

# New Geographic Distribution Records for Millipeds (Diplopoda) from Oklahoma

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We continue to report new geographic records for millipeds of the state, including noteworthy records for some taxa collected in eastern and western Oklahoma. This contribution documents 11 new county records and includes records for five species within five families and four orders. Most notably, we report the northwesternmost and westernmost distribution for *Eurymerodesmus mundus* (Eurymerodesmidae) and *Pseudopolydesmus pinetorum* (Polydesmidae), respectively. Additional records will undoubtedly be reported in the future as several gaps in the distribution of Oklahoma millipeds remain. ©2013 Oklahoma Academy of Science.

## INTRODUCTION

Compared to surrounding states, little is known about the millipeds (Diplopoda) of Oklahoma. However, over the last decade or more, significant information has been documented on millipeds of the state, particularly those from caves (Lewis 2002; Shear 2003; Lewis and Slay 2012) and those from southeastern Oklahoma (McAllister et al. 2002; McAllister and Shelley 2005; McAllister and Robison 2011). Here, we report additional geographic distribution (county) records for some millipeds of the state, including noteworthy records of *Eurymerodesmus mundus* and *Pseudopolydesmus pinetorum*.

## MATERIALS AND METHODS

Between November 2003 and October 2013, we followed techniques of McAllister and Robison (2009) in collecting millipeds from sites in eight counties of the state, including

Caddo, Choctaw, McCurtain, McIntosh, Osage, Pittsburg, Pushmataha and Woodward (Figure 1). In addition, we also visited the far western panhandle of the state (Cimarron County) but were unable to find any millipeds. Specimens were placed in vials containing 70% ethanol and, following preliminary identification, representative samples were shipped to R. M. Shelley at the North Carolina State Museum of Natural Sciences (NCSM), Raleigh, for verification of identifications and deposition of vouchers. Other specimens were deposited in the Sam Noble Oklahoma Museum of Natural History (OMNH), Norman. Below, taxonomy is presented in same order as reported by Shelley (2003). Collectors of specimens are the coauthors who are designated below by their initials.

## ANNOTATED LIST OF TAXA

### Julida: Parajulidae

*Aniulus (Hakiulus) diversifrons diversifrons* (Wood) – **McCurtain Co.**, Beavers Bend State Park (34.138982°N, 94.687943°W), ♂♂,

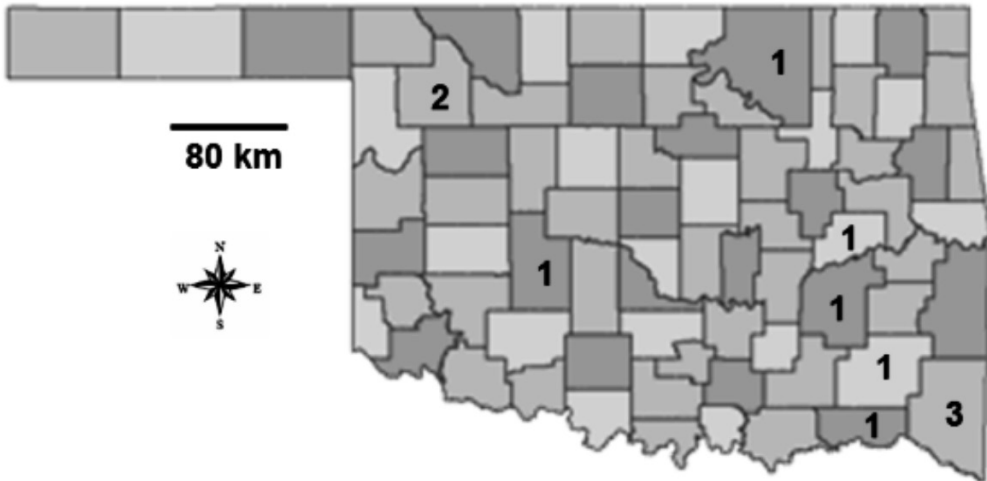


Figure 1. Eight Oklahoma counties with number of new distributional records noted for millipeds.

19 Dec. 2011 & 12 Jan. 2012, CTM, (NCSM). Lukfata, McGee Chapel Road (34.004751°N, 94.759955°W), ♂♂, 20 Mar. 2011, 5 Jan. 2012 & 25 Jan. 2013, CTM (NCSM). Hochatown off US 259 and Steven's Gap Road, ♂, ♀, 5 Oct. 2013, CTM (OMNH). Previous records of *A. d. diversifrons* in the state include Canadian, Cleveland, Coal, Delaware, Hughes, Logan, Murray and Pittsburg counties (Shelley 2000). We help fill a hiatus (Shelley 2000, his figure 51) and document the southeasternmost distribution for this parajulid in Oklahoma. In addition, McAllister and Robison (2009) reported *A. d. diversifrons* from just over the southeastern border of Oklahoma in Bowie County, Texas.

