Revision of the Eurasian species of *Aegilips* Haliday, 1835
(Hymenoptera: Figitidae: Anacharitinae)

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Abstract. The knowledge of *Aegilips* in Eurasia is updated. One new species is described: *Aegilips insularis* Mata-Casanova and Pujade-Villar sp. nov., from Portugal (Madeira). The genus is also cited for the first time in the Indomalayan region with specimens of *A. atricornis* found in Northern India and Pakistan. *Aegilips curvipes* Giraud, 1860, *Aegilips gemellus* Belizin, 1961, *Aegilips laevis* (Hedicke, 1914), *Aegilips montanus* Belizin, 1951 and *Aegilips punctatus* Belizin, 1951 are synonymized with *A. nitidulus* (Dalman, 1823). *Aegilips vena* Fergusson, 1985 is synonymized with *Aegilips zaitzevi* Kovalev, 1974. *Aegilips notatus* Belizin, 1951, and *Aegilips punctulatus* Hedicke, 1928 are designated as incertae sedis. The known distributions of *A. atricornis*, *A. kozlovi*, *A. nitidulus* and *A. romseyensis* are expanded. Morphological differences are discussed and a key for Eurasian *Aegilips* species is also given.

Keywords. Anacharitinae, *Aegilips*, Palaearctic, Indomalayan, new species, taxonomy.

Mata-Casanova N., Selfa J. & Pujade-Villar J. 2022. Revision of the Eurasian species of *Aegilips* Haliday, 1835 (Hymenoptera: Figitidae: Anacharitinae). European Journal of Taxonomy 819: 108–139.

Introduction

*Aegilips* Haliday, 1835 is a genus of cynipoid parasitoid wasps included in the Anacharitinae. Anacharitinae is one of 12 subfamilies currently comprising Figitidae (Paretas-Martínez et al. 2011), and can be distinguished from other figitid wasps by the presence of three synapomorphies (Ros-Farré et al. 2000): (1) rounded and continuous pronotal plate (Fig. 1a), (2) broadly overlapping mandibles and (3) triangular-shaped head in anterior view (Fig. 1d) The latter character is less clear due to a secondary expansion of the malar area in *Acanthaegilopsis*, *Proanacharis* and some species of *Xyalaspis* (Mata-Casanova et al. 2015a), as well as some *Aegilips*; the result is a more quadrate head shape in...
anterior view (Fig. 1f). Anacharitinae currently includes nine genera: Acanthaegilopsis Ashmead, 1896, Acanthaegilopsis Pujade-Villar, 2013, Aegilips Haliday, 1835, Anacharis Dalman, 1823, Calofigites Kieffer, 1909, Hexacharis Kieffer, 1907, Proanacharis Kovalev, 1996, Solenofigites Diaz, 1979, and Xyalaspis Hartig, 1843 (Mata-Casanova & Pujade-Villar 2013). Regarding their biology, the aphid-feeding larvae of Hemerobiidae (Neuroptera) have been cited as hosts of some Anacharitinae (Díaz 1979; New 1979; Kyerich 1984; Miller & Lamdin 1985; Ferguson 1986; Cave & Miller 1987; Ronquist 1999; Buffington et al. 2012; Mata-Casanova et al. 2014a, 2018).

Aegilips is morphologically close to Acanthaegilopsis and Xyalaspis (Buffington et al. 2012; Mata-Casanova et al. 2014b), all three sharing short and coarsely sculptured petiole, transverse carinae on the lower mesopleuron and third metasomal tergum at least two times as long as the fourth and usually longer. The differentiation of these three morphologically similar genera is often troublesome; however, both Acanthaegilopsis and Xyalaspis possess a spine derived from the circumscutellar carina (Fig. 1b), a character absent in Aegilips (Fig. 1c).

Aegilips was described by Haliday in Walker (1835), based on Dalman material labeled as Cynips nitidula Dalman, 1823. In the original description the authors did not mention anything about the etymology of the genus, not assigning any gender to it. Aegilips, deriving from an adjective form which can be equally treated as feminine or masculine and without any statement of the describing author regarding the gender, should be treated as masculine according to ICZN article 30.1.4.2 (Alonso-Zarazaga pers. comm.) (ICZN, 1999). The pertinent nomenclatural changes have been made.

Aegilips is the most diverse of the Anacharitinae genera, with 27 described species worldwide prior to our study. It has a cosmopolitan distribution, being present in all continents except for Antarctica. Data for Aegilips in the Palaearctic region has been out of date for some time, and limited to Western Europe, with ten described species: Aegilips bicolorata Cameron, 1887, Aegilips curvipes Giraud, 1860, Aegilips dalmati Reinhard, 1860, Aegilips fumipennis Westwood, 1833, Aegilips nitidulus (Dalman, 1823), Aegilips punctulatus Hedicke, 1928, Aegilips ruficornis Cameron, 1883, Aegilips rufipes Westwood, 1833, Aegilips rugicollis Reinhard, 1860 and Aegilips striolata Cameron, 1883. The studies of Belizin (1951, 1961, 1973) extended the known distribution of the genus to the Caucasus, Central Asia and the Russian Far East, and added seven new species to the Palaearctic Aegilips: Aegilips gemellus Belizin, 1961, Aegilips longicollus Belizin, 1951, Aegilips montanus Belizin, 1951, Aegilips notatus Belizin, 1951, Aegilips paucus Belizin, 1961, Aegilips punctatus Belizin, 1951 and Aegilips ustulatus Belizin, 1973. Two more species were described by Kovalev (1974): Aegilips kozlovi Kovalev, 1974 and Aegilips zaitzevi Kovalev, 1974. The last revision on the Palaearctic Aegilips was done by Ferguson (1986), in which A. bicolorata, A. dalmati, A. fumipennis, A. ruficornis, A. rufipes, A. rugicollis and A. striolata were synonymized with A. nitidulus, and three new species from the British Isles were described: Aegilips atricornis Ferguson, 1985, Aegilips romseyensis Ferguson, 1985 and Aegilips venus Ferguson, 1985. Our previous work on Xyalaspis (Mata-Casanova et al. 2015a) showed that Xyalaspis laevis (Hedicke, 1914) belonged to Aegilips; Anacharis flavidicornis Kieffer, 1910 also belongs to Aegilips (Mata-Casanova et al. 2018). Thus, 16 species of Aegilips were known in the Palaearctic region when our study began.

In this study, the Palaearctic species A. atricornis, A. flavidicornis, A. kozlovi, A. longicollus, A. nitidulus, A. paucus, A. romseyensis, A. ustulatus and A. zaitzevi are redescribed and the distribution area for some of them is expanded. Aegilips curvipes, A. gemellus, A. laevis, A. montanus and A. punctatus are established as synonyms of A. nitidulus, while A. vena is synonymized with A. zaitzevi. We describe A. insularis Mata-Casanova & Pujade-Villar sp. nov. from Madeira. Diagnostic characters for these species are given, and data about morphological features, known distribution area and biology are discussed. Aegilips notatus and Aegilips punctulatus Hedicke, 1928 are established here as incertae
sedis and are not included in the key because the original descriptions are insufficient and the type material has been apparently lost.

Material and methods

The material studied is deposited in the Canadian National Collection of Insects, Arachnids and Nematodes (CNC, Ottawa), the Museum für Naturkunde (ZMHB, Berlin), the Muséum national d’histoire naturelle (MNHN, Paris), the Natural History Museum (NHMUK, London), the Universitat de Barcelona (UB, Barcelona), the United States National Museum (USNM) and the Zoological Institute of the Russian Academy of Sciences (ZIN, Saint Petersburg).

Fig. 1. a. Pronotal plate of Acanthaegilopsis sp. in anterior view. b. Xyalaspis sp., mesoscutum in lateral view. c. Aegilips sp., mesoscutum in lateral view. d. Aegilips zaitzevi Kovalev, 1974, head in anterior view. e. Aegilips nitidulus Dalman, 1823, forewing venation. f. Aegilips romseyensis Fergusson, 1985, head in anterior view. g. Aegilips zaitzevi Kovalev, 1974, forewing venation.
For this study 366 undetermined specimens were examined: 232 males and 134 females. Morphological terms used are those of Richards (1977), Ronquist (1995) and Ros-Farré et al. (2003). All measurements are relative except for the body length. Measurements and abbreviations include: F1–F12, first and subsequent flagellomeres; POL (post-oecellar distance) is the distance between the inner margins of the posterior ocelli; OOL (ocular–ocellar distance) is the shortest distance between the inner margin of the compound eye and the outer edge of the posterior ocellus; LOL (lateral–frontal ocellar distance) is the distance between the edges of the lateral and frontal ocelli. Antennal formula includes scape, pedicel and flagellomeres length and relative width in brackets.

The images included were made in ‘Serveis Científico-Tècnics’ of the University of Barcelona. The field-emission gun environmental scanning electron microscope (Quanta 200 ESEM, FEI, Hillsboro, OR, USA) was used for high-resolution imaging, under a low voltage (12.0 kV) and without gold-coating of the specimens in order to preserve the material.

**Results**

Phylum Arthropoda von Siebold, 1848  
Subphylum Hexapoda Blainville, 1816  
Class Insecta Linnaeus, 1758  
Order Hymenoptera Linnaeus, 1758  
Superfamily Cynipoidea Billberg, 1820  
Family Figitidae Hartig, 1840  
Subfamily Anacharitinae Thomson, 1862  
Genus *Aegilips* Haliday, 1835

**Key to the Eurasian species of *Aegilips***

1. Vein 2rm present (Fig. 1g) .......................................................... *A. zaitzevi* Kovalev, 1974  
   - Vein 2rm absent (Fig. 1e) .............................................................. 2

2. Scutellum completely smooth, scutellar foveae weakly impressed and not sharply delineated (Fig. 2a–b) ......................................................... *A. insularis* Mata-Casanova & Pujade-Villar sp. nov.  
   - Scutellum from strongly alutaceous to strongly areolate, scutellar foveae may be basally defined or not, but always clearly distinguishable from the rest of the scutellar surface (Figs 2e–f, 3b–d, f) .... .......................................................... 3

3. Notauli complete (Fig. 2e–g) .......................................................... 4  
   - Notauli incomplete, effaced in anterior mesoscutum. (Fig. 3b–d, f) ......................................................... 7

4. Notauli with clearly defined horizontal carinae (Fig. 2e–f); pronotum carinate across its surface (Fig. 2e) .............................................................. 5  
   - Notauli lacking horizontal carinae; if present, then very weak (Fig. 2g); pronotum smooth to coarse, at most with few ventral carinae (Fig. 2d) .............................................................. 6

5. Region between notauli region strongly carinate, scutellum areolate (Fig. 2e) ..........................................................  A. kozlovi* Kovalev, 1974  
   - Region between notauli smooth and shiny; central scutellum smooth, only margins are areolate (Fig. 2f) ..........................................................  A. romseyensis* Fergusson, 1975
Fig. 2. a. *Aegilips insularis* Mata-Casanova & Pujade-Villar sp. nov. 2014, ♂, mesosoma in dorsal view. b. *A. insularis*, ♀, mesosoma in dorsal view. c. *A. romseyensis* Fergusson, 1985, mesosoma in lateral view. d. *A. nitidulus* Dalman, 1823, mesosoma in lateral view. e. *A. kozlovi* Kovalev, 1974. f. *A. romseyensis*. g. *A. nitidulus*. h. *A. zaizevi* Kovalev, 1974.
6. Mesopleuron with some antero-basal carinae which can be anteroposteriorly extended but never covering most of mesopleural surface (Fig. 2d) ................................. *A. nitidulus* (Dalman, 1823)
   - Mesopleuron with densely wrinkled in anterior to central parts (Fig. 3a) .... *A. ustulatus* Belizin, 1973

7. Scutellar foveae not defined posteriorly, interfoveal line incomplete (Fig. 3b) ............................................................... *A. longicellus* Belizin, 1951
   - Scutellar foveae defined posteriorly by a carina, which can be more or less apparent, but always distinguishable; interfoveal line complete (Fig. 3c–f) ................................................ 8

8. Scutellum alutaceous; short, blunt projection present posteriorly (Fig. 3c) ............................................................... *A. flavidicornis* (Kieffer, 1911)
   - Scutellum areolate; round, not projecting posteriorly (Fig. 3d–f) ................................................ 9

9. Notauli excavated, extending over ½ of mesoscutal total length, almost reaching the pronotum in some individuals (Fig. 3d); parascutal sulcus shallowly excavated but always present (Fig. 3e) ....
   - Notauli superficial, extending less than ½ of mesoscutal total length (Fig. 3f); parascutal sulcus absent (Fig. 3g) ............................................................... *A. paucus* Belizin, 1961

*Aegilips atricornis* Fergusson, 1985

Fig. 3d–e

*Aegilips atricornis* Fergusson, 1985: 813 (♂).

