Far Eastern Entomologist

Number 515: 19-24 ISSN 1026-051X (print edition) ISSN 2713-2196 (online edition) January 2025

https://doi.org/10.25221/fee.515.3
https://elibrary.ru/fdtbmz
https://zoobank.org/References/458C1D2D-3904-40C5-B074-AA7F41B004F7

EIGHT NEWLY RECORDED SPECIES OF ICHNEUMONIDAE (HYMENOPTERA: ICHNEUMONOIDEA) FROM IRAN

J. Kolarov[1)], H. Ghahari[2*)], R. Jussila[3)]

1) *Faculty of Pedagogie, University of Plovdiv, 24 Tsar Assen Str., 4000 Plovdiv, Bulgaria.*
2) *Department of Agriculture, Yadegar-e-Imam Khomeini (RAH) Shahre Rey Branch, Islamic Azad University, Tehran, Iran. *Corresponding author. E-mail: hghahari@yahoo.com*
3) *Zoological Museum, Department of Biology, University of Turku, Finland.*

Summary. Eight species of the family Ichneumonidae (Hymenoptera) in the subfamilies Anomaloninae (one species), Banchinae (two species in two genera), Campopleginae (one species), Cryptinae (one species), Phygadeuontinae (two species in two genera), and Tryphoninae (one species) are recorded from Iran for the first time.

Key words: species diversity, fauna, new records, parasitoid, host record, Iran.

Я. Коларов, Х. Гахари, Р. Юссила. Восемь новых для Ирана видов Ichneumonidae (Hymenoptera: Ichneumonoidea) // Дальневосточный энтомолог. 2025. N 515. С. 19-24.

Резюме. Впервые для Ирана проводятся 8 видов семейства Ichneumonidae (Hymenoptera) из подсемейств Anomaloninae (один вид), Banchinae (два вида из двух родов), Campopleginae (один вид), Cryptinae (один вид), Phygadeuontinae (два вида из двух родов) и Tryphoninae (один вид).

INTRODUCTION

Parasitoid wasps are efficient natural enemies which have important ecological role in control of various agricultural and forest insect pests and consequently decreasing of their population density (DeBach & Rosen, 1991; Bellows & Fisher, 1999; Heimpel & Mills, 2017). They are an economically important group as they render an ecosystem service to society (Hawkins & Cornell, 1999; Costa, 2006). The family Ichneumonidae with 25300 species in 1601 genera (Yu *et al*., 2016), is one of the most diverse families of the animal kingdom (Wahl, 1993; Watanabe, 2016). The majority of ichneumonids occupy the temperate areas and the humid tropics, relatively few of them are present in hot and dry regions (Gauld, 1983, 1991). Most of the ichneumonid species are parasitoids attacking other insect groups and some arachnids in their various developmental stages (Gauld, 1991; Quicke, 2015; Broad *et al*., 2018). They increasingly have been used successfully as biocontrol agents and there is a huge potential for their utilization in managed biological control programs (Gupta, 1991; Ghahari, 2023).

In Iran, over 622 species of Ichneumonidae have been recorded (Yu *et al*., 2016), while many unrecorded and undescribed species are still remained. The purpose of this paper is to introduce of eight new species records for the fauna of Iran as part of ongoing faunistic studies of Ichneumonidae in this country.

MATERIAL AND METHODS

The materials were collected by Malaise traps from different regions of Iran, and mounted on triangular labels. A stereomicroscope (Olympus SZ61) was used for examining. The specimens were determined by the authors and are preserved in their collections. Classification, nomenclature, distributional data and host records of Ichneumonidae suggested by Yu *et al*. (2016) have been followed, and in other cases, the related references are given.

LIST OF SPECIES

In total, eight species of Ichneumonidae in six subfamilies Anomaloninae, Banchinae, Campopleginae, Cryptinae, Phygadeuontinae, and Tryphoninae were collected and identified from different regions of Iran. The list of species is given below alphabetically, together with distributional and host data.

Subfamily Anomaloninae Viereck, 1918

Genus *Erigorgus* Foerster, 1869

***Erigorgus melanops* (Foerster, 1855)**

MATERIAL EXAMINED. **Iran**: Guilan province, Lahijan, Nakhjirkelayeh, September 2013, 2♂.

DISTRIBUTION. Iran (new record), Austria, Belgium, Germany, Hungary, Israel, Kyrgyzstan Latvia, Lithuania, Montenegro, Poland, Romania, Russia, Serbia, Spain, Tunisia, Turkey (Yu *et al*., 2016), Finland (R. Jussila – unpublished data).

