

First occurrence of *Schistostemon* (Urb.) Cuatrec. (Humiriaceae) in states of Roraima and Pará, Brazil

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Abstract: *Schistostemon* is recorded for the first time in the States of Roraima and Pará extending its distribution to a new northern limit within Brazilian territory.

Key words: taxonomy, geographical distribution, new record, Amazon

Humiriaceae is economically an important family of flowering plants. The bark and wood of some species and varieties of *Humiria* produce “umiri” or “umiry-balsam”, with properties similar to those attributed to the Copaiva and Peruvian balsam (Cuatrecasas 1961). Humiriaceae is a tropical family with eight genera and about 50 species and many subspecies, varieties and forms, following the classification of Cuatrecasas (1961). It is an important constituent of the tropical American rain forests as well as open areas like campinas, cerrados, restingas and caatingas, extending from Costa Rica to Southern Brazil.

The genus *Schistostemon* (Urb.) Cuatrec. has nine known species and one subspecies which are distributed from the Guianas through central and the northwestern portions of the Amazon basin. In Brazil four species and two subspecies are recorded (Amorim and Medeiros 2013). *S. macrophyllum* (Benth.) Cuatrec. and *S. oblongifolium* (Benth.) Cuatrec. occur in the state of Amazonas and are frequent along flooded river margins. *S. reticulatum* (Ducke) Cuatrec. and *S. retusum* (Ducke) Cuatrec. are presently known from Amazonas and Acre occurring on sandstone elevations or sandy soils in the upper Rio Negro and Vaupés basins (Cuatrecasas 1961; Cuatrecasas and Huber 1999; Gentry 1993).

The genus is represented by small to medium-sized evergreen trees with simple alternate leaves. The inflorescences are either terminal or axial, and cymose or paniculate. The calyx and corolla have 5 sepals and petals. The androecium has 20 stamens: 5 opposite the sepals longer, distally trifurcate and triantherous (lateral anthers occasionally sterile); 5 opposite the petals, less long, entire and nonoantheriferous; and the other 10 intermediate, shorter nonoantheriferous. The gynoecium has 5 locules with 1 ovary per locule, and a nectariferous disk surrounding the ovary. The style is short,

and the stigma five lobed. The fruit is a drupe with fleshy exocarp and woody endocarp filled with resiniferous cavities.

Here in we report the novel occurrence of *Schistostemon* in the States of Roraima and Pará, describing its morphological features, and providing information on its geographical distribution and habitat.

Schistostemon macrophyllum (Benth.) Cuatrec., *Contr. U.S. Natl. Herb.* 35(2): 157. 1961. Figure 1.

The species is easily recognized by its relatively large leaves, margins lightly crenulate with little pointed glands along margins beneath, its five trifurcate and triantheriferous stamens, the disk annular, and girding ovary with connate scales. The smooth skinned drupes are ovoid, rounded at base and attenuate at apex, measuring 1.5–2.3 cm high and 2–2.8 cm in diameter. This taxon is very similar to *Schistostemon dichotomum* (Urb.) Cuatrec., however it can be distinguished by the length of the pedicel of the inflorescence and the shape of the nectariferous disk, which has connate scales in *S. macrophyllum* and free scales in *S. dichotomum*.

SPECIMENS EXAMINED: Brazil. Roraima: Caracará, Virua National Park, Iruá river, 30-VII-2011, fl., A.S.S. Holanda et al. 472 (INPA); 29-VII-2012, fl., C.E. Zartman et al. 8496 (INPA); Baruana river, 21-IX-2011, fr. fl., A.Melo et al. 898 (INPA). Pará: Santarém, Vila de Alter do Chão, praia arenosa, Lago Verde, 25-XII-1991, L.V. Ferreira 45 (INPA, NY).

