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RICCIOCARPUS NATANS (L.) CORDA (RICCIACEAE) IN VENEZUELA: TAXONOMICAL AND HABITAT OBSERVATIONS.

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ABSTRACT

Ricciocarpus natans (L.) Corda is described and illustrated as a new record for Venezuela, based on material and observations from the Llanos of Apure, Venezuela.

RICCIOCARPUS NATANS (L.) CORDA (RICCIACEAE) EN VENEZUELA: OBSERVACIONES TAXONÓMICAS Y DE HÁBITAT.

Palabras claves: Plantas acuáticas. *Ricciocarpus*. Hepáticas. Primer registro. Llanos de Apure. Venezuela.

RESUMEN

Se cita, describe e ilustra a *Ricciocarpus natans* (L.) Corda por primera vez en Venezuela, en base a ejemplares colectados en una laguna de desborde de los Llanos de Apure. La especie se caracteriza por sus frondes bilobulados y un surco medio central. Se encontró adherida al limo de la orilla y asociada a *Salvinia auriculata*.

The Ricciaceae belong to the aquatic hepatics (Hoehne, 1948) comprising two genera: *Riccia* and *Ricciocarpus*. Both can be found in wet soil or floating on calm waters and are also commercially cultivated species of the two genera (Bayley 1916 & Clayton pers. com.). *Ricciocarpus natans* which is reported here, is native from New Zealand (Clayton, pers. com.) and seems to be a cosmopolitan bryophyte according to Hoehne (1948), Fasset (1975) and Stodola (1967); subcosmopolitan according to Vana *et al.*, (1979) and tropical according to Cook *et al*., (1974). Casares-Gil (1919) and Mereles (pers. com.) pointed out the rare condition of the species in its distribution area, even when it can be very abundant in a specific place. Some of the most recent records of the species were in very dissimilar latitudes as a swamp in Ruanda (Africa) at 2,399 m asl (Vana *et al*., 1979), in a varzea lake of the Amazon floodplain (Junk & Piedade, 1993), in the prairie

pothole region of the USA (Galatowish & van der Valk, 1996) or in the Iberian peninsula (Cirujano *et al*., 1998). In Venezuela Vegas & Cova (1993) included *R. natans* in their list of species of Embalse de Guri in Bolivar State, however, no herbarium specimens seem to be available to confirm its identity. In 1997 during the study of the aquatic plants in the floodplains of the Apure State, *R. natans* was recorded for the first time in Venezuela.

In january of 1997 (dry season) twelve samples of *R. natans* were collected, attached to the slime, in a shadowy shore of a natural lagoon. In january of 1999 we founded *R. natans* again, and only in the same lagoon, attached to the slime, at the base and underneath the shadow of *E. interstincta,* and also floating in the shallow water. In both opportunities *R. natans* was associated with *Salvinia auriculata*, and it was probably in reproduction, due to the presence of very small individuals (1-3 mm) identical to the adults. No individuals were found in sunny places when they were in the terrestrial ecophase, but they were exposed to light in the hydrophase: floating in the water.

The formation of new plants derived from growing cells in the apical region was observed by Parihar (1966). Sexual reproduction seems to be uncommon (Clayton, pers. com.).

Frecuently *R. natans* is free-floating with the habit of *Lemna* in eutrophic waters (Stodola, 1967; Cook *et al*., 1974), and uses to be common in natural wetlands with water pH values near 7.6, while in restored areas, was scarcely found (Galatowitsch and Van der Valk, 1996; Cirujano *et al*., 1998). Our study area -Hato El Frio- is a natural wetland and *R. natans* were collected in a natural lagoon, also with pH values of 7.6.

Ricciocarpus Corda in Opiz., Beitr. Nat. 651 (1829).
Ricciocarpus natans (L.) Corda in Opiz., Beitr. Nat. 651 (1829).
Synonym: *Riccia natans* L.
Etymology: Riccia-karpos: fruit like the ones of *Riccia*.

