

A NEW SPECIES AND A NEW COMBINATION IN THE  
ORNITHOCEPHALUS GROUP OF SUBTRIBE ONCIDIINAE  
(ORCHIDACEAE)

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ABSTRACT. A new species of *Zygostates* Lindl. from Bolivia is described and illustrated, and a new combination in *Ornithocephalus* Hook is proposed.

Key words: Orchidaceae, Epidendroideae, Cymbidieae, Oncidiinae, *Zygostates*, *Ornithocephalus*, Bolivia, Ecuador

INTRODUCTION

The *Ornithocephalus* group of subtribe Oncidiinae comprises about 100 species of epiphytic orchids distributed in the tropical Americas, from Mexico south to Argentina, and with a few species in the Lesser Antilles. Of the 12 genera now recognized, *Zygostates* Lindl. and *Ornithocephalus* Hook. contain the largest number of species. *Zygostates* consists of about 25 species distributed in the South American tropics, mainly in southern Brazil. Some species, especially from unexplored areas of Bolivia, Peru, and Brazil, are yet to be described. It has sympodial growth habit and dorsiventrally flattened, bifacial leaves. *Ornithocephalus* comprises about 50 species widespread in tropical America, ranging from Mexico to southern Brazil and also in some of the Lesser Antilles, Grenada, Trinidad, and Tobago. It possesses a distinctive psygmoid habit; i.e., they are monopodial and have bilaterally flattened, unifacial, usually articulated leaves, which are arranged in a characteristic fan-shaped form. However, some *Ornithocephalus* species have elongate stems, and the leaves are thus less obviously fan-shaped; these species usually have been considered members of the genus *Sphyrastylis* Schltr. Recently, Toscano de Brito and Dressler (2000) and Toscano de Brito (2001) have shown that morphological characters such as length of stem, fan-shaped arrangement of leaves, shape of column, rostellum, and anther are inconsistent and cannot be used to distinguish *Sphyrastylis* from *Ornithocephalus*. In a recent cladistic analysis based on evidence from four DNA sequence regions (Williams et al. 2005), *Sphyrastylis* is imbedded within *Ornithocephalus*, thus supporting the transfer of all species of *Sphyrastylis* to *Ornithocephalus* based on morphological grounds as proposed by Toscano de Brito and Dressler (2000). In the course of preparing systematic re-

visions of *Zygostates* and *Ornithocephalus*, a new species of *Zygostates* from Bolivia, *Z. morenoi* Toscano, has been discovered and is described and illustrated here. *Sphyrastylis bonitensis* Dodson, recently described from Ecuador, is here transferred to *Ornithocephalus*.

NEW SPECIES

***Zygostates morenoi*** Toscano, sp.nov. Type: Bolivia—Santa Cruz: near Espejo, flowered in cultivation by J & L Orchids in 11/IV/1980, *L. Moreno s.n.* (Holotype: SEL). FIGURE 1.

*Z. apiculatae* (Lindl.) Toscano et *Z. obliquae* (Schnee) Toscano affinis sed floribus majoribus, labello latiore et distincte acuminato, anthera longiore et valde rostrata differt.

SYN.: *Dipteranthus planifolius* auct. non Garay (1956): Dodson & Vásquez, *Icon. Pl. Trop. Ser. 2, Fasc. 3*, t. 213 (1989); Karasawa, *Orchid Atlas 7*: 271, photo 251 (1989).

**Plant** up to ca. 60 mm tall. **Roots** several, terete, flexuous, glabrous. **Stem** usually inconspicuous, up to ca. 5 mm long, usually bearing a number of membranaceous scales or sheaths near the pseudobulb and the lateral leaves surrounding it. **Pseudobulbs** 5–7 × 3 mm, unifoliate, ovoid, slightly laterally flattened. **Lateral leaves** few (ca. 5), petiolate, articulate, sheathing at base, the blade 25–40 × 3–3.5 mm, lanceolate to linear-lanceolate, thick, rigid, twisted towards the base, abaxially keeled, acute, usually apiculate, opaque-green, the margins slightly revolute, the leaf-sheaths up to ca. 6 mm long. **Apical leaf** up to 22–32 × 4–7 mm, similar to the lateral ones, lacking a leaf-sheath. **Inflorescence** up to ca. 80 mm long, ca. 10- to 25-flowered, racemose, nodding or suberect, lateral, emerging from the base of the pseudobulb; peduncle up to ca. 30 mm long, terete, obscurely angular in

