

GENERA ET SPECIES ORCHIDALIUM. 11. ONCIDIEAE

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Abstract. Three new genera *Diadeniopsis* Szlach., *gen. nov.*, *Rhinocerotidium* Szlach., *gen. nov.*, and *Stacyella* Szlach., *gen. nov.* of the neotropical tribe Oncidieae (Vandoideae, Orchidaceae) are described and their taxonomic affinities briefly discussed. The necessary new combinations are validated.

Key words: Orchidaceae, Vandoideae, Oncidieae, *Diadeniopsis*, *Rhinocerotidium*, *Stacyella*, neotropics

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Tribe Oncidieae is the largest taxon of this rank among neotropical orchids. It embraces over 1500 species (Chase 2002), adapted to various pollinators and habitats, what effects their high diversification. The *Oncidium*-alliance is treated as a single subtribe, Oncidiinae (Dressler 1981) or a tribal rank is given to it (Szlachetko 1995). In the last case, the tribe is divided into ten subtribes. The Oncidieae has a very characteristic gynostemium structure. It is usually winged near the large, elliptic stigma, the rostellum is rather short, usually conical-digitate. The tegula is oblong, lamellate, the viscidium is relatively small, thick and fleshy. Its inner part is built of densely packed cells, and the outer surface is covered by partially macerated cells, which makes it sticky. The pollinia are always two, globose to ellipsoid, more or less cleft at the apex. The tribe is broadly treated in the 4th volume of *Gynostemium Orchidaliium* (Szlachetko *et al.*, in prep.). While gathering materials to include in this book I had the opportunity to analyse the liquid conserved materials kept in K and HEID. It was obvious that some genera are highly polymorphic when the generative and floral structures are considered. Additionally, molecular studies conducted at Gdańsk University strongly supported these observations (Górniak *et al.*, in prep.). In view of this, I have decided to describe the following new genera:

Tribe *ONCIDIEAE* Pfitz.

Entw. Nat. Anord. Orchid.: 106. 1887.

Subtribe *COMPARETTIINAE* Schltr.

Orchideen: 452. 1915.

1. *Diadeniopsis* Szlach., *gen. nov.*

A genere *Diadenio* Poepp. & Endl. *recedit pede columnae longo validoque, clinandrio apicali lato, rostellum magno stigmatum in partes duas discedenti, tegula lato brevique, viscidio angusto elongatoque et pollinis ellipsoideis poris unicus apicalibus praeditis.*

GENERIC TYPE: *Diadeniopsis bennetti* (Garay) Szlach. (= *Diadenium bennetti* Garay).

ETYMOLOGY. An allusion to the superficial morphological similarity to the genus *Diadenium* Poepp. & Endl.

Plants small. Flowers small, elongate basally into the prominent spur. Gynostemium slightly arched, slender, widened near the apex. Column part *ca* 3 times longer than anther. Column foot longer than column part. Anther subapical, incumbent, operculate, transversely ellipsoid, dorsiventrally flattened, obscurely 2-chambered. Connective narrow, thin. Pollinia 2, slightly dorsiventrally compressed, obliquely ellipsoid, uni-porate at the apex, hard. Caudiculae sticky, amorphous. Apical

clinandrium spacious, 3-lobed, irregularly dentate on margins. Stigma rather large, transversely elliptic, concave, partially hidden by rostellum. Rostellum pendent, ligulate, blunt. Viscidium single, oblong-lanceolate, thin. Tegula single, triangular-obovate, thin, lamellate. Rostellum remnant indingulated on the outer surface, with oblique, slightly concave, apical plate.

NOTES. This new genus differs from *Diadenium* Poepp. & Endl. in the gynostemium structure. It has a very long, prominent column foot, well-developed apical clinandrium, pendent rostellum hiding the central part of the stigmatic surface, hence the stigma appears to be bi-lobed, the triangular-obovate tegula is shorter than oblong-lanceolate viscidium and the pollinia are obliquely ellipsoid, uniporate at the apex.

A genus with a single species known only from the Andes. The new combination is herein made:

Diadeniopsis bennetti (Garay) Szlach., *comb. nov.*

Basionym: *Diadenium bennetti* Garay, *Orchid Rev.* **75**: 414, f. 184. 1967.

Subtribe *ONCIDIINAE* Benth.

J. Linn. Soc., Bot. **18**: 288. 1881.

2. ***Rhinocerotidium*** Szlach., *gen. nov.*

Oncidium Sw. sect. *Rhinocerotes* Garay & Stacy

Genus hoc generis Oncidio affine sed differt callo labelli cornui Rhinocerosi simile, gynostemio gracili, anguste alato, pollinis subrotundis et tegula leniter apice convexa differt.

GENERIC TYPE: *Rhinocerotidium rhinoceros* (Rchb. f.) Szlach. (= *Oncidium rhinoceros* Rchb.f.).

ETYMOLOGY. An allusion to the shape of the lip callus, which reminds the horn of a rhino.

