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BRYUM RICHARDSII SP. NOV. (1)

AARON J. SHARP (2)

Among the many collections of mosses from the Sierra Juárez in Oaxaca, Mexico, is a species of *Bryum* rather common on decaying wood near the pass on National Highway no. 175. It has several unusual characters as noted in the description below.

I take great pleasure in naming this interesting species in honor of the late Mr. Donald Richards who has not only stimulated and subsidized many of us, but has contributed to the field himself. A description in English was published by Ochi (1980). Below is the Latin validation of the binomial.

Distinguitur a *Bryum lepto-torquescens* C. M. quia dioicus, habens folia cum ex-currentibus costis, capsulas cum paucis stomatibus et peristomii dentes sine hyalinis marginbus.

Plants loosely tufted among other bryophytes, with dense, brown, papillose tomentum, robust (sometimes 3 cm high), often with one to several purple, flagellate branches near the tip with scale leaves; these branches fragile and easily broken, but rarely reverting at the tip to the usual type of stem; leaves ovate-lanceolate, 2-3 x 1/2-1 mm, with distinct margins, tightly spirally twisted when dry; costa conspicuous, tapering (65-35 *μ)* to a sharp excurrent mucro; differentiated margin of 3-4 rows (1-2 toward base) of slender cells with pale, heavier and slightly porose walls, sharply serrate in the upper 1/3 of the leaf, entire and slightly revolute in the lower half, laminal cells hexagonal 55-100 x 25-40 *μ)* , relatively uniform except slightly smaller apically and slightly larger basally, all with slightly thickened, porose walls. Leaves when dry appear to have 3 pale stripes: the margins and the underside of the costa.

Dioicous. Perichaetium terminal, leaves slightly shorter but similar to stem-leaves; sporophyte 2.5-3.5 cm long, seta 2-3 cm, capsule pendent, 5 mm, tapering into a short neck 1/4 the length of the capsule, stomata scarce; annulus conspicuous, revolvable; operculum mammilliform; peristome-teeth lanceolate, 600-700 *μ* long, unbordered, hyaline and papillose above, minutely punctate striolate below; segments slightly shorter than the teeth, usually with 2 cilia between; spores relatively smooth, 18-22 *μ*.

Perigonium a capitulum on a tomentose stem 1-2 cm long; leaves oval, slightly decurrent, 2 = 1 mm, upper margins serrulate, reduced on stem below; costa shortly excurrent.

Bryum richardsii is closely related to *B. lepto-torquescens* C. M. ex Broth. (1897) [of which *B. biforme* Williams (1916) is considered a synonym] from which it is easily distinguished by the excurrent costa. In addition, the dioicous condition, the relatively smooth spores, the scarcity of stomata on the capsule, and the absence of hyaline borders on the peristome teeth are characters which help separate it from Mueller's species.

TYPE: MEXICO: OAXACA: Fallen tree trunk, 9000 ft, near resthouse below gap in Sierra Juárez toward Tuxtepec, *A. J. Sharp 9840,* December 26, 1969, TENN; dulpicates in herb. MEXU, MICH, US, NY, FA, DUKE, NICH.

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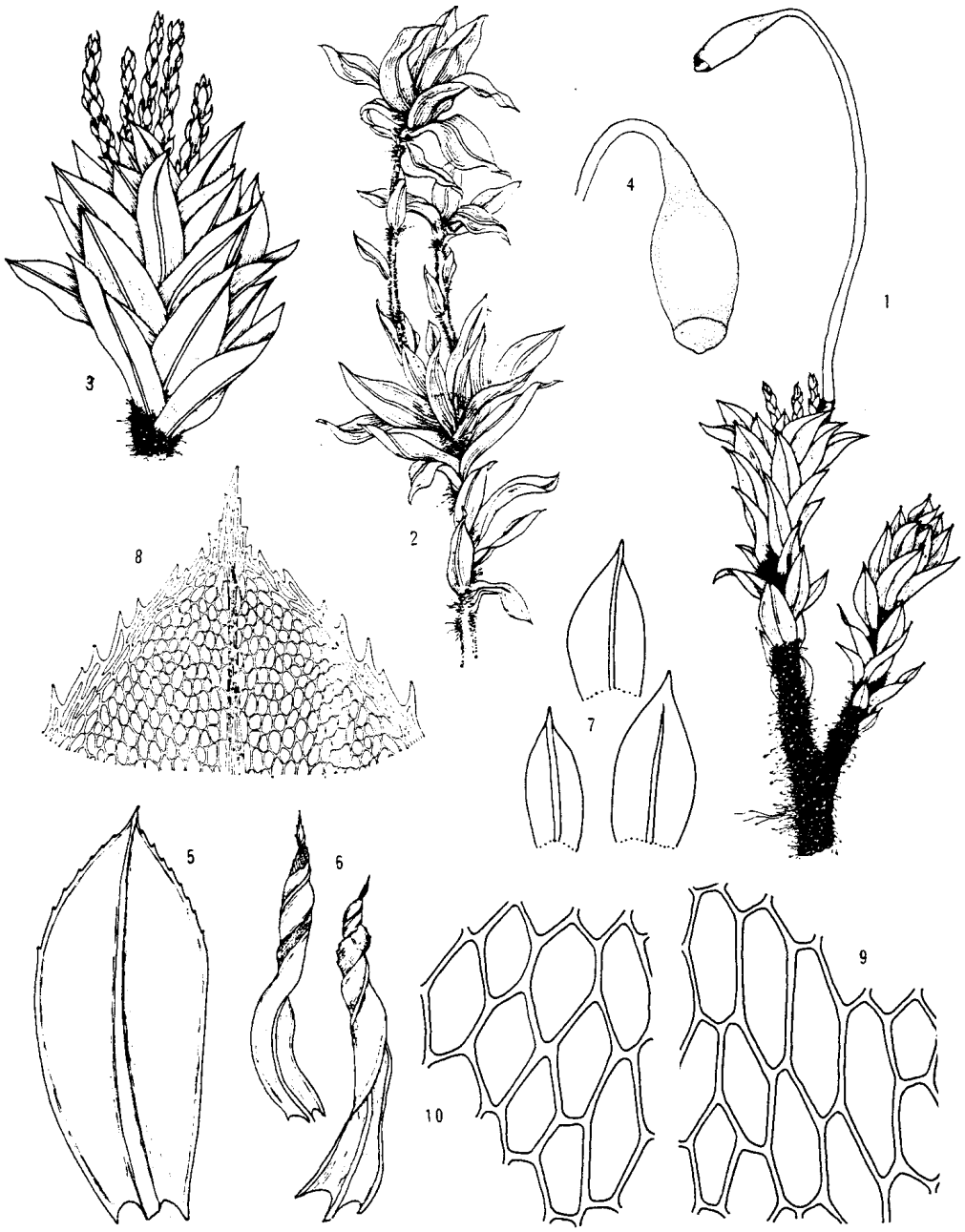

