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A COLLECTION OF PSOCOPTERA FROM VOYAGEURS NATIONAL PARK, MINNESOTA

Gary Eertmoed¹ and Elizabeth Eertmoed²

ABSTRACT

A list of 43 species of Psocoptera from Voyageurs National Park, Minnesota, includes 37 new state records and increases to 44 the number of species known from the state.

Voyageurs National Park, within the spruce-fir forest of north-central Minnesota (Fig. 1), is a recent addition to the National Park System. As the area recovers from intensive logging and recreational use, the status of its biota is being assessed. Psocoptera are a major faunistic component of the herbivores which browse the surface micro-flora of its conifers. We estimate from the literature that a minimum of 60 and possibly as many as 86 species of Psocoptera may exist in this Western Great Lakes Region of North America. The literature, however, records only seven species of Psocoptera from Minnesota.

During the summer of 1980 (20 June through 9 August) we collected 4070 adult Psocoptera from 31 localities within the park (Table 1, Fig. 1).

PSOCOPTERA FROM VOYAGEURS NATIONAL PARK.

Records are indicated for sex (M, F), localities (numbers refer to Table 1), and habitat (conifers [C], deciduous trees [D], ground litter [GL], grass [Gr]). An * preceding a name indicates that this is the first published record for Minnesota.

LEPIDOPSOCIDAE

- * *Echmepteryx hageni* (Packard): 105F; 16,20,21,23-27,29-31; C.
- * *Lepolepis occidentalis* Mockford: 1F; 15; C.

LIPOSCELIDAE

- * *Embidopsocus needhami* (Enderlein): 10F; 8,13,16,20,22,27; C (under bark).
- * *Liposcelis bostrychophilus* Badonnel: 3F; 22,23; C.

EIPSOCIDAE

Bertkauia crosbyana Chapman: 132F; 22-24,27-31; GL.

CAECILIIDAE

Caecilius flavidus (Stephens): 19M, 183F; 1-2,4-5,7-9,15-18,20,22-25,27-32; C,D, GL.

- * *C. confluens* (Walsh): 1M, 2F; 8,22; GL.
- * *C. graminis* Mockford: 1M; 22; in flight.
- * *C. hyperboreus* Mockford: 1M, 2F; 8; C.
- * *C. manteri* Sommerman: 3F; 11,27; C.
- * *C. nadleri* Mockford: 35F; 22,27-31; GL.
- * *C. pinicola* Banks: 9M, 29F; 2,4-8,12-13,30-32; C,D.
- * *C. sommermanae* Mockford: 6M, 17F; 2,4-5,7-8,13,27,29,32; C,D.
- * *Matsumuraiella contermina* (Chapman): 33M, 72F; 2-8,10-13,19; C,D.

POLYPSOCIDAE

- * *Polypsocus corruptus* (Hagen): 16M, 22F; 4,8-9,22,32; C,D,GL.

