The genus *Haliplus* Latreille, 1802 is divided into the subgenera: *Haliplus* s. str., *Neohaliplus* Netolitzky, 1911, *Liaphlus* Guignot, 1928, *Paraliaphlus* Guignot, 1930 and *Phalilus* Guignot, 1935. The species assigned to the so-called *ruficollis* group are placed in the subgenus *Haliplus* s.str, because *Dyticus impressus* Fabricius, 1787 [a junior objective synonym of *Haliplus ruficollis* (De Geer, 1774)] is here selected as type species for the genus *Haliplus* Latreille, following Holmen (1987).

By this action the subgenus *Haliplinus* Guignot, 1939, previously often applied to the *ruficollis* group, has become a junior synonym of *Haliplus*. It may be possible that the subgenus *Haliplus* s.str. as well as the other subgenera do not represent monophyletic groups. For practical reasons the present division in subgenera, as given by Van Vondel (2005) is maintained until further phylogenetic research proves otherwise.

As treated below, *Haliplus* s.str. comprises a group of rather similar small adephagan water beetles, found in the Palaearctic, Nearctic and minor parts of the Oriental regions. Several species inhabit the temperate climate zone, where they are often very common in stagnant waters and slowly running streams.

The present paper reviews the Palaearctic and Oriental species and their synonymies, whereas a few
comments are made on some North American species as well.

Many of the species presently assigned to this subgenus were described during the 19th century. At the beginning of the 20th century, the shape of male genitalia was shown to be often very characteristic for the species (Edwards 1911). The study of these and other characters showed that quite a number of the previously named species were conspecific. In some cases there have been disagreements which specimens would qualify as type material. Following different opinions, some names were long afterwards generally applied to different species in different European countries. It added well to the confusion, that syntypes or likely syntypes of a species sometimes comprised a fair number of different species, sometimes deposited in several collections.

In addition, new species have been included into the subgenus during the 20th century. They resembled the existing species of the subgenus, but sometimes the new species showed characters different from those previously used to define the subgenus. Some synonymies were recently evaluated by Holmen (1987) and Van Vondel (1995b). There is now a need to review the group, as well as to produce updated keys for identifying its species.

In the present paper, we recognise 22 Palaearctic species in the subgenus Haliplus, including three species known (also) from the oriental region and three species described here as new. Over the years, no less than 54-58 valid species group names have been applied to these species. Only one, H. apicalis Thomson, 1868, is known to have a Holarctic distribution as H. strigatus Roberts, 1913, based on North American type material, appeared to be a synonym (Holmen 1987). Van Vondel (1986) suggests, based on larval characters, that Haliplus laminatus (Schaller, 1783) might belong to the subgenus Haliplus s. str. instead of the subgenus Liaphlus. This view is not followed here as we prefer to wait for a phylogenetic study of the family. In North America, Haliplus s.str. comprises eight additional species, including the single Holarctic H. apicalis and 13 valid species-group names (Van Vondel 2005).


Material and methods

Specimens used for this study are deposited in a large number of collections. For the codens used for the collections we refer to the website of Evenhuis & Samuelson (2004). Codens not given by them are explained here:

<table>
<thead>
<tr>
<th>Coden</th>
<th>Collection</th>
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<tr>
<td>AIH</td>
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</tr>
<tr>
<td>CN</td>
<td>Collection Nakane in Hokkaido University Museum, Japan</td>
</tr>
<tr>
<td>CNU</td>
<td>Collection Nilsson, Umeå, Sweden</td>
</tr>
<tr>
<td>CV</td>
<td>Collection Van Vondel, Hendrik–Ido–Ambacht, The Netherlands</td>
</tr>
<tr>
<td>MPSU</td>
<td>Moscow Pedagogical State University, Russia</td>
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<tr>
<td>SWNU</td>
<td>South West Normal University, Dep. of Life Sc., Beibei, Chongqing, China</td>
</tr>
<tr>
<td>ZMT</td>
<td>Zoological Museum, Turku, Finland</td>
</tr>
</tbody>
</table>

We refrained from listing all the specimens examined during our research, except for species with a limited distribution or with a very low density.


Taxonomic part

Checklist of the Palaearctic and Oriental species of Haliplus (Haliplus)

**Haliplus Latreille, 1802**
- Type species *Dytiscus impressus* Fabricius, 1787 [subsequent designation by Latreille (1810), here fixed as the nominal species previously cited and not the misidentified identity by Latreille (ICZN Code article 70.3.1)]
- *Cnemidotus Illiger, 1802*
- Type species *Dytiscus impressus* Fabricius, 1787 [designated here]
- *Hoplitus Clairville, 1806*
- Type species *Dytiscus impressus* Fabricius, 1787 [designated here]
- *Haliplinus* Guignot, 1939 [as subgenus of Haliplus]
- Type species *Dytiscus ruficollis* De Geer, 1774 [original designation]
  - *alitae* Van Vondel, 2003a
  - *apicalis* Thomson, 1868
  - *? brevis* Stephens, 1828
  - *striatus* Sharp, 1869
  - *strigatus* Roberts, 1913
  - *fluviatilis* Aubé, 1836
    - *fluviatilis* var. *maculatus* Gozis, 1915
    - *fluviatilis* var. *mannerheimii* Gozis, 1915
  - *fulvicollis* Erichson, 1837
    - *jakowlewi* Semenov, 1898
  - *furcatus* Seidlitz, 1887
  - *fluviatilis* var. *mannerheimii* Seidlitz, 1887
  - *fuscicornis* Holmen, Van Vondel & Petrov sp.n.
  - *harminae* Van Vondel, 1990
van Vondel et al.: Review Haliplus s.str.

Checklist of the Nearctic species of Haliplus (Haliplus)

apicalis Thomson, 1868 (also Palaearctic!)  
blanchardi Roberts, 1913  
distinctus Wallis, 1933  
dorsomaculatus Zimmermann, 1924  
allisonae Brigham, 1977  
falli Mank, 1940  
immaculicollis Harris, 1828

Americanus Aubé, 1838  
pallidus Roberts, 1913  
robertsi Zimmermann, 1924  
tongulus LeConte, 1850  
hoopingi Wallis, 1933  
stagninus Leech, 1949

The nearctic species are given to complete the global list of Haliplus s.str., but they will not be treated here.

Identity of the genus Haliplus

Latreille (1802) created the genus Haliplus for two species: Dytiscus obliquus Fabricius, 1787 and Dytiscus impressus Fabricius, 1787 [Latreille’s own interpretation of impressus was based at least on the species we now know as H. fulvus (Fabricius, 1801), according to Holmen (1987)]. Subsequently, Latreille (1810) designated D. impressus Fabricius, 1787 as type species of his genus Haliplus. Early authors applied the name impressus to quite a number of different European haliplid species, apart from H. obliquus (Fabricius, 1787) and Brychius elevatus (Panzer, 1793).

According to Holmen (1987), impressus in Fabricius’ collection (ZMUC) does comprise H. ruficollis (De Geer, 1774), H. immaculatus Gerhardt, 1877, H. flavicollis Sturm, 1834 and H. lineatocollis (Marsham, 1802). A lectotype of D. impressus Fabricius, 1787 [= H. ruficollis (De Geer, 1774)] was designated by Holmen (1987). By this action Latreille’s (1802, 1810) concept of impressus changed into a misidentification, and thus Haliplus was based on a misidentified type species. Holmen (1987) recommended, that the type species of Haliplus should be Dytiscus impressus Fabricius, 1787 in the original sense and not the misidentified sense, to support stability of the present generic nomenclature. At that time, changing of the type fixation based on a misidentified type-species was only possible through an application to the International Commission on Zoological Nomenclature. Such an application has not yet been made. Since 2000, the 4th edition of the code (International Commission on Zoological Nomenclature 1999), article 70.3, allows authors to choose between the nominal species involved or the species involved in the misidentification. Following article 70.3.1, we fix hereby the nominal species Dytiscus impressus Fabricius, 1787 [= H. ruficollis (De Geer, 1774)] as the type species of the genus Haliplus Latreille, 1802.

Also in 1802, Illiger created the genus Cnemidotus for three species: D. impressus Fabricius, 1787, D. obliquus Fabricius, 1787 [= H. obliquus (Fabricius, 1787)] and D. elevatus Panzer, 1793 [= Brychius elevatus (Panzer, 1794)]. Illiger (1798, 1802)
undoubtedly identified his obliquus and elevatus correctly, but probably interpreted all his other Haliplidae as impressus. The suggestion of Dytticus caeus Duftschmid, 1805 [= Pelodytes caeus (Duftschmid, 1805)] as type species (Hope 1838) is not valid, as this species name was not originally included in the genus. Several early authors used Cnemidotus as the generic name for the species later included in genus Pelodytes, following Panzer’s (1793) interpretation of impressus [= P. caeus (Duftschmid, 1805)]. Later, Cnemidotus has generally been considered as a junior synonym of Haliplus.

Dytticus impressus Fabricius, 1787 [= H. ruficollis (De Geer, 1774)] is here fixed as the type species of the genus Cnemidotus.

Clairville (1806) named the genus Hoplitus for four species, viz., Dytticus fulvus Fabricius, 1801, D. impressus Fabricius, 1787, D. obliquus Fabricius 1787 and D. marginepunctatus Panzer, 1793. The identity of Clairville’s species appears uncertain (Holmen 1987). Hoplitus has generally been considered a junior synonym of Haliplus.

Dytticus impressus Fabricius, 1787 [= H. ruficollis (De Geer, 1774)] is here fixed as the type species of the genus Hoplitus.

Delimitation of the subgenus Haliplus

The genus Haliplus has been subdivided into species groups or subgenera by several authors. As treated here, the subgenus Haliplus comprises species of the following groups and subgenera, apart from differences due to their application to geographically varying faunas and to the discovery of additional species: The ruficollis group of Haliplus e.g. by Zimmermann (1919) in his work on the Haliplidae of the Berlin-Dahlem Museum.


Subgenus Haliplus s. str. by Guignot (1928) in his division of European species of Haliplus into subgenera. According to Guignot (1928), this name of the subgenus was based on its inclusion of the first described species of the genus: Haliplus ruficollis (De Geer, 1774).

Subgenus Haliplinus Guignot, 1939: 176. Type species Dytticus ruficollis De Geer, 1774, by original designation.

Subgenus Haliplus s. str. by Holmen (1987) in his work on the Fennoscandian Haliplidae.

The renaming of the subgenus by Guignot (1939) followed the invalid suggestion by Balfour-Browne (1938) that Dytticus obliquus Fabricius, 1787 is the type species of the genus Haliplus and the fact, that this species had been placed in a different subgenus. In the following years, the name Haliplinus was widely used, mainly in Palaearctic works on the group, whereas the subgenus Haliplus s. str. consequently replaced the subgenus Haliplidius (Guignot, 1928) for H. obliquus, two other Palaearctic and one South American species. The species of Haliplinus were further subdivided into the ruficollis and fulvicollis groups by Guignot (1955a).

Holmen (1987) suggested Haliplus s. str. as the best available alternative to support stability of the present subgeneric nomenclature.

Description of Haliplus s. str.

According to Van Vondel (1991, 1995a), much more study is needed to elucidate the phylogenetic relationships of Haliplidae at and below the subgeneric level. It appears doubtful in several cases, whether the present use of subgenera and their subgroups reflects such relationships, as is also apparent from the phylogenetic analysis of the present haliplid genera and subgenera by Beutel & Ruhnau (1990) and Beutel, Balke & Steiner (2006).

