

## THE TAXONOMIC STATUS OF *POLYSTACHYA FOLIOSA* (ORCHIDACEAE) IN THE BAHAMA ISLANDS

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Sauleda, Ruben P. and Ralph M. Adams (Department of Biological Sciences, Florida Atlantic University, Boca Raton, FL 33431). The taxonomic status of *Polystachya foliosa* (Orchidaceae) in the Bahama Islands. Brittonia 31: 294–297. 1979.—*Polystachya foliosa* is lectotypified and a new triandrous variety of it is described from the Bahama Islands and Cuba.

*Polystachya foliosa* (Hook.) Reichenb.f. was first described and illustrated in 1839 as *Stelis foliosa* from a live cultivated specimen collected by C. S. Parker in British Guiana. Reichenbach later transferred it to *Polystachya*. Hooker did not preserve a specimen from the living plant or, if he did, it is now lost. In the absence of the holotype, a lectotype must be chosen.

While gathering data for a taxonomic and ecological treatment of the orchids of the Bahama Islands, we discovered that *P. foliosa* on the island of Andros was triandrous, a condition never previously reported. The triandrous specimens represent an undescribed variety of *P. foliosa*. We have not found the monandrous variety in the Bahama Islands. Furthermore, an examination of photographs and drawings of the holotypes of *P. cerea* Lindl. and *P. nana* (Poeppig & Endl.) Reichenb.f. unequivocally demonstrated that these two species are synonymous with the monandrous variety of *P. foliosa*. These names have been applied by numerous authors to populations in the Bahama Islands.

### POLYSTACHYA FOLIOSA (Hook.) Reichenb.f. (Fig. 1)

*Stelis foliosa* Hook., Ann. Nat. Hist. 2: 330–331, pl. 17. 1839. *Polystachya foliosa* Reichenb.f. in Walp. Ann. Bot. Syst. 6: 640. 1863. LECTOTYPE designated here: Plate 17, in Ann. Nat. Hist. 2: 1839 (Fig. 1).

### *Polystachya foliosa* (Hook.) Reichenb.f. var. **triandra** Sauleda & Adams var. nov. (Fig. 2).

A var. *foliosa* differt antheris tribus, anthera centrali polliniis duobus bipartitis, antheris lateralibus polliniis uno vel duobus bipartitis et cum vel sine operculo.

*Plants* epiphytic, rarely lithophytic, rhizomatous, to 18 cm tall. *Roots* many, slender, velamentous. *Primary stem or rhizome* short, stout, creeping, enclosed by imbricating scarios sheaths. *Secondary stem* modified into pseudobulbs, erect or ascending, clustered, ovate to oblong, to 1.4 cm long, 5 mm wide, basally enclosed by scarios sheaths, 1–3-leaved at apex. *Leaves* thinly coriaceous, keeled, linear-oblong to linear-lanceolate, articulate with leaf sheaths, acute, to 14 cm long, 8 mm wide. *Inflorescence* terminal, to 12 cm long, racemose or rarely paniculate, the peduncle slender, elongate, compressed, completely enclosed by scarios linear-lanceolate, attenuate sheaths, racemose above or rarely with 1–3 spicate lateral branches; flowers fleshy, yellow to greenish-yellow, non-resupinate. *Floral bracts* minute, membranous, ovate, acute, concave, to 1 mm long, 0.7 mm wide. *Ovary* pedicellate, slender, to 4 mm long. *Sepals* glossy, rigid; dorsal sepal ovate, acute to sub-acuminate, concave, to 3 mm long, 2 mm wide; lateral sepals obliquely ovate, acute,

