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The correct name for the type species of the genus *Benthamia* (Habenariinae, Orchidaceae)

Benny Bytebier

Abstract

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Louis-Marie Aubert Aubert Du Petit-Thouars (1758–1831) was one of the first botanists to describe several orchids, collected on the Mascarenes and Madagascar, in a seminal work published in 1822. Besides Linnean binomials, Du Petit-Thouars proposed alternative (Thouarsian) names that should be taken into consideration in certain nomenclatural situations, since they are proper binomials. One of the newly proposed species was *Satyrium latifolium* Thouars with the alternative Thouarsian name *Satorkis latisatis* Thouars. However, the former name is a later homonym and thus illegitimate. When Sprengel transferred the species to *Habenaria* Willd., the epithet *latifolia* was unavailable because of the existence of a previous homonym, and he coined the replacement name *H. chlorantha* Spreng., whereas he should have used the Thouarsian epithet *latisatis*. Lastly, Garay & Romero transferred the Sprengel name to the genus *Benthamia* A. Rich, which has hitherto been treated as the accepted name for this species and is furthermore the type species of the genus. However, in view of the fact that this is an illegitimate superfluous name, the correct binomial is proposed here as *B. latisatis* (Thouars) Bytebier.

Keywords

ORCHIDACEAE – *Benthamia* – Du Petit-Thouars – Nomenclature

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Introduction

Louis-Marie Aubert Du Petit-Thouars (1758–1831) was one of the first botanists to collect plants on the Mascarene Islands and Madagascar (STAFLEU & COWAN, 1976). In a 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 (1822) described and illustrated 91 orchid species gathered during his travels in the region. Remarkably, apart from using traditional Linnean names, Du Petit-Thouars included alternative names for his species in a self-designed (Thouarsian) nomenclatural system. He originally introduced this alternative system in a paper read to the *Société Philomatique de Paris* and published in 1809 (DU PETIT-THOUARS, 1809). In essence, he proposed to include a reference to the family in the genus name, and a reference to the genus in the species epithet. These alternative Thouarsian names caused considerable nomenclatural confusion until FRIIS & RASMUSSEN (1975) clarified their interpretation and pointed out that the alternative Thouarsian names are proper binomials, which are therefore admissible under the International Code of Nomenclature for algae, fungi and plants (TURLAND et al., 2018). Although the Thouarsian nomenclatural system never caught on, some generic names are still in use, such as for instance *Cynorkis* Thouars and *Corymborkis* Thouars. FRIIS & RASMUSSEN (1975: 313) furthermore concluded that the alternative Thouarsian names should be considered as synonyms “which are to be taken into consideration (1) in case the traditional name has an earlier homonym or (2) if the traditional epithet is going to be used in a new combination, and the resulting binary combination is a later homonym”.

The genus *Benthamia* A. Rich. was established by Achille Richard in 1828 for two species, *Benthamia latifolia* A. Rich., based on *Satyrium latifolium* Thouars, and a newly described species, *Benthamia spiralis* A. Rich. (RICHARD, 1828). PRIDGEON et al. (2001) selected the former species as the lectotype for the genus. *Benthamia* is endemic to Madagascar, Mauritius and Réunion. As currently understood, it consists of 32 species but is in dire need of revision as it is clearly not monophyletic (NGUGI et al., 2020). However, *Satyrium latifolium* Thouars is illegitimate because it is a later homonym of *Satyrium latifolium* L. [in Fl. Jamaic.: 20 (1759)], which itself is a superfluous name for *Satyrium plantagineum* L. [in Syst. Nat., Ed. 10, 2: 1244 (1759)], now called *Microchilus plantagineus* (L.) D. Dietr.

When SPRENGEL (1826) transferred the taxon to *Habenaria*, the epithet *latifolia* was unavailable because of the existence of a previous homonym by KUNTH (1816), and thus he coined the replacement name *H. chlorantha*. Nevertheless, several later authors still transferred the illegitimate Thouars name *Satyrium latifolium* to other genera, leading to names that should be treated as replacement names (TURLAND et al., 2018: ICN Art. 6.10, 6.11, 58.1) that are illegitimate (ICN

Art. 52.1). Recently, GARAY & ROMERO (1998) transferred the Sprengel epithet to the genus *Benthamia* as *B. chlorantha*, which is currently the accepted name for this species and is furthermore the type species of the genus (see POWO [https://powo.science.kew.org]). However, Sprengel should have used the earliest available (Thouarsian) epithet *latisatis* instead of using the epithet *chlorantha* for his new combination in *Habenaria*. Sprengel’s name is therefore regarded as a superfluous replacement name. Likewise, Garay & Romero’s name in *Benthamia* is a superfluous illegitimate name.

