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## **Some Soil Arthropods Collected in Southern Oklahoma<sup>1</sup>**

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A study of the soil fauna of a central Oklahoma prairie was published by Rogers in 1959, based upon work done prior to 1951. Material for the present paper was collected during June and July, 1962, while searching for specimens of Protura, and since so little is known of the soil arthropods of Oklahoma, counts of them were made and recorded. This investigation was done at the University of Oklahoma Biological Station on Lake Texoma under the direction of Dr. Harley P. Brown.

Four soil samples were taken from under clumps of grass and twenty-nine from under button bushes, plum, poplar, cedar, elm and oak trees. The dried leaves were raked aside and soil taken at varying depths up to

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nine inches. Since this was not a quantitative study, the size of the sample was not uniform but averaged about eight ounces. Soil was carried to the laboratory in plastic bags.

The first eight samples were examined by the water flotation method using a binocular microscope. Later samples were processed in Berlese funnels which were constructed for the project from sheet tin. The funnels were eleven inches square at the top and eight inches deep with sides sloping in to fit a standard pint fruit jar metal ring. The rings were fitted with a permanent one-fourth inch mesh screen and with a removable one-sixteenth inch mesh copper screen. Pint fruit jars were used as collecting receptacles. The cap for the funnel was constructed the same as the bottom except that a light socket was mounted in the top opening and secured with electrical tape. One-hundred watt light bulbs were used. Soil samples were left in the funnels until the soil felt dry to the touch. The animals were collected and stored in glycerated 70% alcohol.

One pauropod was collected from under a layer of various kinds of leaves on the bank of Honey Creek above Turner Falls, Murray County. Eight proturans and three symphylids were found under oak leaves near the Biological Station, Marshall County. A total of twenty-two japygids were collected from Marshall and Johnston Counties, six from under logs, five from grass clumps, eleven from under leaves. Collembolans were the most numerous in all samples which contained other arthropods, one sample from under oak leaves yielded 349 collembolans. Collections are compared with those of Rogers in Table 1.

This brief sampling seems to indicate that the arthropod population under leaf mulch is comparable to that in prairie land except that there were more specimens of *Collembola* and fewer of *Acarina*.

Photographs and further identification of the specimens of *Pauropoda*, *Symphyla*, and *Protura* will be included in a future publication.

TABLE I. COMPARISON OF NUMBERS OF SOIL ARTHROPODS FROM WOODED AND PRAIRIE AREAS

	Von Wicklen 33 Samples Wooded	Rogers 44 Samples Prairie
Class: Pauropoda	1	0
Class: Symphyla	3	14
Class: Insecta		
Order: Collembola	1,087	359
Order: Protura	8	33
Order: Thysanura		
Family: Japygidae	22	30
Order: Thysanoptera	6	13
Class: Arachnida		
Order: Acarina (mites)	About 800	3,194
Miscellaneous	140	412
TOTAL	2,067	4,055

LITERATURE CITED

Rogers, T. E. 1959. The arthropod soil fauna of a tall grass prairie and adjoining pasture. *Iowa Acad. Sci.* 66:458-471.