A new species of Ornithocephalus (Orchidaceae) from Panama

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Pupulin, F. (Jardín Botánico Lankester, Universidad de Costa Rica. P.O. Box 1031-7050 Cartago, Costa Rica; Harvard University Herbaria, Cambridge, U.S.A.; Marie Selby Botanical Gardens, Sarasota, U.S.A.; e-mail: fpupulin@cariari.ucr.ac.cr) & R.L. Dressler (Jardín Botánico Lankester, Universidad de Costa Rica; Missouri Botanical Garden; Marie Selby Botanical Gardens; Florida Museum of Natural History; e-mail: rdressle@cariari.ucr.ac.cr). A new species of *Ornithocephalus* (Orchidaceae) from Panama. Brittonia 58: 314–317. 2006. **Ornithocephalus aristatus**, a new species from Panama, is described and illustrated. Among the species of the genus *Ornithocephalus*, it can be distinguished by the nonresupinate flowers, the sepals each provided with a flexuous awn half as long as the sepal itself, the porrect petals with revolute margins, the hastate lip with triangular-ovate, erose lateral lobes, the linear, acute midlobe, conduplicate and subreflexed at apex, and the disc with a bilobed, obreniform callus provided with a conical tuft of stiff hairs. A key to the species of *Ornithocephalus* from Panama is provided.

Key words: Oncidiinae, Orchidaceae, *Ornithocephalus*, *Ornithocephalus aristatus*, Panama.

The neotropical genus *Ornithocephalus* Hook. (Orchidaceae: Oncidiinae), including *Sphyrastylis* Schltr. and *Oakes-Amesia* C. Schweinf. & P.H. Allen, encompasses some 42 to 44 species (Govaerts, 2002; Chase et al., 2003) ranging from Mexico to Brazil, Bolivia and Peru, and the West Indies. Plants of *Ornithocephalus* are among the few epiphytic orchids adapted to the suboptimal conditions of low light exposure within the understory of dense tropical forests. Here they constitute a rather common element of the epiphytic biota in shaded spots of both pristine and secondary vegetation; most *Ornithocephalus* species should be considered shade tolerant epiphytes.

The highest diversity in the genus occurs in the Andes, with more than 60% of the species recorded from Colombia, Ecuador, and Peru. Species diversity decreases toward the north, and it seems positively correlated with the presence of high mountain chains, since the relatively low elevation countries of Belize, Honduras, and Nicaragua have the lowest diversity in *Ornithocephalus*. Species of the genus in Central America have been largely neglected in the past, and many new species have been added to the regional floras in the last few years as a result of increased taxonomic attention (Salazar & González, 1990; Soto Arenas, 1992; Salazar & Soto Arenas, 1996; Dressler, 1997; Pupulin, 2000, 2002b; Toscano & Dressler, 2000). In 1993, Dressler recorded only five species of *Ornithocephalus* for the orchid floras of Costa Rica and Panama (Dressler, 1993), but Pupulin included six species in his catalogue of Costa Rican Orchidaceae (Pupulin, 2002a), and this number has been elevated to seven for Costa Rica alone in Dressler's latest account of the genus (Dressler, 2003).

Not unexpectedly, botanical exploration in lesser known areas of southern Central America is still revealing new elements of the inconspicuous epiphytic flora of this rich region. The following species of *Ornithocephalus* is described here as new to science.

Ornithocephalus aristatus Pupulin & Dressler, **sp. nov.** Type: Panama. Bocas del Toro: Changuinola, Valle Risco, 800 m, primary forest; at 3 m from the ground epiphytic on shrub, flowered in cultivation at Finca Drácula, 26 Sep 2003, *A. Maduro &*

