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Harvey E. Barton
Arkansas State University

Linda A. Lee
Arkansas State University

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THE PENTATOMIDAE OF ARKANSAS

HARVEY E. BARTON and LINDA A. LEE
Department of Biological Sciences
Arkansas State University
State University, Arkansas 72467

ABSTRACT

A total of 30 genera and 53 species and subspecies of Pentatomidae are reported as occurring or possibly occurring in Arkansas. Fifty species and subspecies contained in 29 genera were collected or recorded from previously collected material. Based on distributional records in the literature, three additional species and one genus are listed as probably occurring in Arkansas. County and seasonal records are reported for each taxon.

INTRODUCTION

Important taxonomic studies dealing with Heteroptera of North America include those by Blatchley (1926) and Torre-Bueno (1939). Early research efforts concentrating on Pentatomoidea (= Scutelleroidea) of state-wide areas were reported by Hart (1919) for Illinois and Stoner (1920) for Iowa. Later similar investigations were contributed by Froeschner (1941) for Missouri, McPherson (1970, 1979a) for Michigan, Hoffman (1971) for Virginia, and Furth (1974) for Ohio. The distribution of Pentatomoidea as listed by Van Duzee (1917) for the northeastern United States was updated by McPherson (1980). McPherson (1979b) also updated Hart's (1919) list of Pentatomoidea occurring in Illinois. References to Arkansas pentatomids are scarce and apparently no previous studies have been concentrated in this area. This paper summarizes current information on number of species, seasonal occurrence, and geographical distribution of Pentatomidae in Arkansas.

METHODS AND MATERIALS

Data are primarily based on results obtained from intensive collecting throughout the state in 1979 and 1980. Areas of the state most intensively surveyed were north central, northeast, and Crowley's Ridge (extending from Clay County southward to Phillips County). Although collecting efforts in other parts of the state were less intensive, we feel that the species listed accurately reflect the pentatomid occurrence in the state.

Additional records were obtained from entomological holdings at the University of Arkansas at Fayetteville, the University of Arkansas at Little Rock, Memphis State University, and Arkansas State University. A total of 50 species and subspecies are recorded from the state, contained in 29 genera and four subfamilies. Three additional species and one genus are listed as probably occurring in Arkansas because of their known distributions.

For this study, we have followed the taxonomic scheme of Rolston and McDonald (1979) in which the Pentatomidae are divided into five subfamilies: Asopinae, Discocephalinae, Edessinae, Pentatominae, and Podopinae, four of which are represented in Arkansas (Asopinae, Edessinae, Pentatominae, and Podopinae). With further research providing a more comprehensive Heteroptera collection for Arkansas, some additions to records will undoubtedly be made.

RESULTS AND DISCUSSION

Species distributions are shown in Figs. 2-28, with the months that each species was collected indicated in the species list. Figure 1 provides a key to the Arkansas counties.

Species List

Asopinae

Alcaeorrhynchus grandis (Dall.). Two specimens (one each from University of Arkansas at Fayetteville and University of Arkansas at Little Rock insect collections) were examined. Due to the known distribution of this species (Blatchley, 1926), we suspect these specimens may have been transported accidentally into the state.

Apatecticus cynicus (Say). Fig. 2. June, September.

Euthyrhynchus floridanus (L.). Fig. 2. June-November.

Perillus bioculatus (Fab.). Fig. 3. August, November.

Perillus circumcinctus Stal. Froeschner (1941) reported that this species should occur throughout the state of Missouri. We believe that it probably occurs at least in northern Arkansas.

Podisus maculiventris (Say). Fig. 9. February, April-August, October-December.

Podisus placidus Uhler. Fig. 4. January, July, September.

Stiretrus anchorago (Fab.). Fig. 5. June-October.

Edessinae

Edessa bifida (Say). Fig. 14. September.

Pentatominae

Acrosternum hilare (Say). Fig. 6. March-November.

