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THE ECTOPARASITES OF RHODE ISLAND MAMMALS

II. A COLLECTION OF ANOPLURA FROM NON-DOMESTIC HOSTS (ANOPLURA)

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ABSTRACT

A collection of 1042 anoplurans collected on 13 mammalian host species in Rhode Island is reported. Eleven species have been identified: *Enderleinellus longiceps, E. marmotae, E. nitzshi, Hoplopleura, acanthopus, H. erratica, H. hesperomydis, H. sciuricola, Neohaematopinus sciuri, N. sciuropteri, Polyplax alaskensis, P. spinulosa. Enderleinellus nitzshi* is reported for the first time from the northeastern United States.

Most of the 1042 sucking lice (representing 217 collections) reported here were collected incident to a survey of wild mammals and their parasites conducted during the period 1955 through 1957 as a joint project of the Rhode Island Division of Fish and Game and the University of Rhode Island. Techniques employed were described in some detail in the preceding paper of this series (Hyland and Mathewson, 1961). With few exceptions, all specimens have been deposited in the Entomological Collection of the Department of Zoology at the University of Rhode Island.

The entire louse yield from less commonly collected hosts and from host individuals bearing few lice was mounted and determined. In the case of heavily parasitized individuals of more plentiful types of mammals only part of the yield was determined. Our data are therefore primarily qualitative and indicate relative abundance only.

Attention is called to Scanlon's recent paper on Anoplura and Mallophaga of the nearby New York area (Scanlon, 1960) which contains an extensive bibliography and discussions of synonymy applicable to the forms reported here.

Data for each louse species are presented according to host, locality, number of yielding hosts, and month. The number in parentheses signifies the number of host individuals from which the reported yield was taken. Louse yield is broken down into life-history stages and sex of adults. Mainland localities are reported according to county, while all insular localities are labeled as such except for the Township of Jamestown, which occupies the entirety of Conanicut Island.

Annotations are limited to items of special interest or concern.

While keys to species of nymphs of *Enderleinellus, Neohaematopinus,* and *Polyplax* were not available, the fact that these genera were invariably represented by only one species on each of the host forms involved appeared to justify assigning nymphs of those genera in accordance with host association.

We are happy to acknowledge our indebtedness to Mr. John Cronan, Rhode Island Division of Fish and Game, for identification of mammals; to Dr. Harry D. Pratt, Communicable Disease Center (USPHS), Atlanta, Georgia, for verification of determination of representative specimens of each species of louse reported; and to Dr. Richard F. Darsie, Jr., University of Delaware, for the loan of specimens for comparison.

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ANNOTATED LIST

M = male F = female N = nymph

ENDERLEINELLUS ~~*NITZSHI* Fahrenholz~~ *LONGICEPS* Kellogg & Ferris

ex *Sciurus carolinensis*

Washington County,	May	(1):	3FF
Kent County,	Jan.	(1):	1F
	Nov.	(1):	1F

All of our specimens represented typical *E. longiceps.* This is in agreement with Scanlon's (1960) findings in New York.

ENDERLEINELLUS MARMOTAE Ferris

ex *Marmota monax*

Washington County,	Apr.	(2):	2FF
	May	(3):	2MM, 2FF, 2NN
	Jul.	(1):	1M, 1F

ENDERLEINELLUS NITZSHI Fahrenholz

ex *Tamiasciurus hudsonicus*

Washington County, Apr. (1): 3FF

This louse has been reported from western United States and from China, but is apparently not common anywhere. Our specimens are apparently the first reported from northeastern United States. One slide has been deposited in the collection of the Communicable Disease Center (USPHS) in Atlanta, Georgia.

HOPLOPLEURA ACANTHOPUS (Burmeister)

ex *Microtus pennsylcanicus*

Washington County,	Mar.	(2):	1M, 2FF
	May	(9):	29MM, 21FF, 19NN
	Jul.	(2):	2MM, 1F
Newport County,	Dec.	(9):	33MM, 76FF, 11NN
Bristol County,	Feb.	(1):	1M, 2FF, 5NN
Kent County,	Feb.	(1):	2FF
Providence County,	Feb.	(2):	3FF
Jamestown,	Jan.	(1):	1F
	Apr.	(2):	3MM, 2FF, 2NN
	Jun.	(1):	1F
Prudence Island,	Jun.	(8):	6MM, 11FF, 13NN
Patience Island,	Jun.	(13):	4MM, 10FF, 15NN

ex *Peromyscus leucopus*

Jamestown,	Apr.	(1):	1N
Kent County,	Dec.	(1):	1F

ex *Blarina brevicauda*

Kent County, Apr. (1): 1F

ex *Mayotis lucifugus*

Washington County, May (1): 1F

Recovery of specimens from *Peromyscus, Blarina,* and *Myotis* is of interest. *H. acanthopus* has previously been reported from *P. leucopus* in Delaware by MacCreary (1945) and in New Jersey by Race (1956). The latter reported (ibid.) recovery of a single female from *Blarina.* The occurrence of one female on *Myotis* should probably be viewed as accidental.