#### Spirobolida: Spirobolidae

*Narceus americanus* (Palisot de Beauvois). – **Choctaw Co.**, Fort Towson Historic site off US 70 (34.025801°N, 95.258803°W), 14 Oct. 2011, CTM (OMNH). This milliped complex (*N. americanus-annularis*) is expected for the eastern to central two-thirds of the state but genuine vouchers had been previously reported from only 11 (14%) counties, including Caddo, Comanche, Craig, Hughes, Le Flore, McCurtain, Murray, Okmulgee,

Osage, Pittsburg and Pushmataha (McAllister and Shelley 2003; Shelley et al. 2006).

#### Callipodida: Abacionidae

*Abacion texense* (Loomis). – **McCurtain Co.**, Beavers Bend State Park (34.138982°N, 94.687943°W), ♂♂, 20 Mar. 2011, CTM (NCSM). McAllister and Shelley (2010, see their fig. 1) summarized records of *A. texense* in the USA and reported previous Oklahoma records from Adair, Cherokee, Choctaw, Ellis, Garfield, Kiowa, Latimer, Le Flore, Major, Mayes, Pittsburg, Pottawatomie, Sequoyah, and Stephens counties. Although this milliped is expected statewide (except for the panhandle), only 13 of 77 (17%) counties are documented with genuine vouchers (McAllister and Shelley 2010). Interestingly, this milliped has not yet been found just to the east of McCurtain County in Little River and Sevier counties, Arkansas, although it is known from nearby Bowie County, Texas (Shelley 1984; McAllister and Shelley 2010).

#### Polydesmida: Eurymerodesmidae

*Eurymerodesmus mundus* Chamberlin. – **McCurtain Co.**, Lukfata, McGee Chapel Road (34.004751°N, 94.759955°W),

♂, 23 Feb. 2013, CTM (OMNH). Beaver's Bend State Park, Boren Trail (34.138982°N, 94.687943°W), ♂♂, 13 & 18 Mar. 2013, CTM & Nikolas H. McAllister, (OMNH). **Pushmataha Co.**, Indian Nations turnpike at mile marker 34 (34.478543°N, 95.73143°W), 20 Feb. 2011, ♂, CTM & HWR, (OMNH). **Woodward Co.**, Boiling Springs State Park, Whitetail Trail (36.455911°N, 99.294841°W), 21 Sept. 2012, ♂♂, ♀, juv., CTM & MBC, (OMNH). Additional records of *E. mundus* in the state include Caddo, Canadian, Cleveland, Comanche, Craig, Grady, Latimer, Le Flore, Logan, McClain, Noble, Osage, Pittsburg, Tulsa and Washita counties (Shelley 1990; McAllister et al. 2004; McAllister and Shelley 2008; McAllister and Robison 2011) (Figure 2). We report the farthest northwestward distribution of *E. mundus* reported to date for Oklahoma or any other state (Figure 2).

### Polydesmidae

*Pseudopolydesmus pinetorum* (Bollman).

– **Caddo Co.**, vic. Ft. Cobb State Park off St. Hwy. 146 (35.175808°N, 98.474965°W), 8 Nov. 2003, ♂, CTM, (NCSM). Red Rock Canyon State Park, off St. Hwy. 8, Rough Horsetail Trail (35.439164°N, 98.354026°W),

8 Nov. 2003, ♂, CTM, (NCSM). **McIntosh Co.**, off St. Hwy. 150, vic. Brush Hill (35.415285°N, 95.628004°W), 11 Sept. 2004, ♂, CTM (NCSM). **Osage Co.**, Osage Hills State Park (36.73598°N, 96.185686°W), 9 Oct. 2009, ♂, CTM & HWR (NCSM). **Pittsburg Co.**, 3.2 km SE of Canadian at Arrowhead State Park, Outlaw Nature Trail (35.156205°N, 95.619511°W), 11 Sept. 2004, ♂, CTM, (NCSM). **Woodward Co.**, Boiling Springs State Park, Whitetail Trail (36.455911°N, 99.294841°W), 19 Feb. 2011 & 21 Sept. 2012, ♂♂, ♀♀, CTM & HWR, CTM & MBC, (NCSM, OMNH). Previous records of *P. pinetorum* in the state include Adair, Atoka, Choctaw, Cleveland, Delaware, Johnston, Latimer, Le Flore, Marshall, McCurtain and Murray counties (Causey 1953; Harrel 1960, 1963; Black 1971; McAllister and Shelley 2003) (Figure 3). We document the westernmost record (Woodward County) of *P. pinetorum* in the state (Figure 3). In addition, Withrow (1988), in an unpublished thesis, provided county records of *P. pinetorum* for Oklahoma (Logan, Murray, Payne and Pontotoc) and revised the genus, but these are not recognized since they are not published in a refereed journal and his taxonomy is obsolete (Shelley and