**Diagnosis**

Species very similar to *A. nitidulus*, from which it can be distinguished by the presence of incomplete notauli, the absence of median mesoscutal furrow and carinate sculpture on the mesoscutum (notauli complete, median mesoscutal furrow present and mesoscutum with some transverse carinae in *A. nitidulus*). It can be distinguished from *A. flavidicornis*, *A. longicellus*, *A. paucus* and *A. zaitzevi* (which also lack complete notauli) despite having incomplete notauli, they are clearly excavated, almost complete in some individuals (notauli very superficial and never exceeding than one third of the scutellum length in *A. flavidicornis*, *A. longicellus*, *A. paucus* and *A. zaitzevi*).

**Type material**

**Holotype**

UNITED KINGDOM • ♂; “London: Bedford Park, July 1929, J. Waterston coll.” (white label); “Holotype of Aegilips atricornis N.D.M. Fergusson, 1982” (white label); “B.M. Type Hym 7.166” (white label), NHMUK.

**Paratype**

UNITED KINGDOM • ♂; “London: Bedford Park, July 1929, J. Waterston coll.” (white label); “Paratype *A. atricornis* ♂ N.D.M. Fergusson, 1982” (white label); NHMUK.

**Material examined** (76 ♀♀ & 26 ♂♂)

ANDORRA • 4 ♀♀; Santa Coloma; MT; Aug. 1992; J. Pujade leg.; UB • 2 ♀♀; Santa Coloma; MT; Sep. 1992; J. Pujade leg.; UB • 2 ♀♀; Santa Coloma; MT; 1–15 Jul. 1993; J. Pujade leg.; UB • 3 ♀♀; Santa Coloma; MT; 16–31 Aug. 1993; J. Pujade leg.; UB • 1 ♀; Santa Coloma; MT; 16–31 Oct. 1993; J. Pujade leg.; UB.
AUSTRIA • 1 ♀; Wienerland, Vienna; 21 Aug. 1960; CNC • 1 ♂; Vienna; 14 Oct. 1982; Mays leg. USNM.

CHINA • 4 ♀♀, 2 ♂♂; 130 km N of Beijing, Lyan Ling (Linshan Mountians); 1749 m a.s.l.; 40°00.279' N, 115°30.758' E; 8 Feb. 2002; H. Baur leg.; USNM • 3 ♀♀, 5 ♂♂; same collection data as for preceding; 8 Apr. 2002; H. Baur leg.; USNM • 1 ♀; same collection data as for preceding; 31 Jun. 2002; H. Baur leg.; USNM • 1 ♀; same collection data as for preceding; 31 Jul. 2002; H. Baur leg.; USNM.

CYPRUS • 1 ♂; Mt Troodos; 9 Aug. 1987; NHMUK.

Fig. 3. a. *Aegilips ustulatus* Belizin, 1973, mesosoma in lateral view. b. *A. longicellus* Belizin, 1951, mesosoma in dorsal-lateral view. c. *A. flavidicornis* (Kieffer, 1911), mesosoma in dorsal view. d. *A. atricornis* Fergusson, 1985, mesosoma in dorsal view. e. *A. atricornis*, mesoscutum in lateral view. f. *A. paucus* Belizin, 1961, mesosoma in dorsal view. g. *A. paucus*, mesoscutum in lateral view.
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FRANCE • 3 ♀♀; Vaucluse and Mont Ventoux; 1200 m a.s.l.; 24 Aug. 1988; CNC • 1 ♂; Hautes Alpes, Arrière; 1700 m a.s.l.; 15 Jul. 1990; NHMUK • 1 ♀; Montes Alps, Queyras, Arvieux; 18 Jul. 1990; CNC • 1 ♀; Aveyron, Migne Lignas, Lac des Pises; 25 Aug. 1990; CNC • 1 ♀; Ardèche, Valgorgue, Massif de Tarnague; 1370–1480 m a.s.l.; 16 Aug. 1991; CNC • 1 ♂; Valdeblore, Col de Salèse; 10–24 Jun. 2009; MNHN • 1 ♀; Valdeblore, Col de Salèse; 13–27 Aug. 2009; MNHN.

HUNGARY • 1 ♂; Mátra; 24 Jul. 1955; UB • 1 ♀; Mount Tátra; 23 Aug. 1958; UB • 1 ♀; Vas, Kondorfa; 19 Jun. 1994; UB.

INDIA • 1 ♀; Kashmir, Ladakh, Leh, 11500 ft, 9 Aug. 1984, M. G. Allen leg; NHMUK.

IRELAND • 2 ♀♀; Rathgar, Mayfield; Jul. 1921; NHMUK • 2 ♀♀; Rathgar, Mayfield; 9 Sep. 1921; NHMUK.

MOROCCO • 1 ♀; MT; Apr. 1996; CNC • 1 ♂; 3–8 Apr. 1996; CNC • 2 ♀♀; Ourirgane; 2000 m a.s.l.; MT; 17–23 Oct. 1996; Kaseebeer leg.; CNC • 1 ♀; Marrakech, Ourirgane; 1000 m a.s.l.; MT; 22–29 Oct. 1996; C. Kassebeer leg.; CNC • 1 ♀; 23–29 Oct. 1996; CNC • 1 ♀; 19–26 Jan. 1997; CNC • 2 ♀♀; 9–18 Apr. 1997; CNC.

PAKISTAN • 4 ♂♂; W Pakistan, Chitral, Shenyak; 3350 m a.s.l.; Jul.–Aug. 1984; NHMUK.

PORTUGAL • 1 ♀; Madeira; 1951; T.V. Wollaston leg.; UB.

ROMANIA • 1 ♀; Hargita Co., Kiruly Valley; 15 Aug. 2000; CNC.

SLOVAKIA • 1 ♂; Čachtice; 11 Aug. 1981; CNC.

SLOVENIA • 1 ♀; Postojne; 20 Jul. 1958; CNC.

SPAIN • 1 ♀; Sierra Nevada; 1650 m a.s.l.; 27 Jul. 1960; CNC • 1 ♀; Segovia, Siete Picos, Praderas de Navalazor; 1 Aug. 1962; CNC • 1 ♀; Madrid, Cercedilla; 8 Jul. 1974; UB • 1 ♀; Málaga, 6 km nr. Nerja; 6 May 1988; CNC • 1 ♂; Catalunya, Vilassar de Dalt; 5–11 Jun. 1995; UB • 1 ♀; Teruel, Alcañiz, Salada Grande; no data specified; UB.

SWEDEN • 1 ♀; Eksharad; 23 Jul. 1960; ♂; Lund, Lund Zoological Museum grounds; Aug. 1976; NHMUK • 1 ♀; Vallentuna; 6 Aug. 1991; NHMUK.

SWITZERLAND • 1 ♀; Pontresina, Engadin; 30 Aug. 1964; CNC.

UNITED KINGDOM • 1 ♀, 1 ♂; Scotland, Bonhill; 26 Jun. 1912; J.R. Malloch leg.; USNM • 1 ♂; Scotland, Dunoon; 11 Jul. 1912; J.R. Malloch leg.; USNM • 2 ♂♂; Harold's Cross; 22 May 1934; USNM • 1 ♂; Harold's Cross; 30 Sep. 1934; USNM • 1 ♀; Staffordshire, Buyn Woods; 30 Jul. 1935; NHMUK • 1 ♀; Staffordshire, Madeley; 3 Apr. 1936; NHMUK • 1 ♀; Oxford; 3 May 1953; NHMUK • 1 ♂; Denbighshire, Llangollen; 29 Jun. 1954; NHMUK • 1 ♀; London, Wimbledon Com.; 4 Jun. 1960; NHMUK • 1 ♀; Staffordshire, Newcastle-u-Lyme; 4 Jun. 1960; NHMUK • 1 ♀; Devon, Torquay; 15 Jun. 1960; NHMUK • 1 ♀; Dorking; 17 Jun. 1960; NHMUK • 1 ♀; Jersey, St. Brelades; 24 Jul. 1965; NHMUK • 1 ♀; no details; Jul. 1974; NHMUK • 1 ♀; Cambridgeshire, Duxford; 25 Jul.–1 Aug. 1979; NHMUK • 1 ♂; England, Surrey, Chobham Common; 26 Aug. 1982; E.E. Grissell leg.; USNM • 1 ♀, 1 ♂; England, London, Bedford Park, Esmond Road; J. Waterston leg.; USNM • 1 ♂; Essex; USNM.

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Type locality
London, Bedford Park, United Kingdom.

Redescription

Measurements. Body: 2.5–2.7 mm; antennae: 2.8 mm (♂), 2.3 mm (♀); wings: 2.4–2.7 mm.

Coloration. Head, mesosoma and metasoma black. Mandibles yellowish brown with darker teeth. Antennae dark brown. Leg dark yellow with darker metacoxa. Veins of wings brownish.

Head. Head square-shaped in anterior view, 1.5 times as broad as high, malar area expanded. Face smooth and punctate, with short uniform pubescence. Malar area coriaceous, 0.8 times as long as compound eye. Clypeus smooth, glabrous, shortly projected; anterior tentorial pits small, indistinct. Transfacial distance 1.1 times as long as compound eye. Diameter of torulus larger than inter-toruli and torulus-eye distances. Frons, gena and occiput smooth and glabrous with few sparse setae; occipital and postocular carinae absents. In dorsal view 1.8 times as broad as long, broader than mesosoma. Compound eyes glabrous. POL: OOL: LOL is 8.0:4.5:2.5, diameter of lateral ocellus is 3.0.

Antennae. In males, antenna 14-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla abundant in all flagellomeres; F1 not modified; antennal formula: 9.0(3.5), 4.0(4.0), 10.0(3.0), 9.0(3.0), 9.0(3.0), 9.0(3.0), 8.0(3.0), 8.0(3.0), 7.5(3.0), 7.0(3.0), 6.0(3.0), 6.0(3.0), 8.0(3.0). In females, antenna 13-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla starting at F2 but not abundant until F4; antennal formula: 9.0(3.0), 3.5(3.0), 10.0(2.0), 9.0(2.5), 8.0(2.5), 8.0(2.5), 7.0(3.0), 7.0(3.0), 6.0(3.0), 6.0(3.0), 5.0(3.0), 5.0(3.0), 8.0(3.0).

Mesosoma. Pronotal plate smooth. Pronotum smooth and punctate; pubescence uniformly distributed over its surface with some irregular ventral carinae. Mesoscutum as broad as long in dorsal view. Mesoscutum smooth and not punctate, short hyaline setae along notauli and anterior mesoscutum. Notaulus incomplete but apparent, usually effaced at anterior third, sometimes almost reaching pronotal margin, without horizontal carinae (Fig. 3d); median mesoscutal furrow absent. Lateral mesoscutum smooth and glabrous, except for some short hairs; parapsidal signum absent, parascutal sulcus very tenuous and not internally carinate (Fig. 3e). Scutellum strongly areolate and triangular-shaped, not apically rounded, 0.6 times as long as mesoscutum; scutellar foveae square-shaped, large and smooth, posteriorly defined by carina; presence of superficial and narrow pit next to inner margin of scutellar foveae. Interfoveal line complete. Circumscutellar carina not projected to form tooth in lateral view. Anterior and ventral mesopleuron carinate, central and posterior mesopleuron smooth. Mesopleural triangle smooth except for an oblique sulcus near its anterior margin; short hyaline setae present. Metanotal troughs coarsely sculptured, almost glabrous. Lateral propodeum with strong coarse sculpture; central propodeum glabrous, coriaceous, and divided in two symmetrical areas by median longitudinal carina; lower central region and rest of propodeal surface divided into smaller cells.

Fore wings. Pubescent, marginal pubescence denser at apical third. Radial cell closed, 2.3 times longer than wide. Vein 2rm absent.

Metasoma. Shorter than head + mesosoma. Petiole as long as wide, shorter than metacoxa, coarsely sculptured, shiny. Third metasomal tergum 2.0 times longer than fourth in dorsal view. Metasomal terga smooth and glabrous; T5 to T7 punctate.
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**Distribution**

Palaearctic and Indomalayan. Known from United Kingdom (Fergusson 1985), China (Mata-Casanova et al. 2015b). First records for Portugal, Morocco, Spain, Andorra, France, Switzerland, Ireland, Austria, Slovenia, Hungary, Slovakia, Sweden, Romania, Cyprus, Pakistan and India.

**Biology**

Rearred from Hemerobiidae Wesmaelius betulinus (Ström, 1788) and W. subnebulosus (Stephens, 1836) (Fergusson 1985).

*Aegilips flavidicornis* (Kieffer, 1911)

![Fig. 3c](image)

*Anacharis flavicornis* Kieffer, 1910: 335 (♂).

*Anacharis flavidicornis* Kieffer, 1911: 121. Replacement name for *Anacharis flavicornis*.

*Anacharis flavidicornis* – Kieffer 1910 (non *Anacharis flavicornis* Kieffer, 1909).

**Diagnosis**

Species with incomplete notauli and smooth mesoscutum like *A. atricornis*, *A. longicellus*, *A. paucus* and *A. zaitzevi*, from which can be distinguished by having alutaceous scutellum slightly projected at the end (scutellum areolate and not dorsally projected in *A. atricornis*, *A. longicellus*, *A. paucus* and *A. zaitzevi*).

