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J. E. McPherson
Southern Illinois University

THE ASSASSIN BUGS OF MICHIGAN (HETEROPTERA:REDUVIIDAE)

J. E. McPherson[1]

ABSTRACT

Assassin bugs collected in Michigan and housed in the University of Michigan Museum of Zoology and the Michigan State University Entomology Museum were used to compile a list of the state's species and subspecies. A total of 27 was found; an additional species, *Empicoris parshleyi*, was represented by a single specimen housed in the American Museum of Natural History. Eighteen of the 28 taxa represented new records for the state.

The Reduviidae, or assassin bugs, of America north of Mexico have received little attention from heteropterists in recent years, which seems surprising because of their predaceous habits and, therefore, possible use in biological control. Work in the latter part of the nineteenth century and early years of the twentieth century consisted almost entirely of annotated lists and, occasionally, keys (e. g., Parshley 1914, 1917, 1922; Torre-Bueno 1923). Much of this work was summarized by Blatchley (1926) and Readio (1927) whose monographs also included original observations on biology. Subsequent to their works, information on these insects has consisted primarily of a few life history studies of individual species (e.g., Brown and Lollis 1963, DeCoursey 1963, Swadener and Yonke 1973a, b, c, 1975), a limited number of revisionary studies that have included North American species (e.g., Barber, 1929–1930; Coscaron 1983; Elkins 1954; Giacchi 1969, 1984; Hart 1986; Lent and Wygodzinsky 1979; Willemse 1985; Wygodzinsky 1966; Wygodzinsky and Usinger 1964), some state lists (e.g., Brimley 1938, North Carolina; Froeschner 1944, Missouri; Elkins 1951, Texas; Drew and Schaefer 1963, Oklahoma) and a few lists for even smaller geographical areas (e.g., McPherson and Weber 1981, 1990; Werner and Butler 1957; Whitcomb and Bell 1964). Slater and Baranowski (1978) included range distributions of several species in their generalized account of the family, but their work was not meant to be comprehensive.

Froeschner (1988) summarized the known distributions of all reduviids occurring in America north of Mexico but because so few faunal lists had been published, his information was far from complete. Particularly lacking were records from the northcentral region. Therefore, records from this part of the country are needed for a better understanding of the ranges of these insects.

During May-June, 1990 and 1991, I had the opportunity to visit the collections of the University of Michigan Museum of Zoology, Ann Arbor, and the Michigan State University Entomology Museum, East Lansing. Both collections had several species and subspecies represented by Michigan specimens.

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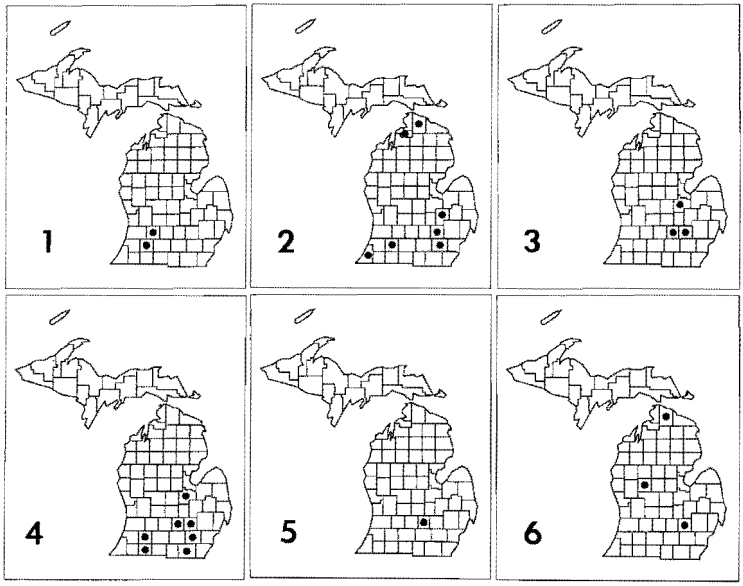
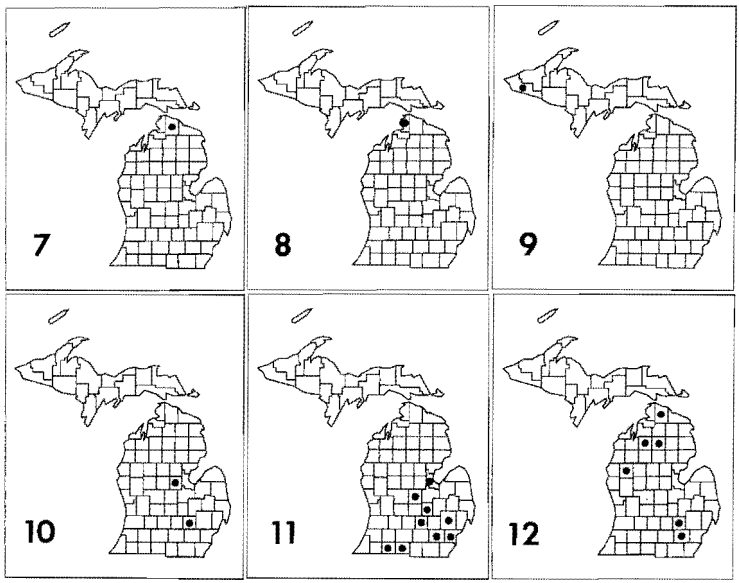
[1]Department of Zoology, Southern Illinois University, Carbondale, IL 62901.



