

ARTIGO / ARTÍCULO / ARTICLE

A study on the fauna of Ichneumonidae (Hymenoptera) in the province of Tehran, Iran.

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Abstract: This paper deals with a faunistic study of the Ichneumonidae (Hymenoptera: Ichneumonoidea) from some regions of the province of Tehran, Iran. A total of 15 species belonging to 7 subfamilies, Anomaloninae (1), Campopleginae (3), Cremastinae (2), Cryptinae (4), Diplazontinae (1), Pimplinae (2), and Tryphoninae (2), were collected.

Key words: Hymenoptera, Ichneumonidae, faunistics, Tehran, Iran.

Resumen: Estudio de la fauna de Ichneumonidae (Hymenoptera) en la provincia de Teherán, Irán. En este trabajo se trata el estudio faunístico de los Ichneumonidae (Hymenoptera: Ichneumonoidea) de algunas regiones de la provincia de Teherán, Irán. Se capturaron un total de 15 especies pertenecientes a 7 subfamilias, Anomaloninae (1), Campopleginae (3), Cremastinae (2), Cryptinae (4), Diplazontinae (1), Pimplinae (2) y Tryphoninae (2).

Palabras clave: Hymenoptera, Ichneumonidae, faunística, Teherán, Irán.

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Introduction

The family Ichneumonidae (Hymenoptera) comprises 48 subfamilies, 1.579 genera and 24.281 valid species world wide (Yu *et al.*, 2012; Çoruh *et al.*, 2014). These insects are one of the most powerful parasitoids of different insects, spiders and pseudoscorpions, and several species have an efficient role in the biological control of agricultural pests (Gupta, 1991; Çoruh & Kolarov, 2010). The fauna of Iranian Ichneumonidae is not well studied, as only 502 species belonging to 189 genera and 24 subfamilies have been listed by Barahoei *et al.* (2012). Of course, after the mentioned checklist several species more have been recorded from different regions of Iran with new data (e.g. Mohammadi-Khoramabadi, 2015; Sarafi *et al.*, 2015; Amiri *et al.*, 2015; Mohebban *et al.*, 2015; Barahoei *et al.*, 2015; Ghahari & Jussila, 2016; Amiri *et al.*, 2016; Pourhaji *et al.*, 2016; Ghafouri Moghaddam *et al.*, 2016).

The province of Tehran (35.7117°N 51.4070°E) covers an area of 18,909 km² and is located to the north of the central plateau of Iran. The climate in the southern areas is warm and dry, but in the mountain vicinity is cold and semi-humid, and in the higher regions is cold with long winters. It has moderate winters and hot summers. Average annual rainfall is approximately 200 mm, the maximum being during the winter season. On the whole, the province has a semi arid, steppe climate in the south and an alpine climate in the north. The aim of this paper is a faunistic research on Ichneumonidae from some regions of the province of Tehran.

Material and methods

Specimens were collected using Malaise traps and hand nets from different regions of the

province of Tehran. The materials were put in ethanol 75%, pinned or mounted on small labels and were determined. Classification, nomenclature, distribution, and host data of Ichneumonidae follow Yu et al. (2012); otherwise the related references are given.

Results

In this faunistic paper, a total of 15 ichneumonid species belonging to 14 genera (*Anomalon* Panzer, 1804, *Bathyplectes* Förster, 1869, *Diadegma* Förster, 1869, *Pristomerus* Curtis, 1836, *Temelucha* Förster, *Blapsidotes* Förster, 1869, *Buathra* Cameron, 1903, *Dichrogaster* Doumerc, 1855, *Gambrus* Förster, 1869, *Diplazon* Nees, 1818, *Dolichomitus* Smith, 1877, *Endromopoda* Hellén, 1939, *Netelia* Gray, 1860, and *Tryphon* Fallén, 1813) and 7 subfamilies (Anomaloninae, Campopleginae, Cremastinae, Cryptinae, Diplazoninae, Pimplinae, and Tryphoninae) were collected and identified from some regions of the province of Tehran.

Subfamily Anomaloninae Viereck, 1918

Genus *Anomalon* Panzer, 1804

Anomalon cruentatum (Geoffroy, 1785)

Material examined: Province of Tehran, Shemiranat, 35°56'N 51°35'E, 2♀, 6.VII.2013.

General distribution: Afghanistan, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, China, Croatia, Cyprus, Czech Republic, Egypt, Finland, France, Germany, Greece, Hungary, India, Iran, Israel, Italy, Japan, Jordan, Kazakhstan, Korea, Latvia, Lebanon, Libya, Lithuania, Malta, Moldova, Mongolia, Myanmar, Netherlands, Pakistan, Poland, Portugal, Romania, Russia, Serbia & Montenegro, Spain, Sri Lanka, Sweden, Switzerland, Tunisia, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan.

Host records: It has been reported from *Gonocephalum rusticum* Olivier, 1811 (Coleoptera: Tenebrionidae), *Agrotis epsilon* (Hufnagel, 1766) (Lepidoptera: Noctuidae), *Furcula syra* (Grum-Grshimailo, 1899) (as f. *palaestinensis* Bartel-Gaede, 1933), *Ptilodon capucina* (Linnaeus, 1758) (Lepidoptera: Notodontidae).

