

Pacific Ferns Described in Nightingale's *Oceanic Sketches*

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THIS PAPER has been written as a direct result of an enquiry by Professor Harold St. John of the University of Hawaii. The information obtained was felt to be of sufficient interest to present to a wider audience, especially as it involves the identity of certain species of ferns from the Southern Pacific described by W. J. Hooker in a little-known work on oceanic travel.

The book in question was written by Sir Thomas Nightingale, an English gentleman about whom little seems to have been recorded in the usual books of reference. A search made in the Hooker letters at Kew has failed to produce any correspondence between Nightingale and Hooker, and the Dictionary of National Biography is equally reticent.

However, *Oceanic Sketches* appeared in 1835, being an account of a journey extending over nearly two years to various islands in the South Pacific as well as to Chile and Peru. It is stated that the expedition was undertaken partly for scientific reasons and we know that the author made a collection of dried plants during his wanderings.

Appended to the narration of his travels is a six-page supplement written by Sir William Jackson Hooker, at that time Dr. Hooker, on the ferns, 29 species in all, collected by Night-

ingale. Of these, five were described as new; as the specimens appear never to have been critically examined, the following observations may be of interest.

Since *Oceanic Sketches* is a somewhat rare work, Hooker's descriptions and observations are reproduced verbatim as follows.

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12. *Aspidium* ? *Amoa*, n. sp. tota pubescens, frondibus pinnatis, pinnis alternis oblongis obtusiusculis sessilibus membranaceis ad apicem serrulatis, basi truncatis, sursum breviter auriculatis, soris

Allied in general appearance, to *Asp. exaltatum* and *biserratum*, but the frond is all over downy, especially the stipes, rachis, and midrib. There is, unfortunately, no fructification on the specimens, which is, however, probably marginal. "Amoa" is marked as the native name of the plant.

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21. *Lindsaea propinqua*, n. sp.; fronde bipinnata, pinnis subquinque patentibus, pinnulis oblongo-trapeziformibus margine superiore crenato-lobatis, infimis cuneiformibus, soris fere exacte marginalibus interruptis.

The species most nearly allied to this is the West Indian *L. trapeziformis* of Dryander; but in that, the pinnules are entire, and the sori continuous. The *L. trapeziformis*, again, of Langsdorff and Fischer, (from Brazil) has the sori interrupted, as in our plant, but, at the same time, placed considerably within the almost entire margin of the pinnules.

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26. *Alsophila* ? *polypodioides*, n. sp.; fronde bipinnata, pinnulis oblongo-lanceolatis attenuatis sessilibus crenato-pinnatifidis, lobulis unisoriferis, rachibus valde pilosis, stipite aculeato.

This is probably, a tall-growing tree-fern, of which the fronds are considerably different from any species with which I am acquainted. The stipe is rather stout, rough, with very short prickles below. Primary pinnae almost opposite, 6–8 inches long, much attenuated at the apex, as are the secondary ones: these latter bear pinnules, which are quite sessile and adnate, but not decurrent, 6–8 lines long, tapering upwards, hairy in the younger parts, crenato-pinnatifid, the crenatures, or lobules, bearing a sorus, which occupies nearly the whole space between the margin and the centre, and is totally destitute of involucre, but evidently inserted at the forking of a nerve. The rachis is every where clothed with rather long patent hairs, some of which are chaffy. The narrow pinnules, singularly incurved at the margins, and long attenuated extremities, are very characteristic of this species.

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27. *Trichomanes glauco-fuscum*, n. sp.; fronde subovata bipinnatifida, laciniis linearibus bi-trifidis obtusiusculis, marginibus integerrimis pallidioribus, involucris paullo ante apicem laciniarum brevium insertis cylindraceis, ore integerrimo dilatato, stipite elongato gracili.

The fronds are ovate, 2–3 inches long, twice shorter than the slender stipes, and remarkable, in the dry state, for a brown colour tinged with a grayish bloom, and if the plant be held between the eye and the light, the margin will be seen to be paler than the centre of the laciniae.

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29. *Hymenophyllum polyanthum*, n. sp.; alatum, rigidum, fronde lanceolata pinnata, pinnis profunde bipinnatifidis, laciniis attenuatis integerrimis obtusis, involucris copiosis axillaribus lato-urceolatis nitidis, ore valde membranaceo dilatato obtuse bilabiato, stipite rachique (superne alata excepta) setosis.

This is certainly one of the finest species of this beautiful genus; a foot and a half long, stout and rigid, opaque, of a dark,

almost blackish green colour; the upper half abundantly furnished with axillary, conspicuous, glossy, very membranaceous involucre.

I have been able to find the type specimens of the five novelties in the Kew collections without much difficulty. They are here considered in order.

Aspidium ? *amoa* Hook.

The specimens were collected in Tahiti and the sheet is written up in Hooker's own hand. It is quite obviously a sterile specimen of a *Nephrolepis*, the largest frond being 23 cm. long and 5 cm. wide. It has the appearance of a young sporeling with herbaceous translucent fronds. Although the plant is described as "tota pubescens," it has only a sparse development of narrow, reddish brown hair-like scales on the rachis and the pinnae are almost glabrous. It may possibly be *Nephrolepis hirsutula* (Forst.) Pr. or even *N. exaltata* (L.) Schott *sens. lat.*

Lindsaea propinqua Hook.

The specimen, collected in Samoa, consists of two fronds, one sterile, one fertile, but no rhizome. It is figured in Hook., Sp. Fil. 1. 223 (1846) t. LXVI. B., the drawing being almost photographic in its accuracy.

The pinnae, 5 or 7, are from 4 to 4.5 cm. wide and are imparipinnate; they do not perceptibly taper upwards. There are from 7 to 13 pairs of pinnules per pinna.

C. Christensen in his Index Filicum reduced the species to "*L. decomposita* Willd. var." This species is usually regarded as an aggregate, and C. Christensen in his revision of the Pteridophyta of Samoa (1943) recognised three forms in Samoa. *Lindsaea propinqua* Hook., however, does not fit any of these. All three agree in possessing linear-lanceolate pinnae with 20 or more pinnules which taper gradually upwards. They are 2–3 cm. (rarely more) wide.

In the circumstances, it would seem wiser at present to retain *L. propinqua* Hook. as a distinct species.

Alsophila ? *polypodioides* Hook.

There are two sheets of this. One bears the words "S. Sea Islands" in addition to the name; the other, just "Society Islands."

Both are *Thelypteris leucolepis* (Pr.) Ching (*Dryopteris leucolepis* [Pr.] Max.) and not *D. ornata* (Wall.) C. Chr. as stated in C. Chr., Ind. Fil.

Trichomanes glaucofuscum Hook.

On a sheet of mixed collections there are two small fronds corresponding to Hooker's description and a caption above it in Hooker's writing, "Pacific Isles, Nightingale." The specimens are obviously *T. pallidum* Bl.

Hymenophyllum polyanthum Hook.

This species was figured as *Trichomanes polyanthum* Hook. in Hook., Ic. Pl. t. 703 from Nightingale's specimen. The locality given is "Pacific Isles" and Copeland (*in litt.*) has suggested Huahine, though this presumably is guesswork. The original sketches for t. 703 are drawn by Hooker on the sheet. Copeland regards the species, under *Trichomanes*, as distinct.

REFERENCE

CHRISTENSEN, CARL. 1943. A revision of the Pteridophyta of Samoa. *Bernice P. Bishop Mus., Bul.* 177: 3-138, 4 pls.