HOPLOPLEURA ERRATICA (Osborn)

ex *Tamias striatus*

Washington County,	Apr.	(2):	2FF, 1N
	Jul.	(1):	1M, 3FF
	Aug.	(1):	1M, 3N
	Sep.	(1):	2FF
	Oct.	(2):	1M, 1N

One nymph (#192), found alone on its host, exhibited some apparently anomolous features, but is reported here as typical *H. erratica* pending results of further study.

HOPLOPLEURA HESPEROMYDIS (Osborn)

ex *Peromyscus leucopus*

Washington County,	Jan.	(2):	1M, 1F
	Feb.	(2):	1M, 2FF
	Mar.	(3):	4MM, 8FF
	Apr.	(3):	2MM, 2FF
	Jun.	(3):	3FF
	Aug.	(2):	1M, 1F
	Dec.	(4):	4MM, 6FF
Providence County,	Jul.	(10):	11MM, 27FF, 1N
	Aug.	(5):	4MM, 12FF
	Sep.	(2):	3MM, 6FF
Kent County,	Oct.	(1):	1N
	Nov.	(2):	1M, 6FF
	Dec.	(1):	1F
Bristol County,	Feb.	(2):	1M, 2FF
Jamestown,	Apr.	(9):	9MM, 14FF, 2NN
Block Island,	Oct.	(3):	3MM, 18FF
Prudence Island,	Jun.	(2):	2FF

ex *Mus musculus*

Block Island,	Oct.	(1):	1F

ex *Blarina brevicauda*

Washington County,	Mar.	(2):	4FF

Ferris (1951) reported recovery of this species from *Mus musculus* from both the Old and New Worlds.

The occurrence on specimens on the Short-tailed Shrew is novel.

A few individuals showed variation in formation of the paratergites of the seventh abdominal segment. In the case of one of these the formation corresponded to that used by Ferris (1951) to erect the species *H. reithrodontomydis*. Discovery of specimens showing intergradations in this character caused Ferris (1953) to sink *reithrodontomydis* as a synonym of *hesperomydis*. Our observations apparently show the same type of variation.

HOPLOPLEURA SCIURICOLA Ferris

ex *Sciurus carolinensis*

Washington County,	Jan.	(1):	2MM, 2FF
	Feb.	(1):	1F
	Apr.	(1):	2MM, 1F
	May	(1):	1M, 2FF
	Jun.	(2):	2FF, 2NN
	Nov.	(1):	3FF
	Dec.	(1):	1F
Kent County,	Jan.	(1):	2MM, 3FF, 11NN
	Apr.	(1):	1M, 2FF
	May	(1):	1F

	Aug.	(1):	1M
	Sep.	(2):	2MM, 4FF, 2NN
	Nov.	(2):	5FF, 6NN
Providence County,	Feb.	(1):	1M, 3FF, 4NN

NEOHAEMATOPINUS SCIURI Jancke

ex *Sciurus carolinensis*

Washington County,	Jan.	(1):	2FF, 2NN
	Feb.	(1):	1F, 2NN
	Mar.	(1):	1N
	Apr.	(3):	1M, 2FF, 6NN
	May	(1):	2MM, 2NN
	Jun.	(5):	1M, 2FF, 7NN
	Jul.	(1):	5MM, 1F, 11NN
	Sep.	(3):	3MM, 3FF, 12NN
	Oct.	(2):	4MM, 11NN
	Nov.	(3):	3FF, 1N
	Dec.	(1):	3NN
Kent County,	Jan.	(1):	4FF, 5NN
	Apr.	(1):	1F
	Aug.	(1):	2MM, 4FF, 5NN
	Sep.	(2):	3MM, 3FF
	Oct.	(1):	3MM, 11FF, 2NN
	Nov.	(9):	3MM, 13FF, 36NN
Providence County,	Feb.	(1):	1M, 2FF
	Jul.	(1):	2MM, 2FF

ex *Ondatra zibethicus*

Providence County,	Aug.	(1):	1M, 1N

While some variations in the second antennal segment were noted, none of our specimens exhibited structure typical of *N. sciurinus*. Our observations, therefore, support the contention of Johnson (1959) and Scanlon (1960) that the species of *Neohaematopinus* found on *Sciurus carolinensis* in this country is consistently *N. sciuri*.

