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A New Name for an A. Richard Species of *Encyclia* Hook. from Cuba.

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A New Name for an A. Richard Species of *Encyclia* Hook. from Cuba.

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ABSTRACT

A new name, *Encyclia richardiana*, is proposed for a species of A. Richard, *Epidendrum affine*, published by Sagra with an error making it an illegitimate name.

During the summer of 2008, the first author, observed a population of *Encyclia* Hooker at Clotilde, Najasa, Camaguey, Cuba, that resembled *E. fucata*. However, there were important differences in the vegetative and floral characters. The plants of the Najasa population had two leaves compared to a single leaf in *E. fucata* and the shape of the sepals, petals and labellum also were different leading to the conclusion that this population is a distinct species from *E. fucata*. A detailed analysis by the first author involving extensive field studies and comparison of live material has resulted in the recognition of the identity of one of the species Richard described, *Epidendrum affine* A. Rich.

Lindley originally described *Encyclia fucata* in 1838 (Edward's Bot. Reg., 24, misc. 17) based on a live plant. Lindley's description, the type specimen at Kew and the colored plate clearly establish the identity of *E. fucata*. *Epidendrum affine* published in Sagra by Richard (Hist. Fis. Cuba, Bot. 11: 237. 1850) was considered a synonym of *E. fucata* by numerous authors (Reichenbach, 1861; Grisebach, 1866; Ames, 1905; Urban, 1909; Schlechter, 1915; Acuña, 1938; Leon, 1946; Withner, 1996; Nir, 2000; Llamacho & Larramendi, 2005; Vale, et al, 2014). Almost all of the descriptions of *E. fucata*, in the literature of the previous authors, include a wide range of variation in the vegetative and floral characters. This is possibly because they are including in their descriptions the characters of several distinct species described by Richard due to lack of field studies and live material to examine. Ames (1905) studied live material from Cuba and recognized the variability of *E. fucata* comparing it to the variability of *Encyclia tampensis* (Lindl.) Small in Florida. Unfortunately, he did not sample enough populations to realize that he was actually looking at several distinct species. His comparison with *E. tampensis* is not an accurate one. The variability in *Encyclia tampensis* in Florida is a result of hybridization forming a hybrid swarm (Sauleda, 2016). In Cuba the variability described for *E. fucata* is because the authors did not recognize that there were distinct species that had evolved due the topography and geological history of the island which resulted in geographical isolation. The population at Najasa is one of the clearly distinct species.

In addition to the holotype of *Epidendrum affine* at Paris there is a color plate with the original description, which would have been the protolog for *E. affine* but was erroneously published under *E. fucata*. This description and the plate coincide with the Najasa population.

In Sagra (Hist. Fisc. Cuba 11: 237. 1850) where *Epidendrum affine* A. Rich. was published there is an error. In the publication is a listing of the *Epidendrum* species known for Cuba. *Epidendrum affine* is listed as a new species and *E. fucatum*, previously described by Lindley, is just listed as a Cuban species. However, the descriptions are reversed. Under *E. affine* is the description for *E. fucatum* and under *E. fucatum* is what should be the protolog with the Latin description for *E. affine*. This is obvious since the description on the plate at Paris is the same description found under *E. fucatum*. In addition, the wrong plate is listed for *E. affine*. The plate referred to is of *Epidendrum ochranthum* Rich. The plate of *E. affine*, which is a black and white rendering of the color plate at Paris, is labeled *E. fucatum*. The Latin description corresponding to *E. affine* is under *E. fucatum*. Therefore, *E. affine* is not validly published. Richard wrote the volume with the original description but died before the volume with the plates was published. Sagra finished and published the volumes.

Ackerman (2014) also concludes that the “reference to plate 78 under *E. affine* is a mistake” and adds “there is no specimen that can be unambiguously associated with *E. affine* so we have excluded it from synonymy of any species. We regard it as a nomen obscurum”. Apparently the holotype of *E. affine* and the color plate at Paris, was not seen by Ackernam and therefore did not establish the correlation between the specimen and the publication of *E. affine*.

