

## A NEW LARGE-FLOWERED *ODONTOGLOSSUM* (ORCHIDACEAE: ONCIDIINAEE) FROM THE CUSCO REGION IN PERU

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ABSTRACT. Plants of a colorful *Odontoglossum* were recently found by separate parties in the Cusco region of central Peru. The species was incorrectly identified as *Odontoglossum epidendroides*, independently by both parties. Although similar in appearance, a closer examination of the flower reveals that it represents a new species, which is scientifically described here and compared with similar species. The new taxon is distinguished from the similar *O. cruentum* and *O. juninense* by morphological features of the column, such as the lateral curvature profile, with larger and more rectangular wings, and in combination with the well developed falcate callus structure on the lip. Our new species is also distinguished from the rather similar *O. epidendroides* by having flowers with a shorter column with shorter wings.

KEY WORDS: Orchidaceae, Oncidiinae, *Odontoglossum*, new species, Cusco, Peru, taxonomy

The genus *Odontoglossum* Kunth (treated by some authors as *Oncidium*), has revealed miscellaneous new species in recent time. Some are rather similar to closely related taxa while others show surprisingly distinct morphologic features, such as the floristically diminutive *Oncidium koechlinianum* Collantes & G.Gerlach (2011), which was transferred to *Odontoglossum* by Dalström (2012a, where valid reasons for maintaining the taxonomic status of the genus is argued and outlined). Recent fieldwork performed by the authors and others also show that some previously lumped or misidentified taxa deserve an elevated taxonomic status, such as *Odontoglossum furcatum* Dalström (2012b), and the species published here.

***Odontoglossum auroincarum*** Dalström & Ruíz-Pérez, *sp. nov.*

TYPE: Peru. Cusco. Alfamayo, ca. 2600 m, S 13° 03.647'; W 72° 24.351', Dec. 3, 2011. *S. Dalström* 3594 (holotype, USM). FIGS. 1, 2A, 2A1, 2A2, 3, 4).

DIAGNOSIS: *Odontoglossum auroincarum* is similar to *O. epidendroides* Kunth (Figs. 2E, 2E1, 2E2, 5), but differs from it by having flowers with a shorter (ca.

10–11 mm long versus 13–14 mm), and differently curved column with shorter wings. It differs from *O. cruentum* Rchb.f., (FIGS. 2B, 2B1, 2B2, 6), and *O. juninense* Schltr. (FIGS. 2D, 2D1, 2D2, 7), by a different lateral curvature profile of the column, with broader and more rectangular column wings as well as a less lobulate anther-cap.

Epiphytic herb. *Pseudobulbs* caespitose, ancipitous, ovoid to pyriform, glossy, bifoliate, 4–5 × 7–8 cm, surrounded basally by 5 to 7 distichous sheaths, the uppermost foliaceous. *Leaves* subpetiolate, conduplicate, elongate elliptic to slightly obovate, acuminate 27–31 × 2.5–3.0 cm. *Inflorescences* axillary from the uppermost sheaths, erect to arching, weakly fractiflex 12- to 15-flowered racemes, or up to 25-flowered widely branched panicles (old inflorescences on type specimen). *Pedicel* with ovary 2.0 – 2.5 cm long. *Floral bracts* appressed, scale-like to ca. 1 cm long. *Flower* relatively large and showy, stellate; *dorsal sepal* dark yellow with large irregular red-brown spotting, cuneate, ovate laminate, acuminate and slightly oblique, ca. 35 × 10–11 mm; *lateral sepals* similar in color, slightly unguiculate, ovate laminate, acuminate, slightly oblique, ca.