HOST RECORDS. *Diacrisia purpurata* (Linnaeus) (Lepidoptera: Erebidae), *Cosmotriche lobulina* (Denis et Schiffermüller) (Lepidoptera: Lasiocampidae), and *Maniola jurtina* (Linnaeus) and *Melanargia galathea* (Linnaeus) (Lepidoptera: Nymphalidae) (Yu *et al*., 2016).

Subfamily Banchinae Wesmael, 1845

Genus *Exetastes* Gravenhorst, 1829

***Exetastes illusor* Gravenhorst, 1829**

MATERIAL EXAMINED. **Iran**: Northern Khorasan province, Raz, Kalate-Abrisham, 4.IV 2013, 2♀.

DISTRIBUTION. Iran (new record), Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Finland, France, Georgia, Germany, Hungary, India, Ireland, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, Moldova, Mongolia, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, United States of America, former Yugoslavia (Yu *et al*., 2016).

HOST RECORDS. *Exetastes illusor* is reported as a parasitoid of several species of Arctiinae (Arctiini and Lithosiini) (Lepidoptera: Erebidae) (Quicke *et al*., 2023).

Genus *Glypta* Gravenhorst, 1829

***Glypta haesitator* Gravenhorst, 1829**

MATERIAL EXAMINED. **Iran**: Hamadan province, Gol-Tappeh, September 2015, 2♀.

DISTRIBUTION. Iran (new record), Austria, Belgium, Bulgaria, Canada, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Mongolia, Morocco, Norway, Poland, Portugal, Romania, Russia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, United States of America (Yu *et al*., 2016), Slovakia (Holý & Zeman, 2018).

HOST RECORDS. Lepidoptera: Tortricidae: *Blastesthia turionella* (Linnaeus), *Cydia nigricana* (Fabricius), *Eucosma cana* (Haworth), *Grapholita nebritana* Treitschke, *Pristerognatha penthinana* (Guenée), *Rhyacionia buoliana* (Denis et Schiffermüller), and *Spilonota ocellana* (Denis et Schiffermüller) (Yu *et al*., 2016).

Subfamily Campopleginae Foerster, 1869

Genus *Dusona* Cameron, 1901

***Dusona pugillator* (Linnaeus, 1758)**

MATERIAL EXAMINED. **Iran**: Ilam province, Ilam, Haft-Cheshmeh, June 2012; 1♂, 2♀.

DISTRIBUTION. Iran (new record), Austria, Belarus, Belgium, Finland, France, Germany, Hungary, Italy, Japan, Kazakhstan, Latvia, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Ukraine, United Kingdom, former Yugoslavia (Yu *et al*., 2016), Bulgaria (Kolarov, 2019), Czech Republic (Holý & Zeman, 2018).

HOST RECORDS. Lepidoptera: *Polyploca ridens* (Fabricius) (Drepanidae), *Catocala epione* (Drury) (Erebidae), *Agriopis marginaria* (Fabricius), *Biston betularia* Linnaeus, *Catarhoe rubidata* (Denis et Schiffermüller), *Charissa obscurata* (Denis et Schiffermüller), *Erannis defoliaria* (Clerck), *Eupithecia abbreviata* Stephens, *E. absinthiata* (Clerck), *E. pimpinellata* (Hübner), *E. succenturiata* (Linnaeus), *Lomographa temerata* (Denis et Schiffermüller), *Operophtera brumata* (Linneus), and *Selenia dentaria* (Fabricius) (Geometridae), *Atethmia ambusta* Denis et Schiffermüller, *Cucullia artemisiae* (Hufnagel), and *Orthosia populeti* (Fabricius) (Noctuidae), *Drymonia ruficornis* (Hufnagel), *Drymonia velitaris* (Hufnagel), *Notodonta dromedarius* (Linnaeus), *Phalera bucephaloides* (Oshcenheimer), and *Ptilodon capucina* (Linnaeus) (Notodontidae) (Yu *et al*., 2016).

Subfamily Cryptinae Kirby, 1837

Genus *Listrognathus* Tschek, 1870

***Listrognathus firmator* (Fabricius, 1798)**

MATERIAL EXAMINED. **Iran**: Mazandaran province, Chalus, Kelarstagh Forest, 10.VI 2019, 3♀.

DISTRIBUTION. Iran (new record), Armenia, Austria, Czech Republic, Finland, France, Germany, Hungary, Italy, Latvia, Netherlands, Poland, Romania, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, former Yugoslavia (Yu *et al*., 2016), Georgia (Riedel *et al*., 2018), Slovakia (Rindoš *et al*., 2017).

