

ZYGOSTATES LUERORUM—A NEW SPECIES FROM BOLIVIA IN THE ORNITHOCEPHALUS CLADE OF SUBTRIBE ONCIDIINAE (ORCHIDACEAE)

A. L. V. TOSCANO DE BRITO¹

Abstract. A new species of *Zygostates* from Cochabamba, Bolivia, is described and illustrated. It is similar to *Zygostates apiculata* (Lindl.) Toscano, but differs by the distinctly callose sepals, petals, and labellum.

Resumen. Se describe y se ilustra una nueva especie de *Zygostates* de Cochabamba, Bolivia. La nueva especie se asemeja a *Zygostates apiculata* (Lindl.) Toscano, pero se diferencia por tener los sépalos, pétalos y el labelo callosos.

Keywords: Orchidaceae, *Zygostates*, Taxonomy, South America

Zygostates Lindl. is a genus of the *Ornithocephalus* clade of subtribe Oncidiinae (Orchidaceae). It comprises about 25 epiphytic species distributed in the South American tropics, from Venezuela, Colombia, Suriname, French Guiana, Ecuador, and Peru to southern Brazil, Bolivia, Paraguay, and Argentina, of which five species have been previously reported from Bolivia (Toscano de Brito, 2012). In the course of preparing a taxonomic revision of *Zygostates*, a new species from Cochabamba, Bolivia, was discovered. It is described and illustrated here.

Zygostates luerorum Toscano & R. Vásquez, *sp. nov.*
TYPE: BOLIVIA. Cochabamba: dry forest remnant along road north of Cocapata, 2100 m, 5 February 1997, C. Luer, J. Luer and R. Vásquez 18390 (Holotype: SEL [113691]). Fig. 1.

This species is similar to *Zygostates apiculata* (Lindl.) Toscano, but differs by the distinctly callose sepals, petals, and labellum.

Plant to ca. 40 mm tall, epiphytic, caespitose; roots slender, several, terete, flexuous, glabrous. *Pseudobulbs* 3–6 × 3 mm, subglobose or ellipsoid, clustered, unifoliate, usually concealed by the lateral leaves. *Lateral leaves* few (3–5), attenuate at base, slightly or distinctly petiolate, articulate, sheathing at base, the blade 10–30 × 4–6 mm, elliptic, or lanceolate to oblong-lanceolate, thick, rigid, acute, shortly apiculate, abaxially slightly keeled, adaxially slightly sulcate, yellowish-green (*vide* collection data); leaf-sheaths 3–5 mm long. *Apical leaf* similar to the lateral ones, lacking a leaf-sheath. *Inflorescence* to ca. 50 mm long, to ca. 10-flowered, racemose, emerging from the base of the pseudobulb, erect; peduncle short to c. 12 mm long, somewhat angular in cross-section, glabrous, covered by 3–5 narrowly ovate to subtriangular, concave, acute sterile bracts 2.5–3 × 1.5 mm; rachis to c. 20 mm long, somewhat twisted and flexuous, angular in cross-section, glabrous; floral bracts similar to the sterile ones, relatively smaller and