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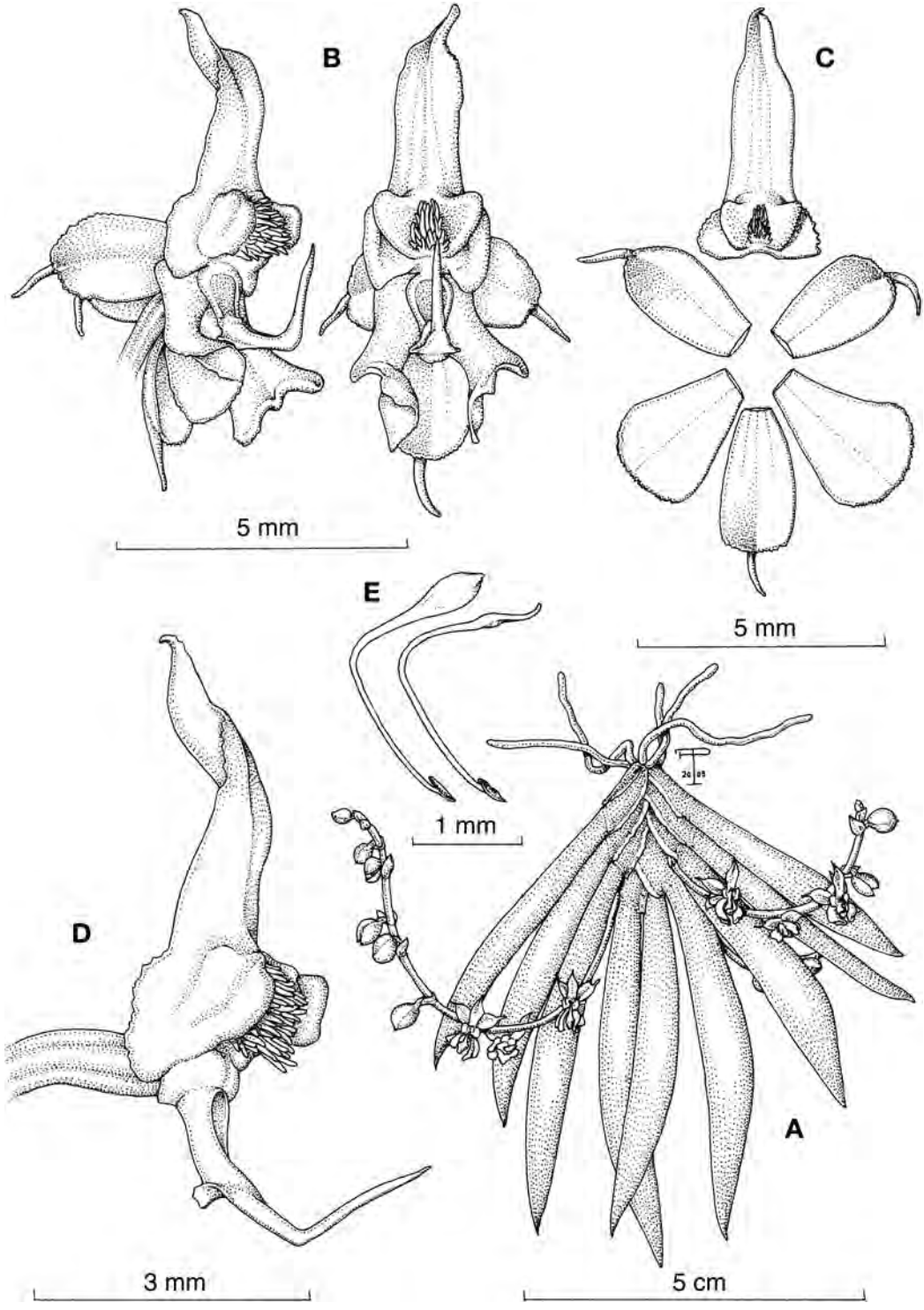

FIG. 1. *Ornithocephalus aristatus*. **A.** Habit. **B.** Flower, 3/4 view (left) and frontal view (right). **C.** Floral dissection. **D.** Column and lip, lateral view. **E.** Stipe of the pollinarium, two views. A, from dried material; B–E, from material preserved in spirit. (Drawn from the type by F. Pupulin.)