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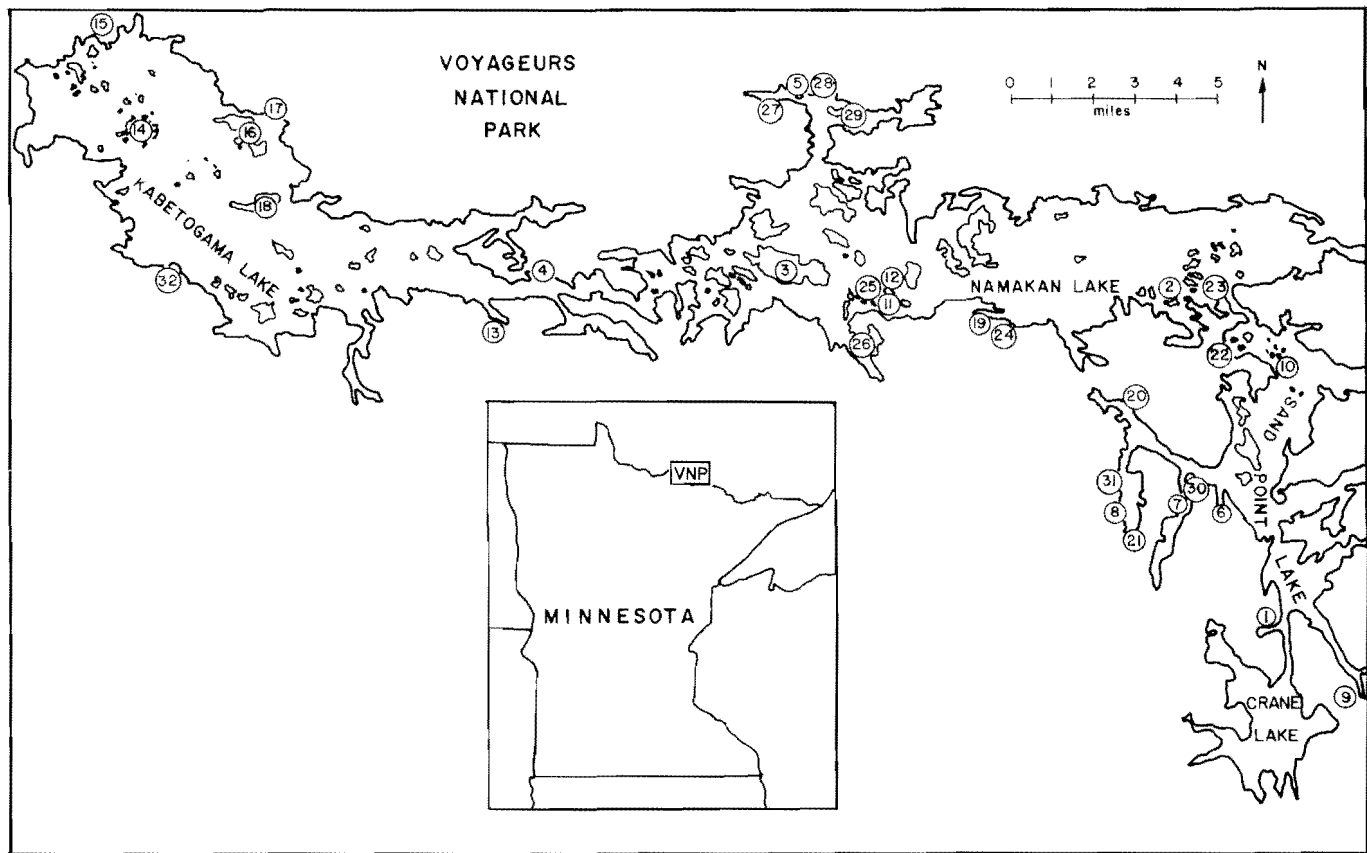


Fig. 1. Collection sites in Voyageurs National Park. Localities are numbered in order of collection date (Table 1).

Table 1. Collection localities by date. Locality numbers refer to Figure 1.

No.	Name	Dates	No.	Names	Dates
1	King Williams Narrows	June 20-21	17	Ellsworth Garden	21
2	Namakan Lake Island	24	18	Sugarbush Island	22
3	Namakan Island	25	19	Namakan Lake	22-23
4	Lost Lake	27-29	20	Grassy Bay	26
5 ^a	Mica Bay	30-1	21	Browns Bay	26-27
6	Grassy Bay	July 2	22	Sand Point Lake	27-29
7	Steges Bay	4	23	Namakan Lake	31
8	Browns Bay	5-7	24	Namakan Lake	Aug 1
9	Little Vermillion Lake	9	25	Wolf Pack Island	2
10	Sand Point Lake Island	12	26	Junction Bay	3
11	Fox Island	13	27	Mica Bay	4-5
12	Island N of Fox Island	14	28	Mica Bay	6
13	Blind Ash Bay	15-16	29	Mica Island	6-7
14	Grassy Island	17	30	Steges Bay	9
15	NW shore Kabetogama Lk.	19	31	Browns Bay	9
16	Cutover Island	20-21	32	Pinto's records ^b	Sept 3-10

^a Localities 5 and 28 are the same.