Subfamily Campopleginae Förster, 1869

Genus *Bathyplectes* Förster, 1869

Bathyplectes anurus (Thomson, 1887)

Material examined: Province of Tehran, Damavand, 35°35'N 52°07'E, 1♂, 1♀, 22-25.VIII.2014; Firuzkuh, 35°44'N 52°45'E, 1♀, 22-25.VIII.2014.

General distribution: Austria, Belgium, Bulgaria, Canada, Egypt, Finland, France, Germany, Greece, Hungary, Iran, Ireland, Japan, Macedonia, Moldova, Norway, Poland, Serbia & Montenegro, Spain, Sweden, Turkey, Turkmenistan, United Kingdom, USA.

Host records: It has been reported from *Hypera brunneipennis* (Bohemian, 1834), *H. plantaginis* DeGeer, 1775, *H. postica* (Gyllenhal, 1813), *H. variabilis* Herbst, 1795 (Coleoptera: Curculionidae).

Genus *Diadegma* Förster, 1869

Diadegma armillatum (Gravenhorst, 1829)

Material examined: Province of Tehran, Shahriar, 35°66'N 51°06'E, 1♀, 10.VI.2014.

General distribution: Afghanistan, Australia, Austria, Azerbaijan, Belgium, Bulgaria, China, Croatia, Czech Republic, Egypt, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iran, Ireland, Israel, Italy, Kazakhstan, Korea, Latvia, Lithuania, Luxembourg, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia & Montenegro, Slovakia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Ukraine, United Kingdom, Uzbekistan.

Host records: It has been recorded from a large number of host species belonging to the families: Geometridae, Pieridae, Tortricidae, Pterophoridae, Gelechiidae, Simaethidae, Argyristhiidae, Choreutidae, Coleophoridae, Pyralidae, Glyphipterigidae, Psychidae, Yponomeutidae, Gracillariidae, Plutellidae, Noctuidae (Lepidoptera), Agromyzidae, Syrphidae (Diptera).

Diadegma semiclausum (Hellén, 1949)

Material examined: Province of Tehran, Firuzkuh, 35°44'N 52°45'E, 3♀♀, 22-25.VIII.2014.

General distribution: Armenia, Australia, Austria, Bulgaria, China, Cyprus, Czech Republic, Egypt, Fiji, Finland, France, Germany, Greece, India, Iran, Ireland, Israel, Italy, Japan, Kenya, Korea, Malaysia, Malta, Moldova, Nepal, Netherlands, New Zealand, Pakistan, Papua New Guinea, Philippines, Poland, Romania, Spain, Sri Lanka, Sweden, Switzerland, Syria, Tanzania, Thailand, Turkey, Uganda, United Kingdom.

Host records: It has been reported from *Pieris rapae* (Linnaeus, 1758) (Lepidoptera: Pieridae), *Exoteleia dodecella* (Linnaeus, 1758) (Lepidoptera: Gelechiidae), *Plutella xylostaella* (Linnaeus, 1759) (Lepidoptera: Plutellidae).

Subfamily Cremastinae Förster, 1869

Genus *Pristomerus* Curtis, 1836

Pristomerus armatus (Lucas, 1849)

Material examined: Province of Tehran, Shahriar, 35°66'N 51°06'E, 2♀♀, 10.VI.2014.

General distribution: Algeria, Armenia, Belarus, Belgium, Bulgaria, Croatia, Czech Republic, France, Georgia, Germany, Greece, Hungary, Iran, Italy, Kazakhstan, Kyrgyzstan, Lithuania, Moldova, Morocco, Netherlands, Poland, Romania, Russia, Serbia & Montenegro, Slovakia, Sweden, Switzerland, Turkey, Turkmenistan, Ukraine, Uzbekistan.

Host records: *Curculio glandium* Marsham, 1802 (Coleoptera: Curculionidae), *Archips rosana* (Linnaeus, 1758), *Blastesthia turionella* (Linnaeus, 1758), *Cydia pomonella* (Linnaeus, 1758), *Grapholita molesta* (Busck, 1916), *Hedya nubiferana* (Haworth, 1811), *Pandemis cerasana* (Hübner, 1786), *P. heparana* Denis & Schiffermüller, 1775, *Ptycholoma lecheana* (Linnaeus, 1758), *Rhyacionia buoliana* (Denis & Schiffermüller, 1775), *R. resinella* (Linnaeus, 1758), *Spilonota ocellana* (Denis & Schiffermüller, 1775), *Tortrix viridana* (Linnaeus, 1758) (Lepidoptera: Tortricidae), *Coleophora cartigenella* Christoph, 1872, *C. prunifoliae* Doets, 1944 (Lepidoptera: Coleophoridae), *Depressaria depressana* Fabricius, 1775 (Lepidoptera: Depressariidae), *Etiella zinckenella* (Treitschke, 1832) (Lepidoptera: Pyralidae).

