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## Backyard “Bug” Collecting Results in 6 New State Records for Arkansas, U.S.A.

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The aquatic Hemiptera of Arkansas are fairly well documented (see Chordas et al. 2005), but the terrestrial bugs are less well known. Recent projects and publications have begun to address this deficiency. Including the 6 reported herein, there have been 64 Hemiptera species newly recorded for Arkansas between 2005 and 2009 (Chordas et al. 2005, Chordas and Kovarik 2008a, Chordas and Kovarik 2008b).

The second author is an invertebrate enthusiast who maintains a large personal collection. The content of this collection is primarily an accumulation of invertebrates captured on or around his property in Clarksville (Johnson County) Arkansas (Figure 1). Identification of the Hemiptera from this “backyard bug collection” revealed 6 species (in 4 Hemiptera families) that are new state records for Arkansas. These 6 include: 2 Coreidae (Leaf-footed bugs), *Acanthocephala declivis* (Say, 1832) and *Piezogaster calcarator* (Fabricius, 1803); 1 Largidae (Largid bugs), *Largus succinctus* (Linnaeus, 1763); 2 Lygaeidae (Seed bugs), *Lygaeus kalmii angustomarginatus* Parshley, 1919 and *Neacoryphus bicrucis* (Say, 1825) and 1 Reduviidae (Assassin bugs), *Sirthenea stria carinata* (Fabricius, 1798). Of note, our record of *L. succinctus* is the first Arkansas record for this hemipteran family.



**Collection Area :** Arkansas, Johnson County. Clark Road, which runs parallel & between State Route 64 & U.S. Route 40, Clarksville. N35.46 : W-93.49: Collector = Joe Kremers. *Collection date:* indicated under each species record.

Figure 1. Johnson County, Arkansas

We report these 6 species as new state records for Arkansas. Dorsal view digital photographs of each species were taken from the second author’s curated specimens and are provided herein as a visual reference (see acknowledgments; color images available). We also include current distribution maps

for all species as it has been over 20 years since comprehensive distributions were published.

Voucher specimens of all 6 species were deposited into the C.A. Triplehorn Insect Collection (The Ohio State University, Columbus Ohio), duplicates and remaining specimens were retained by the second author and are housed in his personal collection. Chordas et al. (2005), Henry and Froeschner (1988), Maw et al. (2000), McPherson (1992) and Wheeler (1983) were used as distributional references. Blatchley (1926) and Slater (1992) were used for species identifications.

### New State Records: Alphabetically by family.

**Coreidae (leaf-footed bugs):** Although uncommon and restricted to a few southern states, *A. declivis* was probable for Arkansas as it had been recorded from 3 surrounding states (Figure 2). *Acanthocephala declivis* is a large bug (body length 28-34mm) (Figure 3). It is now the second species of this genus reported for Arkansas (see Chordas et al. 2005). Single specimens were collected on each of the following dates: 1-August-2005, 20-July-2006 and 25-October-2006.

*Piezogaster calcarator* (Figure 4) was anticipated for Arkansas, having been reported for 3 bordering states (Figure 5). A total of 11 specimens were taken: 3 on 23-July-2005, 1 on 1-August-2005, 6 on 26-September-2005 and 1 on 4-April-2006.



Arizona  
**Arkansas**  
 Florida  
 Georgia  
 Louisiana  
 Missouri  
 New Mexico  
 North Carolina  
 South Carolina  
 Texas

Figure 2. Distribution of *Acanthocephala declivis* North of Mexico.

**Largidae (Largid bugs):** Although only reported from 13 scattered states, *L. succinctus* is the most common species of this family (Henry and Froeschner

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1988) and was anticipated for Arkansas as it had been reported for 3 adjacent states (Figure 6). This is the first Arkansas record for this hemipteran family. Of expected Hemiptera, only Enicocephalidae (unique-headed bugs) and Piesmatidae (piesmatid bugs) lack Arkansas records (Chordas et al. 2005). A total of 6 specimens of this distinctive species (Figure 7) were collected (2 on 1-June-2005, 4 on 26-September-2005).

Recorded from 31 states across the conterminous US and 2 provinces in Canada (Figure 10), *N. bicrucis* (Figure 11) was expected for Arkansas. Its known host-plant is ragwort (*Senecio* sp) (McLain 1992), a plant of some interest as it has been implicated as potentially toxic to equine grazers. Five specimens were taken: 2 on 5-June-2005, 3 on 19-August-2005.

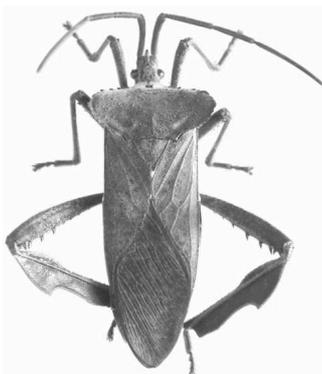


Figure 3. Dorsal view of *Acanthocephala declivis*.



