

## A new species of *Pterichis* (Cranichideae, Orchidaceae) from Peru

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*Summary:* A new species of the orchid genus *Pterichis*, *P. saundersii* is described and illustrated based on the Peruvian material. The information about its ecology and distribution is provided together with a brief discussion on the taxonomic affinity of the new species. The key to identification of *Pterichis* reported from the Central Andes is provided.

*Keywords:* Andes, biodiversity, Neotropics, orchids, taxonomy, sp. nov.

The Neotropical genus *Pterichis* was described by John Lindley to emphasize the distinctiveness of *P. galeata* characterized by the very broad, fleshy, acuminate lip resembling a bird in a flight when expanded (LINDLEY 1840). The generic name was proposed by Lindley in reference to this unusual lip shape (from Greek *pteron* meaning ‘wing’).

Currently about 20 species of *Pterichis* are recognized. Their basal, rosulate leaves are usually withered at anthesis. Both the inflorescence and the upper part of the scape are glandular-pubescent and the scape is en clothed in several tubular sheaths. The non-resupinate flowers are arranged in a loosely or subdensely (rarely congested) raceme. The lip is usually variously ornamented with the irregular thickenings along the margins and the lip disc is often covered by papillate cells. The short, massive gynostemium is lacking the column-foot. The column part is much shorter than the motile anther. The apical, elongate parts of pollinia form caudiculae. The delicate, erect rostellum is filiform, truncate at the apex after the removal of the pollinium. The hamulus is usually present, finger-like (SZLACHETKO & RUTKOWSKI 2000).

*Pterichis* species usually grow on moist rocky hillsides and between the grass tussocks or shrubs of the paramo. They have been reported at altitudes between 2800–4300 m. The geographical range of the genus extends from Jamaica and Costa Rica in the North to Peru in the south (CRIBB 2003).

SCHWEINFURTH (1958) reported the occurrence of six *Pterichis* species in Peru. However, he considered *P. acuminata* Schltr. conspecific with *P. galeata* Lindl. ZELENIKO & BERMÚDEZ (2009) listed nine species in the country.

The recent examination of the Cranichideae specimens deposited in the herbarium of the Royal Botanic Gardens, Kew [K], revealed the existence of a distinctive *Pterichis* species which is described here as new.

### Materials and methods

Dried herbarium specimens, over 140 in total, deposited in or borrowed from AMES, COL, CUVC, F, FLAS, FMB, HUA, K, NY, P, PSO, VALLE and W were examined according to standard procedures. Every studied specimen was photographed and the data from the label were

taken. The presence and form of the leaf as well as length and surface of the scape were studied first. The examination of the vegetative structures included form and number of the 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 saundersii* Kolan., sp. nov. (Figs 1–2)

**Diagnosis.** Species similar to *Pterichis fernandezii* G. Morales, distinguished by the elongate inflorescence, bright red flowers, distinctly 3-lobed lip with suborbicular lateral lobes, and lip disc lacking irregular thickenings along the margins.

**Type.** Peru, Dept. Lima, Prov. Huarochiri, Distr. San Mateo, about 1.5–2 miles of valley of Rio Atacra from junction with Rio Rimac, 13 000–13 500 ft, without date, S. G. E. Saunders 840 [K, holotype!; K, isotypes!].

**Description.** Plant 26–40 cm tall. Stem enclathed with 4–6 tubular sheaths, ciliate above the lowest one. Leaves basal, petiolate; petiole 4.5–5 cm long, filiform; blade 6.5–13 cm long, narrowly oblong-elliptic, subacute to obtuse. Inflorescence glandular-ciliate, delicate, 6–11 cm long, laxly several-flowered. Flower reddish with darker venation, sepals externally glandular-ciliate. Floral bract glandular-ciliate, up to 17 mm long, shorter or subequal to ovary. Ovary glandular-ciliate, 15–23 mm long. Dorsal sepal 13 mm long, 4.1 mm wide, narrowly ovate, rounded at the apex, 3-veined. Lateral sepals 11 mm long, 4.5 mm wide, obliquely ovate, apex somewhat acuminate, obtuse, 5-veined. Petals not adnate to the dorsal sepal, 13.5 mm long, 3 mm wide, spatulate (distinctly narrower in the lower part), rounded at the apex, 3-veined. Lip 9 mm long, 13 mm wide when expanded, 3-lobed above the broad, truncate base; lateral lobes suborbicular, apiculate; middle lobe ovate, subacute, recurved in natural position; disc irregularly papillate in the central part, 7-veined, veins thickened, 3 middle veins extend almost to the lip apex, lateral veins branching. Gynostemium about 3 mm long.

