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Typification of *Encyclia pyriformis* (Lindl.) Schlechter

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ABSTRACT: Holotypes have not been designated for many of the Cuban *Encyclia* Hooker species described by Lindley from plants imported by Loddiges. One of these species is *Encyclia pyriformis*. The epithets *Epidendrum pyriforme* and *Encyclia pyriformis* have been misapplied to several taxa. In the absence of a holotype, this paper designates a lectotype for *Encyclia pyriformis* and discusses the taxonomic history of this species.

Lindley described *Epidendrum pyriforme* in 1847 (Botanical Register, vol. 33, sub, t. 10), from live plants imported by Loddiges that had recently flowered. Lindley does not cite a herbarium specimen or illustration. However, later in the same Botanical Register, vol. 33 t. 50, Lindley repeats the original description and includes a plate. The plate is detailed and clearly demonstrates the characters that separate *E. pyriformis* from other species it has been confused with. Lindley comments that the plant flowered in January, but does not make any reference to the fragrance of the flowers or the location where the plant was collected in Cuba.

Encyclia pyriformis has been cited in the literature several times during the nineteenth century and the first half of the twentieth century. Harrison (1847), Grisebach (1866), Cogniaux (in Urban 1910), Schlechter (1914), Acuña (1938) and Leon (1946) list this taxon as a valid species citing Lindley's description and in some cases adding more information about the geographical distribution. Later Dietrich (1979), Diaz (1988) and Llamacho (2005) do not list *E. pyriformis* in their treatments of Cuban orchids. Acevedo-Rodriguez & Strong (2012) do not consider *E. pyriformis* a valid species.

Withner (1996) cited *E. pyriformis* as a valid species and published a copy of the original Lindley plate without designating it as a type. He also includes a copy the plate published in Sagra (1850) as *Epidendrum oblongatum* A. Rich. reducing *E. oblongatum* to synonymy under *E. pyriformis*. Mujica et. al. (2000) published a list of Cuban species and includes *E. pyriformis* as a valid species. However, an illustration of *E. pyriformis* is labeled *E. phoenicea*. Nir (2000) lists *E. pyriformis* as a valid species and states "Type: (K p !)", referring to the plate published in the Botanical Register (vol. 33 t. 50). However, the plate was not published with the protolog but

later in the same volume. It cannot be considered the holotype, a type needs to be designated.

Encyclia pyriformis (Lindl.) Schltr. 1914. Die Orchideen. Beschreib. Kult. Zucht.: 211.
Epidendrum pyriforme Lindley, 1847. Bot. Reg. 33, t. 10.

Lectotype: In the absence of a specimen, the illustration at Kew in the Lindley Herbarium of the plate published in Botanical Register (33, t. 50, 1847) is here designated as a lectotype. The sheet that the illustration is attached to, is annotated "*Epidendrum pyriforme*" and clearly shows the characteristics that define *E. pyriforme* Lindl. This is the first material available that we know that Lindley saw.



Lectotype of *Epidendrum pyriforme* Lindl.

Withner and Lindley both observed live plants of this species. Withner (1996) even obtained a hybrid from a plant that had been donated to the Brooklyn Botanical Garden. We have had the opportunity to grow from seed several generations of plants under greenhouse conditions. The seeds were collected from plants originally introduced by William Osment in the 1950's from Pinar del Rio, Cuba. A distinctive characteristic of this species is the ability to flower on small plants. The plant illustrated in the Lindley plate represents the typical characters observed in the seedlings. Particularly vigorous plants can produce more flowers on a spike than the plant illustrated in the Lindley plate.

The blooming season of *E. pyriformis* appears to be variable compared to other species like *Encyclia phoenicea* (Lindl.) Neuman and *Encyclia altissima* (Bateman ex Lindl.) Schltr. that have very definite flowering times. Plants of *E. pyriformis* can be found in flower at almost any time of the year. In addition, many plants flower more than once a year. They usually flower as soon as a new growth matures.

Names confused with *E. pyriformis* in the literature, herbaria or in cultivation include *E. phoenicea*, *E. oblongata*, *Encyclia brevifolia* (Jenn.) Ackerman & Muj. Benitez, *Encyclia hamiltonii* Sauleda & Esperon and *Encyclia triangulifera* (Rchb. f.) Acuña.

Acevedo-Rodriguez & Strong (2012) reduce *E. pyriformis* to synonymy under *E. phoenicea* without an explanation. *Encyclia pyriformis* is distinctive from *E. phoenicea* both vegetatively and florally. The plants of *E. phoenicea* are considerably larger than *E. pyriformis*. The labellum of *E. phoenicea* is always purple, the inflorescences are longer and have considerably more flowers than *E. pyriformis*.

