



FIG. 1—Massive mound of *P. occidentalis* near Bachinivas, Chihuahua, Mexico. Seventy cm long shovel is inserted in the mound for scale.

sand mixture. Further south the soil became less sandy and more firmly packed and no *P. maricopa* were observed.

Specimens from the above collections are deposited in the collections of the Natural History Museum of Los Angeles County, and the University of Arizona as well as in the first author's personal collection.

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RECORDS OF *BAETISCA OBESA* (SAY) (EPHEMEROPTERA: BAETISCIDAE) IN SOUTHEAST TEXAS AND SOUTHWEST LOUISIANA

The family Baetiscidae is widely distributed in the eastern and northcentral United States and in Canada (Berner and Pescador, 1980). The insect family contains the single genus *Baetisca* and 12 described species of which the status of two is questionable. The distributions of all known species of this group were reported by Pescador and Berner (1981). Their examination of material from many private and institutional collections found no record of the occurrence of this family in Texas. Specimens have been recorded from the bordering states of Louisiana (*B. obesa*: Livingston and Natchitoches parishes), Arkansas (*B. lacustris*: Lawrence and Sevier counties), and Oklahoma (*B. lacustris*: McCurtain County). All documented cases of baetiscids in these states are in the Mississippi River drainage basin. This note reports the occurrence of *B. obesa* (Say) in the Sabine River drainage of western Louisiana and eastern Texas and the Neches River drainage of eastern Texas. The previous known range of *B. obesa* includes records from Florida,

Georgia, Illinois, Indiana, Louisiana, Massachusetts, Minnesota, Mississippi, South Carolina, and Wisconsin.

The material examined is deposited at the Sabine River Authority in Orange, Texas (SRA), the Department of Biology, Lamar University, in Beaumont, Texas (LU) and in the author's personal collection (SPL). The Lamar University specimens are a part of the thesis collection of C. Marc Barclay (Barclay, 1983). Determinations were made using the corrected key to nymphs in Pescador and Berner (1981). All nymphs examined were not mature, thus lacking the definitive long, bifid frontal projection, but all exhibited the dark brown spots near the lateral margins of sternites 2-6 characteristic of *B. obesa*.

Sabine River drainage: LOUISIANA: Beauregard Par: Bayou Anacoco at Louisiana Highway 111, southwest of Knight, 7.24 km upstream from confluence with Sabine River at river kilometer 169.74, one mature nymph on 23 Feb 1972, two mature nymphs on 5 Feb 1975, one mature nymph on 24 Jan 1979, one mature nymph on 29 Jan 1980 (SRA). TEXAS: Upshur Co: Big Sandy Creek at U.S. Highway 80, 1.90 km east of the town of Big Sandy, two mature nymphs on 14 Mar 1972 (SRA).

Neches River drainage: TEXAS: Hardin Co: Village Creek at FM 418, 6.44 km east of Kountze, one immature nymph on 14 Oct 1972 (SPL); Village Creek at Texas Highway 327, 2.06 km west of Silsbee, two mature nymphs on 13 Mar 1973, two immature nymphs on 14 Oct 1972 (SPL); Village Creek 0.20 km upstream from the confluence with Mill Creek, 20 mature and three immature nymphs on 23 Jan 1982 (LU); Village Creek 1.00 km downstream from the confluence with Mill Creek, 16 mature and six immature nymphs on 23 Jan 1982, one mature nymph on 18 Apr 1982 (LU); Village Creek at U.S. Highway 96, 7.25 km south of Silsbee, two immature nymphs on 22 Dec 1972 (SPL).

The existence of this mayfly family in the Neches River drainage has been known to aquatic biologists of the region; Richard Harrel (Dept. of Biology, Lamar Univ., pers. comm.) and his students have collected baetiscids in benthic macroinvertebrate samples from several streams in the Big Thicket area of east Texas for at least 15 years. Harrel and Newberry (1982) found baetiscid nymphs in Big Sandy Creek (Polk Co: Big Sandy Creek at boundary between the Alabama and Coushatta Indian Reservation and the Big Sandy Creek unit of the Big Thicket National Preserve, four nymphs on 18 Jan 1981; Big Sandy Creek at FM 1276, two nymphs on 11 October 1980), Lewis (1974) found them in Village Creek (Hardin Co: Village Creek at U.S. Highway 96, 7.25 km south of Silsbee, nine nymphs on 14 Oct 1972; Village Creek at Village Creek Club, 13 km from mouth, one nymph on 14 Oct 1972), and Harrel et al. (1976) found *B. lacustris* in the Neches River at stations 39.3, 58.0, and 60 km upstream from the mouth (Hardin, Jefferson, and Orange counties: one nymph at each station, collected between Oct 1971 and Aug 1972). These nymphs could not be located for verification, but based on the known range of the species, they are probably referable to *B. obesa*.