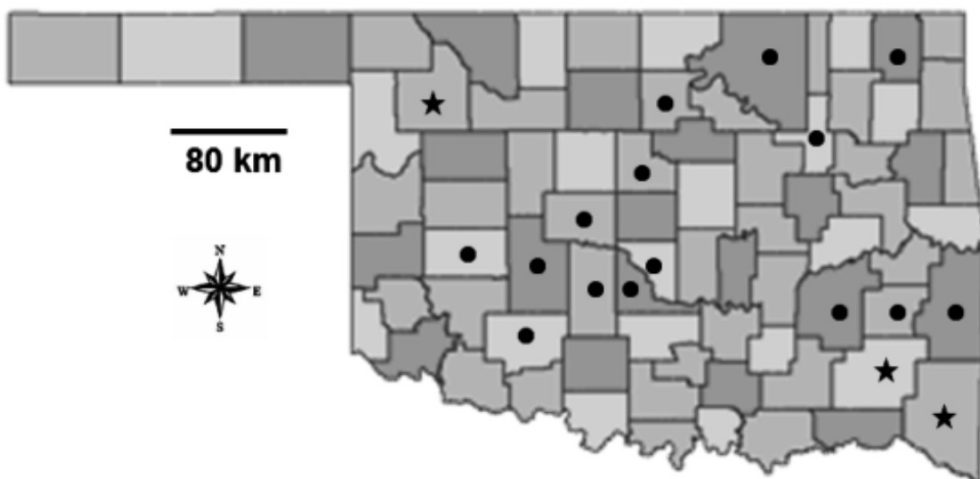
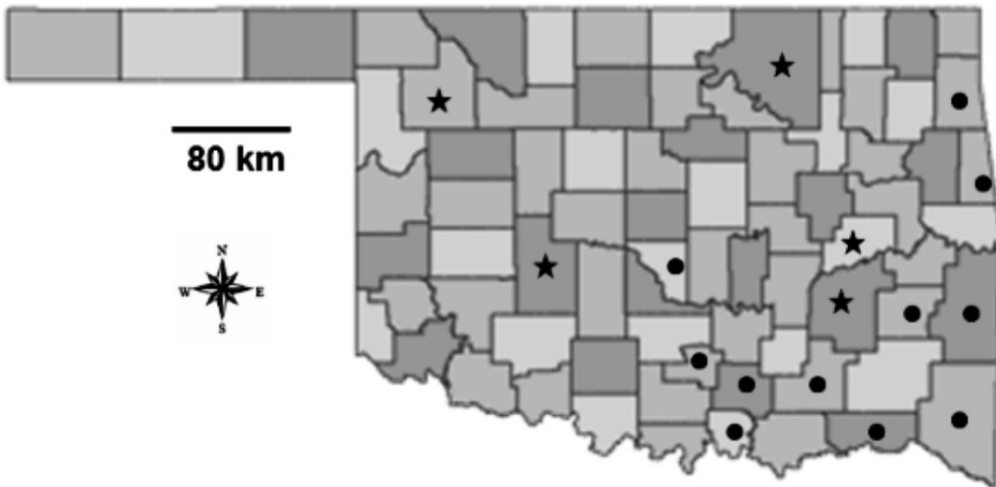


Figure 2. Records of *Eurymerodesmus mundus* in Oklahoma. Dots = previous records; stars = new records.



**Figure 3.** Records of *Pseudopolydesmus pinetorum* in Oklahoma. Dots = previous records; stars = new records.

Snyder 2012). The genus is badly in need of a modern revision.

## CONCLUSIONS

In summary, we document 11 new county records for millipeds of the state, including the westernmost records for *E. mundus* and *P. pinetorum*. Undoubtedly, additional records will be reported in the future as several gaps in the distribution of Oklahoma millipeds are evident as well as description of new species. Indeed, Lewis and Slay (2012, their fig. 6) noted a new species of *Chaetaspis* (currently designated *Chaetaspis* n. sp. 2) from southcentral Oklahoma (Murray County) that is yet to be named and described and there are surely others that inhabit subterranean habitat (see Graening et al. 2011). In addition, three species of cave-dwelling *Trigenotyla* are endemic in the state (Shear 2003; Robison and McAllister 2012). Future studies should target sites in the western part of the state and panhandle, where little is known about milliped distributional patterns.

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