Figures 1–6. State distributions of six Michigan reduviid species and subspecies. 1, *Apiomerus crassipes crassipes*; 2, *Barce fraterna*; 3, *Barce uhleri*; 4, *Emesaya brevipennis brevipennis*; 5, *Empicoris culiciformis*; 6, *Empicoris errabundus*.



Figures 7–12. State distributions of six Michigan reduviid species. 7, *Empicoris orthoneuron*; 8, *Empicoris parshleyi*; 9, *Empicoris pilosus*; 10, *Empicoris winnemana*; 11, *Acholla multispinosa*; 12, *Fitchia aptera*.

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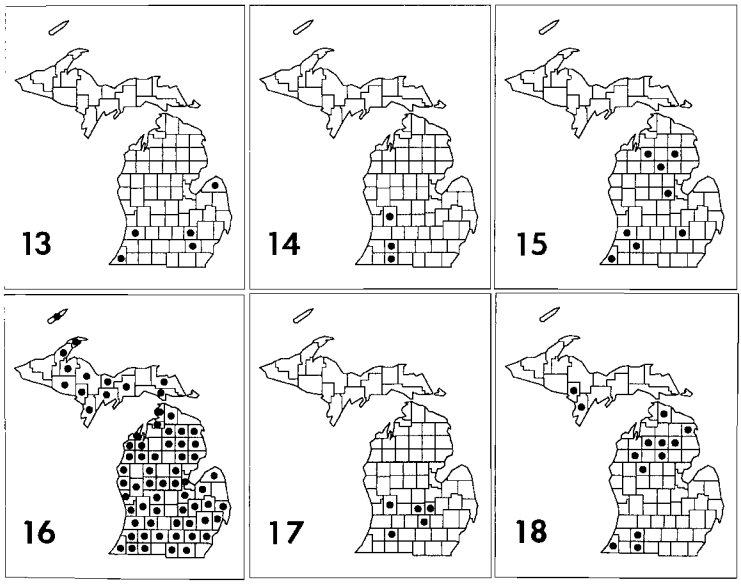
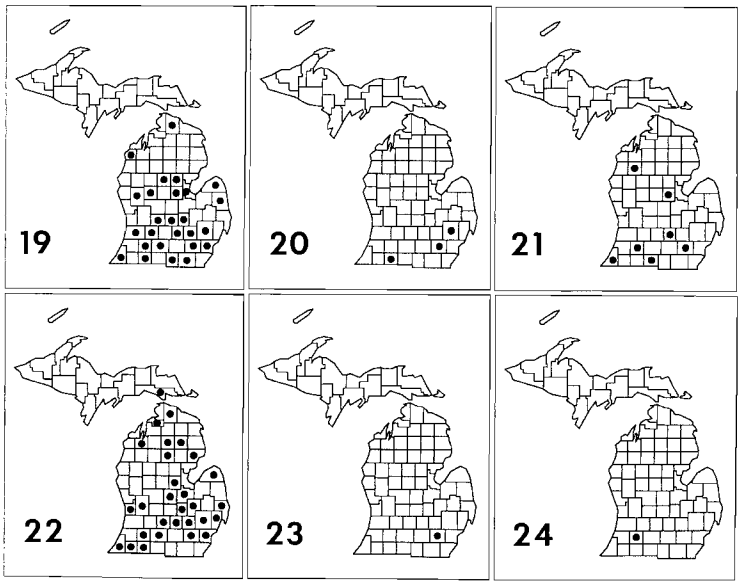
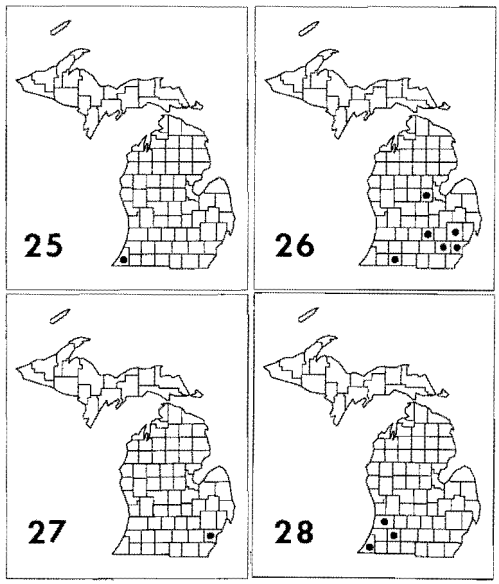