EXAMINED MATERIAL:

Sample: CAR 17208, CAR 17245 Museo de Historia Natural La Salle, Caracas, Venezuela.

Locality: Hato El Frío, Apure state, Venezuela. Coordinates: 7º52'35''N - 68º55'57''W.

Collection date: january 29th, 1997 and january 7th,1999

Habitat: Shadowy place of approximately two m^2, shore of a natural and temporary lagoon (total perimeter: 115 m) in a peripheral flooded area of Caño Guaritico. Altitude: 70 m asl. Wet Soil (slime-clay). Turbid and shallow waters, max. depth.: 40 cm, pH: 7.6 , total dissolved solids: 20 ppm. Dominant vegetation: *Hymenachne amplexicaulis* (Poaceae), *Eleocharis interstincta* (Cyperaceae) and *Salvinia auriculata* (Salviniaceae).

Collectors: A. Rial B. and C.A. Lasso.

Description: Thallus cordiform, 4-10 mm long, 2-8 mm wide, bilobulated,

forming small rosettes; margins tinged with a discontinuos dark line; upper surface green in fresh condition, brownish-yellow when preserved, with a conspicuous medial furrow; lower surface brownish, bearing toothed. Ribbon-shaped scales like rhizoids. Aerenchimatic tissue occupying the whole transversal section (Fig. 1).

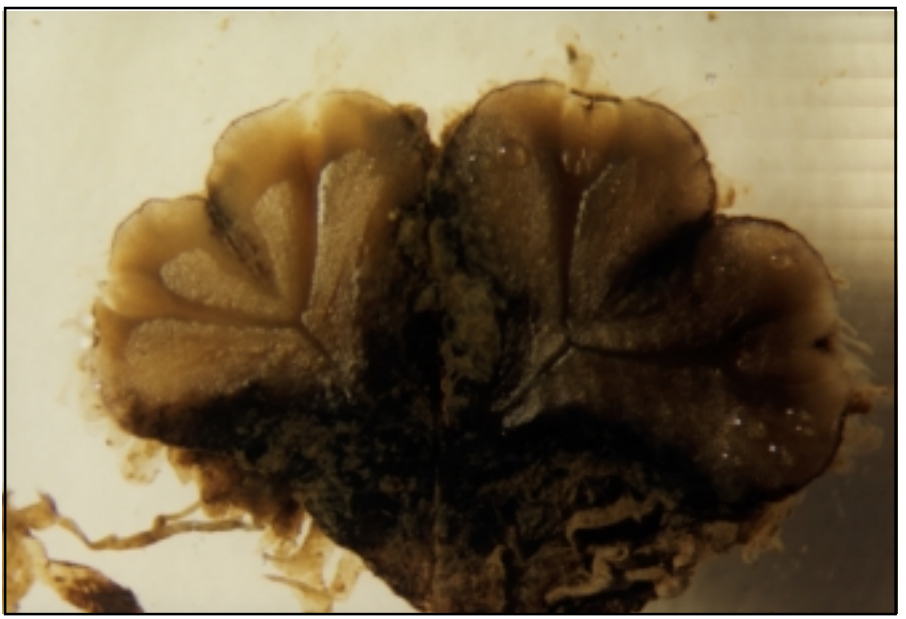

Figura 1
Ricciocarpus natans (L.) Corda. CAR 17208 (preserved in ethanol 70%). 1 cm = 1 mm.

Casares-Gil (1919) observed antheridia and archegonia caved in the medial furrow, and sporogonia rounded in the upper part by fleshy rudimentary involucres, projecting like tiny conic structures. This author also pointed out the existence of two forms: *natans* -floating- and terrestris -in the slime of shores-, the terrestris form apparently with narrow thallus, almost always purple-reddish, and with little scales and rhizoids. In this sense Parihar (1966) indicated that many authors have described plants of *R. natans* as different species, because of its morphological differences, probably due to its habits in soil or water. We confirmed the existence of the two forms in Hato El Frio and also the purple-reddish color of the terrestris one.

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