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Distribution and Seasonal Occurrence of the Scutelleridae, Corimelaenidae and Cydnidae of Arkansas

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DISTRIBUTION AND SEASONAL OCCURRENCE OF THE SCUTELLERIDAE, CORIMELAENIDAE AND CYDNIDAE OF ARKANSAS

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ABSTRACT

A total of 16 genera and 37 species and subspecies of Corimelaenidae, Cydnidae and Scutelleridae is recorded as occurring or possibly occurring in Arkansas. Nine species of Scutelleridae contained in six genera, 13 species and subspecies in three genera of Corimelaenidae (= Thyreocoridae) and 15 species and subspecies of Cydnidae found in seven genera are reported as occurring or possibly occurring in Arkansas.

Twenty-seven species and subspecies contained in 13 genera were collected or recorded from entomological holdings within the state. Two species in two genera were reported in the literature as occurring in Arkansas. Based on distribution records in the literature, eight species in eight genera are listed as probably occurring in the state. Seasonal occurrence and county distribution records are reported for each species and subspecies.

INTRODUCTION

Major taxonomic investigations concerning Heteroptera were reported by Blatchley (1926), McAtee and Malloch (1933), Torre-Bueno (1939), Froeschner (1960), Lattin (1964) and Slater and Baronowski (1978). McPherson (1982) supplied an excellent account of the Pentatomoidea (= Scutelleroidea) of northeastern North America. State-wide investigations of the occurrence and distribution of Pentatomoidea were reported by Hart (1919) for Illinois, Stoner (1920) for Iowa, Froeschner (1941) for Missouri, McPherson (1970) for Michigan and Hoffman (1971) for Virginia. Hart's (1919) list of Pentatomoidea was updated by McPherson (1979a). McPherson (1980) also updated the distribution of Pentatomoidea as reported by Van Duzee (1917) for the northeastern United States.

References concerning first reportings and other occurrence records include: Walley (1929), Pack and Knowlton (1930), Sailer (1941), McPherson and Walt (1971), McPherson (1974), Nixon et al. (1975), McPherson and Mohlenbrock (1976) and McPherson (1977a, 1977b, 1978a, 1979b).

Recent records of new species or reidentification of species found in Arkansas include: Sailer (1940), McPherson and Sailer (1978) and McPherson (1978b).

References to Arkansas Cydnidae, Corimelaenidae and Scutelleridae are scarce, since prior studies were not concentrated in this state. This paper summarizes, to date, number of species and subspecies, seasonal occurrence and geographical distribution of these three families in Arkansas. In conjunction with a similar investigation of the Pentatomoidea of Arkansas by Barton and Lee (1981), this study completes the faunistic survey of the Pentatomoidea of Arkansas.

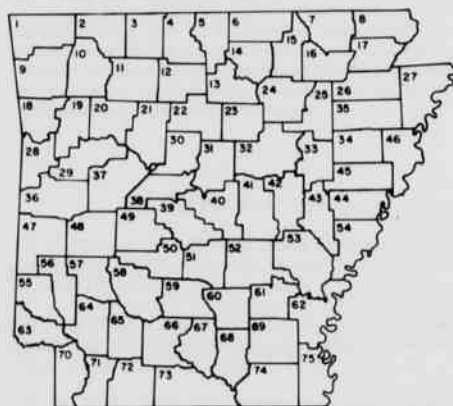
METHODS AND MATERIALS

Data are based primarily on results obtained from collecting Scutelleridae, Cydnidae and Corimelaenidae from 1978-1982. Areas of the state most intensively surveyed were the northeastern and north central portions and Crowley's Ridge, which extends from Clay County southward to Phillips County. Entomological collections at the University of Arkansas at Fayetteville, the University of Arkansas at Little Rock and Arkansas State University at Jonesboro provided additional seasonal occurrence and county distribution records. Two species are reported as occurring in Arkansas based on occurrence records reported by Froeschner (1960).

Possible occurrence of eight species and subspecies are based on distribution records in surrounding states reported by Blatchley (1926), McAtee and Malloch (1933), Torre-Bueno (1939), Froeschner (1941, 1960) and Lattin (1964).

RESULTS AND DISCUSSION

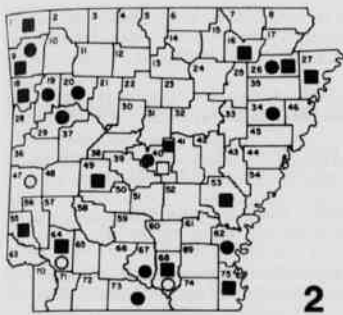
County distributions are shown in Figures 2-10. The monthly occurrence of each species and subspecies is indicated in the species list. Figure 1 supplies a key to the Arkansas counties.



