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## Occurrence of the milliped, *Stenodesmus tuobitus* (Chamberlin), west of the Rio Grande (Polydesmida: Xystodesmidae)

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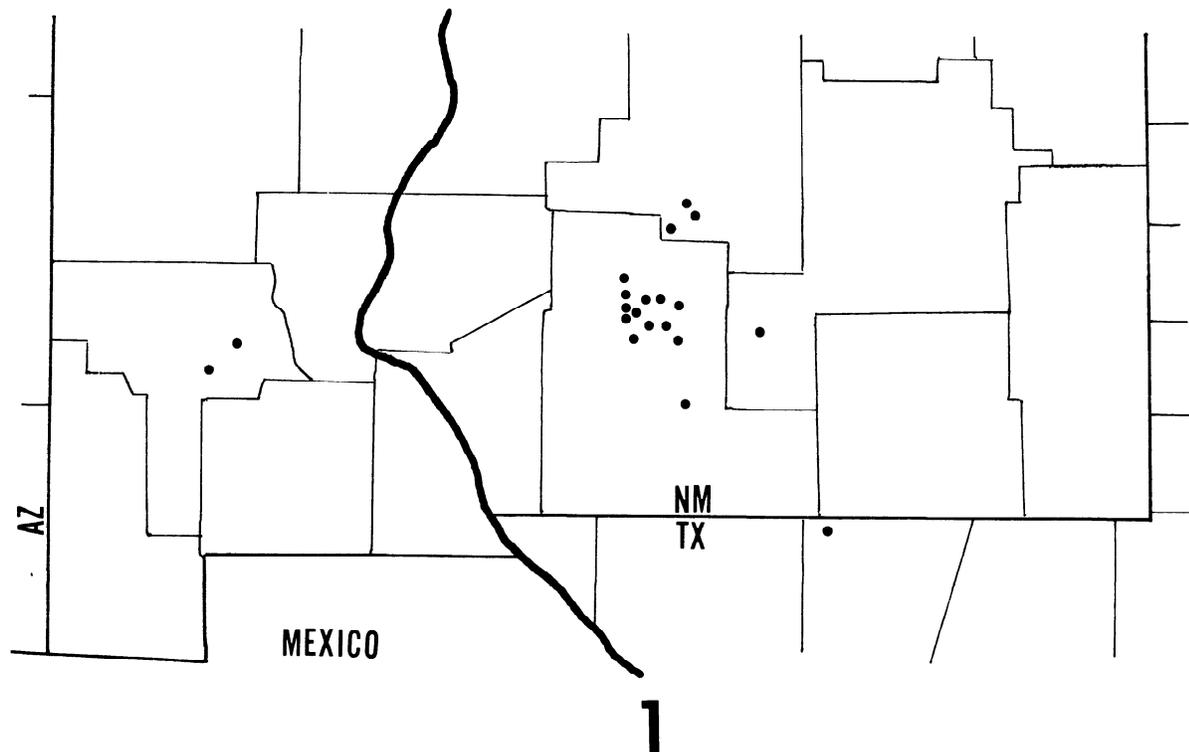
### Abstract

New records of the xystodesmid diplopod *Stenodesmus tuobitus* (Chamberlin) extend its range and those of the family and suborder Chelodesmidea into southwestern New Mexico, west of the Rio Grande. They confirm that it inhabits arid juniper environments at relatively low elevations as well as moist deciduous fir forests at high elevations, thereby lending credence to past records from the former habitat in Lincoln County. Discovery of the milliped in neighboring mountain ranges to the north and west is now likely, with the distant possibility that it may occur in eastern Arizona.

