ADIANTUM GIGANTEUM (PTERIDACEAE: PTERIDOPHYTA), A NEW MAIDENHAIR FERN FROM AMAZONIA, BRAZIL

J. PRADO

Instituto de Botânica, Seção de Briologia e Pteridologia.
C.P. 4005, CEP 01061-970. São Paulo, SP, Brazil

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ABSTRACT
Adiantum giganteum (Pteridaceae), a new species, is described from the states of Mato Grosso and Pará, Brazil. Long-creeping rhizomes, 2-pinnate fronds up to 2 m long, 6-10 pairs of lateral pinnae, and dimidiate incised pinnules are the most important features to distinguish this new species. Illustrations of the diagnostic characters of the taxon and a brief discussion about its group are provided.

INTRODUCTION
The present paper is part of a floristic survey for the genus Adiantum in Brazil that has being carried out by the author during the last six years (Zimmer & Prado, 1997; Prado, 1997; Prado & Palacios-Rios, 1998; Prado, 2000; Lellinger & Prado, 2001; Prado & Lellinger, unpublished). During a recent visit to several Brazilian and foreign herbaria, I noticed three specimens, from Amazonian Brazil, that seemed unusual by their large size and incised pinnules. They belong to the group of A. tetraphyllum, which is characterized by 2-pinnate laminae and conform terminal pinnae. Within this group it is related to A. serratodentatum, which can be distinguished by long-creeping rhizomes, (3)8-10 pairs of lateral pinnae with dimidiate and small pinnules, and rachises with fibrilous to pectinate scales.

Adiantum giganteum Prado, sp. nov. (Figs. 1, 2)
A. serratodentatum Humb. & Bonpl. ex Willd., cui affinis, folis lamina chartacea, gigantea 2m longa, pinnulis abaxialiter glaucentibus, margine internae integro recto cum rache prorsus contiguuo, inferiore et superiore incisa in pinnula sterilis duplo serrulatis differt.


Plants terrestrial. Rhizomes long-creeping, 2-3 mm in diam., scaly, the scales somewhat shiny, essentially concolorous, appressed, varying from gold to medium or dark brown, lanceate, sparsely ciliate at margins. Fronds monomorphic, 2-pinnate, 59-200 cm long, the laminae (12)24-44 cm wide; stipes 2-4 cm apart, 2/3-1/2 the length of the frond, black, adaxially sulcate, scaly, the scales appressed throughout, concolorous, brown, 1-2 mm long, fibrilous to narrowly lanceolate with a filiform
Figure 1. *Adiantum giganteum*. a. Habit (*Mexia* 5962, UC); b. Rachis scales (*Mexia* 6031, UC); c. Abaxial surface of pinna (*Mexia* 5962, UC); d. Detail of sterile pinna incised (*Mexia* 5962, UC); e. Detail of pseudoindusia (*Mexia* 5962, UC).
Figure 2. Scanning electron micrographs of Adiantum giganteum. a: Proximal view of the spore (Mexia 6031, UC); b: Distal view of the spore (Mexia 6031, UC); c: Scales on the rachis (Mexia 5962, R); d: Scale on the abaxial pinnule surface (Mexia 5962, R). Scale bars (µm): a & b, 10; c, 200; d, 100.

apex, strongly ciliate proximally; rachises similar to the stipes and their indument similar; pinnae oblong-lanceolate, slightly decreasing at the base, tapering at the apex, (6)12-22 cm long, 1.5-2.5 cm wide, the lateral pinnae (4)6-10 pairs, oblique, alternate, the terminal pinna conform, 1-1.5 times longer than the subtending pinnae, 0.7-1 times as long as the medial pinnae; indument of the costae like that of the stipes and rachises; pinnules 16-32 pairs, c. 2 times longer than wide, chartaceous, continuous to the rachis (not articulate), free-veined, without an evident midrib, the proximal pairs reduced, somewhat rounded or triangular, the medial pairs dimidiate, oblong to somewhat quadrangular, the acroscopic base truncate, the sterile apex obtuse to acute, the sterile margins incised, irregularly and distantly biserrate, the fertile apex angular, the distal pinnules c. 1/2 as long as the medial pinnules, the adaxial surface of the pinnules glabrous, the veins slightly prominent, idioblasts present among the veins, the abaxial surface of the pinnules glaucous, glabrescent, with patent, sparse, fibrillos scales 0.3-0.4 mm long but otherwise similar to those of the stipes, glands absent, the veins slightly prominent, the idioblasts inconspicuous; sori arcuate to oblong, up to 4 or 6 per pinnule; pseudoindusia glabrous, entire to erose; spores trilete, 30-40 µm in equatorial diameter, tetrahedral-globose, without prolonged angles, the surface rugulose.

Adiantum giganteum can be distinguished by the large size of its fronds (up to 2 m long), distal and acroscopic margins of the sterile pinnules incised, and abaxial surface of the pinnules glaucous. This species occurs in wet forests (Amazon forest) at low elevations (c. 30 m) along river margins.

Adiantum serratodentatum Humb. & Bonpl. ex Willd. is the most closely related species but differs in having laminae subcoriaceous, fertile pinnules with conspicuous revolute margins on the acroscopic and distal sides, sterile pinnules with serrulate or entire margins (not incised) on the acroscopic and distal sides. It grows in drier and more open places.

Adiantum giganteum is endemic to the Brazilian Amazon forest (Pará and Mato Grosso States), whereas A. serratodentatum has a wide range of distribution from Mexico to Panama, Colombia to Guianas, Trinidad, Ecuador to Bolivia, and Brazil.

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References


