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Notes on the Habitat and Distribution of the Odonata of Franklin County, Arkansas

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Total mammal kill per 100 miles was highest during March with an average of 6.18 per 100 miles, and the lowest counts were in January with an average of 1.71 per 100 miles. The January low count possibly reflects less movement of opossums and skunks as they are not as active during the colder weather. The rabbit count of 23 for January was also lower than other census months. Early low counts of rabbit mortality during September and October may be accounted for in part because of large acreage of crops and cover remaining in most fields. As these areas are harvested, much of the cover is destroyed forcing the rabbits to move about in search of better cover.

SUMMARY

A roadside census of mammal kill was conducted in northeastern Arkansas from September 1969 through March 1970. Some 10,025 miles were driven, and a total of 438 dead mammals were censused. An average of 4.37 mammals were killed per 100 miles. Twelve species of mammals were recorded as roadside kills with rabbits having the greatest mortality.

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Notes on the Habitat and Distribution of the Odonata of Franklin County, Arkansas

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INTRODUCTION

There is no publication dealing with the Odonata of Arkansas on a state-wide basis. Information on odonates in this state is scattered in the literature, and it is usually found only in broad regional works with only incidental mention of Arkansas.

The ranges of a few species are listed as extending

to Arkansas by Hagen (1861), and by Muttkowski (1910). Needham and Heywood (1929) list six species of Odonata for the State, and Needham and Westfall (1955) list eleven species of the Anisoptera.

The most significant contributions on Arkansas Odonata are a list included in "Predaceous insects, spiders, and mites of Arkansas cotton fields", by Whitcomb and Bell (1964), which includes twenty-six species of the

Anisoptera and nine species of the Zygoptera, and the Odonata collection at the University of Arkansas, contributed mainly by Mr. E. P. Rouse. The species in this collection have not been reported. Another list for the State was furnished to me by Dr. Minter J. Westfall, Jr., which included sixty-five species of the Anisoptera and twenty-four species of the Zygoptera.

ANNOTATED LIST OF SPECIES

Suborder — ANISOPTERA

Family — AESCHNIDAE

1. *Anax junius* Drury

Distribution—General distribution throughout the United States.

Arkansas Record—Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Westfall list.

Remarks—This species can be seen flying over ponds and lakes and adjacent fields in the late afternoon. It is of common occurrence in this area from late August or September to October.

Family—CORDULEGASTERIDAE

2. *Cordulegaster obliquus* Say

Distribution—Eastern United States

Arkansas Record—Needham and Westfall (1955); Westfall list.

Remarks—This species can be seen flying over open fields adjacent to ponds or resting on vegetation at the edge of fields. One specimen was collected from the underside of a leaf on a red oak tree (6-20-68).

Family—GOMPHIDAE

3. *Gomphus graslinellus* Walsh

Distribution—Central United States from Oklahoma to Wisconsin.

Arkansas Record—Westfall list.

Remarks—This species can be found on ponds, creeks, rivers, and sometimes in open fields adjacent to water. A male was collected on the bank of a pond (6-5-66). Another male was collected on the bank of a small creek (6-8-66), and one specimen was taken on the bank of the Arkansas River (6-15-66).

4. *Gomphus (Gomphurus) vastus* Walsh

Distribution—Eastern United States, west to Kansas and Missouri.

Arkansas Record—None.

Remarks—This species frequently alights on sand bars

along the Arkansas River. A female, feeding on a robber fly, was taken while flying in a field adjacent to the Arkansas River. This species has not been previously reported from the State.

5. *Gomphus oklahomensis* Pritchard

Distribution—Oklahoma and Texas.

Arkansas Record—Westfall list.

Remarks—Only one specimen was taken. It was flying just above the water surface of a small stock pond (4-20-68).

6. *Gomphus (Agrigomphus) lentulus* Needham

Distribution—Central United States.

Arkansas Record—Whitcomb and Bell (1964); Westfall list.

Remarks—One specimen was taken on the ground adjacent to a farm pond (6-5-66).

7. *Dromogomphus spinosus* Selys

Distribution—Eastern United States west to Texas.

Arkansas Record—Westfall list.

Remarks—Three males were taken on Mulberry River (6-23-66). This species is easy to collect because of its habit of alighting on rocks at the edge of the water.

8. *Dromogomphus spoliatus* Hagen

Distribution—Eastern United States.

Arkansas Record—University of Arkansas Entomology Museum; Westfall list.

Remarks—One male was taken on a persimmon bush in the middle of a large field, one-fourth mile from a stock pond (6-10-68).