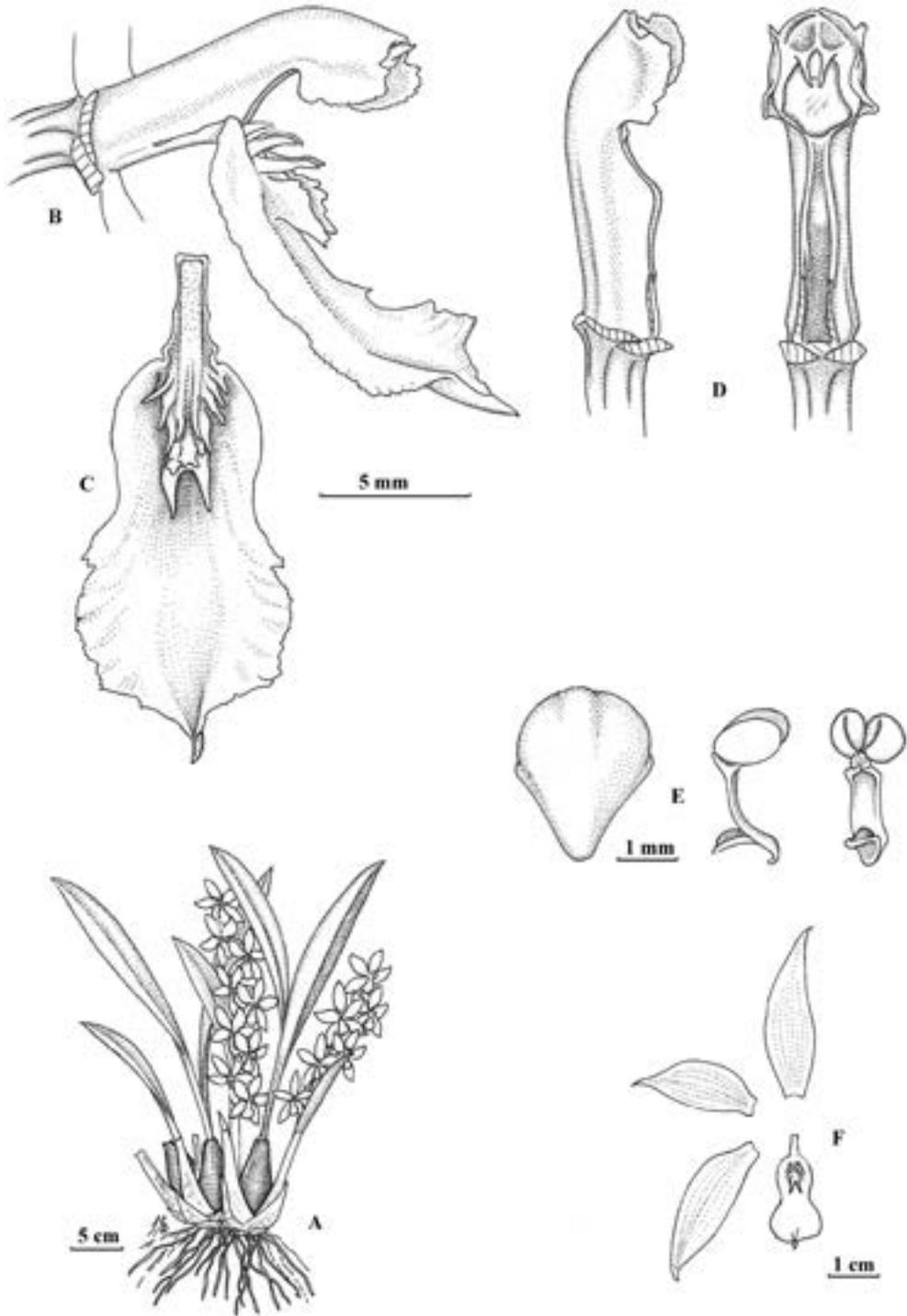


FIGURE 1. *Odontoglossum auroincarum*. A — Plant habit. B — Column and lip, lateral view. C — Lip, frontal view. D — Column, lateral and ventral views. E — Anther cap, dorsal view, and pollinarium, lateral and back views. F — Flower dissected. Drawn from holotype by Stig Dalström.

