

Abstract

In the present study, Ichneumonids wasps (Hym., Ichneumonidae) have been taxonomically investigated in different ecosystems of Kermanshah province. The Ichneumonids wasps are important in pest damage control, so play important role in biological control programs. According to climatic conditions of Kermanshah province, sampling began in mid-April and continued until mid-October of each year (2015-2016). Sampling localities included different ecosystems such as farms, gardens, forests and grasslands in Kermanshah province. Sampling from each area was performed using Malaise trap and sweeping nets, then collected specimens were preserved in 75% ethanol. Species were identified based on diagnosis morphological characteristics using valid identification keys, original descriptions and specimen exchange, and visiting the museums that holotypes were deposited there. Some subfamilies are very rare and have limited diversity and distribution. In order to identifying and comparing more species and finally providing a more comprehensive identification key, the collected specimens in different regions of Iran as well as in the visited museums were described. In total, 68 species belonging to 32 genera in 4 subfamilies including Anomaloninae Viereck, 1918, Cremastinae Förster, 1869, Cryptinae Kirby, 1837 and Pimplinae Wesmael, 1845 were investigated. Of which 3 genera and 13 species were new for the fauna of Iran and three species including *Anomalon narinae* sp. nov Zardouei Heydari & Rakhshani, *Peistomerus mirzakhaniae* sp. nov Zardouei Heydari & Rakhshani and *Stibeutes amini* sp.nov Zardouei Heydari & Rakhshani were described for the first time for the world of science. Among the studied species *Anomalon chinense* (Kokujev, 1915) belonging to Anomaloninae subfamily, *Temelucha albipennis* (Zetterstedt, 1838), *Temelucha flavia* Vas, 2016, *Temelucha ophthalmica* (Holmgren, 1860), *Temelucha pseudocaudata* Kolarov, 1982 (*Temelucha* varietal), 1982, *Temelucha variipes* (Szépliget, 1899) belonging to Cremastinae, *Aritranis longicauda* (Kriechnaumer, 1873), *Meringopus reverendus* Rossem, 1969, *Meringopus perattentus* Schwarz, 2018, *Mesostenus dentifer* (Thomson, 1896) and *Mesostenus kozlovi* Kokujev, 1909 belonging to Cryptini Kirby, 1837 and two species of *Gelis longicauda* Bogacev 1963 and *Zoophthorus macrops* Bordera & Horstmann, 1995 and three genera *Charitopes carri* (Roman, 1921), *Hemiteles similis* (Gmelin, 1790) and *Theroscopus hemipteron* (Riche, 1791) belonging to Phygadeuontini Forster 1869 (Cryptinae, Forster 1837) are new records for the fauna of Iran.

Keywords: Ichneumonidae, Parasitoids, Taxonomic



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