Polish Botanical Journal 51(1): 53–55, 2006

GENERA ET SPECIES ORCHIDALIUM. 14. ONCIDIEAE

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Abstract. *Lophiarella* Szlach., Mytnik & Romowicz, *gen. nov.* and *Heteranthocidium* Szlach., Mytnik & Romowicz, *gen. nov.* (Orchidaceae, Vandoideae, Oncidieae) are described as new genera. Their taxonomic relationships are briefly discussed. New binominal combinations in these two new genera are validated.

Key words: Orchidaceae, Vandoideae, Oncidieae, *Lophiarella, Heteranthocidium*, neotropics

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The genera *Lophiaris* Raf. and *Oncidium* Sw. are heterogeneous at least as gynostemium and floral structures are considered. Having additional evidence obtained from molecular studies (Górniak *et al*., in prep.) we decided to propose two new genera:

Subtribe *ONCIDIINAE* Benth.

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

1. ***Lophiarella*** Szlach., Mytnik & Romowicz, *gen. nov.*

Genus hoc generi Lophiaridi *affine sed rostello valde elongato, viscidio minimo, tegula totidem viscidio longa integrove, alis columnae angustis delicatisque recedit.*

Epiphytic plants. Pseudobulbs small, compressed. Leaf single, thick, erect. Inflorescence lateral, multi-flowered. Flowers small. Lip with large, central callus. Gynostemium erect, rather slender. Column part *ca* twice longer than anther, basally fused with the lip, with two conical-digitate projections at the stigma base. Anther subapical, incumbent, operculate, ovoid, obscurely 2-chambered, papillate. Connective narrow, elongate apically to form a rostrate appendix. Pollinia 2, obliquely obovoid, slightly dorsiventrally flattened, hard, unequally cleft, empty inside. Caudiculae sticky, amorphous. Apical clinandrium obscure. Stigma rather large, elliptic-obovate, deeply concave. Rostellum elongate, cylindrical, rostrate, obtuse. Viscidium single, very small, ellipsoid, thick, fleshy. Tegula single, oblong-oblanceolate, thin, lamellate, slightly folded at the apex. Rostellum remnant rostrate, bi-lobulate at the apex.

GENERITYPE: *Lophiarella microchilum* (Lindl.) Szlach., Mytnik & Romowicz (= *Oncidium microchilum* Lindl.).

ETYMOLOGY. An allusion to the morphological similarity to the genus *Lophiaris* Raf.

NOTES. The new genus is related to *Lophiaris*, but it differs from it in the gynostemium structure; it has beak-like rostellum, small viscidium, oblong-oblanceolate tegula, which is much longer than the viscidium, and conical-digital projections at the stigma base. In *Lophiaris* the rostellum is very short and wide, the viscidium is very large, plate-like and the tegula very small, usually not longer than the viscidium, shallowly bi-lobed at the apex. The gynostemium is broadly winged near the stigma. Chase and Williams (2001) based on their results of DNA studies proposed a very broad concept of *Trichocentrum* Poepp. & Endl. and included *Cohniella* Pfitzer and *Lophiaris* in it. In our opinion, however, these three genera are only distantly related, at least as morphology of the flowers and gynostemium structures are concerned. In this respect, both *Cohniella* and *Lophiaris* appear to be more closely related to *Oncidium* Sw. Szlachetko

(1995) accepted Schlechter's (1914) proposal and separated *Trichocentrum* into a monotypic subtribe Trichocentrinae Schltr. This viewpoint was based on the presence of spur and the peculiar gynostemium in *Trichocentrum* (Szlachetko *et al*., in prep.).

The genus embraces two species so far:

Lophiarella microchila (Lindl.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium microchilum* Lindl., Edward's Bot. Reg. **26**: Misc. 82. 1840.

Lophiarella pumila (Lindl.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium pumilum Lindl.,* Bot. Reg. **11**: t. 920. 1825.

2. ***Heteranthocidium*** Szlach., Mytnik & Romowicz, *gen. nov.*

Oncidium Sw. sect. *Heterantha* (Lindl.) Krzl.