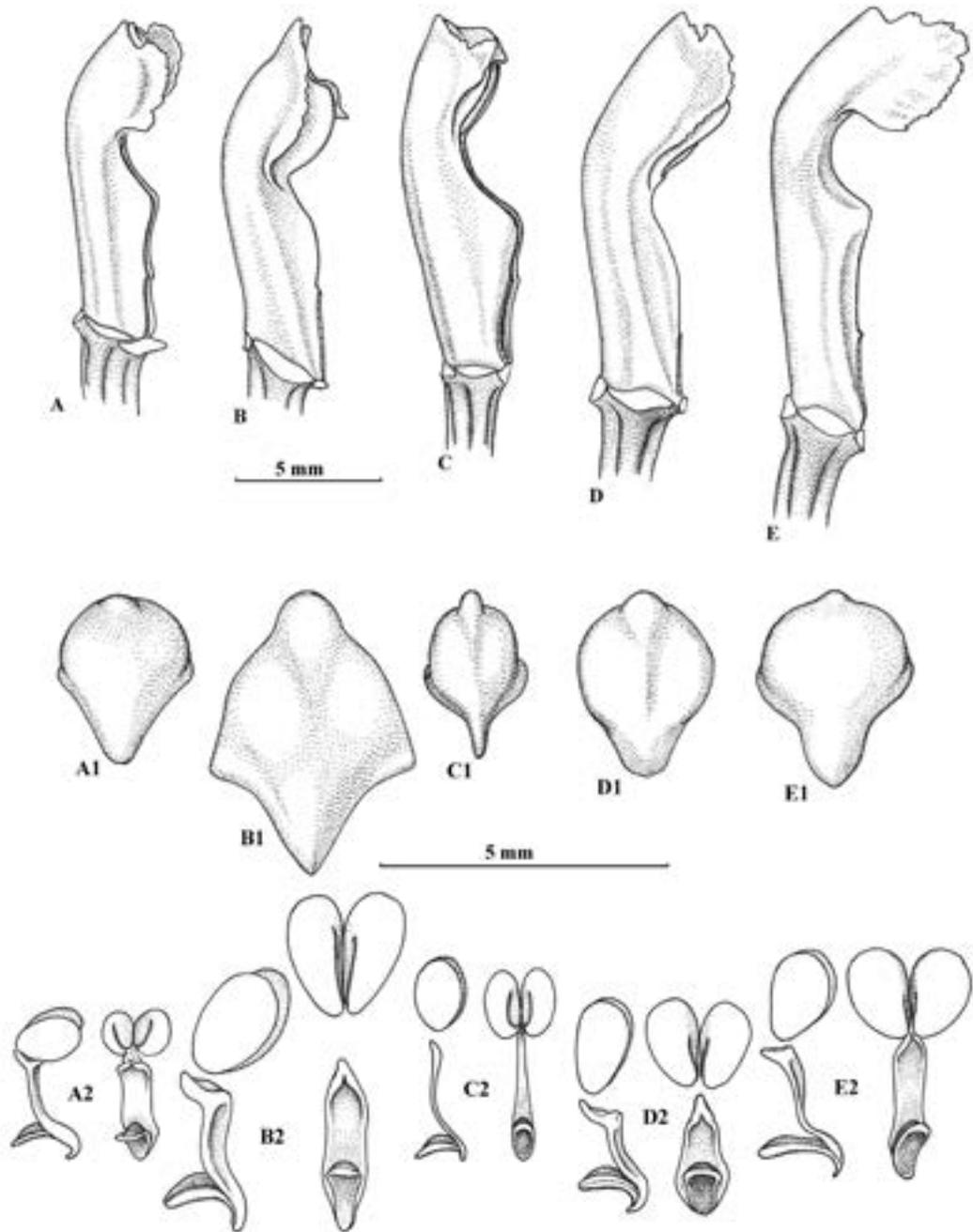


Figure 2. A. *Odontoglossum auroincarum*, (S. Dalström 3594, USM), column lateral view. A1. Anther cap dorsal view. A2. Pollinarium lateral and back views. B. *Odontoglossum cruentum* (S. Dalström 481, SEL), column lateral view. B1. Anther cap dorsal view. B2. Pollinarium lateral and back views. C. *Odontoglossum subuligerum* (S. Dalström 3611, USM), column lateral view. C1. Anther cap dorsal view. C2. Pollinarium lateral and back views. D. *Odontoglossum juninense* (S. Dalström 2378, Dalström archives), column lateral view. D1. Anther cap dorsal view. D2. Pollinarium lateral and back views. E. *Odontoglossum epidendroides* (S. Dalström 3282, USM), column lateral view. E1. Anther cap dorsal view. E2. Pollinarium lateral and back views. Drawn by Stig Dalström.



FIGURE 3. *Odontoglossum auroincarum*, plant habit. Photo by Stig Dalström.