Acrosternum pennsylvanicum (De Geer). Slater and Baranowski (1978) reported this species as being widely distributed from Quebec west to Iowa and south to Florida. It probably will be found in Arkansas.

Aelia americana Dall. Fig. 7. February, April, November.

Banasa dimidiata (Say). Fig. 8. March-July, November.

Banasa euchlora Stal. Fig. 8. April, June-December.

Brochymena arborea (Say). Fig. 10. April-July, September-November.

Brochymena cariosa Stal. Fig. 10. January, February, April-June, September-December.

Brochymena carolinensis (Westwood). Fig. 11. April-June, October, December.

Brochymena punctata Van Duzee. Fig. 11. August.

Brochymena quadripustulata (Fab.). Fig. 12. January-July, September-December.

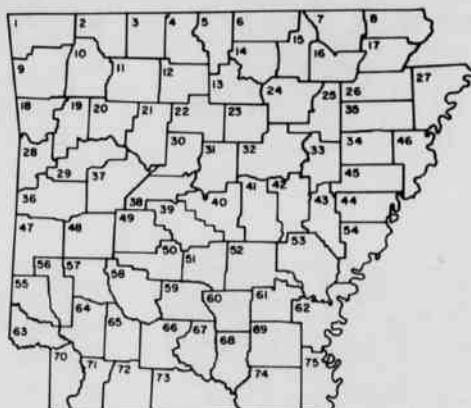
- Chlorochroa ligata* (Say). Fig. 23. August.
- Chlorochroa persimilis* Horvath. Fig. 26. April, June.
- Chlorochroa sayi* (Stal). Fig. 13. September, December.
- Coenus delius* Say. Fig. 13. July, September.
- Coenus inermis* Harr. and John. Fig. 13. June.
- Cosmopepla bimaculata* (Thom.). Fig. 11. July-October.
- Dendrocoris humeralis* (Uhler). Fig. 11. April, June, September.
- Euschistus ictericus* (L.). Fig. 14. May-July, October.
- Euschistus politus* Uhler. Fig. 14. June, July.
- Euschistus servus servus* (Say) - *E. s. euschistoides* (Voll.), intergrade populations. Fig. 15. February, April-November.
- Euschistus tristigmus tristigmus* (Say). Fig. 16. March-November.
- Euschistus variolarius* (Palisot de Beauvois). Fig. 17. April-August.
- Holcostethus limbolarius* Stal. Fig. 18. April-July, September-December.
- Hymenarcys aequalis* (Say). Fig. 17. March, April, August, December.
- Hymenarcys nervosa* (Say). Fig. 19. January, February, April-November.
- Mecidea major* Sailer. Fig. 20. October.
- Mecidea minor* Ruckes. Fig. 20. June, September, October.
- Menecles insertus* (Say). Fig. 21. February, April, May, July, October-December.
- Mormidea lugens* (Fab.). Fig. 22. April-October.
- Murgantia histrionica* (Hahn). Fig. 21. March-May, July-November.
- Neottiglossa cavifrons* Stal. Fig. 23. January-July.
- Neottiglossa coronaciliata* Ruckes. Fig. 24. May.
- Neottiglossa sulcifrons* Stal. Fig. 24. February, April-August.
- Nezara viridula* (L.). Fig. 3. June-December.
- Oebalus pugnax pugnax* (Fab.). Fig. 25. April-December.
- Prionosoma podopiooides* Uhler. Froeschner (1941) reported this species as probably occurring over much of Missouri. It may be found in northern Arkansas.
- Proxys punctulatus* (Palisot de Beauvois). Fig. 26. June-November.
- Thyanta accerra* McAtee. Fig. 27. February-November.
- Thyanta antiguensis* (Westwood). Fig. 13. May.
- Thyanta calceata* (Say). Fig. 28. February-December.
- Thyanta custator* (Fab.). Fig. 4. October.
- Thyanta punctiventris* Van Duzee. Fig. 4. August.