Such future work is doubt also needed with respect to the species presently treated as the subgenus Haliplus, often referred to as the ruficollis group. This group comprises morphologically often very similar species, but their phylogenetic relationships are poorly known. The Palaearctic species share the following combination of characters, which even applies to the North American species:

Length about 2-3.5 mm. Dorsal body surface with coarse punctures of varying sizes. Without additional dorsal punctuation of more numerous and evenly dispersed finer punctures, apart from the very fine punctuation present on elytra (and rarely on pronotum and head) of mainly females of some species. Pronotal basal plicae confined to posterior pronotal half or less, sometimes absent. Pronotal posterior angles not strongly protruding. Elytral coarse punctures in longitudinal rows. Lateral elytral edge not serrate. Two fine, vertical grooves on side of head behind each eye (genal lines). Penultimate segment of labial palps wide, with distal angle on inner edge. Prosternal process of ‘medium haliplid width’, more or less narrowed between procoxae, continued well delimited over basal part of prosternum. Male pro- and mesotarsomeres 1-3 with ventral sucker hairs. Metacoxal plates not margined. Metatibial upper face without striae of setiferous punctures. Outer metatibial edge with one lower regular row of spines and one upper more or less distinctly forked into two distally. Inner edges of metatibial spurs very finely serrate. Sternum 7 without medial ridge. Aedeagus composed of penis and two parameres. Male right paramere (as defined by Van Vondel 1997!) without distinct apical
digitus. Most of female ovipositor slender, with long and narrow sclerotized tergal 9 halves and basal struts of gonocoxae. Studied larvae with a distal angular dilation of inner protibial edge and antennomere 3 much longer than 1 or 2.

Among the species of the subgenus, two far eastern species share additional characters: Prosternal process with fine transverse border at base (also seen in at least one other species of this subgenus and in many other Haliplidae). Lateral elytral margin not widened until very near apex. Male left (as defined by Van Vondel 1997!) paramere abbreviated, broadly truncate apically. Female tergal 9 halves with weakly sclerotized distal widening.

Since Zimmermann (1924), the species group has often been divided into two subgroups: one with two lateral impressions on the metasternal process (as e.g. in H. fulvicollis) and one with a medial or no impression (as in e.g. H. ruficollis).

Several of the above mentioned characters are shared with other species of Halilplus or Haliplidae. Actually, adults of the North American H. borealis LeConte, 1850 seems to fit them all. Possible relationships with the Palaeartic H. varius Nicolai, 1820 based on larval morphology has already been mentioned by Van Vondel (1996).

Among the Halilplus species, the present ruficollis group species as well as at least H. borealis, H. varius, H. confinis and H. obliquus possess a mostly slender female ovipositor, with long and narrow sclerotized tergal 9 halves and basal struts of gonocoxae.

Key to the Palaeartic and Oriental species of Halilplus s. str.

1. Prosternal process with transverse rim basally (fig. 122) ........................................... 2
   – Prosternal process without transverse rim basally .................................................. 5

2. Male protarsal claws wider, of different width (fig. 179). Female elytra strongly punctured. Length 2.9-3.0 mm samojedorum (part)
   – Male protarsal claws of equal width. Female elytra without micropunctation .......................... 3

3. Prosternal process with distinct ridge medially (fig. 122). Elytral dark pattern strongly developed. Length 3.1 mm kamiyai
   – Prosternal process somewhat elevated medially, but without a distinct ridge. Elytral dark pattern more reduced .......................................................... 4

4. Metasternal process almost flat, with at most a weak depression on each side (fig. 111). Length 2.6-3.5 mm japonicus
   – Metasternal process with a deep depression on each side (fig. 154). Length 2.4-3.0 mm regimbarti

5. Metasternal process with an impression on each side (fig. 18) ........................................... 6
   – Metasternal process usually with medial impression or about flat (fig. 29) ......................... 12

6. Prosternal process very narrow between front coxae, not clearly furrowed along the sides or basally (fig. 40). Male with apex of penis very narrowly rounded. Female elytra never micropunctured. Length 2.4-3.1 mm fulvicollis
   – Prosternal process wider between front coxae, at least weakly furrowed basally and often also along the sides. Apex of penis obliquely truncate. Female elytra sometimes micropunctured ............. 7

7. Shape of body narrow, sometimes with sides parallel in the middle .................................. 8
   – Shape of body rather wide, not parallel sided. Penis as figured (females not found yet). Length 3.0 mm kirgisiensis sp. n.

8. Elytral dark lines more or less confluent into a common elytral spot behind the middle, connected to the suture, otherwise maculation hardly developed (fig. 171). Prosternal process less constricted between front coxae. Penis as figured (fig. 180-182). Female elytra completely and strongly micropunctured. Length 2.9-3.0 mm .................................................................................................................. 9
   – Elytral dark pattern different. Prosternal process more constricted between front coxae. Penis different. Female elytra with strong or weak or absent micropunctuation ........................................... 9

9. Elytra with strongly interrupted dark lines, often strongly maculated. Penis as figured (fig. 56). Female elytra at most weakly micropunctured. Length 2.2-3.0 mm furcatus
   – Elytra with more or less interrupted or continuous dark lines without maculation ............. 10

10. Elytral dark lines continuous and strong. Female elytra strongly micropunctured. Length 2.5-3.0 mm apicalis
    – Elytral dark lines not continuous. Elytra not strongly micropunctured ............................. 11

11. Primary puncture rows not or vaguely darkened. Metasternal process with strong impression on each side (fig. 7). Female elytra without micro punctures. Length 2.7-3.0 mm aliae
    – Elytral puncture rows with interrupted although not strong lines. Metasternal process with weak impression on each side (fig. 205). Female elytra completely but weakly micropunctured. Length 2.7-3.0 mm stepennis

12. First three tarsal segments of fore- and midlegs widened and ventrally provided with closely set sucker-hairs: males ............................................. 13
    – First three tarsal segments of fore- and midlegs not widened, ventrally at most with few hairs, in most cases elytra with micropuncturation: females: ........................................ 27
13. First tarsal segment of midlegs strongly excised (fig. 147). Length 2.3-3.3 mm ........................................... lineolatus
   – First tarsal segment of midlegs not strongly excised, at most slightly concave ........................................... 14
14. Pronotum without basal plicae or at most with one or two punctures suggesting a plica. Antennae not darkened in apical half ........................................... 15
   – Pronotum with clear basal plicae or antennae darkened in apical half ........................................................... 18
15. Elytral puncture rows with dark lines ............... 16
   – Elytra with vague dark marks, or with discal mark behind the middle, dark lines hardly developed ........................................... 17
16. Sutural row of secondary punctures sparse and regular. Dark lines on primary puncture rows only interrupted in basal third. Length 2.5-2.9 mm .................................................. zacharenkoi
   – Sutural row of secondary punctures irregular and more dense. Dark lines on primary puncture rows interrupted in apical half and often with connecting marks. Length 2.4-3.1 mm ........................................... simplex
17. Body oblong, sides parallel. Usually one central mark behind the middle connected to the suture. Length 2.9-3.0 mm ............... samoedorum (part)
   – Body wide, vague dark marks on elytra (expectation, but males not yet known). Length 2.6 mm ............................................................. harminae
18. First tarsal segment of forelegs ventrally dilated (fig. 93) ................................................................. 19
   – First tarsal segments of forelegs ventrally simple, not specifically modified ........................................... 21
19. First tarsal segment of forelegs ventrally with a longitudinal row of short spines (fig. 104), black elytral stripes widely interrupted. Length 2.4-2.8 mm ................................................... interjectus
   – First tarsal segment of forelegs ventrally with a sharp ridge, black elytral stripes hardly interrupted ........................................... 20
20. Claws of forelegs almost equal in length (fig. 65). Antennae darkened apically (fig. 59). Length 2.7-2.9 mm ................................................... fuscicornis sp.n.
   – Claws of forelegs clearly unequal in length and curvature (fig. 93). Length 2.4-3.1 mm ............................................................. immaculatus
21. Claws of forelegs clearly unequal in length and shape ................................................................. 22
   – Claws of forelegs equal or subequal in length and shape ........................................................................... 23
22. Body rather wide. Pronotal plicae short and usually curved ................................................................. 25
23. Body rather narrow. Pronotal plicae longer and usually straight. Elytral dark lines usually hardly interrupted in the apical half, not confluent, no spotted appearance. Transverse row of punctures on abdominal sternite VI usually widely interrupted in the middle. Length 2.8-3.3 mm ................................................... sibiricus
24. Dark lines on elytral primary puncture rows interrupted, not confluent, no spotted appearance. Transverse row of punctures on abdominal sternite VI very weak in the middle. Length 2.7-2.9 mm ................................................... turkmenicus sp.n.
   – Dark lines on elytral primary puncture rows interrupted and partly confluent, giving the elytra a pronouncedly spotted appearance. Transverse row of punctures on abdominal sternite VI not widely interrupted in the middle. Length 2.3-3.0 mm ................................................... ruficollis
25. Pronotal plicae very short, at most consisting of one or two punctures suggesting a plica. Elytral dark lines more or less continuous in apical half. Length 2.5-2.9 mm ................................................... zacharenkoi
   – Pronotal plicae clearly developed ........................................... 26
26. Prosternal process clearly grooved in the anterior part. Body usually widest near the shoulders, strongly tapering backwards. Elytral dark lines widely interrupted and often connected by blotches of which the largest one is situated on the middle of the suture. Basal primary punctures on elytra groovelike connected. Length 2.2-2.8 mm ........................................... heydeni
   – Prosternal process usually flat or slightly convex, sometimes slightly grooved. Body slender, shoulders less pronounced, tapering backwards less strongly. Elytral dark lines not connected by blotches, but locally widened. Generally light yellow or yellow. Length 2.5-3.2 mm ........................................... fluviatilis
27. Pronotum without plicae. Antennae not darkened in apical half ................................................................. 28
   – Pronotum with plicae or antennae darkened in apical half ........................................................................... 30
28. Elytra with dark blotches, no clear dark lines. Female elytra without micropunctures. Length 2.6 mm ................................................... harminae
   – Elytra with more or less interrupted dark lines, no dark blotches ................................................................. 29
29. Sutural row of secondary punctures sparse and regular. Dark lines on primary puncture rows only interrupted in basal third. Length 2.5-2.9 mm ................................................... zacharenkoi
   – Sutural row of secondary punctures irregular and more dense. Dark lines on primary puncture rows interrupted in apical half and often with connecting marks. Length 2.4-3.1 mm ........................................... simplex
30. Elytra with micropunctuation, sometimes restricted to the apex (if there are only few micropunctures in the apical area) ................................................................. 31
– Elytra without micropunctuation .......................... 39
31. Elytral apex broadly rounded or truncate, lateral border wide posteriorly. Micropunctation usually also visible on the anterior half of the elytra. Elytral dark lines usually narrow, interrupted in the basal part, often continuous in the apical half, no connecting blotches. Body rather wide, subparallel. Length 2.3-3.3 mm ............... linolatus

– Elytral apex more narrowly rounded or truncate, lateral border rather narrow posteriorly .......... 32
32. Segment 5 of front tarsi usually with 3 ventral spines, segment 5 of mid tarsi usually with 4 ventral spines, the spines are rather long and the proximal ones are more closely set than the distal ones. Body fairly short, with rather evenly rounded sides. Elytral dark lines usually strongly interrupted, giving the elytra a pale, spotted appearance. Length 2.4-2.8 mm ............ interjectus

– Segment 5 of front and mid tarsi usually with more spines, these are rather evenly dispersed and usually shorter .......................................................... 33
33. Antennae darkened apically. Length 2.7-2.9 mm ........................................... fusciicornis sp. n.
– Antennae not clearly darkened apically ......... 34
34. Metasternal process usually flat in anterior part. Prosternal process usually flat or slightly convex, but sometimes weakly grooved ........................................... 35
– Metasternal process usually grooved in anterior part. Prosternal process usually grooved .......... 36
35. Body oblong, shoulders not pronounced. Usually light yellow to yellow. Dark elytral lines not connected by blotches, but locally widened, usually causing a double V-pattern. 2.5-3.2 mm ....

