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With One Plate

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The long discredited genus Psomiocarpa was established by C. B. Presl on one of the most extraordinary plants of the Philippine Islands, first discovered by the late Cuming and named by John Smith *Polybotrya apiifolia*. In conformity with our present views of generic relationship within the Polypodiaceæ this genus must now be reinstated, leaving out *Polybotrya acuminata* Link and *Polybotrya incisa* Link, which are true members of the genus Polybotrya, and including two American plants which are to be characterized in the present paper.

PSOMIOCARPA Presl, Epim. Bot. 161. 1849.

Genus a Polybotrya rhizomate brevi suberecto caespitoso nec aero-reptante, vernatione fasciculata nec eremobrya, et sporangiis segmenta fertilia undique tegentibus nec paginae inferiori solum affixis diversum. Folia sterilia plura fasciculato-rosulata, folium fertile solitarium, centrale.

1. PSOMIOCARPA APIIFOLIA Presl, l. c.

Polybotrya apiifolia J. Smith, Journ. Bot. 3: 401. 1841.

Foliis sterilibus subdeltoideis bipinnatis, versus basin postice auctis et tripinnatis, nervis lateralibus pinnularum furcatis. Folio fertili longe stipitato ideoque sterilia superante, lamina ad meras costas contracta, paniculiformi, segmentis remotis minutis globosis.

Planta pilis articulatis vestita.

Hab. Ins. Philippinae passim.

2. PSOMIOCARPA ASPIDIOIDES (Griseb.) Christ, Geograph. Farne 224. 1910.

Polybotrya aspidioides Griseb. Cat. Pl. Cub. 276. 1868.

Acrostichum aspidioides Baker, in Hook. & Baker, Syn. Fil. 414. 1868.

Foliis sterilibus late ovatis, basin versus non auctis nec angustatis, bipinnatifidis, pinnis ad alam angustam incisis, segmentis

sinu separatis obtusis, subintegris aut minute serrulatis, nervis lateralibus simplicibus. Folio fertili sterilia non superante, lamina contracta racemosa, segmentis elongatis brevissimis verruciformibus sessilibus confluentibus.

Planta squamis lanceolatis subulatisque vestita, sed fronde fertili fere glabra. Cellulis squamarum parietibus tenuissimis separatis.

Hab. Ins. Cuba, *Wright* 1827 (U. S. National Herbarium, no. 50575).

3. PSOMIOCARPA MAXONI Christ, sp. nov.

Psomiocarpa Maxoni Christ, Geograph. Farne 224. 1910 (*nomen nudum*).

Foliis sterilibus late ovatis basin versus non auctis nec angustatis, bipinnatifidis, pinnis ad alam angustam incisis, segmentis confertis

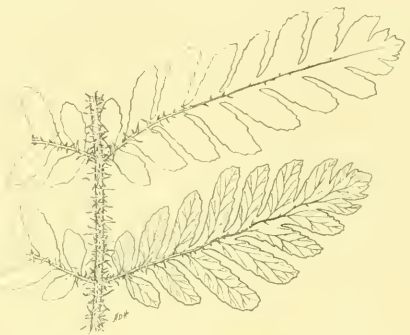


FIG. 1 — *Psomiocarpa Maxoni* Christ. Lowermost pinnae at natural size.

sive imbricatis, ovato-acutis, dentato-serratis, nervis lateralibus furcatis. Folio fertili sterilia longe superante, longissime stipitato, speciei praecedenti simili, sed racemo squamis subulatis creberrimis valde hispido.

Planta squamis lanceolatis vestita; cellulis squamarum parietibus incrassatis rufobrunneis tuberculatis separatis.

Hab. Ins. Jamaica, Holly Mount, Mount Diabolo, alt. 750 meters, *Maxon* 2228 (U. S. National Herbarium, no. 520143, type).

Remarks. — Psomiocarpa is so closely related to Dryopteris that one is tempted to consider its several species as aberrant Acrostichum-like forms of this genus, with condensed non-indusiate sori. On account of the shape of the sterile frond and of the scales, the two American species are more closely related to the *Lastrea pinnata* group of Dryopteris, while the only other species, from the Far East, with its compound frond and its hairs, comes nearer to the species of the *Lastrea decomposita* group, as, for instance, *D. dissecta* (Forst.).

The sporangia, which are smooth, globose, pedicellate, with thick rings of at least 20 articulations, as well as the ovate, brown spores, are perfectly alike in the three species.

