

**Sucking lice of the genus *Hoplopleura* (Phthiraptera, Hoplopleuridae) - taxonomic,
topical structure and the host specificity problems**
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Preceding studies on sucking lice (Phthiraptera, Anoplura) have not been carried out in a complex manner. Species of pathogenic importance for humans or livestock have been widely analyzed, with even the most important data on taxonomy, biology or parasitism of the remaining taxa being omitted. The few studies on the functioning of the host-parasite system suggest that over half of Anoplura consists of species associated with one host (monoxenous), while the remaining species are observed in two or a wider range of typically closely related hosts (oligoxenous). The scope of host specificity of *Hoplopleura* lice has raised doubts, as they are typically found in rodents Rodentia, less frequently in Soricomorpha, and in particular in species associated with common Eurasian or cosmopolitan mice Muridae. However, determination of the relationship with the host requires unambiguous taxonomic identification, which then produces the need for verification of diagnostic traits with the aspects of morphological ontogenesis taken into account.

991 mammals representing 29 species have been examined for the presence of *Hoplopleura* spp. and lice have been found in 99 hosts; the study material consisted of imagines and juvenile stages of five widely distributed Eurasian or cosmopolitan lice species (391 individuals), i.e. *H. acanthopus*, *H. affinis*, *H. captiosa*, *H. edentula*, *H. longula*. Moreover, four Asian, local species were used as supplementary material (101 individuals): *H. dissicula*, *H. malabarica*, *H. pacifica* and *H. sicata*. During the study, optical microscopy and scanning microscopy have been utilized, determining higher usability of the latter for imaging and comparison of taxonomic structures.

Verification of taxonomically significant traits has been carried out and morphological characterizations for *H. acanthopus*, *H. affinis*, *H. edentula*, *H. longula* have been prepared. First descriptions of juvenile stages have been prepared for *H. affinis*, *H. edentula* and *H. longula*. Observation of structural teratology of sternal plates; identification key for the native *Hoplopleura* has been prepared, including imagines and juvenile stages. The lice infestation level in individual hosts has been determined, and the highest extensiveness of infestation has been determined for *H. affinis* in striped field mouse *Apodemus agrarius* (36.3%), and the highest average intensity for *H. acanthopus* in bank vole *Myodes glareolus* (10.5 indiv.). Upon this basis, host and topographical specificity has been analyzed for *Hoplopleura*. For two species, their monoxenous character has been confirmed (*H. longula* in Eurasian harvest mouse *Micromys minutus* and *H. affinis* in *A. agrarius*). Two further species have been found

in more than one host. Main hosts for *H. acanthopus* include common vole *Microtus arvalis* and bank vole, whereas striped field mouse should be considered an accidental host; for *H. edentula* bank vole is the main host and Eurasian pygmy shrew *Sorex minutus* is an accidental host. The fifth native species, *H. captiosa*, has not been determined in the material from Poland (Asian material was used for the taxonomic study); its association with the rodents of the mouse genus *Mus* has been confirmed. Topographic tendencies have been observed - the majority of lice were located in bands along the dorsum, on the body sides and at high infestation level - on the head. It has been determined that topical preferences depend on the prehensile possibilities of the limbs. The forelegs rarely participate in the host hair gripping, which stems from the fact of their poor prehensile range and lack of the rack system. The conducted research demonstrates that the range of hosts for the most common and most frequently noted *Hoplopleura* spp. is greater than it has been indicated by the previous observations, perhaps based on incorrect species identification or accidental observations.