Biodiv. Res. Conserv. 19: 7-10, 2010

10.2478/v10119-010-0014-2

BRC
www.brc.amu.edu.pl

Stellilabium kukwae (Telipogoneae, Orchidaceae), a new species from Bolivia

Dariusz L. Szlachetko* & Joanna Mytnik-Ejsmont

Department of Plant Taxonomy and Nature Conservation, Gdańsk University, Al. Legionów 9, 80-441 Gdańsk, Poland, *e-mail: biodarek@univ.gda.pl

Abstract: A new species from Bolivia of the genus *Stellilabium* Salisb. (Telipogonae, Orchidaceae), *S. kukwae* Szlach. & Mytnik, is described and illustrated. It is morphologically most similar to *S. pampatamboense* Dodson & R.Vásquez, but it is distinct in having densely, entirely ciliate petals, scarcely ciliate lip laminae, and furculate hairs covering the gynostemium.

Key words: Orchidaceae, *Telipogon*-complex, taxonomy, Andes, South America

1. Introduction

The systematic position of *Stellilabium* Salisb. for years has been arousing controversy among taxonomists. Morphologically the genus is easily distinguishable from the closely related *Telipogon* Kunth and *Trichoceros* Kunth (Dressler 1993; Szlachetko 1995; Dodson 2004) by its essentially small size and leaflessness at maturity. *Stellilabium* is an exclusively Neotropical taxon comprising about 30 species, which are tiny plants with short-lived mimic flowers appearing one at a time. It is also characterized by a short stem with extensive roots, conduplicate leaves, and lateral inflorescence (raceme or panicle) with many, miniature to small resupinate flowers, ranging from a few millimetres to one centimetre in length. The gynostemium is prominent and produces an elongate, beak-like rostellum. *Trichoceros* is vegetatively distinct from the two closely related aforementioned genera in greenish sheen on succulent leaves, prominent pseudobulbs, and the rambling, vine-like habit, whereas *Telipogon* has a different lip and tepal structure in comparison to *Stellilabium*. The three genera, *Trichoceros*, *Telipogon* and *Stellilabium*, are members of the subtribe Telipogoninae Schltr.

Representatives of *Stellilabium* occur at high elevations in the Andes and in wetter forests of Central America. These tiny plants offer no reward to their pollinators (Dressler 1993). The lip closely resembles tachinid flies (Tachinidae) and Maduro observed pseudocopulation in *Stellilabium* by a tachinid fly (Dressler 1981). Though these diminutive plants appear to approach the „shootless" condition of some vandoids, species of *Stellilabium* are characterized by a flattened, tapeworm-like inflorescence axis, which is the main photosynthetic organ (Dressler 1993).

While botanizing in Bolivia our colleague, Dr. Martin Kukwa, a lichen specialist, found a small population of *Stellilabium* species. After careful studies of the specimen we came to the conclusion that this plant undoubtedly represents a new, undescribed species.

2. Material and methods

A standard procedure of preparing the studied material was applied. Both vegetative and generative characters of the new species were analyzed in detail. Particular parts of the flower were boiled, dissected, measured and drawn under a binocular microscope. They were subsequently compared with the type material, diagnoses and original illustrations of the species representing the *Telipogon*-complex. The studied specimen was photographed (Fig. 1).

Fig. 1. *Stellilabium kukwae* – a habit (photograph by M. Kukwa)

3. Results and Discussion

Stellilabium kukwae Szlach. & Mytnik *sp. nov.* (Figs. 1-2)

Species haec Stellilabio pampatamboensi *similis, sed ab eo differt petalis dense omninoque ciliatis, laminis labelli ciliatis et pilis gynostemium tegentibus apice furculatis, non simplicibus.*

Type: Bolivia. La Paz Department: Coroico. 03.08.2008, Kukwa *s.n.* (holotype: UGDA-DLSz–spirit).

Etymology: Dedicated to Dr. Martin Kukwa (Gdańsk University, Poland), a collector of the type specimen.

Plants small, caespitose. Stem short, 2-4 cm long, green. Leaves 5-7 per stem, ca. 2-4 cm long, up to 1 cm wide, oblong-elliptic to ligulate, somewhat oblique, shortly apiculate, unevenly and minutely denticulate along margins, thick, rather fleshy, green. Inflorescence ca. 2 cm long, sparcely-flowered. Floral bracts 3 mm long, glabrous, elliptic-ovate, cup-like, acuminate. Pedicel and ovary 10 mm long, glabrous, with 3 prominent keels. Dorsal sepal 7 mm long, 4 mm wide, elliptic-ovate, shortly apiculate, cochleate, rather thick, glabrous, 3-nerved, greenish or yellowish-green. Petals 7.5 mm long, 1.8 mm wide, linear-lanceolate, subobtuse, relatively thick, densely ciliate throughout, 1-nerved, deep purple-brown. Lateral sepals 7 mm long, 3.6 mm wide, obliquely ovate-lanceolate or ovate, subacute, cochleate, thick, glabrous, 3-nerved, greenish to yellowish-green. Lip 7 mm long, 4.5 mm wide, more or less rectangular-elliptic, unlobed, triangular and somewhat twisted at the apex, shortly auriculate at the base, thick, densely ciliate all over and along margins, black in the basal third, gradually transforming into deep purple-brown above. Gynostemium 2 mm long, typical of the genus, blackish, ciliate all over, with 3 tufts of stiff, blackish-purple hairs with furculate apices, placed on both sides and back of the anther.