Biting lice have not previously been found on the Muskrat. Since the likelihood of habitat contamination is small it is possible that the occurrence reported here was accidental.

NEOHAEMATOPINUS SCIUROPTERI (Osborn)

ex *Glaucomys volans*

Washington County,	Apr.	(1):	2MM

POLYPLAX ALASKENSIS (Ewing)

ex *Microtus pennsylvanicus*

Washington County,	Jan.	(1):	2MM
	Mar.	(2):	3MM, 6FF, 11NN
	Apr.	(1):	1M, 3FF, 2NN

	May	(9):	4MM, 6FF, 7NN
	Jun.	(2):	4MM, 6FF, 7NN
	Jul.	(2):	2M, 1N
	Oct.	(1):	2MM
	Nov.	(1):	1F
	Dec.	(1):	1M
Newport County,	Dec.	(8):	10MM, 12FF, 16NN
Providence County,	Feb.	(1):	1F
Bristol County,	Feb.	(1):	2FF
Block Island,	Oct.	(6):	5MM, 6FF, 28NN
Jamestown,	Jan.	(1):	1F
	Apr.	(2):	5MM, 7FF, 9NN
	Jun.	(1):	1F, 1N
Prudence Island,	Jun.	(1):	1F, 1N
Patience Island,	Jun.	(5):	2MM, 2FF, 11NN
Dutch Island,	Jun.	(2):	2MM, 3FF, 6NN
ex *Peromyscus leucopus*			
Washington County,	Apr.	(1):	1M, 2FF

P. auricularis is the species of *Polyplax* most often reported from *Peromyscus*. To our present knowledge this is the first *P. alaskensis* from this host.

POLYPLAX SPINULOSA (Burmeister)

ex *Rattus norvegicus*			
Washington County,	Apr.	(1):	1N
	May	(2):	2MM, 3FF
	Jun.	(1):	2MM, 12FF, 5NN
	Jul.	(1):	1F
	Sep.	(1):	1F
	Oct.	(1):	1M
	Nov.	(3):	1M, 4FF, 3NN
	Dec.	(2):	2FF, 1N
Providence County,	Feb.	(1):	4FF, 3NN
	Jul.	(1):	4MM, 5FF
	Aug.	(2):	1M, 7FF, 2NN
Newport County,	Dec.	(1):	1N
Block Island,	Oct.	(3):	2MM, 5FF
Patience Island,	Jun.	(3):	4MM, 4FF
ex *Odocoileus virginianus*			
Washington County,	Jan.	(1):	1M, 1F

These data are in agreement with the findings of Knutson and Szymkowicz (1952) who found this to be the only species of louse on the Norway Rat in Rhode Island. The two individuals found on the White-tailed Deer were probably strays.

HOST-PARASITE LIST

Number in parentheses signifies number of individuals processed

Host *Parasite*	*No. host individuals infested*	*Total louse yield*
Blarina brevicauda (127)		
Hoplopleura acanthopus	1	1
Hoplopleura hesperomydis	2	4
Myotis lucifugus (252)		
H. acanthopus	1	1
Tamias striatus (25)		
Hoplopleura erratica	7	15
Marmota monax (114)		
Enderleinellus marmotae	6	10
Sciurus carolinensis (74)		
Enderleincellus longiceps	3	5
Hoplopleura sciuricola	17	67
Neohaematopinus sciuri	37	190
Tamiasciurus hudsonicus (19)		
Enderleinellus nitzschi	1	3
Glaucomys volans (2)		
Neohaematopinus sciuropteri	1	2
Peromyscus leucopus (285)		
H. acanthopus	2	2
H. hesperomydis	56	160
Polyplax alaskensis	1	3
Microtus pennsylvanicus (210)		
H. acanthopus	51	276
P. alaskensis	48	217
Ondatra zibethicus (50)		
N. sciuri	1	2
Rattus norvegicus (76)		
Polyplax spinulosa	23	81
Mus musculus (27)		
H. hesperomydis	1	1
Odocoileus virginianus (17)		
Polyplax spinulosa	1	2
Number species Mammal	13	
Number species Anoplura	11	
Total host individuals yielding one or more species of Anoplura		217
Total Anoplura determined and reported		1042

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