**Etymology.** Dedicated to the collector of the type specimen.

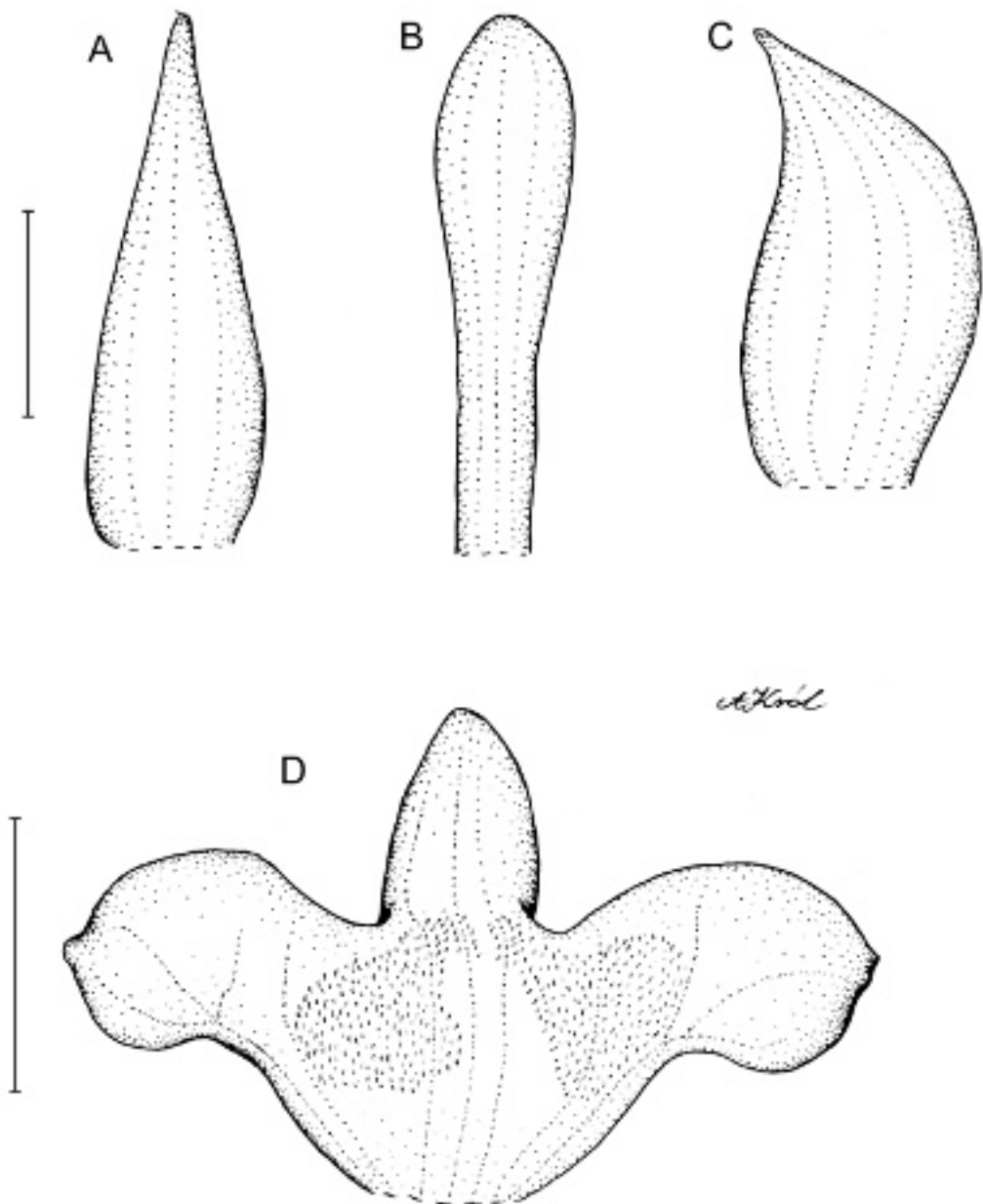
**Habitat.** It was found growing on the slopes of a rocky hillside, among tufts of grasses, probably *Stipa ichu*.

