

NOMENCLATURAL CHANGES IN *LIPARIS*-COMPLEX (MALAXIDINAE, EPIDENDROIDEAE)

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ABSTRACT

Explanation of taxonomic and nomenclatural problems of few taxa of *Liparis sensu lato* are compiled. Taxonomic status of *Disticholiparis* is confirmed. New nomenclatural combinations within *Stichorkis* are proposed.

KEY WORDS: Epidendroideae, *Liparis*, *Cestichis*, *Disticholiparis*, *Stichorkis*, Australasia

INTRODUCTION

The genus *Liparis* C.Rich. (Malaxidinae) is one of the most numerous representatives within Orchidaceae occurring in all continents except Antarctic. It embraces a few hundreds species. Most of them are known from tropical regions of the Old World. The species of *Liparis* are relatively not very variable in consideration of flower structure and generative parts and they are simultaneously characterized by a great diversity in vegetative parts structure, especially leaves. There some related genera were described in the beginning of 19th century (i.e. Lindley 1824, 1825, 1830; Thouars 1809) which were classified within *Liparis* by most of botanists after that time. Some of them were reestablished just in recent years i.e. *Empusa* Lindl. czy *Cestichis* Thouars. There were some difficulties with access to original works and it caused a few perturbations in formulation of some taxa. An example of such problem is the case of *Stichorkis* and *Cestichis*. The former genus *Stichorkis* was proposed by du Petit-Thouars in a very peculiar way and it was discussed in details by Rasmussen (1979). However *Cestichis* was ascribed to du Petit-Thouars incorrectly. As a matter of fact, the name appeared in Lindley's work (1824, *nom. nuda*, 1825, *nom. leg.*, at sectional level, with description) and was adopted by Pfitzer (1887, *nom. leg.*, at genus level). Later, Pfitzer (1897) corrected the erroneous genus name *Cestichis*, to its correct form – *Stichorkis* Thouars.

Rasmussen was trying to raise the nomenclatural problem of *Stichorkis* and *Cestichis* in 1979, names of the genera appeared the first time in du Petit-Thouars's work in 1809 (Fig. 1) and they were separated from *Liparis*. du Petit-Thouars in a very laconic diagnosis of *Stichorkis* put the information that the genus embraces 2 species: that propo-

sed by Lamarck "*Angraecum cespitosum*" (= *Epidendrum cespitosum* Lam.) and the next one, which will be described later (Fig. 2). The latter species is *Stichorkis distichis* Thouars (1822, Fig. 3). Rasmussen also noted the information, but despite of it he proposed the lectotype for the former genus – *Stichorkis distichis* Thouars (= *Malaxis disticha* Thouars).

The article 10.2. ICBN (Greuter et al. 2000) proclaims that "if in the protologue of the name of a genus [...] the holotype or lectotype of one or more previously or simultaneously published species name (s) is definitely included [...] the type must be chosen [...] from among these types unless the type was indicated [...] or designated by the author of the name [...]". According to the rule presented above the type of *Stichorkis* may be "*Angraecum cespitosum*" Lam. [= *Epidendrum cespitosum* Lam., Fig. 4] only, because it is the only valid and existing presently species name which appears in protologue of the genus.

CONCLUSIONS

Therefore the lectotype indicated by Rasmussen (1979) must be rejected. As a consequence of this, the genus *Cestichis* with the same type species as *Stichorkis*, must be treated as the older synonym of the latter one. Simultaneously, it should be considered as a valid genus *Disticholiparis* Szlach. & Marg. with *Stichorkis distichis* Thouars (= *Disticholiparis distichis* (Thouars) Marg. & Szlach.) as the type.

***Stichorkis* Thouars**

Nouv. Bull. Sci. Soc. Philom. Paris 1: 318. 1809.

Type: *Stichorkis cespitosum* (Lam) Thouars *ex* Marg. (*Epidendrum cespitosum* Lam.)

