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Twenty Three True Bug State Records for Arkansas, with Two for Ohio, U.S.A.

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Over the past half decade, 64 Hemiptera (Heteroptera) species have been published as new records for Arkansas (Chordas and Kremers, 2009). New bug records reported herein were from three sources; recently collected specimens from the authors current and on-going Arkansas projects, specimens from the University of Arkansas-Monticello collection (UAM), and one of us (JK) captured bugs at his resident property in Clarksville (Johnson County) Arkansas. Identification of the true bugs from these sources revealed 23 species (in 9 families) that are new state records for Arkansas. The first author collected two of these species in Ohio and we include these as new records for that state as well. Further, Daniel Swanson (see acknowledgments) provided additional Reduviidae records we include (noted as *DS).

We newly report the following 23 species (alphabetically by family, then species): **Alydidae**: *Alydus pilosulus* Herrich-Schaeffer, 1848 (also from Ohio); **Anthracoridae**: *Cardiastethus assimilis* (Reuter, 1871); **Coreidae**: *Acanthocephala femorata* (Fabricius, 1775), *Hypselonotus punctiventris* Stål, 1862, *Leptoglossus clypealis* Heidemann, 1910; **Lygaeidae**: *Melacoryphus facetus* (Say, 1832), *Oncopeltus fasciatus* (Dallas, 1852); **Miridae**: *Collaria oculata* (Reuter, 1871), *Diphleps unica* Bergroth, 1924; *Eustictus necopinus necopinus* Knight, 1923, *Hyaliodes harti* Knight, 1941, *Lopidea robinae* (Uhler, 1861), *Phytocorus erectus* Van Duzee, 1920, *Tropidosteptes cardinalis* Uhler, 1878; **Nabidae**: *Pagasa fusca* (Stein, 1857); **Reduviidae**: *Narvesus carolinensis* Stål, 1859, *Oncerotrachelus acuminatus* (Say, 1832), *Rhiginia cruciata* (Say, 1832) (also from Ohio); **Rhopalidae**: *Harmostes fraterculus* (Say, 1832), *Jadera haematoloma* (Herrich-Schaeffer, 1847); **Rhyparochromidae**: *Atrazonotus umbrosus* (Distant, 1893), *Ozophora picturata* Uhler, 1871, *Paromius longulus* (Dallas, 1852). We also provide dorsal images of all 23 species, updated distribution maps (north of Mexico), and a few ecological notes.

Voucher specimens of all 23 species were deposited into the C.A. Triplehorn Insect Collection

(The Ohio State University, Columbus Ohio), duplicates were retained by the first author (SWC) or JK and are housed in personal collections. Brailovsky (2006), Chordas et al. (2005 & 2008), Decker and Yeagan (2008), Henry and Froeschner (1988), Maw et al. (2000), McPherson (1992) and Schaefer and Schaffner (1994) were used as distributional references. Blatchley (1926), Hoebeke and Wheeler (1982), Knight (1941), McPherson et al. (1990) and Slater (1992) were used for species identifications; additional literature required for some identifications are listed under individual species discussion.

New State Records: Alphabetically by family.

Alydidae (Broad-Headed bugs): *Alydus pilosulus* is a widespread species across the US and was anticipated for Arkansas (Figs 1 & 2). Collection data **Arkansas**: Johnson County. Clarksville, Arkansas, Clark Road (runs parallel & between State Route 64 & U.S. Route 40). Joe Kremers. N35.46: W-93.49. Three specimens were collected, one each on 2-19 August 2005, 30 September 2005, 22 July 2007. We also identified one specimen collected with a sweepnet from Ohio. Collection data **Ohio**: Wayne County: SW portion; Shreve Lake wildlife area, off Brown Road. 1 August 2010. Steve Chordas III. N40.686: W-82.044.

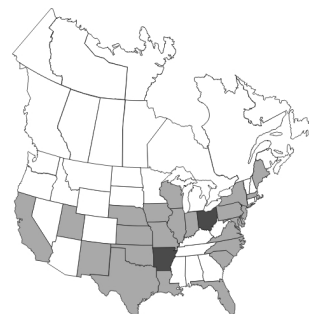


Figure 1. Distribution of *Alydus pilosulus* North of Mexico.

