

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/277281584>

Polyplax spinigera (Burmeister, 1839) (Anoplura, Insecta) a new species of louse in the fauna of Poland

Article · January 1973

CITATIONS

2

READS

24

1 author:



[Haitlinger Ryszard](#)

Wrocław University of Environmental and Life Sciences

404 PUBLICATIONS 2,801 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Abundance fluctuation and parasitofauna of *Eyprepocnemis plorans ibandana* (Charpentier, 1825) (Orthoptera: Acrididae), in the Humid Forest Zone of Southern Cameroon
[View project](#)

Polyplax spinigera (BURMEISTER, 1839) (*Anoplura*, *Insecta*)
a new species of louse in the fauna of Poland

Polyplax spinigera (BURMEISTER, 1839) (*Anoplura*, *Insecta*) nowy gatunek
wszy w faunie Polski

BY

RYSZARD HAITLINGER

The distribution of *Polyplax spinigera* (BURM.) is not too well known in Europe. According to BEAUCOURNU (1968) it has been recorded from Sweden, Holland, German Democratic Republic, German Federal Republic, France, Czechoslovakia and the European part of the USSR. It has also been recorded from Siberia, Syria and Iran. *Arvicola terrestris* (L.) is its only host. This rodent occurs commonly in favourable areas in Europe, including Poland but, in spite of that, *P. spinigera* (BURM.) was rarely collected from this host. Usually collections were made from single localities and the number of specimens collected was small. The assumption that *P. spinigera* (BURM.) is one of the rare louse species is therefore reasonable.

140 specimens of lice belonging to the species *P. spinigera* were collected from *Arvicola terrestris* (L.) caught at Domasław near Wrocław in September, 1971. There were 69 females and 45 males, and all developmental stages: seven I stage nymphs, five II stage nymphs and fourteen III stage nymphs. It is rare to collect such a large number of lice in all stages from a single host.

Since dimensions and some morphological details, especially those of various developmental stages, are little known, some of them are reported below.

I stage nymph. It has a short abdomen. There are nine rows of binate bristles in the middle part of the abdomen, on its dorsal side, and seven rows on its ventral side. In the posterior part of the abdomen there is one pair of long bristles on each side (fig. 1). This nymph lacks paratergal plates. The sternal plate is not developed.

II stage nymph. Much larger than I stage nymph. There are two pairs of long bristles on each side of the posterior part of the abdomen. On the dorsal side of the medial part of the abdomen there are nine binate bristles, and seven on the ventral side. Paratergal plates are developed but their outlines are not too well visible. There are no long bristles on the seventh paratergal plate. The sternal plate is not present (fig. 2).

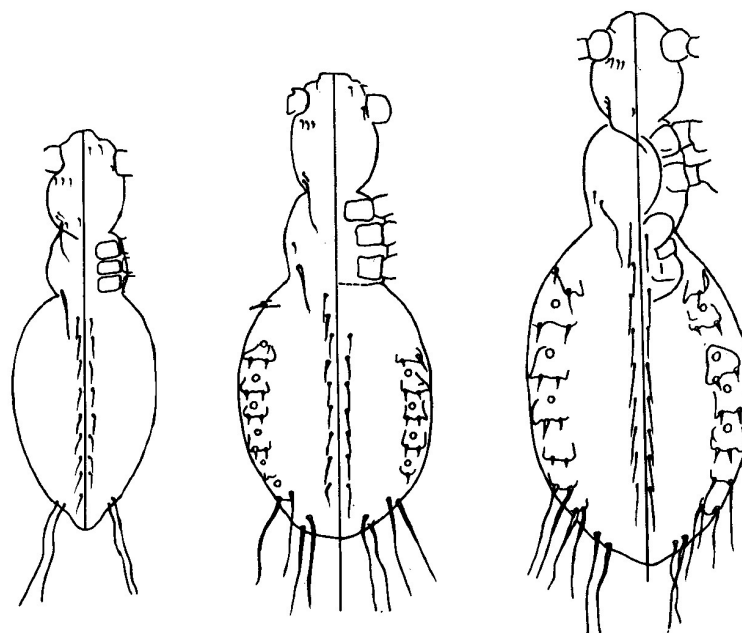
III stage nymph. Nine binate bristles are present on the dorsal side of the abdomen medially and seven on the ventral side. There is a pair of long bristles on the seventh paratergal plate in the posterior part of the abdomen. Thus, the nymph has three pairs of long bristles on each side of the abdomen. Paratergal plates are well developed (fig. 3). Sternal plate is poorly developed.