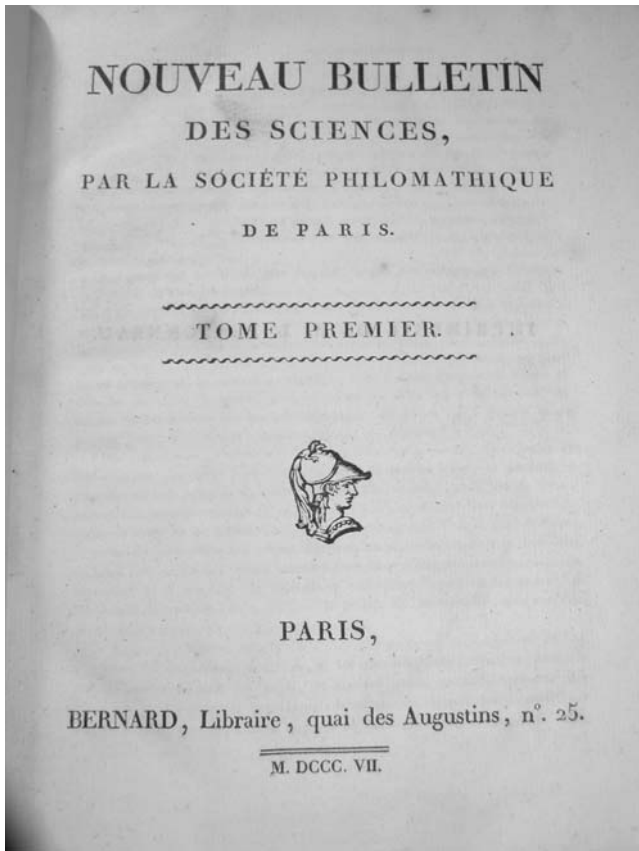


Fig. 1. Title page of du Petit-Thouars' 1809. Extrait de trois Memoires lus a la premiere classe de l'Institut, sur l'histoire des plantes orchidees des iles australes d'Afrique. Nouv. Bull. Sci. Soc. Philom. Paris 1.

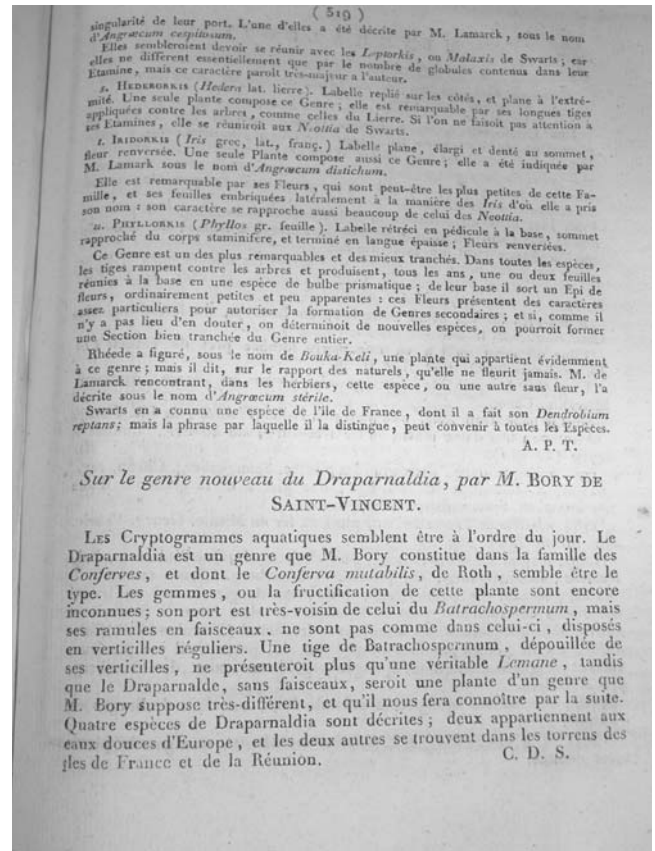


Fig. 2. The original typification of genus *Stichorkis* by du Petit-Thouars (1809, page 319).

