



Fern distributional records in *Christensenia* (Marattiaceae), *Dipteris* (Dipteridaceae), and *Rheopteris* (Pteridaceae) from the upper Sepik of Papua New Guinea

WAYNE TAKEUCHI

Harvard University Herbaria, 22 Divinity Avenue, Cambridge, MA 02138, USA; email: wtnewguinea@hotmail.com

Abstract

Christensenia (Marattiaceae) is recorded for the island of New Guinea, removing a puzzling disjunction in its documented distribution. The rarely seen *Rheopteris cheesmaniae* (Pteridaceae), previously represented by three specimens, is rediscovered in Sepik habitats far inland from the historical north-coastal localities. Population updates are also provided for *Dipteris lobbiana* (Dipteridaceae), a species found throughout Malesia but otherwise known in New Guinea only from the upper Sepik. All three ferns are surprisingly common at their new sites of occurrence.

Key words: Kaiserin-Augusta-Fluss Expedition, mafic habitats

Introduction

In any account of the Papuanian flora, the ferns and lycophytes are of particular interest due to their extraordinary richness. With an estimated 3,000 species (Parris 2007), New Guinea has nearly 30% of the world's fern diversity and more than twice as many pteridophytes than the rest of Malesia combined (Roos 1996). Ironically, although collectively comprising ca. 15% of the island's floristic diversity, the ferns and lycophytes rarely receive attention from botanical surveyors. In comparison to angiosperms, specialist collecting has been decidedly subdued, with the result that numerous discoveries can be expected from future investigators entering poorly known habitats.

The present paper exemplifies the discovery potential within this group by presenting three occurrence records from environments last visited by the 1912–13 Kaiserin-Augusta-Fluss Expedition (Fig. 1).

Distributional records

Dipteridaceae

Dipteris lobbiana (Hook.) T.Moore (1857: Index LXXX).

Polypodium lobbianum W.J.Hooker (1853: 309). Type:—MALAYSIA. (Johor), Mt. Ophir, *Thomas Lobb s.n.* (Tab. XI).

Additional specimen examined:—PAPUA NEW GUINEA. West Sepik Province: upper Sepik drainage, survey site 1, hill forest with scattered regrowth, 4°39.112'S, 141°43.526'E, 810 m, 1 December 2009, *Takeuchi, Ama & Gambia 24962* (A!, BO!, CANB!, K!, L!, LAE!).

Dipteris lobbiana is a geographically widespread rheophyte known primarily from forest environments in west Malesia (Holttum 1954). Within the Papuanian region, the riparian fern has been historically reported only from a small area 10–30 km to the east of the survey tract (*Henty NGF 42540* [June, 1969] and *Kerenga LAE 73996* [April, 1978]).

Notwithstanding the scarcity of collections from New Guinea, *Dipteris lobbiana* is a dominant species between the Leonhard-Schultze and May Rivers. The botanical team encountered large populations at every



FIGURE 10. *Rheopteris cheesmaniae* Alston. **A**, aspect; **B**, venation and sori. The pinnate fronds and circular sori are (inter alia) anomalous features among vittarioid ferns. **A–B** from Takeuchi, *Ama & Gambia* 25387.

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