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ADDITIONS TO THE BRYOFLORA OF SOUTHERN NEW MEXICO

As indicated by Magill (1982), the diversity and distribution of bryophytes in the American southwest are not well understood. This is especially so in New Mexico where collectors have largely ignored the region encompassed by the Chihuahuan Desert. Recently, however, the list of mosses reported for New Mexico (Mahler, 1978) renewed floristic interest in the area (Ireland et al., 1981, 1984; Stark & Castetter, 1982). Additional collections from Doña Ana County provided several additions to the bryoflora of New Mexico, which are reported here. Furthermore, the distributions of several taxa are broadened to include the southern portion of the State. Ten of the 14 additions to southern New Mexico listed below are also known from western Texas (Magill, 1976); four are reported from Arizona (Haring, 1961). As expected, xerophytic Pottiaceae represent a dominant element in the bryophyte vegetation.

The seven new state records are identified by asterisks. Vegetation zones (Veg. zones) are coded by numbers that correspond to those in Stark and Castetter (1982), i.e., derived from the classification presented by Dick-Peddie and Moir (1970): 1 = Desert; 2 = Upper Desert Grassland; 3 = Savanna and Woodland; 4 = Chaparral; 5 = Deciduous Woodland. Specimens are deposited at PAC.

Campylium hispidulum (Brid.) Mitt. Veg. zones 4, 5; Stark & Castetter 1514, 1515, 1638. Previously reported from New Mexico from San Miguel Co. (Mahler 1978).

**Crossidium crassinerve* (De Not.) Jur. var. *crassinerve*. Veg. zone 1; Stark & Castetter 1435, 1575 (duplicates at MEXU).

**Desmatodon convolutus* (Brid.) Grout. Veg. zone 1; Stark & Castetter 1576 (duplicate at BUF).

D. rigidulus Hedw. var. *gracilis* (Schleich. ex Hook. & Grev.) Zander. Veg. zones 1, 3, 4; Stark & Castetter 1449 (duplicate at BUF). Note: reported by Mahler (1978) as *Barbula acuta* (Brid.) Brid. from Doña Ana Co.

Haplocladium microphyllum (Hedw.) Broth. Veg. zone 4; Stark & Castetter 2382. Previously reported in the state from San Miguel Co. (Mahler 1978).

**Husnotiella torquescens* (Card.) Bart. Veg. zone 1; Stark & Castetter 1477. According to Zander (1981), some species of *Husnotiella* (*H. revoluta* Card., *H. torquescens*) might better be regarded in *Didymodon*. He placed *H. torquescens* in the synonymy of *Didymodon australasiae* (Hook. & Grev.) Zander.

Hypnum vaucheri Lesq. Veg. zone 5; Stark & Castetter 2254. Reported by Flowers (1973) without specific locality from New Mexico. Little (1937) reported *H. cupressiforme* Hedw. from San Andres Peak, Doña Ana Co., which, according to Crum and Anderson (1981) is synonymous with *H. vaucheri*.

Leskeella nervosa (Brid.) Loeske. Veg. zone 5; Stark & Castetter 2779. Reported from New Mexico in Crum and Anderson (1981) but without a county designation.

**Mannia fragrans* (Balbis) Frye & Clark. Veg. zones 3 & 4; Stark & Castetter 1776, 2392 (duplicates in personal herbarium, Alan T. Whittemore).

**Phascum cuspidatum* Hedw. var. *schreberianum* (Dicks.) Brid. Veg. zones 2, 3, 4, 5; Stark & Castetter 1838, 2032, 2038, 2048. Though this variety was not recognized by Crum et al. (1973), Flowers (1973) reports it as restricted to Utah. Leaves are smooth, and distinctions between *P. cuspidatum* and *P. hyalinotrichum* Card. & Thér. may eventually break down.

Pseudoleskeella arizonae (Williams) Lawt. Veg. zone 5; Stark & Castetter 2779. Reported from northern New Mexico (San Miguel & Santa Fe Cos.) by Mahler (1978); new to southern New Mexico.

**Rhodobryum roseum* (Hedw.) Limpr. Veg. zones 3 & 4; Stark & Castetter 2272, 2497.

**Timmiella anomala* (BSG) Limpr. Veg. zone 3; Stark & Castetter 3037.

Tortula chisosa Magill, Delgadillo & Stark. Veg. zones 2, 3, 5; Stark & Castetter 1963, 2531. Reported from New Mexico by Magill et al. (1983).