

Genus	Vol. 23(2): 223-227	Wrocław, 30 VI 2012
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Uroleucon leontodontis (HILLE RIS LAMBERS, 1939) – an aphid species
new to Poland with the description of its hitherto unknown alate
morph
(Hemiptera: Aphididae)

ŁUKASZ DEPA¹ & EWA MRÓZ²

Zoology Department, Faculty of Biology and Environmental Protection, University of Silesia, Bankowa
9, 40-900 PL Katowice; ¹lukasz.depa@us.edu.pl, ²ewa.mroz@us.edu.pl

ABSTRACT. The paper presents the first description of alate morph of *Uroleucon leontodontis* (HILLE RIS LAMBERS, 1939) – an aphid species new to Poland. The morphological features of the described alate females are provided and their resemblance to the closely related representatives of this genus is discussed.

Keywords: entomology, morphology, faunistics, aphids of Poland, *Uroleucon leontodontis*, alate morph.

INTRODUCTION

The most recent distributional checklist of aphids (OSIADACZ & HAJAJ 2009) lists 739 taxa (of specific and subspecific rank) of aphids present in Poland. Among presented taxa there are a few, which were excluded from the checklist, due to the lack of voucher material. A case of such a species was *Uroleucon leontodontis* (HILLE RIS LAMBERS 1939).

In early July 2010 a few specimens of *Uroleucon* sp. feeding on flower stem of *Leontodon hispidus* L. were collected in the Piekary Śląskie (Upper Silesia) in housing estate meadow, including one apterous female and two alate females. After examination of the apterous specimen, it revealed to match morphological features of *Uroleucon leontodontis* according to HEIE's (1995) and BLACKMAN & EASTOP's (2006) keys. According to HEIE (1995) its alate morph is unknown. Among collected aphids there were two alate specimens, which after examination and precise measurements seemed to be

similar to the alate morph of *U. hypochoeridis* (FABRICIUS, 1779) (*sensu*: HEIE 1995). The latter species was recorded from Poland in many regions (SZELEGIEWICZ 1968, OSIADACZ & HAŁAJ 2009) feeding both on *Leontodon* sp. and *Hypochoeris* sp. (OSIADACZ & WOJCIECHOWSKI 2008). Yet when collected alate specimens were compared to alate morphs of closely related species (namely: *Uroleucon cichorii* (KOCH, 1855), *U. hypochoeridis*, *Uroleucon picridis* (FABRICIUS, 1775)), although significant similarity, a few distinctive features appeared.

In respect of the finding, the paper presents the morphological description of the aphid species new to polish fauna, its apterous and alate morphs.

STUDY AREA AND MATERIAL EXAMINED

The single colony of *Uroleucon leontodontis* was recorded in the housing estate meadow in Piekary Śląskie (Upper Silesia, UTM: CA 58, leg. Ł. DEPA, det. Ł. DEPA). One apterous and two alate specimens were collected on the 6. July 2010. Aphids were feeding on the upper part of the stem, a few centimeters under the flower. Apart from collected specimens there were about a dozen of larvae feeding, which dropped off the stem during the collection. The material is stored in the collection of Zoology Department of the University of Silesia.

