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A new species of *Acyrthosiphon* (Hemiptera, Aphididae) from France and Spain

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Abstract

A new species in one of the largest genera of Macrosiphini (Hemiptera, Aphididae), *Acyrthosiphon pilosum* **sp. n.**, is described from apterous and alate viviparous females and oviparous females from French and Spanish Mediterranean localities, living on species of *Ononis* (Fabaceae), mainly *O. natrix*. The new species is characterized by the presence of many accessory setae on the ultimate rostral segment, and usually five setae on the first tarsal segments, a combination that is not present in any other known *Acyrthosiphon* species; in addition marginal tubercles are present on prothorax and several of abdominal segments 2–5.

Key words: Aphids, Macrosiphini, *Acyrthosiphon pilosum*, *Ononis*, Mediterranean fauna

Aphids belonging to *Acyrthosiphon* collected from *Ononis* (Fabaceae) in French and Spanish localities with 5 setae (exceptionally 4 or 3) on first tarsal segments, 19-36 accessory setae on the ultimate rostral segment, and marginal tubercles on abdominal segments 2-5 have been studied and are here described as a new species. The species has been included in the genus *Acyrthosiphon* Mordvilko, 1914 (Aphididae, Aphidinae, Macrosiphini) taken into account the generic characteristics exposed by Hille Ris Lambers (1947), Eastop (1971) and Heie (1994).

Acyrthosiphon pilosum Nieto Nafría, Aldea & Castro, sp. n.

Diagnosis. Aphids 2.1–3.8 mm long; green when alive; brownish yellow when mounted. First segment of tarsi with 5 setae (infrequently 4 or 3); ultimate rostral segment with 19–36 accessory setae, and longer than second segment of hind tarsus; marginal tubercles present on prothorax and several abdominal presiphuncular segments; antennal and dorsal abdominal setae at least 0.4 times the basal width of antennal segment III; antennal segment III with 3–11 secondary sensoria (exceptionally up to 22) on its proximal half in apterous viviparae and 12–30 along length of segment in alate viviparae.

Description. Apterous viviparous females (Figure 1), described from 166 specimens, of which 117 have been measured. Shiny green when alive. Brownish yellow in general (see details below) when mounted (Figure 1A). Metric and meristic features in Table 1. Head (including clypeus, labrum and mandibular and maxillar laminae) brownish. Frons with prominent lateral tubercles (approximately 0.5 times length of antennal segment I), wide frontal sinus and small and flat medial tubercle. Dorsum of head smooth. Antennal segments I–III usually as pale as head (darker in pigmented specimens); segments I and II smooth, proximal part of segment III with small spinules, remaining length of this segment imbricated (Figure 1B); segments IV–VI also imbricated, darker than the previous ones, especially in pigmented specimens. Secondary sensoria round and flat, ventrally aligned on proximal third to half of segment III (Figure 1B). Cephalic dorsal and antennal setae stiff and with diffuse apices. Rostrum reaching hind coxae and darkening to apex. Last rostral segment provided with many accessory setae, which are long and slightly curved (Figure 1C); ultimate rostral segment elongate wedge shaped. Dorsum of thorax and abdomen in general paler than dorsum of head and more-or-less wrinkled. Legs mostly pale like abdominal dorsum, tarsi and apices of tibiae pale brown (Figure 1A). First segments of tarsi usually with 5 setae (Figure 1D),

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Acyrthosiphon auriculae is known in England and Corsica on species of *Primula* (Primulaceae); *A. lactucae* has been recorded on several species of *Lactuca* (Asteraceae) and it is known from several countries of Palaearctic realm and has been introduced in other parts of the World; *A. porrifolii* is only known in Austria on *Hieracium porrifolium* (Asteraceae); *A. scariolae* has been recorded from Central Asia and several European countries on *Lactuca scariola*; and *A. vandenboschi* is known in California on *Potentilla glandulosa* (Rosaceae). None of these species ever has 5 setae on first segments of tarsi. In addition: *A. auriculae* does not have abdominal marginal tubercles, secondary sensoria on antennal segment III are extended over 0.70–0.92 of the length of segment, and the processus terminalis is shorter (3.3–4.4 times base of antennal segment VI); viviparous females of the *lactucae* group species (*A. lactucae*, *A. porrifolii* and *A. scariolae*) when alive are finely white wax-powdered (*pilosum* is shiny green) and their setae in general, and especially those on frons and antennal segment III, are shorter than those in *A. pilosum*; *A. vandenboschi* has neither abdominal marginal tubercles nor secondary sensoria, and its siphunculi are longer (1.2–1.5) than those of *A. pilosum*. Several specimens of *A. malvae*, mainly of its subspecies *A. malvae agrimoniae* (Börner), can have more than 18 accessory setae on the ultimate rostral segment (the minimal and maximal numbers in the species are 6 and 23). It is a native palaearctic species that is widespread in the world on species of Geraniaceae, Malvaceae or Rosaceae; «a complex taxon, in which several forms with more specific host plant associations are recognised as subspecies, although slide-mounted specimens cannot usually be identified to subspecies level unless large samples are available» (Blackman and Eastop, 2014). Quantitative characters of *A. pilosum* and *A. malvae* overlap between them, and the most useful discriminant characters are the absence of abdominal marginal tubercles in *A. malvae*, and its shorter setae.

We could not obtain information about the numbers of setae on the first segments of tarsi and accessory setae on ultimate rostral segments in *A. norvegicum*. This species has a relatively shorter processus terminalis (2.5–2.6 times base of antennal segment VI), and the setae on antennal segment III are shorter than those in the new species, 8–12 µm, 0.4–1.1 times the basal width antennal segment III (Eastop, 1971; Mordvilko, 1914).

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