Trichocheila semivittata (Say). Fig. 7. April-November.

Podopinae

Amaurochrous cinctipes (Say). Fig. 4. June.

More research of local insect populations is needed to aid our understanding of distributional patterns, ecological relationships, and taxonomic status of the many lesser known species. For example, the Pentatomidae and allied families (Acanthosomatidae, Coremelaenidae, Cydnidae, and Scutelleridae) constitute a group of insects which is important to man, yet relatively little is known about the food habits, life histories, and systematics of many species in this group. Some of the Arkansas pentatomids that are economically destructive are *Oebalus pugnax pugnax* (Fab.), the rice stink bug; *Murgantia histrionica* (Hahn), the harlequin bug; *Euschistus servus* (Say), the brown stink bug; and *Nezara viridula* (L.), the southern green stink bug. *Oebalus p. pugnax* is destructive to rice, wheat, and sorghums, all of which are grown extensively in Arkansas. *Murgantia histrionica* invades cabbage and other cruciferous crops in the southern United States (Borror, et al., 1976), and *E. servus* is injurious to cotton (Slater and Baranowski, 1978). *Nezara viridula* feeds on various crops, including soybeans and clovers. Many species of Asopinae are considered to be beneficial because they prey on other insects. The most commonly occurring Arkansas species in this group is the spined soldier bug, *Podisus maculiventris* (Say).



ARKANSAS COUNTIES

1. Benton	20. Johnson	39. Saine	58. Clark
2. Carroll	21. Pope	40. Pulaski	59. Dallas
3. Boone	22. Van Buren	41. Lonoke	60. Cleveland
4. Marion	23. Clayborne	42. Prairie	61. Lincoln
5. Baxter	24. Independence	43. Monroe	62. DeSha
6. Fulton	25. Jackson	44. Lee	63. Little River
7. Randolph	26. Craighead	45. St. Francis	64. Hempstead
8. Clay	27. Mississippi	46. Crittenden	65. Nevada
9. Washington	28. Sebastian	47. Polk	66. Ouachita
10. Madison	29. Logan	48. Montgomery	67. Colhoun
11. Newton	30. Conway	49. Garland	68. Bradley
12. Searcy	31. Faulkner	50. Hot Spring	69. Drew
13. Stone	32. White	51. Grant	70. Miller
14. Izard	33. Woodruff	52. Jefferson	71. Lafayette
15. Sharp	34. Cross	53. Arkansas	72. Columbia
16. Lawrence	35. Poinsett	54. Phillips	73. Union
17. Greene	36. Scott	55. Sevier	74. Ashley
18. Crawford	37. Yell	56. Howard	75. Chicot
19. Franklin	38. Perry	57. Pike	

Fig. 1. The counties of Arkansas.

