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Speodesmus

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ABSTRACT

Speodesmus millipedes are small, white, troglobitic polydesmids, probably descended from soil-burrowing forms that inhabited mesic, southwestern forests in the past. Currently there are four described species: *S. echinourus* Loomis, 1939, from central Texas; *S. tujanbius* (Chamberlin, 1952), re-described by Shear (1974), from New Mexico and West Texas; *S. bicornourus* Causey, 1959, from central Texas; and *S. aquiliensis* Shear, 1984, from Colorado.

Elliott's 1976 morphometric study of numerous specimens from Texas employed extensive multivariate analyses in search of species-specific characters. As in most millipedes, the male gonopods provide good characters because of their lock-and-key relation to the female genitalia. Females have extensible cyphopods. Some small species (7-10 mm long) still burrow in soil, while large species (20 mm) evolved gigantism in humid cave environments. Large and small morphs of *S. bicornourus* are geologically isolated from each other. *Speodesmus* has speciated many times into interesting biogeographic patterns related to karst areas bounded by faults, streams and lithologic changes.

New species recognized by Elliott include six from Texas, one from Arizona, and one possible from Nevada. Elliott has descriptions in press of four of the new Texas species: Species c from Fort Hood, Bell and Coryell counties; Species f from Camp Bullis, north central Bexar County; Species r from Government Canyon State Natural Area, Helotes and other points in northwestern Bexar and northeastern Medina counties; and Species i from Camp Bullis and San Antonio, Bexar County, and Comal County. The closest relative of Species c is *S. bicornourus*, from Williamson, Travis, and Burnet counties, Texas. Species f and r are relatives of *S. echinourus*, which is distributed across the Edwards Plateau and parts of the Balcones Escarpment. Species i is a soil-burrowing form, similar to a new species from Val Verde County. Another new species from Hays and southern Travis counties is a more troglomorphic relative of *S. echinourus*. Preanal setae, previously thought to distinguish species groups of *Speodesmus*, are somewhat variable. Gonopods remain the most suitable structures for separating species groups until DNA studies can be employed.