Figures 13–18. State distributions of six Michigan reduviid species and subspecies. 13, *Fitchia spinosula*; 14, *Pselliopus cinctus*; 15, *Rhynocoris ventralis ventralis*; 16, *Sinea diadema*; 17, *Sinea spinipes*; 18, *Zelus tetracanthus*.



Figures 19–24. State distributions of six Michigan reduviid species and subspecies. 19, *Zelus luridus*; 20, *Melanolestes picipes*; 21, *Sirthenia stria carinata*; 22, *Reduvius personatus*; 23, *Oncerotrachelus acuminatus*; 24, *Narvesus carolinensis*.



Figures 25-28. State distributions of four Michigan reduviid species. 25, *Pnirontis modesta*; 26, *Pygolampis pectoralis*; 27, *Pygolampis sericea*; 28, *Stenopoda spinulosa*.

A list of these taxa is presented here. This list should be viewed only as preliminary because, based on these collections, the Upper Peninsula has been poorly collected.

RESULTS AND DISCUSSION

A total of 27 Michigan species and subspecies was represented in the collections; an additional species, *Empicoris parshleyi* (Bergroth), was not represented but a Michigan specimen was found in material housed in the American Museum of Natural History, New York. Only 10 of these were listed from Michigan by Froeschner (1988) (Table 1). Of the 18 records, only four (i.e., *Empicoris culiciformis* [De Geer]; *E. winnemana* McAtee and Malloch, see McPherson 1991a; *E. orthoneuron* McAtee and Malloch, see McPherson 1991b; and *Fitchia spinosula* Stål) represented records new to the Great Lakes region; the remaining 14 had previously been found in adjacent states by earlier collectors (Froeschner 1988). A list of these taxa, and reference to the state distribution map for each species, are given in Table 1. Also included are the numbers of adult specimens examined, the range of their collection dates, and whether any specimens were collected at light (light records include specimens collected from Michigan and elsewhere).

Seven of the 10 North American subfamilies were represented in Michigan, the exceptions being Ectrichodiinae, Microtominae, and Triatominae. These three subfamilies are represented in Illinois by, respectively, *Rhiginia cruciata* (Say), (Froeschner 1988; unpublished data), *Microtomus purcis* (Drury) (unpublished data), and *Triatoma sanguisuga* (Leconte) (Froeschner 1988;

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Table 1.—List of the Reduviidae of Michigan.