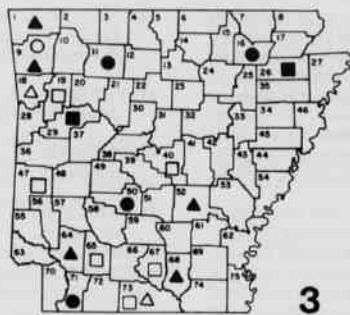
ARKANSAS COUNTIES

1 Benton	20 Johnson	39 Saline	58 Clark
2 Carroll	21 Pope	40 Pulaski	59 Dallas
3 Boone	22 Van Buren	41 Lonoke	60 Cleveland
4 Marion	23 Cleburne	42 Prairie	61 Lincoln
5 Baxter	24 Independence	43 Monroe	62 DeWitt
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 Calhoun
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 Polk	54 Phillips	73 Union
17 Greene	36 Scott	55 Searcy	74 Ashley
18 Crawford	37 Yell	56 Howard	75 Chicot
19 Franklin	38 Perry	57 Pike	

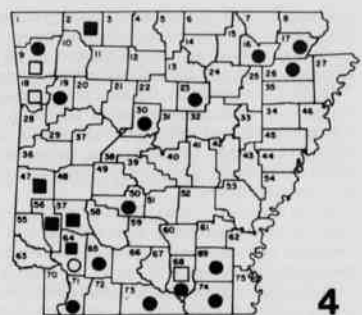
Figure 1. The counties of Arkansas.



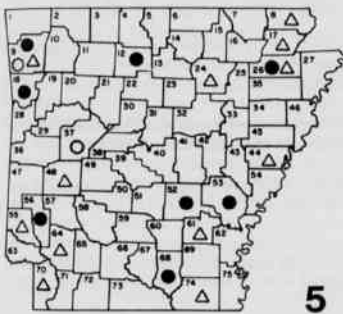
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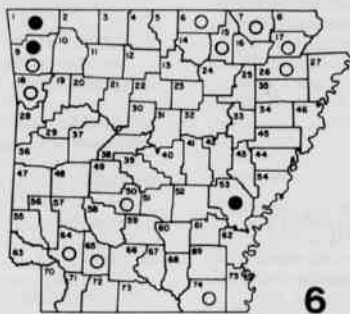
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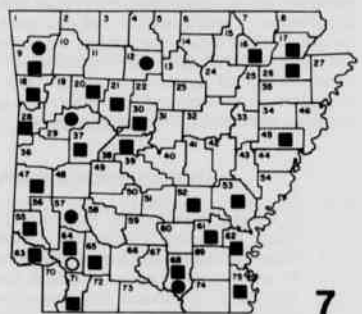
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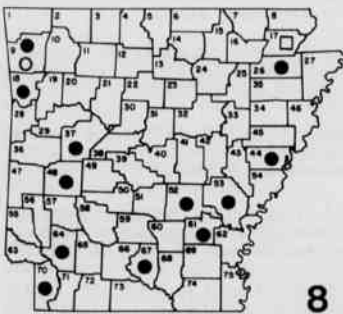
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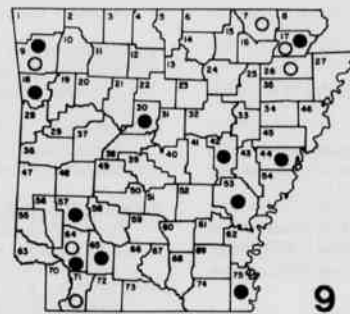
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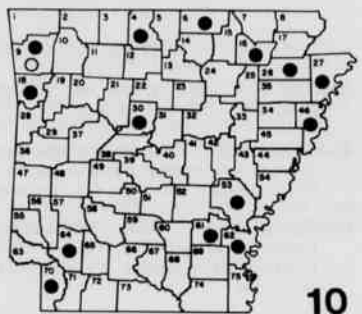
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Figure 2. *Acantholomidea denticulata* (O), *Diolcus chrysorrhoeus* (□), *Pangaeus bilineatus* (■), and *Stethaulax marmorata* (●).

Figure 3. *Amnestus pusillus* (▲), *Corimelaena marginella* (●), *Crytomenus mirabilis* (O), *Homaemus bijugis* (■), *Tetyra bipunctata* (□), and *Tominotus communis* (△).