.............................................................. lineolatus

– Body wide, not parallel. Dark elytral lines not confluent, not showing a clear double V-pattern. Length 2.7-2.9 mm ............. turkenemius sp. n.
36. First elytral puncture row with 30-35 punctures .............................................................. 37
– First elytral puncture row usually with 40 or more punctures ........................................... 38
37. Sutural secondary punctures sparse in basal part. Elytral dark lines more or less continuous in apical half. Length 2.5-2.9 mm .......... zacharenkoi
– Sutural secondary punctures dense and in two irregular rows in basal part. Elytral dark lines interrupted in basal and in apical part ....... simplex
38. Body usually with pronounced shoulders, widest before the middle. Pronotal plicae short and usually curved. Prosternal process only weakly grooved in the anterior half. Dark elytral lines often interrupted and confluent. Transverse row of punctures on the sixth abdominal sternite not widely interrupted in the middle. Length 2.3-3.0 mm .............. ruficollis
– Body widest in the middle. Pronotal plicae long, usually more than \( \frac{1}{3} \times \) the length of the pronotum, and straight. Dark elytral lines interrupted in the basal half, often almost continuous in the apical half, usually not confluent. Prosternal process usually grooved completely. Transverse row of punctures on the sixth abdominal sternite widely interrupted in the middle. Basal punctures on elytra sometimes connected to form transverse grooves. Length 2.8-3.3 mm .......... sibiricus

39. Dark elytral lines mostly continuous, not confluent. Shoulders not pronounced. Body subparallel. Transverse row of punctures on the sixth abdominal sternite usually widely interrupted. Length 2.4-3.1 mm .............................................. immaculatus

– Dark elytral lines often interrupted and confluent. Shoulders pronounced, body widest before the middle. Transverse row of punctures on the sixth abdominal sternite not widely interrupted. First elytral primary puncture row usually with less than 40 punctures. Basal punctures on elytra connected groove-like. Length 2.2-2.8 mm .. heydeni

Haliplus (Haliplus) aliae Van Vondel (figs. 1-12)

Additional material examined: CHINA: 2 paratypes (♂, ♀): same labels as holotype (DEI, CV).

Description
Length 2.7-3.0 mm, width 1.6-1.8 mm. Body oval, widest just before the middle (fig. 1).

Head. – Yellow-brown to red-brown, moderately and on vertex sparsely punctate. Distance between eyes 1.4-1.6 times width of one eye. Antennae yellow, third segment nearly twice the length of the fourth segment (fig. 2). Palpi yellow to yellow-brown, penultimate segment of labial palpus strongly widened apically (fig. 3, 4).

Pronotum. – Yellow-brown to brown-red. Lateral borders almost straight to slightly convex and finely margined. Opposite fifth elytral puncture row with short basal plicae, between plicae weakly impressed. Moderately, along base a little more strongly punctured (fig. 1).

Elytra. – Yellow-brown to brown-red, no clear lines or dark marks present. Primary puncture rows moderately strong, weakened apically, basal punctures sometimes widened or connected to other punctures, about 30 punctures in first row. Secondary punctures relatively strong, dense in sutural row, more sparse in other intervals. All punctures darkened (fig. 1, 5).
Fig. 1-12. *Haliplus aliae* male. – 1, Habitus; 2, antenna; 3, maxillar palpus; 4, labial palpus; 5, punctures near elytral base and suture; 6, hind tibia; 7, prosternal and metasternal process; 8, prosternal process in lateral view; 9, left paramere; 10, penis; 11, right paramere; 12, end of bristle of right paramere.
Ventral side. – Yellow to yellow-brown, elytral epipleura yellow with uncoloured punctures. Legs yellow to yellow-brown, claws of forelegs in both sexes about equal in length. Prosternal process flat, narrowed near coxae, moderately punctured (fig. 7), lateral plica complete (fig. 8). Metasternal process strongly impressed on each side, sparsely punctured (fig. 7). Metacoxal plate strongly and densely, near suture weaker punctured. No setiferous striae on dorsal face of hind tibia, longest of the two tibial spurs $\frac{3}{4}$ length of first tarsal segment (fig. 6).

Male: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Penis and parameres as in figs. 9-11, end of bristles towards top of right paramere trumpet-like (fig. 12).

Female: Elytra without micropunctuation.

Similar species

This species is closely related to *H. steppensis*. The latter has more or less interrupted dark lines on the elytral puncture rows, while in this species at most vague traces of lines can be detected. The impressions of the metasternal process of *H. steppensis* are weak, while in this species these are strong. The males differ in the shape of the aedeagus. The female of this species has elytra without micropunctures, while the elytra of female *H. steppensis* are clearly completely micropunctate.

Biology

No details are known.

Distribution

East Palaearctic: China: Tianjin.

**Haliplus (Haliplus) apicalis** Thomson (figs. 13-23)

- *H. brevis* Stephens, 1828: 43 Holotype: ENGLAND: London (depository unknown) [not examined].
- *H. apicalis* Thomson, 1868: 293. Synotypes: SCANDINAVIA (MZUL) [examined].
- *H. striatus* Sharp, 1869: 81. Synotypes: ENGLAND: Dumfries (BMNH); Synonymised by Zimmermann 1920: 303 [not examined].
- *H. strigatus* Roberts, 1913: 110; Syntypes: CANADA: Manitoba, Treesbank (AMNH); Synonymised by Holmen 1987: 122 [examined].
- *H. samoijedorum* ab. *inornatus* Zaitzev, 1910: 26 (Unavailable name; infrasubspecific).
- *H. seidlitzi* Reitter (pro parte) (Unavailable name; nomen mus. in HNHM, NMW, SMFD and ZSM).

Additional material examined: About 500 specimens from Europe and about 300 specimens from North America.

**Description**

Length 2.5-3.0 mm, width 1.5-1.7 mm. Body oval to subparallel, widest in the middle (fig. 13). Underside of the body often with very fine micropunctuation.

Head. – Yellow to yellow-brown, vertex darkened, moderately strongly punctured, on vertex with stronger darkened punctures. Distance between eyes $2.0 \times \frac{1}{3}$ width of one eye. Antennae yellow to yellow-red, first segmental pill darker (fig. 14). Palpi yellow to yellow-red (fig. 16-17).

Pronotum. – Yellow to yellow-brown. Basal plica opposite fifth elytral puncture row about $\frac{1}{3}$ length of pronotum, weakly impressed between plicae. Sparsely punctured. Lateral sides margined, margins narrowed anteriorly, about straight (fig. 13).

Elytra. – Yellow with continuous black stripes on suture and primary puncture rows, black stripes interrupted on marginal rows. Completely margined. Primarily puncture rows dense and moderately strong, about 40-45 punctures in first row. Secondary punctures sparse, but most of them as strong as primary punctures. All punctures darkened (figs. 13, 15).

Ventral side. – Yellow-brown, legs yellow-brown, elytral epipleura yellow to yellow-brown with uncoloured punctures, reaching to sixth sternite. Prosternal process strongly narrowed near coxae, posteriorly flat or weakly impressed on each side, anterior edge distinctly margined, strongly punctured (figs. 18, 19). Metasternal process flat, posteriorly with a weak impression on each side, moderately strongly punctured (fig. 18). Metacoxal plates with an almost square medial apical corner, reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Last sternite strongly punctured, fifth and sixth sternite hardly punctured. No setiferous striae on dorsal face of hind tibia. Longer apical spur of hind tibia $\frac{3}{4}$ length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs equal in length (fig. 20). Penis and parameres as in figs. 21-23.

Females: Elytra covered with a dense distinct micropunctuation.

Similar species: This species is easily distinguished from the other species in the *fulvicollis*-group by the continuous dark elytral lines and in the females by the strong micropunctuation.

**Biology**

Living among filamentous algae in stagnant and slowly running, brackish (sometimes in coastal areas), but also fresh water in pools, ponds, ditches and streamlets.
Fig. 13-23. *Haliplus apicalis* male. – 13, Habitus; 14, antenna; 15, punctures near elytral base and suture; 16, labial palpus; 17, maxillar palpus; 18, prosternal and metasternal process; 19, prosternal process in lateral view; 20, claws of forelegs; 21, left paramere; 22, penis; 23, right paramere.
Distribution
Holarctic: From Central Europe to Mongolia, in Canada and the United States restricted to the western (mountainous) half of the region: Belgium, Denmark, Germany, Great Britain, Hungary, Ireland, Mongolia, Norway, Poland, Russia (North and Central European Territory, West Siberia), Sweden, The Netherlands.

Haliplus (Haliplus) fluviatilis Aubé (figs. 24-34)

Haliplus fluviatilis Aubé, 1836: 33. Syntypes: France: Seine river (probably in irsnb) [not examined].
Haliplus fluviatilis var. maculatus Gozis, 1915: 211; Type locality and depository of syntypes not known. [not examined].
Haliplus fluviatilis var. mannerheimi Gozis, 1915: 212; Type locality and depository of syntypes not known. [not examined].
Haliplus desertus Motschulsky, 1853: 3 (Unavailable name, Desert des Kirguises, Synonymised by Zaitzev 1915: 244).
Haliplus punctatostriatus Motschulsky 1853: 3 (Unavailable name, Deser des Kirguises, Synonymised by Zaitzev 1915: 244).
Haliplus marginicollis Motschulsky 1853: 4 (Unavailable name, Siberia, South Russia, Synonymised by Zaitzev 1915: 244).
Haliplus impressus auct. (misident.)

Material examined: About 1200 specimens from most of its area of distribution.

Description
Length 2.5-3.2 mm, width 1.3-1.6 mm. Body oval, widest in the middle (fig. 24).
Head. – Yellow to yellow-brown, vertex usually darkened, moderately strongly punctured, on vertex with stronger darkened punctures. Distance between eyes 1.6-1.7× width of one eye. Antennae yellow (fig. 25). Palpi yellow (figs. 27-28).

Pronotum. – Yellow to yellow-brown. Plicae opposite fifth elytral puncture rows about 1/3× length of pronotum, base between plicae slightly impressed. Moderately, in the middle more sparsely punctured. Lateral sides margined, straight to slightly convex (fig. 24).

Elytra. – Yellow to yellow-brown, suture darkened, interrupted dark stripes on primary puncture rows, dark stripes sometimes nearly continuous. Completely margined. Primary puncture rows moderately strong, denser in first rows, 38-42 punctures in first row. Secondary punctures strong, but sparse. All punctures darkened (figs. 24, 26).

Ventral side. – Yellow to yellow-brown, legs yellow to yellow-brown, coxae brown, elytral epipleura yellow with uncoloured punctures, reaching to sixth sternite. Prosternal process narrowed near coxae, usually flat, at most slightly channeled in anterior part, anterior edge not margined, strongly punctured (figs. 29-30). Metasternal process flat or with a weak impression in the middle, moderately strongly and densely punctured (fig. 29). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Fifth and sixth sternite weakly punctured, last sternite moderately punctured. No setiferous striae on dorsal face of hind tibia, longer spur of hind tibia ¾× length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs subequal, inner claw a little shorter (fig. 31). Penis and parameres as in 32-34.

Females: Elytra completely or at least in posterior half covered with a distinct micropunctuation.

Similar species: Often confused with other species of the ‘rusticollis’-group. In the males the aedaegus and the subequal claws of the forelegs are reliable characters. Females are sometimes difficult to identify; usually they have a fairly strong micropunctuation.

Biology
Among vegetation in streams, rivers, but also in lakes with sandy or stony bottoms. Attracted to light.

Distribution
Widespread in Europe and the neighbouring Asian countries: Afghanistan, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Kazakhstan, Kyrgyzia, Latvia, Luxembourg, Macedonia, Poland, Romania, Russia (Central, North and South European Territory, West and East Siberia), Slovakia, Spain, Sweden, The Netherlands, ‘Transcaucasia’, Turkey, Ukraine, Yugoslavia.

Haliplus (Haliplus) fulvicollis Erichson (figs. 35-46)

Haliplus fulvicollis Erichson, 1837: 186. Syntypes: Germany: Mark Brandenburg (zMHb) [1 syntype examined].
Haliplus jakowlewi Semenov, 1898: 545; Syntypes: Russia: Jaroslavensis, Berditzino (zMHb); Synonymised by Zimmermann 1920a: 307 [1 syntype examined].
Haliplus petropolitanus Motschulsky, 1853: 3 (Unavailable name, European Russia, Synonymised by Zaitzev 1915: 244).
Fig. 24-34. *Haliplus fluviatilis* male. – 24, Habitus; 25, antenna; 26, punctures near elytral base and suture; 27, labial palpus; 28, maxillar palpus; 29, prosternal and metasternal process; 30, prosternal process in lateral view; 31, claws of forelegs; 32, left paramere; 33, penis; 34, right paramere.
Fig. 35-46. Haliplus fulvicollis male. – 35, Habitus; 36, antenna; 37, punctures near elytral base and suture; 38, labial palpus; 39, maxillar palpus; 40, prosternal and metasternal process; 41, prosternal process in lateral view; 42, claws of forelegs; 43, left paramere; 44, penis; 45, right paramere; 46, end of bristle of right paramere.
Additional material examined: About 220 specimens from Europe and West Siberia.