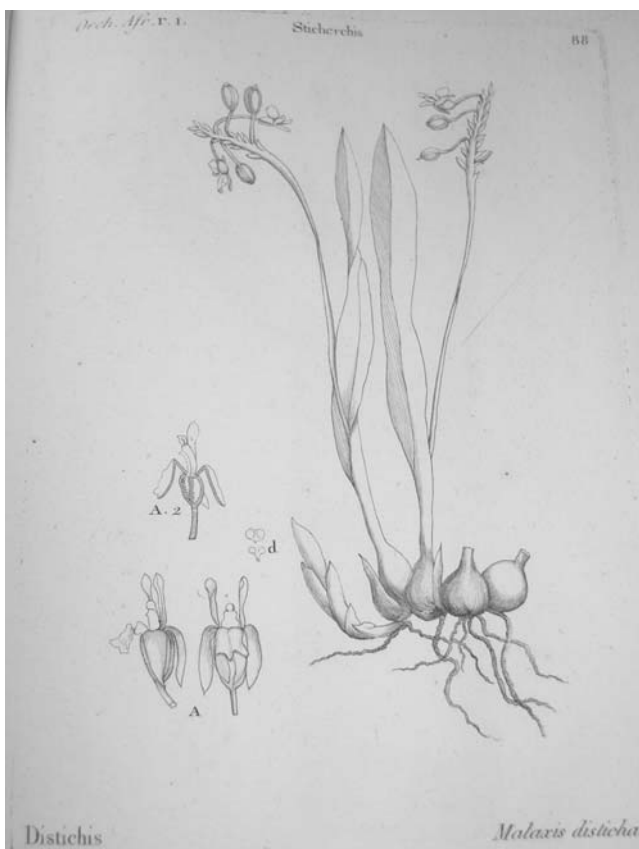


Fig. 3. du Petit-Thouars' original icon of *Stichorkis distichis* Thouars (1822, page 88).

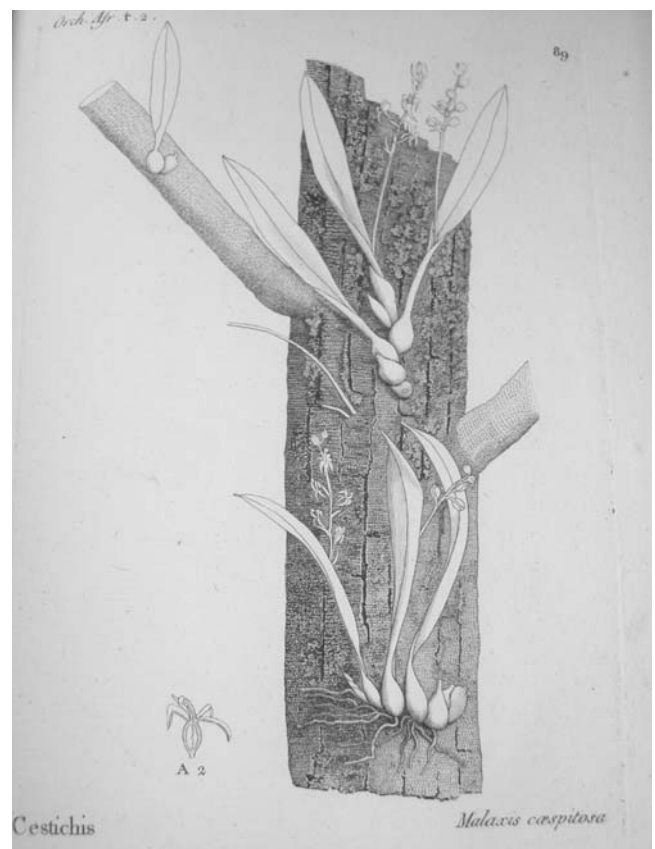


Fig. 4. du Petit-Thouars' icon of *Stichorkis cestichis* Thouars (*Stichorkis cespitosum* (Lam) Thouars ex Marg.) (1822, page 89).

Stichorkis Thouars, Orch. Iles Austr. Afr., Prem. Tabl. Esp., Tabl. Des Generes and t. 90. 1822. orth. var. of *Stichorkis*.

Cestichis Lindl. ex Pfitz., Entwurf einer Natürlichen Anordnung der Orchideen. Heidelber. 56. 1887.

The most significant features for representatives of the genus *Stichorkis* are epiphytic form of life and conduplicate character of leaves.

NEW NOMENCLATORIAL COMBINATIONS

In consequence of the presented proofs followed, new nomenclatorial combination within genus *Stichorkis* are necessary:

Stichorkis acaulis (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis acaulis* Schltr., Die Flora der Deutschen Schutzgebiete in der Südsee 102. 1905.

Stichorkis aptenodytes (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis aptenodytes* J. J. Sm., Bulletin du Jardin Botanique de Buitenzorg, Ser.3., 10: 53. 1928.