Figure 4. *Amnestus basidentatus* (□), *Galgupha loboprostethia* (□), *Homaemus parvulus* (●), and *Melanaethus cavicolis* (O).

Figure 5. *Corimelaena harti* (O), *Galgupha carinata* (△), and *Melanaethus robustus* (●).

Figure 6. *Corimelaena lateralis lateralis* (O) and *Cyrtomenus ciliatus* (●).

Figure 7. *Corimelaena pulicaria* (■), *Melanaethus pensylvanicus* (●), and *Melanaethus subpunctatus* (O).

Figure 8. *Amnestus spinifrons* (O), *Corimelaena obscura* (□) and *Galgupha aterrima* (●).

Figure 9. *Galgupha atra* (●) and *Galgupha ovalis* (O).

Figure 10. *Amnestus pallidus* (O) and *Sehirus cinctus* (●).

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holdings. Based on the known distribution of each species in neighboring states, eight additional species and subspecies should and probably do occur in the state, which would be represented by two Cydnidae, three Corimelaenidae and three Scutelleridae species and subspecies.

In the Corimelaenidae fauna, *Corimelaena pulicaria* was found to be the most abundantly collected species in the state. *Corimelaena lateralis lateralis*, *Corimelaena marginella*, *Corimelaena pulicaria*, *Galgupha aterrima*, *Galgupha atra*, *Galgupha carinata* and *Galgupha ovalis* are expected to occur state-wide based on their known distribution and abundance.

In the Cydnidae fauna, *Sehirus cinctus cinctus* was found to be collected most abundantly. *Amnestus pusillus*, *Melanaethus robustus*, *Pangaeus bilineatus* and *Sehirus cinctus cinctus* are believed to occur throughout the state.

In the family Scutelleridae, *Homaemus parvulus* is the most commonly collected species in the state. Both *Stethaulax marmorata* and *Homaemus parvulus* are expected to occur throughout Arkansas.

Additional records will undoubtedly be obtained through further investigations of the seasonal occurrence and county distribution of Scutelleridae, Corimelaenidae and Cydnidae in Arkansas. Further investigations of these three families are needed in addition to Barton and Lee's (1981) study of the Pentatomidae of Arkansas, to aid our understanding of seasonal occurrence and distribution patterns, ecological relationships and taxonomic status of the Pentatomoidea of the state, particularly lesser known species.

ACKNOWLEDGMENTS

We wish to express our appreciation to Dr. Robert T. Allen, University of Arkansas at Fayetteville and Dr. Robert L. Watson, University of Arkansas at Little Rock for allowing us to examine Cydnidae, Corimelaenidae and Scutelleridae holdings at their respective institutions. We thank Dr. J. E. McPherson, Southern Illinois University at Carbondale, for aid in identification of *Galgupha* species.

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Annotated Species List

Scutelleridae
Pachycorinae

Acantholomidea denticulata (Stal). Figure 2. April-June.

Acantholomidea porosa (Germar). Lattin (1964) reported this species as occurring in Missouri, Kansas, Utah and Mexico, and ranging from Virginia south to Florida, west through Texas and Arizona to California and up the Pacific Coast to Vancouver Island. It probably will be found in Arkansas.

Camirus porosus (Germar). Blatchley (1926) listed this species as occurring in California, Texas and Florida. Froeschner (1941) reports it as being apparently rare, but represented in Missouri. Its occurrence in Arkansas is probable.

Diolcus chrysoorrhoeus (Fabricius). Figure 2. We have examined three specimens from the University of Arkansas at Little Rock for which seasonal occurrence data were not available. One specimen was collected in 1974 in Pulaski County, Arkansas. The other two specimens were not labeled.

Homaemus aenifrons (Say). Lattin (1964) stated the range of this species is from northeastern Nova Scotia south to Tennessee and western North Carolina, and west to Manitoba and Kansas. Froeschner (1941) reported this species as being listed for Illinois and Nebraska and its possible future occurrence in northern Missouri. It possibly occurs in Arkansas.

Homaemus bijugis Uhler. Figure 3. April, November.

Homaemus parvulus (Germar). Figure 4. April-July, September-November. This is the most abundantly collected species of Scutelleridae in the state. It undoubtedly occurs state-wide.

Stethaulax marmorata (Say). Figure 2. February-May, September-November. This species unquestionably occurs state-wide.

Tetyra bipunctata (Herrich-Schaeffer). Figure 3. April, September-November.

