

Second collection of a little moss, *Fissidens littlei* (Williams) Grout, rediscovered from a little sinkhole in New Mexico after 63 years

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Plants of *Fissidens littlei* (Williams) Grout were first collected by Elbert L. Little, Jr. in 1935, from gypsum plains on the Jornada Experimental Range (USDA), central Doña Ana County, New Mexico, and given the name *Moenkemeyera littlei* by R.S. Williams (1936). In a subsequent list of the bryoflora of the Experimental Range, Little (1937) described the habitat as “vertical walls of three gypsum sinks (2 to 8 feet below surface), gypsum deposits of plain, 1½ miles north of Middle Well, sec. 25, T.18S., R.1E., M.M. principal meridian.” As far as is known, this was the only documented collection of this species for the next 63 years. (*Fissidens orcuttii* Grout, from Louisiana, has been confused with *F. littlei*, but *F. orcuttii* should be placed in synonymy under *F. amoenus* C. Mueller, Ron Pursell, pers. comm.)

Fissidens littlei was again collected in September 1998, from approximately the same site as the 1935 collection. It was found on the side walls of small sinkholes that resembled burrows of small animals. The sinkholes were approximately 20-30 cm in diameter, the opening slightly wider than tall, lying at the bottom of larger swale-like depressions (much like a drain). The moss was located about 20 cm into the holes and far enough back from the mouth to be shaded for most of the day. It was growing in small colonies 2-3 cm wide, intermingled with a few plants of the Pottiaceae, as yet unidentified. Two collections were made, from sinkholes about 100 meters apart. No other populations were found, though three other sinkholes were located in the area.

Little's description implies that the sinkholes were quite large, up to 8 feet deep and presumably large enough for a person to enter. No such sites were located in 1998. The terrain of the original 1935 sites has likely been modified since that time, as gypsum plains are easily eroded by rainfall and this is in an area grazed by livestock, which were observed congregating in the moist, thickly vegetated ground in the depressions surrounding the sinkholes. Their scrambling into and out of the depressions readily crumbles and corrodes the banks and walls.

The collection sites are to the west of the San Andres Mountains. To the east are extensive deposits of gypsum as well, situated within White Sands Missile Range (U.S. Army) and White Sands National Monument (Department of Interior). A

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search of this area in October 1998 failed to find any mosses, though several promising sinkholes were located. The sites were quite dry, however, and they will need to be investigated again under more favorable growing conditions.

Fissidens littlei is distinguished by small size (1-2 mm high), elongated cells at the base of the vaginant laminae (scarcely a border), margins serrulate because of projecting cells, and cells mammillose rather than papillose.

Details of the 1998 collections are as follows:

New Mexico: Doña Ana County: Jornada Experimental Range (USDA), 1.5 miles (2.4 km) north of Middle Well, 2.6 miles (4.2 km) due east of Red Lake, N32°42.76' W106°47.12', gypsum plains of Chihuahuan Desert shrub savannah with *Prosopis glandulosa*, *Sporobolus nealleyi*, *Nerisyrenia linearifolia*, & *Calylophus hartwegii*, 4350 ft (1300 m), 2 Sep 1998, K.W. Allred 7286 (NMCR, PAC); same as previous, about 100 m east, K.W. Allred 7287 (NMCR). Identifications were verified by Ron Pursell (PAC).

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