

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

NOTES ON A COLLECTION OF FERNS FROM THE
DOMINICAN REPUBLIC.¹

BY WILLIAM R. MAXON.

In November, 1920, Dr. W. L. Abbott revisited the Dominican Republic, spending the period to May, 1921, in an investigation of the natural history of the Samaná Peninsula and of the region lying between Sánchez (at the head of Samaná Bay) and Puerto Plata, on the north coast. Two weeks was spent at Sánchez; three weeks in the vicinity of Samaná, a town on the south coast of the Samaná Peninsula about 20 miles east of Sánchez, and on the mountain known as Pílon de Azúcar; seven weeks at several stations along the railroad connecting Sánchez and Puerto Plata, among which were Villa Rivá, Pimentel, Cotuy, Mao, and Navarrete; two weeks in the easternmost portion of the peninsula, in visiting Las Cacaos, Rojo Cabo, and Cape Samaná; one week on the south coast of Samaná Bay, in the vicinity of San Gabriel; and one week in the region of Old Heart River, in the north-central part of the peninsula.

On this trip Dr. Abbott's principal attention was given to collecting plants, of which about 4,000 specimens, representing 1,460 numbers, were obtained. About one-fifth of the collection consists of ferns and fern allies, these for the most part well known species of the Greater Antilles. Notes on some of the rarer species, with description of a well marked new species of *Anemia*, are given herewith.

A full report will shortly be published upon a much larger collection of pteridophyta collected in Haiti by Mr. Emery C. Leonard, who assisted Dr. Abbott in his biological exploration of that country in the first half of 1920.

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MARATTIACEAE.

Danaea elliptica (L.) J. E. Sm.

Near Laguna, Samaná Peninsula (262). Old Heart River (Jato Viejo), Samaná Peninsula; altitude 300 meters (1407).

SCHIZAEACEAE.

Anemia hirta (L.) Swartz.

Cotuy, Provincia de la Vega; sea level to 300 meters altitude (821).

Originally described from specimens collected in the Leogane region, Haiti. It is known otherwise from Porto Rico and the Lesser Antilles, and doubtfully from South America.

Anemia abbottii Maxon, sp. nov.

Rhizome short-creeping, densely covered with rigid blackish acicular hairs; fronds completely dimorphous, dorsal, distichous, the fertile ones greatly surpassing the sterile. Sterile fronds numerous, rigidly ascending or recurved, 4 to 10 cm. long; stipes 2 to 4.5 cm. long, arcuate or subflexuous, dark brown, thickly beset with spreading, curved or subflexuous, flat-tish, septate, light brown hairs; blades narrowly deltoid-oblong or lance-oblong, 2 to 6 cm. long, 1 to 2 cm. broad near the base, simply pinnate; pinnae 5 to 11 pairs below the larger, obtuse, somewhat lobate terminal segment, spreading, approximate to strongly imbricate, mostly stalked (the lower ones 2 to 7 mm.), orbicular or exactly oval from a cordate or subcordate base, simple, not lobed, equilateral, rigidly coriaceous, strongly convex, highly lustrous above and bearing a few long, curved, antrorse hairs in the deep wrinkles between the veins, beneath copiously but minutely glandulose; margins very greatly thickened beneath, cartilaginous, strongly sinuate-dentate when viewed from the under side. Fertile fronds erect, 7 to 19 cm. long, the rather stout stipes dark brown nearly throughout; sporophyll one-third the length of the stipe, narrow, the pinnae numerous, mostly close, 2 to 5 mm. long, subsessile, pedately lobed, the lobes glandular-puberulent and sparsely hairy; spores about 0.062 mm. in diameter, broadly and deeply striate, the ridges subflexuous and distantly thickened.

Type in the U. S. National Herbarium, no. 1,048,802, collected on the rocky limestone coast 3 to 4 miles west of San Lorenzo Bay, south side of Samaná Bay, Dominican Republic, at sea level (just above high water mark), April 11, 1921, by Dr. W. L. Abbott (no. 1309). Duplicate material has been distributed to the Gray Herbarium, the New York Botanical Garden, the Berlin Museum, and the Herbarium of Prince Roland Bonaparte.