FIG. 1. 1. Female plant with flagellate branches and sporophyte, x 3. 2. Male plant showing innovations from below old capitulum, x 6. 3. Apex of plant with flagellate branches, x 6. 4. Capsule, x 6. 5. Leaf when moist, x 13. 6. Leaves twisted when dry, x 13. 7. Scale leaves from flagellate branches, x 25. 8. Apex of stem-leaf, x 30. 9. Laminar cells from stem-leaf, x 160. 10. Laminar cells from leaf of flagellate branch, x 160.

Other collections: MEXICO: CHIHUAHUA: *Robert Bye 7311 and B-58244,* Ejido de Boycona, W of Creel. Dec. 24, 1976 (TENN, COLO). OAXACA: *Diana Horton* 7677 *and 7690,* near San Pedro Xolox, December 13, 1976 (TENN, ALTA). *L. Gil Juarez* 974, 17 km NE of Huayacocotla, Veracruz March 29, 1979 (TESS, Xalapa, Mexico, MEXU). *D. H. Norris* and *D. J. Taranto* 16386, 33 km N of Ixtlan de Jdárez, August 20, 1970 (TENN, HSC). *Donald Richards, A. J.* and *E. B. Sharp* 3534 *and 7070a,* near gap in Sierra Juárez, September 5, 1974 (TESS, MEXU, F). *David K. Smith, A. J. and E. B. Sharp,* S. *Nakanishi, M, Manuel* and *H. J. Webster* 414, near Sierra Juárez gap, 67 mi. above Tuxtepec, December 27, 1970 (TENN). *D. K. Smith, F. D. Bowers, R. A. Hattaway, Paul Somers, Jr., and A. J. Sharp 3096,* below gap in Sierra Juárez toward Tuxtepec, December 24, 1974 (TENN, MEXU). *A. J. Sharp s.n.,* near gap in Sierra Juárez, December 27, 1962 (TENN). *AJS* 3926, E. of gap in Sierra Juárez (TENN, MEXU, DUKE, WTU). *AJS 9840,* near resthouse below gap in Sierra Juárez, December 27, 1969 (TENN). *AJS* M59172, about 110 km beyond Ixtlan de Juárez on road to Tuxtepec, January 1960 (TENN). *A. J. and E. B. Sharp, E.* C. *Clebsch, and K. R. Thornburgh 130,2238,2343, and 2350,* above Llano de Flores in Sierra Juárez, June 23, 1973 (TENN, MEXU, F, NY). *AJ and EBS, ECC, and KRT* 2355, near gap in Sierra Juárez, June 23, 1973 (TESS, US). *A. J. Sharp, F. D. Bowers, D. K. Smith R. A. Hattaway, Palll Somers, Jr.,* 4786 *and* 4827, creek below gap in Sierra Juárez toward Tuxtepec, December 24, 1972 (TENN, MEXU, MO). HIDALGO: *A. J. Sharp 824b,* above Real del Monte near Pachuca, October 1, 1944 (TENN).

PERU: *L. and P. Hegewald* 9256, 14 km on Chilifruta, Dpto. Junin, Prov. Huancayo (3000 m), 8.7.1977 (TENN, EPH).

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