

THE GENUS SPATHIPHYLLUM IN THE EAST MALESIAN AND WEST PACIFIC ISLANDS (ARACEAE)

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The genus *Spathiphyllum* was recently revised by G. S. Bunting (Mem. New York Bot. Gard. 10, 3, 1960, p. 1—54). Engler (Pflanzenr. IV.23B Heft 37, 1908, p. 118) concluded that the closest relative of *Spathiphyllum* was the small Papuan genus *Holochlamys* Engl. and placed it in the *Spathiphyllaeae*, the second of two tribes of the subfamily *Monsteroideae*. The discovery of large numbers of distinctive trichosclereids (Nicolson, Amer. Journ. Bot. 47, 1960, p. 601) only in the species of these two genera supports Engler's uniting of the genera as a tribe.

The two genera can be distinguished by the following key:

- 1. Peduncle as long as or longer than the petioles. Spathe persistent **Spathiphyllum**
- 1. Peduncle much shorter than petioles. Spathe marcescent **Holochlamys**

The distribution of *Spathiphyllum* is intriguing. The genus is predominantly neotropical. Bunting (1960) recognized 35 New World species and a single Old World species. He considered that this one Old World species and two of the New World species which have fused tepals (section *Massowia*) to be an 'offshoot of great age'. The fact that the only close relative of *Spathiphyllum* (i. e., *Holochlamys*) is Papuan and that two additional species have recently been discovered in the Papuan area suggests an Old World origin of the *Spathiphyllaeae*. This implies the unusual hypothesis that fused tepals (found in *Holochlamys* and *Spathiphyllum* sect. *Massowia*) came before free tepals. In any case, as van Steenis (Blumea 11, 1962, p. 249) has pointed out, no matter which way the plants spread it was a major accomplishment for a completely tropical genus to cross (or go around) the Pacific Ocean.

SPATHIPHYLLUM

Schott, in Schott & Endl., Melet. Bot. (1832) 22.

Spathiphyllopsis Teijsm. & Binn., Natuurk. Tijdschr. Ned. Ind. 25 (1863) 400.

Acaulescent, terrestrial herbs. *Petiole* elongate with more or less persistent sheath from half way or all the way to leaf-blade base, with a swollen geniculum at the apex of the petiole. *Leaf-blade* lanceolate to ovate, with striate venation. *Peduncle* equaling or exceeding the petiole length. *Spathe* persistent, green to white, longer than the spadix. *Spadix* sessile or stipitate. *Flowers* bisexual, enveloped in a perigonium of connate tepals; stamens 6; pistil 3-locular with 1—7 ovules per locule. *Seeds* curved, smooth.

Type: *Spathiphyllum lanceifolium* (Jacq.) Schott (*Dracontium lanceifolium* Jacq.).

Distribution: (In Old World) Philippines, Moluccas, New Guinea, Palau, New Britain, and Solomon Islands.

KEY TO SPECIES

1. Spathe spreading and flat, rarely decurrent on peduncle. 1. *S. commutatum*
 1. Spathe curved around and clasping spadix, long decurrent on peduncle.
 2. Petiole less than half the leaf-blade length; spadix 3—4 cm thick, sessile. 2. *S. solomonense*
 2. Petiole equaling the leaf-blade length; spadix to 1 cm thick, stipitate. 3. *S. schlechteri*

1. *Spathiphyllum commutatum* Schott, Oesterr. Bot. Wochenbl. 7 (1857) 158. — *Massowia commutata* Ender, Index Aroid. (1864) 52. — Type: *Cuming s. n.* (BM).

Spathiphyllopsis minahassae Teijsm. & Binn., Natuurk. Tijdschr. Ned. Ind. 25 (1863) 400. — *Spathiphyllum minahassae* Regel, Garten-fl. 19 (1870) 1, pl. 637. — Syntypes: *Teijsmann & De Vriese s. n.* (L).

Spathiphyllum micronesicum Hatusima, Journ. Jap. Bot. 15 (1939) 19, fig. 1a—f. — Type: *Hatusima 4570* (not seen). Paratype: *Hatusima 4573* (not seen).

Spathiphyllum funerum Tuyama, Journ. Jap. Bot. 16 (1940) 194, fig. 1c. — Type: *Tuyama s. n.* (TI, not seen).

Petiole 30—75 cm long; sheath partially withering, reaching within 5 cm of geniculum; geniculum 2—4 cm long. *Leaf-blade* broadly to narrowly elliptic, 35—70 cm long and 15—35 cm wide, apex acuminate, base obtuse to attenuate. *Peduncle* 50—130 cm long. *Spathe* green on both sides or whitish inside, 14—36 cm long and 5.5—14 cm wide, apex long attenuate, base obtuse to subcordate, sometimes decurrent. *Spadix* stipitate for 2 cm, 5—20 cm long and 1—2 cm thick.