33 × 10–11 mm; *petals* similar in color, broadly unguiculate, ovate laminar, acuminate, oblique, *ca.* 27 × 8–10 mm; *lip* similar in color, adnate to the basal and lateral flanks of the column for *ca.* 2.0–2.5 mm, then free and strap-like for *ca.* 1 mm, apical portion angled downwards into a large, pandurate lamina, with serrate to lacerate frontlobes, and a folded, canaliculate, apiculate apex, *ca.* 17–18 × 7–8 mm; *callus* white, of a fleshy, basally minutely pubescent, central, longitudinal, flattened keel, emerging from the base to *ca.* one third of the length of the lamina, terminating in a shallowly canaliculate, raised ridge, ending with several pairs of acute, projecting angles, with a larger, erect, irregular, denticulate knob, and 3 to 4 pairs of lateral, falcate, variously sized spreading keels; *column* pale greenish white with some minor brown ventral dots, erect and straight for *ca.* 2/3 of its length, then curved towards the lip, ventrally canaliculate, basally micro-pubescent, with distinct ventral angles below the stigma, which is covered laterally by a pair of almost rectangular, serrate wings, *ca.* 10–11 mm long; anther cap pale yellow, campanulate, rostrate, with a minute and low apical lobule; pollinarium of two pyriform, cleft/folded pollinia on a yellow colored, almost rectangular, *ca.* 1.8 mm long stipe, on a hooked and pulvinate viscidium.

OTHER MATERIAL STUDIED: Peru. Cusco, Urubamba, Machu Picchu, collected in the Machu Picchu Sanctuary and cultivated in the garden of the INKATERRA Machu Picchu Pueblo Hotel, photo by Benjamín Collantes in



FIGURE 4. *Odontoglossum auroincarum*, flower in close-up. Photo by Stig Dalström.

“Orquideas en INKATERRA Machu Picchu Pueblo Hotel” (Collantes *et al.* 2007).

DISTRIBUTION: Known only from the cloud forests of Alfamayo, and from the Machu Picchu sanctuary in the Urubamba region of Cusco, central Peru.

ETYMOLOGY: The name refers to the golden yellow color of the flowers of this species and is a tribute to ‘botanical Inca gold’, which comes from the area in Peru that once was the center of the powerful Inca culture.

The first plants of *Odontoglossum auroincarum* were collected within the borders of the Machu Picchu sanctuary by the staff of the INKATERRA hotel. Plants were replanted in the orchid garden of the hotel and flowered there. Photos of the flowers were then taken by Benjamín Collantes and published, labeled “*Odontoglossum epidendroides*” (Collantes *et al.* 2007). A few years later, plants were found in the Alfamayo region by the second author of this paper, and brought into cultivation for propagation. When the plants flowered they were still believed to be *O. epidendroides*, but with some question marks. Eventually a detailed drawing of the flower could be made, which was compared with drawings of similar species. The conclusion was that a new and attractive species had been discovered. Although superficially and rather confusingly similar to several other yellow flowered species, the morphological features of the column and lip structure as well as the anther and pollinarium are quite distinct and display



FIGURE 5. *Odontoglossum epidendroides*, flower in close-up.  
Photo by Stig Dalström.



FIGURE 6. *Odontoglossum cruentum*, flower in close-up.  
Photo by Stig Dalström.



FIGURE 7. *Odontoglossum juninense*, flower in close-up.  
Photo by Stig Dalström.



FIGURE 8. *Odontoglossum subuligerum*, Chapare, Bolivia,  
flowers close-up. Photo by Jan Sönnemark.

a combination of characteristics that create a unique species profile. The only sympatric *Odontoglossum* species of this particular complex with a flexible lip is *O. subuligerum* Rehb.f. (Figs. 2C, 2C1, 2C2, 8) which is easily distinguished by the large knob on the anther cap and by the extremely narrow pollinarium stipe.

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#### LITERATURE CITED

- Collantes, B., C. Soto & J. Koechlin. 2007. Orchids Orquídeas en INKATERRA Machu Picchu Pueblo Hotel. Inkaterra Asociación, Lima, Perú.
- Collantes, B. & G. Gerlach. 2011. Über zwei neue Orchideen aus Machu Picchu (Peru) aus der Subtribus Oncidiinae. *OrchideenJournal* (2): 79-81.
- Dalström, S. 2012a. New combinations in *Odontoglossum* (Orchidaceae: Oncidiinae) and a solution to a taxonomic conundrum. *Lankesteriana* 12(1): 53–60.
- Dalström, S. 2012b. A well-known but previously misidentified *Odontoglossum* (Orchidaceae: Oncidiinae) from Ecuador. *Lankesteriana* 12(3): 155–160.