DESCRIPTION OF COLLECTED SPECIMENS OF *U. LEONTODONTIS*

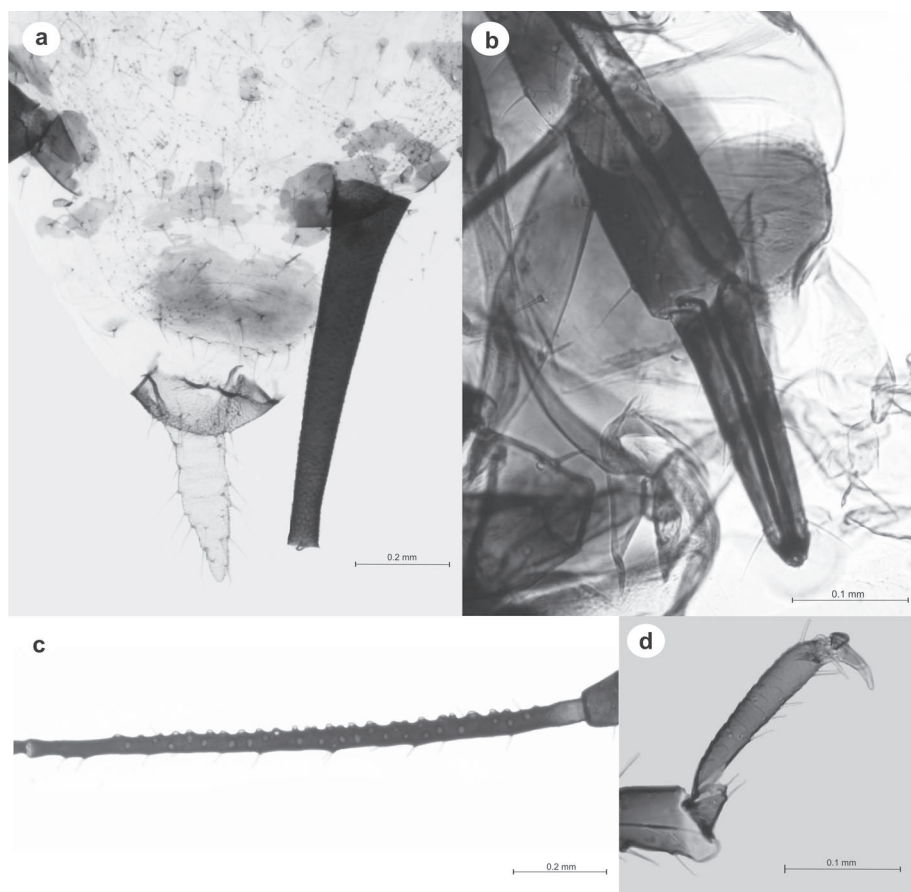
Apterous viviparous female: body dark brown, shiny, 3.26 mm long; antennae dark, 1.1 x body length, processus terminalis 6.0 x VIa; length of antennal segments VI – I (mm): 1.11; 0.61; 0.63; 0.97; 0.13; 0.16; VIa 0.68 x apical segment of rostrum;



1. The alate morph of *U. leontodontis*

antennal segment III with 46 and 49 secondary rhinaria on basal 86% of its length; Apical segment of rostrum with 7 accessory hairs, 0.23 mm long, 4 times as long as its width at base, 1.38 x second segment of hind tarsus, which is 0.167 mm long; siphunculus 0.99 mm long, 0.3 x body length, with reticulation on its apical 19%; cauda yellow, 0.55 mm long, 0.56 x siphunculus, with 13 hairs.

Alate female (based on two specimens): body dark brown, 3.21 – 3.84 mm long, marginal, antesiphuncular and postsiphuncular sclerites present (Fig. 1.); antenna 3.55 – 4.31 mm long, 1.11 – 1.12 x body length; processus terminalis 6.50 – 6.57 x VIa; length of antennal segments (mm): VI 1.18 – 1.39, V 0.63 – 0.66, IV 0.6 – 0.79, III 0.89 – 1.18, II 0.11–0.13, I 0.13 – 0.16; VIa x 0.76 apical segment of rostrum; antennal segment III (Fig. 2.c) with 44 – 62 secondary rhinaria on basal 89 – 93% of its length; apical segment of rostrum (Fig. 2.b) with 8 – 9 accessory hairs, 0.20 – 0.24 mm long,

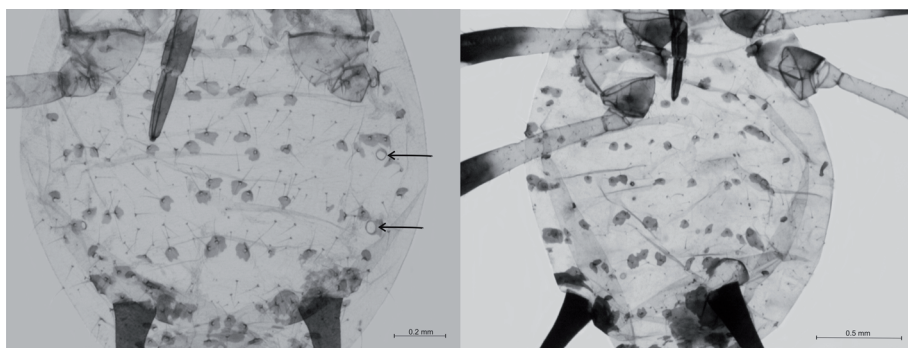


2. The morphologically significant body parts of the collected alate morph (a- posterior part of abdomen; b – rostrum; c – III antennal segment with visible rhinaria; d – second segment of hind tarsus)

3.17 – 4.0 x its width at base, 1.33 – 1.46 x second segment of hind tarsus, which is 0.15 – 0.17 mm long (Fig. 2.d); siphunculus 0.78 – 0.95 mm long, 0.24 x body length, with reticulation on its apical 23 – 24%; cauda yellow (Fig. 2.a), 0.45 – 0.50 mm long, 0.53 – 0.58 x siphunculus, with 15 – 17 hairs.