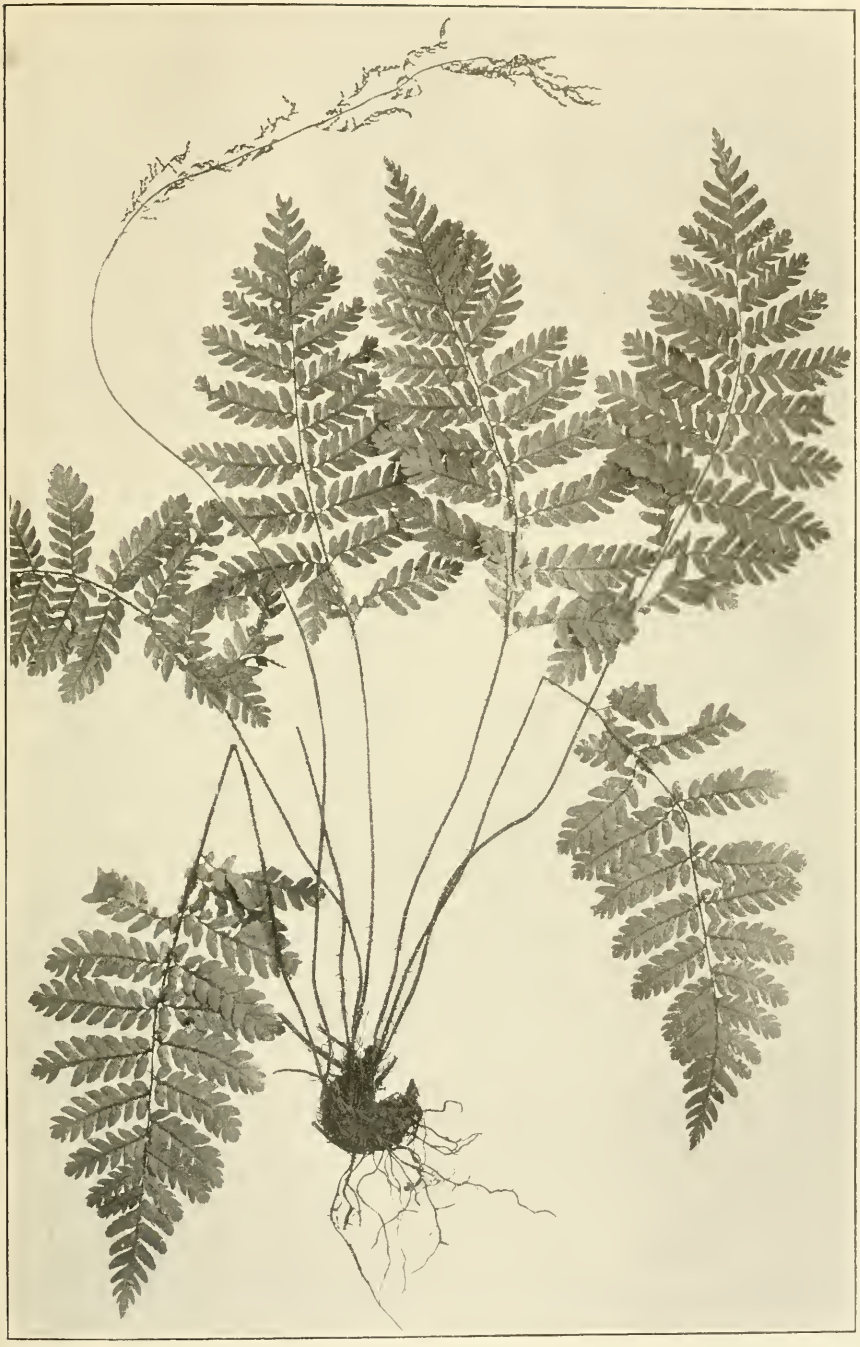
As to the shape of the fertile segments, the distinction between "globose" and "elongate" is not absolute. For example, a single specimen of *Psomiocarpa apiifolia*, collected in 1895 at San Ramon, Mindanao, by Copeland (no. 1777), has a fertile frond the pinnules of which are not globose, but elongate and confluent, very much as in the American species.

The presence of such a striking genus in Asia and America, although surprising, is not without parallel. One need cite only the case of Loxsoma of New Zealand and Loxsomopsis of Costa Rica.

The phylogenetic relations of Psomiocarpa tend toward Dryopteris and not Polybotrya. The latter seems to have rather more affinity to Polystichum, an intermediate form being *Polystichum apiifolium* C. Chr. (Dicksonia Sw.; syn. *Nephrodium duale* Donn.-Smith), which shows the trailing rhizome and the contracted fertile frond of Polybotrya, though it has also a reniform indusium.

EXPLANATION OF PLATE 1

Psomiocarpa Mavoni, at about two-fifths natural size. Type collection.



PSOMIOCARPA MAXONI Christ