**Type material**

*Holotype*  
CHINA • ♂; “Chinese Turkestan, Kora-Ssu b. Polu, 2115 m, 6.6.90, Conradt S.” (white label); “Type” (red label); “A. flavidicornis” (white label); “Zool.Mus. Berlin” (white label); “Aegilips flavidicornis ♂ (Kieffer, 1910), N. Mata-Casanova det, 2014” (white label); ZMB.

*Type locality*  
China, Xinjiang Uyghur Autonomous Region.

**Redescription**

**Measurements.** Body: 2.4 mm; antennae: 0.3 mm (♂, scape and pedicel only); wings: 2.5 mm.

**Coloration.** Head, mesosoma and metasoma black. Mandibles yellowish brown with darker teeth. Antennae yellow. Leg yellow with brown coxae. Veins of wings yellowish.

**Head.** Triangular-shaped in anterior view, 1.2 times as broad as high, malar area not expanded. Face smooth and punctate, with short uniform pubescence. Malar area coriaceous, 0.6 times as long as compound eye. Clypeus smooth, glabrous and shortly projected; anterior tentorial pits small, indistinct. Transfacial distance as long as compound eye. Diameter of torulus larger than inter-toruli and torulus-eye distances. Frons, gena and occiput smooth and glabrous with few sparse setae; occipital and postocular carinae absents. In dorsal view 1.7 times as broad as long, broader than mesosoma. Compound eyes glabrous. POL: OOL: LOL is 8.0:4.5:2.5, diameter of lateral ocellus is 3.5.

**Antennae.** In males, antenna 14-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla abundant in all flagellomeres; F1 not modified; antennal formula (flagellum lost): 6.0(3.0), 3.5(2.5).
**Mesosoma.** Pronotal plate smooth. Pronotum punctate; slightly pubescent, some short irregular ventral carinae present. Mesoscutum 1.2 times as broad as long in dorsal view. Mesoscutum smooth to slightly alutaceous, shiny, glabrous. Notaulus incomplete but apparent, effaced at anterior mesoscutum and never internally carinate (Fig. 3c); median mesoscutal furrow short and narrow. Lateral mesoscutum punctate; parapsidal signum reduced to a short and narrow groove, parascutal sulcus very tenuous and not internally carinate, presence of a punctate band instead. Scutellum alutaceous and shiny, laterally coarse, 0.6 times of mesoscutal length; scutellar foveae trapezoidal, large, smooth, posteriorly defined by carina; presence of superficial and narrow pit next to inner margin of scutellar foveae. Interfoveal line complete. Circumscutellar carina shortly projected at apex of scutellum (Fig. 3c), triangular shape in dorsal view. Anterior and ventral mesopleuron carinate, central and posterior mesopleuron smooth. Mesopleural triangle heavily alutaceous, not pubescent. Metanotal troughs coarsely sculptured and almost glabrous. Lateral propodeum with strong coarse sculpture; central propodeum glabrous, coriaceous, divided in two symmetrical areas by median longitudinal carina; lower central region and rest of propodeal surface divided into smaller cells.

**Fore wings.** Pubescent, marginal pubescence denser at apical third. Radial cell closed, 2.5 times as long as wide. Vein 2\textit{rm} absent.

**Metasoma.** Shorter than head + mesosoma. Petiole slightly longer than wide, shorter than metacoxa, coarsely sculptured, shiny. Third metasomal tergum 2.9 times longer than fourth in dorsal view. Metasomal terga smooth and glabrous; T4 to T7 punctate.

**Biology**
Unknown.

**Distribution**
Palaeartic. China: Xinjiang Uyghur Autonomous Region (Kieffer 1910), Beijing (Mata-Casanova \textit{et al.} 2015b).

**Comments**
Kieffer (1909) described an American species of \textit{Anacharis} as \textit{A. flavicornis}. One year after, another species of \textit{Anacharis} was described from Chinese Turkestan with the same denomination (Kieffer 1910). The author changed the homonymy one year later as part of a revision and correction on the names of different species of Cynipoidea and Evanioidea (Kieffer 1911), thus resulting in one American species, \textit{A. flavicornis} Kieffer, 1909, and one Palaeartic species, \textit{A. flavidicornis} Kieffer, 1911.

When studying the type of \textit{Anacharis flavidicornis}, it did not present the typical features of the genus \textit{Anacharis} but \textit{Aegilips} instead, being recombined into \textit{Aegilips flavidicornis} (Mata-Casanova \textit{et al.} 2018).

**Aegilips insularis** Mata-Casanova & Pujade-Villar sp. nov.

\textit{urn:lsid:zoobank.org:act:FC778329-0813-473B-A625-CD98883E0514}

\textit{Fig. 2a–b}

**Diagnosis**
Species easily distinguishable other Palaeartic species of \textit{Aegilips} by having completely smooth scutellum with scutellar foveae absent or indistinct, never sharply delineated (scutellum from alutaceous to areolate in other species of \textit{Aegilips} from the Palaeartic region, scutellar foveae always noticeable).

**Etymology**
The specific name comes from the island of Madeira, the only known location of the species.
Type material

Holotype
PORTUGAL • ♂; “Madeira, Queimadas, 11.VIII.1982” (white label); “M.W.R. de V. Graham coll.” (white label); “Anacharitinae, Aegilips sp. nr. nittidulus J. L. Nieves det” (white label); “Holotype of Aegilips insularis sp. nov., ♂ desig. Mata-Casanova, 2014” (red label); “Aegilips insularis sp. nov., ♂, det. Mata-Casanova, 2014” (white label); NHMUK.

Paratypes (5 ♀♀, 15 ♂♂)
PORTUGAL • 1 ♂; Madeira, Caramujo; 1250 m a.s.l.; 9 Aug. 1954; Durham University Madeira Expedition leg.; NHMUK • 2 ♂♂; Madeira, Monte; Nov. 1960; N.L.H. Krauss leg.; NHMUK • 2 ♂♂; Madeira, Ribeiro Frio; Aug. 1962; N.L.H. Krauss leg.; USNM • 1 ♂; Madeira, Ribeiro Frio; Sep. 1962; N.L.H. Krauss leg.; USNM • 2 ♂♂; Madeira, Curral dos Romeiros; 11 May 1980; M.W.R. de V. Graham leg.; NHMUK • 1 ♂; Madeira, Curral dos Romeiros; 13 May 1980; M.W.R. de V. Graham leg.; NHMUK • 1 ♂; Madeira, Queimadas; 14 May 1980; M.W.R. de V. Graham leg.; NHMUK • 1 ♂; Madeira, Pousada dos Vinhaticos; 18 May 1980; M.W.R. de V. Graham leg.; NHMUK • 1 ♂; Madeira, Curral dos Romeiros; 20 Jul. 1982; M.W.R. de V. Graham leg.; NHMUK • 1 ♂; Madeira, Curral dos Romeiros; 23 Jul. 1982; M.W.R. de V. Graham leg.; NHMUK • 1 ♂; Madeira, 3 km E of Posio; 1 Aug. 1982; M.W.R. de V. Graham leg.; NHMUK • 1 ♂; Madeira, Montados dos Pecquequitos; 3 Jul. 1982; M.W.R. de V. Graham leg.; NHMUK • 1 ♂; Madeira, 3 km E of Posio; 7 Aug. 1982; M.W.R. de V. Graham leg.; NHMUK • 1 ♂; Madeira, Caldeiras Verde; 9 Aug. 1982; M.W.R. de V. Graham leg.; NHMUK • 1 ♂, 1 ♂; Madeira, Queimadas; 11 Aug. 1982; M.W.R. de V. Graham leg.; NHMUK.

Type locality
Portugal, Madeira, Queimadas.

Description

Measurements. Body: 2.2–2.4 mm; antennae: 1.8–2.1 mm (♀), 2.8–3.0 mm (♂); wings: 2.5–2.6 mm.

Coloration. Head, mesosoma and metasoma black. Mandibles yellowish brown with darker teeth. Antennae dark brown. Legs yellowish brown with darker coxae, metacoxa black. Veins of wings dark brown.

Head. Triangle-shaped in anterior view, 1.1 times as broad as high, malar area not expanded. Face smooth and punctate, with short uniform pubescence. Malar area coriaceous, 0.7 times as long as compound eye. Clypeus smooth, glabrous, shortly projected; anterior tentorial pits small, indistinct. Transfacial distance 1.1 times as long as compound eye. Diameter of torulus larger than inter-toruli and torulus-eye distances. Frons, gena and occiput smooth and glabrous with few sparse setae; occipital and postocular carinae absent. In dorsal view 2 times as broad as long, broader than mesosoma. Compound eyes glabrous. POL: OOL: LOL is 5.0:4.5:2.0, diameter of lateral ocellus is 2.0.

Antennae. In males, antenna 14-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla abundant in all flagellomeres; F1 not modified; antennal formula: 6.0(3.5), 3.0(2.5), 9.0(3.0), 9.0(3.0), 8.5(3.0), 8.5(3.0), 8.5(2.5), 8.5(2.5), 8.5(2.5), 8.0(2.5), 7.5(2.5), 7.0(2.5), 7.0(2.5), 8.0(2.5). In females, antenna 13-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla starting at F3 but not abundant until F5; antennal formula: 8.0(3.5), 3.5(3.0), 8.5(2.0), 7.0(2.0), 6.5(2.0), 6.0(2.0), 5.5(2.0), 5.0(2.0), 4.0(2.5), 4.0(2.5), 4.0(2.0), 6.5(2.0).

Mesosoma. Pronotal plate smooth. Pronotum smooth, with some irregular ventral carinae. Mesoscutum 1.1 times as broad as long in dorsal view. Mesoscutum smooth, shiny, almost glabrous except for some
scarce short hyaline pubescence (Fig. 2a–b); posteriorly carinate in males (Fig. 2b). Notaulus complete, with horizontal carina; median mesocutal furrow absent. Lateral mesoscutum smooth and glabrous; parapsidal signum and parascutal sulcus absent. Scutellum completely smooth, 0.7 times as long as mesoscutum; scutellar foveae rounded, large, slightly coarse, not posteriorly defined (Fig. 2a–b); presence of very tenuous and superficial narrow pit next to inner margin of scutellar foveae. Interfoveal line short, almost effaced (Fig. 2a–b). Circumscutellar carina complete but not projected to form tooth in lateral view. Anterior and ventral mesopleuron carinate, central and posterior mesopleuron smooth. Mesopleural triangle obliquely carinate. Metanotal troughs densely pubescent smooth except for some coarse sculpture in lower margin. Propodeum surface strongly alutaceous to coriaceous; central area defined from by two lateral ridges.

**Fore wings.** Pubescent, marginal pubescence denser at apical third. Radial cell closed, 2.3 times as long as wide. Vein 2rm absent.

**Metasoma.** Shorter than head + mesosoma. Petiole as long as wide, shorter than metacoxa, coarsely sculptured, shiny. Third metasomal tergum 2.5 times as long as fourth in dorsal view. Metasomal terga smooth and glabrous; T4 to T7 punctate.

**Biology**

Unknown.

**Distribution**

Palaearctic. Known only from Madeira (Portugal).

*Aegilips kozlovi* Kovalev, 1974

*Fig. 2e*

*Aegilips kozlovi* Kovalev, 1974: 283 (♂).

**Diagnosis**

Species with strongly horizontal carinae in mesoscutum and notauli. Morphologically similar to *A. romseyensis*, from which it can be distinguished by having horizontal carinate sculpture in the mesoscutum and areolate scutellum (mesoscutum and scutellum smooth in *A. romseyensis*).

**Type material**

**Holotype**

MONGOLIA •  ♂; “Mongolia, Dzab., 30 km SSE Somona Tes, step, rastitelnost po sajru, 3-4.VII.1968: M. Ke.” (white label); “Holotype ♂ *Aegilips kozlovi* O. Kovalev det” (red label); ZIN.

**Material examined**

(6 ♀♀, 11 ♂♂)

HUNGARY • 1 ♀, 1 ♂; Lilafüred; 2 Sep. 1962; Bajári leg.; UB • 1 ♂; Vas, Órség, Rikkagahaza Kétvölgy; 22 Jun. 1994; Narolsky leg.; UB • 1 ♀, 1 ♂; Vas, Szakonyfalú; 24 Jun. 1994; Kotenko leg.; UB • 1 ♂; Vas, Szalafó Felsőzer; 1 Aug. 1994; Kotenko leg.; UB • 1 ♂; Vas, Szalafó Felsőzer; 2 Aug. 1994; Kotenko leg.; UB • 1 ♀; Vas, Cák; 4 Aug. 1994; Melika leg.; UB • 1 ♀, 7 ♂♂; Vas, Celdőrmölk; 5 Aug. 1994; Melika leg.; UB • 1 ♀, 3 ♂♂; Vas, Cák; 8 Aug. 1994; Kotenko leg.; UB • 1 ♀; Veszprém Co., Kolontár; 10 Aug. 1999; Z. Ács leg.; UB • 1 ♀, 3 ♂♂; Veszprém Co., Zomlóvásárhely; 14 Aug. 1999; Z. Ács leg.; UB • 1 ♂; Veszprémi Co., Máriahalom; 1 Sep. 1999; Z. Ács leg.; UB • 2 ♂♂; Veszprémi Co., Bakonygyepes; 2 Aug. 2000; Zoltán Ács leg.; UB.

