

Liliopsida, Cyperaceae, *Cephalocarpus confertus* Gilly, Guyana Shield, Brazil, Colombia and Venezuela

Irene Carolina Fedón *

Universidad Central de Venezuela, Herbario Nacional de Venezuela, Fundación Instituto Botánico de Venezuela, Jardín Botánico de Caracas.
 Apartado 2156. Caracas 1010-A, Venezuela.

* E-mail: irenefedon@cyperaceadevenezuela.org

ABSTRACT: The genus *Cephalocarpus* (Cyperaceae), of South American distribution is represented by four species. The present work extends the distribution of *Cephalocarpus confertus* Gilly based on analysis of samples from the Missouri Botanical Garden Herbarium, literature and online databases. As a result this species is reported for Brazil, Colombia and Venezuela and is removed from the endemic status for Venezuela.

The genus *Cephalocarpus*, described by Christian Gottfried Daniel Nees von Esenbeck in Flora Brasiliensis (Nees 1842), belongs to tribe Sclerieae of the Sclerioideae (Bruhl 1995; Muasya *et al.* 1998; 2000; Goetghebeur 1998). The genus is represented by four species of South American distribution (Govaerts and Simpson 2007), being endemic to the Guayana Shield and the Amazonian Forests (Giraldo-Cañas 2001, Alves *et al.* 2009). One species, *Cephalocarpus confertus* (Figure 1), described by Charles Louis Gilly, in the Bulletin of the Torrey Botanical Club (Gilly 1942), was considered endemic to Venezuela (Kearns 1998; Strong *et al.* 2008). The type collection of this species comes from the top of the Cerro Duida, located in the Guayana Shield, Venezuela and was collected by George Tate, (Holotype: 1928, G. Tate 800 (NY)) not seen).

According to the List of Species of Flora of Brazil (Alves *et al.* 2010), *C. confertus* was reported for Brazil from the specimen G. Tate 285, but this material, deposited at the New York Botanical Garden Herbarium, is not a Cyperaceae

but a specimen of *Baccharis tatei* (Asteraceae) supposedly a type. Giraldo-Cañas (2001) according a new record for the genus *Cephalocarpus* in Colombia, but is only reported *C. rigidus* Gilly ex Gleason & Killip.

This perennial sedge, *C. confertus*, is characterized by its terete stems, tristichous leaves, capitate terminal inflorescence, presence of prophylls inflorescences, tristichous glumes, unisexual flowers, monoecy, presence of one or two stamens, trifid stigma, achene-type fruits, with the persistent style base and utricle adnate to achene (Figure 2).



FIGURE 1. *Cephalocarpus confertus* in the wild (Photo: I. C. Fedón).

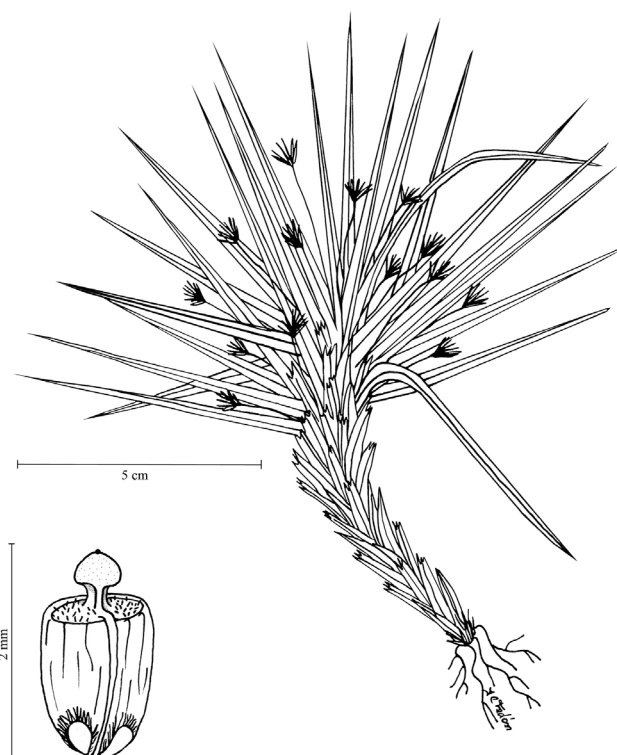


FIGURE 2. Whole individual of *Cephalocarpus confertus* and detail of the achene (Drawing: I. C. Fedón).

During recent analysis of the Cyperaceae collection of the Missouri Botanical Garden Herbarium, two additional samples of *C. confertus* were found, which broaden its area of occurrence westwards of its previous known distribution. Data from both samples are shown below:

COLOMBIA: Guinia, Maimachi, Serranía del Naquen, Cerro Minas, alrededores del Helipuerto H-15 y camino hasta la cima del Cerro. C. Barbosa and S. Madriñán 8395, April 7, 1993. 02°12' N, 68°13' W, altitude 900 m. Additional information on the label: Vegetación sobre afloramiento rocoso (MO).