**Distribution.** So far this species is only known from the Peruvian Andes, where it was found at about 4000 m a.s.l.

**Taxonomic notes.** In the form of the perianth segments, the new species resembles the Colombian *Pterichis fernandezii* G. Morales from which it is easily distinguished by the elongate inflorescence (6–11 cm vs 2–4 cm long) as well as by the petals subequal in length to the sepals (vs petals longer than sepals), suborbicular lateral lip lobes (vs lateral lobes with elongated basal edges) and the lip disc lacking irregular thickenings along the margins. Both species may also be easily distinguished by the flowers colour which is red in *P. saundersii* and brownish in *P. fernandezii*.

The new species differs from Peruvian *P. leucoptera* Schltr. in larger flowers (sepals 11–13 mm long in *P. saundersii* and about 7 mm long in *P. leucoptera*), the lip form which is 3-lobed above the broad, truncate base (vs lip reniform-semilunate from the base), the ovate, subacute lip middle

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**Figure 1.** *Pterichis saundersii*, dissected perianth. A – dorsal sepal; B – petal; C – lateral sepal; D – lip. Scale bars = 5 mm. Drawn by A. Król from the holotype.

lobe (vs middle lobe oblong, obtuse) and the lack of irregular thickenings along the lip margins which are present in *P. leucoptera*.

**Nomenclatural notes.** There are three specimens of *P. saundersii* on the herbarium sheet – as holotype serves the plant placed in the middle.

**Conservation status.** As this species is known from a single locality it should be classified as Critically Endangered (CR B1a; B2a) according to the IUCN (2001) criteria. There is no information about the current condition of *P. saundersii* population.

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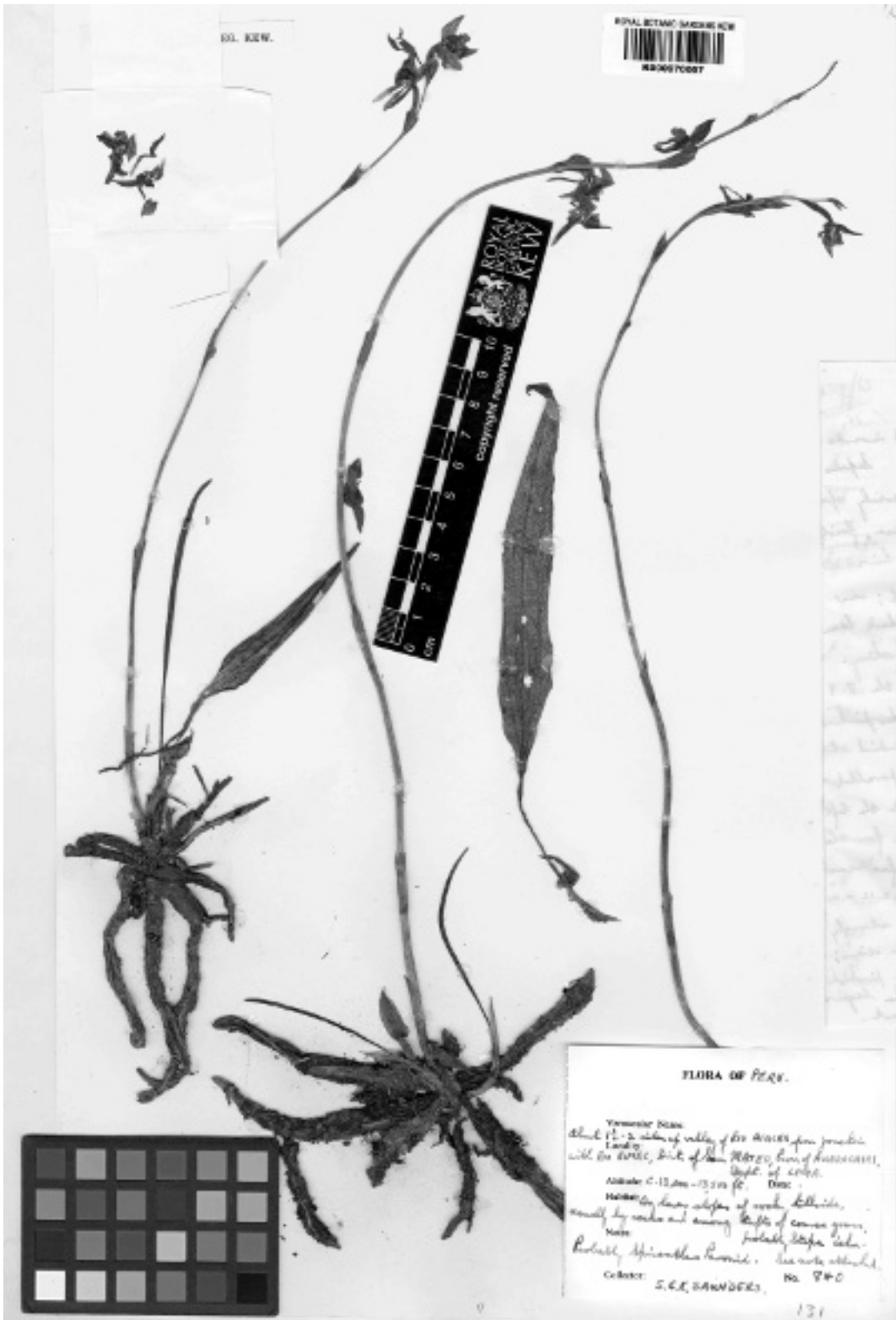


