

A new combination in *Cynorkis* (Orchidaceae, Orchidoideae) for the Mascarenes

BENNY BYTEBIER^{1*} & THIERRY PAILLER²

¹ Bews Herbarium, School of Life Sciences, University of KwaZulu-Natal, Private Bag X01, 3209 Scottsville, South Africa.

² Peuplements Végétaux et Bio-agresseurs en Milieu Tropical, UMR C53, Université de La Réunion, 117 rue du Général Ailleret 97430, Tampon, La Réunion.

*Author for correspondence: E-mail: bytebier@ukzn.ac.za

In his seminal work “Histoire particulière des plantes Orchidées recueillies sur les trois îles australes d’Afrique, de France, de Bourbon et de Madagascar”, Du Petit-Thouars established the name *Habenaria citrina* Du Petit-Thouars (1822: tab 16) for an orchid occurring on the island of Bourbon (now La Réunion). The protologue consists only of an illustration with analysis and a short description in the accompanying tables for genera and species. A few years later, Richard (1828: 20–21) published a full description of the taxon and commented that this was a most remarkable plant resembling species in the genus *Goodyera* R.Br. in Aiton (1813: 197), based on the leaves but, upon closer examination, he concluded that although different from any other species, it had all the characters associated with the genus *Habenaria* Willdenow (1805: 44). Richard (1828) thus adopted the generic placement and the name as proposed by Du Petit-Thouars (1822). Lindley (1835: 298) transferred this taxon to *Peristylus* Blume (1825: 404), an opinion that was followed by Moore (1877: 334) in the “Flora of Mauritius and The Seychelles”, although the latter admitted to not having seen a specimen. Frappier de Monbenoist (1880: 10), who published a catalogue of all the indigenous orchids of La Réunion, placed the taxon in *Platanthera* Richard (1817: 26), but his new combination was not validly published since there was no direct or indirect reference to the basionym. The new combination was formally published by Kraenzlin (1899: 633), although he remarked “Es kostet mich viel Überwindung, diese Pflanze hierherzustellen, aber sie ist eine der Arten, welche sich nirgend organisch einfügen lassen.”, or, in other words, he was not really sure about its placement in *Platanthera*. Earlier on, Jacob De Cordemoy (1895: 258), in “Flore de La Réunion”, considered *Platanthera* a section in the genus *Habenaria* and thus adopted the name *Habenaria citrina*. Later, Schlechter (1915: 404) also adopted the same name. The uncertainty surrounding the generic placement of this taxon remains up to today. The World Checklist of Selected Plant Families (WCSP) (Govaerts 2018) places it in *Peristylus*, whereas two recent works on the orchids of the Mascarenes (Bernet 2010: 184–185; Szelengowicz & Tamon 2013: 298) list it under *Habenaria*. However, the authors of the latter two works, as well as Roberts (2001: 98) who studied the orchids of the Mascarenes, remark that the flowers of this taxon resemble those in the genus *Cynorkis* Du Petit-Thouars (1809: 17). In our opinion, this is indeed where its true affinity lies and our preliminary morphological and molecular analysis, which shows that it is related to the more common and widespread *Cynorkis fastigiata* Du Petit-Thouars (1822: tab 13), confirms this. We are currently finalising a “Guide to the Orchids of the Western Indian Ocean Islands” and in order to make this name available in this publication, as well as in forthcoming Orchidaceae fascicle of “Flore des Mascareignes”, we here propose a new combination for this taxon in the genus *Cynorkis*.

Below is the taxonomic treatment in which we list all homotypic synonyms. Two of the names [*Habenorchis citrinabenis* Thouars (1822: t.16) and *Habenorchis citrabenis* Thouars (1822: t.16)] have seldom been mentioned and are absent from databases such as IPNI, Tropicos and WCSP, despite the fact that they both appear in the protologue. Interestingly, Du Petit-Thouars (1822) proposed alternative names in a self-designed nomenclatural system, next to names in a traditional Linnean nomenclature for the taxa he described in this publication (Friis & Rasmussen 1975). He left the decision as to which name to adopt to future taxonomists and suggested that his nomenclatural system should either be perfected or abandoned. The latter happened. Nevertheless, Friis & Rasmussen (1975) pointed out that the alternative Du Petit-Thouars names are proper binomials and are therefore admissible under the International Code of Nomenclature for algae, fungi and plants (ICN).