To further complicate the situation another *Epidendrum affine* H. Focke from Surinam (Bot. Zeitung (Berlin) 11: 341.) was published in 1853 which is a synonym of *Encyclia oncioides* (Lindl.) Schltr. according to Schlechter (1915). In 1856 Reichenbach used the epithet *affine* for an *Epidendrum* L. (*Epidendrum affine* Rchb. f., Bonplandia, 4(20-21): 327. 1856.). The species is actually an *Epidendrum* and not an *Encyclia*. However, Schlechter transferred Reichenbach’s *Epidendrum affine* to *Encyclia*. Therefore, there is already an *Encyclia affinis* (Rchb. f.) Schltr. although it is based on an *Epidendrum* currently considered a synonymy of *Epidendrum cnemidophorum* Lindl., Fol. Orchid. 3: 53 (1853).

Even if Richard’s epithet (*affine*) had been validly published the epithet could not be used in the genus *Encyclia*.

A new species name, is here presented, for sensu *E. affine* A. Rich. (excluding description and plate) for the Najasa population based on the herbarium specimen in Paris labeled as the holotype of *E. affine*.

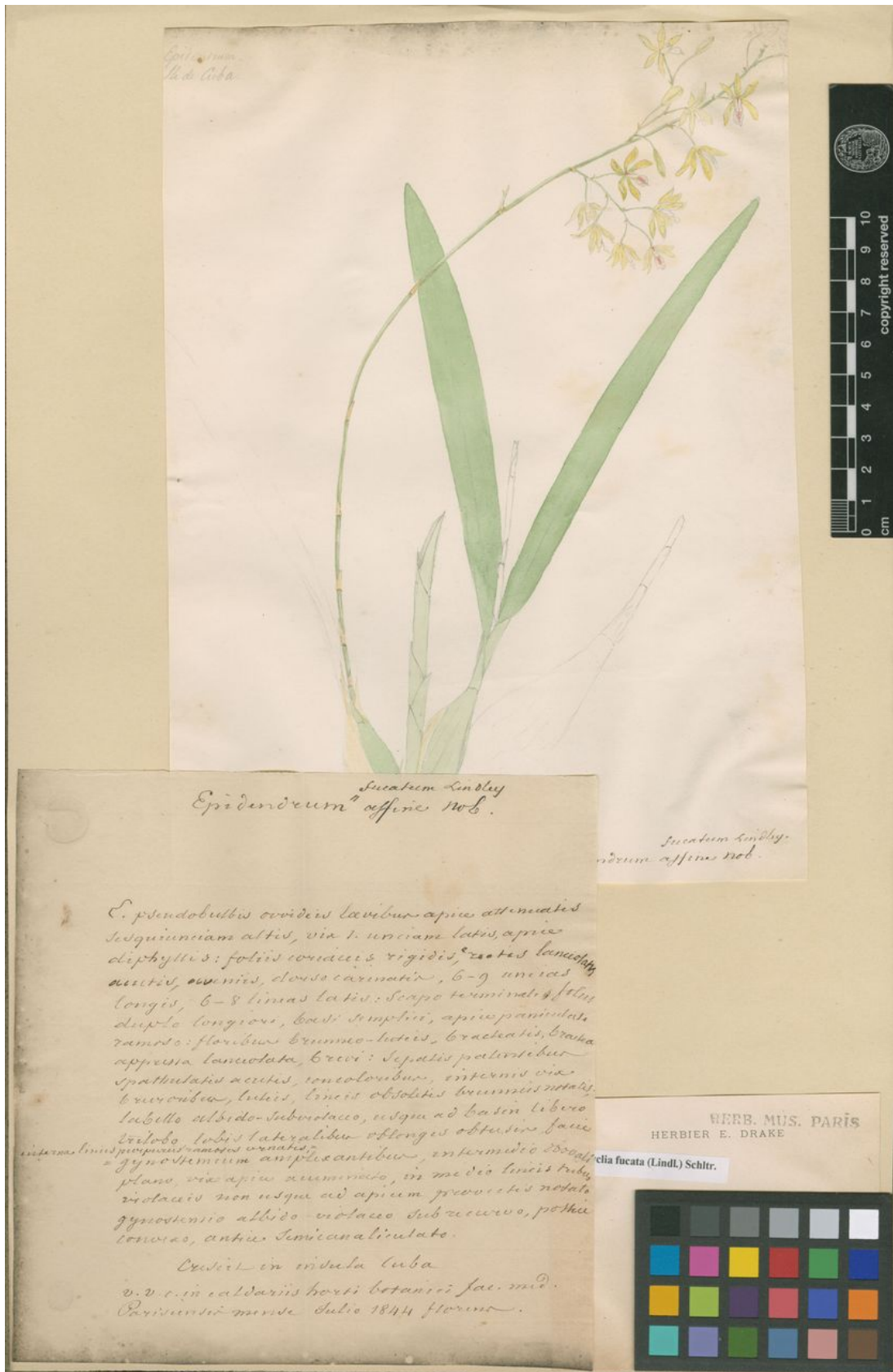
***Encyclia richardiana* Rodriguez Seijo, Esperon & Sauleda, nom. nov.**