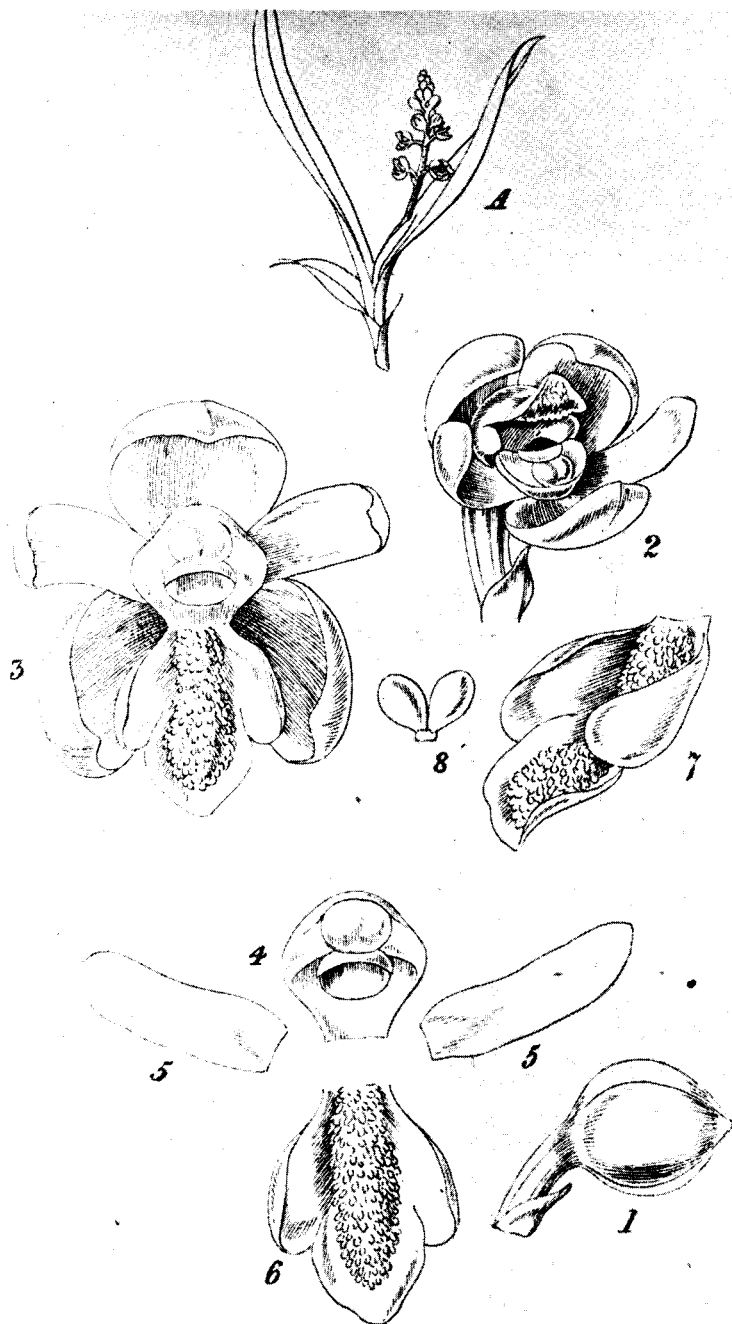


FIG. 1. *Polystachya foliosa* (Hook.) Reichenb.f. var. *foliosa*. Drawing of the Parker specimen that accompanied the original Hooker description. A. Flowering plant. 1. Flower bud. 2. Flower, expanded and in natural position. 3. Flower, frontal view. 4. Column, frontal view. 5. Petals. 6. Labellum, frontal view. 7. Labellum, lateral view. 8. Pollinarium, magnified.