Family—LIBELLULIDAE

Sub-family—Libellulinae

9. *Celithemis elisa* Hagen

Distribution—Eastern United States west to Kansas.

Arkansas Record—Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Westfall list.

Remarks—This is a slow flying species and easy to collect. It alights frequently on vegetation near ponds and can frequently be seen hovering over the edge of a pond. Several specimens were taken.

10. *Celithemis eponina* Drury

Distribution—Eastern United States west to Kansas and Oklahoma.

Arkansas Record—Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Westfall list.

Remarks—Only one specimen was collected. It had been struck by a car while flying along a roadside two miles west of Cecil (8-4-66). It is a pond species.

11. Erythemis simplicicollis Say

Distribution—General distribution throughout the United States.

Arkansas Record—Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Westfall list.

Remarks—A male was collected while it was flying over a small pond in a hardwood forest (6-15-66). Several females were collected in bermuda grass beside a pond just after emergence (5-28-68).

12. Libellula cyanea Fabricius

Distribution—Eastern United States west to Kansas.

Arkansas Record—Westfall list.

Remarks—Two males were collected while flying very low over the surface of a farm pond (6-15-66). The species was very common at another farm pond (6-13-68).

13. Libellula incesta Hagen

Distribution—Eastern United States.

Arkansas Record—Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Needham and Westfall (1955); Westfall list.

Remarks—A male was collected resting on a bush on the bank of a small creek (6-8-66). Other specimens were taken over a small stock pond (6-27-68).

14. Libellula luctuosa Burmeister

Distribution—Eastern United States extending as far west as New Mexico and Kansas.

Arkansas Record—Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Westfall list.

Remarks—This is a common pond species of this area. Several specimens were collected flying near the edge of the water of small ponds.

15. Libellula pulchella Drury

Distribution—General distribution throughout the United States.

Arkansas Record—Whitcomb and Bell (1964); University

of Arkansas Entomology Museum; Westfall list.

Remarks—This species has a rather diversified habitat. A specimen was taken along a small fast-flowing creek (5-30-66). However, it more commonly occurs around ponds.

16. Pachydiplax longipennis Burmeister

Distribution—General distribution throughout the United States.

Arkansas Record—Whitcomb and Bell (1964); Needham and Westfall (1955); University of Arkansas Entomology Museum; Westfall list.

Remarks—This is a pond species and is very common in early summer. It is often found resting on vegetation adjacent to the water's edge.

17. Perithemis tenera Say

Distribution—Eastern United States extending as far west as Oklahoma.

Arkansas Record—Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Westfall list.

Remarks—Found mainly on ponds but one specimen was taken on a small creek (6-8-66). The species is common from May throughout the summer. It flies low over the surface of the water, resting frequently on vegetation at the water's edge.

18. Plathemis lydia Drury

Distribution—General distribution throughout the United States.

Arkansas Record—Needham and Heywood (1929); Needham and Westfall (1955); Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Westfall list.

Remarks—This is the most common species in the County. It has been collected or observed on all ponds where collections were made, and also along small creeks and Mulberry River. It is abundant around ponds from early April until October. They can be found through most daylight hours and are active even during adverse weather.

19. Tramea lacerata Hagen

Distribution—General distribution throughout the United States.

Arkansas Record—Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Westfall list.

Remarks—This is one of the most abundant and con-

spicuous species in the County. It can be found flying a few feet over the surface of ponds or flying over open fields. Many times several mating pairs have been observed flying over a pond.

20. *Tramea onusta* Hagen

Distribution—General distribution throughout the United States.

Arkansas Record—University of Arkansas Entomology Museum; Westfall list.

Remarks—A common pond species. It occurred in abundance on ponds in June, 1968.

21. *Micrathyria hageni* Kirby

Distribution—Texas.

Arkansas Record—None.

Remarks—This is a pond species previously reported in the United States only from Texas. One specimen was taken flying about two feet above the surface of the water at the edge of a small stock pond (6-8-68).

22. *Orthemis ferruginea* Fabricius

Distribution—General distribution.

Arkansas Record—None.

Remarks—Several specimens were taken on a stock pond in June, 1968.

23. *Epicordula princeps* Hagen

Distribution—Eastern United States extending to Texas.

Arkansas Record—Westfall list.

Remarks—This species is often very common around dusk, flying over the low marshy areas of pastures and fields. One specimen was taken on a pond (6-9-66).

24. *Somatochlora linearis* Hagen

Distribution—Eastern United States extending west as far as Oklahoma.

Arkansas Record—Westfall list.