decreasing in size toward the apex of inflorescence. *Flowers* greenish-yellow (*vide* collection data), resupinate or non-resupinate, patent, with labellum facing the rachis. *Pedicel* ca. 4 mm long, twisted, angular in cross-section, geniculate at apex. *Ovary* ca. 1.5 mm long, slightly ridged in cross-section. *Dorsal sepal* 4 × 2 mm, oblong, slightly convex, usually reflexed, slightly oblique, abaxially obscurely keeled on the midvein, margins entire, apex obtuse. *Lateral sepals* c. 4 × 2 mm, oblique, slightly falcate, oblong-ovate, slightly concave and incurved toward apex, the adaxial surface obscurely callose at base, abaxially similarly keeled as the dorsal one, the margins entire, the apex obtuse. *Petals* 3.0–3.5 × 4 mm, broadly obovate, symmetric or slightly oblique, spreading, the base shortly unguiculate, adaxially provided with a number of fleshy, dentate callosities, the margins entire at base, irregularly erose-dentate toward the rounded apex. *Labellum* 3 × 2 mm, elliptic, concave, slightly incurved at the apex, thickish, abaxially obscurely keeled on the midvein, the base adaxially glandular, hollowed, the adaxial surface of the labellum provided with two longitudinal, parallel callosities that run from near the base to just above the middle of the labellum, flanked by two lower and shorter callosities on each side, apex of the labellum hollowed, slightly incurved, obtuse. *Column* ca. 2 mm long (excluding the rostellum), lacking lateral appendages at base, the base terete, bearing a rounded stigmatic cavity above, the mid-portion dorsiventrally flattened to the level of the clinandrium, sigmoid, and geniculate near the dilated apex; rostellum conspicuous, ca. 2 mm long, slightly dilated at base, markedly curved upward, subulate, dorsiventrally flattened, obtuse; anther ca. 1 mm long, operculate, much shorter than the rostellum when placed on the column, rotund, shortly beaked, the beak recurved and parallel to the rostellum, obtuse; pollinia arranged in two superposed, subglobose, equal pairs; stipe ca. 2.5 mm long, narrow, elongate, abruptly dilated near the point of attachment of the pollinia; viscidium oblong-elliptic. Capsule not seen.

I thank Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES), Brazil, for the grant “Programa Pesquisador Visitante Especial (PVE), 88881.065009/2014-0.” Stig Dalström and Susanna Stuart-Smith for preparing the black and white drawings, Nancy Karam for helping assemble the illustration, and the Marie Selby Botanical Gardens and the Royal Botanic Gardens, Kew, for providing funds for the artwork. I am also grateful to the late Roberto Vásquez (1941–2015), who first called my attention to this new species and provided me with drawings, flowers, and additional materials which enabled me to conclude this study.

¹Marie Selby Botanical Gardens, 811 South Palm Avenue, Sarasota, Florida 34236-7726, U.S.A.; Oakes Ames Orchid Herbarium, Harvard University Herbaria, U.S.A.; atoscano@selby.org

Harvard Papers in Botany, Vol. 22, No. 2, 2017, pp. 133–135.

© President and Fellows of Harvard College, 2017

ISSN: 1938-2944, DOI: 10.3100/hpib.v22iss2.2017.n7, Published online: 31 December 2017