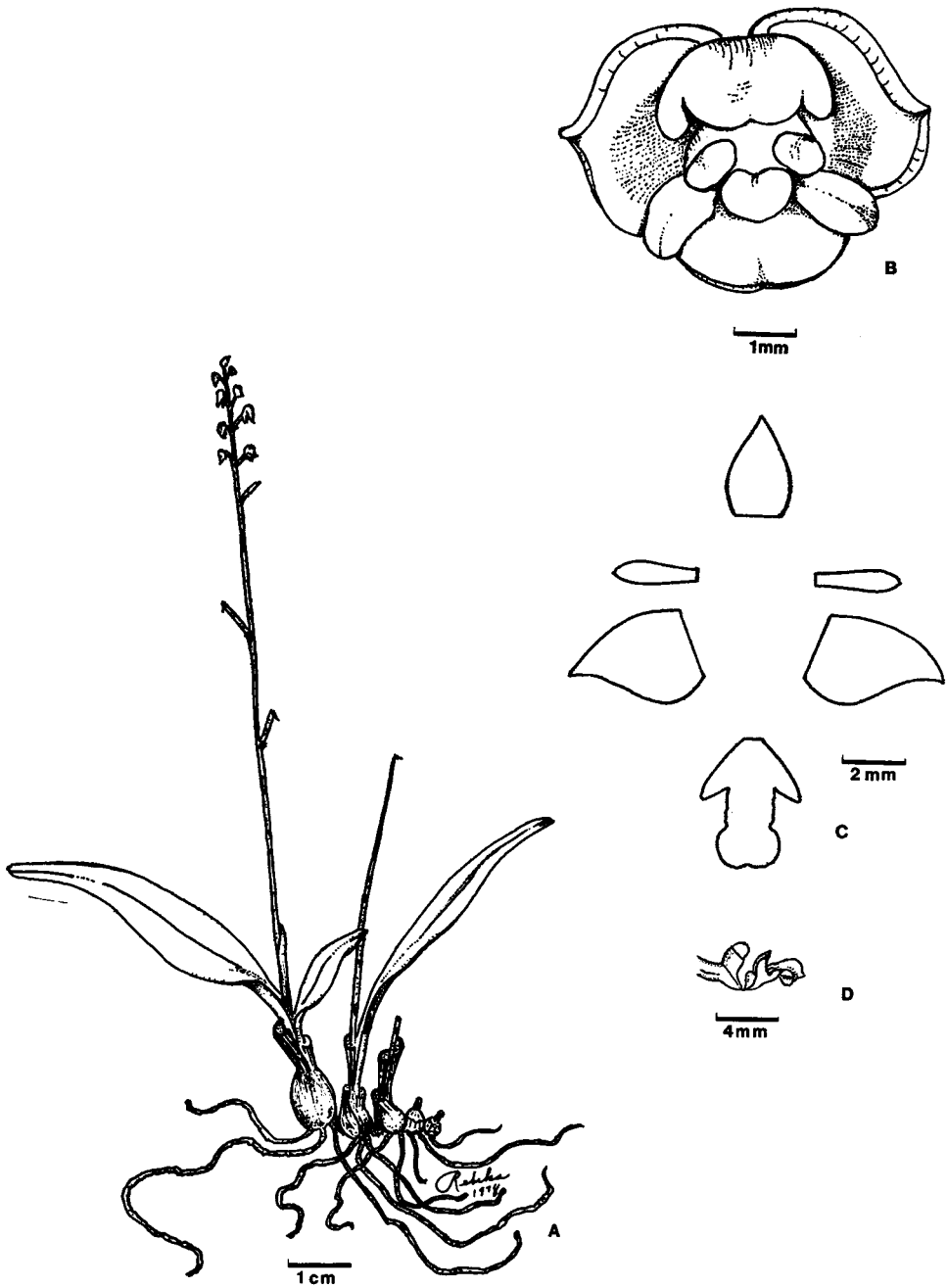


FIG. 2. *Polystachya foliosa* var. *triandra* Sauleda & Adams. A. Flowering plant. B. Flower, frontal view. C. Sepals, petals and labellum, frontal view. D. Column and labellum, lateral view.

concave, adnate to the column foot forming a saccate mentum, to 4 mm long, 4 mm wide. *Petals* glossy, rigid, oblanceolate to spatulate, subobtusate to acute, concave, to 2.5 mm long, 1.0 mm wide. *Labellum* free, attached to a short column foot, arcuate, 3-lobed, cuneate in outline, to 4 mm long, 3 mm wide; lateral lobes falcate to triangular, subobtusate to acute, incurved; midlobe oblong, the apex truncate, emarginate, recurved, basally provided with an orbicular central fleshy ridge covered with glandular hairs. *Column* greenish-white, short, cylindrical, to 2.5 mm long, 1.8 mm wide, with a short foot to 1–2 mm long; anthers 3, the central anther with 2 bipartite pollinia, the 2 lateral anthers with 1 or 2 bipartite pollinia and with or without anther cap. *Capsule* erect, to 5 mm long, 2.3 mm wide.

TYPE: BAHAMA ISLANDS. ANDROS: epiphytic in sinkhole coppice, 1.5 mi N of Owens Town, *R. P. Sauleda, D. S. Correll, D. Stevenson & J. Eckenwalder 2105* (HOLOTYPE: NY).

Other collections examined: BAHAMA ISLANDS: ANDROS: Coppice in pineland, 6 mi NW Lovehill settlement, *P. H. Adams 3089* (FAU), *3090* (FAU); Conch Sound, *Brace 6929* (F); Conch Sound, *Northrop & Northrop 407* (AMES, F, NY); coppice in pineland, 9 mi NW Fresh Creek, *Sauleda 1736* (F), *1737* (SEL); mangrove, 1 mi NW Lovehill settlement, *Sauleda 1870* (FAU); coppice in pineland, 1.5 mi N of Owens Town, *Sauleda et al. 2101* (M), *2102* (W), *2103* (US), *2104* (P), *2106* (LE), *2107* (K), *2108* (AMES); coppice, Smith Hill, *Small & Carter 8675* (F, NY); coppice, near Staniard Creek, *Small & Carter 8901* (F, NY, US). CUBA: SANTIAGO PROV.: Summit and slopes of El Yunque, near Baracoa, *Pollard & Palmer 108* (NY).

This variety is autogamous and usually cleistogamous, the flowers appearing from February to May.

On Andros var. *triandra* grows epiphytically on *Rhizophora mangle* L., *Acacia choriophylla* Benth., *Coccoloba diversifolia* Jacq., *Calyptanthus zuzygium* (L.) Sw. and *Erythroxylum areolatum* L., and rarely lithophytically on pleistocene limestone. The habitats in which it is found are: (1) Ridge coppice, a high canopy coppice (5–10 m) occurring on pleistocene limestone ridges, dominated by *Lysiloma latissilqua* (L.) Benth., *Swietenia mahagoni* Jacq., *Mastichodendron foetidissimum* (Jacq.) H. J. Lam., *Coccoloba diversifolia*, *Clusia rosea* Jacq., *Metopium toxiferum* (L.) Krug & Urban, and *Bursera simaruba* (L.) Sarg. (2) Mangrove, thickets of *Rhizophora mangle* and *Conocarpus erectus* L. growing to 8 m. (3) Sinkhole coppice, a low open canopy coppice (2–5 m) occurring in pineland, with numerous small sinkholes, and characterized by *Tabebuia bahamensis* (Northrop) Urban, *Acacia choriophylla*, *Coccoloba diversifolia*, *Juniperus bermudiana* L., *Metopium toxiferum*, *Pinus caribaea* Morelet and *Bursera simaruba*.

*Polystachya foliosa* var. *triandra* may be confused with immature or non-reproductive plants of *Polystachya concreta* (Jacq.) Garay & Sweet with which it is sympatric on Andros. Mature plants of *P. concreta* are larger. The flowers of *P. foliosa* var. *triandra* have a greatly reduced column foot while the flowers of *P. concreta* have a long foot giving the flowers a hooded appearance.

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