Consequently, the new combination *Benthamia latisatis* (Thouars) Bytebier is made below, along with the citation of its type and full homotypic synonymy. This is only the second Thouarsian epithet that forms part of a correct binomial, the first one being *corymbis* in *Corymborkis corymbis* Thouars.

Taxonomy

Benthamia latisatis* (Thouars) Bytebier, *comb. nov.

- = *Satorkis latisatis* Thouars, Hist. Orchid.: premier tableau des espèces d’orchidées 1^{re} section Satyrions, tab. 10. 1822. = *Satyrium latifolium* Thouars, Hist. Orchid.: premier tableau des espèces d’orchidées 1^{re} section Satyrions, tab. 10. 1822 [nom. illeg., non *S. latifolium* L., 1759]. = *Habenaria chlorantha* Spreng., Syst. Veg., Ed. 16, 3: 691. 1826 [nom. nov., nom. illeg. superfl., non *H. latifolia* Kunth, 1816]. = *Benthamia latifolia* A. Rich. in Mém. Soc. Hist. Nat. Paris 4: 38. 1828 [nom. illeg. superfl.]. = *Herminium latifolium* Lindl. in Edwards’s Bot. Reg. 18: sub tab. 1499. 1832 [nom. illeg. superfl.]. = *Peristylus latifolius* Lindl., Gen. Sp. Orchid. Pl.: 297. 1835 [nom. illeg. superfl.]. = *Habenaria latifolia* T. Durand & Schinz, Consp. Fl. Afric. 5: 80. 1894 [nom. illeg. superfl.]. = *Habenaria latifolia* Cordem., Fl. Réunion (E.J. de Cordemoy): 260. 1895 [nom. illeg.]. = *Benthamia chlorantha* Garay & G.A. Romero in Harvard Pap. Bot. 3: 53. 1998 [nom. illeg. superfl.].

Lectotypus (designated by GARAY & ROMERO, 1998: 53): RÉUNION: “à la grande montée de la plaine”, s.d., *Thouars s.n.* (2-part specimen: P [P00094522, P00094523] images!) (Fig. 1, 2).

Notes. – In his *Premier tableau des espèces d’orchidées*, on an unpaginated, diagnostic table published at the front of “Histoire”, DU PETIT-THOUARS (1822) spelled the epithet as *latosatis*, whereas on plate 10, which illustrates the species, he spelled it as *latisatis*. In view of the fact that he often used part of the Linnean epithet (in this case *latifolia*) as part of his Thouarsian epithet, *latosatis* should be considered an orthographic variant. Furthermore, ICN commends to use an “i” as the connecting vowel. Thus, the correct epithet ought to be *latisatis* (ICN Art. 60.10).



Fig. 1. – First sheet of the lectotype of *Satorkis latisatis* Thouars in P.
[Thouars s.n., P] [P00094522; © Muséum national d'Histoire naturelle, Paris]