Description
Length 2.6-3.1 mm, width 1.4-1.7 mm. Body oval to subparallel, widest in the middle (fig. 35).

Head. – Brown-red, moderately strongly punctured, vertex darkened. Distance between eyes 1.9-2.1.1 × width of one eye. Antennae yellow-brown (fig. 36). Palpi yellow-brown (figs. 38, 39).

Pronotum. – Yellow to yellow-red, weakly darkened along anterior margin. Plicae opposite fifth elytral puncture row ¼-½ × length of pronotum, between plicae weakly impressed. Sparsely punctured. Lateral sides margined, about straight (fig. 35).

Elytra. – Yellow to yellow-red or yellow-brown, vague maculation: a crosslike mark on the disc and a row of large marks on the sides, sometimes maculation restricted to parts of primary puncture rows. Completely margined. Primary puncture rows moderately strong and dense, about 35 punctures in first row. Secondary punctures strong and sparse. All punctures darkened (fig. 35, 37).

Ventral side. – Yellow-red to brown, legs yellow-red, darkened towards coxae, elytral epipleura yellowed with uncoloured punctures. Prosternal process strongly narrowed near coxae, posteriorly sometimes slightly impressed or with a weak groove on each side, strongly but sparsely punctured, anterior edge not margined (figs. 40-41). Metasternal process posteriorly with a strongly punctured impression on each side, else weakly punctured (fig. 40). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Last sternal sparsely punctured. No setiferous striole on dorsal face of hind tibia. Longer tibial spur of hind legs ¾-4/5 × length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs unequal, inner claw shorter and more curved (fig. 42). Penis and parameres as in figs. 43-45, setae on top of right paramere partly rounded at the tip (fig. 46).

Females: Elytra without micropunctation.

Similar species: This species can be distinguished from the other species in the ‘fulvicollis’-group by the vague elytral maculation.

Biology
Living in marshes, peat bogs and pools. In fresh, usually acid, temporary waters.

Distribution
Central Europe and in the east to neighbouring Asian countries: Belgium, Bosnia Herzegovina, Bulgaria, Byelorussia, ‘Caucasus’, Croatia, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Italy, Kazakhstan, Norway, Poland, Russia (Central, North and South European Territory, West Siberia), Slovakia, Sweden, The Netherlands, ‘Transcaucasia’, Ukraine, Yugoslavia.

**Haliplus (Haliplus) furcatus** Seidlitz
(figs. 47-57)

Haliplus furcatus Seidlitz, 1887: 33. Syntypes: Estonia, Germany, Poland (ZSM and probably else) [1 syntype examined]

Haliplus fluviatilis var. mannerheimii Seidlitz, 1887: 33. Holotype: Russia (probably in ZSM); Synonymised by Zimmermann 1920a: 308 [not examined].

Haliplus tesselatus Motschulsky, 1853: 3 (Unavailable name, Caucasus); (ex. parte in BMNH).

Haliplus ruficollis ab. confluens Fiori, 1904: 199. Syntypes: Italy (ZMHIB) (Unavailable name, infraSUBSPECIFIC. Synonymised by Zimmermann 1924: 80) [examined].

Additional material examined: About 140 specimens from most of its area of distribution.

Description
Length 2.4-3.0 mm, width 1.3-1.5 mm. Body oval to subparallel, widest in the middle (fig. 47).

Head. – Yellow-brown, vertex darkened, moderately strongly punctured, on vertex with stronger darkened punctures. Distance between eyes 1.5-1.6 × width of one eye. Antennae yellow to yellow-brown (fig. 48). Palpi yellow to yellow-brown (figs. 50-51).

Pronotum. – Yellow to yellow-brown, anteriorly slightly darkened. Base with plicae opposite fifth elytral puncture row, plicae about ½ × length of pronotum. Weakly impressed between plicae. Sparsely punctured. Lateral sides straight to weakly concave in posterior half, weakly convex in anterior half, distinctly margined (fig. 47).

Elytra. – Yellow to yellow-brown, dark stripe along suture and dark strongly interrupted stripes on primary puncture rows, these striped parts often connected by a dark maculation, which leaves a yellow spot on posterior half and a large yellow area on anterior half. Completely margined. Primary puncture rows moderately strong and dense, about 35 punctures in first row. Secondary punctures strong and dense along suture and sparse on intervals. All punctures darkened (figs. 47, 49).

Ventral side. – Yellow-red to brown, legs yellow-red to brown, darkened towards coxae, elytral epipleura yellow-brown with uncoloured punctures, reaching to fifth sternite. Prosternal process narrowed near coxae, groove on each side formed by connected punctures, anterior edge not margined, sparsely punctured (figs. 52-53). Metacoxal
Fig. 47-57. *Halipus furcatus* male. – 47, Habitus; 48, antenna; 49, punctures near elytral base and suture; 50, labial palpus; 51, maxillary palpus; 52, prosternal and metasternal process; 53, prosternal process in lateral view; 54, claws of forelegs; 55, left paramere; 56, penis; 57, right paramere.
plates, reaching to fifth sternite, moderately strongly punctured, medially weakly punctured. Last sternite strongly punctured, fifth and sixth sternite with complete transverse puncture row. No setiferous stria on dorsal face of hind tibia. Longer spur of hind tibia \( \frac{3}{4} \times \) length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs unequal, inner one shorter and more curved (fig. 54). Penis and parameres as in figs. 55-57.

Females: Elytra completely covered by a distinct micropunctuation.

Similar species
Distinguished from the other species of the 'fulvicollis'-group by the prosternal process, being grooved on each side and the dark elytral lines, being clearly interrupted.

Biology
Living in undisturbed shallow, often temporary, pools and marshes with a rich vegetation. In fresh and also in brackish water in coastal areas.

Distribution
From Central Europe to northern China: Armenia, Austria, Belgium, Byelorussia, China (Heilongjiang), Denmark, Estonia, Finland, France, Georgia, Germany, Great Britain, Hungary, Italy, Kazakhstan, Latvia, Poland, Romania, Russia (South European Territory, West Siberia), Slovakia, Sweden, The Netherlands, Ukraine.

_Haliplus (Haliplus) fuscicornis_ Holmen, Van Vondel & Petrov sp. n. (figs. 58-69)

Type material: – Holotype \( \delta \): Russia (East Siberia): [partly in Russian] r. Chona, Vil. okr., raion y. r. Nykyn., 4.vii.1926, Tkachenko; [red label] holotype \( \delta \), _Haliplus fuscicornis_ n.sp., det. Holmen 1984 (zin). Paratypes [red label] (11 \( \delta \), 6 \( \varphi \)): Russia (east Siberia): \( \delta \), Worog. Selo; No. 37, Worogowa Selo, Vide infra; \( \delta \), _Agrafena, Lena infer._, B. Poppius; \( \varphi \), _Agrafena, Lena infer._, B. Poppius; \( \varphi \), Ytyk–haja, Fl. Lena m., B. Poppius, 6176, [unreadable label]; \( \delta \), [partly in Russian] okr. g. Yakutska, -1915-16, Yurinskiy, Zool. Inst., Acad. Sci USSR Leningrad [overlined]; \( \delta \), [partly in Russian] 2 Nyoryuteisk. nasleg, Yakut. okr., 5.vii.1925, Bianki, Yakutskaya Eksped AN, _H. sibiricus_ (Motsch.) Linn., Zaitsev det., Coll. Lindberg; \( \delta \), Jakutsk, B. Poppius, 1198; _H.fuscicornis_ n.sp., J. Sahlb. det. (FMNH); 2 \( \varphi \), [partly in Russian] okr. g. Yakutska, 1915-16, Yurinskiy (zin); \( \delta \), [partly in Russian] _ruficollis_, opr. Regimbart, k. A. Yakovleva (cy); \( \delta \), Jakutsk, B. Poppius (AHI); \( \delta \), Sibirien, Bestjach, Gouv. Jakutsk, 20-26.vi.1905, _Naumoff S., Pfizenmayer V._, _Haliplus sibiricus_ Motsch. det. A. Zimmermann; \( \delta \), Sibirien, Bestjach, Gouv. Jakutsk, 4-6.vi.1905, _Naumoff S., Pfizenmayer V._, _Haliplus sibiricus_ Motsch. det. A. Zimmermann (zmhb).

– Kazakhstan: 2\( \delta \), 1 \( \varphi \), [in Russian] Pavlodarskaya oblast [NE Kazakhstan], village Kyzylzhar, 25.iii.1975, leg. V. Zolotikhin, from coll. V.V. Zolotikhin, (mPuS, zin, ZMUM).

Description
Length 2.7-2.9 mm, width 1.5 mm. Body subparallel, widest in the middle (fig. 58).

Head. – Yellow-red to yellow-brown, moderately punctured (fig. 58). Distance between the eyes about 1.9 \times \) eyewidth. Antennae yellow, darkened in apical half (fig. 59). Palpi yellow (figs. 61-62).

Pronotum. – Yellow to yellow-brown, weakly punctured. Basal plicae short, about \( \frac{1}{5} \times \) length of pronotum, sometimes very short. Lateral borders about straight, finely margined.

Elytra. – Yellow to yellow-brown. Interrupted dark lines on most of primary puncturerows without connecting marks, suture narrowly darkened (fig. 58). Primary puncture rows moderately strong, about 40 punctures in first row. Secondary punctures sparse and moderately strong. All punctures darkened (figs. 58, 60)

Ventral side. – Yellow-brown, legs yellow to yellow-brown towards the coxae. Prosternal process flat, channelled in anterior part, moderately punctured and micropunctured, narrowed before coxae (fig. 63-64). Metasternal process impressed in the middle, weakly punctured (fig. 63). Metacoxal plates sparsely punctured. No setiferous stria on dorsal side of hind tibia. Longer metastial spur about \( \frac{3}{4} \times \) length of first tarsal segment. Transverse puncture row on fifth and sixth sternite strongly interrupted in the middle. Seventh sternite moderately punctured.

Male: First three segments of fore- and midlegs widened and provided with sucker hairs. First tarsal segment of forelegs with ventral ridge (fig. 65). First tarsal segment of midlegs ventrally extended (fig. 66). Penis and parameres as in figs. 67-69.

Female: Elytra completely micropunctured.

Biology
No details are known.

Distribution
Russia (East Siberia), Kazakhstan
Fig. 58-69. *Haliplus fuscicornis* male. – 58, Habitus; 59, antenna; 60, punctures near elytral base and suture; 61, labial palpus; 62, maxillar palpus; 63, prosternal and metasternal process; 64, prosternal process in lateral view; 65, tarsal segments of forelegs; 66, tarsal segments of midlegs; 67, left paramere; 68, penis; 69, right paramere.
Haliplus (Haliplus) harminae Van Vondel (figs. 70-74)


Additional material examined: 3 paratypes ♀ with same labels as holotype (CV, IRSNB, SMF).

**Description**

Length 2.6 mm, width 1.5 mm. Body oval, tapering backwards, widest just before the middle (fig. 70).

Head. – Brown, fairly strongly and densely punctured, between the eyes more sparsely punctured.

Distance between eyes 1.7-1.8 times width of one eye. Antennae and palpi yellow (fig. 71).

Pronotum. – Yellow-brown. Lateral borders slightly convex in anterior half, finely margined. Rather sparsely punctured with an almost unpunctured area on the disk, anterior margin more densely punctured, most punctures weakly darkened. No basal plicae present (fig. 70).

Elytra. – Yellow-brown with an extended brown maculation on disk and along suture, a vaguely indicated band along base and some marginal blotches. Primary punctures moderately strong, about 36 punctures in first row. Scattered secondary punctures relatively strong. All punctures darkened, but except in the blotches hardly connected forming dark lines.
No micropunctuation recognisable (fig. 70, 72).

