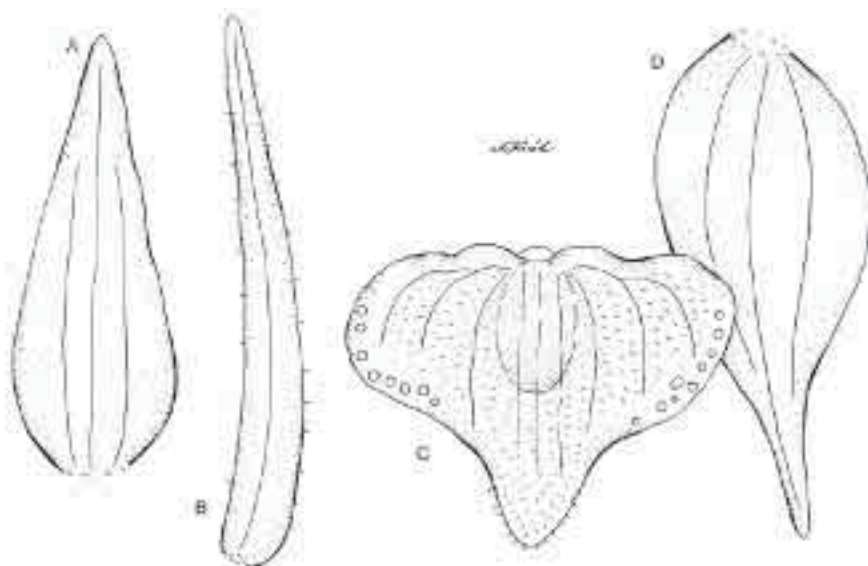


Figure 2. *Pterichis pauciflora*. A – dorsal sepal, B – petal, C – lip, D – lateral sepal. Redrawn by A. Król from SCHLECHTER's (1921) original drawing.

when spread, thin; basal part 5 mm long, 8.5 mm wide, transversely elliptic; apical lobe about 1 mm long, 1.3 mm wide, broadly ovate-ligulate, obtuse; disc papillate above basal third, and here with numerous knob-like projections along the margins, 9-veined concave along midvein. Gynostemium 3 mm long.

Etymology. In reference to the elliptic form of the lip.

Distribution and ecology. Known exclusively from Ecuadorian Andes. It was found growing terrestrially at the altitude of about 2800 m s.m. Flowering in November.

Notes. This species resembles *P. pauciflora* from which it differs by the obliquely oblong-lanceolate petals and lip shape. The main part of the lip of the new species is transversely elliptic and the apical lobe is small, constituting about $\frac{1}{6}$ of the total lip length. In *P. pauciflora* petals are linear-lanceolate and the lip is transversely triangular-elliptic in outline, with apical lobe constituting over $\frac{1}{3}$ of the total lip length. Moreover, the basal part of the lip of the new species is rounded while in *P. pauciflora* it is truncate (Fig. 2). From *P. habenarioides* (F. Lehm. & Kraenzl.) Schltr. the new species differs in the presence of knob-like projections distributed regularly along the lip margins above the base. Such lip ornamentation is not observed in *P. habenarioides*.

Key to Ecuadorian species of *Pterichis*

- 1 Petals free from dorsal sepal *P. acuminata*
- 1* Petals agglutinated to dorsal sepal 2
- 2 Floral bracts glandular-pubescent throughout 3
- 2* Floral bracts glabrous or just sparsely pubescent along margins 4
- 3 Lip middle lobe almost half of the lip length *P. multiflora*
- 3* Lip middle lobe about $\frac{1}{3}$ of the lip length *P. triloba*

- 4 Lip ornamented with knob-like projections along the margins 5
 4* Lip lacking knob-like projections along the margins *P. habenarioides*
 5 Lip apical lobe constituting over $\frac{1}{3}$ of the total lip length 6
 5* Lip apical lobe constituting about $\frac{1}{6}$ of the total lip length *P. elliptica*
 6 Lip apical lobe distinctly separated from the basal part *P. parvifolia*
 6* Lip triangular in outline, apical lobe indistinctly separated from the basal part ... *P. pauciflora*

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Address of the authors:

Dr Marta Kolanowska
 Prof. Dr Dariusz L. Szlachetko
 Department of Plant Taxonomy and Nature Conservation
 University of Gdańsk
 ul. Wita Stwosza 59
 80-308 Gdańsk
 Poland
 E-mail: martakolanowska@wp.pl

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