### Introduction

The milliped, *Stenodesmus tuobitus* (Chamberlin) occurring in the Sacramento Mountains of Otero County, New Mexico, and the Guadalupe Mountains of Culberson County, Texas, is biogeographically significant in being one of two representatives of the family Xystodesmidae and suborder Chelodesmidea (order Polydesmida) occurring in southwestern American deserts, the other being *Rhysodesmus chisosi* Shelley in the Chisos Mountains, Brewster County, Texas (Shelley 1987, 1989). The most proximate xystodesmid and chelodesmoid to the west is *Motyxia dissecta* (Wood), occurring at Riverside, Riverside County, California (unreported material that I have examined). To the southeast in Texas, the most proximate xystodesmid aside from *R. chisosi* is *R. texicolens* (Chamberlin), occurring at Laredo, Webb County (Hoffman 1970), and the closest chelodesmoid is *Eurymerodesmus melacis* Chamberlin and Mulaik, in eastern Terrell and Sutton counties (Shelley 1990a, plus unreported material that I have examined). *Stenodesmus tuobitus* also has been reported from Edinburg, Hidalgo County, in the lower Rio Grande Valley some 585 miles southeast of the Culberson County site (Shelley 1990b), suggesting that it also occurs in such intervening areas as the western part of the Edward's Plateau. Shelley (1987) thought that the species might occur in the Capitan Mountains and that this was the probable northern range limit, but it has never been collected north of the Sacramentos.

Recent acquisitions of *S. tuobitus* from New Mexico significantly expand its known distribution in New Mexico (Fig. 1). Of particular biogeographic interest are two samples from 6-7000' elevation in hills east of Silver City, Grant County, some 130 miles west of the previous distribution limit. They establish the species, genus, family, and suborder in New Mexico west of the Rio Grande. In 1989 I searched unsuccessfully for *S. tuobitus* in this area because I concentrated on deciduous spots similar to its preferred habitat in the Guadalupe and Sacramento Ranges, but these specimens were discovered in pine/juniper litter. Because *S. tuobitus* is so common in the aspen/fir forests atop the Sacramento Mountains, I (1987) questioned previous reports from juniper grasslands at low elevations near Stanton and Glencoe, Lincoln County. However, another new sample from the southern extremity of the Sacramentos near Pinon, Otero County, was collected in this environment and thus lends credence to the Lincoln County sites. In 1989 I also sampled in the White, Pinaleno, Chiricahua, Huachuca, Santa Rita, and Santa Catalina Mountains of Arizona without finding *S. tuobitus*, but I again focused on wooded canyons and forests at high elevations without examining juniper stands. It thus seems possible that *S. tuobitus* may occur to the north and west of its present range in uninvestigated, predominantly juniper environments, and discovery in eastern Arizona, only 60 miles west of the Grant County sites, seems plausible.



**Figure 1.** Distribution of *S. tuobitus* in New Mexico and west Texas. The heavy line represents the course of the Rio Grande.

ible. However, the milliped probably does not occur in the Chiricahuas, where it has never been encountered despite intensive sampling by staff and visitors to the Southwest Research Station at Portal.

A fourth new sample, from a low elevation in Chaves County between the Sacramento and Guadalupe Mountains, suggests that these populations may be interconnected and not allopatric as previously suspected (Shelley 1987). The habitat in Chaves County is uncertain, but it probably involved junipers, which are abundant at this elevation. Previous efforts to find *S. tuobitus* in neighboring Eddy County, in the Guadalupe District of the Lincoln National Forest, were unsuccessful (Shelley 1987), but they too focused on riparian woodlands like the habitat in Culberson County, Texas, and bypassed the juniper areas. With the discovery of *S. tuobitus* in juniper litter, this region should be reinvestigated with emphasis on this vegetation. *Stenodesmus tuobitus* is therefore an ecologically variable species that can thrive in arid

juniper associations as well as in moist deciduous areas. This adaptability enhances the possibility of future discoveries and range extensions well to the north and west of its present distribution limits.

Data for the newly reported samples, all housed at the North Carolina State Museum of Natural Sciences, are as follows: NEW MEXICO: Chaves Co., 3 mi. N Dunken, 2M, 16 June 1988, D. W. Adcock. Otero Co., 10.2 mi. SW Pinon, along NM hwy 506, 3M, F, 4 Aug. 1991, K. J. McWest. Grant Co., Mimbres Ranger Sta., Gila Nat. For., along NM hwy. 35 just S jct. NM hwy. 61, 8M, 6F, 8 Aug. 1991, T. G. Anton and K. J. McWest; and ca. 14 mi. W San Lorenzo, along NM hwy. 152 nr. Ft. Bayard, 2M, 2F, 8 Aug. 1991, T. G. Anton and K. J. McWest.

### Acknowledgments

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