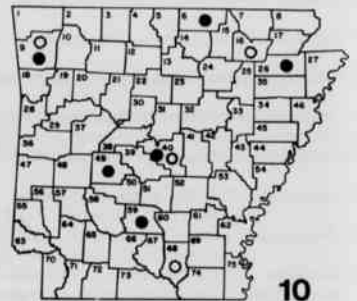
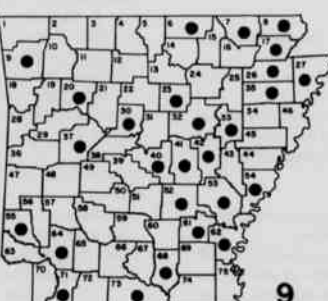
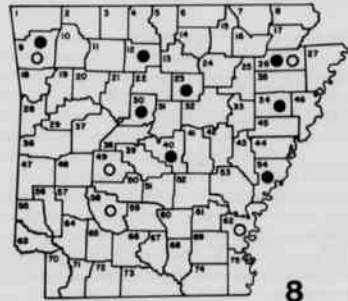
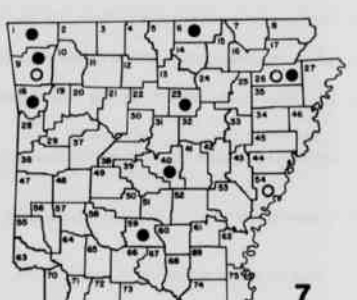
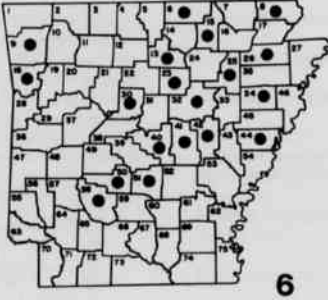
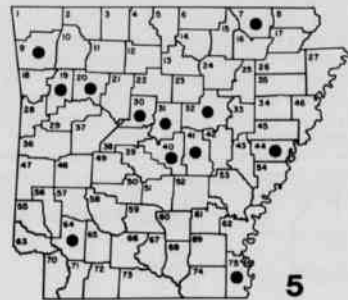
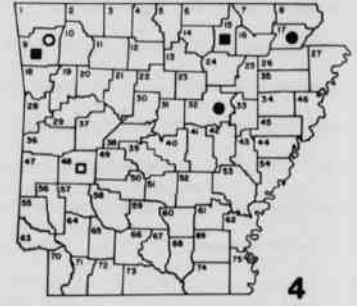
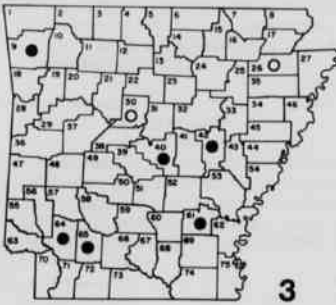
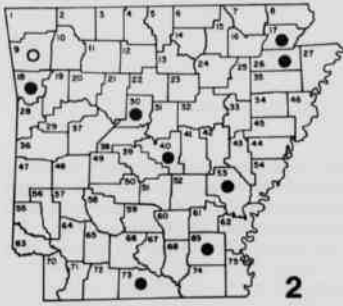


PLATE I

Fig. 2. *Apateticus cynicus* (O) and *Euthyrhynchus floridanus* (●).
 Fig. 3. *Perillus bioculatus* (O) and *Nezara viridula* (●).
 Fig. 4. *Amaurochrous cinctipes* (□), *Podisus placidus* (■), *Thyanta punctiventris* (O), and *Thyanta custator* (●).
 Fig. 5. *Stiretrus anchorago*.

Fig. 6. *Acrosternum hilare*.
 Fig. 7. *Aeila americana* (O) and *Trichopepla semivittata* (●).
 Fig. 8. *Banasa dimidiata* (O) and *Banasa euchlora* (●).
 Fig. 9. *Podisus maculiventris*.
 Fig. 10. *Brochymena arborea* (O) and *Brochymena cariosa* (●).