Genus hoc a genere affini Oncidium *differt floribus dimorphis, rostello elongate, alis gynostemii permagnis et concrescentione columnae et labelli angusto.*

Small epiphytes. Pseudobulbs elliptic to ovoid, flattened. Leaves linear oblong, thin in texture. Inflorescence lateral, multiflowered. Flowers dimorphic – some of them small and sterile, some other large and fertile. Lip large with prominent callus. Gynostemium short, rather massive, distinctly swollen above delicate and narrow base. Column part as long as anther or slightly longer, broadly winged near the stigma, wings obliquely subquadrate to obovate, irregularly denticulate and papillate on margins. Column foot absent. Anther ventral, incumbent, operculate, oblong ovoid, dorsiventrally flattened, obscurely 2-chambered, papillate. Connective narrow, slightly thickened on the dorsal surface. Pollinia 2, subglobose, dorsiventrally flattened, hard, unequally cleft, empty inside. Caudiculae sticky, amorphous. Apical clinandrium narrow. Stigma rather large, elliptic to transversely elliptic, deeply concave. Rostellum elongate, conical-digitate in the middle, obtuse. Viscidium single, very small, oblong to elliptic, thick, fleshy. Tegula single, oblong obovate to oblong triangular, thin, lamellate, elongate at the apex and here slightly thickened. Rostellum remnant bi-lobulate at the middle.

GENERITYPE: *Heteranthocidium heteranthum* (Poepp. & Endl.) Szlach., Mytnik & Romowicz (= *Oncidium heteranthum* Poepp. & Endl.).

ETYMOLOGY. The name refers to structure of flowers which are dimorphic.

NOTES. This genus is unique in the subtribe Oncidiinae by its dimorphic flowers. The gynostemium is similar to *Oncidium*, but the tabula infrastigmatica is very narrowly fused with the lip, the rostellum is much elongate, and the very large lateral wings almost completely surround the stigma, the rostellum and the anther.

Most of the species are known from the Andean countries (Bolivia to Venezuela), and only one – *Heteranthocidium heteranthum* – has been found in Costa Rica, Panama, the Guyana Shield and N Brazil.

Heteranthocidium abortivum (Rchb.f.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium abortivum* Rchb.f., Linnaea **22**: 847. 1849.

Heteranthocidium acinaceum (Lindl.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium acinaceum* Lindl., Sert. Orchid. sub t. 48, no. 13. 1842.

Heteranthocidium boothianum (Rchb.f.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium boothianum* Rchb.f., Bonplandia (Hanover) **2**: 14. 1854.

Heteranthocidium calanthum (Rchb.f.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium calanthum* Rchb.f., *Gard. Chron.* 39. 1870.

Heteranthocidium cultratum (Lindl.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium cultratum* Lindl., Sert. Orchid. 21. 1838.

Heteranthocidium exalatum (Hagsater) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium exalatum* Hagsater, Orquidea (Mexico City), n.s., **8**(1): 98. 1981.

Heteranthocidium fuscans (Rchb.f.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium fuscans* Rchb.f., Otia Bot. Hamb. **6**: 763. 1878.

Heteranthocidium heteranthum (Poepp. & Endl.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium heteranthum* Poepp. & Endl., Nov. Gen. Sp. Pl. **1**: 34, t. 60. 1836.

Heteranthocidium magnificum (Senghas) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium magnificum* Senghas, Orchideen 1993.

Heteranthocidium orthotis (Rchb.f.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium orthotis* Rchb.f., Illini Hort. **35**: 91, t. 69. 1888.

Heteranthocidium pollardii (Dodson & Hagsater) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium pollardii* Dodson & Hagsater, Orquidea (Mexico City), n.s., **7**(1): 12. 1978.

Heteranthocidium tigratum (Rchb.f. & Warsz.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium tigratum* Rchb.f. & Warsz., Bonplandia (Hanover) **2**: 109. 1854.

Heteranthocidium crassopterum (Chiron) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium crassopterum* Chiron, Richardiana **2**(2): 69. 2002.

Heteranthocidium isidrense (Chiron) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium isidrense* Chiron, Richardiana **2**(2): 71. 2002.

Heteranthocidium pentadactylon (Lindl.) Szlach., Mytnik & Romowicz, *comb. nov.*

Basionym: *Oncidium pentadactylon* Lindl., Ann. Mag. Nat. Hist. **15**: 383. 1845.

ACKNOWLEDGMENTS. We are greatly indebted to Professor Mark W. Chase from Jodrell Laboratory, Royal Botanic Gardens, Kew for supplying us with liquid preserved material of Oncidieae, to Professor Marcus Koch for access to liquid and living orchids' collections in the Botanical Garden of the University of Heidelberg (HEID), to Professor Ryszard Ochyra for latinization of the diagnoses, and to the anonymous reviewer for valuable comments on the manuscript. This article was prepared at the Heidelberg University thanks to a grant from the Alexander von Humboldt-Stiftung (V-8121/POL/1067782) and Polish State Committee for Scientific Research (KBN grant 510/P04/2004/27).

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Received 2 February 2006