Anemia abbottii is of the group of *A. aurita* Swartz, a Jamaican species, and is most closely allied to *A. portoricensis* Maxon, of Porto Rico. From this it differs notably in its much lesser stature and its simply pinnate sterile fronds, and in having the leaf surfaces hairy above, rather than beneath. Long hairs are wanting from the under surface, whereas they are conspicuously present in *A. portoricensis*. The fertile fronds are much simpler than in *A. portoricensis*, also. The relationship of *A. abbottii* with *A. nipeensis* Benedict, of Cuba, is much more remote.

Lygodium oligostachyum (Willd.) Desv.

Near Sánchez, Samaná Peninsula; sea level to 300 meters altitude (1123a). Near Samaná, Samaná Peninsula; sea level to 200 meters altitude (1223). Puerto Plata, in ravine by waterfall (1459).

A remarkable and interesting little plant, originally figured by Plumier from specimens collected near Lake Miragoán, Haiti, and described by Willdenow as *Hydroglossum oligostachyum*. It is known only from Hispaniola. In addition to the specimens cited above, the following are at hand from the Dominican Republic: *Wright, Parry*, and *Brummel* 1, *Taylor* 247, *Eggers* 2536 (described by Baker as a new species, *Lygodium gracile*), *Fuertes* 376, and *Türkheim* 2649. The last two numbers were distributed as *Lygodium cubense* H. B. K., a very common and much coarser plant endemic to Cuba.

CYATHEACEAE.

Alsophila aquilina Christ.

Pilón de Azúcar, near Laguna, Samaná Peninsula, at 300 to 480 meters altitude (274, 292, 445). Cotuy, Provincia de la Vega; sea level to 300 meters altitude (747, 747a).

These specimens and two other plants from the Dominican Republic (*Wright, Parry, & Brummel* 26, 34) are referred tentatively to this species, described originally from Oriente Province, Cuba, where it is abundant. Similar material is at hand also from Porto Rico. All are characterized by having striped stipe scales, in this respect (as in others) differing from a similar group of forms from Jamaica, Cuba, and Porto Rico which have bright concolorous scales. The two groups have been confused, and both have been called *Alsophila aspera* (L.) R. Br. The typification of *A. aspera* and the segregation of related forms is deferred to a separate paper.

Alsophila pungens (Willd.) Kaulf.

Near Laguna, Samaná Peninsula, chiefly on the Pilon de Azúcar; altitude 100 to 500 meters (347, 411, 424). Villa Riva (Almacén), Provincia Pacificador; sea level to 100 meters altitude (611). Old Heart River (Jato Viejo), Samaná Peninsula; altitude about 300 meters (1337, 1409).

Further specimens from Hispaniola, both in the herbarium of the New York Botanical Garden, are as follows: Plaisance, Haiti, altitude 600 meters, *Nash* 887; near Barahona, Dominican Republic, altitude 480 meters, *Türkheim* 2797. Described originally from "Brazil."

POLYPODIACEAE.

Anetium citrifolium (L.) Splitg.

Near Laguna, Samaná Peninsula; trunks of forest trees (257).

Widely distributed in the West Indies and tropical America generally, but apparently not previously reported from Hispaniola.

Hecistopteris pumila (Spreng.) J. Sm.

Old Heart River (Jato Viejo), Samaná Peninsula; altitude about 300 meters (1399).

A rather rare tropical American species, known in the West Indies previously from Trinidad, Guadeloupe, Jamaica, and Cuba. From its diminutive habit and its growth in thick tufts of moss it is readily overlooked.

Elaphoglossum herminieri (Bory & Fée) Urban.

Near Laguna, Samaná Peninsula (434).

A strikingly distinct species, which, in the writer's experience, is nowhere very common. It is, however, widely distributed in the West Indies.

Adiantopsis radiata (L.) Fée.

Cotuy, Provincia de la Vega; sea level to 300 meters altitude (823).

Polypodium costatum Kunze.