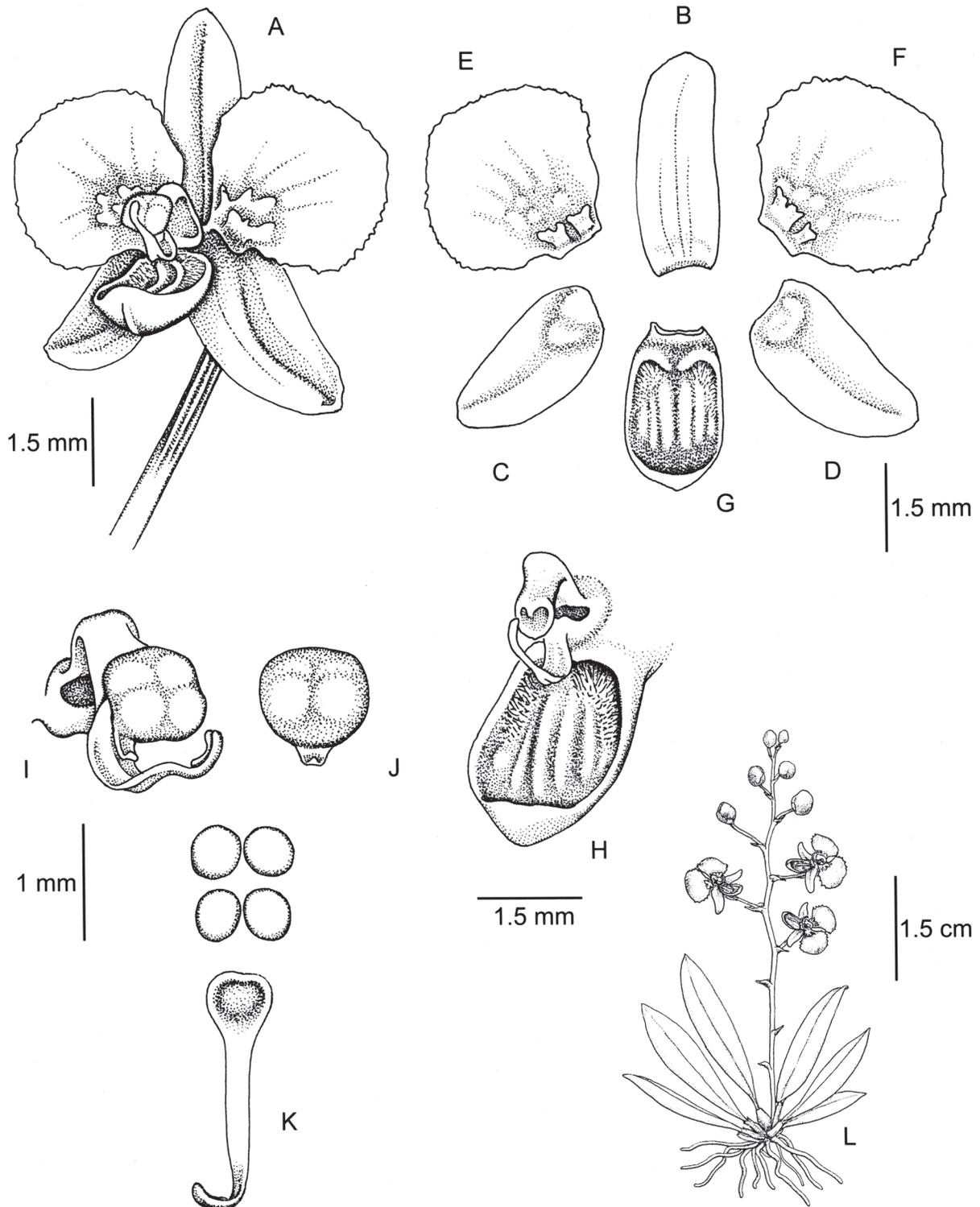


FIGURE 1. *Zygostates luerorum* Toscano & R. Vásquez. **A**, Flower in $\frac{3}{4}$ view; **B**, Dorsal sepal; **C-D**, Lateral sepals; **E-F**, Petals; **G**, Labellum; **H**, Labellum and column, anther removed; **I**, Column with anther in place; **J**, Anther, front view and spread; **K**, Pollinarium in front view and spread; **L**, Habit. A-K drawn by Stig Dalström, based on the holotype (*C. Luer, J. Luer and R. Vásquez 18390*); L drawn by Susanna Stuart-Smith, based on an illustration by R. Vásquez of a cultivated clone of the type collection.

Habitat and distribution: *Zygostates luerorum* grows epiphytically in ecotonal forest (transition between semi-deciduous and rain forests) at 2100 m elevation in the department of Cochabamba, Bolivia.

Etymology: Named in honor of Carlyle and Jane Luer, two of the discoverers of this species.

Zygostates luerorum is similar to *Z. apiculata* from which it is distinguished by the morphology of sepals, petals

and labellum. In *Zygostates luerorum* sepals and petals are callose at base and the labellum is provided with a number longitudinal callosities on the adaxial surface, whereas in *Z. apiculata* sepals, petals and labellum are smooth, and the labellum lacks obvious longitudinal callosities on the adaxial surface. The new species is known only from the type collection but it is distinctive enough to be described as a new taxon.

LITERATURE CITED

TOSCANO DE BRITO, A. L. V. 2012. A new species and a new combination in *Zygostates* (Orchidaceae: Oncidiinae) from Bolivia. *Kew Bull.* 67: 1–3.