Plants medium-sized. Flowers small. Lip with prominent horn-like callus near the centre. Gynostemium elongate, slender, slightly arched. Column part *ca* 3–3.5 times longer than anther, obscurely winged near the stigma, wings entire and papillate

on margins. Column foot absent. Anther subventral, incumbent, operculate, ovoid, dorsiventrally flattened, obscurely 2-chambered, papillate. Connective narrow. Pollinia 2, subglobose, slightly dorsiventrally flattened, hard, unequally cleft at the apex, empty inside. Caudiculae sticky, amorphous. Apical clinandrium obscure. Stigma rather small, ovate, deeply concave. Rostellum very short, digitate in the middle, obtuse. Viscidium single, elliptic, thick, fleshy. Tegula single, oblong, thin, lamellate, idingul flattened and elongate at the apex. Rostellum remnant bi-lobulate at the middle.

NOTE. The genus is characterized by horn-like callus on the lip and by the elongate, obscurely winged gynostemium, with no infrastigmatic tabula. The gynostemium is elongate, slender, narrowly winged, the pollinia are subglobose and the tegula is only slightly convex at the apex, instead of being laterally compressed as in *Oncidium*.

The genus is endemic to SE Brazil and includes three species. These are herein transferred to the new genus.

Rhinocerotidium longicornu (Mutel) Szlach., *comb. nov.*

Basionym: *Oncidium longicornu* Mutel, *Mem. Soc. Hist. Nat. Strasbourg* **3**(1): 28. 1840.

Rhinocerotidium macronyx (Rchb.f.) Szlach., *comb. nov.*

Basionym: *Oncidium macronyx* Rchb.f., *Otia Bot. Hamburg.* **2**: 95. 1881.

Rhinocerotidium rhinoceros (Rchb.f.) Szlach., *comb. nov.*

Basionym: *Oncidium rhinoceros* Rchb.f., *Bot. Zeit. (Berlin)* **14**: 514. 1856.

3. ***Stacyella*** Szlach., *gen. nov.*

Oncidium Sw. sect. *Disticha* Garay & Stacy

A morphologia florum et structura gynostemii genere Psymorchidi Dodson & Dressl. appropinquat sed pseudobulbis unifoliis basi vaginis foliaceis circumcinctis, pollinis anguste claviformibus, profunde fissis et tegula convexa recedit.

ETYMOLOGY. Dedicated to John E. Stacy, who contributed to our knowledge of the *Oncidium*-alliance.

Plants small, pseudobulbs prominent with apical leaf and leaf-like basal sheaths. Gynostemium short, straight. Column part as long as anther, broadly winged near the stigma, wings obliquely triangular, more or less dissected on margins. Column foot absent. Anther subventral, incumbent, operculate, oblong obtriangular, thin-walled, obscurely 2-chambered. Connective narrow, thin, apically elongate to form a rostrate projection. Pollinia 2, oblong clavate, hard, distinctly and unequally cleft at the apex. Caudiculae sticky, amorphous. Apical clinandrium narrow. Stigma rather large, oblong elliptic, deeply concave. Rostellum elongate, rostrate in the middle, blunt. Viscidium single, very small, elliptic, thin. Tegula single, oblong with oblong deltoid apical part, thin, lamellate, convex. Rostellum remnant bi-lobulate at the apex, idingulated on the dorsal surface.

NOTE. Williams and Chase (2001) in their broadly defined genus *Erycina* Lindl. included the species known so far as *Psygmorchis* Dodson & Dressl. and *Oncidium* Sw. sect. *Disticha* Garay & Stacy. The flower and the gynostemium structure of *Erycina s.str.* places it apart from both *Psygmorchis* and *Oncidium* sect. *Disticha*. The only species of the section *Disticha* of *Oncidium* is somewhat similar in the flower and gynostemium structure to *Psygmorchis*, but it is easy to distinguish by its habit – it has distinct prominent and small pseudobulbs with a single, strongly reduced apical leaf at its apex, and some well-developed leaf-like basal sheaths. All species of *Psygmorchis* are fan-shaped plants with iridiform, laterally flat-

tened leaves, and with no pseudobulbs. *Stacyella* is also characterized by its oblong clavate, distinctly cleft pollinia and by a convex tegula.

This is a monotypic genus known from Mesamerica and northern South America. The new combination is herein made:

Stacyella crista-galli (Rchb.f.) Szlach., *comb. nov.*

Basionym: *Oncidium crista-galli* Rchb.f., Bot. Zeit. (Berlin) **10**: 697. 1852.

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REFERENCES

- CHASE M. W. (ed.) 2002. The pictorial encyclopedia of *Oncidium*. ZAI Publications, Quito, Ecuador.
- DRESSLER R. L. 1981. The orchids, natural history and classification. Harvard University Press, Cambridge.
- DRESSLER R. L. 1993. Phylogeny and classification of the Orchid family. Dioscorides Press. Portland.
- SZLACHETKO D. L. 1995. Systema Orchidaliium. *Fragm. Florist. Geobot. Suppl.* **3**: 1–152.
- WILLIAMS N. H. & CHASE M. W. 2001. Additional transfers to *Trichocentrum* Poepp. & Endl. and *Otoglossum* Garay & Dunst. (Orchidaceae: Oncidiinae). *Lindleyana* **16**(3): 218–219.

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