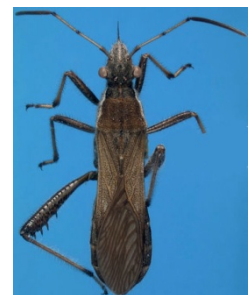


Figure 2. Dorsal view of *Alydus pilosulus*

Anthracoridae (Minute pirate bugs): Previously reported from only four scattered states (Fig. 3), *Cardiastethus assimilis* (Fig. 4) was an interesting

find. A single specimen was collected. Collection data **Arkansas:** Garland County (West Edge), Camp Clearfork, Ouachita National Forest, ≈1km S of U.S. Route 270, ≈30 km W of Hot Springs, 20 June 2008, UV light, Brian Baldwin, N34.51: W-93.39.



Figure 3. Distribution of *Cardiaesthus assimilis* North of Mexico.



Figure 4. Dorsal view of *Cardiaesthus assimilis*

Coreidae (Leaf-footed bugs): *Acanthocephala femorata* was expected for Arkansas as it had been recorded from several surrounding states (Fig. 5). *Acanthocephala femorata* is a large distinctive bug (body length 28-34mm) (Fig. 6). This species is also figured nicely in both Henry and Froeschner (1988), page 70 and Brailovsky (2006), page 256. It is now the third species of this genus reported for Arkansas (Chordas et al. (2005) reported *A. terminalis*, Chordas and Kremers (2009) reported *A. declivis*). A single specimen, from the UAM collection, was collected in November 1980 from Drew County.



Figure 5. Distribution of *Acanthocephala femorata* North of Mexico.



Figure 6. Dorsal view of *Acanthocephala femorata*

Hypselonotus punctiventris (Fig. 7). A single specimen was collected off a bull thistle (*Cirsium vulgare*) flower. This species is not in Blatchley (1926). It was ultimately identified using illustrations in Distant (1880-1893; tab 14). The photo of this species (Fig. 8) is the field photo of the specimen just prior to it being hand collected. Collection data **Arkansas:** Ashley County, Crossett Arkansas, logging road off Hwy 133 south side of Crossett. 20 April

2008. Hand collected off of bull thistle flower. Renn Tumilson. N33.1097: W-91.9566.



Figure 7. Distribution of *Hypselonotus punctiventris* North of Mexico.

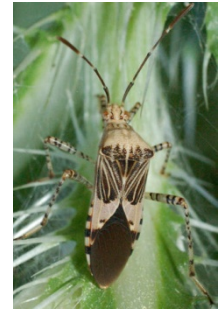


Figure 8. Field photo of *Hypselonotus punctiventris*

Leptoglossus clypealis is primarily a western species with Arkansas on the edge of its eastern range (Fig. 9). This species has a distinctive anterior spine that extends between the antennal bases (Fig. 10). Three specimens were collected (1 each on 24 May 2006, 19 July 2006, 13 August 2006) all from the Johnson county location (see *Alydus pilosulus*).

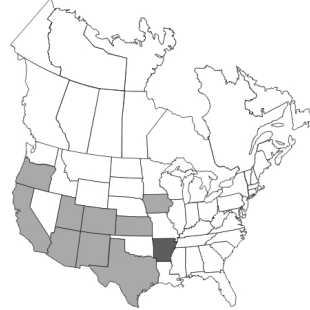


Figure 9. Distribution of *Leptoglossus clypealis* North of Mexico.



Figure 10. Dorsal view of *Leptoglossus clypealis*

Lygaeidae (Seed bugs): *Melacoryphus facetus* is known mostly in the south and the east (Fig. 11). A single specimen of this species (Fig. 12) was collected on 9 June 2005 from the Johnson county location (see *Alydus pilosulus*).



Figure 11. Distribution of *Melacoryphus facetus* North of Mexico.



