



A revision of *Pholidostachys* (Arecaceae)

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Abstract

A taxonomic revision of the neotropical palm genus *Pholidostachys* based on morphological data and morphometric methods was carried out. Two hundred and eighty-eight herbarium specimens were scored for five qualitative variables and 25 quantitative variables. Qualitative variables were divided into four characters and one trait. Using the Phylogenetic Species Concept, characters were used to recognize seven species. These are widely distributed in Central and northwestern South America from Nicaragua to Colombia, Ecuador, Peru, and Brazil. Analysis of each species for geographic distribution and quantitative variables led to recognition, in one species, of two subspecies, giving a total of eight taxa. Four new species (*P. amazonensis*, *P. occidentalis*, *P. panamensis*, *P. sanluisensis*) are described. Two new combinations are made. Nomenclature, descriptions, and distribution maps are provided for each species and subspecies. Images of the type specimens of all new taxa are also provided.

Key words: Palmae, morphometrics, Neotropics, geonomoid palms

Introduction

Pholidostachys Wendl. ex Hooker (1883: 915) is a member of the geonomoid group of palms, formally named the tribe Geonomateae Luer (1882: 342, Dransfield *et al.* 2008). The geonomoids are characterized by their flowers sunken in pits along the rachillae, with each pit covered before anthesis by a proximal lip. Although there have been disagreements over generic boundaries within the group (e.g., Moore 1966; Wessels Boer 1968), these are now mostly resolved (Dransfield *et al.* 2008). The group comprises six genera and 103 species: *Asterogyne* Wendl. ex Hooker (1883: 914)(5 species, Stauffer *et al.* 2003), *Calyptrogyne* Wendl. (1859: 72)(18 species, Henderson 2005a), *Calyptronoma* Griseb. (1864: 518)(3 species, Zona 1995), *Geonoma* Willdenow (1805: 174)(68 species, Henderson 2011), *Pholidostachys* (7 species, this revision), and *Welfia* Wendl. (1869: 242)(2 species, Henderson unpublished). *Pholidostachys* has been recovered as sister genus to *Welfia* and these two as sister to the remaining genera in successive phylogenetic studies (Asmussen *et al.* 2006, Baker *et al.* 2009, 2011, Roncal *et al.* 2005, 2010, 2011).

Pholidostachys has always been considered a small and uncomplicated genus (or subgenus), comprising just three (e.g., Wessels Boer 1968) or four (e.g., de Nevers 1995) species. One reason for this simplistic view was lack of specimens. The most recent monographer (Wessels Boer 1968) used 16 specimens on which to base his revision, this number perhaps reflecting the few specimens available at that time. In the present revision, 288 specimens have been examined. It is not only this eighteen-fold increase in the number of available specimens that has led to a better understanding of the genus. More importantly, it is the application of an explicit species concept, and analysis of qualitative and quantitative morphological data and distribution patterns. *Pholidostachys*, as revised here, comprises seven species, one of them divided into two subspecies, giving a total of eight taxa.