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A revision of *Desmoncus* (Arecaceae)

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Abstract

A taxonomic revision of the Neotropical palm genus *Desmoncus* based on morphological data and morphometric methods was carried out. Eight hundred and fifty-one herbarium specimens were scored for 16 qualitative variables and 16 quantitative variables. Qualitative variables were divided into 15 characters and one trait. Using the Phylogenetic Species Concept, characters were applied to recognize 24 species. These are widely distributed in Central and South America from southern Mexico to Bolivia and Paraguay, and to Trinidad, Tobago, and the Lesser Antilles. Analysis of each species for geographic distribution and quantitative variables led to recognition of 9 subspecies in two of the species, giving a total of 31 taxa. Seven new species (*D. kunarius*, *D. interjectus*, *D. loretanus*, *D. madrensis*, *D. moorei*, *D. obovoideus*, *D. osensis*) and two new subspecies (*D. horridus* subsp. *occidentalis*, *D. mitis* subsp. *ecirratus*) are described. Five new combinations are made. One of the most variable species is considered to be a species complex and is divided into morphotypes: groups of similar specimens without formal taxonomic status. Nomenclature, descriptions, and distribution maps are provided for each species and subspecies. Images of type specimens of all new taxa are also given.

Key words: climbing palm, morphometrics, Neotropics, Palmae

Introduction

Desmoncus is distinctive among Neotropical palms in its climbing habit. The name is derived from the Greek words *desmos*, meaning a band, and *ogkos*, meaning a hook, in reference to the climbing hooks, or acanthophylls on the leaves. However, not all *Desmoncus* species are climbers, and not all Neotropical climbers are *Desmoncus*. One other genus, *Chamaedorea* Willdenow (1806: 638) contains a single species with climbing stems, *C. elatior* Mart. In fact, so similar are the acanthophylls of both genera that specimens of *C. elatior* are commonly misidentified as *Desmoncus*. The climbing organs of *Desmoncus* are also remarkably similar to those of some Old World rattans, although the two are not closely related.

Desmoncus was established by Martius (1824). This original brief description was expanded by the same author (Martius 1823–1837), who also increased the number of species to seven in the description of his Amazon collections. Drude (1881), in the treatment of the palms for *Flora Brasiliensis*, recognized 17 species, and Barbosa Rodrigues (1903), also working only on Brazilian palms, recognized 28 species.

The first revision of the entire genus was that of Burret (1934), a German botanist who worked in the Berlin herbarium. In this revision, 41 species were recognized, nine of them new. In a series of papers, Bailey (1943, 1947, 1948, 1949) described 14 new species, only two of which are recognized here. Bailey, as well as Barbosa Rodrigues and Burret, have been criticized for employing an extremely narrow species concept (Wessels Boer 1965, Henderson 1999). Wessels Boer (1965) gave a detailed discussion of variation in *Desmoncus*. In particular he considered that plants of the same species growing in different but adjacent