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A NEW AND STRIKING *ODONTOGLOSSUM* (ORCHIDACEAE: ONCIDIINAE) FROM PERU

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ABSTRACT. A new species of *Odontoglossum* with an extraordinary long column and filamentose lip callus is described, illustrated with a photograph and a line drawing, and compared with similar and presumably closely related species, such as *O. epidendroides* and *O. juninense*. The new species belongs to the *Odontoglossum* complex with a flexible lip-base attachment, but differs from all other species in that complex primarily by the elongate base of the column, below the attachment of the strap-like lip-base.

KEY WORDS: Oncidiinae, *Odontoglossum*, new species, Pasco, Peru, taxonomy

In the accompanying text to the plate of *Odontoglossum wattianum* Rolfe, which was published in Reichenbachia (Sander 1892), we can read: “It is a great thing now-a-days to be able to introduce species of *Odontoglossums* absolutely new to science. Years ago, when the wilds of Columbia were more untrodden than they are now, we found less difficulty, but year by year such prizes get rarer. The time is not far distant when home skill in hybridization will have to supply novelties in *Odontoglossums*.”

This quote illustrates an often heard opinion about the scarce possibilities of finding new species of *Odontoglossum* (treated as *Oncidium* by some authors, see below). Even today experienced “orchid hunters” seem to think that there is not much more to discover when it comes to this attractive genus. But this has been proven to be a hasty conclusion thanks to the discovery of several new species in later years (Dalström 1993, 1996, 1999, 2010, 2012b, 2013) although in honesty, it must be said that *Odontoglossum* taxonomy needs some special effort to be understood properly. This also appears to be one of the main reasons why genera *Cochlioda* Lindl., *Odontoglossum* Kunth, *Sigmatostalix* Rchb.f. and *Solenidiopsis* Senghas were transferred to *Oncidium* (Chase *et al.* 2008, 2009). This transfer may well have been allowed by molecular analysis but the argument that few people can separate an *Odontoglossum* from an *Oncidium* Sw., which has

been heard in subsequent discussions, is not really true once you become more familiar with these plants.

The first author of the present paper has outlined an alternative taxonomic treatment (Dalström 2012a), which explains why keeping a slightly enlarged genus *Odontoglossum* is preferable, and also how to separate this genus from *Oncidium* based on a combination of morphological, ecological and geographical characteristics. This is supported by the same molecular evidence used by Chase *et al.* (2009) in their transfer of *Odontoglossum* species to *Oncidium*. Another argument that has been heard in the debate about how to best treat these orchids is that many new names have to be created for various smaller groups of plants if we want to keep *Odontoglossum* as a valid genus. However, the only new names that eventually may have to be created concern two smaller groups of species (here referred to as the ‘*boothianum* clade’ and the ‘*chrysomorphum* clade’ respectively) that for some intriguing reasons are placed near the base of the larger *Odontoglossum* clade. In contrast to using this as an argument for lumping all concerned taxa into a large ‘waste basket’ *Oncidium*, we believe that this is really a strong reason to do the opposite and further study these smaller clades in order to find out why they are placed where they are.

Morphological analysis of the species in the *O. boothianum* and *O. chrysomorphum* clades show