The dimensions pertaining to all stages of *P. spinigera* are given in table 1. Some of the extreme values of individual dimensions of successive nymph stages overlap each other. A correlation graph of the body length and width of the abdomen for individuals of different ages is shown in fig. 4. Only one specimen of II stage nymph is among nymphs of the I stage.

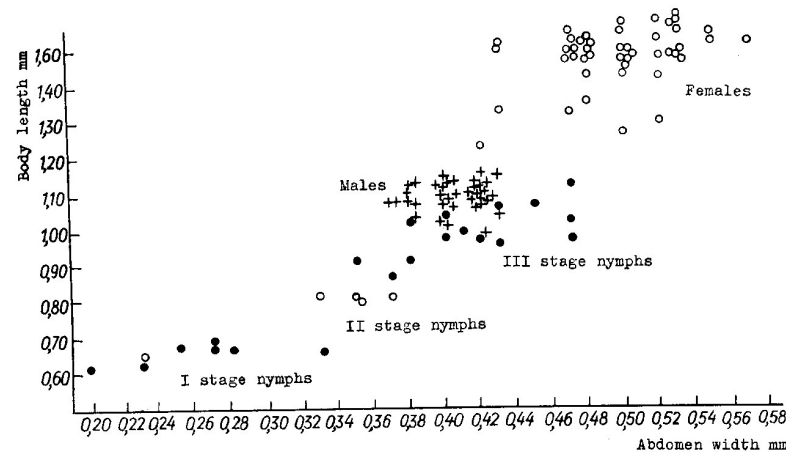
There is considerable differentiation in body length and the width of abdomen between different stages of development and among adults of both sexes. Dimensions of males after the last moult increase very little. One III stage nymph observed had distinctly developed reproductive organs during the last moult although the specimen was not fully developed. The length of its body was close to the male average, but the dimensions of its head were below the minimum for mature males, and the sternal plate was not fully developed.

Some of the III stage nymphs have the width of the abdomen greater than the highest values for males. These specimens transform into mature females (fig. 4).

Chaetotaxis of ventral and dorsal side of abdomen has a certain taxonomic importance. SMETANA (1961) discusses the chaetotaxis of European species of the genus *Polyplax*. It turned out, however, that the number of bristles in particular rows on the dorsal and ventral sides of the abdomen of *P. spinigera* varies considerably (table 2). The taxonomic value of these characteristics is, therefore, limited.



1. First stage nymph 2. Second stage nymph 3. Third stage nymph



4. Correlation between the length of the body and the width of the abdomen in successive stages of development. ● — first stage nymph, third stage nymph, ○ — second stage nymph, females, + — males

Table 1. Body dimensions of *P. spinigera* (BURM.)

	Nymphs			♂♂	♀♀
	I stage	II stage	III stage		
Body length	0.62-0.70 0.66	0.65-0.82 0.78	0.87-1.13 0.99	0.98-1.15 1.09	1.23-1.58 1.48
Abdomen length	0.40-0.45 0.43	0.42-0.57 0.57	0.58-0.80 0.67	0.65-0.82 0.75	0.88-1.30 1.14
Abdomen width	0.20-0.33 0.26	0.23-0.37 0.33	0.35-0.47 0.42	0.37-0.43 0.40	0.42-0.57 0.492
Thorax length				0.082-0.107 0.096	0.099-0.107 0.202
Thorax width				0.189-0.218 0.205	0.197-0.218 0.205
Head length	0.148-0.168 0.158	0.160-0.168 0.165	0.164-0.205 0.191	0.197-0.218 0.208	0.201-0.230 0.215
Head width	0.099-0.115 0.108	0.107-0.127 0.119	0.127-0.164 0.151	0.144-0.181 0.164	0.160-0.181 0.170
Length of sternal plate				0.123-0.14 0.134	0.123-0.144 0.134
Width of sternal plate				0.094-0.11 0.104	0.103-0.115 0.109
<i>n</i>	7	5	14	45	69