Stichorkis aurantiorbiculata (J. J. Wood & Lamb) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis aurantiorbiculata* J. J. Wood & Lamb, in J. J. Wood, R. S. Beamana, J. H. Beaman, The plants of Mount Kinabalu, 2. Orchids: 243. 1993.

Stichorkis balansae (Gagnep.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis balansae* Gagnep., Bulletin de la Société Botanique de France 79: 165. 1932.

Stichorkis beccari (Ridl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis beccari* Ridl., Journal of the Linnean Society, Botany 22: 284. 1886.

Stichorkis bicolor (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis bicolor* J. J. Sm., Fl. Buitenzorg, 6: 270. 1905.

Stichorkis bicuspidata (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis bicuspidata* J. J. Sm., Icones Bogorien-ses 2: 45, t. 109 C. 1903.

Stichorkis bistrata (Par. & Rchb.f.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis bistrata* Par. & Rchb.f., Transactions of the Linnean Society of London, Botany 30: 155. 1874.

Stichorkis bootanensis (Griff.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis bootanensis* Griff., Notulae ad Plantas Asiaticas 98.1848. (descr.) & Not. 3: 278. 1851. (name)

Stichorkis brachystele (Ridl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis brachystele* Ridl., Transactions of the Linnean Society of London, Botany 9: 162. 1916.

Stichorkis bracteata (P. E. Hunt) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis bracteata* P. E. Hunt, North Queensland Naturalist 14 (81): 9. 1946.

Stichorkis brevicaulis (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis brevicaulis* Schltr., Repertorium Specierum Novarum Regni Vegetabilis, Beihefte 1: 202. 1911.

Stichorkis chalandei (Finet) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis chalandei* Finet, Bulletin de la Société Botanique de France 55: 338. 1908.

Stichorkis chapaensis (Gagnep.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis chapaensis* Gagnep., Bulletin de la Société Botanique de France 79: 166. 1932.

Stichorkis chlorantha (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis chlorantha* Schltr., Repertorium Specierum Novarum Regni Vegetabilis, Beihefte 1: 201. 1911.

Stichorkis cinnabarina (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis cinnabarina* J. J. Sm., Bulletin du département de l'agriculture aux Indes Néerlandaises 19: 26. 1908.

Stichorkis coelogynoides (F. Muell.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Sturmia coelogynoides* F. Muell., Fragmenta Phytographiae Australiae 2: 71. 1860.

Stichorkis condylobulbon (Rchb. f.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis condylobulbon* Rchb. f., Hamburger Garten-Blumenzeitung 18: 34. 1862.

Stichorkis crenulata (Bl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Malaxis crenulata* Blume, Bijdragen tot de flora van Nederlandsch Indië. 393.1825

Stichorkis decursiva (Rchb.f.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis decursiva* Rchb.f., Gardener's Chronicle & Agricultural Gazette 2: 38. 1884.

Stichorkis dendrochiloides (Averyanov.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis dendrochiloides* Averyanov., Botanice-skij Žurnal SSSR 73 (3): 432.1988.

Stichorkis distans (C. B. Clarke) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis distans* C. B. Clarke, Journal of the Linnean Society, Botany **25**: 71, T. 29, 1889.

Stichorkis elegans (Lindl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis elegans* Lindl., The genera and species of orchidaceous plants. 1830: 30.

Stichorkis elliptica (Wight) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis elliptica* Wight, Icones Plantarum Indie Orientalis. **5**: 1735. 1852.

Stichorkis esquirolii (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis esquirolii* Schltr., Fed. Rep. **12**: 108. 1913.

Stichorkis fargesii (Finet) Marg., Szlach. & Kułak

Basionym: *Liparis fargesii* Finet, Bulletin de la Société Botanique de France, **55**: 340. 1908.

Stichorkis flabellata (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis flabellata* J. J. Sm., Bulletin du departement de l'agriculture aux Indes Néerlandaises **19**: 27. 1908.

Stichorkis fleckeri (Nicholls.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis fleckeri* Nicholls., North Queensland Naturalist **6** (53): 1. 1938.

Stichorkis foetulenta (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis foetulenta* J. J. Sm. Bull. Jard. Bot. Buit. Ser.3., **2**: 32. 1920.