Ventral side. – Yellow to brown. Legs yellow to yellow-brown, coxae hardly darkened. Prosternal process narrowed before coxae, diverging apically, weakly to fairly strongly grooved in the middle, anteriorly without ridge, moderately punctured (figs. 73-74). Metasternal process flat or even convex in the middle, besides the sparse punctures at the base with strong punctures on both sides and on posterior part (fig. 73). Metacoxal plates reaching to anterior margin of fifth sternite, strongly punctured except on weakly punctured zone along suture, no spines on hind edge. Fifth and sixth sternite with a row of punctures, seventh (last) sternite strongly punctured. No setiferous striole on dorsal side of hind tibia, longest of the two tibial spurs about as long as first tarsal segment.

Female: Elytra not with micropunctuation.

Male: Unknown.

Biology

No details are known.

Distribution

China (Hubei).

_Haliplus (Haliplus) heydeni_ Wehncke

(figs. 75-85)

_Haliplus heydeni_ Wehncke, 1875: 122. Lectotype (selected by Van Vondel 1988: 147): Germany: Hamburg district, Harburg (MNHN) [examined].


_Haliplus foveostriatus_ Thomson, 1884: 1030. Synotypes: Sweden: Lomma, Lund (MZLU); Synonymised by Zimmermann 1920a: 309 [not examined].

_Haliplus ruficollis_ var. _pedemontanus_ Fiori, 1904: 200. Lectotype (selected by Holmen and designated here): Italy: Piemonte (ZMBH); Synonymised by Zimmermann 1920a: 309 [examined].

_Haliplus fulvicollis_ var. _romanus_ Fiori, 1904: 201. Holotype: Italy: Venice (ZMBH); Synonymised by Franciscolo 1979: 106 [examined].

_Haliplus transversus_ sensu Ádám 1996: 54 (Hungary) (misident.).

Additional material examined: About 1800 specimens from most of its area of distribution.

Description

Length 2.2-2.8 mm, width 1.2-1.6 mm. Body shortly oval, usually widest in front of the middle and tapering strongly behind the middle (fig. 75).

Head. – Yellow-brown to rust–coloured with brown to almost black vertex, sparsely and finely to densely punctured. Distance between eyes about $2.0 \times$ width of one eye. Antennae yellow-brown (fig. 76). Palpi yellow-brown (figs. 78-79).

Pronotum. – Yellow to yellow-red. Plicae opposite fourth elytral puncture rows short, mostly curved, $\frac{1}{4} \times$ length of pronotum, slightly impressed between plicae. Weakly and sparsely punctured, between plicae more strongly and densely punctured. Lateral sides margined, straight to slightly convex (fig. 75).

Elytra. – Yellow to yellow-red, dark interrupted lines on primary puncture rows often confluent, base and suture narrowly darkened. Completely margined. Primary puncture rows fairly strong and moderately dense to fairly sparse, about 35-40 punctures in first row, basal punctures of third to fifth row groove–like or at least widened. Secondary punctures fairly strong, dense along suture, sparse on intervals. All punctures darkened (figs. 75, 77).

Ventral side. – Yellow to yellow-red, legs yellow-brown to brown, darkened towards coxae, elytral epipleura yellow with uncoloured punctures. Prosternal process narrowed near coxae, channelled in anterior $\frac{3}{5}$, anterior edge not margined, moderately strongly punctured (figs. 80-81). Metasternal process usually strongly impressed in the middle, rarely almost flat, strongly punctured (fig. 80). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Fifth and sixth sternite with transverse puncture row, last sternite sparsely punctured, on apex more densely punctured. No setiferous striole on dorsal face of hind tibia, longer tibial spur of hind legs about $\frac{4}{5}$ length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs equal in length (fig. 82). Penis and parameres as in figs. 83-85.

Females: Elytra usually without micropunctuation, rarely a small area on apex micropunctured.

Similar species: This species is often confused with _H. ruficollis_, with which it is often living in the same locality. Males have a different aedeagus and equal claws on forelegs. Females are usually not micropunctured. In most cases the enlarged basal elytral punctures are useful to distinguish _H. heydeni_ from _H. ruficollis_ and other related species.

Biology

Living among filamentous algae in lakes, pools, ponds, marshes, stagnant and slow parts of rivers, brooks and streamlets. In fresh and even brackish or acid water.

Distribution

Widespread in Europe and neighbouring Asian countries: Armenia, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Byelorussia, ‘Caucasus’, Croatia, Czech Republic, Denmark, Finland, France, Germany, Italy, Portugal, Spain, Sweden, Switzerland, Turkey, Ukraine, UK, and the USA.
Fig. 75-85. *Haliphus heydeni* male. – 75, Habitus; 76, antenna; 77, punctures near elytral base and suture; 78, labial palpus; 79, maxillar palpus; 80, prosternal and metasternal process; 81, prosternal process in lateral view; 82, claws of forelegs; 83, left paramere; 84, penis; 85, right paramere.
Van Vondel et al.: Review Halipus s. str.

Germany, Great Britain, Greece, Hungary, Iran, Italy, Latvia, Liechtenstein, Kazakhstan, Macedonia, Norway, Poland, Romania, Russia (Central, North and South European Territory, West and East Siberia), Slovakia, Slovenia, Spain, Sweden, Switzerland, The Netherlands, ‘Transcaucasia’, ‘Turkestan’, Turkey, Ukraine.

**Halipus (Halipus) immaculatus** Gerhardt (figs. 86-96)

Haliplus immaculatus Gerhardt, 1877a: 38. Synotypes: Poland: Legnica (depository unknown) [not examined].

Haliplus fluviatilis ab. flavus Everts, 1918: 44. Holotype: the Netherlands: (RMNH) (Unavailable name, infrasubspecific, synonymised by Zaitzev 1953: 63) [examined].

Halipinus affinis sensu Ádám 1996: 54 (Hungary) (miscident.)

Additional material examined: About 2300 specimens from most of its area of distribution.

**Description**

Length 2.4-3.1 mm, width 1.3-1.7 mm. Body oval, sometimes subparallel, widest in the middle (fig. 86).

Head. – Yellow to yellow-brown, vertex darkened, densely and moderately strongly punctured, on vertex with stronger darkened punctures. Distance between eyes 1.9-2.0 × width of one eye. Antennae yellow to yellow-brown (fig. 87). Palpi yellow to yellow-brown (figs. 89-90).

Pronotum. – Yellow to yellow-brown. Plicae opposite fifth elytral puncture rows about ¼ × length of pronotum, weakly impressed between plicae. Fairly weakly and sparsely punctured. Lateral sides margined, straight to slightly convex (fig. 86).

Elytra. – Yellow to yellow-brown, black stripes on primary puncture rows, of which first four are at most weakly interrupted near base, while lateral rows are more strongly interrupted, along suture distinctly darkened, along base weakly darkened. Completely margined. Primary puncture rows dense and fairly strong, about 35-45 punctures in first row, basal punctures sometimes a little widened. Secondary punctures dense and moderately strong along suture, strong and sparse and usually confluent with dark stripes on primary rows. All punctures darkened (figs. 86, 88).

Ventral side. – Yellow to yellow-brown, legs yellow to yellow-brown, slightly darkened towards coxae, elytral epipleura yellow with uncoloured punctures. Prosternal process narrowed near coxae, slightly channelled, coarsely punctured, anterior edge not distinctly margined (figs. 91-92). Metasternal process flat to weakly impressed in the middle, moderately strongly punctured (fig. 91). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Fifth and sixth sternites usually with strongly interrupted transverse puncture row, last sternite moderately punctured in apical half. No setiferous striole on dorsal face of hind tibia, longer ribial spur of hind legs ¾ × length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs unequal in length, first tarsal segment of forelegs ventrally provided with a longitudinal sharp ridge (fig. 93). Penis and parameres as in figs. 94-96.

Females: Elytra without micropunctation.

Similar species: Males can be distinguished from related species by the ventral ridge on the first tarsal segment of the forelegs. Females can be distinguished from related species with continuous dark elytral lines by the complete lack of elytral micropuncta-
tion.

**Biology**

Living among filamentous algae in fresh water in lakes, pools, ponds, marshes, slowly running brooks and streamlets. Also recorded from brackish water. Observed flying.

**Distribution**

Europe except the East Mediterranean to the Russian Far East: Austria, Belgium, Byelorussia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Ireland, Latvia, Luxembourg, Norway, Poland, Romania, Russia (Central and North European Territory, West and East Siberia, Far East), Slovakia, Spain, Sweden, The Netherlands, Ukraine.

**Halipus (Halipus) interjectus** Lindberg (figs. 97-107)

Haliplus interjectus Lindberg, 1937: 487. Lectotype (selected by Holmen 1987: 130): Russia: St. Petersburg province, Vyborg (FMNH) [examined].

Haliphus robertsi sensu Zaitzev 1953: 53 (Kamchatka) (miscident.).

Additional material examined: About 100 specimens from its area of distribution.

**Description**

Length 2.4-2.8 mm, width 1.4-1.6 mm. Body oval, widest in the middle (fig. 97).

Head. – Yellow-brown, vertex weakly darkened, moderately strongly punctured, on vertex with stronger darkened punctures. Distance between eyes...
Fig. 86-96. *Haliplus immaculatus* male. – 86, Habitus; 87, antenna; 88, punctures near elytral base and suture; 89, labial palpus; 90, maxillar palpus; 91, prosternal and metasternal process; 92, prosternal process in lateral view; 93, tarsal segments of forelegs; 94, left paramere; 95, penis; 96, right paramere.
Fig. 97-107. *Haliplus interjectus* male. – 97, Habitus; 98, antenna; 99, punctures near elytral base and suture; 100, labial palpus; 101, maxillar palpus; 102, prosternal and metasternal process; 103, prosternal process in lateral view; 104, tarsal segments of forelegs; 105, left paramere; 106, penis; 107, right paramere.
1.8-2.1× width of one eye. Antennae yellow to yellow-brown (fig. 98). Palpi yellow to yellow-brown (figs. 100-101).

Pronotum. – Yellow to yellow-brown. Plicae opposite fifth elytral puncture rows about ¼ length of pronotum, weakly impressed between plicae. Moderately strongly, between plicae a little more strongly punctured. Lateral sides margined, straight to slightly convex (fig. 97).

Elytra. – Yellow to yellow-brown, vague dark interrupted lines on primary puncture rows, darkened along suture. Completely margined. Primary puncture rows moderately strong, dense in first rows, about 38 punctures in first row. Secondary punctures moderately strong and dense along suture, strong and sparse on intervals. All punctures darkened (figs. 97, 99).

Ventral side. – Yellow-brown to brown-red, legs yellow-brown, slightly darkened towards coxae, elytral epipleura yellow-brown with uncoloured punctures, reaching to sixth sternite. Prosternal process narrowed near coxae, channelled in the middle, anterior edge weakly margined, moderately strongly punctured (figs. 102-103). Metasternal process with strong impression in the middle, moderately strongly punctured (fig. 102). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Fifth and sixth sternite with distinct complete transverse puncture row, last sternite almost completely moderately strongly punctured. No setiferous striole on dorsal face of hind tibia, longer tibial spur of hind legs ¾ length of first tarsal segment.

Males. First three tarsal segments of fore- and middle legs widened and provided with sucker hairs, claws of forelegs clearly unequal, inner one ½ length of outer one and more curved, first tarsal segment of forelegs ventrally provided with a row of about five short spines (fig. 104), first tarsal segment of mid leg ventrally concave. Penis and parameres as in figs. 105-107.

Females. Elytra sometimes, for at most posterior ½, covered with micropunctuation.

Similar species: This species is often confused with related species like H. lineolatus or H. sibiricus. Males can be distinguished by the row of strong spines on ventral side of first tarsal segment of forelegs.

Biology
Living in lakes, streams and even found in a hot spring.

Distribution
North Palaearctic: Finland, Latvia, Russia (North European Territory, West and East Siberia, Far East).

Additional material examined: About 250 specimens from Japan, China and Russia.