Corimelaenidae

Corimelaena agrella McAtee. Froeschner (1941) reported this species (as *Allocoris agrella*) for Maryland, Virginia, Kentucky and Texas, and as possibly occurring in Missouri. It possibly occurs in Arkansas.

Corimelaena harti Malloch. Figure 5. February, June.

Corimelaena lateralis lateralis (Fabricius). Figure 6. May-October. This subspecies undoubtedly occurs state-wide.

Corimelaena marginella Dallas. Figure 3. April, June-July. This species probably occurs throughout the state.

Corimelaena obscura McPherson and Sailer. Figure 8. August.

Corimelaena pulcra (Germar). Figure 7. January, March-July. This is the most abundantly collected species of Corimelaenidae collected by us in the state. State-wide occurrence of this species is probable.

Cydnoidea ciliatus orientis McAtee and Malloch. McAtee and Malloch (1933) and Torre-Bueno (1939) reported this subspecies in Florida, Missouri, Nebraska, Colorado, Texas, Minnesota, and Kansas. Its occurrence in Arkansas is probable.

Galgupha aterrima Malloch. Figure 8. February, April-July. This species undoubtedly occurs throughout the state.

Galgupha atra Amyot and Serville. Figure 9. January, February, April, June-August, November. State-wide occurrence of this species is probable.

Galgupha carinata McAtee and Malloch. Figure 5. February-April, June, July, November. State-wide occurrence of this species is highly possible.

Galgupha denudata (Uhler). McAtee and Malloch (1933) reported this species occurring in the District of Columbia, Virginia, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana and Texas. McPherson (1982) reported this species as occurring in southern Illinois. It probably occurs in Arkansas.

Galgupha loboprostethia Sailer. Figure 4. February-May.

Galgupha ovalis Hussey. Figure 9. April, June-August, November. State-wide occurrence of this species is probable.

Cydniidae
Amnestinae

Amnestus basidentatus Froeschner. Figure 4. February, May-October. Froeschner (1960) reported this species as occurring in Arkansas.

Amnestus pallidus Zimmer. Figure 10. December. One specimen was examined by us in the University of Arkansas at Fayetteville collection.

Amnestus pusillus Uhler. Figure 3. April, June-August, October. Statewide occurrence of this species is probable.

Amnestus spinifrons (Say). Figure 8. February, May.

Cydniinae

Cyrtomenus ciliatus (Palisot de Beauvois). Figure 6. July, August, October.

Cyrtomenus mirabilis (Perty). Figure 3. June-August.

Melanaethus cavicollis (Blatchley). Figure 4. February. A single specimen was examined in the University of Arkansas at Fayetteville collection.

Melanaethus pennsylvanicus (Signoret). Figure 7. February, May, July, September, December.

Melanaethus robustus Uhler. Figure 5. February, March, July, November, December. State-wide occurrence of this species is probable.

Melanaethus subpunctatus (Blatchley). Figure 7. May. Froeschner (1960) reported this species as occurring in Arkansas.

Microporus obliquus Uhler. Froeschner (1960) reported this species as occurring in Arizona, California, Colorado, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Missouri, Nevada, New Mexico, Oklahoma, Oregon, South Carolina, South Dakota, Texas, Utah, Virginia, Washington and Mexico. Its occurrence in Arkansas is probable.

Pangaeus bilinaetus (Say). Figure 2. February, March, May, July-November. State-wide occurrence of this species is probable.

Pangaeus discrepans Uhler. Blatchley (1926) reported the recorded range to extend from Indiana and Tennessee, west and south to California and Texas. It probably occurs in Arkansas.

Tominotus communis (Uhler). Figure 3. February.

Shirinae

Shirus cinctus cinctus (Palisot de Beauvois). Figure 10. March-August. State-wide occurrence of this species is probable. This is the most abundant subspecies of Cydniidae collected by us in the state.

A total of 37 species and subspecies of Corimelaenidae, Cydniidae and Scutelleridae contained in 16 genera is recorded as occurring or possibly occurring in Arkansas. Thirteen species and subspecies of Corimelaenidae in three genera, 15 species and subspecies of Cydniidae in seven genera and nine species of Scutelleridae in six genera are listed as occurring or possibly occurring in the state. *Amnestus basidentatus* and *Melanaethus subpunctatus* have been reported in the literature as occurring in Arkansas (Froeschner 1960). Twenty-seven species and subspecies in 13 genera were collected or recorded from entomological

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