Stichorkis gibbsiae (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis gibbsiae* J. J. Sm., A Contribution to the Phytogeography and Flora of the Arfak Mountains **112**. 1917.

Stichorkis grandiflora (Ridl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis grandiflora* Ridl., J. Bot. **22**: 333. 1884.

Stichorkis grossa (Rchb.f.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis grossa* Rchb.f., Gard. Chron. **1**: 110. 1883.

Stichorkis indifferens (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis indifferens* J. J. Sm., Repertorium Specierum Novarum Regni Vegetabilis **12**: 24. 1913.

Stichorkis insectifera (Ridl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis insectifera* Ridl., Transactions of the Linnean Society of London, Botany **9**: 163. 1916.

Stichorkis kempfii (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis kempfii* Schltr., Repertorium Specierum Novarum Regni Vegetabilis, Beihefte **16**: 110. 1919.

Stichorkis kempteriana (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis kempteriana* Schltr., Repertorium Specierum Novarum Regni Vegetabilis, Beihefte **1**: 208. 1911.

Stichorkis klossii (Ridl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis klossii* Ridl., Kew Bulletin. **1926**: 84. 1926.

Stichorkis kinabaluensis (J. J. Wood) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis kinabaluensis* J. J. Wood, Lindleyana **5** (2): 84. 1990.

Stichorkis kwangtungensis (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis kwangtungensis* Schltr., Fed. Rep. **19**: 379. 1924.

Stichorkis lacerata (Ridl.) Marg., Szlach. & Kułak

Basionym: *Liparis lacerata* Ridl., Journal of Linnean Society of London. **22**: 284. 1886.

Stichorkis latibasis (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis latibasis* J. J. Sm., Repertorium Specierum Novarum Regni Vegetabilis **11**: 556. 1913.

Stichorkis laxa (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis laxa* Schltr., Engl. Bot. Jahrb. **39**: 60. 1906.

Stichorkis longissima (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis longissima* J. J. Sm., Bulletin du Jardin Botanique de Buitenzorg, Ser. **2**, **13**: 6. 1914.

Stichorkis luteola (Lindl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis luteola* Lindl., The genera and species of orchidaceous plants. **1830**: 32. 1830.

Stichorkis mannii (Rchb.f.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis mannii* Rchb.f., Flora **55**: 275. 1872.

Stichorkis merapiensis (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis merapiensis* Schltr., Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie **45** (104): 16. 1911.

Stichorkis microblepharon (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis microblepharon* Schltr., Repertorium Specierum Novarum Regni Vegetabilis, Beihefte **1**: 205. 1911.

Stichorkis monophylla (Ames) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis monophylla* Ames, Orchidaceae 6: 294. 1920.

Stichorkis nugentiae (F. M. Bailey) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis nugentiae* F. M. Bailey, Bot. Bull. Dept. Agric., Queensland 14: 11. 1896.

Stichorkis ovalis (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis ovalis* Schltr., Repertorium Specierum Novarum Regni Vegetabilis, Beihefte 1: 202. 1911.

Stichorkis pallida (Bl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Malaxis pallida* Blume, Bijdragen tot de flora van Nederlandsch Indië. 391. 1825.

Stichorkis parviflora (Blume) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Malaxis parviflora* Blume, Bijdragen tot de flora van Nederlandsch Indië 8: 392. 1825.

Stichorkis persimilis (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis persimilis* Schltr., Repertorium Specierum Novarum Regni Vegetabilis, Beihefte 1: 206. 1911.

Stichorkis petelotii (Gagnep.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis petelotii* Gagnep., Bull. Soc. Bot. Fr. 79: 166. 1932.

Stichorkis phalacrocorax (Halle) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis phalacrocorax* Halle, Fl. N. Caled. & Depend., 8: 282. 1977.

Stichorkis plantaginea (Lindl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis plantaginea* Lindl., The genera and species of orchidaceous plants. 1830: 29. 1830.

Stichorkis pullei (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis pullei* J. J. Sm., Bulletin du Jardin Botanique de Buitenzorg, ser. 2, 13: 56. 1911.

Stichorkis pusilla (Ridl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis pusilla* Ridl., Journal of the Linnean Society, Botany. 22: 119. 1886

Stichorkis reflexa (R. Br.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Cymbidium reflexum* R. Br., Prodrumus Florae Novae Hollandiae 331. 1810.