Replaced name: *Epidendrum affine* A. Rich., Historia Física Política y Natural de la Isla de Cuba, Botánica 11: 237. 1850. nom. illegit.

HOLOTYPE: Herbarium Museum Paris P00430664, *Epidendrum affine*, Cuba.



Holotype of *Epidendrum affine* A. Rich. at Paris.



Color plate at Paris which matches black and white drawing in Sagra and includes the Latin description that should have been under *Epidendrum affine* not *Epidendrum fucatum*.



Black and white plate in *Icones Plantarum in Flora Cubana, Historia Physica, Politica et Naturali*, Plate 76. Erroneously labeled *Epidendrum fucatum* by Sagra. Plate matches Richard's color plate of *Epidendrum affine* in Paris.

DESCRIPTION

Plants caespitose, glabrous, epiphytic, rhizomatous, to 55 cm tall; roots many, slender, velamentous, originating from rhizome at base of pseudobulb; rhizome short, stout, creeping or ascending, enclosed by imbricating scarios sheaths; secondary stem modified into pseudobulbs, erect or ascending, clustered, ovate, attenuate towards apex, to 6 cm long, 3 cm wide, basally enclosed by fugacious scarios sheath, 2-leaved at apex of pseudobulb; new growth always forms as plant produces flowers; leaves coriaceous to rigid, conduplicate, linear-lanceolate, acute, to 30 cm long, 1.8 cm wide; inflorescence terminal, erect to arching, to 70 cm, peduncles slender, distantly several-sheathed, paniculate above, to 45 flowers, with 10 lateral branches, to 15 cm long; floral bracts minute, ovate, acuminate, to 3 mm long, 2 mm wide; flowers resupinate, ovary pedicellate, slender, to 1.7 cm long; sepals and petals yellow, 5-nerved with reddish-brown and diffuse tessellation towards apex; sepals oblong-oblancheolate, obtuse, to 12 mm long, 3 mm wide; petals oblancheolate-spatulate, apically slightly concave and thickened, obtuse to subacuminate, to 12 mm long, 3 mm wide; labellum white, to 12 mm long, 9 mm wide, 3-lobed, with a reddish-purple oblong spot in center of midlobe, sessile, without isthmus, oblong, margin undulate, slightly apiculate with the apex recurved appearing emarginate, to 8 mm long, 4 mm wide, two thin lateral erect keels originate at base of labellum and join at beginning of midlobe, suffused with purple, lateral lobes oblong, obtuse, To 8 mm long, 4mm wide, converging to embrace apex of column but not completely concealing column, with radiating purple lines; column white with purple mottling, stout, short, to 5 mm long, 3 mm wide, auricles present, anther yellow with purple on the sides; capsule ellipsoid, glabrous, to 17 mm long, 10 mm thick.

