

A New Fern from Rota, Mariana Islands

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ABOUT 75 SPECIES of ferns are known from the Mariana Islands. Of these the majority are common and wide-ranging. Only a few species are endemic or generally considered rare.

The only previous records of the cosmopolitan and very large genus *Lastrea* in the Marianas are of the common species with much-dissected fronds: *L. Torresiana* (Gaudichaud) Moore (= *Polystichum Torresianum* Gaudichaud, Freyc. Voy. Bot. 33. 1827) from Guam, and the similar *L. ornata* (Wallich) Copeland (= *Phegopteris ornata* Fée, Hosokawa, Nat. Hist. Soc. of Formosa, Trans. 26: 233. 1936) from Alamagan, Sarigan, and Anatahan. The following is a species of *Lastrea* with bipinnatifid fronds, known from eight complete fronds obtained from two separate plants on the island of Rota, collected by D. F. Grether of the University of Wisconsin.

Lastrea Gretheri n. sp.

Fronde pinnata, chartacea, pubescente, utraque facie glandulifera, 37 cm. alta, 10 cm. lata; stipitibus 11 cm. altis, minute pubescentibus, sulcatis, stramineis, sed basi atrocastaneis, et paleis atrocastaneis pubescentibus linearibus acuminatis vestitis; pinnis ad alam 1 mm. latam pinnatifidis, fere sessilibus, 5.5 cm. longis, 1.0 cm. latis; pinnis basalibus non brevioribus; segmentis 5-6 mm. longis, plerisque oppositis, oblongis, obtusis, integris, marginibus deflexis; venulis 6-8-paribus, liberis, simplicibus; soris parvis, 3-5-paribus, ad segmenta submarginalibus, confertis; indusio crasso, castaneo, persistente, glanduloso; sporis nigris.

A fern of the habit of *Cyclosorus dentatus* (Forsk.) Ching. Rhizome not taken but form of stipe bases indicating a creeping rootstock. Scales of stipe-bases linear-acuminate 3-7 mm. long, 0.5-1.0 mm. broad at base, shiny dark-brown, provided with numerous needle-like pale hairs, 0.1 mm. long. Fronds 4-5, oblong-lanceolate, 37 (33-41) cm. tall, including the stipe, 10 (9-12) cm. broad at the middle. Stipes 11 (9-13) cm. long, 1.5 mm. thick in the middle, drying deeply sulcate, atrocastaneous in lower 3-6 cm., shading into pale straw-color, densely beset with pale hairs.

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Rachis drying quadrate-ridged, and deeply sulcate, 1.3 (1.2-1.5 mm.) thick in the middle, densely clothed with white hairs except on ventral face where they are red-brown. Pinnae 26 (25-28) pairs, opposite or slightly subopposite except at tip, all fertile, lower several pairs pointing downward or at right angles to the rachis, the lowest of same size or but slightly smaller than those above. Largest pinnae 5.5 (5.0-6.0) cm. long, 1.0 (0.9-1.2) cm. broad at base, nearly sessile. Segments deflexed along margins, mainly opposite, rounded oblong, entire, 5-6 mm. long, 2.5 mm. broad at base, usually 18 pairs, costal wing 1 mm. wide. Pinna-tips 5 (4-6) mm. long, 2-3 mm. broad at base, narrowing to a rounded point. Lamina chartaceous, soft in the living state, gray-green, abundantly covered with pale hairs which are longer on the costa dorsally, and of brown color on the costa ventrally, and with numerous glands with yellow to orange-brown expanded tips on both surfaces. Veins entirely free, mostly opposite and simple, 6-8 pairs. Sori submarginal, crowded, about 0.5 mm. in diameter, 3-5 pairs, confined to segments as in *Cyclosorus interruptus* (Willd.) Ching, and dark-brown. Indusia thick, persistent, red-brown, reniform, with numerous globular shining dark-brown glands grouped near the sinus and smaller, much paler ones on wings. Spores jet black.

TYPE: Growing on bare coral-limestone rock in a crevice in a rather exposed situation on a bank along a road at 800 ft. altitude on the north slope of the plateau of Rota, Mariana Islands. July 28, 1946. D. F. Grether 4468. *University of California Herb. no. 736319*. Duplicates are deposited at the U.S. National Herbarium and the Bernice P. Bishop Museum.