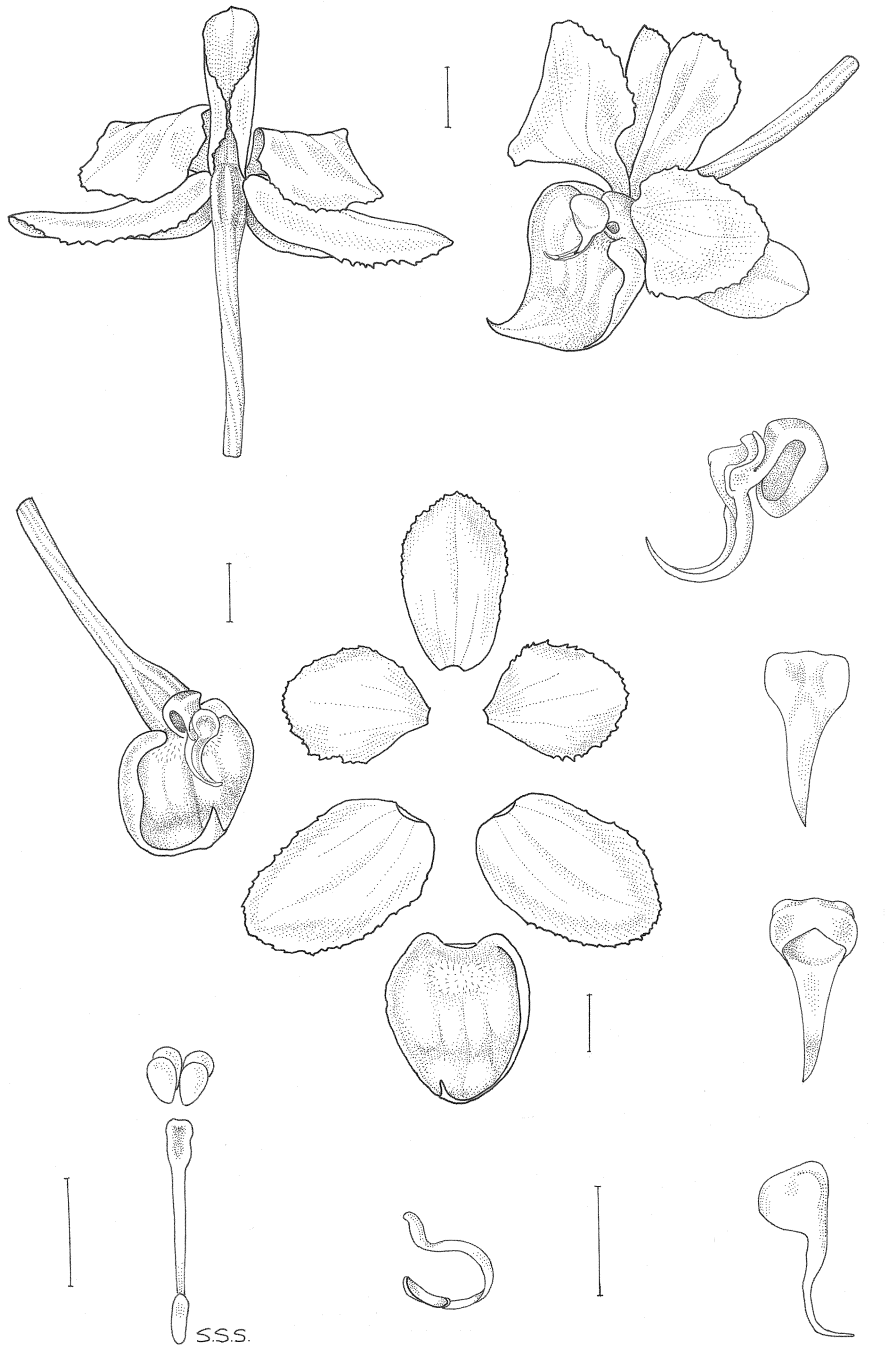


FIGURE 1. Floral detail of *Zygostates morenoi* A. Flower; B. Flower from behind; C. Dorsal sepal; D-E. Lateral sepals; F-G. Petals; H. Lip; I. Pedicel, ovary, lip, and column; J. Column in side view, anther removed; L. Anther in front view; M. Anther from behind; N. Anther in side view; O. Pollinarium in front view and spread; P. Stipe and viscidium in side view. All drawn from OIC 1479 (SEL) by Susanna Stuart-Smith. Scale bar = 1 mm.

