

WALKINGSTICKS (ORTHOPTERA: PHASMATIDAE) OF OKLAHOMA¹

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Keys and host and distribution records are provided for 8 species of walkingsticks which are known to occur in Oklahoma. A ninth species which should occur here, but has not been collected, is included.

While attempting to determine the identity of walkingsticks defoliating hardwood trees in eastern Oklahoma and rangeland weeds in western Oklahoma, it was found that several species have been reported from the state by earlier workers (1-5).

The purpose of this paper is to extend and summarize knowledge concerning the distribution and host relations of walkingsticks within Oklahoma. Records are from literature, the K. C. Emerson Entomology Museum, Oklahoma State University, and the author's personal collection. Dates following the county records refer to collections of adults.

KEY TO THE SPECIES

(Modified from Helfer [6] and Hebard [4])

1. Antenna longer than front femur2
Antenna shorter than front femur (Fig. 1A) ...*Parabacillus coloradus* (Scudder)
2. Mesonotum four or more times as long as pronotum3
Mesonotum less than three times as long as pronotum (Fig. 1B)*Anisomorpha ferruginea* (Beauvois)
3. Middle and hind femora simple, not swollen, unarmed; male cerci three-pronged at tip (Fig. 1C)4
Middle and/or hind femora armed with spines, often swollen5
4. Trifid portion of male cerci occupying half total length; female cerci short, about one-third as long as last abdominal segment*Pseudosermyle straminea* (Scudder)
Trifid portion of male cerci occupying about one-third of total length; female cerci nearly as long as last abdominal

segment

-*Pseudosermyle strigata* (Scudder)
5. Middle and/or hind femora armed only with a spine near apical end6
Middle and hind femora with median ridge of lower surface spined throughout (Fig. 1D)*Megaphasma denticrus* (Stal)
 6. Both middle and hind femora with a spine near the apical end7
Spines present on middle or hind femora but not on both8
 7. Male cerci armed with a slender spine internally at base (Fig. 1E); femora

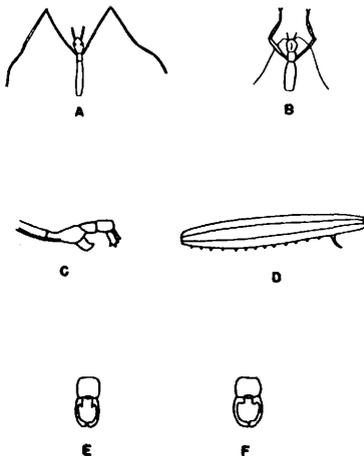


FIGURE 1. A. *Parabacillus coloradus* (Scudder), anterior end. B. *Anisomorpha ferruginea* (Beauvois), anterior end. C. *Pseudosermyle* sp., posterior end and cerci of male (after Helfer [6]). D. *Megaphasma denticrus* (Stal), middle femur. E. *Diaphoromera velii velii* Walsh, last abdominal segment and cerci of male. F. *Diaphoromera femorata* (Say), last abdominal segment and cerci of male.

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usually not banded.....

-----*Diaperomera velii velii* (Walsh)

Male cerci armed with a blunt angle internally at base (Fig. 1F); femora usually banded.....

-----*Diaperomera femorata* (Say)

8. Spines present on middle femora, absent on hind femora.....

-----*Diaperomera persimilis* (Caudell)

Spines present on hind femora, absent on middle femora.....

-----*Diaperomera blatchleyi* (Caudell)

PHASMATIDAE

Anisomorphae

Anisomorpha ferruginea (Beauvois)

Easily identified by the key characters and the longitudinal black and white stripes on the body. Has been collected sweeping vines and shrubbery

County Records: Choctaw (5).

Pachymorphinae

Parabacillus coloradus (Scudder)

A small, slender species with a black stripe down the mid-dorsal line. The short antennae are distinctive. It probably feeds on rangeland weeds.

County Records: Texas, Beaver (2), Cimarron, and Ellis. July 15 to October 14.

Heteronemiinae

Pseudosermyle straminea (Scudder)

Appearance is similar to the *Diaperomera* species except as noted in the key. This species is usually taken on weeds or bushes in rangeland.

County Records: Harmon and Cimarron (4).

Pseudosermyle strigata (Scudder)

This species has not been collected in Oklahoma, but is included because the recorded distribution includes Dallas, Texas and Polk Co., Arkansas as the northwest limits (4) and it might occur in southeastern Oklahoma.

Diaperomera blatchleyi (Caudell)

Males are easily distinguished by the absence of spines on the middle femora. This is also true of females but the spines of the hind femora are much smaller.

Known to feed on the foliage of hardwood trees.

County Records: Payne and McCurtain (5). June 22 to August 13.

Diaperomera persimilis (Caudell)

Easily identified by the absence of spines on the hind femora. This species is usually taken in weeds or grass in rangeland but one specimen was taken from an elm tree.

County Records: Grady (4), Ellis, Alfalfa, Payne, and Pittsburg. July 18 to September 12.

Diaperomera velii velii (Walsh)

Males can be identified by the cerci and the usually solid colored middle femora. Females are difficult to identify unless associated with males. This species is often common in rangeland in western Oklahoma where it commonly feeds on the wild legume *Psoralea tenuiflora* Pursh. Other host records are *Scrankia uncinata* Willd., *Helianthus* sp., and cotton.

County Records: Payne (1), Jackson (3), Cimarron, Texas, Beaver, Woods, Ellis, Woodward, Major, Harmon, Logan, Cleveland, and Sequoyah. June 7 to August 30.

Diaperomera femorata (Say)

Females of this species are also difficult to identify and should be associated with males. This is the walkingstick which commonly defoliates hardwood trees in the Ouachita National Forest in LeFlore County (7). It feeds on a number of hardwood trees but prefers Northern red oak (*Quercus rubra* Du Roi) and black locust (*Robinia pseudoacacia* L.) (8).

County Records: Custer, Logan, Ottawa, McCurtain (9), Jackson, Delaware, Muskogee, and LeFlore. August 18 to November 24.

Megaphasma denticrus (Stal)

This is the largest species found in Oklahoma, sometimes reaching a length of 150 mm. It feeds mainly on the foliage of hardwood trees and grapevines.

County Records: Latimer (4) and Adair. August 4.

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