Figure 4. Dorsal view of *Piezogaster calcarator*.



Figure 7. Dorsal view of *Largus succinctus*.



Figure 8. Dorsal view of *Lygaeus kalmii angustomarginatus*.



- |             |                |
|-------------|----------------|
| Arkansas    | North Carolina |
| Colorado    | New Jersey     |
| Florida     | Oklahoma       |
| Illinois    | South Carolina |
| Kansas      | Tennessee      |
| Michigan    | Wisconsin      |
| Mississippi |                |

Figure 5. Distribution of *Piezogaster calcarator* North of Mexico.



- |                |   |
|----------------|---|
| Arkansas       | New Jersey                                      |
| Connecticut    | New York  |
| Florida        | Ohio  |
| Georgia        | Oklahoma  |
| Indiana        | Pennsylvania                                    |
| Illinois       | Rhode Island                                    |
| Iowa           | South Dakota                                    |
| Kansas         | Tennessee                                       |
| Maine          | Texas   |
| Maryland       | Vermont   |
| Massachusetts  | Virginia  |
| Michigan       | West Virginia                                   |
| Minnesota      | Wisconsin                                       |
| Mississippi    |   |
| Missouri       |   |
| Nebraska       |   |
| North Carolina | + Manitoba, Nova Scotia, Ontario, New Hampshire |
| North Dakota   | Quebec, (Canada)                                |
| New Hampshire  |   |

Figure 9. Distribution of *Lygaeus kalmii angustomarginatus* North of Mexico.



- |                |              |
|----------------|--------------|
| Arkansas       | New Jersey   |
| Colorado       | New York     |
| Florida        | Oklahoma     |
| Maryland       | Pennsylvania |
| Minnesota      | Texas        |
| Mississippi    | Virginia     |
| North Carolina |              |

Figure 6. Distribution of *Largus succinctus* North of Mexico.

Lygaeidae (Seed bugs): We newly report two very common and widespread species. *Lygaeus kalmii angustomarginatus* (Figure 8) is the eastern subspecies and was expected for Arkansas because it has been reported from all states surrounding Arkansas except for Louisiana (Figure 9). Four individuals were collected on 19-August-2005.



- |               |  |
|---------------|--|
| Alabama       | North Carolina                         |
| Arizona       | New Jersey                             |
| Arkansas      | New Mexico                             |
| Colorado      | New York                               |
| Connecticut   | Nevada                                 |
| Florida       | Ohio                                   |
| Georgia       | Oklahoma                               |
| Idaho         | Pennsylvania                           |
| Indiana       | South Carolina                         |
| Illinois      | South Dakota                           |
| Iowa          | Texas                                  |
| Kansas        | Utah                                   |
| Louisiana     | Wyoming                                |
| Maine         |  |
| Massachusetts | + British Columbia & Ontario, (Canada) |
| Maryland      |  |
| Michigan      |  |
| Missouri      |  |

Figure 10. Distribution of *Neacoryphus bicrucis* North of Mexico.

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Reduviidae (Assassin bugs): *Sirthenea stria carinata* is a brightly colored red, red/orange and black assassin bug (Figure 12). It has been reported to inflict a very painful bite (Blatchley 1926), a suspected characteristic for a species possessing such aposomatic coloration. It is primarily distributed throughout the eastern US (Figure 13), but was anticipated for Arkansas. All three of our specimens were taken at lights, a place this species historically has been reported to be encountered (Blatchley, 1926). One specimen was collected on each of these dates: 27-September-2003, 5-September-2004, and 3-June-2005.

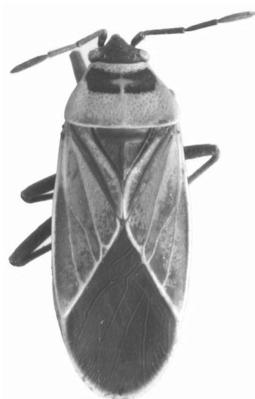


Figure 11. Dorsal view of *Neocoryphus bicrucis*.



Figure 12. Dorsal view of *Sirthenea stria carinata*.



Figure 13. Distribution of *Sirthenea stria carinata* North of Mexico.

### Acknowledgments

We thank Peter W. Kovarik (Columbus State Community College, Columbus, Ohio) for providing digital photography (we will gladly provide our full color digital images of any species we include herein to anyone who requests them, please contact the first author). We also thank Henry W. Robison (Southern Arkansas University) for initiating the in-depth investigation into the second author's personal collection.

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