

Anatomical investigations of the male reproductive system of selected species of Macrosiphini

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Abstract

Histological sections and whole mount preparations of five species of Macrosiphini [*Impatientinum asiaticum* Nevsky, *Hyperomyzus (Hyperomyzus) pallidus* Hille Ris Lambers, *Myzus (Myzus) cerasi* (F.), *Rhopalomyzus (Judenkoa) loniceare* (Siebold) and *Uroleucon obscurum* (Koch)] were examined.

Key words: Hemiptera, Aphidoidea, Aphididae, Macrosiphini, male reproductive system.

In previous research on the structure of the male reproductive system of aphids, about 70 species from various subfamilies have been described, mainly Lachninae (Wojciechowski, 1977), Chaitophorinae (Wieczorek and Wojciechowski, 2004), and Calaphidinae (Głowacka *et al.*, 1974; Wieczorek and Wojciechowski, 2001; Wieczorek, 2006).

In contrast, Aphidinae are the largest and most diverse group of aphids whose male reproductive system is least studied. In Pterocommatini the structure of the male reproductive system has been analysed in *Pterocomma populeum* (Kaltenbach) (Wieczorek and Wojciechowski, 2005) and *Pterocomma salicis* (L.) (Wieczorek and Mróz, 2006), in Aphidini in *Rhopalosiphum padi* (L.) (Rhopalosiphina), *Aphis idaei* Van der Goot and *Aphis farinosa* Gmelin (Aphidina) (Wieczorek and Wojciechowski, 2003; 2005), whereas in the tribe Macrosiphini only in *Amphorophora tuberculata* Brown et Blackman (Blackman, 1987), *Macrosiphoniella artemisiae* (Boyer de Fonscolombe), and *Macrosiphoniella millefolii* (De Geer) (Bochen *et al.*, 1975).

Because the data concerning the structure of the male reproductive system of Macrosiphini are incomplete, the present study provides information about the structure of the system in 5 selected species: *Impatientinum asiaticum* Nevsky, *Hyperomyzus (Hyperomyzus) pallidus* Hille Ris Lambers, *Myzus (Myzus) cerasi* (F.); *Rhopalomyzus (Judenkoa) loniceare* (Siebold), and *Uroleucon obscurum* (Koch).

On the basis of histological sections and whole mount preparations the following elements in the structure of the male reproductive system were examined: the number of testis follicles, the connection of follicles and vasa deferentia, the position of the proximal part of vasa deferentia as well as the development of accessory glands and the ejaculatory duct. These characters were then used to supplement data concerning the relationships among Aphidinae.

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