Of Pacific ferns, this new species is most similar to *Lastrea Harveyi* (Mettenius) Carruthers, of Melanesia and Polynesia; the present plant differs from it in smaller size, somewhat thicker texture, lack of strongly dwarfed basal pinnae, much more abundant hirsuteness, and in the presence of numerous glands. Of other related plants, *L. enaensis* Copeland of Tonga is nearer to *L. Harveyi* than to the present species. *L. Margaretae* (E. Brown) Copeland, of Rapa, differs in the thicker texture, dwindling pinnae, and broad gray-brown scales of the stipe-bases.

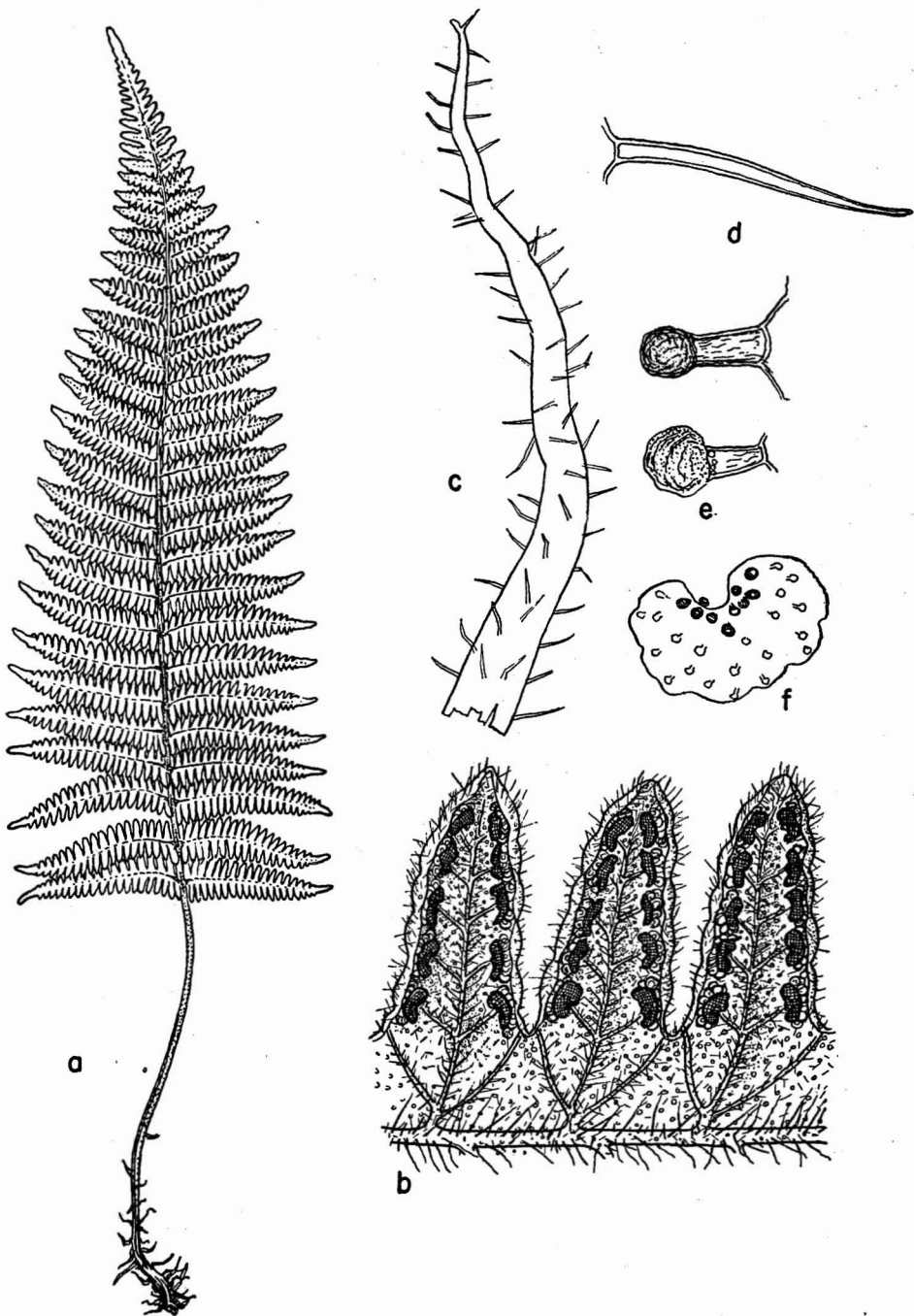


FIG. 1. *Lastrea Gretcheri* W. H. Wagner: *a*, habit of frond; *b*, details of pinnules; *c*, stipe-base scale showing distribution of hairs; *d*, hair from lamina; *e*, forms of glands; *f*, form of indusium with distribution of dark and light glands (these commonly much fewer, or some replaced by hairs).