Figure 12. Dorsal view of *Melacoryphus facetus*

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Oncopeltus fasciatus, the large milk weed bug, is widespread and common in the eastern half of the US and Canada (Fig. 13). The photo (Fig. 14) is a field photo taken of one of the specimens just after a mating pair was hand collected. Although well known and expected for Arkansas, we found no literature record for this species and thus list it as a new for Arkansas. We also did not find a literature record for Kentucky, but did find the University of Kentucky Department of Entomology at (www.uky.edu; "critter files") lists this species with pictures, ID information, etc. Thus, we include Kentucky in our distribution map (shaded differently). Collection data **Arkansas**: Clark County, DeGray Lake, Spillway Dam Recreation Area off County Road 18. 26 July 2008. Hand collected off Buttonbush (*Cephalanthus occidentalis*). Renn Tumblison. N34.2204: W-93.1002.



Figure 13. Distribution of *Oncopeltus fasciatus* North of Mexico.



Figure 14. Field photo of *Oncopeltus fasciatus*

Miridae (Plant bugs): *Collaria oculata*. The Alberta literature record was questioned by Maw et al (2000); we follow their listing (Fig. 15). Arkansas was within the known distribution. Two specimens (Fig. 16) were collected on 20 and 27 June 2008 from the Garland County site (see *Cardiastethus assimilis*).



Figure 15. Distribution of *Collaria oculata* North of Mexico.



Figure 16. Dorsal view of *Collaria oculata*

Arkansas lies along the western edge (Fig. 17) of the known range of *Diphleps unica* (Fig. 18). This species is also figured in Henry and Froeschner (1988),

page 256. A single male specimen was collected 20 June 2008 from the Garland County site (see *Cardiastethus assimilis*).



Figure 17. Distribution of *Diphleps unica* North of Mexico.



Figure 18. Dorsal view of *Diphleps unica*

Eustictus necopinus necopinus (Figs. 19 & 20): A single specimen was collected 20 June 2008 from the Garland County site (see *Cardiastethus assimilis*).

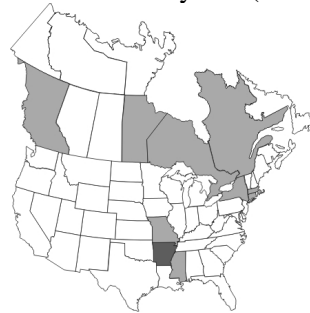


Figure 19. Distribution of *Eustictus necopinus necopinus* North of Mexico.



Figure 20. Dorsal view of *Eustictus necopinus necopinus*

Largely a northern species (Fig. 21), Arkansas is on the southern part of the range of *Hyaliodes harti* (Fig. 22). Two specimens were collected 20 June 2008 from the Garland County site (see *Cardiastethus assimilis*).

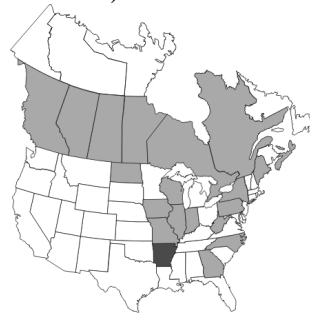


Figure 21. Distribution of *Hyaliodes harti* North of Mexico.



Figure 22. Dorsal view of *Hyaliodes harti*

Arkansas lies along the western edge of the known distribution of *Lopidea robiniae* (Fig. 23). A single male specimen (Fig. 24a) of this species was collected

on 1-7 July 2005 from the Johnson county location (see *Alydus pilosulus*). An image of the distinctive male right clasper is shown in Fig. 24b.



Figure 23. Distribution of *Lopidea robiniae* North of Mexico.



Figure 24 a & b. a=Dorsal view of *Lopidea robiniae*. b=right clasper of same species

Phytocoris erectus occurs across eastern North America (Fig. 25) and was expected for Arkansas. One male specimen (keyed and matched with the male clasper illustrations in Knight (1941)) of this species (Fig. 26) was collected on 24 June 2005 from the Johnson county location (see *Alydus pilosulus*).



Figure 25. Distribution of *Phytocoris erectus* North of Mexico.



Figure 26. Dorsal view of *Phytocoris erectus*

Arkansas falls within the known range (Fig. 27) of *Tropidosteptes cardinalis* (Fig. 28). Two specimens (1♂, 1♀) of this species were hand collected off an ash sapling on 24 April 2005 from the Johnson county location (see *Alydus pilosulus*).



