

apex, the midnerve and 2 submarginal nerves elevated above, densely brown-punctulate on nerves and surface below, the midnerve with large, brown, membranous, basifixed scales at least in basal portion, basal pinnae 34 cm. long, 0.7 cm. wide, middle pinnae 55 cm. long, 2.1 cm. wide, apical pinnae 18.5 cm. long, 1.4 cm. wide. Inflorescences several, among and immediately below the leaves, 5-6 dm. long; lower bract inserted ca. 5 cm. from the base, ancipitous, upper bract inserted ca. 10.5 cm. above the lower and only slightly below the middle of the peduncle, marcescent; peduncle 32 cm. long, clothed with brown and white scales having twisted marginal hairs; rachis short, ca. 2.5 cm. long, with 3 stout stiff rachillae to 28 cm. long, 4 mm. in diam., these glabrous or glabrescent; triads subtended by acute reflexed bract to 1.5 mm. long, bracteoles of pistillate flowers ca. 1 mm. high. Staminate flowers ca. 6 mm. long, yellowish (?), asymmetric; sepals 2.5-3 mm. long; petals 4-5 mm. long, ca. 3.5 mm. broad, strongly nerved when dry; stamens 15; pistillode trifold-conic, about one-half as long as stamen-filaments: pistillate flowers seen in bud only, the perianth in fruit with sepals 2.5 mm. high, petals 5 mm. high, staminodes 3. Fruit red when ripe, obovoid, 18 mm. high including cupular perianth (when not completely mature), 12.5 mm. in diam. (but probably wider when mature), with prominent excentrically apical stigmatic residue; immature seed brown.

Specimens examined. NEW GUINEA. PAPUA: Milne Bay District; Rossel Island, occasional in forests of south slopes, Mt. Rossel, alt. 700 m., October 14, 1956, *L. J. Brass 28409* (A, type).

Heterospathe annectens in several ways bridges the differences once thought to exist between *Heterospathe* and *Ptychandra*, resembling the first

in habit and small inflorescence borne among or below the leaves, resembling the last in numerous stamens, short pistillode and rather large fruit. For this reason the epithet *annectens* (linking, joining) was chosen.

This species, like *H. delicatula*, has a once-branched inflorescence with few rachillae but differs in caulescent habit, in the essentially glabrous rachillae, in larger staminate flowers probably of yellowish color, 15 stamens and large fruit. The numerous stamens or large fruit clearly distinguish it from *H. humilis*, *H. elegans*, and *H. Versteegiana* which may have once-branched inflorescences and upper bracts inserted high up on the peduncle.

Heterospathe Clemensiae (Burret) H. E. Moore, *tr. nov.*

Ptychandra Clemensiae Burret, Notizbl. Bot. Gart. Berlin **13**:468, 1937; **15**:10. 1940.

Burret listed a number of *Clemens* collections in 1940 additional to the type to which the following may be added, both identified by him:

NEW GUINEA. TERRITORY OF NEW GUINEA: Morobe District; Ogeramngang, 6000 ft., 24 Feb. 1937, *Clemens 5478* (A); Yunzaing, 4500 ft., 20 June 1937, *Clemens 6566* (A).

Heterospathe delicatula H. E. Moore, *sp. nov.*

Palma acaulis; folia 1-1.8 m. longa pinnis utrinque 18-21; inflorescentia inter folia erecta ad 8 dm. alta rhachidi tomentoso-lepidota 1.5-10 cm. longa rachillis tomentosis 3-5 ad 20 cm. longis; flos masculus purpureus 3.5-4 mm. altus staminibus 8-9 pistillodio ovoideo-conico; fructus subglobosus 10 mm. altus 8 mm. in diam.

Stems not produced above ground, probably prostrate. Leaves few, ascending, 1-1.8 m. long on flowering plants;

sheath lepidote with small, scattered, light brown, membranous scales, split about halfway to the base opposite the petiole, 10–22 cm. long, the margin fibrous; petiole 29–54 cm. long, rounded and with scattered, minute, pale scales below, convex and essentially glabrous above; rachis 48.5–91 cm. long, lepidote or punctulate above and below; pinnae 18–21 on each side, regularly arranged except the approximate basal pairs, acuminate, the midnerve and 2 secondary nerves near the margins prominent and elevated and membranous-lepidote or merely punctulate above, nerves and surface more or less densely brown-punctulate below and the midnerve with large, brown, membranous, basifixed scales at least in the basal portion, basal pinnae 15–22 cm. long, 0.4–0.7 cm. wide, middle pinnae 20–34 cm. long, 1.5–2.8 cm. wide, apical pinnae 10–16 cm. long, 0.7–1.7 cm. wide. Inflorescences interfoliar, erect, 68–80 cm. high; lower bract 16–19 cm. long, sparsely brown lepidote, upper bract prominently brown lepidote, terminated by a flat rostrum 3–4 cm. long, exceeding the lower by 33–38 cm. and exceeding the peduncle, this densely ferruginous-tomentose-lepidote at least when young; rachis ferruginous- or brown-tomentose-lepidote, 1.5–10 cm. long, with 3–5 rachillae, these 10–20 cm. long, tomentose like the rachis and bearing triads of flowers at intervals of ca. 3 mm.; triads subtended by a prominent acute bract ca. 1 mm. high; bracteoles surrounding the pistillate flowers brown, erect, to ca. 1 mm. high. Staminate flowers purple in bud, 3.5–4 mm. high, acute; sepals ca. 1 mm. long, more or less rounded; petals 3–3.5 mm. high, nerved when dry, asymmetric, angled and more or less acute at the apex; stamens 8–9; pistillode trifid-conic, ca. one-half as long as the stamens; pistillate flowers seen in bud only, the perianth

in fruit of petals 4 mm. long, sepals 2 mm. high; staminodes 3–4. Fruit red at maturity, subglobose, ca. 10 mm. high, 8 mm. in diam. when dry, 10 mm. diam. when fresh, with excentrically subapical stigmatic residue, drying granular; seed brown, 6.5 mm. high, 6 mm. in diam.; endosperm ruminant.

Specimens examined. NEW GUINEA. PAPUA: Milne Bay District; common in oak forest, north slopes of Mt. Dayman, Maneau Range, alt. 1150 m., June 22, 1953. *L. J. Brass 23005* (BH, type; A, isotype).

The epithet is taken from the dwarf habit and small inflorescences which, like those of *H. annectens*, are only once-branched into few rachillae. In this respect, these two species differ from those previously described except *H. humilis*, *H. elegans* and *H. Versteegiana*, all of which have the upper bract inserted well above the middle of the peduncle and staminate flowers with 6 stamens. *Heterospathe delicatula* differs from *H. annectens* in its acaulescent habit, somewhat smaller purple staminate flowers with only 8–9 stamens, in the smaller fruit, and in the much more slender, tomentose rachillae.

Heterospathe glabra (Burret) H. E. Moore, *tr. nov.*

Ptychandra glabra Burret, Notizbl. Bot. Gart. Berlin 11:713. 1933.

The type of this species was collected in flower by E. Mayr (n. 611) in the Cyclops Mountains, West Irian, in 1928. A somewhat more recent collection of fruiting material collected by Brass appears to belong here. The fruits are red, subglobose, 15 mm. high, 13–14 mm. in diam. with excentrically apical stigmatic residue. The Brass specimens cited below differ from the description of the type in that rachillae are sparsely brown-lepidote in flower, but the correspondence is otherwise so good that