Vantanea maculicarpa (Humiriaceae): a new tree species from French Guiana

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Abstract

A new species of Humiriaceae, Vantanea maculicarpa, growing in French Guiana terra-firme forest is described and illustrated. This new species is distinguished from all other species of Vantanea by fruits covered by white lenticels, a character so far unknown in this genus. It also presents a pubescent intrastaminal disk, a feature encountered in two other Vantanea species only: it is further distinguished from V. parviflora, the morphologically most similar species, by more stamens and from V. ovicarpa by a much smaller rough endocarp with five valves. A key to the species of French Guiana and the IUCN status Least Concern (LC) are proposed.

Keywords: Vantanea, Humiriaceae, French Guiana, taxonomy

Introduction

The genus Vantanea Aubl. (1775: 572, pl.229) comprises 21 species (including the new species here described) and is the largest genera of Humiriaceae. It is spread from Costa Rica through northern South America to Bolivia and south Brazil (Kubitzki 2014). In French Guiana, four species (including the new species described in this article) have been recorded in terra-firme forests up to 800 m a.s.l. The genus Vantanea is characterized by its arborescent habit, coriaceous simple leaves with entire margins, flowers with a cupular calyx and five distinct petals (usually white), and drupaceous fruits with carnose mesocarp and woody endocarp dehiscent at seed germination by oblong valves. Vantanea differs from other Humiriaceae genera in having numerous stamens (30–230) and anthers with two bilocular thecae (Cuatrecasas 1961). The species described in this article was already distinguished from V. parviflora Lam. (1792: 145, pl.7) and considered as a distinct morphospecies in French Guiana based on vegetative criteria, specifically obovate blades and shorter petioles. Fruits were collected in 1985 and are covered by distinctive white lenticels, a character so far unobserved in other species of Vantanea.

Materials and Methods

The studied material was received on loan from CAY and includes six fertile specimens (two with flowers and four with fruits) and three sterile specimens of the new species, plus three fertile specimens of V. parviflora (the species morphologically most similar). A comprehensive bibliographic survey of publications describing Vantanea species (Cuatrecasas 1961; Rodrigues 1982; Sabatier 1987; McPherson 1988; Gentry 1990; Sabatier 2002; Herrera et al. 2010) was carried out. Digitized herbarium sheets of all Vantanea species were downloaded from various database portals, including the New York Botanical Garden (http://sweetgum.nybg.org/science/vh/), the Muséum national d’Histoire naturelle (https://science.mnhn.fr/institution/mnhn/collection/p/item/search/form?lang=en_US), the Smithsonian National Museum of Natural History (http://collections.nmnh.si.edu/search/botany/) and the Kew Royal Botanic Gardens (http://apps.kew.org/herbcat/gotoSearchPage.do). Terminology of leaf and inflorescence are based on Harris & Harris (2001). The conservation status was evaluated using the IUCN Red List criteria (IUCN 2012); the Area of Occupancy (AOO) was calculated by using the online “GeoCAT” software “http://geocat.kew.org” (Bachman et al. 2011).
Taxonomy

Key to the species of Vantanea in French Guiana, adapted from (Sabatier 2005)

1. Leaves with petioles not thickened at base; blades elliptic to oblong-elliptic, apex shortly acuminate. Flower buds ca. 3 cm long. Petals red; ovary and disc glabrous ......................................................... V. guianensis Aubl. (1775: 572, pl.229)
   - Leaves with petioles often thickened at base; blades obovate, obovate-elliptic, elliptic, or oblanceolate, apex rounded, emarginate (sometimes shortly acuminate). Flower buds 0.8–1.2 cm long. Petals white or greenish-white; ovary and disc pubescent .......... 2

2. Leaf blades obovate, 4–11 cm long, petioles ca. 0.5 cm long. Stamens 150–230. Fruits globose, covered by numerous white lenticels, ca. 2.5 cm in diameter, exocarp brown, firm, ca. 3 mm thick, endocarp rough with 5 valves ..................... V. maculicarpa
   - Leaf blades obovate-elliptic or elliptic, 4–11 cm long, petioles 0.5–1.5 cm long. Stamens 80–120. Fruits smooth or slightly pubescent, ca. 2.4–2.8 × 2.2–2.5 cm, exocarp green, fleshy, ca. 2 mm thick, endocarp rough with 5 valves ................. V. parviflora
   - Leaf blades oblanceolate to obovate-elliptic, 8–15 cm long, petioles 0.8–1 cm long. Stamens 120–200. Fruits smooth, ca. 5–7 × 4–5 cm, exocarp ca. 5 mm thick, endocarp smooth with 6–7 valves ........................................... V. ovicarpa Sabatier (2003: 235, fig.1)

Vantanea maculicarpa Sabatier & Engel, sp. nov. (Figs. 1 and 2)
Type:—FRENCH GUIANA. RN2 Cayenne—Régina, niveau Petites Montagnes Tortue, 4°18’N, 52°15’W, 1 November 2009, D. Sabatier 5574 (Holotype CAY! (barcode CAY111685); Isotype P! (barcode P01156374)).

**Conservation status:** —The new species is known from 9 widely spaced localities of French Guiana, and these localities are not threatened by human activities. The Area of Occupancy (AOO) calculated is 28,000 km².

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