Figure 27. Distribution of *Tropidosteptes cardinalis* North of Mexico.



Figure 28. Dorsal view of *Tropidosteptes cardinalis*

Nabidae (Damsel bugs): The cosmopolitan (Fig. 29) *Pagasa fusca* (Fig. 30) was anticipated for Arkansas. A single specimen was collected on 10 December 2005, Columbia County, Magnolia, Henry W. Robison. Some records for this species may need to be confirmed and/or updated (see Scudder 2008).

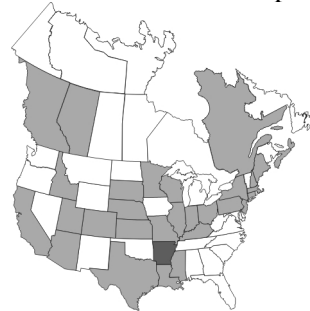


Figure 29. Distribution of *Pagasa fusca* North of Mexico.



Figure 30. Dorsal view of *Pagasa fusca*

Reduviidae (Assassin bugs): Distributed across the mid and eastern US (Fig. 31), *Narvesus carolinensis* (Fig. 32) was anticipated for Arkansas. Two individuals were collected, one each 1-9 June 2005 and 25-30 June 2005 from the Johnson county location (see *Alydus pilosulus*). Also from Hot Springs Co, Malvern, 15 June 1958, R.L. Fischer (*DS, Mich. St. U.).

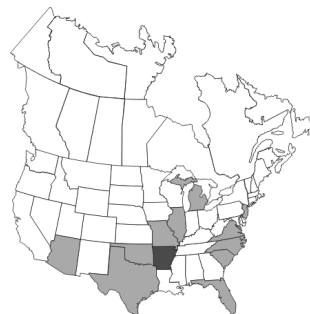


Figure 31. Distribution of *Narvesus carolinensis* North of Mexico.



Figure 32. Dorsal view of *Narvesus carolinensis*

Oncerothelus acuminatus was anticipated for Arkansas (Fig. 33). One specimen (Fig. 34) was identified from the UAM material. Label data

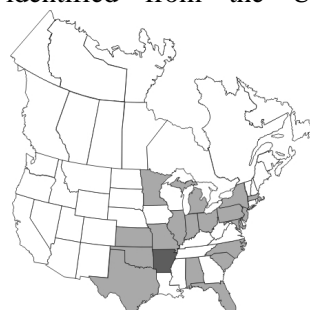


Figure 33. Distribution of *Oncerothelus acuminatus* North of Mexico.



Figure 34. Dorsal view of *Oncerothelus acuminatus*

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Arkansas: Drew County, 5 October 1981, M. Weaver. We also include an historic specimen from [Crittenden Co.], 1278 Carlisle, January 1891, (*DS, Oh.St.U.).

Rhiginia cruciata is mainly an eastern bug (Fig. 35) and was anticipated for Arkansas and Ohio. One UAM specimen was identified. Label data **Arkansas:** Drew County, 6 October 1987, Foust. We collected one Ohio specimen (Fig. 36). Label data **Ohio:** Hocking County, Trib of Queer Creek, ≈3km East of S. Bloomingville, 2 June 1998, Malaise trap, N39.427: W-82.576. We also include six other Ohio records: [Gallia Co] Vinton, 5-12 June 1900, H.Osborn; [Scioto Co], Shawnee For., 9 June 1943, D.J./J.N. Knull (*DS, Oh.St.U.); Fairfield Co, 16 May 1945, F.W. Mead; Lawrence Co, Coal Grove, 11 October 1952; Hocking Co, Neotoma, 8 June 1952, C.A./D.M. Triplehorn (*DS, Fla.St.Col.Arth.); Ross Co, Bainbridge, 4 June 1960, G.C. Eickwort (*DS, Mich.St.U).

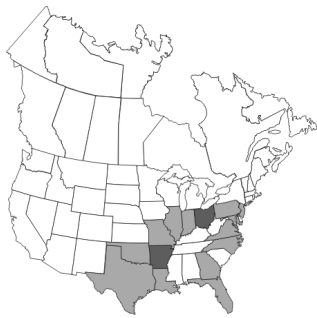


Figure 35. Distribution of *Rhiginia cruciata* North of Mexico.