BRAZIL: Amazonas, encosta da Serra Aracá, N. A. Rosa and S. B. Lira 2375, February 04, 1978. Additional information on the label: Erva de 10 cm. Inflorescencia marrón (INPA, MO).

These two collections exclude *C. confertus* from the endemic species list for Venezuela, but it remains endemic to the Guyana Shield in northern South America (Figure 3), in altitudes ranging from 400 to 2,450 m.



FIGURE 3. Distribution of *Cephalocarpus confertus*. Circles shows the distribution in Venezuela and stars shows expanded distribution in Brazil and Colombia.

ACKNOWLEDGMENTS: The author is grateful to Becas Elizabeth E. Bascom para Botánicas Latinoamericanas for funding this study at the Missouri Botanical Garden, to Dr. James Solomon, curator of MO and the staff of the herbarium who kindly contributed. To César Molina for his comments on the manuscript and Jesús Hernández for helping with English translation.

LITERATURE CITED

- Alves, M., A. Araujo, S. Hefler, R. Trevisan and G. Silveira. 2010. Cyperaceae. In R. Forzza, J. Baumgratz, C. Bicudo, A. Carvalho Jr., A. Costa, D. Costa, M. Hopkins, P. Leitman, L. Lohmann, L. Costa, G. Martinello, M. Menezes, M. Morim, M. Nadruz, A. Peixoto, J. Pirani, J. Prado, L. Queiroz, V. Souza, J. Renato, L. Sylvestre, B. Walter and D. Zappi, (ed.). *Catálogo e Planata e Fungos do Brasil, vol II*. Jardim Botânico do Rio de Janeiro, Brasil. Electronic database accessible at <http://floradobrasil.jbrj.gov.br/2010/FB082174>. Captured on 22 June 2010.
- Alves, M., A. Araujo, A. Prata, F. Vitta, S. Hefler, R. Trevisan, A. Bragança, S. Martins and W. Thomas. 2009. Diversity of Cyperaceae in Brazil. *Rodriguesia* 60: 771-782.
- Bruhl, J. 1995. Sedge genera of the World: relationships and a new classification of the Cyperaceae. *Australian Systematic Botany* 8: 125-305.
- Gilly, C. 1942. The genus *Cephalocarpus* Nees (Cyperaceae). *Bulletin of the Torrey Botanical Club* 69: 290-297.
- Giraldo-Cañas, D. 2001. Nuevos registros de *Cephalocarpus* y *Exochogyne* (Cyperaceae) para Colombia. *Hickenia* 3: 87-90.
- Goetghebeur, P. 1998. Cyperaceae; p. 141-190 In Kubitzki, K. (ed.). *The families and genera of vascular plants. Vol. III: Flowering plants, monocotyledons, Lilianae (except Orchidaceae)*. Hamburg: Springer.
- Govaerts, R. and D. Simpson. 2007. *World Checklist of Cyperaceae Sedges*. Kew: Kew Publishing. 765 p.
- Kearns, D. 1998. *Cephalocarpus*; p. 520 In P. Berry, B. Holst and K. Yatskievych (ed.). *Flora of the Venezuelan Guayana. Vol. IV: Caesalpiniaceae-Ericaceae*. St. Louis: Missouri Botanical Garden Press.
- Muasya, A., J. Bruhl, D. Simpson, A. Culhan and W. Chase. 2000. Suprageneric phylogeny of Cyperaceae: A combined analysis; p. 593-601 In K. Wilson and D. Morrison, (ed.). *Monocots: Systematics and Evolution*. Victoria: Csiro.
- Muasya, A., J. Bruhl, D. Simpson, W. Chase and A. Culhan. 1998. An assesment of suprageneric phylogeny in Cyperaceae using rbcL DNA sequences. *Plant Systematics and Evolution* 211: 257-271.
- Nees von Esenbeck, C. 1842; p. 1-226. Cyperaceae. In C. Martius (ed.). *Flora Brasiliensis* 2(1). München, Wien, Leipzig: F. Fleischer.
- Strong, M., G. Tucker, D. Simpson, and I. Fedón. 2008. Cyperaceae; p. 719-733 In O. Hokche, P. Berry and O. Huber, (ed.). *Nuevo Catálogo de la Flora Vascular de Venezuela*. Caracas: Fundación Instituto Botánico de Venezuela.

RECEIVED: December 2010

LAST REVISED: January 2011

ACCEPTED: April 2011

PUBLISHED ONLINE: June 2011

EDITORIAL RESPONSIBILITY: Angelo Gilberto Manzatto