E. Olmos 327. Flowers white, lip with 3 green spots in this pattern ".o." (HOLOTYPE: PAN; ISOTYPE: CR-spirit [flowers]).

(Fig. 1)

Ab omnibus speciebus generis *Ornithocephali* sepalis arista flexuosa longitudine circa 1/2 eorum partes aequanti instructis, petalis porrectis marginibus revolutis, labello hastato lobulis lateralibus triangulari-ovatis marginibus erosis, lobulo intermedio lineari acuto apice conduplicato-subreflexo, disco callo obreniformi bilobo, lobulis suberectis concavis sulco mediano trichomatum caespite conico ornato dignoscenda.

Plant a pendent, epseudobulbous, psygmoid epiphyte, to 8 cm tall. *Roots* flexuous, glabrous, ca. 1 mm in diameter. *Leaves* distichous, laterally flattened (equitant), narrowly elliptic-subfalcate, acuminate, grayish green, 5–6.5 × 0.5–0.8 cm, articulate at the base with rectangular-obtrapezoidal sheaths provided with hyaline margins, to 1.3 × 1.1 cm. *Inflorescence* racemose, many-flowered, to 9 per inflorescence, to 10 cm long, produced from the axils of the upper leaves, pendent and upcurving, becoming apically erect at maturity; peduncle and rachis terete, glabrous, the peduncle to 3 cm long, concealed at the base by a short triangular bract up to 2.5 mm long. *Floral bracts* ovate, acute, spreading, subhyaline, becoming papyraceous with age, to 2 × 2 mm. *Ovary* pedicellate, terete-subclavate, glabrous, 5 mm long including the pedicel. *Flowers* non-resupinate, segments spreading, translucent white, the callus of the lip adorned with three emerald-green spots. *Dorsal sepal* subrectangular-oblong, erect, widely obtuse to subtruncate, erose, concave toward the apex, ca. 3 × 1.5 mm, abaxially aristate, the arista (awn) to 1.2 mm long. *Lateral sepals* oblong to narrowly obovate, obtuse to rounded, minutely erose, strongly reflexed, concave toward the apex, ca. 3 × 1.4 mm, abaxially aristate, the awn flexuous-falcate, ca. 1.2 mm long. *Petals* spathulate, rounded, erose, abaxially carinate, the keel erose, ca. 3.2 × 2.3 mm, porrect and with the lateral margins revolute in natural position. *Lip* 3-lobed, narrowly hastate, ca. 5.2 × 2.5 mm across the lateral lobes, the lateral lobes triangular-ovate, erose-denticulate, to 1 mm long; midlobe linear, acute, conduplicate and subreflexed at apex, ca. 4 × 1.2 mm; disc provided with a massive, obreniform, 2-lobed, thick callus 1.2 × 1.6 mm, the lobes rounded, suberect, concave, the median groove with a conical tuft of stiff glandular hairs. *Column* erect, terete, ampullaceous at the base, long-acuminate to caudate at apex, ca. 4.3 × 0.8 mm at the base; stigma rounded; clinandrium concave, subquadrate; rostellum acicular, abruptly curved at the middle. *Anther cap* narrowly triangular-acuminate, basally rounded, 2-celled. *Pollinia* 4, spherical, in two pairs, on a hyaline, filiform, apically dilated stipe; viscidium narrowly elliptic, brown.

Distribution and Ecology.—Known only from the type collection in Panama, on the Caribbean watershed of the Talamanca mountain chain, at about 800 m elevation.

Etymology.—From the Latin *aristatus*, aristate, in reference to the prominent awns of the sepals.

Ornithocephalus aristatus is unlike other species in the genus. Among them, this new species can be distinguished by the sepals provided with a flexuous awn half as long as sepals, the porrect petals which in natural position have distinctly revolute margins, the hastate lip with triangular-ovate, erose lateral lobes and linear, acute midlobe, conduplicate, subreflexed at apex, the disc with a bilobed, obreniform callus, and the nonresupinate flowers. The lobes of the callus are suberect, concave, and the central groove is provided with a conical tuft of stiff hairs. *Ornithocephalus gladiatus* Hook. has a similar, ligulate lamina of the lip, but it lacks lateral lobes, the basal wings of the lip actually being the two thick lobes of the callus.