Withner (1996) cited *E. pyriformis* as a valid species and included a copy of the plate published in Sagra (1850) as *Epidendrum oblongatum* A. Rich. reducing *E. oblongatum* to synonymy under *E. pyriformis*. Nir (2000) also reduces *E. oblongatum* to synonymy under *E. pyriformis*. The description and plate of *E. oblongatum* in Sagra (1850) illustrates characters found in *E. pyriformis*. The relatively short leaves and the circular and emarginated midlobe are also characteristics of *E. pyriformis*. This appears to be the reason Withner (1996) considered *E. oblongatum* a synonym of *E. pyriformis*. However, the elongated rhizome shown in the plate of *Epidendrum oblongatum* and the longitudinal crests or ridges along the labellum that Richard (In Sagra, 1850) mentions in the description differentiates *Encyclia oblongata* (Rich.) Acuña from *E. pyriformis*.



Faucher del.

J. Thomas sculp.

Epidendrum oblongatum. AR.

Imp. de la Librairie chez M. Pichet, et chez M. Bachelier, au Palais National, à Paris.

***Epidendrum oblongatum* A. Rich. plate in Sagra.**

Encyclia hamiltonii, another species confused with *E. pyriformis*, can be distinguished from *E. pyriformis* by the comparatively large size of the flowers and by comparing the callus of the labellum. On *E. pyriformis* the callus extends beyond the apex of the column and ends abruptly. In *E. hamiltonii*, the callus descends along the disc of the labellum becoming three faint longitudinal ridges. Also the two species are geographically isolated. *Encyclia pyriformis* is found in Western Cuba while *E. hamiltonii* is found in Eastern Cuba.

Another epithet that Withner specifically cites as misapplied is *Encyclia triangulifera*. The apparent reason for the confusion could be the minute size of fertile specimens for both species, but the size of the flower of *E. triangulifera* is much smaller than the flower of *E. pyriformis* and easily differentiates the two species.

Encyclia brevifolia (Jennings) Ackerman & Mujica has also been confused with *E. pyriformis*, a confusion that still exists. *Encyclia brevifolia* was described from Isla de Pinos by Jennings in 1917 (Ann. Carnegie Mus. 11:103) as *Epidendrum brevifolium*. *Encyclia brevifolia* and *E. pyriformis* grow in the same habitat and on the same host palms. According to the description and type, the flower is very similar to *E. pyriformis* and the plants are also caespitose, compact and short leaved. The only differences that we note is that the leaves of the type specimen of *Encyclia brevifolia* appear to be more acute than the leaves of *Encyclia pyriformis*. However we have not seen live material from Isla de Pinos. In the case that the plants from Isla de Pinos are not distinct enough, the name *E. pyriformis* will prevail because it was described prior to *Epidendrum brevifolium*.

Encyclia pyriformis in nature grows sympatric with several other species of *Encyclia*. Morphs that share characters of other species have been found. Plants with white lips as illustrated in the Lindley plate are the most common form. However, there are localities where forms with pale yellow lips or lips that turn yellow with age are found. This could be due to introgression from *Encyclia bocourtii* Muj. Benitez & Pupulin or *Encyclia guanahacabibensis* Saulea & Esperon. Nash in Addisonia (1917, vol. 2, part 3) published a plate (plate 62) labeled *Epidendrum oblongatum*, made from a plant collected by Britton and Cowell along the Coloma Road, Pinar del Rio, Cuba, in the spring of 1911. The plant appears to be *E. pyriformis*, but the flowers have a yellowish color which may be further evidence of introgression with *E. bocourtii* or *E. guanahacabibensis*. In addition, in the populations of *E. bocourtii*, flowers with white lips can be found indicating that introgression is occurring in both directions.



Plate of *Encyclia pyriformis* (Addisonia, 1917, vol. 2, part 3, pl. 62). demonstrating possible introgression with *Encyclia bocourtii* Muj. Benitez & Pupulin.

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Encyclia phoenicea (Lindl.) Neuman



Encyclia hamiltonii Saulea & Esperon.



Encyclia bocourtii Muj. Benitez & Pupulin

Encyclia guanahacabibensis Sauleda & Esperon



Encyclia pyriformis (Lindl.) Schltr.



Encyclia pyriformis (Lindl.) Schltr.



Encyclia pyriformis (Lindl.) Schltr. showing possible introgression with *Encyclia bocourtii* Muj. Benitez & Pupulin



Encyclia pyriformis (Lindl.) Schltr.