Near Sánchez, Samaná Peninsula; sea level to 300 meters altitude (135). Pilón de Azúcar, near Laguna, Samaná Peninsula; altitude 300 to 500 meters (282). Villa Riva (Almacén), Provincia Pacificador; sea level to 100 meters altitude (570).

Polypodium shaferi Maxon.

Summit of Pilón de Azúcar, near Laguna, Samaná Peninsula; altitude 500 meters; December 18, 1920 (291a).

Known previously only upon two collections from eastern Cuba, *Shafer* 8071 (the type) and *Shafer* 3475. It is allied to *P. mitchellae* Baker, of Central America and Panama.¹

Polypodium harrisii Jenman.

Near summit of Pilón de Azúcar, near Laguna, Samaná Peninsula; altitude 450 to 500 meters; December 26, 1920 (437, 442).

Known previously only upon a few specimens from Jamaica, where it is very rare.

Pleurogramme seminuda (Willd.) J. Sm.

Pilón de Azúcar, near Laguna, Samaná Peninsula; altitude 300 to 500 meters (436).

Asplenium integerrimum Spreng.

Old Heart River (Jato Viejo), Samaná Peninsula; altitude 300 meters (1336).

This species, now well known from Porto Rico and Cuba, has not previously been reported from Hispaniola, so far as the writer is aware.²

Asplenium cirrhatum Rich.

Old Heart River (Jato Viejo), Samaná Peninsula; altitude 300 meters (1384).

Nearly the typical form of this species, described originally from Guadeloupe.

¹See Contr. U. S. Nat. Herb. 17: 410, pl. 13. B, pl. 14. 1914; also, 17: 548, 549. 1916.

²See Contr. U. S. Nat. Herb. 10: 477, 478. 1908.

Dryopteris subincisa (Willd.) Urban.

Old Heart River (Jato Viejo), Samaná Peninsula; altitude 300 meters (1411).

Of this species Christensen has reported a single specimen from Haiti (*Weinland* 3), and the following from the Dominican Republic: *Türckheim* 2719; *Fuertes* 741b, 1548b, 1564.

Dryopteris nemorosa (Willd.) Urban.

San Gabriel, a small island west of San Lorenzo, on south side of Samaná Bay; sea level (1228). Rocky coast 3 to 4 miles west of San Lorenzo Bay; sea level (1311).

The type of this species was from Hispaniola, whence Christensen cites *Fuertes* 1043 and *Eggers* 1575, 2762, and 2762c (all from the Dominican Republic).

Dryopteris chaerophylloides (Poir.) C. Chr.

Near Laguna, Samaná Peninsula; altitude 100 to 200 meters (270). Cotuy, Provincia de la Vega; sea level to 300 meters altitude (809). Lajana, Samaná Peninsula, in heavy forest; altitude 100 meters (1196a). Rocky coast 3 to 4 miles west of San Lorenzo Bay, south side of Samaná Bay; sea level (1227a, 1230a). Old Heart River (Jato Viejo), Samaná Peninsula; altitude about 300 meters (1332).

Oddly enough Christensen cites no specimens of this species from Hispaniola, though listing many from Cuba and Porto Rico and a single specimen each from Jamaica and St. Croix.

Picarda's nos. 277 and 733, which Krug long ago listed as *Aspidium pubescens* var. *sericeum* Mett. (a synonym of *D. chaerophylloides*), are listed by Christensen as *Dryopteris pubescens* var. *haitiensis* C. Chr.

Saccoloma elegans Kaulf.

Near Laguna, Samaná Peninsula; altitude 100 to 200 meters (348, 425).

HYMENOPHYLLACEAE.

Hymenophyllum abruptum Hook.

Near Laguna, Samaná Peninsula; altitude 100 to 200 meters (259).

Trichomanes lineolatum (v. d. B.) Hook.

Near Sánchez, Samaná Peninsula; sea level to 300 meters altitude (200a). Near Laguna, Samaná Peninsula; altitude 100 to 200 meters (389).

LYCOPODIACEAE.

Lycopodium funiforme Bory.

Near Laguna, Samaná Peninsula; altitude 100 to 200 meters (433).