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JOSEF BOGNER[1]

A new dwarf *Spathiphyllum* species *(Araceae)* from Ecuador

Abstract

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Spathiphyllum pygmaeum from Ecuador is described as a species new to science and illustrated. Only 10–15 cm tall, it is the smallest species in the genus and it is characterised by leaf blades 7–10 cm long and c. 2 cm wide, with 3–5 primary lateral veins on each side of the midrib, a white spathe with green apex and a two-locular ovary with one ovule in each locule; the chromosome number is $2n = 30$; the pollen, formerly considered as inaperturate for *Spathiphyllum,* is actually polyaperturate. It is compared with the closely related *S. minor,* which is also illustrated.

Additional key words: aroids, *Spathiphyllum pygmaeum, Spathiphyllum minor,* taxonomy, chromosome number, pollen

In the last years Mary Sizemore, an enthusiastic aroid grower from Florida, collected a few *Spathiphyllum* species in Ecuador and Peru. One of them turned out to be a new species and is described here. This novelty is really a dwarf species, not taller than c. 15 cm. Most *Spathiphyllum* species are much bigger and in the case of *S. cochlearispathum* (Liebm.) Engl., the inflorescence can reach the height of a man (Engler & Krause 1908; Bunting 1960). Another small species collected by Mary Sizemore is *S. minor* G. S. Bunting with a height of c. 20 cm.

Spathiphyllum pygmaeum Bogner, **sp. nov.**
Holotypus: Ecuador, near the river Nangaritza, living plants originally collected by Mary Sizemore and cultivated in the Botanical Garden München-Nymphenburg, flowering preserved on 15.1.2011, *Bogner 3002* (M).

Planta parva, 10–15 cm tantum alta; vagina petioli fere usque ad geniculum extensa, lamina foliorum anguste elliptica, 7–10 cm longa, 1.6–2.4 cm lata, apice acuminata; spatha elliptica, alba, apice viridi acuminata, marginibus recurvatis; ovarium biloculare, ovulo uno in quoque loculo; stylum late conoideum, stigmate parvo.

Plant small, 13–17 cm tall, perennial. *Stem* short, upright. *Roots* of first order strong, 1.8–2.2 mm in diam. *Leaves* many (10–15), in a rosette, middle green; *petiole* 5–7 cm long, above the sheath c. 2 mm in diam., middle green, canaliculate on upper side, sheath 4.5–6.5 cm long and reaching nearly the geniculum, membranous, light green, apex rounded, distance between the sheath and geniculum only 2–5 mm long; *geniculum* 4–5 mm long, slightly thicker than petiole and underneath whitish green; *leaf blade* narrowly elliptic, 7–10 cm long and 1.6–2.4 cm wide, middle green above and somewhat lighter coloured underneath, base cuneate, apex acuminate; *venation* parallel-pinnate, midvein very strong and somewhat lighter coloured above but whitish green underneath, primary lateral veins 3–5 on each side of the midvein, second order veins between them and only

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Fig. 1A–B. *Spathiphyllum pygmaeum* – whole plant (A); inflorescence (B), note the white spathe with a green apex and recurved margins. – C–D: *S. minor* – whole plant (C); inflorescence (D), note the completely green spathe. – A–B from the plant cultivated in the Botanical Garden Munich of which the holotype was preserved, C–D from *Bogner 2978,* Botanical Garden Munich. – All photographs by Günter Gerlach.

slightly thinner, third order veins very thin and inconspicuous. *Inflorescence* shorter than the leaves; *peduncle* c. 8 cm long and c. 1.8 mm in diam., terete, green, mostly enclosed by the sheath of the preceding leaf and projecting for only c. 1 cm beyond; *spathe* narrowly elliptic, c. 3 cm long and 0.9 cm wide, pure white on both sides but midvein light green, base decurrent, apex c. 0.8 cm long, green, margin of spathe recurved; *stipe of spadix* c. 1 cm long and 1.2 mm in diam., green; *spadix* subcylindric to slightly conoid (narrowing towards apex), c. 2 cm long and to c. 0.5 cm in diam. *Flowers* bisexual, c. 1.8 mm in diam.; tepals 6, truncate, c. 1.5 mm long, upper part green and 0.8 mm wide, lower part white; *gynoecium* c. 2 mm long, ovary obovoid, 1.4–1.5 mm long, in upper part 1.3–1.4 mm in diam., at base c. 0.9 mm in diam., 2-locular; ovules anatropous, 1 ovule in each locule, c. 0.5 mm long; style conoid, white, c. 0.5 mm long, exserted from the tepals, stigma small, disk-like, c. 0.4 mm in diam., whitish when fresh, becoming brownish; tissue of gynoecium with many trichoslereids; *stamens* 6, filament flat, 1–1.1 mm long 0.7–0.8 mm wide, shorter than the tepals during the female stage, elongated to about 1.5 mm length at maturity (in the male stage), white, somewhat trapezoid (broader above and narrower below), thecae exserted above the tepals at anthesis, nearly rectangular, c. 0.7 mm long and 0.5–0.6 mm wide, opening by a slit; *pollen* (Fig. 2) ellipsoid, 25–28 µm long and 21–22 µm wide, polyaperturate, exine striate.

Chromosome number. – $2n = 30$ were counted in the cultivated plant from which the holotype (*Bogner 3002*, M) was prepared.