Stichorkis rhombea (J. J. Sm.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis rhombea* J. J. Sm., Bulletin du departement de l'agriculture aux Indes Neerlandaises 43: 35. 1910.

Stichorkis scleriifolia (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis scleriifolia* Schltr., Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie 58: 66. 1922.

Stichorkis seidenfadeniana (Szlach.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis seidenfadeniana* Szlach., Novon 3 (3): 302. 1993.

Stichorkis serrulata (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis serrulata* Schltr., Die Flora der Deutschen Schutzgebiete in der Südsee 106. 1905.

Stichorkis spectabilis (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis spectabilis* Schltr., Repertorium Specierum Novarum Regni Vegetabilis, Beihefte 1: 204. 1911.

Stichorkis stenostachya (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis stenostachya* Schltr., Repertorium Specierum Novarum Regni Vegetabilis, Beihefte 1: 20. 1911.

Stichorkis stricklandiana (Rchb.f.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis stricklandiana* Rchb.f., Gard. Chron. 1: 232. 1880

Stichorkis swenssonii (F. M. Bailey) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis swenssonii* F. M. Bailey, Queensland Agricultural Journal 16: 564. 1906.

Stichorkis tenuifolia (Hook.f.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis tenuifolia* Hook.f., Icones Plantarum 21: 2013. 1890.

Stichorkis torta (Hook.f.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis torta* Hook.f., Icones Plantarum 21: 2014. 1890.

Stichorkis truncicola (Schltr.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis truncicola* Schltr., Repert. Spec. Repertorium Specierum Novarum Regni Vegetabilis, Beihefte 1: 199. 1911.

Stichorkis vestita (Rchb.f.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis vestita* Rchb.f., Flora 55: 274. 1872.

Stichorkis viridicallus (Holltum) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Liparis viridicallus* Holltum, Gard. Bull. Singapore 14: 4. 1953.

Stichorkis viridiflora (Bl.) Marg., Szlach. & Kułak, *comb. nov.*

Basionym: *Malaxis viridiflora* Blume, Bijdragen tot de flora van Nederlandsch Indië. 92. 1825.

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LITERATURE CITED

- GREUTER W., McNEILL J., BARRIE F.R., BURDET H.M., DEMOULIN V., FILGUEIRAS T.S., NICOLSON D.H., SILVA P.C., SKOG J., TREHANE P., TURLAND N.J., HAWKSWORTH D. *Liparis* 2000. International code of botanical nomenclature (Saint Louis Code) adopted by the Sixteenth International Botanical Congress, St Louis, Missouri, July-August 1999. *Regnum Veg.* 138; xviii + 474 pp.
- LINDLEY J. 1824. In: S.T. Edwards, Consisting of Coloured Figures of Exotic Plants Cultivated in British Gardens; with their History and Mode of Treatment. Botanical register 10. London. Plates 825, 832.
- LINDLEY J. 1825. In: S.T. Edwards, Consisting of Coloured Figures of Exotic Plants Cultivated in British Gardens; with their History and Mode of Treatment. Botanical register 11. London. Plate 882.
- LINDLEY J. 1830-1840. The genera and species of orchidaceous plants. London.
- PFITZER E. 1887. Entwurf einer Naturlichen Anordnung der Orchideen. Heidelber. 108 pp.
- PFITZER E. 1897. Orchidaceae. in A. Engler and K. Prantl. (eds). Die naturlichen Pflanzenfamilien Nachtrage zum II-IV Teil. Leipzig.
- RASMUSSEN F.N. 1979. Nomenclatural notes on Thouars' works on orchids. *Botaniska Notiser.* 132: 385-391.
- THOUARS du PETIT-M. A.A. 1809. Extrait de trois Memoires lus a la premiere classe de l'Institut, sur l'histoire des plantes orchidees des iles australes d'Afrique. *Nouv. Bull. Sci. Soc. Philom. Paris* 1: 314-319.
- THOUARS du PETIT-M. A.A. 1822. Histoire particuliere des plantes orchidees recueillies sur les trois iles australes d'Afrique, de France, de Bourbon et de Madagascar. *Prem. Tabl. Esp., Tabl. Des Genres* and t. 90. Paris.