Description
Length 2.6-3.5 mm, width 1.5-1.8 mm. Body oval, tapering backwards, widest before the middle (fig. 108).

Head. – Dark brown, strongly and densely punctured, labrum yellow with dark spot in the middle. Distance between eyes 1.4-1.5× width of one eye. Antennae yellow to yellow-brown (fig. 109). Palpi yellow to yellow-brown.

Pronotum. – Yellow to yellow-brown. Plicae opposite fifth elytral puncture rows about ½ length of pronotum. Moderately strongly, between plicae a little more strongly punctured. Lateral sides margined, straight to slightly convex (fig. 108).

Elytra. – Yellow to yellow-brown, dark interrupted lines on primary puncture rows, darkened along suture, sometime vague marks connecting primary puncturerows. Completely margined. Primary puncture rows moderately strong, dense in first rows, about 38 punctures in first row. Secondary punctures moderately strong and dense along suture, moderately strong and sparse on intervals. All punctures darkened (figs. 108, 110).

Ventral side. – Yellow-brown to Brown-red, legs yellow-brown, slightly darkened towards coxae, elytral epipleura yellow-brown with strong darkened punctures, reaching to sixth sternite. Prosternal process narrowed near coxae, grooved along each side, anterior edge weakly margined, moderately strongly punctured (111-112). Metasternal process flat or even slightly bulbous with a row of strong punctures on each side, else moderately punctured (fig. 111). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured, row of setae on posterior edge (fig. 113). Fifth and sixth sternite with sparse transverse puncture row, last sternite weakly punctured in apical part. No setiferous striole on dorsal face of hind tibia, longer tibial spur of hind legs ¾ length of first tarsal segment.

Haliplus (Haliplus) japonicus Sharp (figs. 108-116)

Haliplus japonicus Sharp, 1873: 55. Syntypes: Japan, Nagasaki (BMNH) [1 ♂ syntype examined].


Fig. 108-116. *Halipus japonicus* male. – 108, Habitus; 109, antenna; 110, punctures near elytral base and suture; 111, prosternal and metasternal process; 112, prosternal process in lateral view; 113, metacoxal plate; 114, left paramere; 115, penis; 116, right paramere.
Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs, claws of forelegs about equal in length. Penis and parameres as in figs. 114-116.

Females: Elytra usually not covered with micro-punctuation.

Similar species: This species may be confused with *H. regimbarti*, but the latter has an impression on each side of the metasternal process.

**Biology**

In rivers, streams, ponds and lakes. Up to altitudes of 2500 m.

**Distribution**

East Palaeartic: China (Beijing, Guizhou, Jiangsu, Sichuan, Shanghai, Yunnan), Japan (Hokkaido, Honshu, Kyushu), Russia (Far East).

**Haliplus (Haliplus) kamiyai** Nakane
(figs. 117-127)

*Haliplus kamiyai* Nakane, 1963: 25. Holotype ♀: JAPAN: Honshu, Tokyo, Syakuyi, 30.IV.1938 (CN) [examined]

Additional material examined: JAPAN: Paratype ♂: as holotype (CN); 1 ♀, Japan, leg. Matsumura (EIHU).

**Description**

Length 3.1 mm, width 1.6 mm. Body subparallel, widest in the middle (fig. 117).

Head. – Dark–brown, labrum yellow. Moderately punctured. Distance between the eyes about 2.0 × eyewidth. Antennae (fig. 118) and palpi yellow-brown (figs. 120, 121).

Pronotum. – Yellow-brown, base narrowly darkened. Moderately punctured all over, most punctures more or less darkened. Basal plica well developed. Lateral borders about straight, finely margined (fig. 117).

Elytra. – Yellow-brown with extensive dark maculation: large central sutural mark and several smaller marks around (fig. 117). Sometimes dark interrupted lines on puncture rows. Primary puncture rows moderately strong and dense, about 35 punctures in first row. Secondary punctures moderately strong, dense in sutural row and sparse on other intervals. All punctures darkened (figs. 117, 119).

Ventral side. – Red-brown to dark brown, elytral epipleura yellow-brown with darkened punctures, legs yellow-brown to brown near the coxae. Prosternal process narrowed near coxae, strongly punctured lateral groove on each side leaving an almost unpunctured elevated ridge in the middle, on anterior edge a transverse rim (fig. 122, 123). Metasternal process flat, strongly punctured (fig. 122). Metacoxal plates reaching to fifth sternite, moderately punctured, punctures only occasionally with a clearly visible hair. Fifth and sixth sternite with weak, in the middle hardly visible, transverse puncture row. Seventh (last) sternite moderately punctured in apical two thirds. No setiferous striae on dorsal face of hind tibia, longer tibial spur of hind legs about 3/5 of length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs about equal in length and curvature (fig. 124). Penis and parameres as in figs. 125-127.

**Biology**

No details are known.

**Distribution**

Japan (Honshu).

**Haliplus (Haliplus) kirgisiensis** Holmen & Van Vondel sp. n.
(figs. 128-138)


**Description**

Length 3.0 mm, width 1.5 mm. Body oblong, widest in the middle (fig. 128).

Head. – Yellow-brown, moderately punctured. Distance between eyes 1.8-1.9 × eyewidth. Antennae yellow to yellow-brown (fig. 129). Palpi yellow to yellow-brown (figs. 131-132).

Pronotum. – Yellow-brown, base narrowly darkened. Moderately punctured. Basal plicae well developed. Lateral borders about straight, finely margined (fig. 117).

Elytra. – Yellow-brown with extensive dark maculation: large central sutural mark and several smaller marks around (fig. 117). Sometimes dark interrupted lines on puncture rows. Primary puncture rows moderately strong and dense, about 35 punctures in first row. Secondary punctures moderately strong, dense in sutural row and sparse on other intervals. All punctures darkened (figs. 117, 119).

Ventral side. – Yellow-brown with extensive dark maculation: large central sutural mark and several smaller marks around (fig. 117). Sometimes dark interrupted lines on puncture rows. Primary puncture rows moderately strong and dense, about 35 punctures in first row. Secondary punctures moderately strong, dense in sutural row and sparse on other intervals. All punctures darkened (figs. 117, 119).
Fig. 117-127. *Halipus kamiyai* male. – 117, Habitus; 118, antenna; 119, punctures near elytral base and suture; 120, labial palpus; 121, maxillar palpus; 122, prosternal and metasternal process; 123, prosternal process in lateral view; 124, claws of forelegs; 125, left paramere; 126, penis; 127, right paramere.
Fig. 128-138. Haliplus kirgisiensis male. – 128, Habitus; 129, antenna; 130, punctures near elytral base and suture; 131, labial palpus; 132, maxillary palpus; 133, prosternal and metasternal process; 134, prosternal process in lateral view; 135, tarsal segments of forelegs; 136, left paramere; 137, penis; 138, right paramere.
Description

Length 2.5–2.8 mm, width 1.4–1.5 mm. Body short oval, widest in the middle (fig. 139).

Head. – Yellow-brown, vertex darkened, moderately strongly punctured, on vertex with stronger darkened punctures. Distance between eyes 1.6–1.9 × width of one eye. Antennae yellow (fig. 140). Palpi yellow (fig. 142–143).

Pronotum. – Yellow to yellow-brown. Plicae opposite fifth elytral puncture rows about ¾ × the length of pronotum, slightly impressed between plicae. Weakly and sparsely to moderately densely punctured, between plicae more strongly punctured. Lateral sides margined, straight to slightly convex (fig. 139).

Elytra. – Yellow to yellow-brown, on primary puncture rows black stripes, which are usually interrupted in basal and in lateral part, base and suture narrowly darkened, at most vague marks between dark stripes. Completely margined. Primary puncture rows moderately strong and dense, first rows more dense, 35–40 punctures in first row. Secondary punctures strong, dense along suture, sparse on intervals. All punctures darkened (figs. 139, 141).

Ventral side. – Yellow to yellow-brown, legs yellow to yellow-brown, coxae brown, elytral epipleura reaching to fifth sternite, yellow with uncoloured punctures. Prosternal process narrowed near coxae, channeled in the middle, anterior edge not margined, weakly punctured (figs. 144–145). Metasternal process channeled in the middle, posteriorly with strong impression in the middle (fig. 144). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Fifth and sixth sternite with weak transverse puncture row, last sternite sparsely punctured. No setiferous striae on dorsal face of hind tibia, longer tibial spur of hind legs nearly as long as first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs, claws of forelegs about equal in length and curvature nearly as long as first tarsal segment. Characteristic females can easily be distinguished from related species by the ventrally strongly incised first tarsal segment of midlegs. Characteristic females have a short wide body, narrow dark lines on elytra and a strong micropunctuation on the entire elytra. Less characteristic females are often hard to distinguish from related species.

In the past there has been much confusion about the right name of this species. Falkenström (1939) and Holmen (1987) spent much time to solve this case.

anterior part and on both sides impressed in posterior part, strongly punctured (fig. 133). Metacoxal plates reaching to fifth sternite, strongly punctured in anterior part but towards posterior end more sparsely and weakly punctured. Transverse puncture row on fifth and sixth sternite weak and widely interrupted in the middle. Seventh sternite moderately punctured. No setiferous striae on dorsal face of hind tibia. Longer spur of hind tibia about ¾ × length of first tarsal segment.

Male: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs about equal in length and curvature.

Female: unknown.

Biology

No details known.

Distribution

Only known from the type–locality in Kyrgyzia.
Fig. 139-150. *Haliplus lineolatus* male. – 139, Habitus; 140, antenna; 141, punctures near elytral base and suture; 142, labial palpus; 143, maxillar palpus; 144, prosternal and metasternal process; 145, prosternal process in lateral view; 146, claws of forelegs; 147, first tarsal segment of midleg; 148, left paramere; 149, penis; 150, right paramere.
Biology
Living among filamentous algae and in Elodea-beds in clear oxygen rich fresh, but also brackish waters of lakes, slowly running waters, ditches. The adults feed on Hydrozoans. Up to altitudes of 2200 m. Observed flying.

Distribution
From Central and North Europe to East Siberia and Mongolia: Austria, Belgium, Bulgaria, Byelorussia, Denmark, Finland, France, Germany, Great Britain, Iraq, Ireland, Italy, Kazakhstan, Latvia, Mongolia, Norway, Poland, Russia (Central and North European Territory, West and East Siberia), Sweden, Switzerland, The Netherlands, 'Transcaucasia', Ukraine.

Haliplus (Haliplus) regimbarti Zaitzev
(figs. 151-159)

_Haliplus brevi_ Wehncke, 1880: 75, preoccupied by Stephens 1828. Lectotype (selected by Van Vondel, designated here): CHINA: Jiangxi, Kia–Kiang (MNNH) [examined].
_Haliplus regimbarti_ Zaitzev, 1908: 122, as replacement name for _Haliplus brevi_ Wehncke.

_Haliplus sauteri_ Zimmermann, 1924: 130. Synotypes: TAIWAN: S. Formosa, Auping, iv.1910, leg. H. Sauter S.V., Type (2♂, 2♀) [examined]. Additional material examined: About 120 specimens from China and Taiwan.

Description
Length 2.4-3.0 mm, width 1.4-1.7 mm. Body oval, strongly tapering backwards, widest before the middle (fig. 151).

Head. – Brown to dark brown on vertex, moderately strongly punctured, labrum yellow with dark mark in the middle. Distance between eyes 1.2-1.4× width of one eye. Antennae yellow to yellow-brown (fig. 152). Palpi yellow to yellow-brown.

Pronotum. – Yellow to yellow-brown. Plicae opposite fifth elytral puncture rows about ¼× length of pronotum, weakly impressed between plicae. Moderately strongly, between plicae a little more strongly punctured. Lateral sides margined, straight to slightly convex (fig. 151).

Elytra. – Yellow to yellow-brown, interrupted lines on primary puncture rows, often forming small dark marks. Completely margined. Primary puncture rows very strong in anterior half, dense in first rows, about 30 punctures in first row. Secondary punctures weak and dense along suture, weak and sparse on intervals. All punctures darkened (figs. 151, 153).