ROMANIA • 2 ♂♂; Hargita Co., Kiruly Valley; 10 Aug. 2000; Zoltán Ács leg.; UB.
Type locality
Mongolia, Uvs aimag, Tes sum.

Redescription
MEASUREMENTS. Body: 2.5–2.9 mm; antennae: 2.4 mm (♀), 2.5 mm (♂); wings: 2.3–2.4 mm.

COLORATION. Head, mesosoma and metasoma black. Mandibles yellowish brown with darker teeth. Leg yellowish brown with darker coxae. Veins of wings dark brown.

HEAD. Head square-shaped in anterior view, 2.0 times as broad as high, malar area expanded. Face smooth and punctate, with short uniform pubescence. Malar area coriaceous, 0.8 times as long as compound eye. Clypeus smooth, glabrous and shortly projected; anterior tentorial pits small, indistinct. Transfacial distance 1.1 times as long as compound eye. Diameter of torulus as long as inter-toruli distance but larger than torulus-eye distance. Frons, gena and occiput smooth and glabrous with few sparse setae; occipital and postocular carinae absent. In dorsal view 2 times as broad as long, broader than mesosoma. Compound eyes glabrous. POL: OOL: LOL is 7.0:4.0:3.0, diameter of lateral ocellus is 2.0.

ANTENNAE. In males, antenna 14-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla abundant in all flagellomeres; F1 not modified; antennal formula: 10.0(3.0), 3.0(3.0), 9.0(3.0), 8.0(3.0), 8.0(3.0), 7.0(3.0), 7.0(3.0), 7.0(3.0), 7.0(3.0), 7.0(3.0), 7.0(3.0), 5.0(3.0), 7.0(3.0). In females, antenna 13-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla starting at F2, abundant from F3 onwards; antennal formula: 11.0(3.0), 3.5(4.0), 8.0(2.5), 6.0(2.5), 6.0(2.5), 6.0(3.0), 5.0(3.0), 5.0(3.0), 5.0(3.0), 5.0(3.0), 5.0(3.0), 4.0(3.0), 5.0(3.0), 7.0(3.0).

MESOSOMA. Pronotal plate smooth. Pronotum covered by strongly coarse sculpture and obliquely carinated in its entire surface. Mesoscutum 1.2 times as broad as long in dorsal view. Mesoscutum shiny, slightly alutaceous, region between notaui strongly carinate (Fig. 2e). Notaulus complete with horizontal carinae; median mesoscutal furrow present but not strong. Lateral mesoscutum smooth, punctate, with short hyaline pubescence; parapsidal signum present, parascutal sulcus deeply excavated and carinate. Scutellum areolate (Fig. 2e), 0.7 times as long as mesoscutum; scutellar foveae rounded, small, smooth, posteriorly defined by carina; presence of large and elongated pit next to inner margin of scutellar foveae. Interfoveal line complete. Circumscutellar carina complete but not projected to form tooth in lateral view. Anterior and ventral mesopleuron carinate with rugose microsculpture, central and posterior mesopleuron smooth. Mesopleural triangle densely pubescent. Metanotal troughs glabrous, almost smooth except for some weak coarse sculpture. Propodeum coriaceous, densely pubescent, divided in large cells; central area defined by two strong lateral carinae, median longitudinal carina inconspicuous.

FORE WINGS. Pubescent, marginal pubescence denser at apical third. Radial cell closed, 2.4 times as long as wide. Vein 2rm absent.

META SOMA. Shorter than head + mesosoma. Petiole as long as wide, shorter than metacoxa, coarsely sculptured, shiny. Third metasomal tergum 2.2 times longer than fourth in dorsal view. Metasomal terga smooth and glabrous; T4 to T7 punctate.

Biology
Unknown.

Distribution
Palaearctic. Mongolia (Kovalev 1974); first record for Hungary and Romania.
Aegilips longicellus Belizin, 1951

Fig. 3b

Aegilips longicellus Belizin, 1951: 372 (♀).

Diagnosis
Species with incomplete notauli like A. atricornis, A. flavidicornis, A. paucus and A. zaitzevi. It can be distinguished from all these species by not having posteriorly defined carinae in the scutellar foveae and possessing incomplete interfoveal line (scutellar foveae always defined by a posterior carina and interfoveal line complete in A. atricornis, A. flavidicornis, A. paucus and A. zaitzevi).

Type material
Holotype
TADJIKISTAN • ♀; “Avzob, 3000 m a.s.l., 31 Aug. 1946; V. Gussakovskij” (white label); “Holotype Aegilips longicellus ♀ V. Belizin det” (red label); ZIN.

Material examined
UNITED KINGDOM • 1 ♂; Scotland, Argyleshire, Armidale; 12. Jul. 1912; J.R. Malloch leg.; USNM.

Redescription
MeasureMents. Body 2.7 mm; antennae: 1.8 mm (♀, from scape to F8), 2.6 mm (♂); wings: 2.9 mm.

Coloration. Head, mesosoma and metasoma black. Mandibles yellowish brown with darker teeth. Antennae yellowish. Leg dark yellowish with dark brown metacoxa. Veins of wings yellow.

Head. Triangle-shaped in anterior view, 1.1 times as broad as high, malar area not expanded. Face smooth and punctate, with short uniform pubescence. Malar area coriaceous, 0.6 times as long as compound eye. Clypeus smooth, glabrous and shortly projected; anterior tentorial pits small, indistinct. Transfacial distance 1.1 times as long as compound eye. Diameter of torulus larger than inter-toruli distance, same than torulus-eye distance. Frons, gena and occiput smooth and glabrous with few sparse setae; occipital and postocular carinae absents. In dorsal view 1.6 times as broad as long, broader than mesosoma. Compound eyes glabrous. POL: OOL: LOL is 6.0:5.5:2.5, diameter of lateral ocellus is 2.0.

Antennae. In females, flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla starting at F2; antennal formula (from scape to F8): 8.0(3.5), 4.0(3.0), 9.0(2.5), 9.0(2.5), 9.0(2.5), 8.0(2.5), 7.5(2.5), 7.0(2.5), 6.0(3.0), 6.0(3.0).

Mesosoma. Pronotal plate smooth. Pronotum smooth, scarcely pubescent, with some irregular ventral carinae. Mesoscutum 1.3 times as broad as long in dorsal view. Mesoscutum smooth, shiny, scarce short anterior white setae, central mesoscutum glabrous. Notaulus weak, incomplete, without horizontal carinae; median mesoscutal furrow absent. Lateral mesoscutum smooth and glabrous; parapsidal signum absent; parascutal sulcus reduced to few weakly impressed cells. Scutellum alutaceous; central scutellum smooth while strongly areolate at margins; 0.6 times of mesoscutal length; scutellar foveae rounded, large, alutaceous, not posteriorly defined by carina (Fig. 3b); presence of small pit next to inner margin of scutellar foveae. Interfoveal line incomplete (Fig. 3b). Circumscutellar carina complete but not projected to form tooth in lateral view. Anterior and ventral mesopleuron carinate with rugose microsculpture, central and posterior mesopleuron smooth. Mesopleural triangle weakly carinate, short hyaline pubescence uniformly distributed. Metanotal troughs glabrous, almost smooth except for some weak coarse sculpture. Propodeum strongly
alutaceous, densely pubescent, divided in large cells; central area divided in two symmetrical areas by median longitudinal carina; these two large areas are also asymmetrically divided by some weaker and irregular transverse carinae.

**Fore wings.** Pubescent, marginal pubescence denser at apical third. Radial cell closed, 2.3 times as long as wide. Vein 2rm absent.

**Metasoma.** Shorter than head + mesosoma. Petiole as long as wide, shorter than metacoxa, coarsely sculptured, shiny. Third metasomal tergum 2.0 times as long as fourth in dorsal view. Metasomal terga not punctate.

**Biology**
Unknown.

**Distribution**
Palaeartic. Tajikistan (Belizin 1951), Chelyabinsk oblast (Belizin 1961), first record for United Kingdom.

*Aegilips nitidulus* (Dalman, 1823)
Figs 1e, 2d–g

*Cynips nitidula* Dalman, 1823.
*Aegilips nitidula* Dahlbom, 1842.
*Aegilips fumipennis* Westwood, 1833. Synonymized by Fergusson (1985).
*Aegilips rufipes* Westwood, 1833. Synonymized by Fergusson (1985).
*Aegilips dalmani* Reinhard, 1860. Synonymized by Fergusson (1985).
*Aegilips rugicollis* Reinhard, 1860. Synonymized by Fergusson (1985).
*Aegilips ruficornis* Cameron, 1883. Synonymized by Fergusson (1985).
*Aegilips striolata* Cameron, 1883. Synonymized by Fergusson (1985).
*Aegilips bicolorata* Cameron, 1887. Synonymized by Fergusson (1985).
*Aegilips curvipes* Giraud, 1860. *Syn. nov.*
*Aegilips gemellus* Belizin, 1961. *Syn. nov.*
*Aegilips laevis* (Hedicke, 1914). *Syn. nov.*
*Aegilips montanus* Belizin, 1951. *Syn. nov.*
*Aegilips punctatus* Belizin, 1951. *Syn. nov.*

**Diagnosis**
Species with higher variability than other Palaeartic *Aegilips*. It is morphologically similar to *A. atricornis*, from which it can be distinguished by the presence of complete notauli, excavated median mesoscutal furrow, carinate mesoscutum and rugose dorsal pronotum (notauli incomplete, median mesoscutal furrow absent and smooth mesoscutum and dorsal pronotum in *A. atricornis*). It can be distinguished from *A. kozlovi* and *A. romseyensis* – which also present complete notauli – by possessing weak horizontal carinae in the notauli and not having dorsal carinae in the pronotum (notauli with strong horizontal carinae and pronotum areolate in its entire surface in *A. kozlovi* and *A. romseyensis*).

**Type material**
*Holotype of Aegilips nitidulus*
FRANCE • *♂*; Lost (D. G. Notton pers. com.). *Aegilips curvipes* “Muséum Paris, J. Giraud coll.” (white label); “*Aegilips nitidulus* (Dalman, 1823), det. Mata-Casanova, 2014” (white label); MNHN.
Holotype of *Aegilips gemellus*
RUSSIA • ♂; “Miass, Cheljabinsk obl., 15.VII.1958: V. Tobias” (white label); “Holotype *Aegilips gemellus* ♂ V. Belizin det” (red label); “*Aegilips nitidulus* (Dalman, 1823) det. Mata-Casanova” (white label); ZIN.

Holotype of *Aegilips laevis*
FRANCE • ♂; “Laurier sauce, Fréchain, 13 sep. 10” (white label); “det. Hedicke” (white label); “Muséum Paris coll. Cavro” (white label); “*Omalaspis laevis* Hedicke nouvelle espèce” (white label); “Holotype *Omalaspis laevis* Hedicke, 1914” (red label); “*Xyalaspis laevis* (Hedicke), det. Ros-Farré, 2012” (white label); “*Aegilips laevis* (Hedicke), det. J. P-V, 2013” (white label); “*Aegilips nitidulus* (Dalman, 1823), det. Mata-Casanova, 2014” (white label); MNHN.

Holotype of *Aegilips montanus*
GEORGIA • ♂; “Georgian SSR, valley of river Ancal-or, 1600 m, 17.VII.1913; A. Mlokosevich” (white label); “Holotype *Aegilips montanus* ♂; V. Belizin det” (red label); “*Aegilips nitidulus* (Dalman, 1823), det. Mata-Casanova, 2014” (white label); ZIN.

Holotype of *Aegilips punctatus*
RUSSIA • ♂; “Yakutia, Lutej-komo, 17.VII.1875; A. Chekanovskij” (white label); “Holotype *Aegilips punctatus* ♂; V. Belizin det” (red label); “*Aegilips nitidulus* (Dalman, 1823), det. Mata-Casanova, 2014” (white label); ZIN.

Material examined (30 ♀♀, 132 ♂♂)
ANDORRA • 2 ♀♀, 1 ♂; Santa Coloma; Aug. 1992; J. Pujade leg.; UB • 5 ♂♂; Santa Coloma; Sep. 1992; J. Pujade leg.; UB • 4 ♂♂; Santa Coloma: Nov. 1992; J. Pujade leg.; UB • 1 ♂; Santa Coloma; 16–30 Apr. 1993; J. Pujade leg.; UB • 3 ♂♂; Santa Coloma; 16–31 Jul. 1993; J. Pujade leg.; UB • 1 ♀, 1 ♂; Santa Coloma; 1–15 Oct. 1993; J. Pujade leg.; UB.