Remarks—One specimen was collected along a small fast moving creek.

25. *Somatochlora ozarkensis* Bird

Distribution—Central United States.

Arkansas Record—Westfall list.

Remarks—One specimen was taken on a stock pond in June, 1969.

26. *Tetragoneuria cynosura* Say

Distribution—Eastern United States west to Texas.

Arkansas Record—Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Westfall list.

Remarks—This species occurs along ponds, small creeks, and woodland openings. This was the earliest species of Anisoptera taken in the County (3-30-68), and they remain abundant until about the middle of May. Several specimens were collected on grass at the edge of a pond just after emergence (4-13-68).

27. *Neurocordulia xanthosoma* Williamson

Distribution—Central United States.

Arkansas Record—Westfall list.

Remarks—Two specimens were taken in grass on the bank of Mulberry River (7-4-68).

Suborder—ZYGOPTERA

Family—LESTIDAE

28. *Lestes disjunctus australis* Walker

Distribution—Eastern United States.

Arkansas Record—Westfall list.

Remarks—A pond species and an early emergent. One specimen was taken from a pond site (3-27-67). It is a rather large species and alights frequently for short intervals.

Family—COENAGRIIDAE

29. *Enallagma aspersum* Hagen

Distribution—Eastern United States.

Arkansas Record—Westfall list.

Remarks—Specimens were collected in a road ditch that temporarily contained water (5-5-68). It flies very low over the water, alighting frequently on low over-hanging vegetation.

30. *Enallagma signatum* Hagen

Distribution—Eastern United States.

Arkansas Record—Whitcomb and Bell (1964); Westfall list.

Remarks—Specimens were collected on two dates along road ditches temporarily filled with water (5-5-68; 5-18-68).

31. *Enallagma exulans* Hagen

Distribution—Eastern United States.

Arkansas Record—Westfall list.

Remarks—One specimen was taken on some Johnson grass at the edge of the Arkansas River (6-3-68). Another specimen was collected in flight over a small creek (6-5-68).

32. Enallagma civile Hagen

Distribution—General distribution throughout the United States.

Arkansas Record—Westfall list.

Remarks—All specimens were collected in the grass at the edge of stock ponds (4-20-68; 5-5-68; 6-18-68).

33. Argia apicalis Say

Distribution—Eastern United States.

Arkansas Record—Needham and Heywood (1929); Whitcomb and Bell (1964); Westfall list.

Remarks—These are long, slender damselflies. They were collected in Johnson grass on the bank of the Arkansas River (6-3-68).

34. Argia moesta Hagen

Distribution—General distribution throughout the United States.

Arkansas Record—Whitcomb and Bell (1964); Westfall list.

Remarks—One specimen was taken on the bank of a small rocky creek (6-5-68).

35. Argia violacea Hagen

Distribution—General distribution throughout the United States.

Arkansas Record—Whitcomb and Bell (1964); Westfall list.

Remarks—The males of this species are bright blue or purple. One specimen was collected on a small fast flowing stream (6-5-68). Two males were taken on a stock pond (6-12-68), and a male was taken on Mulberry River (7-4-68).

36. Ischnura verticalis Say

Distribution—Eastern United States.

Arkansas Record—Westfall list.

Remarks—Specimens were collected on grass and in low flight over the shallow edge of a stock pond (4-20-68).

Family—CALOPTERYGIDAE**37. Calopteryx maculata Beauvois**

Distribution—Eastern United States.

Arkansas Record—Whitcomb and Bell (1964); Westfall list.

Remarks—Several specimens were collected in black willow and sweet gum bushes on the bank of Mulberry River (7-4-68).

38. Hetaerina americana Fabricius

Distribution—General distribution throughout the United States.

Arkansas Record—Whitcomb and Bell (1964); University of Arkansas Entomology Museum; Westfall list.

Remarks—A male was collected on a rock jutting out of the water in a very shallow region of Mulberry River (7-4-68).

SUMMARY

Collection of odonates have been made from Franklin County for the past four years. Thirty-eight species of adults were collected, representing twenty-five genera, and seven families. *Gomphus (Gomphurus) vastus*, *Micrathyria hageni* and *Orthemis ferruginea* are recorded from Arkansas for the first time. Among the remaining thirty-five species, thirty-three are new reports for the County.

The Odonata of Franklin County may be classified as primarily Eastern since twenty of the thirty-eight species were Eastern, twelve were General and six were Central. None of the species was Western.

Collections were made on ponds, lakes, creeks, rivers and transient pools of water, marshes and seepage areas.

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