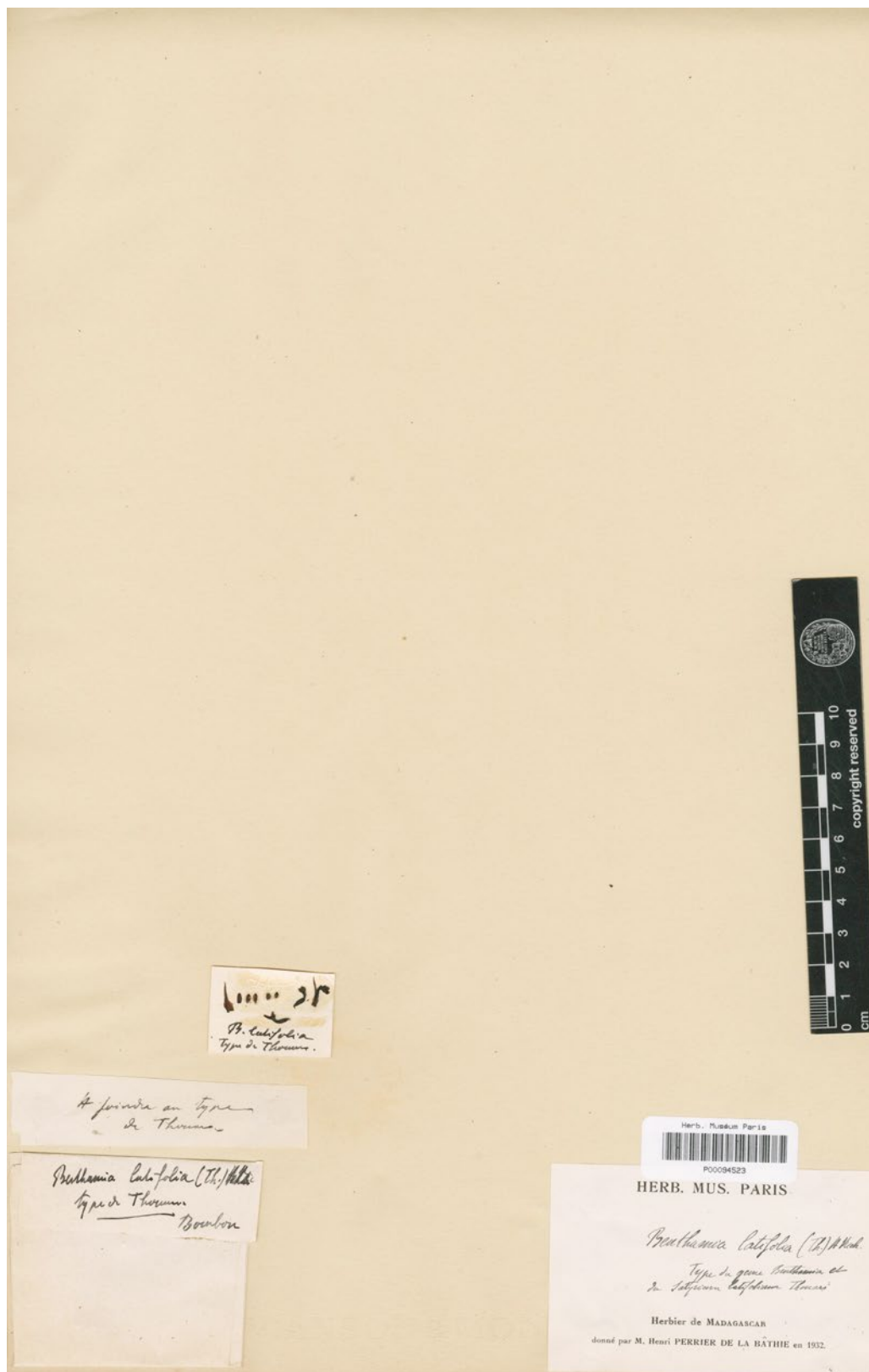


Fig. 2. – Second sheet of the lectotype of *Satorkis latisatis* Thouars in P. [Thouars s.n., P] [P00094523; © Muséum national d'Histoire naturelle, Paris]

The generic name *Satorkis* Thouars, as published by DU PETIT-THOUARS (1809), with that original and thus correct spelling (ICN Art. 60.1), is illegitimate since it is a superfluous name for *Satyrium* L. However, the epithet *latisatis* published under the orthographic variant *Satorchis* Thouars (DU PETIT-THOUARS, 1822) is legitimate and can be used in a new combination (ICN Art. 55.1).

When GARAY & ROMERO (1998: 53) established *Benthamia chlorantha*, they cited the basionym as: “*Habenaria Chlorantha* Spreng., Syst. Veg. 3: 691. 1826, based on *Satyrium latifolium* Thouars, Hist. Orch., Prem. Tabl., t. 10, 1822, non Linnaeus 1759” and a Thouars specimen at P as the holotype. Since *Satyrium latifolium* is an alternative name for *Satorkis latisatis* Thouars, and therefore homotypic, its nomenclatural action can be accepted as an indirect typification of the latter name. However, an illustration was published as part of the protologue and should also be considered as original material. Therefore, Garay and Romero’s use of holotype is an error to be corrected to lectotype (ICN Art. 9.10). It should be also noted that besides the specimen P00094522 (Fig. 1), a second sheet with a dissected flower is kept at P [P00094523]. Henri Perrier de la Bâthie studied this material for his treatment of the genus for the *Flore de Madagascar et des Comores*, and explicitly indicated: “A joindre au type de Thouars [to be attached to the Thouars type]” (Fig. 2). The fragment was ultimately mounted on a separate sheet at P but is clearly part of the type specimen. Therefore, it is regarded here as a 2-part specimen.

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