AUSTRIA • 1 ♂; Reichenau, Semmeringgebiet; 25 May–6 Jun. 1957; G.E.J. Nixon leg.; CNC • 1 ♀; Semmeringgebiet, Holfenthal; 31 May 1957; R.B. Benson leg.; CNC.

BOSNIA AND HERZEGOVINA • 1 ♂; Prenj Mountains, Crno Polje; 1300–1700 m a.s.l.; 15 Aug.1936; V. and E. Martino leg.; NHMUK.

CZECH REPUBLIC • 3 ♂♂; Moravia, 16 km N of Blansko; 8 Aug. 1991; L. Masner leg.; CNC.

FRANCE • 1 ♂; Vaucrus nr. Bédoin; 14 Jul. 1980; V. Crahm leg.; NHMUK • 1 ♂; Brôme, Col de l’Homme Mort; 15 Aug. 1988; Z. Bouček leg.; NHMUK • 1 ♂; Corsica, 3 km S of Ghisonaccia; 11 Jul. 1991; Z. Bouček leg.; NHMUK • 3 ♂♂; Valdeblore, le Boréon; MT; 24 Jun.–9 Jul. 2009; MNHN • 1 ♂; Saint-Dalmas-le-Selvage, Vallon de Saint-Dalmas; MT; 30 Jun.–10 Jul. 2009; MNHN • 1 ♀; Saint-Dalmas-le-Selvage, Vallon de Saint-Dalmas; MT; 23 Jul.–7 Aug. 2009; MNHN • 1 ♂; Valdeblore, Col de Salèse; MT; 24 Jul.–13 Aug. 2009; MNHN • 2 ♂♂; Valdeblore, Col de Salèse; MT; 13–27 Aug. 2009; MNHN • 1 ♂; Saint-Dalmas-le-Selvage, Vallon de Saint-Dalmas; MT; 18 Aug.–5 Oct. 2009; MNHN • 1 ♂; Valdeblore, le Boréon; MT; 27 Aug.–18 Sep. 2009; MNHN • 2 ♂♂; Valdeblore, Col de Salèse; MT; 27 Aug.–18 Sep. 2009; MNHN • 3 ♀♀, 2 ♂♂; Valdeblore, Col de Salèse; MT; 27 Aug.–18 Sep. 2009; MNHN • 1 ♂; Valdeblore, le Boréon; MT; 5–15 Oct. 2009; MNHN • 1 ♀; Saorge, Fôret de Caïros; MT; 1–16 Jul. 2010; MNHN • 3 ♂; Saorge, Fôret de Caïros; MT; 31 Jul.–16 Aug. 2010; MNHN • 3 ♀♀, 1 ♂; Saorge, Fôret de Caïros; MT; 16–30 Aug. 2010; MNHN • 2 ♀♀; Saorge, Fôret de Caïros; MT; 30 Sep.–15 Oct. 2010; MNHN.

GERMANY • 2 ♂♂; Mainz; 26 Aug.–3 Sep. 1965; A.W. Steffan leg.; CNC.
MATA-CASANOVA N. et al., Eurasian species of Aegilips Haliday, 1835

HUNGARY • 1 ♂; Sopron; 31 Jul. 1952; Erdős leg.; NHMUK • 1 ♀, 1 ♂; Lilafüred; 2 Sep. 1962; Bajári leg.; NHMUK • 1 ♀; Köszeg Kálványa; 14 Jun. 1994; Melika leg.; UB • 1 ♀, 2 ♂♂; Zsida-Patak, Vas; 17 Jun. 1994; Narolsky leg.; UB • 1 ♀, 1 ♂; Celdömölök; 5 Jul. 1994; Melika leg.; UB • 2 ♂♂; Vas, Hörmann; sweep; 27 Jul. 1996; Cs. Thuróczy leg.; UB.

IRELAND • 1 ♂; Agherlow; 28 Sep. 1943; A.W. Stelfox leg.; NHMUK.

ITALY • 1 ♂; Abruzzo, Gran Sasso, Monte Cristo; 1350 m a.s.l.; 21 Jun. 1992; S.D. Pinto leg.; CNC.

NETHERLANDS • 1 ♂; Limburg, Valkenburg; 5 Aug. 1966; N.L.H. Krauss leg.; USNM.

NORWAY • 1 spec., sex unknown; Hordaland, Osterøy; 4–15 Oct. 1972; T. Andersen leg.; CNC • 1 ♀; Oppdall, Kongsvoll, Raubekken; 900 m a.s.l.; MT; 14 Aug. 1980; J.O. Solem leg.; CNC • 1 ♀; same collection data as for preceding; 4 Sep. 1980; CNC • 1 ♂; Drammen, Underlin; MT; May 1992; Lars Ove Hansen leg.; CNC • 1 ♀; Alta, Detsika, Buolamalia; MT; 24 Jun.–16 Jul. 1996; Lars Ove Hansen leg.; CNC.

PORTUGAL • 1 ♂; Azores, Faial, Horta; 0–200 m a.s.l.; Jul. 1972; N.L.H. Krauss leg.; USNM • 4 ♂♂; Azores Island, Sao Vicente, Sao Miguel; 8 Sep. 1962; N.L.H. Krauss leg.; USNM.

ROMANIA • 2 ♂♂; Görgényi; 25 Aug. 1942; Erdős leg.; NHMUK • 1 ♀, 11 ♂♂; Hargita Co., Kiruly Valley; 10 Aug. 2000; Zoltán Ács leg.; CNC • 2 ♂♂; Hargita Co., Kiruly Valley; 15 Aug. 2000; Zoltán Ács leg.; CNC.

RUSSIA • 1 ♂; 170 km E of Vladivostok, Lazovski Zapovednik, Primorskii krai; 43°30'30" N 134°6'58" E; 1353 m a.s.l., MT; 3 Jul.–13 Aug. 2001; M. Quest leg.; CNC.

SLOVENIA • 2 ♀♀; Postojne; 18 Jul. 1958; CNC • 1 ♂; Pivka; 26 Jul. 1958; CNC.

SPAIN • 1 ♂; Ciudad Real, Puerto Lápice; 27 Jun. 1973; Z. Bouček leg.; CNC • 1 ♂; Madrid, Ceredilla; 22 Oct. 1978; J.S. Noyes leg.; CNC • 1 ♂; Barcelona, Matadepera; 20 May 1987; J. Pujade leg.; UB • 1 ♂; Castellón, Gatora, comarcal km 9; 11 May 1989; J.V. Falcó; UB • 1 ♂; Alicante, Torremanzanas; 28 Jun. 1989; F. Luna leg.; UB • Barcelona, Collserola, Mt. Montbau; 30 Aug. 1993; NHMUK • 1 ♂; Fontaneda, 7 May 1997; J. Pujade leg.; UB.

SWEDEN • 2 ♂♂; Lund, Zoological Museum grounds; Sep. 1976; NHMUK.

UNITED KINGDOM • 1 ♂; Scotland, Dunoon; 12 Jun. 1912; J.R. Malloch leg.; USNM • 1 ♂; Rathgar, May field; 1924; A.W. Stelfox leg. USNM • 1 ♂; London, Bedford Park; 4 Jun. 1928; J. Waterston leg.; NHMUK • 1 ♂; Harold's Cross; 29 May 1932; USNM • 1 ♂; Harold's Cross; 1 Jun. 1932; USNM • 1 ♂; Harold's Cross; 13 Aug. 1934; USNM • 1 ♂; Nottinghamshire, Barton; 29 Jul. 1940; K.V. Clarke leg.; NHMUK • 1 ♂; Wembley; 5 Aug. 1946; K. Clarke leg.; NHMUK • 1 ♂; Harold's Cross, Garden; 11 Aug. 1948; USNM • 1 ♂; Whitmore; 19 Sep. 1949; H.W. Daltry leg.; NHMUK • 1 ♂; Maer Woods; 5 Jul. 1950; H.W. Daltry leg.; NHMUK • 1 ♂; Thorpa Cloud; 9 Jul. 1950; H.W. Daltry leg.; NHMUK • 1 ♂; Maer Woods; 12 Jul. 1950; H.W. Daltry leg.; NHMUK • 1 ♂; Tetford Hill; 17 Jul. 1951; M.W.R. de V. Graham leg.; NHMUK • 1 ♂; Rugby; 18 May 1952; H.W. Daltry leg.; NHMUK • 1 ♂; Rugby; 31 Aug. 1952; H.W. Daltry leg.; NHMUK • 2 ♂♂; Rugby; 21 Aug. 1952; H.W. Daltry leg.; NHMUK • 1 ♂; Dorset, Swyre; 30 Jun. 1953; H.W. Daltry leg.; NHMUK • 1 ♂; Newcastle; 24 Jun. 1954; H.W. Daltry leg.; NHMUK • 1 ♂; Harold's Cross; 8 oct. 1954; USNM • 1 ♂; Rugby; 30 May 1955; H.W. Daltry leg.; NHMUK • 1 ♂; Rugby; 27 Jun. 1955; H.W. Daltry leg.; NHMUK • 1 ♂; Rugby; 12 Aug. 1955; H.W. Daltry leg.; NHMUK • 1 ♂; England, Torquay; 25 Jun. 125
Type locality
Sweden, Stockholm.

Redescription

Measurements. Body: 2.5–2.8 mm; antennae: 2.5–3.0 mm (♂), 2.3 mm (♀); wings: 2.3–2.8 mm.

Coloration. Head, mesosoma and metasoma black. Mandibles yellowish brown with darker teeth.

Antennae yellowish. Leg yellowish with brown coxae, black metacoxa. Veins of wings yellow.

Head. Head square-shaped in anterior view, 1.4 times as broad as high, malar area expanded. Face smooth and punctate, with short uniform pubescence. Malar area coriaceous, 0.7 times as long as compound eye. Clypeus smooth, glabrous, shortly projected; anterior tentorial pits small, indistinct. Transfacial distance 1.1 times as long as compound eye. Diameter of torulus larger than inter-toruli distance, same than torulus-eye distance. Frons, gena and occiput smooth and glabrous with few sparse setae; occipital and postocular carinae absent. In dorsal view 2 times as broad as long, broader than mesosoma. Compound eyes glabrous. POL: OOL: LOL is 7:4.5:3, diameter of lateral ocellus is 3.0.

Antennae. In males, antenna 14-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla abundant in all flagellomeres; F1 not modified; antennal formula: 9(3.5), 3(3), 9(3.5), 8(3.5), 8(3.5), 8(3.5), 8(3.5), 8(3.5), 7(3), 6.5(3), 6(3), 6(3), 8(3). In females, antenna 13-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla starting at F3 but not abundant until F5; antennal formula: 9(3.5), 3.5(3), 11(2.5), 9.5(3), 8.5(3), 8(3), 7.5(3), 7(3), 7(3.5), 7(3), 6.5(3), 6(3), 8(3).

Mesosoma. Pronotal plate smooth. Ventral and anterior pronotum carinate; pronotal surface rugose, smoother near tegula (Fig. 2d). Mesoscutum 1.1 times as broad as long in dorsal view. Mesoscutum lightly rugose, punctate, almost glabrous except for short hyaline pubescence scattered across surface; transverse carinae variably extended: they range from covering entire mesoscutal surface to being only present in posterior mesoscutum. Notaulus weak but complete, with tenuous horizontal carinae (Fig. 2g); median mesoscutal furrow present but not strong. Lateral mesoscutum smooth and punctate; parapsidal signum absent; parascutal sulcus reduced to coarse band. Scutellum alutaceous, shiny; central scutellum smooth while strongly areolate at margins; 0.8 times as long as mesoscutum; scutellar foveae rounded, large, alutaceous, posteriorly defined by carina; presence of large and elongated pit next to inner margin of scutellar foveae. Interfoveal line complete, effacing in some
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individuals. Circumscutellar carina complete but not projected to form tooth in lateral view. Anterior and ventral mesopleuron carinate with rugose microsculpture, central and posterior mesopleuron smooth. Mesopleural triangle alutaceous, almost glabrous except for some short hyaline pubescence. Metanotal troughs glabrous, almost smooth except for some weak coarse sculpture. Propodeum smooth, divided in large cells; almost glabrous except for two densely pubescent areas below metanotal troughs; central propodeum divided in two symmetrical cells by median longitudinal carina; lateral propodeum heavily areolate.

**Fore wings.** Pubescent, marginal pubescence denser at apical third. Radial cell closed, 2.3 times as long as wide. Vein 2rm absent (Fig. 1e).

**Metasoma.** Shorter than head + mesosoma. Petiole as long as wide, shorter than metacoxa, coarsely sculptured, shiny. Third metasomal tergum 2.5 times as long as fourth in dorsal view. Metasomal terga smooth and glabrous; T4 to T7 punctate.