DIAGNOSIS

Encyclia richardiana is similar to *Encyclia fucata* but differs both vegetatively and florally. *Encyclia richardiana* always has two leaves which are up to 30 cm long, *E. fucata* always has one leaf up to 20 cm long. The pseudobulbs of *E. richardiana* are ovate and attenuate towards apex, *E. fucata* has, as Lindley describes them pseudobulbs “nearly round, about the size of a large marble”. The midlobe of the labellum on *E. richardiana* is ovoid and sessile where in *E. fucata* the midlobe is obovate and is separated from the midlobe by a short isthmus. *Encyclia richardiana* has two long thin erect keels under column; *E. fucata* has two thick broad keels or as Lindley describes them “two oblong fleshy processes”. In addition, in *E. richardiana* the sepals and petals are flat and obtuse, where in *E. fucata* Lindley describes the sepals as “acute...a little recurved at the margin, and incurved at the point.” He states that the petals are “rather smaller and thinner than the sepals, but very similar in form and color.” On the plate of the holotype of *E. fucatum* both the sepals and petals are incurved towards the apex. This feature is found on the plants of *E. fucata* in the Bahama Islands and Cuba. Finally, the column of *E. fucata* does not have any signs of auricles. Instead they have a very thin edge on the bottom of the column. *Encyclia richardiana* has small auricles and the edges of the column are thickened. These differences could indicate a different pollinator for *E. richardiana*.

The epithet *richardiana* is used to honor A. Richard whose epithet *affine* was nullified through no fault of his own.

This species has been found in three localities on the Island of Cuba. Bello (pers. comm.) found it on palms on a hill by the Rio Seibabo, by the road to Algarrobo, Sancti Spiritus. The first author found it at Clotilde, Najasa, Camaguey. Darien Davila (pers. comm.) found it in the vicinity of Media Luna, Gramma on big trees that were being cut for an agricultural plantation.

There are several distinct populations of plants similar to *E. fucata* on the island of Cuba. The local inhabitants recognize these populations as being different and have common names for each population that correspond to the scientific names. The population of *E. richardiana* is called “labiata” because of the distinct lip (Bello, pers. comm.). It is interesting that the local inhabitants can determine that the populations are distinct but most authors cannot distinguish them as different.

In addition to the populations of *E. richardiana* here reported; Acuña (1936) reported populations of another distinct species of this group that he identified as *Encyclia hircina* (Rich.) Acuña and listed the localities for these populations.

It has been shown (Sauleda & Adams, 1984, 1990) that in the Bahama Islands, if two species of *Encyclia* are sympatric, usually a natural hybrid between them will occur. The resulting natural hybrid in many cases will back cross (Bello, Esperon and Sauleda 2013) to one of the parents.

Although populations of the Cuban species of small yellowish-green flowers (*E. fucata* (Lindl.) Schltr., *Encyclia triangulifera* (Rchb. f.) Schltr., *E. richardiana* Esperon, Efrain & Sauleda, *E. hircina* (Richard) Acuña, *Encyclia rosariensis* Mujica and *Encyclia cajalbanensis* Mujica) may be distinct species they are not absolutely isolated. Their boundaries can be disturbed by many factors and introgression could occur.

Introgression and hybrid swarms can be another explanation for the wide range of variation in the vegetative and floral characters attributed to *Encyclia fucata* in the literature. Properly identifying the different populations must be based on field studies and examination of live material.



Encyclia richardiana Rodriguez Seijo, Esperon & Sauleda, from vicinity of Media Luna, Gramma, Cuba. Plant is in cultivation after being rescued from big trees that were being cut for an agricultural plantation.



Encyclia richardiana Rodriguez Seijo, Esperon & Sauleda, from Clotilde, Najasa, Camaguey, Cuba.



Encyclia richardiana Rodriguez Seijo, Esperon & Sauleda, from Clotilde, Najasa, Camaguey, Cuba.



Encyclia richardiana Rodriguez Seijo, Esperon & Sauleda, from Clotilde, Najasa, Camaguey, Cuba, column with auricles, labellum with ovoid midlobe and long thin keels between lateral lobes.



Encyclia richardiana Rodriguez Seijo, Esperon & Sauleda, from Clotilde, Najasa, Camaguey, Cuba.



Encyclia richardiana Rodriguez Seijo, Esperon & Sauleda, from Clotilde, Najasa, Camaguey, Cuba, column with auricles and thick edges of column.