Distribution. — Ecuador, Province Zamora-Chinchipe, near the river Nangaritza; growing in the rainforest on the forest floor in deep shade, c. 30 m from the river bank. This new species is only known from the type locality close to the Peruvian border. Thus, it can be expected to occur also in Peru.

Relationship. — *Spathiphyllum pygmaeum* is the smallest known species of the genus. It belongs to the group of very small *Spathiphyllum* species, which have only one or two ovules in each locule (Bunting 1960). It is closely related to *S. minor* (Fig. 1C–D), which is not more than 20–25 cm tall and also has a short peduncle, but

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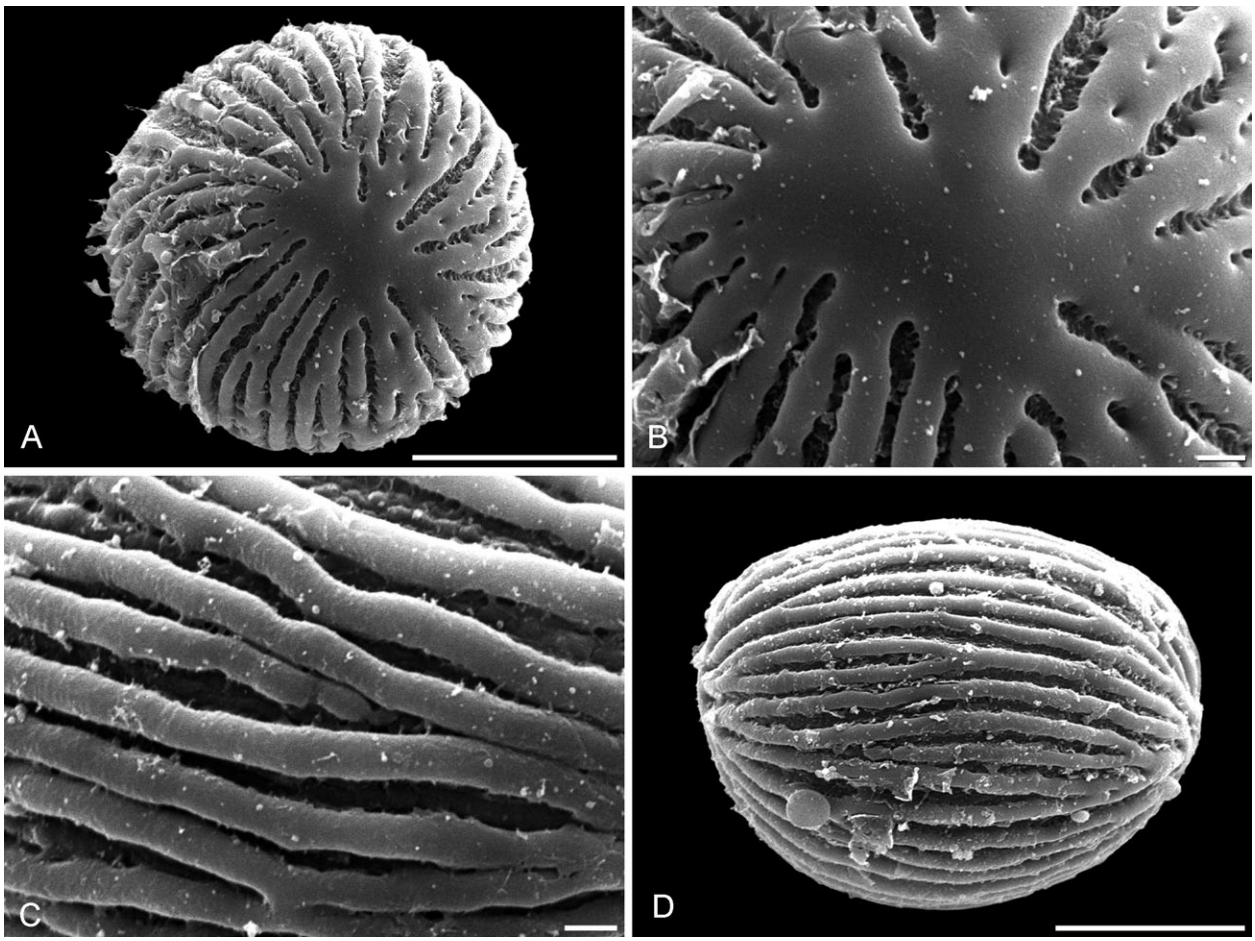


Fig. 2. Pollen of *Spathiphyllum pygmaeum* – A: pollen grain from the short side showing the plate (the plate is not the pole); B: plate of the pollen grain in detail; C: ribs of the pollen grain; D: pollen grain from the long side. – Scale bars: A+D = 10 µm, B+C = 1 µm. – All from *Bogner 3002*; SEM micrographs by M. Hesse & S. Ulrich.

its spathe is completely green and the veins of its leaf blades are much more conspicuous and more numerous (6–7 on each side of the midrib). The leaf blades of *S. minor* are 11–12(–13) cm long and c. 3 cm wide, whereas *S. pygmaeum,* has 4–5 primary lateral veins, which are less conspicuous (Fig. 1A–B) and its leaf blades are 7–10 cm long and around 2 cm wide. The pollen (Fig. 2) is actually polyaperturate, with the pollen tube appearing somewhere in the cleft between two ribs at germination, but formerly was erroneously described as inaperturate for the genus *Spathiphyllum* (and also for *Holochlamys* Engl.; Mayo & al. 1997). The dust on the pollen grains is from the pollenkitt.

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