**Biology**
Known to attack *Wesmaelius betulinus* and *W. subnebulosus* (Fergusson 1986).

**Distribution**
Palaearctic. Sweden (Dalman 1823), United Kingdom (Cameron 1883), Austria, France (Giraud 1860), Germany (Hedicke 1914), Ukraine and Russia (Belizin 1951), Armenia and Georgia (Belizin 1961), China (Mata-Casanova *et al.* 2015b); first record for Portugal (Azores), Spain, Andorra, Ireland, Italy, Netherlands, Czech Republic, Slovenia, Bosnia and Herzegovina, Hungary, Norway and Romania.

**Comments**
The study of *A. nitidulus* was based on specimens deposited in the NHMUK identified as belonging to that species by Fergusson due to the loss of the type material. These specimens present the morphological traits mentioned in the original description of the species.

*Aegilips notatus* Belizin, 1951 incertae sedis

*Aegilips notatus* Belizin, 1951: 571 (♀).

**Type material**
Lost according to S. Belokobylskij (pers. comm.).

**Comments**
The original description of the species mentions the presence of ridges ventrally on the pronotum and mesopleuron, a laterally wrinkled scutellum and distinct scutellar foveae, among characters regarding its coloration. The first are not useful enough to properly distinguish it from other similar species, and the characters regarding the coloration are mostly useless when talking about Cynipoidea. Thus, it is impossible to determine if *Aegilips notatus* is a separate and valid species. Because of this, we consider it to be incertae sedis.

*Aegilips paucus* Belizin, 1961

Fig. 3f–g

*Aegilips paucus* Belizin, 1961: 153 (♂).
**Diagnosis**

Species with incomplete notauli like *A. atricornis*, *A. flavidicornis* and *A. zaitzevi*. Unlike *A. flavidicornis* and *A. zaitzevi* it presents an areolate scutellum (scutellum smooth in *A. flavidicornis* and *A. zaitzevi*). It is morphologically close to *A. atricornis*; however, *A. paucus* has almost effaced notauli and posterior carina of scutellar foveae weakening in its central area (in *A. atricornis* the notauli though incomplete are strongly apparent and basal carina of scutellar foveae is strong throughout).

**Type material**

_Holotype_

KAZAKSTAN • ♂; “Kazakhstan, Su-Singana River Valley, 6 Aug. 1939; Obukhova leg.;” (white label); “Holotype *Aegilips paucus* ♂; V. Belizin det” (red label); “*Aegilips paucus* Belizin, 1951, N. Mata-Casanova det” (white label); ZIN.

**Material examined**

UNITED KINGDOM • 1 ♂; Scotland, Bonhill; 12. Jun. 1912; J.R. Malloch leg.; USNM.

**Type locality**

Kazakhstan, Karkhantay.

**Redescription**

**Measurements.** Body: 2.4 mm; antennae lost; wings: 2.5 mm.

**Coloration.** Head and mesosoma black. Mandibles yellowish brown with darker teeth. Leg yellowish brown with darker coxae. Veins of wings yellowish.

**Head.** Triangular-shaped in anterior view, 1.1 times as broad as high, malar area not expanded. Face smooth and punctate, with short uniform pubescence. Malar area coriaceous, 0.6 times as long as compound eye. Clypeus smooth, glabrous, shortly projected; anterior tentorial pits small, indistinct. Transfacial distance as long as compound eye. Diameter of torulus larger than inter-toruli and torulus-eye distances. Frons, gena and occiput smooth and glabrous with few sparse setae; occipital and postocular carinae absents. In dorsal view 1.3 times as broad as long, broader than mesosoma. Compound eyes glabrous. POL: OOL: LOL is 6.0:5.0:2.0, diameter of lateral ocellus is 2.0.

**Antennae.** Lost.

**Mesosoma.** Pronotal plate smooth. Pronotum smooth and punctate; ventral pronotum carinate, presence of some short and weak ridges at the edges of the pronotal plate, not extended into the rest of the pronotal surface. Mesoscutum 1.3 times as broad as long in dorsal view. Mesoscutum smooth, shiny and glabrous except for some scarce hyaline hairs. Notaulus incomplete and very tenuous, hard to notice, reduced to posterior mesoscutum (Fig. 3f); median mesoscutal furrow short and weakly excavated, almost unnoticeable. Lateral mesoscutal smooth, punctate; parapsidal signum and parascutal sulcus absents (Fig. 3g). Scutellum heavily areolate, 0.6 times as long as mesoscutum; scutellar foveae rounded, large, alutaceous, posteriorly defined by carina weakening in central scutellum; presence of small pit next to inner margin of scutellar foveae. Interfoveal line complete. Circumscutellar carina complete but not projected to form tooth in lateral view. Anterior and ventral mesopleuron carinate, central and posterior mesopleuron smooth; ventral carinae reaching metapleura. Mesopleural triangle with weak coarse sculpture, covered by dense short pubescence. Metanotal troughs glabrous, almost smooth except for some weak coarse sculpture. Propodeum coriaceous, densely pubescent, divided in large cells; central area longitudinally divided by median carina, with some transverse weak carination.
**Wings.** Pubescent, marginal pubescence denser at apical third. Radial cell closed, 2.6 times as long as wide. Vein 2rm absent.

**Metasoma.** Lost.

**Biology**
Unknown.

**Distribution**
Palaeartic. Kazakhstan (Belizin 1961); Mongolia (Kovalev 1974).

*Aegilips punctulatus* Hedicke, 1928 incertae sedis

**Type material**
Lost according to H. Rajaei (pers. comm.).

**Comments**
The original description of the species does not provide enough information to distinguish it from other similar species, thus making it impossible to properly identify it. Therefore, we consider this species incertae sedis.

*Aegilips romseyensis* Fergusson, 1985
Figs 1f, 2c–f

*Aegilips romseyensis* Fergusson, 1985: 815 (♀).

**Diagnosis**
Species with the entire surface of the pronotum strongly carinate and notauli with strong transverse carinae, like *A. kozlovi* (pronotal carinae only present in the lower pronotum and notauli not internally carinate or only weakly carinate in the other species of *Aegilips*). It can be distinguished from *A. kozlovi* due to its smooth mesoscutum and central scutellum (in *A. kozlovi*, mesoscutum transversely carinate in its entire surface and central scutellum areolate).

**Type material**

- **Holotype**
  UNITED KINGDOM • ♀; “Malaise trap 0-5 m in dead Larix” (white label); “ENGLAND: Hampshire, Romsey, Awbridge, 14-31 Jun. 1980; C. and M. Vardy” (white label); “Holotype of *Aegilips romseyensis* ♀; N. D. M. Fergusson, 1982” (white label); “B.M. Type Hym 7.165” (white label); NHMUK.

- **Paratype**
  UNITED KINGDOM • ♂; “Malaise trap 2-5 m a.s.l. in dead Larix” (white label); “ENGLAND: Hants. Romsey, Awbridge, 3-31 Aug. 1980; C. and M. Vardy” (white label); “Paratype of *Aegilips romseyensis* ♂; N. D. M. Fergusson, 1982” (white label); NHMUK.

**Material examined** (19 ♀♀, 49 ♂♂)

- CHINA • 2 ♂♂; 130 km N of Beijing, Lyan Ling (Linshan Mountains); 1749 m a.s.l.; 40°00.279’N, 15°30.758’E; 8 Apr. 2002; H. Baur leg.; USNM.
- CZECH REPUBLIC • 1 ♂, 1 ♀; Moravia, R.V. Dyje nr. Zrojmo; 12 Sep. 1991; L. Masner leg.; CNC.
Type locality
United Kingdom, Hampshire, Romsey, Awbridge.

Redescription

**MeasureMents.** Body: 2.4–2.5 mm; antennae: 2.2 mm (♀), 2.4 mm (♂); wings: 2.4–2.5 mm.
COLORATION. Head, mesosoma and metasoma black. Mandibles yellowish brown with darker teeth. Leg yellowish brown with darker coxae. Veins of wings yellowish.

HEAD. Head square-shaped in anterior view (Fig. 1f), 1.4 times as broad as high, malar area expanded. Face smooth and punctate, with short uniform pubescence. Malar area coriaceous, 0.8 times as long as compound eye. Clypeus smooth, glabrous, shortly projected; anterior tentorial pits small, indistinct. Transfacial distance 1.2 times as long as compound eye. Diameter of torulus shorter than inter-toruli distance but larger than torulus-eye distance. Frons, gena and occiput smooth and glabrous with few sparse setae; occipital and postocular carinae absent. In dorsal view 2.3 times as broad as long, broader than mesosoma. Compound eyes glabrous. POL: OOL: LOL is 7.0:4.0:3.0, diameter of lateral ocellus is 2.0.

ANTENNAE. In males, antenna 14-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla abundant in all flagellomeres; F1 not modified; antennal formula: 9.0(4.0), 3.5(3.0), 9.0(3.5), 8.5(3.0), 7.0(3.0), 7.0(3.0), 7.0(3.0), 7.0(3.0), 7.0(3.0), 7.0(3.0), 6.0(3.0), 8.0(3.0). In females, antenna 13-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla starting at F3 but not abundant until F4; antennal formula: 9.0(3.0), 3.0(3.0), 9.0(2.5), 7.0(2.5), 6.0(2.5), 6.0(3.0), 5.0(3.0), 5.0(3.0), 4.0(3.0), 4.0(3.0), 4.0(3.0), 4.0(3.0), 4.0(3.0), 4.0(3.0), 4.0(3.0), 7.0(3.0).

MESOSOMA. Pronotal plate smooth. Pronotum covered by strongly coarse sculpture in its entire surface (Fig. 2c). Mesoscutum 1.2 times as broad as long in dorsal view. Mesoscutum shiny, from smooth to slightly alutaceous, never carinate; short hyaline pubescence uniformly distributed across its surface. Notaulus complete with horizontal carinae (Fig. 2f); median mesoscutal furrow present but not strong. Lateral mesoscutum smooth, punctate; parapsidal signum short, parascutal sulcus deeply excavated and internally carinate. central scutellum smooth while strongly areolate at margins (Fig. 2f), 0.8 times of mesoscutal length; scutellar foveae rounded, small, smooth, posteriorly defined by carina weakening in central scutellum; presence of large and elongated pit next to inner margin of scutellar foveae. Interfoveal line complete. Circumscutellar carina complete but not projected to form tooth in lateral view. Anterior and ventral mesopleuron carinate with rugose microsculpture, central and posterior mesopleuron smooth. Mesopleural triangle smooth with two short sulcus in its anterior margin, glabrous. Metanotal troughs glabrous, almost smooth except for some weak coarse sculpture. Propodeum coriaceous, densely pubescent, divided in large cells; central area longitudinally divided by median carina, with some transverse weak carination.

FORE WINGS. Pubescent, marginal pubescence denser at apical third. Radial cell closed, 2.5 times as long as wide. Vein 2rm absent.

METASOMA. Shorter than head + mesosoma. Petiole as long as wide, shorter than metacoxa, coarsely sculptured, shiny. Third metasomal tergum 2.8 times as long as fourth in dorsal view. Metasomal terga smooth and glabrous; T4 to T7 punctate.

Biology
Unknown.

Distribution
Palaeartic and Indomalayan. United Kingdom (Fergusson 1985); first record for France, Italy, Austria, Czech Republic, Slovakia, Hungary, Romania, Pakistan, Sri Lanka, Thailand and China.

*Aegilips ustulatus* Belizin, 1973

Fig. 3a
Aegilips ustulatus Belizin, 1973: 31 (♂).

**Diagnosis**
Species with complete and not internally carinate notauli and smooth mesoscutum, similar to *A. nitidulus*. However, most of the mesopleural surface is completely wrinkled, a character exclusive of this species (other Palaeartic species of *Aegilips* present some antero-ventral carinae in the mesopleuron but they never reach central mesopleuron).

**Type material**

**Holotype**
KRYGYZSTAN • ♂; “*Aegilips ustulatus* Belizin” (red label); “Kirgiziya, Akbosaga, 5 Aug. 1964; (V. Tobias)” (white label); ZIN.

**Type locality**
Kyrgyzstan, Osh oblast, Ak-Bosogo.

**Redescription**

**Measurements.** Body: 2.3 mm; antennae: 3.0 mm (♂); wings: 3.0 mm.

**Coloration.** Head, mesosoma and metasoma black. Mandibles yellowish brown with darker teeth. Leg yellow with darker coxae. Veins of wings dark brown.

**Head.** Head square-shaped in anterior view, 1.4 times as broad as high, malar area expanded. Face smooth, punctate, with short pubescence except in central rostrum, which is glabrous. Malar area coriaceous, 0.7 times as long as compound eye. Clypeus smooth, glabrous and shortly projected; anterior tentorial pits small, indistinct. Transfacial distance 1.3 times as long as compound eye. Diameter of torulus larger than inter-toruli distance and torulus-eye distance. Frons, gena and occiput smooth, glabrous except for few sparse setae; occipital and postocular carinae absent. In dorsal view 1.7 times as broad as long, broader than mesosoma. Compound eyes glabrous. POL: OOL: LOL is 6.5:5.0:3.0, diameter of lateral ocellus is 2.0.