Ventral side. – Yellow-brown to Brown-red, legs yellow-brown, slightly darkened towards coxae, elytral epipleura yellow-brown with strong dark punctures, reaching to sixth sternite. Prosternal process narrowed near coxae, grooved on each side, anterior edge weakly margined, moderately strongly punctured (figs. 154-155). Metasternal process with strong impression on each side, moderately strongly punctured (fig. 154). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured, row of setae on anterior edge (fig. 156). Fifth and sixth sternite with distinct complete transverse puncture row, last sternite almost completely moderately strongly punctured. No setiferous striae on dorsal face of hind tibia, longer tibial spur of hind legs ½× length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs, claws of forelegs about equal in length. Penis and parameres as infigs. 157-159.

Females: Elytra usually not covered with micro-punctuation.

Similar species: This species may be confused with _H. japonicus_, but the latter has no impressions on each side of the metaternal process.

Biology
In streams and rivers.

Distribution
East Palaearctic: China (Anhui, Fujian, Guangdong, Guizhou, Henan, Hunan, Jiangsu, Jiangxi, Shandong, Zhejiang), Taiwan.

Haliplus (Haliplus) ruficollis (De Geer)
(figs. 160-170)

_Dytiscus ruficollis_ De Geer, 1774: 404. Synotypes: SWEDEN: [by indication] (probably in NRHS) [not examined].


_Dytiscus marginipunctatus_ Panzer, 1793: 10. Synotypes: GERMANY (depository unknown) [not examined]; Synonymised by Gemminger & Harold 1868: 426.


_Haliplus fluviatilis_ var. _maculatus_ Seidlitz, 1887: 33, preoccupied by Motschulsky 1860. Lectotype (selected by Holmen in 1987, designated here): FINLAND: 'Nurmis, J. Sahlb., 1060, 253[pink], _H. fluviatilis_ var. _maculata_ J. Sahlb.' (ZMT) [examined]. Syn. n.

_Haliplus fluviatilis_ ab. _seidlitzii_ Čišk, 1946: 563 (repl. name for _maculatus_ Seidlitz 1887).

_Dytiscus minutus_ sensu Donovan 1793: t.69 (misident.).

_Haliplus desertus_ Motschulksy, 1853: 3 (Unavailable name, Desert des Kirguises, Synonymised by Zaitzev 1915: 244 ex. parte).
Fig. 151-159. *Haliplus regimbarti* male. – 151, Habitus; 152, antenna; 153, punctures near elytral base and suture; 154, prosternal and metasternal process; 155, prosternal process in lateral view; 156, metacoxal plate; 157, left paramere; 158, penis; 159, right paramere
Fig. 160-170. *Halipus ruficollis* male. – 160, Habitus; 161, antenna; 162, punctures near elytral base and suture; 163, labial palpus; 164, maxillar palpus; 165, prostatic and metasternal process; 166, prostatic process in lateral view; 167, claws of forelegs; 168, left paramere; 169, penis; 170, right paramere.
Haliplus granulum Motschusky, 1853: 3 (Unavailable name, Caucasus, Synonymised by Zaitzev 1915: 244).

Haliplus tesselatus Motschusky, 1853: 3 (Unavailable name, Caucasus, Synonymised by Zaitzev 1915: 244 ex. parte).

Haliplus immaculicollis sensu Luigioni, 1929: 149 (given as synonym, Italy).

Haliplus rusificollis forma fortiorpunctata Horion, 1941: 359 (Unavailable name, infrasubspecific, Germany).

Additional material examined: About 6300 specimens from most of its area of distribution.

Description

Length 2.5-3.0 mm, width 1.3-1.6 mm. Body oval, widest in or just before the middle (fig. 160).

Head. – Yellow-brown, vertex darkened, moderately strongly punctured, on vertex with stronger darkened punctures. Distance between eyes 1.6-1.9 × width of one eye. Antennae yellow to yellow-brown (fig. 161). Palpi yellow to yellow-brown (figs. 163-164).

Pronotum. – Yellow to yellow-brown. Plicae opposite fifth elytral puncture row usually short and curved, ⅓-⅗ × length of pronotum, weakly impressed between plicae. Moderately strongly punctured, between plicae more strongly punctured. Lateral sides margined, straight to slightly convex (fig. 160).

Elytra. – Yellow to yellow-brown, base and suture narrowly darkened, dark interrupted lines on primary puncture rows, dark marks on the end and often in the middle of fourth and sixth interval and on apex. Completely margined. Primary puncture rows moderately strong and dense, more dense in first rows, about 40-45 punctures in first row, basal punctures sometimes widened. Secondary punctures weak to moderately strong and dense along suture, strong and sparse on intervals. All punctures darkened (figs. 160, 162).

Ventral side. – Yellow to yellow-brown, legs yellow to yellow-brown, slightly darkened towards coxae, elytral epipleura yellow with weakly darkened or uncoloured punctures. Prosternal process narrowed near coxae, weakly channelled in anterior part, anterior edge not margined, moderately strongly punctured (figs. 165-166). Metasternal process channelled in the middle, posteriorly strongly impressed in the middle, moderately strongly punctured (fig. 165). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Fifth and sixth sternite with weak transverse punctuation row, last sternite moderately punctured. No setiferous striae on dorsal face of hind tibia, longer tibial spur of hind legs about ⅗ × length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs unequal in length, inner one shorter and more curved (fig. 167). Penis and parameres as in figs. 168-170.

Females: Elytra with micropunctuation on posterior ⅓ or in some cases only on apical point.

Similar species: This species is very variable in shape and maculation and thus it can easily be confused with other species in the ‘rusificollis’-group.

Biology


Distribution

Widespread in Europe and neighbouring Asian countries: Afghanistan, Armenia, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Byelorussia, ‘Caucasus’, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Greece, Hungary, Iran, Iraq, Ireland, Italy, Kazakhstan, Latvia, Luxembourg, Macedonia, Norway, Poland, Portugal, Romania, Russia (North and South European Territory, West and East Siberia), Slovakia, Slovenia, Spain, Sweden, Switzerland, Tadzhikistan, The Netherlands, ‘Transcaucasia’, ‘Turkestan’, Turkey, Ukraine, Uzbekistan, Yugoslavia.

Haliplus (Haliplus) samojedorum J.Sahlberg (figs. 171-182)

Haliplus samojedorum J.Sahlberg, 1880: 45. Syntypes: RUSSIA (WEST SIBERIA): Siberia, Dudinka, Nikandrovski Island, Tolstoi Nos (FMNH, IRSNB, NMW & NHRS) [2 ♀ examined].

Additional material examined: RUSSIA (EAST SIBERIA): 2 ♂, 2 ♀: Yakutia, river Chona at Vilyuy, above river Delinday, 24.vi.1926 (2 ♀) and 4.vii.1926 (2 ♀), leg. Tkachenko (ZIN).


Description

Length 2.9-3.0 mm, width 1.4-1.5 mm. Body sub-parallel to parallel, widest in the middle (fig. 171).

Head. – Yellow-red, vertex darker, sparsely punctured. Distance between the eyes 2.2 × eyewidth. Antennae (fig. 172) and palpi yellow, antennae apically slightly darkened (174, 175).

Pronotum. – Yellow to yellow-brown, base between plicae with narrow darkened edge. Lateral borders nearly straight, finely margined. Weakly and sparsely punctured. Basal plicae straight (fig. 171).

Elytra. – Yellow, central dark mark connected to the suture behind the middle. Short interrupted vague lines on punctuation rows in apical half. Primary punctuation rows weak, punctures darkened, about 40 punctures in first row. Secondary punctuation rows very weak and sparse.
Fig. 171-182. *Haliplus samojedorum* male. – 171, Habitus; 172, antenna; 173, punctures near elytral base and suture; 174, labial palpus; 175, maxillary palpus; 176, transverse ridge on posterior edge of prosternal process; 177, prosternal and metasternal process; 178, prosternal process in lateral view; 179, tarsal segments of forelegs; 180, left paramere; 181, penis; 182, right paramere.
Ventral side. – Body yellow to brown, elytral epipleura yellow, legs yellow to yellow-brown. Prosternal process narrow and flat, narrowed near coxae, row of punctures on each side, apically without or with weak transverse rim, usually slightly impressed in anterior part (figs. 176-178). Metasternal process, nearly flat, slightly impressed on each side, hardly punctured (fig. 176). Metacoxal plates sparsely punctured. No setiferous striole on dorsal face of hind tibia, longer of the two tibial spurs about \( \frac{3}{5} \times \) the length of the first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened laterally, scaly hairs on ventral side. Foreclaws about equal in strength and curvature (179). Penis and parameres as in figs. 180-182.

Females: Elytra completely and clearly micro-punctured.

**Biology**

In rivers.

**Distribution**

Restricted to the northern part of Siberia: Russia (West and East Siberia, Far East).

**Haliplus (Haliplus) sibiricus** Motschulsky (figs. 183-193)

*Haliplus sibiricus* Motschulsky, 1860: 99. Lectotype (selected by Holmen 1987: 131): Tobolsk province, Bileika (zin) [examined];

*Haliplus borealis* Gerhardt, 1877a: 40, preoccupied by LeConte 1850; replaced by *Haliplus wehnckei* Gerhardt. Syntypes: 'LAPPONIA' (depository unknown) [not examined];

*Haliplus wehnckei* Gerhardt, 1877b: 448, as replacement name for *Haliplus borealis* Gerhardt; Synonymised by Lundmark et al. 2001: 241.


*Haliplus holarcticus* Reitter, 1908: 204, as unjustified emendation of *Haliplus alaticus* Scriba.


*Haliplus kändbergi* Falkenström, 1939: 38. Syntypes: SWEDEN: Muonio river (RMNH); Synonymised by Holmen 1987: 130. [not examines]

*Haliplus lineolatus* aut. (misident)

*Haliplus mongolicus* Motschulsky (Unavailable name, nomen mus. in BMNH).

*Haliplus seidlitzi* Reitter (pro parte) (Unavailable name, nomen mus. in HHNM, NMW, ZSM; Mongolia).

Additional material examined: About 950 specimens from most of its area of distribution.

**Description**

Length 2.8-3.1 mm, width 1.5-1.6 mm. Body oval, widest in the middle (fig. 183).

Head. – Yellow-brown, vertex darkened, rather weakly punctured, on vertex with stronger darkened punctures. Distance between eyes \( 2.0 \times \) width of one eye. Antennae yellow-brown (fig. 184). Palpi yellow-brown (figs. 186-187).

Pronotum. – Yellow-brown. Plicae opposite fifth elytral puncture rows about \( \frac{1}{4} \times \) length of pronotum, between plicae slightly impressed. Lateral sides margined, straight to slightly convex. Rather weakly punctured, along base more densely punctured (fig. 183).

Elytra. – Yellow to yellow-brown, vague dark lines along suture and on primary puncture rows, the last ones often strongly interrupted or reduced. Completely margined. Primary puncture rows moderately strong, about 40 punctures in first row, basal punctures of fourth and fifth row usually widened. Secondary punctures moderately strong and dense along suture, strong and sparse on intervals. All punctures darkened (figs. 183, 185).

Ventral side. – Yellow to yellow-brown, legs yellow to yellow-brown, darkened towards coxae. Elytral epipleura yellow with slightly darkened punctures, reaching to sixth sternite. Prosternal process narrowed near coxae, channelled in the middle, anterior edge not margined, moderately strongly punctured (figs. 188-189). Metasternal process strongly channelled in the middle, moderately strongly punctured (fig. 188). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Fifth and sixth sternite with weak transverse puncture rows, last sternite moderately strongly punctured. No setiferous striole on dorsal face of hind tibia, longer tibial spur of hind legs \( \frac{3}{4} \times \) length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs unequal in length (fig. 190). Penis and parameres as in figs. 190. Penis and parameres as in figs. 190-193.

Females: Elytra sometimes with fine micropunctuation on at most posterior \( \frac{2}{3} \).

Similar species: This species may easily be confused with some other species in the *ruficollis*-group, but males can be recognised by their penis. Because only recently *H. wehnckei* is synonymised with *H. sibiricus* most West European material is known under the first name.

