



Empria longicornis species group: taxonomic revision with notes on phylogeny and ecology (Hymenoptera, Tenthredinidae)

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Abstract

The *Empria longicornis* species group (Hymenoptera, Tenthredinidae) is revised. *Empria japonica* Heidema & Prous, **sp. nov.** is described from Japan. The lectotypes of *Empria gussakovskii* Dovnar-Zapolskij, 1929, *E. konowi* Dovnar-Zapolskij, 1929, *Poecilosoma longicornis* Thomson, 1871, *P. mongolica* Konow, 1895, and *P. tridens* Konow, 1896 are designated. *Empria konowi* Dovnar-Zapolskij, 1929 (**syn. nov.**) and *E. gussakovskii* Dovnar-Zapolskij, 1929 (**syn. nov.**) are synonymized with *E. tridens* (Konow, 1896), and *Empria waldstaetterense* Liston, 1980 (**syn. nov.**) with *E. alector* Benson, 1938. *Empria alpina* Benson, 1938 and *E. minuta* Lindqvist, 1968, earlier misidentified as *E. gussakovskii*, are treated as valid species. Nine species are confirmed to belong in the *longicornis*-group: *E. alector*, *E. alpina*, *E. basalis*, *E. japonica*, *E. loktini*, *E. longicornis*, *E. minuta*, *E. mongolica*, and *E. tridens*. Distributional data of the species and a key to the imagines are provided. *Ex ovo* rearings of the four most common and often misidentified species in the group (*E. alector*, *E. basalis*, *E. longicornis*, and *E. tridens*) were carried out to verify their host plants and male conspecifics. External morphology, morphometrics (geometric and traditional), and DNA sequences (mitochondrial COI and nuclear ITS1 and ITS2) are used to delimit species within the group and to assess their phylogenetic relationships. Mitochondrial DNA sequences analyzed are mostly regarded as unsuitable for species circumscription, DNA barcoding and for reconstructing species phylogeny within the group. In this regard, analyses of the ITS sequences yielded more concordant results.

Key words: Sawflies, nomenclature, taxonomy, new species, new synonymy, lectotype, mitonuclear discordance, DNA barcoding, cytochrome c oxidase I, internal transcribed spacer