

## *Molendoa ogalalensis* (Bryopsida, Pottiaceae) New to Mexico

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Abstract. *The rare, North American, high plains moss, Molendoa ogalalensis* (G. L. Smith) R. H. Zander, is newly recorded for stations in Sonora, Mexico.

Keywords. Bryophyta, high plains, Kansas, Mexico, *Molendoa*, *Ozobryum*.

*Molendoa ogalalensis* (G. L. Smith) R. H. Zander was relatively recently (Smith Merrill 1992) described from four stations in the high plains in south-central Nebraska and north-central Kansas. It occurred there on cemented soil in a “gently rolling, treeless plain with eroded rock outcrops (mortarbeds) exposed in low bluffs bordering the principal stream valleys . . .”. It was originally the generitype of *Ozobryum* G. L. Smith, but Zander (1993) felt that genus was insufficiently distinguished from *Molendoa* Lindb., and transferred the species to that genus.

As a species, *M. ogalalensis*, at least the high plains populations, is rather distinct, and difficult to mistake. Zander (1977), in a treatment of Pleurowiesiidae in Middle America, puzzled over Mexican specimens that seemed somewhat different from *M. sendmeriana* (Bruch & Schimper) Limpr., but assigned them to that species, with a note as to their different morphology. Subsequent re-examination of the relevant specimens in the course of study for the Flora of North America indicated that these were morphologically distinctive variants of *M. ogalalensis*, intermediate in some respects with *M. sendmeriana*.

The Mexican material of *M. ogalalensis* differs from the high plains morphotype in having somewhat more lax stems; the stem sclerodermis slightly more strongly thick-walled; distant, broadly elliptic, almost spatulate leaves (not long-ovate) that are entirely unistratose (not bistratose or occasionally tristratose in large patches); and the laminal papillae 1(–2) over each lumen (not entirely single except in *Richards et al.* 719). The Mexican specimens match high plains collections in important respects, including a negative reaction to 2% KOH solution; laminal section showing superficial walls about as thick as the internal walls (the superficial walls are thicker in *M. sendmeriana*); bulging upper laminal cells with much thickened, cap-like papillae; costa ending several cells below the apex, with a single, small stereid band. Lateral perichaetia

were found on one specimen (*Richards et al.* 710) located near the base of the stem among dense leaves from the previous growing season buried in the soil, but no perigonia or sporophytic structures were found.

The distinctive appearance of the upper lamina of these collections, and variation in characters that also vary in *M. sendmeriana* (Zander 1977), make best their identification as *M. ogalalensis*, rather than the description of a new species. *Molendoa ogalalensis* is described and illustrated by Smith Merrill (1992) and Zander (2001). All Mexican specimens were originally identified as *Anoetangium arizonicum* E. B. Bartram; the type specimen of that species was re-examined and its synonymy with *Gymnostomum aeruginosum* Smith verified. The Mexican habitat and substrate was given as dry soil, in a ravine. The soil at the base of the plants effervesces in dilute HCl, and is thus basic.

*Specimens examined.*—MEXICO. SONORA. 4.8 km S of Nacozeni, *Richards, Drouet & Lockhart* 706 (FH), 710 (FH), 1.6 km N of Jécori, 719 (FH). U.S.A. KANSAS. Rawlins Co., 22 km SE of Atwood, 39° 42' N, 100°48' W, *Merrill* 12901 (MO); Decatur Co., 4.8 km N and 25.6 km W of Dresden, *Merrill* 12888 (NY), 4.8 km N and 25.6 km W of Dresden, *Wranosky* 62 (MICH—*isotype of Ozobryum ogalalense*). NEBRASKA. Hitchcock Co. 17.6 km NW of Herndon, 40°03' N, 100°52' W, *Merrill* 12919 (MICH, MO).

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