Table 2. Abdominal chaetotaxis

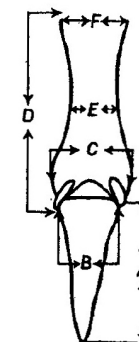
Sex	♀♀		♂♂	
	dorsal side	ventral side	dorsal side	ventral side
I	2	5 more rarely 6 very rarely 7, 8	2	5, 6
II	2	4 rarely 5	2	4
III	8 rarely 6, 7	5, 6 rarely 4, 7, 8	8 rarely 6, 7, 9, 10	5 rarely 4, 6, 8
IV	8, 9, 10 rarely 11	6 rarely 5, 7, 8, 9	12 rarely 11, 13 often 10	6
V	9, 10 rarely 7, 8, 11	8, 9 rarely 7, 10	12 rarely 9, 11, 14 often 13	7-8 rarely 6, 9, 10
VI	9, 10 rarely 8, 12	8, 9 rarely 6, 7, 9	12 rarely 10, 11, 13	8, 7 rarely 5, 6, 9

Sex	♀♀		♂♂	
	dorsal side	ventral side	dorsal side	ventral side
VII	9, 10, 11 rarely 8, 12	9, 8 rarely 7, 10	12 rarely 11, 13	8, 7 rarely 6, 9
VIII	8, 9, 10 rarely 11, 13	8 rarely 6, 7, 9	11, 12 rarely 9, 10	4 rarely 5, 6, 8
IX	10, 11 rarely 8, 9, 12	9 rarely 7, 8, 10	4, 6 rarely 5, 7, 8	2
X	9, 10 rarely 7, 8, 11	8 more rarely 9 very rarely 6, 7		
XI	8, 9, 10 rarely 11, 12	7-8 rarely 6, 9, 10		
XII	8 rarely 7, 9, 10	6-7 rarely 5, 8, 9		
XIII	7, 8 rarely 6, 9, 10			

As far as males are concerned the structure of the reproductive system has great diagnostic value (fig. 5). The dimensions of those parts of the reproductive system that are taxonomically important are given in table 3. The dimensions of the females are considerably different from those of the males. Differences grow after the last moult. Dimensions of males and females of *P. spinigera* from Domaslaw are smaller than those quoted by BEAUCOURNU (1968).

Table 3. Dimensions of male reproductive system of *P. spinigera* (BURM.) (see fig. 5)

Length of pseudopenis (A)	0.090-0.131 (0.125)
Width of base of pseudopenis (B)	0.053-0.131 (0.062)
Width of basal plate at the base (C)	0.074-0.99 (0.085)
Length of basal plate (D)	0.168-0.214 (0.194)
Width of basal plate at the narrowest part (E)	0.045-0.053 (0.048)
Width of basal plate at the apex (F)	0.057-0.074 (0.066)

5. Male reproductive system of *P. spinigera* (BURM.) (see table 3)

STRESZCZENIE

Stwierdzono obecność *P. spinigera* (BURM.) na terenie Polski. Gatunek ten zebrany został z *Arvicola terrestris* (L.) we wrześniu 1971 r. w Domasławiu koło Wrocławia.

Instytut Biologicznych Podstaw Produkcji Zwierzęcej AR
Zespół Zoologii
ul. Cybulskiego 20, 50-205 Wrocław

REFERENCES — PIŚMIENNICTWO

- BEAUCOURNU, J.-C., 1968. Les Anoploures de Lagomorphes, Rongeurs et Insectivores dans la Région Paléarctique Occidentale et en particulier en France, Ann. Par. hum. et comp., Paris, 2: 201-271.
- SMETANA, A., 1961, Zur Taxonomie der mitteleuropäischen Arten der Gattung *Hoplopleura* EUD. und *Polyplax* EUD. (*Anoplura*), Českosl. Parasit., Praha, 9: 375-411.