Dryinidae of the Eastern Palaearctic region (Hymenoptera: Chrysidoidae)

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Abstract

An updated revision of Eastern Palaearctic Dryinidae is presented. Six subfamilies, 17 genera and 160 species are treated. Descriptions, geographic distribution, known hosts, natural enemies and type material of each species are presented, together with illustrations of the main morphological characters and keys to the subfamilies, genera and species. Complete lists of references concerning the Eastern Palaearctic Dryinidae and their hosts are given. The lectotype is designated for Anteon flaviscapus Jansson, 1950. A new combination is proposed for Mirodryinus olmii (Móczár, 1983), comb. nov. (from Radiimancus Móczár). The following new records are reported: Aphelopus prolatus Mita & Olmi, 2014 and Gonatopus formicicolus Richards, 1939 from Sweden; Aphelopus querceus Olmi, 1984, Aphelopus serratus Richards, 1939 and Anteon reticulatum Kieffer, 1905 from Bulgaria; Gonatopus nigricans (R. Perkins, 1905) from Solomon Islands; Haplogonatopus oratorius (Westwood, 1833) from Germany and Sweden.

Key words: taxonomy, revision, Eastern Palaearctic region, descriptions, hosts, distribution, type material, keys

Introduction

Dryinidae (Hymenoptera: Chrysidioidea), which have fifteen subfamilies, fifty genera and 1827 species in the world, are parasitoids of Hemiptera Auchenorrhyncha (Guglielmino & Olmi 1997, 2006, 2007; Guglielmino et al. 2013; Olmi et al. 2014; Olmi & Virla 2014). They play important roles in the natural control of these insect pests, and have potential significance as biological control agents (Olmi 1994, 1999a, 1999b, 2000a).

In the Palaearctic region nine subfamilies, 24 genera and 257 species of Dryinidae are recognized.

The species of Dryinidae present in the Eastern Palaearctic zoogeographical region were studied in the first half of 1900 by a few researchers. The first dryinid species described in the Eastern Palaearctic region was Gonatopus fulgori Nakagawa, 1906 (now junior synonym of Gonatopus nigricans (R. Perkins, 1905)), described from Japan. However, the Kieffer's world monograph of Dryinidae (Kieffer 1914b), considered the most important contribution of that age to the knowledge of Dryinidae, and ignoring Nakagawa's paper, does not list any Eastern Palaearctic species. After Kieffer, studies on Dryinidae did not reach substantial progresses mainly because of the confusion existing in the systematics. The previous attempt of Kieffer to give order to the family did not obtain any results, mainly because the descriptions and keys to species in Kieffer's monograph are almost completely unrealiable.

Before the second world war, the Eastern Palaearctic country where studies on Dryinidae were developed was Japan, mainly for trying to solve many problems connected with leaf- and planthoppers pests of rice. The main papers are those of Esaki & Hashimoto (1930, 1931, 1932, 1933, 1935, 1936, 1939), Esaki & Mochizuki (1940), Esaki & Sameshima (1939, 1940), Mochizuki (1943), Uchida (1927), and Uye (1934).

The first important attempt to create a workable systematics of Dryinidae was that of Richards (1939, 1953) mainly related to the British species.


Apart from Russia, China is the largest country of the Eastern Palaearctic region. However, in the previous Olmi's papers, sixty eight species were listed from China. The biggest effort to better the knowledge of Chinese dryinids was that of Prof. Junhua He and his graduate students, represented mainly by Prof. Zaifu Xu. They collected a lot and published a long series of papers regarding provinces of both Oriental and Eastern Palaearctic