Figure 2. Herbarium sheet with holotype (in the middle) and isotypes of *Pterichis saundersii*. Reproduced with permission of the Board of Trustees of the Royal Botanic Gardens, Kew.

A new species of *Pterichis* from PeruKey to the *Pterichis* species reported from the Central Andes

- 1 Lip indistinctly 3-lobed, triangular-elliptic in outline, apically contracted in the narrow apex ..... 2
- 1\* Lip distinctly 3-lobed, middle lobe elongate ..... 7
- 2 Petals not spatulate ..... 3
- 2\* Petals spatulate ..... 6
- 3 Inflorescence densely-flowered ..... *P. parvifolia* (Lindl.) Schltr. 4
- 3\* Inflorescence laxly-flowered ..... 4
- 4 Petals with sparsely ciliate margins ..... *P. pauciflora* Schltr. 5
- 4\* Petals with glabrous margins ..... 5
- 5 Lip with two series of knob-like projections near the margin ..... *P. weberbaueriana* Kraenzl. 6
- 5\* Lip without knob-like projections near the margins ..... *P. bangii* Rolfe 6
- 6 Lip with a pair of auricles in the edges of the basal part ..... *P. galeata* Lindl. 7
- 6\* Basal lip auricles absent ..... *P. acuminata* Schltr. 7
- 7 Petals ligulate, equally wide along the entire length ..... 8
- 7\* Petals lanceolate or oblanceolate, spatulate or widened near the middle ..... 9
- 8 Lateral sepals lanceolate, acute, petals subequal in length to the dorsal sepal ..... *P. boliviana* Schltr. 10
- 8\* Lateral sepals ovate or ovate-lanceolate, acuminate, petals longer than dorsal sepal ..... *P. silvestris* Schltr. 10
- 9 Petals not spatulate ..... 11
- 9\* Petals spatulate ..... 13
- 10 Apices of the lateral lobes extends above the base of the middle lobe ..... 11
- 10\* Apices of the lateral lobes not exceed the base of the middle lobe ..... 12
- 11 Petals linear-lanceolate to narrowly lanceolate, 1-veined ..... *P. mandonii* Rolfe 12
- 11\* Petals linear-oblong, 3-veined ..... *P. triloba* (Lindl.) Schltr. 12
- 12 Petals 5–6 times longer than wide ..... *P. multiflora* (Lindl.) Schltr. 13
- 12\* Petals 3–4 times longer than wide ..... *P. habenarioides* (F. Lehm. & Kraenzl.) Schltr. 13
- 13 Petals subequal in length to sepals ..... 14
- 13\* Petals distinctly longer than sepals ..... 15
- 14 Lip middle lobe oblong, much broader than long; disc densely papillose, irregular warts along the margins ..... *P. leucoptera* Schltr. 16
- 14\* Lip middle lobe ovate, longer than wide; disc irregularly papillate in the centre, without warts along the margins ..... *P. saundersii* Kolan. 16
- 15 Sepals obtuse, lip middle lobe oblong-triangular ..... *P. yungasensis* Schltr. 17
- 15\* Sepals acuminate, lip middle lobe oblong ..... *P. macroptera* Schltr. 17

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