SPECIMENS PREVIOUSLY CITED IN LITERATURE: Brazil. Amazonas: Manaus, Rio Tarumã, 12-VIII-1942, A. Ducke 255 (A, IAN, MG, NY, S, US); 6-VIII-1949, R.L. Fróes 24916 (IAN); 26-II-1950, R.L. Fróes 26071 (IAN). Igapó água preta, 22-VII-1955, INPA 1243 (NG). Igapó da cachoeira Alta do Tarumã, 25-VIII-1954, INPA 244 (NG). Igapó da Cachoeira Grande, 7-V-1933, A. Ducke 23816 (US, U); 17-I-1943, A. Ducke 1175 (IAN, MG, NY, US). Igapó da Chachoeira Grande dos Bilhares, 26-IX-1955, INPA 2044 (MG); 12-XII-1955, J.C. Chagas 3093 (IAN). Igapó do Tarumazinho, 15-VII-1955, INPA 1407 (MG). Manaus, 26-VIII-23, J.G. Kuhlmann 21029 (US, S, U). Praia baixa do Rio Negro, 1-IX-1945, A. Ducke 1744 (GH, IAN, MG, NY, US). Baixo Rio Negro, Tanacoera, 26-IV-1911, A. Ducke 11550 (MG). Rio Negro, Padayuri, 11-X-1947, R. L. Fróes 22703

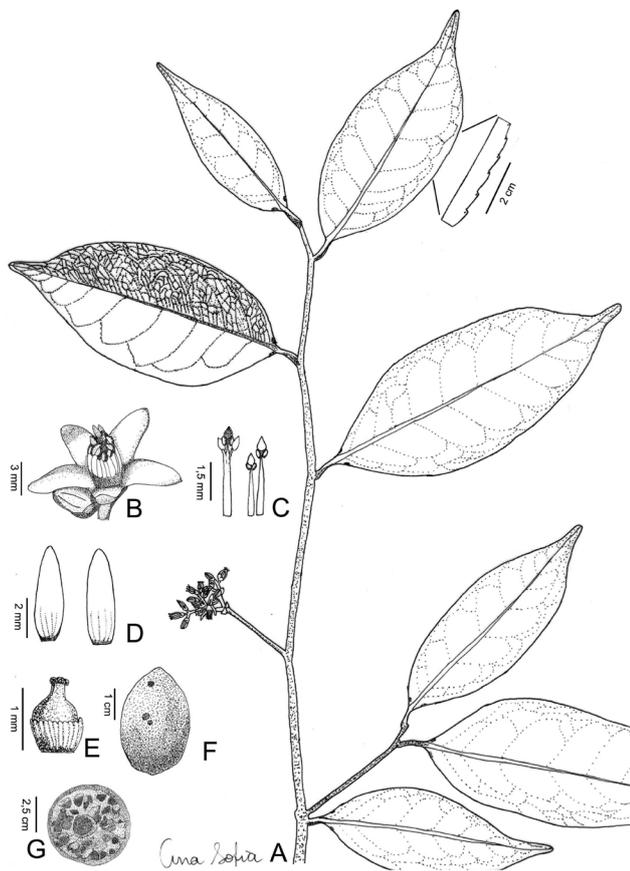


Figure 1. *Schistostemon macrophyllum*. **A:** habit, highlighting the margins lightly crenulate with little pointed glands along margins beneath. **B:** flower. **C:** stamens. **D:** petals. **E:** disk girdling ovary. **F:** fruit. **G:** fruit, cross section showing cavities resinous in dark.

(IAN, NY, US, U). Rio Negro, Barcelos, 23-VI-1905, A. Ducke 7174 (MG); 26-IX, 14-X-1947, Schulles 8881 (IAN, US). Rio Negro, Tauapeçu, (no date) R.L. Fróes 22472 (IAN); 25-VII-1929, A. Ducke 23432 (S, US). Margem do Igarapé do Franco, 20-II-1956, J.C. 3472 (IAN). Itaubal, Rio Aracá, 26-X-1952, R.L. Fróes 29119 (IAN). Prope Barra, prov. Rio Negro, VII-1851, Spruce 1714 (M). Igarapé da Colônia, 21-VII-1874.

Schistostemon macrophyllum is endemic to Brazil. Both the genus and the species had been recorded for the States of Amazonas and Acre (Amorim and Medeiros 2013), and here we show that they also occur in Pará and Roraima (Figure 2). This species is quite frequent along flooded river margins of the middle Rio Negro. In Viruá National Park, it is also quite common along the Iruá, a black water river associated with large expanses of flooded forests known as igapó. In Pará State, the only known locality for the species is along the margin of the Tapajós, a clear water river, near Alter do Chão.