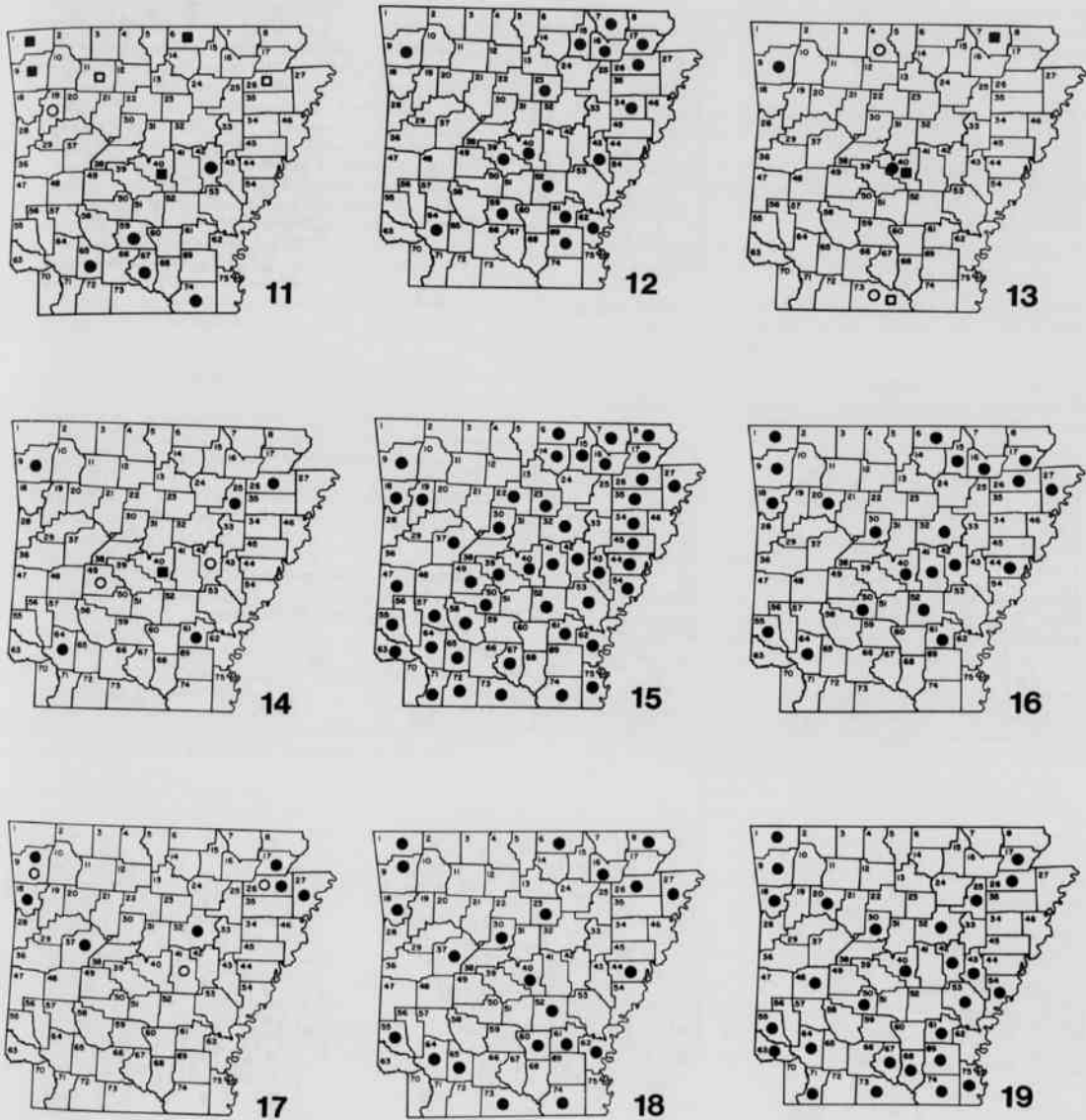


PLATE II

Fig. 11. *Brochymena punctata* (O), *Brochymena carolinensis* (●), *Dendrocoris humeralis* (□), and *Cosmopepla bimaculata* (■).

Fig. 12. *Brochymena quadripustulata*.

Fig. 13. *Coenus inermis* (O), *Coenus delius* (●), *Thyanta antiguensis* (□), and *Chlorochroa sayi* (■).

Fig. 14. *Euschistus politus* (O), *Euschistus ictericus* (●), and *Edessa bifida* (■).

Fig. 15. *Euschistus servus servus*-*E. s. euschistoides*, intergrade populations.

Fig. 16. *Euschistus tristigmus tristigmus*.

Fig. 17. *Hymenarcys aequalis* (O) and *Euschistus variolarius* (●).

Fig. 18. *Holcostethus limbularius*.

Fig. 19. *Hymenarcys nervosa*.

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