Cynorkis citrina (Thouars) Bytebier & Pailler, *comb. nov.*

Basionym:—*Habenaria citrina* Thouars (1822: t.16).

Homotypic synonyms:—*Habenorchis citrinabenis* Thouars (1822: t.16); *Habenorchis citrabenis* Thouars (1822: t.16); *Peristylus citrinus* (Thouars) Lindley (1835: 298); *Platanthera citrina* (Thouars) Frapp. ex Kraenzlin (1899: 633).

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References

- Aiton, W.T. (1813) *Hortus Kewensis; or, a Catalogue of the Plants Cultivated in the Royal Botanic Garden at Kew. (2nd ed.). Volume 5.* Longman, Hurst, Rees, Orme, and Brown, London, 568 pp.
- Bernet, P. (2010) *Orchidées de la Réunion.* Naturae Amici éditions. Réunion, 368 pp.
- Blume, C.L. von (1825) *Bijdragen tot de flora van Nederlands Indië.* Ter Lands Drukkerij, Batavia, 1169 pp.
- Du Petit-Thouars, A.A. (1822) *Histoire particulière des plantes Orchidées recueillies sur les trois îles australes d’Afrique, de France, de Bourbon et de Madagascar.* L’auteur, Paris, 32 pp., 110 pls.
- Du Petit-Thouars, L.M.A. (1809) *Nouveau bulletin de science, par la société philomatique de Paris. Tome premier.* Bernard, Paris, 447 pp.
- Frappier de Monbenoist, C. (1880) *Orchidées de l’île de La Réunion. Catalogue des espèces indigènes découvertes jusqu’à ce jour. Extrait d’une monographie inédite des mêmes plantes.* Gabriel et Gaston Lahuppe, Saint-Denis (Réunion), 16 pp.
- Friis, I. & Rasmussen, F.N. (1975) The two alternative systems of nomenclature proposed and used for orchids by Du Petit-Thouars, with special regard to *Corymborkis* Thouars. *Taxon* 24: 307–318.
<https://doi.org/10.2307/1218340>
- Govaerts, R. (2018) *World Checklist of Selected Plant Families.* Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet: <http://wcp.science.kew.org/> (accessed 20 November 2018)
- Jacob de Cordemoy, E. (1895) *Flore de l’île de la Réunion (phanérogames, cryptogames, vasculaires, muscinées) avec l’indication des propriétés économiques & industrielles des plantes.* P. Klincksieck, Paris, 574 pp.
- Kraenzlin, F. (1899) *Orchidacearum Genera et Species. Vol. 1, Part 10.* Mayer & Muller, Berlin, 986 pp.
- Lindley, J. (1835) CLXXXIX. *Peristylus.* In: Lindley, J., *The genera and species of orchidaceous plants.* Ridgways, Piccadilly, London, pp. 297–301.
- Moore, S.L.M. (1877) Order XCIV. Orchideae. In: Baker, J.G. (Ed.) *Flora of Mauritius and the Seychelles: a description of the flowering plants and ferns of those islands.* Reeve & Co., London, pp. 327–363.
- Richard, A. (1828) Monographie des orchidées des îles de France et de Bourbon. *Mémoires de la Société d’Histoire Naturelle de Paris* Ser. 2, t.4: 1–74.
- Richard, C.L. (1817) *De orchideis Europaeis annotationes.* A. Belin, Paris, 152 pp.
- Roberts, D.L. (2001) *Reproductive biology and conservation of the orchids of Mauritius.* PhD thesis. University of Aberdeen, Scotland, 290 pp.
- Schlechter, R. (1915) Kritische Aufzählung der bisher von Madagaskar, den Maskarenen, Komoren und Seychellen bekanntgewordenen Orchidaceen. *Beihefte zum Botanischen Centralblatt* 33 (2): 390–440.
- Szelengowicz, M. & Tamon, J.M. (2013) *Les orchidées des Mascareignes.* Printec Press Holdings, Seychelles, 426 pp.
- Willdenow, C.L. von (1805) *Species plantarum. Editio Quarta. Tomus IV Pars I.* G.C. Nauk, Berolini, 629 pp.