DISCUSSION

HILLE RIS LAMBERS (1939) described a few subspecies of *Uroleucon cichorii*, with a series of differences, both morphological and biological, which HEIE (1995) regarded significant to be well enough to treat them as the good species (although REMAUDIÈRE & REMAUDIÈRE's catalogue (1997) treats them as subspecies). According to HEIE's notes, those morphological features strongly overlap and the problem of species identity is still open in this genus (OSIADACZ 2009). In the studied case the morphological features of alate morphs strongly resemble *U. hypochoeridis* yet the rostrum/hind tarsus ratio is significantly different as well as lower number of secondary rhinaria on antennal segment III. Following HEIE's (1995) key to alate morphs (page 47) the determination process would end at *U. grossum* vs. *U. cichorii*, with apical segment of rostrum/second segment of hind tarsus fitting *U. cichorii* but to low number of secondary rhinaria on antennal segment III. On the other hand the presented morphological features of alate specimens, as well as of the apterous morph all collected from the same colony, well match the key given by BLACKMAN & EASTOP (2006). They discuss its similarity to *U. picridis* with suggested distinctive feature to be the less developed and inconspicuous marginal abdominal tubercles in *U. leontodontis*. In the studied specimens the marginal tubercles on abdomen are indistinguishable on the contrary to one specimen of *U. picridis* (ovipara) collected in the vicinity of Piekary Śląskie which has well developed marginal tubercles on segments III-IV (Fig. 3). None of the studied specimens of *U. leontodontis* possessed visible marginal abdominal tubercles. Thus, it is a matter of further bionomical and taxonomical studies to establish its taxonomical position within the genus *Uroleucon* (OSIADACZ 2009). The present study allows to supplement HEIE's (1995, p. 47, couplets 14(13)) key to alate morphs as follows:



3. Middle part of abdomen of apterous viviparous female of *U. leontodontis* (right) and oviparous female of *U. picridis* (left) (arrows indicate marginal tubercles)

- 14(13) Apical segment of rostrum 1.04-1.3 x segment II of hind tarsus; antennal segment III with 54 rhinaria or more; on *Crepis* spp. *U. grossum*
 –. Apical segment of rostrum 1.18 – 1.46 x segment II of hind tarsus 16
 16(14) Apical segment of rostrum 1.18 – 1.4 x segment II of hind tarsus; antennal segment III with 72 rhinaria or more; on *Cichorium intybus* *U. cichorii*
 –. Apical segment of rostrum 1.33 – 1.46 x segment II of hind tarsus; antennal segment III with 62 rhinaria or less; on *Leontodon* spp. *U. leontodontis*

REFERENCES

- BLACKMAN, R., EASTOP, V., 2006. Aphids On The World's Herbaceous Plants And Shrubs. John Wiley & Sons, Ltd. 2 vol. 1460 pp.
 HEIE, O.E., 1995. The *Aphidoidea* (Hemiptera) of Fennoscandia and Denmark. VI. Fauna Entomologica Scandinavica **31**: 1-217.
 HILLE RIS LAMBERS, D., 1939. On some western European Aphids. Zoologische Mededelingen **22**: 81-120.
 OSIADACZ, B., 2009. To the problem of the genus *Uroleucon* MORDVILKO, 1914 (Hemiptera Sternorrhyncha Aphidoidea) in Europe. Redia **92**: 135.
 OSIADACZ B., HALAJ, R., 2009. The aphids (Hemiptera: Sternorrhyncha: Aphidinea) of Poland. A distributional checklist. Polish Entomological Monographs **6**, 96 pp.
 OSIADACZ, B., WOJCIECHOWSKI, W., 2008. Aphids (Hemiptera: Aphidinea) of the Ojców National Park. Structure and origin of fauna. Annals of the Upper Silesian Museum in Bytom (Natural History) **18**, 172 pp.
 SZELEGIEWICZ, H., 1968. Mszyce – *Aphidoidea*. w: Katalog fauny Polski. Warszawa. T.XXI, 4: 316 pp.
 REMAUDIÉRE, G., REMAUDIÉRE, M., 1997. Catalogue of the world's Aphididae (Homoptera, Aphidoidea). Versailles, INRA editions, 473 pp.