A key to the species of *Ornithocephalus* from Panama is provided below to allow for easier recognition of the different taxa. The synonymy included in the key only refers to names based on Panamanian types.

Key to the Panamanian species of *Ornithocephalus*

1. Rostellum 3-lobed apically
   2. Lip 3-lobed, the midlobe deeply concave; petals obdeltoid; leaves articulate .....
      O. cryptanthus (C. Schweinf. & P. H. Allen) Toscano & Dressler [syn. *Oakes-Amesia cryptantha* C. Schweinf. & P. H. Allen; *Sphyrastylis cryptantha* (C. Schweinf. & P. H. Allen) Garay]

2. Lip subquadrate, deeply concave basally; petals subcircular; leaves not articulate ....*O. dressleri* (Toscano) Toscano & Dressler (syn. *Sphyrastylis dressleri* Toscano)
1. Rostellum entire, tapering apically
   3. Rachis of inflorescence densely glandular pilose
      4. Midlobe of lip lance-navicular, with 2 divergent horns from callus ....*O. bicornis* Lindl. (syn. *O. diceras* Schltr.; *O. lanuginosus* Ames)
      4. Midlobe of lip ovate or subquadrate cochleate, without divergent horns..... .....*O. cochleariformis* C. Schweinf.
   3. Rachis of inflorescence glabrous or sparsely glandular
      5. Midlobe of lip oblanceolate, widest near the apex; leaves whitish green ....*O. powellii* Schltr.
      5. Midlobe of lip oblong, lanceolate or elliptic, widest basally or medially; leaves green
         6. Apex of callus truncate, callus widest distally, with median tuft of long hairs ....*O. aristatus* Pupulin & Dressler
         6. Apex of callus rounded, callus widest basally, with lateral tufts of short hairs .....*O. inflexus* Lindl.

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Literature cited

Chase, M. W., K. M. Cameron, R. L. Barrett & J. V. Freudenstein. 2003. DNA data and Orchidaceae systematics: a new phylogenetic classification. *In*: K. W. Dixon, S. P. Kell, R. L. Barrett & P. J. Cribb (eds.), Orchid Conservation. Natural Hstory Publications (Borneo), Kota Kinabalu.

Dressler, R. L. 1993. Field guide to the orchids of Costa Rica and Panama. Cornell University Press, Ithaca and London.

———. 1997. New species and combinations in Costa Rican orchids. Novon 7: 120–126.

———. 2003. Orchidaceae. Pp. 1–595. I*n*: B. E Hammel, M. H. Grayum, C. Herrera & N. Zamora (eds.), Manual de Plantas de Costa Rica. Vol.3. Monographs in Systematic Botany of Missouri Botanical Garden 93.

Govaerts, R. 2002. Checklist of American Orchidaceae. Computer printout. Royal Botanic Gardens, Kew.

Pupulin, F. 2000. New species of Costa Rican Orchidaceae. Lindleyana 15: 21–32.

———. 2002a. Catálogo revisado y anotado de las Orchidaceae de Costa Rica. Lankesteriana 4: 1–88.

———. 2002b. Exploring for orchids. *Ornithocephalus montealegreae* is described from Costa Rica. Orchids 71(11): 1016–1019.

Salazar, G. A. & R. González. 1990. *Ornithocephalus biloborostratus*, nueva especie del sur y occidente de México. Orquídea (México) 12: 87–92.

Salazar, G. A. & M. A. Soto Arenas. 1996. A new species of *Ornithocephalus* (Orchidaceae) from Oaxaca, Mexico. Brittonia 48: 209–212.

Soto Arenas, M. A. 1992. Una nueva especie de Chiapas: *Ornithocephalus obergiae*. Orquídea (México) 12: 193–198.

Toscano de Brito, A. L. V. & R. L. Dressler. 2000. New combinations in *Ornithocephalus* (Ornithocephalinae: Orchidaceae) and description of a new species from Mesoamerica. Lindleyana 15: 252–256.