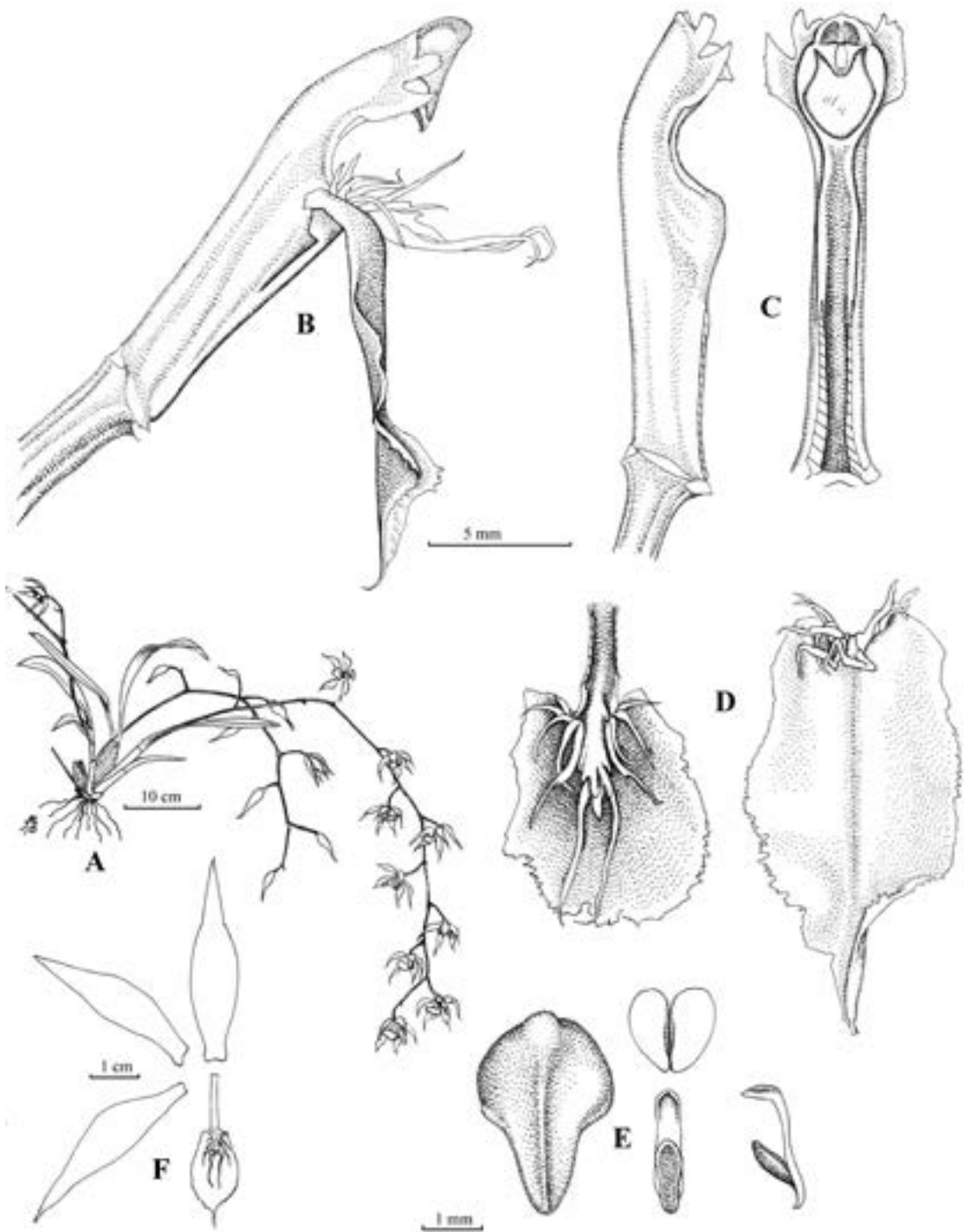


FIGURE 1. *Odontoglossum filamentosum*. A — Plant habit. B — Column and lip lateral view. C — Column lateral and ventral views. D — Lip dorsal and frontal views. E — Anther cap frontal view, and pollinarium ventral and lateral views. F — Flower dissected. Drawn from the plant that served as holotype by S. Dalström.

some interesting and distinctive features, such as the compressed, glossy and often purple-mottled, unifoliate pseudobulbs, that seem intermediate between some species of *Odontoglossum sensu strictu*, and species from some '*Oncidium sensu lato*' clades, particularly the clade that produce aborted flowers (here referred to as species of *Heteranthocidium* Szlach., Mytnik & Romowicz, also known as the '*Oncidium abortivum* group'). Some of the species in the *chrysomorphum* clade also produce aborted flowers occasionally, in addition to displaying morphological similarities in the pollination apparatus (column, rostellum and pollinarium shapes primarily) to species in the *Heteranthocidium* complex. Since many *Heteranthocidium* species grow together and flower simultaneously with many *Odontoglossum* species, while more 'typical' *Oncidium* species do not, the possibilities of ancient natural hybridization seem plausible, which may explain the origin and placement of this clade. Plants in the *boothianum* clade also show similar intermediate features and only marginally differ from the *chrysomorphum* clade. The fact that these two smaller groups occur one after the other near the base of the *Odontoglossum* clade may perhaps be the result from several occasions of ancient natural hybridization. These speculations, however, should not be taken for anything other than just that at this time, but rather than to close the door (and settle the debate) to a deeper understanding of the evolution of these orchids, they should be seen as encouragements to further studies.

Although many *Odontoglossum* species may appear superficially similar, the one described here does not need any particular effort to be recognized as new and different. It is characterized by a unique combination of morphologic features such as the elongated column together with the extremely long and irregularly filamentose callus teeth on the lip, which readily set it apart from its closest relatives; *O. epidendroides* Kunth (Fig. 3), and *O. juninense* Schltr (Fig 4).

Odontoglossum filamentosum Dalström & Ruíz-Pérez, *sp. nov.* Figs. 1–3.

TYPE: Peru. Pasco: Exact locality unknown but recent observations suggest that the true origin is somewhere near the town of Oxapampa. The type

plant flowered in cultivation 10 Feb. 2013, *G. Deburghgraeve* 282 (holotype: W).