cross-section, bearing an amplexicaul, lanceolate scale at base and with 2–4 ovate-lanceolate, acute sterile bracts towards the apex, the latter 3.5–4 × 1.5 mm; rachis up to ca. 50 mm long, slightly dilated and twisted, somewhat flexuous, angular in cross-section; floral bracts similar to the sterile ones, usually shorter and decreasing in size towards the apex of inflorescence. **Flowers** resupinate or non-resupinate depending upon the curvature of the inflorescence, with light-yellow tepals and greenish maroon lip. **Pedicel** 3.5–6 mm long, twisted, angular in cross-section. **Ovary** 0.5–1 mm long, slightly ridged in cross-section. **Dorsal sepal** 3.5–4 × 1–2 mm, obovate, obtuse, abaxially obscurely keeled, the margins dentate-erose towards apex, revolute towards base. **Lateral sepals** 3–4.5 × 1.5–2 mm, somewhat oblique, oblong to broadly elliptic, obscurely falcate, abaxially obscurely keeled, obtuse, spreading, more or less forming an inverted “T” with the dorsal one, the margins revolute, dentate-erose towards apex. **Petals** 2.5–4 × 1.5–2.5 mm, broadly obovate, slightly unguiculate, recurved, the margins dentate-erose from near the base up to the apex. **Lip** 3.8–5.5 × 2–4 mm, concave, obcordiform or ovate-lanceolate when spread, fleshy, somewhat rigid, the mid-portion of the lip thickened by a series of obscure, somewhat parallel callosities, the base glandular, the apex distinctly acuminate and usually incurved. **Column** ca. 1 mm long (excluding the rostellum), lacking lateral appendages at base, the base swollen, terete and bearing a rounded stigmatic cavity above, the mid-portion slender, dorsiventrally flattened, and usually strongly incurved, sometimes almost completely covering the stigmatic cavity, the apex dilated; rostellum conspicuous, 1.5–2 mm long, markedly curved forward and upward, concave, subulate, acute; anther ca. 1.5 mm long, operculate, shorter than the rostellum when placed on the column, clavate in outline, markedly beaked, the beak slightly curved and parallel to the rostellum, acute; pollinia arranged in two superposed subequal pairs, obovoid; stipe ca. 2 mm long, elongate, slightly dilated near the apex; viscidium oblong, slightly concave. **Capsule** not seen.

**ETYMOLOGY:** Named after Dr. Luis Rene Moreno from Bolivia who discovered this species.

**HABITAT:** Epiphytic in montane wet forest.

**PARATYPES:** **Bolivia.** Santa Cruz: cultivated by J & L Orchids (SEL-OIC 6363, spirit). Without specific locality: cultivated by Marshall Orchids (SEL-OIC 1479, spirit); cultivated by Peter

Fleuren (SEL-OIC 9024, spirit). **Unknown locality.** Cultivated by MAJ Orchids (SEL-OIC 6220, spirit); cultivated by David Maurer (SEL-OIC 6201); cultivated by Barbara Tisherman (SEL-OIC 6281, spirit).

This species was first illustrated by Dodson and Vásquez (1989) who identified it as *Dipteranthus planifolius*, a synonym of *Zygostates apiculata*. Nevertheless, *Z. morenoi* is distinguished from *Z. apiculata* and also from *Z. obliqua*, a closely related species, by the larger flowers, the shape of the spreading lateral sepals, which more or less form an inverted “T” with the dorsal one, the broader, distinctly acuminate lip, and the longer, markedly beaked anther. Dodson and Vásquez (1989) report *Z. apiculata* (as *D. planifolius*) to Cochabamba and La Paz. These collections may also prove to represent *Z. morenoi*.

#### NEW COMBINATION

**Ornithocephalus bonitensis** (Dodson) Toscano, comb. nov.

Basionym: *Ornithocephalus bonitensis* Dodson, *Orquideologia* 22(3): 205, 2003.

**TYPE:** Ecuador—Sucumbíos, Tulcán a La Bonita, Km 64, 1800 m, 12 de julio de 1990, *Dodson et al. 18478* (Holotype: RPSC).

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