**Antennae.** In males, antenna 14-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla abundant in all flagellomeres; F1 not modified; antennal formula: 9.0(3.5), 3.0(3.0), 10.0(3.0), 10.0(3.0), 10.0(3.0), 9.0(3.0), 9.0(3.0), 9.0(3.0), 9.0(3.0), 9.0(3.0), 9.0(3.0), 9.0(3.0), 9.0(3.0), 9.0(3.0), 8.0(3.0), 10.0(3.0).

**Mesosoma.** Pronotal plate smooth. Pronotum covered by short pubescence, ventral pronotum densely wrinkled (Fig. 3a). Mesoscutum almost as broad as long in dorsal view (25:24). Mesoscutum shiny, smooth; short hyaline pubescence uniformly distributed across its surface. Notaulus complete, not internally carinate, coarse margins; median mesoscutal furrow present. Lateral mesoscutum smooth and punctate; parapsidal signum absent; parascutal sulcus absent, presence of coarse band instead. Scutellum smooth with rugose margins, 0.6 times as long as mesoscutum; scutellar foveae rounded, smooth, posteriorly defined by carina weakening in central scutellum; presence of large and elongated pit next to inner margin of scutellar foveae. Interfoveal line complete. Circumscutellar carina complete but not projected to form tooth in lateral view. Mesopleural surface densely wrinkled except for dorso-posterior margin (Fig. 3a). Mesopleural triangle strongly coarse. Metanotal troughs glabrous, almost smooth except for some weak coarse sculpture. Propodeum coriaceous, densely pubescent, divided in large cells; central area longitudinally divided by median carina, with some transverse weak carination.
FORE WINGS. Pubescent, marginal pubescence denser at apical third. Radial cell closed, 3.0 times as long as wide. Vein 2rm absent.

METASOMA. Shorter than head + mesosoma. Petiole as long as wide, shorter than metacoxa, coarsely sculptured, shiny. Third metasomal tergum 3.2 times as long as fourth in dorsal view. Metasomal terga smooth and glabrous; T4 to T7 punctate.

Biology
Unknown.

Distribution
Palaeartic. Kyrgyzstan (Belizin 1973).

*Aegilips zaitzevi* Kovalev, 1974
Figs 1d–g, 2h

*Aegilips zaitzevi* Kovalev, 1974: 284 (♂).
*Aegilips vena* Fergusson, 1985. Syn. nov.

Diagnosis
It shares the presence of incomplete notauli with *A. atricornis*, *A. flavidicornis*, and *A. paucus*. However, it can be easily distinguished due to the absence of mesoscutal and scutellar sculpture (other species of *Aegilips* present some degree of sculpture in the scutellum) and the presence an elongated 2rm vein, a character that sets it apart from other Palaeartic species of *Aegilips* (vein 2rm absent in other Palaeartic species of *Aegilips*).

Type material
Holotype of *Aegilips zaitzevi*
MONGOLIA • ♂; “*Aegilips zaitzevi* Kovalev” (red label); “Ara-Khangaskiy aimak: 15 km NE rep. Egin-Daba, 27-28.VIII.1967: Zaitsev & Kerzhner” (white label); ZIN.

Holotype of *Aegilips vena*
MONGOLIA • ♀; “SCOTLAND: Aviemore, 4.VI.1952: R. B. Benson. B.M. 1952-447” (white label); “Holotype of *Aegilips venus* sp. nov., ♀; N.D.M. Fergusson, 1982” (white label); “B.M. Type Hym 7.164” (white label); NHMUK.

Paratype
MONGOLIA • ♂; “ENGLAND: Aviemore, 4 Jul. 1952; R.B. Benson. B.M. 1952-447” (white label); “Paratype of *Aegilips venus* ♂; N.D.M. Fergusson, 1982” (white label); NHMUK.

Type locality
Mongolia, Arkhangai aimag, Egin-Daba.

Material examined (2 ♀♀, 1 ♂)
RUSSIA • 1 ♀; Primorskiy Krai, Lazovsky Zapovednik; 170 km E of Vladivostok; 43°30'30" N 134°6'58" E; 1853 m a.s.l., 3 Jul.–13 Aug. 2001; M. Quest leg.; NHMUK.

UNITED KINGDOM • 1 ♀; Maer Woods, ST; 23 Jul. 1950; H.W. Daltry leg.; NHMUK • 1 ♂; Burnt Woods, ST; 11 Jul. 1954; H.W. Daltry leg.; NHMUK.
Redescription

Measurements. Body 2.4–2.6 mm; antennae: 2.3–2.8 mm (♀), 2.3–2.6 mm (♂); wings: 2.8–3.1 mm.

Coloration. Head, mesosoma and metasoma black. Mandibles yellowish brown with darker teeth. Leg yellowish brown with darker coxae. Veins of wings yellowish.

Head. Head from triangular to sub-square-shaped in anterior view (Fig. 1d); 1.3 times as broad as high, malar area not expanded. Face smooth, punctate, with short uniform pubescence. Malar area coriaceous, 0.7–0.8 times as long as compound eye. Clypeus smooth, glabrous to sparsely pubescent, shortly projected; anterior tentorial pits small, indistinct. Transfacial distance 1.3 times as long as compound eye. Diameter of torulus equal to inter-toruli distance, slightly larger than torulus-eye distance. Frons, gena and occiput smooth and glabrous with few sparse setae; occipital and postocular carinae absent. In dorsal view 2.3 times as broad as long, broader than mesosoma. Compound eyes glabrous. In males POL: OOL: LOL is 6.0:5.0:3.0, diameter of lateral ocellus is 2.5; in females POL: OOL: LOL is 7.0:6.0:2.5, diameter of lateral ocellus is 2.0.

Antennae. In males, antenna 14-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla present in all flagellomeres but scarce from F1 to F3; F1 not modified; antennal formula: 9.0(4.0), 3.5(3.0), 9.0(3.0), 9.0(3.0), 8.0(3.0), 8.0(3.0), 8.0(3.0), 8.0(3.0), 6.5(3.0), 6.5(3.0), 6.5(2.5), 6.0(2.5), 6.0(2.5), 8.0(2.5). In females, antenna 13-segmented; flagellomeres cylindrical and pubescent, same width in all flagellomeres, placodeal sensilla starting at F3 but scarce; antennal formula: 8.0(3.5), 3.5(3.0), 10.0(2.5), 10.0(2.5), 9.0(3.0), 9.0(3.0), 8.0(3.0), 8.0(3.0), 6.5(3.0), 6.0(3.0), 6.0(3.0), 9.0(3.0).

Mesosoma. Pronotal plate smooth. Pronotum covered by long hyaline pubescence; ventrally carinate, dorsally smooth and punctuated. Mesoscutum 1.1–1.2 times as broad as long in dorsal view. Mesoscutum shiny; smooth, almost glabrous except for scarce short hyaline pubescence. Notaulus weak, effaced in anterior mesoscutum (Fig. 2h). Lateral mesoscutum smooth, glabrous; parapsidal signum and parascutal sulcus absent. Scutellum smooth, shiny (Fig. 2h), 0.7 times as long as mesoscutum; scutellar foveae rounded, large, slightly coarse, posteriorly defined by carina; presence of tenuous elongated pit next to inner margin of scutellar foveae. Interfoveal line complete. Circumscutellar carina complete but not projected to form tooth in lateral view. Anterior and ventral mesopleuron carinate. Mesopleural triangle strongly coarse, pubescent. Metanotal troughs densely pubescent, smooth except for some coarse sculpture in its lower margin. Propodeum alutaceous, covered with dense pubescence in laterals; central area glabrous defined by two longitudinal carinae, further divided in smaller cells by weak carinae.

Fore wings. Pubescent, marginal pubescence denser at apical third. Radial cell closed, 2.3–2.4 times as long as wide. Vein 2rm present, projected downwards (Fig. 1g).

Metasoma. Shorter than head + mesosoma. Petiole as long as wide, shorter than metacoxa, coarsely sculptured, shiny. Third metasomal tergum 2.3 times as long as fourth in dorsal view. Metasomal terga smooth and glabrous; T4 to T7 punctate.

Biology

Unknown.

Distribution

Palaearctic. Mongolia (Kovalev 1974), United Kingdom (Fergusson 1986); first record for Russia: Primorskiy Krai.
Discussion

The present work introduces important changes in our knowledge about the status of the Palaeartic species of *Aegilips*. The previously valid species *A. curvipes*, *A. gemellus*, *A. laevis*, *A. montanus* and *A. punctatus* have been considered to fall within the morphological diversity range of *A. nitidulus*, and are thus synonymized with it; *A. vena* has also been discovered to be a junior synonymy of *A. zaitzevi*. Taking those new synonyms and the description of *A. insularis* Mata-Casanova & Pujade-Villar sp. nov., the number of *Aegilips* species diminishes to 22 species, 13 of them being found in the Palaeartic region: *A. atricornis*, *A. flavidicornis*, *A. insularis* Mata-Casanova & Pujade-Villar sp. nov., *A. kozlovi*, *A. longicellus*, *A. nitidulus*, *A. notatus*, *A. paucus*, *A. punctulatus*, *A. romseyensis*, *A. ustulatus* and *A. zaitzevi*. Two species – *A. atricornis* – are and *A. romseyensis* also present in the Indomalayan region. The lack of type material for *A. notatus* and *A. punctulatus* makes their identity uncertain, and thus they have been designated as incertae sedis. *Aegilips atricornis*, *A. romseyensis* and *A. vena* were recorded for the first time by Fergusson (1985) and were restricted to the United Kingdom. The study of large series of undetermined material has extended their known distribution area. *Aegilips atricornis* is well represented in the Western Palaeartic region, ranging from North Africa and the Iberian Peninsula to Scandinavia and Cyprus, also being present in Madeira. Specimens of *Aegilips atricornis* have also been found in northern regions of Pakistan, India and China, thus being the first citation of the genus in the Indomalayan region and extending the distribution area of the species to the Eastern Eurasia. A similar pattern has been found for *A. romseyensis*, with a wide distribution across the Western Palaeartic region and being also present in the Eastern Palaeartic (China) and Indomalayan regions.

A similar distribution can be found in *Aegilips longicellus*, *A. paucus* and *A. zaitzevi*. *Aegilips longicellus* and *A. paucus*, previously only known from Central Asia and Mongolia, are cited for the first time in the Western Palaeartic, in the United Kingdom. *Aegilips zaitzevi*, after the synonymy of *A. vena*, is also present in the United Kingdom. Thus, the distribution areas for these three species are divided in two separate zones, being recorded at United Kingdom on one side and Central Asia, Mongolia and the Russian Far East on the other. The split pattern in their records we see in *A. atricornis*, *A. kozlovi*, *A. longicellus*, *A. nitidulus*, *A. paucus*, *A. romseyensis* and *A. zaitzevi* suggests a wide distribution across Eurasia, probably a collection artifact if we take into account the scarce Central Asian record.

Other Palaeartic species of the genus present a more restricted recorded area: *A. flavidicornis*, *A. paucus* and *A. ustulatus* are only recorded from Central Asia, recorded from China, Tajikistan, Kazakhstan and Kyrgyzstan respectively, with no new records added. The newly described species *A. insularis* Mata-Casanova & Pujade-Villar sp. nov., has also only been recorded from Madeira.

*Aegilips nitidulus* was previously known from Western Europe, but the new synonymies and new records found when studying undetermined material have shown a distribution pattern of known records similar to *A. zaitzevi*, divided in two areas: one area extended across all Europe and most of the Western Palaeartic region, from the Iberian Peninsula in the west and the Caucasus mountain range as its easternmost location, while having another smaller distribution area in the Russian Far East. Its range is further extended to reach the Azores archipelago. Thus the genus *Aegilips* in the Macaronesian islands is well represented with three species: *A. atricornis*, *A. nitidulus* and *A. insularis* Mata-Casanova & Pujade-Villar sp. nov., the last being endemic of the region.

The Eurasian species of *Aegilips* are as morphologically diverse as those belonging to *Xyalaspis*. The main differences are related to the length and appearance of notauli and the sculpture of the scutellum. Regarding the notauli, two features should be mentioned: its extension and the presence of internal sculpture. The notauli in *Aegilips* can reach the anterior edge of the mesoscutum or be incomplete.
In *A. kozlovi* and *A. romseyensis* the notauli are complete and deeply excavated (Fig. 2e–f), while *A. insularis*, *A. nitidulus* and *A. ustulatus* also have complete notauli, but these are not as deeply excavated (Fig. 2a–b, g). *Aegilips atricornis* (Fig. 3d) and *A. flavidicornis* (Fig. 3c) represent the transitional state between complete and incomplete notauli: both species possess long notauli, almost reaching the anterior edge of mesoscutum in some individuals in *A. atricornis* (Fig. 3d), but those are always incomplete. The notauli in *A. zaitzevi* are shorter, disappearing in the anterior third of mesoscutum (Fig. 2h), while the notauli of *A. longicellus* and *A. paucus* present the shortest ones in the Palaearctic range of *Aegilips* (Fig. 3b–f), reaching only ½ of the mesoscutum total length and being almost unnoticeable in some specimens, especially in *A. paucus*. The horizontal carinae of the notauli show less variation: in *A. kozlovi* and *A. romseyensis* the notauli are internally divided by strong carinae (Fig. 2e–f), but in *A. nitidulus* and *A. insularis* the carinae are smooth (Fig. 2a, g). The other species of *Aegilips* studied have no trace of nautular sculpture.