^b Kabetogama and Jeannette lakes, collected in 1966 by Dr. John Pinto.

LACHESILLIDAE

- * *Anomopsocus amabilis* (Walsh): 38M, 64F; 3-5,8,11,16,29,32; C,D.
- * *Lachesilla contraforcepeta* Chapman: 11M, 36F; 4-5,7-8,13,20,26,28-30; C,GL.
- * *L. corona* Chapman: 2F; 4; D.
- * *L. forcepeta* Chapman: 3M, 6F; 5,29; C.
- * *L. pallida* (Chapman): 3M, 2F; 8,22,32; GL,C.
- * *L. pedicularia* (Linnaeus): 1M, 1F; 4,29; D,GL.

PERIPSOCIDAE

- Peripsocus alboguttatus* (Dalman): 37F; 1,5,27,30; C,D.
- P. sp.* (near *alboguttatus*): 39F; 31; C.
- * *P. madidus* (Hagen): 25M, 70F; 4-5,8-11,13,15-16,18-19,25,27,29-32; C,D.
- * *P. quadrifasciatus* (Harris): 527F; 2-5,7-11,13,15-17,20,24,27-32; C,D.

ELIPSOCIDAE

- * *Reuterella helvimacula* (Enderlein): 1M, 1F; 1,13; C.

MESOPSOCIDAE

- * *Mesopsocus unipunctatus* (Muller): 17M, 53F; 1-5,8,11,13,25; C,D.

PSOCIDAE

- * *Amphigerontia bifasciata* (Latreille): 1M, 1F; 4,10; C.
- * *A. montivaga* (Chapman): 7M, 33F; 3-5,8-9,11,15-17,32; C,D.
- * *A. petiolata* (Banks): 28M, 18F; 11-12; C.
- * *Blaste quieta* (Hagen): 191M, 736F; 8,10-13,15,31; C,D.
- * *B. subquieta* (Chapman): 3M, 5F; 14,22; C,D,Gr.
- * *Blastopsocus lithinus* (Chapman): 10M, 42F; 16,19-22,24-27,29-31; C,D,GL.
- * *Merylophorus novascotiae* (Walker): 156M, 313F; 13,15-32; C,D,GL.
- * *Hyalopsocus floridanus* (Banks): 2M; 19,31; C.
- * *Psocus leidy* Aaron: 9M, 43F; 16,19-22,24-25,27-31; C.
- Ptycia polluta* (Walsh): 699F; 9-13,15-32; C,D.
- * *Indiopsocus bisignatus* (Banks): 3F; 19,22; D,C.
- * *Trichadenotecnum majus* (Kolbe): 1M, 114F; 8-10,13,15-22,24,27,31; C.
- * *T. slossonae* (Banks): 1F; 20; C.

- * *T. unum* Sommerman: 2M, 12F; 13,16-17,29; C.
- * *Loensia moesta* (Hagen): 3M, 27F; 20,23,26,28-31; C.

MYOPSOCIDAE

- * *Lichenomima* sp.: 10M, 14F; 23-24,27,29-30,32; C.

DISCUSSION

The above list increases the number of known Minnesota psocid species to a total of 44, including *Lachesilla nubilis* (Sommerman 1946), not found at Voyageurs National Park. This extends to the northwest the recorded ranges of many psocids. The record for *Caecilius hyperboreus* is the first extension south of Canada, and the first record in which it is sympatric with its sibling species, *C. flavidus* (Mockford 1965). The European species *Trichadenotecnum majus* is recorded for the first time from the United States, and the male record is the first from North America. The record for *Amphigerontia petiolata* (locality 12) is the first from Canada.

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