Distribution: Philippines, northeastern Celebes, northern Moluccas, Palau Islands, New Britain, and possibly Bougainville Island (sterile material).

Habitat: Common in wet places in lowland primary rain forest below 1000 m.

The absence of this species in New Guinea is baffling. I personally sought it around Manokwari, Hollandia, and Lae but could only find *Holochlamys beccarii* filling its habitat. I follow Bunting (1960) in placing *S. micronesicum* and *S. funerum* here.

2. *Spathiphyllum solomonense* Nicolson, Amer. Journ. Bot. 54 (1967) 496. — Type: *Nicolson 1508* (holo in US; isotypes widely distributed).

Caudex 9 cm thick, more or less repent. *Petiole* geniculate, 35—40 cm long; sheath persistent, contiguous with leaf-blade. *Leaf-blade* 100—130 cm long and 24—32 cm wide, apex with 5—7 cm long apiculum, base rounded. *Peduncle* geniculate, 45—50 cm long and 2—2.5 cm thick. *Spathe* green, clasping, decurrent, 38 cm long and c. 6 cm wide when flattened. *Spadix* creamy-white, becoming green, 22—25 cm long and 3—4 cm thick. *Pistil* trilocular with 1—2 ovules per locule.

Distribution: Known from two collections, Bougainville and Malaita Islands.

Habitat: From moist valley at c. 1000 ft.

A most unusual species for *Spathiphyllum* in its habit with short petiole (compared to leaf-blade) and clasping spathe. Dr G. S. Bunting studied the Bougainville material and felt that it should be placed in a separate genus even though the flowers are indistinguishable from *Spathiphyllum*. The transfer of *Holochlamys schlechteri* to *Spathiphyllum* brings two species into the genus with this clasping spathe. They perhaps form a new section in the genus, but more material should be studied before proposing a new taxon.

3. *Spathiphyllum schlechteri* (Engl. & Krause) Nicolson, *comb. nov.* — *Holochlamys schlechteri* Engl. & Krause, Bot. Jahrb. 49 (1913) 96. — Type: *Schlechter 19237* (holotype lost at B; lectotype in P).

Holochlamys schlechteri var. *angustissima* Engl. & Krause, Bot. Jahrb. 49 (1913) 96. — Type: *Schlechter 17376* (lost at B).

Petiole 30—42 cm long; sheath persistent, not reaching the geniculum; geniculum 1 cm long. Leaf-blade narrowly to linear-lanceolate, 35—40 cm long and 2—7 cm wide, apex long attenuate, base attenuate. Peduncle 70—90 cm long. Spathe green, long decurrent on peduncle, more or less clasping, 12—15 cm long and 1.6—2 cm wide. Spadix on stipe 1—2 cm long, 4.5—5.5 cm long and up to 1 cm thick.

Distribution: Southeastern New Guinea.

Habitat: 100—1300 m, in humus of forest.

The recognition of a variety (*angustissima*) with narrow leaves in a species which already has a leaf length: width ratio of 15: 1 seems unnecessary. It is possible that this species does not have a clasping spathe like *S. solomonense*. It is difficult to be certain with dried material but the material gives every indication of having a clasping spathe.

IDENTIFICATION LIST

This list includes all numbered collections identified. '(T)' after the collection number indicates a type.

Spathiphyllum commutatum: *Bloembergen 4117*; *Copeland 1263*; *Curran 364*; *Ebalo 699*; *Edaño BS 41835*; *Elmer 7540*; *Eyma 1544, 1709, 2385, 3367, 3548, 3822*; *Hatusima 4570 (T), 4573 (T)*; *Kaudern 11*; *Koorders 492, 3543, 3545, 15898, 16144, 16145, 16148, 16170*; *Loher 13599*; *McGregor 189, BS 47379*; *Mendoza 18160*; *Merrill 4080, 5486*; *Nicolson 714, 736, 785, 791, 818, 1413, 1528*; *Posthumus 2480*; *Rachmat 559*; *Ramos BS 15385, 23574*; *Ramos & Edaño BS 28523, 33596, 36810, 40704*; *Robinson 6476*; *Sarasin 230*; *Sulit & Flores BS 31119*; *Wenzel 235*; *Wisse 99*.

Spathiphyllum schlechteri: *Carr 13404*; *Ledermann 9628*; *Schlechter 17376 (T), 19237 (T)*.

Spathiphyllum solomonense: *Corner RSS 250B*; *Nicolson 1508 (T)*.