HOST RECORDS: Lepidoptera: *Cyclophora porata* (Linnaeus) (Geometridae), *Malacosoma Neustria* (Linnaeus) (Lasiocampidae), *Acronicta rumicis* (Linnaeus), and *Diloba caeruleocephala* (Linnaeus) (Noctuidae), and *Zygaena brizae* (Esper), *Z. lonicerae* (Scheven), and *Z. trifolii* (Esper) (Zygaenidae) (Yu *et al*., 2016).

Subfamily Phygadeuontinae Foerster, 1869

Genus *Endasys* Foerster, 1869

***Endasys parviventris* (Gravenhorst, 1829)**

MATERIAL EXAMINED. **Iran**: Kuhgiloyeh & Boyerahmad province, Gachsaran, Baba-Kalan, 8.V 2013; 1♂.

DISTRIBUTION. Iran (new record), Austria, Belgium, Bulgaria, China, Denmark, Finland, France, Germany, Hungary, Italy, Japan, Kazakhstan, Latvia, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Turkey, United Kingdom (Yu *et al*., 2016).

HOST RECORDS. Hymenoptera: *Arge pullata* (Zaddach), and *Arge* sp. (Argidae), *Diprion pini* (Linnaeus) (Diprionidae), and *Croesus septentrionalis* (Linnaeus) (Tenthredinidae) (Yu *et al*., 2016). *Diprion similis* (Hartig) (Diprionidae) was also reported as a host for this species (Sawoniewicz & Luhman, 1992.

Genus *Phygadeuon* Gravenhorst, 1829

***Phygadeuon cephalotes* Gravenhorst, 1829**

MATERIAL EXAMINED. **Iran**: Mazandaran province, Babol, Rostamkola, June 2014, 2♂.

DISTRIBUTION. Iran (new record), Austria, Belgium, Bulgaria, Denmark, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, United Kingdom (Yu *et al*., 2016), Caucasus, Georgia (Riedel *et al*., 2018).

HOST RECORDS. *Archips xylosteana* (Linnaeus) (Lepidoptera: Tortricidae) has been recorded by Hedwig (1950) and Starke (1965) as a host for *P. cephalotes*.

Subfamily Tryphoninae Shuckard, 1840

Genus *Ctenochira* Foerster, 1869

***Ctenochira meridionator* Aubert, 1969**

MATERIAL EXAMINED. **Iran**: Kermanshah province, Baneh, Vali-Abad, July 2012, 1♂, 1♀.

DISTRIBUTION. Iran (new record), Azerbaijan, Bulgaria, France, Georgia, Italy, Poland, Russia, Spain, Turkey, Ukraine, United Kingdom (Yu *et al*., 2016), Germany (Riedel, 2018), Japan (Watanabe, 2020).

HOST RECORDS. Unknown.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the financial and other support of this study provided by the Islamic Azad University (Yadegar-e-Imam Khomeini (RAH) Shahre Rey Branch), and University of Plovdiv. We are grateful to J. Sawoniewicz (Poland) and D.R. Kasparyan (Russia) for scientific cooperation.

REFERENCES

Bellows, T.S. & Fisher, T.W. 1999. *Handbook of biological control: Principles and applications of biological control.* Academic Press. 1046 pp.