Scutellar sculpture similarly has a wide range of variation, from a completely smooth scutellum without a trace of scutellar foveae, to a strongly areolate scutellum. *Aegilips insularis* represents the smoothest appearance the scutellum can have, with very tenuous scutellar foveae and without any other sculpture feature (Fig. 2a–b). *Aegilips flavidicornis*, *A. ustulatus* and *A. zaitzevi* have the central mesoscutum smooth or weakly coarse while having the margins areolate and the scutellar foveae clearly defined (Figs 2h, 3c). *Aegilips longicellus* and *A. nitidulus* represent the next step in scutellar sculpture, both having strong areolate sculpture at the margins of the scutellum while having the central scutellum tenuously coarse to strongly areolate; however, in *A. longicellus* the interfoveal line is very short and the scutellar foveae are not basally defined by a carina (Fig. 3b), a state of characters not seen in *A. nitidulus* (which has a complete interfoveal line and a strong carina basally defining the scutellar foveae) (Fig. 2g). The closely related *A. kozlovi* and *A. romseyensis* (Fig. 2e–f) greatly differ in the scutellar sculpture: *A. romseyensis* presents alutaceous central scutellum (Fig. 2f) similar to *A. longicellus* and *A. nitidulus* while in *A. kozlovi* the scutellum is heavily areolate (Fig. 2e). Finally, *A. atricornis* and *A. paucus* present a strongly areolate scutellum in its entire surface (Fig. 3d, f). A noteworthy feature that should be mentioned is the presence of the 2rm vein in *A. zaitzevi* (Fig. 1r), a character not seen in either *Xyalaspis* or in other species of *Aegilips*. This character makes the species easily distinguishable from the rest of the Palaearctic species of the genus.

Regarding the biology of the Palaearctic species of *Aegilips*, only *A. atricornis* and *A. nitidulus* have known hosts belonging to Hemerobiidae (Fergusson 1986). Both species have been cited attacking the larvae of *Wesmaelius betulinus* (Strøm, 1788) and *W. subnebulosus* (Stephens, 1836). *Wesmaelius* seems to be a common host for Palaearctic anacharitines: *Anacharis eucharioides* (Dalman, 1818) and *Xyalaspis petiolata* Kieffer, 1901 have also been described as parasitoids of *W. betulinus* and *W. subnebulosus* (Fergusson 1986). However, the hosts of most of the Palaearctic species of *Aegilips* and other Anacharitinae from this region are still unknown, so more research should be done in order to fully comprehend their biology.

**Acknowledgements**

We would like to thank to David G. Notton (NHMUK), John Huber and Jennifer Read (CNC) as well as Claire Villemant and Magdalena Czyrnek (MNHN) for the loan of the undetermined material on which this study is based. To David G. Notton (NHMUK), Frank Koch (ZMHB), Claire Villemant and Magdalena Czyrnek (MNHN), and Oleg. Kovalev and Sergey Belokobylskij (ZIN) for the loan of type material of *Aegilips* and to Matt Buffington (USNM) and Konstantin Samartsev (ZIN) for their during the first author’s stay at Washington DC and Saint Petersburg, respectively. To David G. Notton (NHMUK) again for the images of the fore wing of *A. vena*. To Hossein Rajaei (ZMH) for the information about the current status of the type material of *A. punctulatus*. To Miguel Ángel Alonso Zarazaga (Consejo
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Superior de Investigaciones Científicas) for tips on how to solve nomenclatural problems regarding *Aegilips*. Also, to George Melika (Pest Diagnostic Laboratory) for translating the original descriptions of Belizin. This study has been funded by project CGL2014-56151-P of the Science and Innovation Ministry of Spain.

References

Belizin V.I. 1951. Gall wasps (Hymenoptera: Cynipoidea) of the fauna of the USSR and limitrophic countries. *Entomologicheskoye Obozreine* 31 (3–4): 573–574. [In Russian.]

Belizin V.I. 1961. New Figitidae (Hymenoptera, Cynipoidea) of the fauna of the USSR. *Entomologicheskoye Obozreine* 9 (1): 153–154. [In Russian.]

Belizin V.I. 1973. New Cynipids (Hymenoptera, Cynipoidea) of the fauna of the USSR and limitrophic countries. *Entomologicheskoye Obozreine* 47: 29–38. [In Russian.]

Buffington M.L., Brady S.G., Morita S.I. & Van Noort S. 2012. Divergence estimates and early evolutionary history of Figitidae (Hymenoptera: Cynipoidea). *Systematic Entomology* 37: 287–304. https://doi.org/10.1111/j.1365-3113.2012.00617.x

Cameron P. 1883. Descriptions of sixteen new species of parasitic Cynipidae, chiefly from Scotland. *Transactions of the Entomological Society of London* 16 (4): 365–374.

Cameron P. 1887. Hymenopterological notes. 1. On some little known British Hymenoptera. *Entomologist's Monthly Magazine* 12: 193–195.

Cave R.D. & Miller G.L. 1987. Notes on *Anacharis melanoneura* (Hymenoptera: Figitidae) and *Charitopes mellicornis* (Hymenoptera: Ichneumonidae) parasitizing *Micromus posticus* (Neuroptera: Hemerobiidae). *Entomological News* 98: 211–216.

Dahlbom A.G. 1842. *Onychia* and *Callaspidia* genus of Scandinavian Insect fauna belonging to gall wasps natural group. 16 pp. 3 Tab. 2 pl. Lund. [In Swedish.]

Dalman J.W. 1823. *Analecta Entomologica*. Holmiae. [In Latin.]

Diaz N.B. 1979. Neotropical hymenopterans parasitoids of Neuroptera and Cynipoidea (Hymenoptera). *Revista de la Sociedad Entomológica Argentina* 38 (1–4): 21–28. [In Spanish.]

Fergusson N.D.M. 1985. British species of the parasitic cynipid wasp genus *Aegilips* (Hymenoptera: Cynipoidea, Anacharitinae). *Journal of Natural History* 19: 811–818 https://doi.org/10.1080/00222938500770501

Fergusson N.D.M. 1986. Charipidae, Iballiidae and Figitidae (Hymenoptera: Cynipoidea). *Handbooks for the Identification of British Insects* Vol. 8, Part 1c: 29.

Giraud J. 1860. Enumeration of Austrian figitids. *Verhandlingen der Zoologisch-Botanischen Gesellschaft Wien* 10 (2): 123–176. [In French.]

Hedecic H. 1914. *In*: Cavro: Hyménoptères noueau ou intéressants (Cynipides). *La Feuille des jeunes Naturalistes* 44: 113. [Reprinted by Hedecic (1928)] [In French.]

ICZN 1999. *The Constitution of the International Commission on Zoological Nomenclature*. In: *International Code of Zoological Nomenclature*: 264–271. Fourth Edition. The International Trust for Zoological Nomenclature, London.

Kieffer J.J. 1909. Description of new zoophagous cynipids. *Bulletin de la Société d'Histoire naturelle de Metz* 26: 57–96. [In French.]
Kieffer J.J. 1910. New exotic cynipids. Bollettino del Laboratorio di Entomologia del Reale Istituto Superiore Agrario di Bologna 4: 329–342. [In French.]

Kieffer J.J. 1911. Changes in the names of evaniids and cynipids. Bullettino della Società Entomologica Italiana 41 (1909): 121. [In French.]

Kovalev O.V. 1974. On cynipid fauna (Hymenoptera: Cynipoidea) of the Mongol People’s Republic. Insects of Mongolia 2 (2): 282–289. [In Russian.]

Kyerich E. 1984. Notes on the genus Prosynapis D. T. et Kieff. (Synapsis Först) with a list of Anacharis Dalm. species occurring in Poland (Hymenoptera, Cynipoidea, Anacharitidae). Annales Zoologici 37 (11): 335–339.

Mata-Casanova N. & Pujade-Villar J. 2013. Acanthaegilopsis malagasy gen. n. and sp. nov., of Anacharitinae (Hymenoptera: Cynipoidea: Figitidae) from Madagascar and the Comoros. African Entomology 21 (1): 161–164. https://doi.org/10.4001/003.021.0119

Mata-Casanova N., Selfa J., Arcaya E., Sosa F., Tormos J. & Pujade-Villar J. 2014a. First host record for Acanthaegilips (Hymenoptera: Figitidae: Anacharitinae) and description of a new species from Venezuela. Florida Entomologist 97 (2): 461–464. https://doi.org/10.1653/024.097.0216

Mata-Casanova N., Selfa J. & Pujade-Villar J. 2014b. Description of two new species of Anacharitinae (Hymenoptera: Figitidae) from the Afrotropical region. African Entomology 22 (3): 545–551. https://doi.org/10.4001/003.022.0312

Mata-Casanova N., Selfa J. & Pujade-Villar J. 2015a. Revision of the genus Xyalaspis Hartig, 1843 (Hymenoptera: Figitidae: Anacharitinae) in the Western Palaearctic. Zoosystema 37 (1): 31–43. https://doi.org/10.5252/z2015n1a2

Mata-Casanova N., Selfa J. Wang, Y., Chen, X. & Pujade-Villar J. 2015b. Diversity of subfamily Anacharitinae (Hymenoptera: Cynipoidea: Figitidae) in China with description of a new species of Xyalaspis Hartig, 1843. Journal of Asia-Pacific Entomology, 19: 9–14. https://doi.org/10.1016/j.aspen.2015.11.007

Mata-Casanova N., Selfa J. & Pujade-Villar J. 2018. Three new species of Anacharis Dalman, 1823 (Hymenoptera: Figitidae) with revised taxonomy and distribution records of Palaearctic and Indomalayan species. European Journal of Taxonomy 414: 1–25. https://doi.org/10.5852/ejt.2018.414

Miller G.L. & Lambdin P.L. 1985. Observations on Anacharis melanoneura (Hymenoptera: Figitidae), a parasite of Hemerobius stigma (Neuroptera: Hemerobiidae). Entomological News 96: 93–97.

New T.R. 1979. An Australian species of Xyalaspis Hartig (Hymenoptera: Figitidae). Journal of the Australian Entomological Society 18: 177–180. https://doi.org/10.1111/j.1440-6055.1979.tb00832.x

Paretas-Martínez J., Restrepo-Ortiz C.X., Buffington M. & Pujade-Villar J. 2011. Systematics of Australian Thrasorinae (Hymenoptera, Cynipoidea, Figitidae) with descriptions of Mikeiinae, new subfamily, two new genera, and three new species. ZooKeys 108: 21–48. https://doi.org/10.3897/zookeys.108.829

Reinhard H. 1860. The figitids of Central Europe. Berliner Entomologische Zeitschrift 4: 204–264. [In German.]

Richards O.W. 1977. Hymenoptera. Introduction and key to families. In: Richards O.W. (ed.) Handbooks for the Identification of British Insects, 2nd Edition, Vol. 6 (pt. 1): 1–100. British Museum and Royal Entomological Society, London.

Ronquist F. 1995. Phylogeny and early evolution of the Cynipoidea (Hymenoptera). Systematic Entomology 20: 309–335. https://doi.org/10.1111/j.1365-3113.1995.tb00099.x
Ronquist F. 1999. Phylogeny, classification and evolution of the Cynipoidea. Zoologica Scripta 28 (1–2): 139–164. https://doi.org/10.1046/j.1463-6409.1999.00022.x

Ros-Farré P., Ronquist F. & Pujade-Villar J. 2000. Redescription of Acanthaegilips Ashmead 1987, with characterization of the Anacharitinae and Aspiceratinae (Hymenoptera: Cynipoidea: Figitidae). Zoological Journey of the Linnean Society 129: 467–488. https://doi.org/10.1006/zjls.1999.0204

Ros-Farré P., Sporrong M., Ronquist F. & Pujade-Villar J. 2003. Revision of the Neotropical Anacharitinae genus Acanthaegilips (Hym., Cynipoidea, Figitidae). Papéis Avulsos de Zoologia 43 (2): 11–30. https://doi.org/10.1590/S0031-10492003000200001

Walker F. 1835. Observations on the British Cynipoidea. Entomological Magazine 3: 159–170.

Westwood J.O. 1833. Notice of the habits of a cynipidous insect, parasitic upon the Rose Louse (Aphis rosae); with descriptions of several other parasitic Hymenoptera. Magazine of Natural History and Journal of Zoology, Botany, Mineralogy, Geology and Meteorology 6: 489–497.

Manuscript received: 20 September 2021
Manuscript accepted: 4 March 2022
Published on: 16 May 2022
Topic editor: Tony Robillard
Section editor: Gavin Broad
Desk editor: Solène Kowalski

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