
**Mites Associated With *Popilius Disjunctus* (Illiger)
(Coleoptera; Passalidae) in McCurtain County, Oklahoma**

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Popilius disjunctus (Illiger) is a semi-social beetle that lives most of its life in rotting logs of oak, hickory, gum or poplar.

Pearse et al. (1936) reported the monthly abundance of twelve species of mites associated with *P. disjunctus* in a North Carolina forest. In recent years Dr. Preston Hunter, University of Georgia, and his students have been studying the biology of mites associated with *P. disjunctus*. In these studies two new species of mites have been discovered; one was described by Hunter and Mollin, 1964, and the other, as yet undescribed (Hunter, personal communication), is known to Hunter.

Popilius disjunctus is distributed throughout the eastern half of the United States (Borror and DeLong, 1954). In Oklahoma it is common throughout the oak-hickory and oak-pine forest and can be found in bottomland forests in all but the driest parts of western Oklahoma. No studies are known concerning the mites associated with *P. disjunctus* at the western edge of its range.

On March 23, 1964, twenty-four beetles were collected three miles south of Idabel, McCurtain County, Oklahoma, and placed in individual vials containing 80% isopropyl alcohol. Ten beetles were chosen at random and body crevices were examined for mites under a dissecting microscope. The elytra and hind wings were later removed to obtain the parasitic forms. Determinations were made by the authors from specimens identified by Dr. Preston Hunter.

TABLE I. MITES ON *POPILIUS DISJUNCTUS*

	1	2	3	4	5	6	7	8	9	10	X
	Beetle Number										
<i>Passalacarus sylvestris</i>	6	2	10	7	4	3	7	3	4	11	5.8 0.4*
<i>Caelenopsis latus</i>	7	2	3	2	3	1	0	3	4	4	3.0 0.3*
<i>Zercon passalorum</i>	1	7	3	9	52	24	232	24	46	1	39.8 100.3*
<i>Urobovella</i> (3 species)	19	66	78	40	114	49	77	156	97	20	71.6 46.2*
<i>Heterocheilytus fusiformis</i>	0	1	2	3	4	0	4	6	0	0	2.0 6.0*
<i>Diarthrophallus quercus</i>	3	2	2	1	3	9	3	1	1	2	2.7 6.3*
<i>Cosmolaelaps passali</i>	7	4	8	7	5	5	6	1	0	6	4.9 4.0**
<i>Geolaelaps</i> sp.	0	0	0	0	0	0	1	1	1	2	0.5
Total	43	85	106	69	185	91	330	195	154	46	130.3 163.5

Results are presented in Table I. The average number of each species is compared with the March averages obtained by Pearse et al. (1936), indicated by an asterisk (*), and Hunter and Mollin (1964), indicated by double asterisks (**). No data were given for *Geolaelaps* by the above authors. The numbers of *Urobovella* nymphs representing two and possibly three species are somewhat arbitrary since they are very small and not easily removed from body crevices.

Zercon passalorum and *Heterochelytus fusiformis* are considered parasitic forms; all others are commensals (Pearse, et al. 1963).

The species averages in this collection, Pearse et al. (1963), and Hunter and Mollin (1964) are extremely variable. These variations may reflect differences in environmental conditions or sampling error. Further research is needed to determine whether these or other factors are responsible.

LITERATURE CITED

- Borror, D. J. and D. M. DeLong. 1954. An introduction to the study of insects. Holt, Rinehart and Winston. p. 382.
- Hunter, E. P. and Karl Mollin. 1964. Mites associated with passalus beetles. I. Life stages and seasonal abundance of *Cosmolaelaps passali* n. sp. (Acarina: Laelaplidae). *Acarologia* 6(2): 247-256.
- Pearse, A. S., M. T. Patterson, J. S. Rankin, and G. W. Wharton. 1936. The ecology of *Passalus cornutus* Fabricius. *Ecol. Monog.* 6(4): 456-490.
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