Figure 36. Dorsal view of *Rhiginia cruciata*

Rhopalidae (scentless plant bugs): Arkansas falls within the known range (Fig. 37) of **Harmostes fraterculus** (Fig. 38). A single specimen was collected on 26 September 2005 from the Johnson county location (see *Alydus pilosulus*).

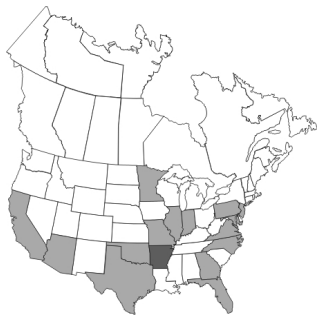


Figure 37. Distribution of *Harmostes fraterculus* North of Mexico.



Figure 38. Dorsal view of *Harmostes fraterculus*

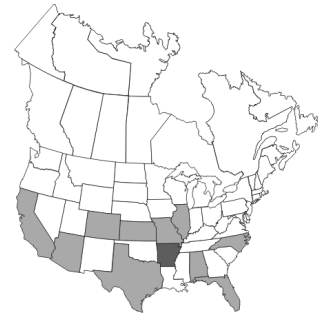


Figure 39. Distribution of *Jadera haematoloma* North of Mexico.



Figure 40. Dorsal view of *Jadera haematoloma*

Rhyparochromidae: Widespread species (Fig. 41), **Atrazonotus umbrosus** (Fig. 42) was expected. Collection data **Arkansas:** Faulkner County, 9 April 2010 in pocket gopher burrow, N35.071: W-92.523.

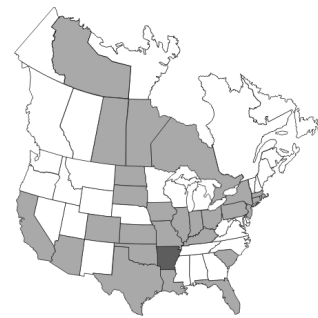


Figure 41. Distribution of *Atrazonotus umbrosus* North of Mexico.



Figure 42. Dorsal view of *Atrazonotus umbrosus*

Ozophora picturata was projected for Arkansas (Fig. 43). We collected two specimens of this species (Fig. 44) between 2 and 30 September 2005 in UV traps from the Johnson county location (see *Alydus pilosulus*).

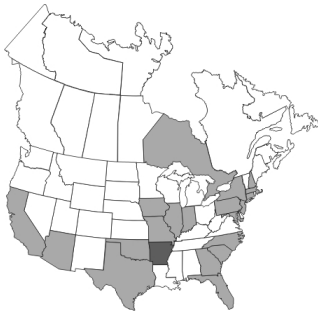


Figure 43. Distribution of *Ozophora picturata* North of Mexico.



Figure 44. Dorsal view of *Ozophora picturata*

Paromius longulus is found through the southeast US (Figure 45). Two specimens were identified from UAM material. Label data **Arkansas:** Drew County, 12 September 1981, F. Durrwachjer; Drew County, 25 November 1986, F. Shepard. One other specimen was captured from a gopher burrow in Johnson County, Ludwig, 0.8km West of SR21-CR35/36 junction, 1 November 2008, Matt Conner.



Figure 45. Distribution of *Paromius longulus* North of Mexico.



Figure 46. Dorsal view of *Paromius longulus*

Acknowledgments

We thank Peter Kovarik (Columbus State Community College) and Paul Skelly (Florida State Collection of Arthropods) for providing many of the digital images; Daniel Swanson (University of Michigan) for providing OH and AR Reduviidae records from his data taken from several museum holdings; Lynn Thompson (University of Arkansas, Monticello) for providing Hemiptera from their now defunct holdings (we understand UAM will no longer house specimens). Special thanks to Thomas Henry (USNM, Washington D.C.) for verification of the Miridae and Merrill Sweet (Texas A&M University, College Station, Texas) for verification of both *M. facetus* and *O. picturata*.

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