Ecology: An epiphyte of wet tropical forests.

Altitude: 1500 m.

General distribution: Known so far from the type locality in Bolivia only.

Taxonomic affinities: The newly described species is closely related to *S. pampatamboense* Dodson & R. Vásquez, but it differs by having densely, entirely ciliate

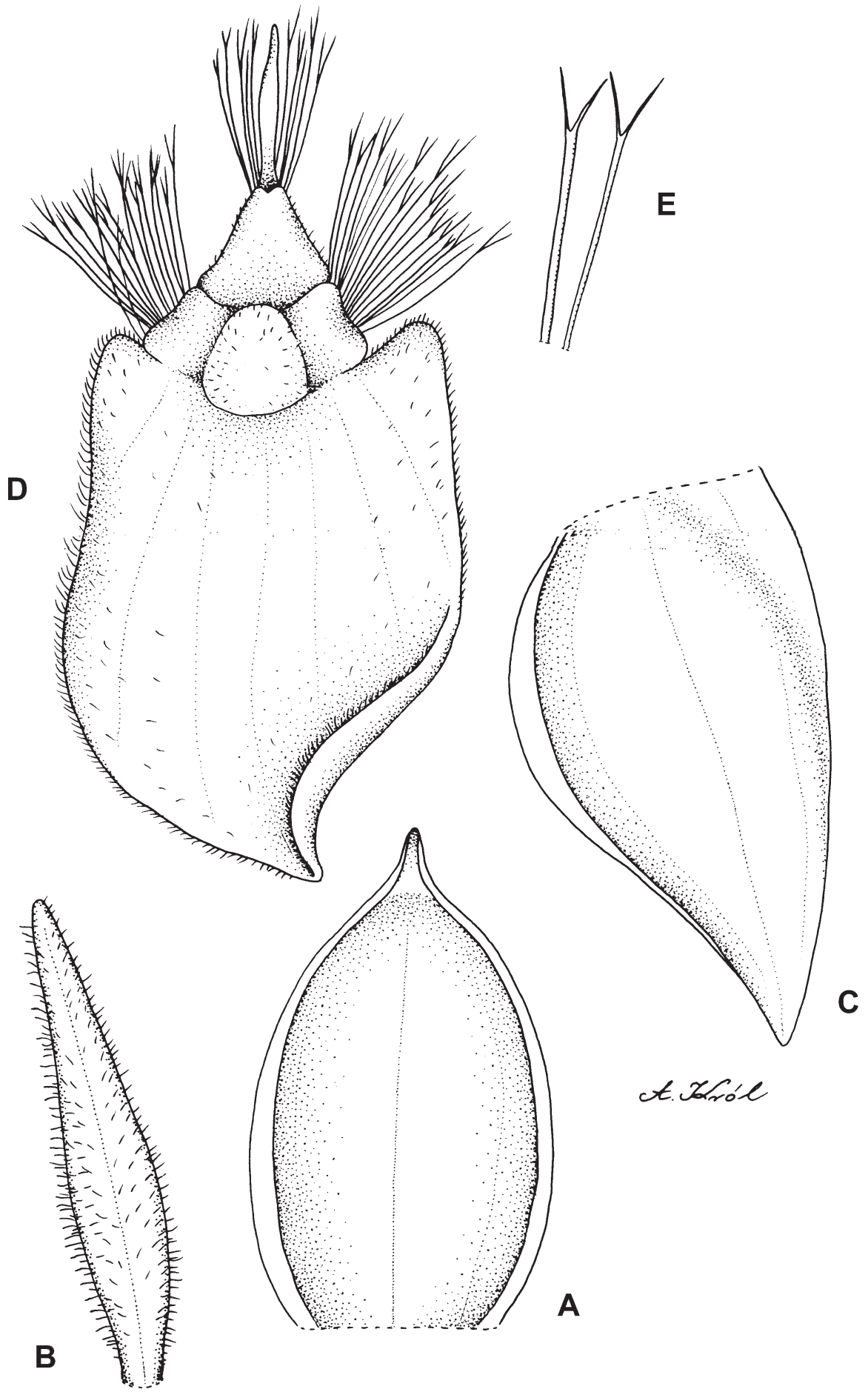

Fig. 2. *Stellilabium kukwae* – flower parts
Explanations: A – dorsal sepal, B – petal, C – lateral sepal, D – lip and gynostemium, E – gynostemium hairs (drawn from the holotype by A. Król)

petals and a scarcely ciliate lip lamina. Hairs covering the gynostemium are furculate at their apices, not simple as those in *S. pampatamboense*.

Acknowledgements. We would like to express our gratitude to the anonymous reviewer whose observations contributed considerably to the improvement of the manuscript, and Anna Król for preparing the line drawing.

References

Dodson C. H. 2004. Native Ecuadorian orchids, vol. 5. *Rodriguezia* to *Zygosepalum*. Dodson Trust. Quito.

Dressler R. L. 1981. The Orchids: Natural History and Classification. Harvard University Press.

Dressler R. L. 1993. Phylogeny and classification of the orchid family. Dioscorides Press, Portland, OR.

Szlachetko D. L. 1995. Systema Orchidalium. Fragm. Flor. Geobot. Suppl. 3: 1-152.