Species identification and geographic distribution were confirmed through consultation of the appropriate literature (Cuatrecasas 1961; Gentry 1993; Herrera et al. 2010), and regional herbaria EAFM, HB, HBRA, IAN, MG, PA e MIRR (acronyms according to Thiers 2012).

The first occurrence herein reported for the states of Roraima and Pará expands the limits of its geographical distribution, as well as knowledge of the diversity of a Neotropical genus that remains poorly known. This report is yet another example demonstrating the need for continued taxonomic and floristic studies in regions where there are large geographic gaps in the knowledge of Amazonian flora (Hopkins 2007) so that there is adequate planning for conservation and sustainable use of regional biota.

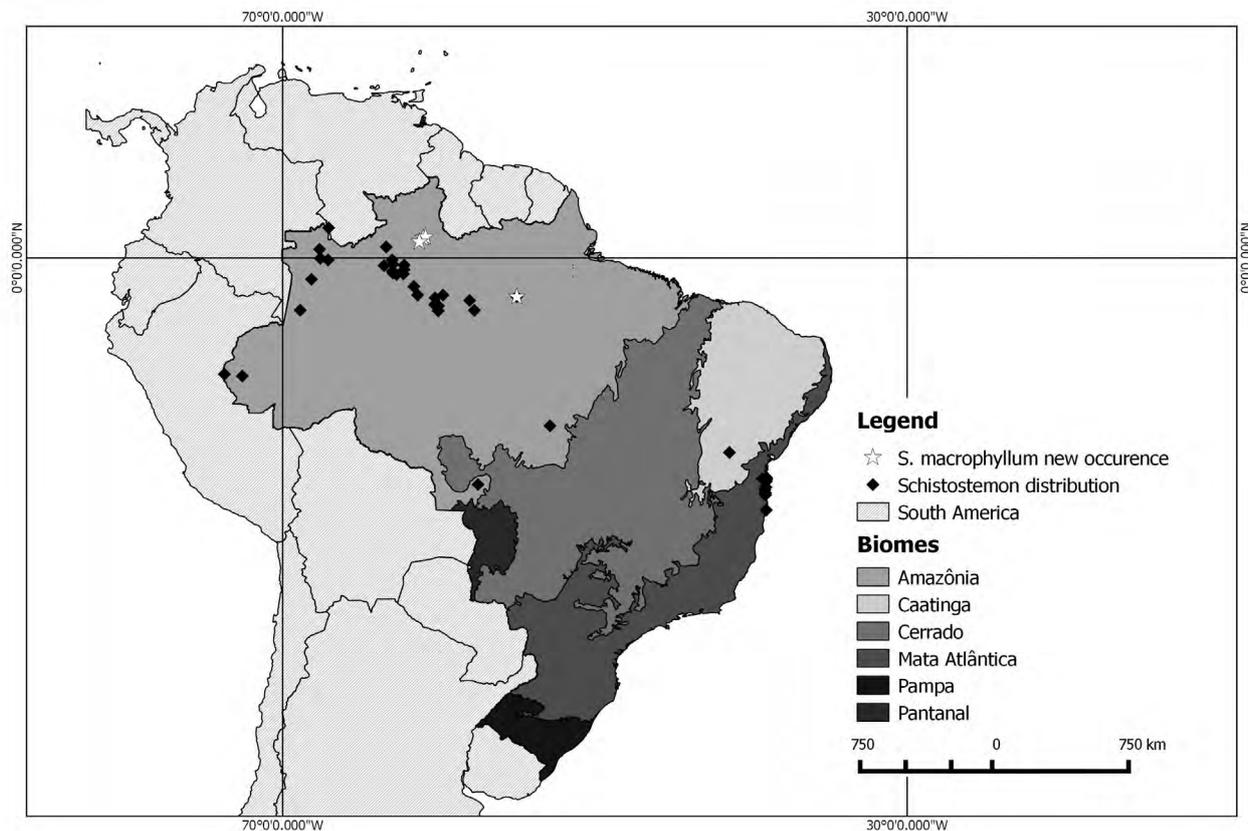


Figure 2. Geographical distribution of *Schistostemon* with emphasis on new records of *S. macrophyllum*.

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