Taxon and Dist. Map Fig. No.	No. Examined	Dates of Adult Collection
SUBFAMILY APIOMERINAE		
Apiomerus crassipes crassipes (Fabricius) (Fig. 1)*	7	23 June-16 July
SUBFAMILY EMESINAE		
Tribe Metapterini		
Barce fraterna Say[a] (Fig. 2)*	13	30 June-28 Oct.
Barce uhleri Banks (Fig. 3)*	15	12 April-8 Nov.
Emesaya brevipennis brevipennis (Say) (Fig. 4)*	37	7 Aug.-20 Oct.
Tribe Ploariolini		
Empicoris culiciformis (De Geer) (Fig. 5)*	1	7 Aug.
Empicoris errabundus (Say)[a,b] (Fig. 6)	3	22 June-15 July
Empicoris orthoneuron McAtee and Malloch (Fig. 7)*	2	28 June-2 July
Empicoris parshleyi (Bergroth)[b,c] (Fig. 8)	1	10 July
Empicoris pilosus (Fieber)[b] (Fig. 9)	1	20 July
Empicoris winnemana McAtee and Malloch (Fig. 10)*	3	18 March-15 Oct.
SUBFAMILY HARPACTORINAE		
Acholla multispinosa (De Geer)[b] (Fig. 11)	25	4 July-16 Sept.
Atrachelus cinereus cinereus (Fabricius)[d]	–	–
Fitchia aptera Stål (Fig. 12)*	8	7 Jan.-7 July
Fitchia spinosula Stål[a] (Fig. 13)*	9	28 April-10 Oct.
Pselliopus cinctus (Fabricius)[b] (Fig. 14)	6	30 April-8 Sept.
Pselliopus latifasciatus Barber[d]	–	–
Rhynocoris ventralis ventralis (Say) (Fig. 15)*	11	28 May-19 Aug.
Sinea diadema (Fabricius)[b] (Fig. 16)	429	26 May-16 Oct.
Sinea spinipes (Herrich-Schaeffer) (Fig. 17)*	11	8 Aug.-20 Sept.
Zelus (*Pindus*) *tetracanthus* Stål[b] (Fig. 18)	28	2 June-19 Aug.
Zelus (*Zelus*) *luridus* Stål[b] (Fig. 19)	121	20 May-20 Aug.
SUBFAMILY PEIRATINAE		
Melanolestes picipes (Herrich-Schaeffer)[a,e] (Fig. 20)*	5	10 May-21 Oct.
Sirthenia stria carinata (Fabricius)[a,b] (Fig. 21)	38	27 June-12 Sept.
SUBFAMILY REDUVIINAE		
Reduvius personatus (L.)[a,b] (Fig. 22)	178	11 May-20 Sept.
SUBFAMILY SAICINAE		
Oncerotrachelus acuminatus (Say)[a] (Fig. 23)*	1	4 May
SUBFAMILY STENOPODAINAE		
Narvesus carolinensis Stål[a] (Fig. 24)*	1	25 July
Pnirontis modesta Banks[a] (Fig. 25)*	1	25 July
Pygolampis pectoralis (Say)[a] (Fig. 26)*	8	2 May-13 Sept.
Pygolampis sericea Stål[a] (Fig. 27)*	1	22 May
Stenopoda spinulosa Giacchi[a] (Fig. 28)*	5	28 June-(?) Aug.

*Michigan state record.
[a]Some specimens examined, not necessarily from Michigan, collected at light.
[b]Listed from Michigan by Froeschner (1988).
[c]Housed in American Museum of Natural History.
[d]Listed from Michigan by Froeschner 1988 catalog but no specimens from state found during present study.
[e]Includes *M. abdominalis* (Herrich-Schaeffer), which is only a color variant; see McPherson et al. (1991).

unpublished data). Of these, my records indicate that only *T. sanguisuga* occurs north of the southern third of Illinois (one record from Du Page Co.) and, thus, is mostly likely to eventually be found in Michigan.

Of the seven Michigan subfamilies, the Emesinae and Harpactorinae were

particularly well represented with each containing 32.1% of the species present (Table 1).

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