**Biology**

Living among filamentous algae in slowly running waters, brooks, streamlets, ditches, pools and lakes with clear water.
Fig. 183-193. *Haliphus sibiricus* male. – 183, Habitus; 184, antenna; 185, punctures near elytral base and suture; 186, labial palpus; 187, maxillar palpus; 188, proternal and metasternal process; 189, proternal process in lateral view; 190, claws of forelegs; 191, left paramere; 192, penis; 193, right paramere.
Fig. 194-201. Haliplus simplex male. – 194, Habitus; 195, antenna; 196, punctures near elytral base and suture; 197, prosternal and metasternal process; 198, prosternal process in lateral view; 199, left paramere; 200, penis; 201, right paramere.
**Distribution**

Widespread in the northern and central part of the Palaearctic region: Andorra, Austria, Belgium, Bulgaria, Byelorussia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Hungary, Ireland, Italy, Kazakhstan, Kyrgyzia, Latvia, Liechtenstein, Macedonia, Mongolia, Norway, Poland, Romania, Russia (North, Central and South European Territory, West and East Siberia, Far East), Sweden, The Netherlands, 'Transcaucasia', Turkey, Uzbekistan.

*Haliplus (Haliplus) simplex* Clark (figs. 194-201)

*Haliplus simplex* Clark, 1863: 419. Syntypes: Korea: Tsau–li–an, Deer Island (BMNH) [1 probable syntype examined]

*Haliplus minutus* Takizawa, 1931: 140. Lectotype δ (selected by Holmen in 1985 but designated here): Japan: Sapporo, 13.VI.1903, S. Matsumura (EIHU) [examined].


Additional material examined: 1 paralectotype of *H. zacharenkoi* from China (Anhui, Beijing, Guangdong, Heilongjiang, Jiangsu, Jilin, Liaoning, Nei Mongol, Shandong, Zhejiang), Japan (Hokkaido, Honshu), North Korea, Russia (Far East).

**Description**

Length 2.4-3.1 mm, width 1.3-1.6 mm. Body oval, widest in the middle (fig. 194).

Head. – Yellow-brown, vertex weakly darkened, moderately strongly punctured, on vertex with stronger darkened punctures. Distance between eyes 1.7-2.0 × width of one eye. Antennae yellow to yellow-brown (fig. 195). Palpi yellow to yellow-brown.

Pronotum. – Yellow to yellow-brown. Plicae opposite fifth elytral puncture rows about 1/5 × length of pronotum to hardly visible or restricted to a single puncture. Moderately strongly punctured. Lateral sides margined, straight to slightly convex (fig. 194).

Elytra. – Yellow to yellow-brown, variable dark interrupted lines on primary puncture rows, often connected by dark marks, darkened along suture. Completely margined. Primary puncture rows moderately strong, dense in first rows, about 38 punctures in first row. Secondary punctures moderately strong and dense along suture, strong and sparse on intervals. All punctures darkened (figs. 194, 196).

Ventral side. – Yellow-brown, legs yellow-brown, slightly darkened towards coxae, elytral epipleura yellow with uncoloured punctures, reaching to sixth sternite. Prosternal process narrowed near coxae, channelled in the middle, anterior edge not margined, moderately strongly punctured (figs. 197-198). Metasternal process with strong impression in the middle, moderately strongly punctured (fig. 197). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Fifth and sixth sternite with weak often interrupted transverse puncture row, last sternite almost completely but sparsely punctured. No setiferous striae on dorsal face of hind tibia, longer tibial spur of hind legs ¾ × length of first tarsal segment.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs, claws of forelegs clearly unequal, inner one ⅔ × length of outer one and more curved. Penis and parameres as in figs. 199-201.

Females: Elytra covered with micropunctuation. Similar species: The very short or even absent pronotal plicae should distinguish this species from most others, while *H. zacharenkoi* has the elytral lines more continuous in apical ⅓.

**Biology**

No details are known.

**Distribution**

East Palaearctic: China (Anhui, Beijing, Guangdong, Heilongjiang, Jiangsu, Jilin, Liaoning, Nei Mongol, Shandong, Zhejiang), Japan (Hokkaido, Honshu), North Korea, Russia (Far East).

*Haliplus (Haliplus) steppensis* Guignot (figs. 202-209)


Additional material examined: China: Heilongjiang, Harbin, 2.x.1952 (2 δ, 3 ω), 10.vii.1966 (1 δ) (BMNH).


**Description**

Length 2.7-3.0 mm, width 1.5-1.6 mm. Body oval, widest in the middle (fig. 202).

Head. – Yellow to yellow-brown, moderately strongly punctured. Distance between eyes 1.9-2.1 × width of one eye. Antennae yellow to yellow-brown (fig. 203). Palpi yellow to yellow-brown.

Pronotum. – Yellow to yellow-brown. Plicae opposite fifth elytral puncture rows about ¼ to ½ × length of pronotum. Moderately strongly, between plicae a little more strongly punctured. Lateral sides almost completely margined, straight to slightly convex (fig. 202).
Fig. 202-209. *Haliplus steppensis* male. – 202, Habitus; 203, antenna; 204, punctures near elytral base and suture; 205, prosternal and metasternal process; 206, prosternal process in lateral view; 207, left paramere; 208, penis; 209, right paramere.
Elytra. – Yellow to yellow-brown, dark hardly interrupted lines on primary puncture rows, darkened along suture. Completely margined. Primary puncture rows moderately strong, dense in first rows, about 40 punctures in first row. Secondary punctures moderately strong and dense along suture, strong and sparse on intervals. All punctures darkened (figs. 202, 204).

Ventral side. – Yellow-brown to brown-red, legs yellow-brown, slightly darkened towards coxae, elytral epipleura yellow with uncoloured punctures, reaching to sixth sternite. Prosternal process narrowed near coxae, strongly punctured groove on each side, anterior edge not margined, moderately strongly punctured (figs. 205-206). Metasternal process with clear impression on each side, moderately strongly punctured (fig. 205). Metacoxal plates reaching to fifth sternite, moderately strongly punctured, near suture weakly punctured. Fifth and sixth sternite with weak transverse puncture row, last sternite almost completely moderately strongly punctured. No setiferous striae on dorsal face of hind tibia, longer tibial spur of hind legs ⅔ length of first tarsal segment. Tarsal claws unequal in length and curvature.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Penis and parameres as in figs. 207-209.

Females: Elytra covered with micropunctation. Similar species: The combination of the weak elytral lines without forming spots and the weak metasternal impressions, the shape of the penis in the males and the presence of elytral micropunctation in the females should distinguish this species from related species.

**Biology**

No details are known.

**Distribution**

East Palaearctic: China (Heilongjiang), Mongolia, Russia (West Siberia).

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**Haliplus (Haliplus) turkmenicus** Van Vondel sp. n. (figs. 210-220)

Type material: Holotype ♂ and 4 paratypes (1 ♂, 3 ♀): TURKMENIA: Kara-Kala, 600 m., Tschaadijr Gebirge, Anplokea, 16.x.1989; USSR, Turkmenien, V. G. Dolin (NIHM).

**Description**

Length 2.7–2.9 mm, width 1.5–1.6 mm. Body wide, widest just before the middle (fig. 210).

Head. – Yellow-brown, moderately punctured. Distance between the eyes about 2.0 × eyewidth. Antennae (fig. 211) and palpi yellow-brown (figs. 213, 214).

Pronotum. – Yellow to yellow-brown, moderately punctured, punctures not darkened. Basal plicae short. Lateral borders straight, finely margined (fig. 210).

Elytra. – Yellow-brown, short dark lines on puncture rows behind the middle, suture with fine dark line. Primary punctures moderately strong, about 40 punctures in first row. Secondary punctures moderately strong, sparse. All punctures darkened (figs. 210, 212).

Ventral side. – Yellow-brown to brown, elytral epipleura yellow-brown with strong not darkened punctures, legs yellow-brown to brown near the coxae. Prosternal process flat, narrowed near coxae, strongly punctured, usually slightly channelled in posterior part (fig. 215, 216). Metasternal process flat or slightly channelled in anterior part and strongly depressed behind coxae, weakly and sparsely punctured (fig. 215). Metacoxal plates moderately punctured, reaching to fifth sternite. No setiferous striae on dorsal face of hindtibia, longer of the two tibial spurs nearly as long as first tarsal segment. Transverse puncture row on fifth and sixth sternite weak and sparse. Seventh sternite moderately punctured.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Protarsal claws unequal in length and curvature (fig. 217). Penis and parameres as in figs. 218-220, penis strongly twisted from base to top.

Females: Weakly micropunctured in apical part.

**Similar species**

Diffs from *H. ruficollis* in the very reduced elytral lines and the different penis in the males.

**Biology**

No details known.

**Distribution**

Only known from the typelocality.

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**Haliplus (Haliplus) zacharenkoi** Gramma & Prisnyi (figs. 221-231)

*Haliplus zacharenkoi* Gramma & Prisnyi, 1973: 637. Holotype ♂: UKRAINE, Kharkov region, Zanki station, 11.xii.1972, Hypnum bog ‘Sukhoy Liman’ (zin). The holotype being part of a series of 50 ♂ seems not to be indicated well as such, so probably a lectotype has to be designated [not examined].

Fig. 210-220. *Haliplus turkmenicus* male. – 210, Habitus; 211, antenna; 212, punctures near elytral base and suture; 213, labial palpus; 214, maxillar palpus; 215, prosternal and metasternal process; 216, prosternal process in lateral view; 217, claws of forelegs; 218, left paramere; 219, penis; 220, right paramere.
Fig. 221-231. *Halilpus zacharenkoi* male. – 221, Habitus; 222, antenna; 223, punctures near elytral base and suture; 224, labial palpus; 225, maxillar palpus; 226, prosternal and metasternal process; 227, prosternal process in lateral view; 228, claws of forelegs; 229, left paramere; 230, penis; 231, right paramere.
Description

Length 2.5-2.9 mm, width 1.4-1.6 mm. Body oval, widest in or just before the middle, shoulders weakly pronounced (fig. 221).

Head. – Yellow, vertex slightly darkened, moderately strongly punctured, on vertex with stronger darkened punctures. Distance between eyes 1.7-2.0 \( \times \) width of one eye. Antennae yellow (fig. 222). Palpi yellow, penultimate segment with tooth on the inside (figs. 224-225).

Pronotum. – Yellow, slightly darkened on the disc and along anterior and posterior margin. No basal plicae or at most vague impressions in their place. Lateral sides margined, slightly convex. Moderately punctured, more dense along anterior and posterior margin (fig. 221).

Elytra. – Yellow to yellow-red, black lines on posterior \( \frac{5}{6} \) of primary puncture rows, black lines on lateral rows also interrupted in the middle, often with vague dark marks on intervals, connecting black lines. Primary puncture rows fairly strong, about 40 punctures in first row. Secondary punctures moderately strong and dense along suture, strong and sparse on intervals. All punctures darkened, except in most lateral rows. Completely margined (figs. 221, 223).

Ventral side. – Yellow to yellow-red, legs yellow to yellow-red, darkened towards coxae, elytral epipleura yellow with uncoloured punctures. Prosternal process narrowed near coxae, slightly impressed in anterior part, on the sides with a rather narrow low brownish ridge, moderately punctured (fig. 226). Metasternal process flat with a central impression, weakly punctured (fig. 226). Metacoxal plates moderately strongly punctured, near suture weakly punctured. Fifth and sixth sternite with sparse transverse puncture row, last sternite moderately punctured. No setiferous stria on dorsal face of hind tibia.

Males: First three tarsal segments of fore- and midlegs widened and provided with sucker hairs. Claws of forelegs subequal in length, inner one thicker and a little more curved (fig. 228). Penis and parameres as in figs. 229-231.

Females: Usually elytra with fine micropunctuation on posterior \( \frac{5}{6} \).

Similar species: In Europe this is the only species in the subgenus *Haliplus* s. str. without basal pronotal plicae.

Although this species is characterized by the lack of basal pronatal plicae some specimens have one or two punctures suggesting basal plicae.

Biology

In salt lakes.

Distribution

Russia (South European Territory), Ukraine.

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