Broad, G.R., Shaw, M.R. & Fitton, M.G. 2018. *Ichneumonid wasps (Hymenoptera: Ichneumonidae): Their classification and biology*. Handbooks for the Identification of British Insects, 7(12): 1–418.
Costa, J.T. 2006. *The other insect society*. Harvard University Press. 765 pp.
DeBach, P. & Rosen, D. 1991. *Biological control by natural enemies*. Cambridge University Press. 440 pp.
Gauld, I.D. 1983. The classification, evolution and distribution of Labeninae, an ancient southern group of Ichneumonidae (Hymenoptera). *Systematic Entomology*, 8(2): 167–178.
Gauld, I.D. 1991. The Ichneumonidae of Costa Rica, 1. *Memoirs of the American Entomological Institute*, 47: 1–589.
Ghahari, H. 2023. Chapter 8. Parasitoids and Classical Biological Control. P. 351–383. *In*: Ghahari, H. (Ed.). *Agricultural Pest Management with Emphasis on Biological Control*. Islamic Azad University Press. 903 pp. [In Persian]
Gupta, V.K. 1991. The parasitic Hymenoptera and biological control of the African Ichneumonidae. *Insect Science and its application*, 12 (1–3): 9–18.
Hawkins, B.A. & Cornell, H.V. 1999. *Theoretical approaches to biological control*. Cambridge University Press. 424 pp.
Heimpel, G.E. & Mills, N.J. 2017. *Biological control: Ecology and applications*. Cambridge University Press. 386 pp.
Hedwig, K. 1950. Beiträge zur Kenntnis europäischer Schlupfwespen. 1. *Hemiteles difficilus* sp. N. 2. Mitteleuropäische Schlipwespen und ihre wirte. *Nachrichlen des Naturwissenschaftlichen Museums der Stadt Aschaffenburg*, 89: 17–42.
Holý, K. & Zeman, V. 2018. Catalogue of Ichneumonidae (Hymenoptera) of Czech and Slovak Republics. *Acta Musei Moraviae, Scientiae biologicae*, 103(1): 1–119.
Kolarov, J. 2019. Catalogue of the Bulgarian Ichneumonidae (Hymenoptera: Insecta). *Journal of National Park Research*, 10(1): 1–181.
Quicke, D.L.J. 2015. *The Braconid and Ichneumonid Parasitoid Wasps. Biology, systematics, evolution and ecology*. John Wiley & Sons Ltd., Hoboken. 681 pp.
Quicke, D.L.J., Ghafouri Moghaddam, M. & Butcher, B.A. 2023. Doetary challanges for parasitoid wasps (Hymenoptera: Ichneumonidea); coping with toxic hosts, or not? *Toxins*, 15: 1–44.
Riedel, M. 2018. Neue Schlupfwespen für die deutsche Fauna. *Nachrichtenblatt der Bayerischen Entomologen*, 67: 36–40.
Riedel, M., Diller, E. & Japoshvili, G. 2018. The ichneumonid fauna (Hymenoptera: Ichneumonidae) of Lagodekhli Reserve, Sakartvelo (Georgia), with descriptions of four new species. *Linzer biologische Beiträge*, 50(2): 1447–1507.
Rindoš, M., Lukáš, J., Zeman, V. & Helecova, M. 2017. The catalogue of the ichneumon wasps of Slovakia (Hymenoptera: Ichneumonidae) Part I: a checklist of the subfamily Cryptinae with 32 new records. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 65(2): 167–170.
Sawoniewicz, J. & Luhman, J.C. 1992. Revision of European species of the subtribe Endaseina, III. Genus: *Endasys* Foerster, 1868 (Hymenoptera, Ichneumonidae). *Entomofauna*, 13: 1–96.
Starke, H. 1965. Ichneumoniden fauna de Sächsischen Oberlausitz. *Natura Lusatica* (Bautzen), 3: 17–92.
Wahl, D.B. 1993. Family Ichneumonidae. P. 395–442. *In*: Goulet, H. & Huber, J.T. (Eds). *Hymenoptera of the world*: *An identification guide to families*. Canada Communications Group, Ottawa. 668 pp.

Watanabe, K. 2016. Some New Records of the Banchinae, Campopleginae, Metopiinae, Oxytorinae, Pimplinae, Rhyssinae, and Tryphoninae from Japan (Hymenoptera: Ichneumonidae). *Japanese Journal of Systematic Entomology*, 22(2): 179–190.

Watanabe, K. 2020. New distribution records of the subfamily Tryphoninae (Hymenoptera: Ichneumonidae) in Japan. *Japanese Journal of Systematic Entomology*, 26(2): 208–215.

Yu, D.S., van Achterberg, C. & Horstmann, K. 2016. *Taxapad 2016, Ichneumonoidea 2015, Database on flash-drive*. Ottawa, Ontario, Canada.

© **Far Eastern entomologist (Far East. entomol.)** Journal published since October 1994.

Editor-in-Chief: S.Yu. Storozhenko

Editorial Board: A.S. Lelej, S.A. Belokobylskij, M.G. Ponomarenko, V.A. Mutin, E.A. Beljaev, E.A. Makarchenko, A.V. Gorochov, T.M. Tiunova, M.Yu. Proshchalykin, S.A. Shabalin, V.M. Loktionov

Address: Federal Scientific Center of the East Asia Terrestrial Biodiversity (former Institute of Biology and Soil Science), Far East Branch of the Russian Academy of Sciences, 690022, Vladivostok-22, Russia.

E-mail: storozhenko@biosoil.ru web-site: http://www.biosoil.ru/fee