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Contributions to the study of the genus *Hephathus* Ribaut, 1952 (Homoptera: Auchenorrhyncha: Cicadellidae: Macropsinae) of Russia and adjacent countries

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Abstract

In Russia and the adjacent territories, the genus *Hephathus* includes three species, *H. nanus* (Herrich-Schäffer, 1835), *H. freyi* (Fieber, 1868) = *H. tshakaranus* Dlabola, 1957, **syn. n.**, and *H. achilleae* Mityaev, 1967. They are indistinguishable in genitalia shape, but differ in male calling signal structure and black pattern of face. Photos of habitus and face, drawings of genitalia and male 2nd abdominal apodemes, signal oscillograms, and distribution maps for all species are provided. *H. orientalis* Linnavuori, 1953 is indistinguishable from *H. freyi* in coloration and genitalia shape; therefore, investigation of male calling signals is necessary for elucidation of its status. *Macropsis fergusonii* Evans, 1942 from Tasmania and *Asmaropsis troilos* Linnavuori, 1978 from Eritrea differ from Palaearctic *Hephathus* in the shape of head, pro-, and mesonotum and apparently belong to other genera.

Key words: Auchenorrhyncha, Cicadellidae, Macropsinae, *Hephathus*, Russia, Palaearctic, taxonomy, distribution, acoustic signals

Introduction

The genus *Hephathus* (Homoptera: Auchenorrhyncha: Cicadellidae: Macropsinae) was established by Ribaut (1952) for two European species, *H. nanus* (Herrich-Schäffer, 1835) (type species of the genus) and *H. freyi* (Fieber, 1868). Later *H. unicolor* (Lindberg, 1926) and *H. niger* (Matsumura, 1915) were transferred to this genus, and three more species, *H. orientalis* Linnavuori, 1953, *H. tshakaranus* Dlabola, 1957, and *H. achilleae* Mityaev, 1967 were described as new from different regions of Palaearctic. In a generic revision of the world Macropsinae Hamilton (1980) listed seven Palaearctic species mentioned above and transferred to this genus *Asmaropsis troilos* Linnavuori, 1978 from Eritrea and *Macropsis fergusonii* Evans, 1942 from Tasmania. As a result, in his interpretation the genus *Hephathus* includes nine species from the Palaearctic, Eritrea, and the Australian Region. Shortly before Hamilton (1980), Emelyanov (1977) established the new combination *Macropsidius niger* (Matsumura, 1915) = *Agallia nigra* Matsumura, 1915. Almost at the same time Anufriev (1978) also referred *H. niger* to the genus *Macropsidius*. Later Tishechkin (2000) established a synonymy of *H. unicolor* (Lindberg, 1926) under *H. freyi* (Fieber, 1868). Therefore the number of Palaearctic species of *Hephathus* was reduced to five.

We have not studied any material on extrapalaearctic species, but judging by the original descriptions, their assignment to *Hephathus* seems premature, and possibly even a mistake. *A. troilos* differs from all other Macropsinae by the peculiar shape of pro- and mesonotum (Figs. 1, 5–6). In addition, it has four instead of five apical cells (transverse vein delimiting proximally 1st apical cell is almost reduced, Figs. 2, 5–6) and a wide apical gonopore (Figs. 3–4), whereas in Palaearctic *Hephathus*, as well as in closely related *Macropsidius* (Tishechkin, 2014) the gonopore is always subapical (Figs. 7–8). In *Macropsis fergusonii* Evans, 1942, the pronotum is angularly bent forward and strongly produced above the head, in dorsal aspect covering most of the crown (Fig. 9) so that “crown visible from above only as a narrow margin against the eyes on each side” (Evans, 1942, p. 29). In *Hephathus*, the pronotum is evenly curved and never covers the crown in dorsal aspect (Fig. 10). Also, in *M. fergusonii* the pygofer is armed with small apical spines (Evans, 1971) instead of dorsally directed processes as in *Hephathus*, *Macropsidius*, and *Macropsis*. Therefore, presently it would be more correct to treat this genus in the strict sense, i.e. to include only Palaearctic species.