Diagnosis: *Odontoglossum filamentosum* differs from the similar *O. epidendroides* Kunth (Fig. 3), and *O. juninense* Schltr. (Fig. 4), by the unique combination of the elongated column, *ca.* 1.7 cm long versus *ca.* 1.0–1.1 cm (*O. epidendroides*), and *ca.* 1 cm (*O. juninense*) together with the extremely long and filament-shaped callus on the lip, versus much less developed and shortly digitate to curved and spinose callus teeth for the others.

Epiphytic herb. *Pseudobulbs* caespitose, oblong ovoid, bifoliate, *ca.* 5–8 × 2–3 cm, surrounded basally by 6 to 8 distichous sheaths, the uppermost foliaceous. *Leaves* subpetiolate, conduplicate, elongate elliptic to obovate, narrowly acute to shortly acuminate, 19–27 × 2.0–3.3 cm. *Inflorescences* 1 to 3, axillary from the base of the uppermost sheaths, arching to subpendent, loosely flowered, flexuous, few to many flowered racemes or loosely paniculate with few basal few-flowered side-branches, to *ca.* 60 cm long; *bracts* 0.5–1.3 cm long. *Pedicel* with *ovary* 2.5–3.5 cm long. *Flower* stellate to slightly campanulate and rather arachnoid; *dorsal sepal* yellow almost covered with large brown spots, subunguiculate, elliptic to ovate, acuminate, *ca.* 4.4 × 1.0 cm; *lateral sepals* similar in color, slightly obliquely elliptic, narrowly acute, *ca.* 4.5 × 1.1 cm; *petals* similar in color but less brown, obliquely elliptic, acuminate, *ca.* 3.8–4.0 × 1.0 cm; *lip* basally pale yellow with a large brown spot covering most of the lamina, and with a pale yellow to white edge, unguiculate, adnate to the base and lateral flanks of the column by a linear *ca.* 8 mm long claw/unguis, then free, developing very short, erect sidelobes, abruptly plicate and laminate, indistinctively cordate, obovate to oblong pandurate, apical part of lamina more or less concave, erose to fimbriate, apically slightly canaliculate or convolute, acuminate, *ca.* 3.0–3.4 × 1.0 cm; *callus* white, of a low, median, longitudinal, fleshy, glabrous keel, emerging from the base and extending to the lamina where it develops into a series of spreading, more or less falcate, narrowly denticulate to spinose, or filamentose keels, with a larger, multi-lacerate and filamentose, laterally compressed projecting pair in the middle, with a small tooth in between; *column* basally pale green, then white with some brown marking near



FIGURE 2. *Odontoglossum filamentosum*, floral diagram (G. Deburghgraeve 282). Photo: G. Deburghgraeve.



FIGURE 3. *Odontoglossum filamentosum*, plant habit (G. Deburghgraeve 282). Photo: G. Deburghgraeve.

the apex, erect, clavate, straight for 3/4th of the length, then weakly curved towards the lip, canaliculate ventrally, the ventral flanks ending in distinct angles below the stigma, and with a pair of rather short, lacerate to palmate wings on each side of the stigma, *ca.* 1.7 cm long; *anther cap* white, more or less marked with brown, campanulate, rostrate, dorsally lobulate; *pollinarium* of two obovoid to pyriform, cleft/folded pollinia on an oblong-rectangular *ca.* 2.5 mm long stipe on a hooked, pulvinate viscidium.

The type plant was originally imported to Europe as “*Odontoglossum epidendroides*”, or possibly “*O. juninense*” (the details were lost with time). The original identification was probably based on similarities to then known *Odontoglossum* species. Due to legislative complications it has not yet been possible to deposit a type specimen in a Peruvian herbarium (USM) at this time. When, and if, the government of Peru establish the first CITES registered institution in their’ country, this issue may be solved in a favorable way.

ADDITIONAL RECORDS: Peru. Pasco (?): Exact origin unknown but probably from the area near Oxapampa,



FIGURE 4. *Odontoglossum epidendroides*. Photo: S. Dalström.



FIGURE 5. *Odontoglossum juninense*. Photo: S. Dalström.

flowered in cultivation in Palca, Peru, by Manuel Arias, Dec. 2002, S. Dalström 2765 (color transparency in Dalström Archives).

DISTRIBUTION: Recent observations suggest that this species is limited to seasonally wet cloud forests near the town of Oxapampa, Pasco, Peru, at approximate elevations of 2400 – 2500 m.

ETYMOLOGY: The name refers to the extraordinarily long and filament-shaped lip callus.

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