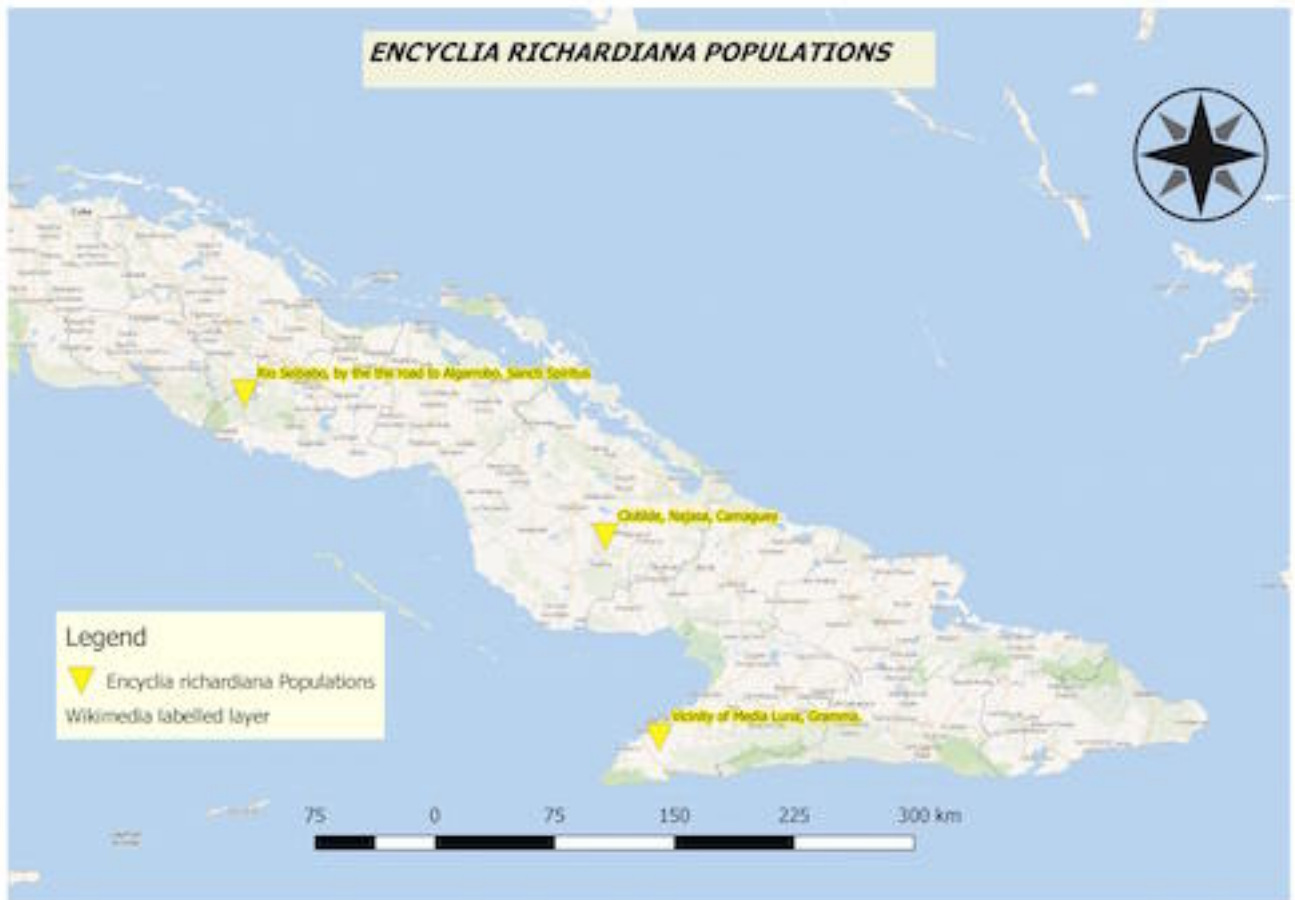


Encyclia richardiana Rodriguez Seijo, Esperon & Sauleda, from Clotilde, Najasa, Camaguey, Cuba, column with auricles.



Encyclia richardiana Rodriguez Seijo,
Esperon & Saulea labellum.

Encyclia fucata (Lindl.) Schltr. labellum.





Encyclia fucata (Lindl.) Schltr. from Great Abaco,
Bahama Islands.



Column without auricles,
Encyclia fucata (Lindl.) Schltr.
from Cuba.



Encyclia fucata (Lindl.) Schltr. column without auricles from Cuba.



Encyclia fucata (Lindl.) Schltr., from Cuba, column without auricles, apex of sepals acute and with thick fleshy keels between lateral lobes of labellum.



Encyclia fucata (Lindl.) Schltr. from Great Abaco, Bahama Islands, column edges thin without auricles.

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