Genus *Temelucha* Förster, 1869

Temelucha decorata (Gravenhorst, 1829)

Material examined: Province of Tehran, Shemiranat, 35°56'N 51°35'E, 1♀, 6.VII.2013.

General distribution: Afghanistan, Algeria, Austria, Azerbaijan, Bulgaria, Croatia, Cyprus, Czech Republic, Egypt, Finland, France, Germany, Greece, Hungary, Iran, Israel, Italy, Latvia, Macedonia, Moldova, Morocco, Romania, Russia, Serbia & Montenegro, Spain, Sweden, Turkey, Ukraine, United Kingdom, USA, Uzbekistan.

Host records: *Antigastra catalaunalis* (Duponchel, 1833), *Loxostege sticticalis* (Linnaeus, 1761), *Ostrinia nubilalis* (Hübner, 1796), *Pleuroptya ruralis* Scopoli, 1763 (Lepidoptera: Crambidae), *Dioryctria pineae* Staudinger, 1859, *Homaeosoma nebulella* (Denis & Schiffermüller, 1775), *Nephopterix angustella* (Hübner, 1796) (Lepidoptera: Pyralidae), *Choristoneura murinana* Hübner, 1799, *Cydia pomonella* (Linnaeus, 1758), *C. servillana* (Duponchel, 1836), *Lobesia botrana* (Denis & Schiffermüller, 1775), *Rhyacionia buoliana* (Denis & Schiffermüller, 1775) (Lepidoptera: Tortricidae), *Depressaria badiella* Hübner, 1796 (Lepidoptera: Depressariidae), *Nothris verbascella* (Denis & Schiffermüller, 1775), *Pectinophora gossypiella* (Saunders, 1844), *Phthorimaea operculella* (Zeller, 1873), *Scrobipalpa ocellatella* Boyd, 1858 (Lepidoptera: Gelechiidae), *Plutella xylostella* (Linnaeus, 1758) (Lepidoptera: Plutellidae), *Euproctis chrysorrhoea* (Linnaeus, 1758) (Lepidoptera: Erebidae), *Spodoptera exigua* (Hübner, 1808) (Lepidoptera: Noctuidae).

Subfamily Cryptinae Kirby, 1837

Genus *Blapsidotes* Förster, 1869

Blapsidotes vicinus (Gravenhorst, 1829)

Material examined: Province of Tehran, Firuzkuh, 35°44'N 52°45'E, 1♀, 22-25.VIII.2014.

General distribution: Austria, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, Iran, Ireland, Latvia, Macedonia, Netherlands, Norway, Poland, Romania, Russia, Serbia & Montenegro, Spain, Sweden, Switzerland, Turkey, United Kingdom.

Host records: It has been reported from *Blastophagus piniperda* (Linnaeus, 1758), *Hylurgus ligniperda* (Fabricius, 1787), *Magdalisa phlegmatica* (Herbst, 1797), *M. ruficornis* (Linnaeus, 1758), *M. violacea* (Linnaeus, 1758), *Pissodes notatus* Fabricius, 1787, *Scolytus scolytus* (Fabricius, 1775) (Coleoptera: Curculionidae), *Pogonocherus fasciculatus* DeGeer, 1775, *Saperda populnea* (Linnaeus, 1758) (Coleoptera: Cerambycidae), *Aglais urticae* (Linnaeus, 1758), *Argynnis paphia* (Linnaeus, 1758), *Inachis io* (Linnaeus, 1758), *Issoria lathonia* (Linnaeus, 1758), *Nymphalis antiopa* (Linnaeus, 1758), *Polygonia c-album* (Linnaeus, 1758), *Vanessa atalanta* (Linnaeus, 1758) (Lepidoptera: Nymphalidae), *Aporia crataegi* (Linnaeus, 1758), *Pieris brassicae* (Linnaeus, 1758), *P. napi* (Linnaeus, 1758), *P. rapae* (Linnaeus, 1758) (Lepidoptera: Pieridae), *Coleophora hemirobiella* Scopoli, 1763, *C. valesianella* Zeller, 1849 (Lepidoptera: Coleophoridae), *Exoteleia dodecella* (Linnaeus, 1758) (Lepidoptera: Gelechiidae), *Lobesia botrana* (Denis & Schiffermüller, 1775) (Lepidoptera: Tortricidae), *Taleporia triquetrella* Fischer von Roslerstamm (Lepidoptera: Psychidae), *Zygaena lonicerae* (Scheven, 1777) (Lepidoptera: Zygaenidae), *Cotesia glomerata* (Linnaeus, 1758), *Microgaster subcompleta* Nees, 1834 (Hymenoptera: Braconidae), *Cynips collaris* (Hymenoptera: Cynipidae).

Genus *Buathra* Cameron, 1903

Buathra laborator (Thunberg, 1824)

Material examined: Province of Tehran, Pakdasht, 35°28'N 51°46'E, 1♀, 14-15.V.2013.

General distribution: Austria, Azerbaijan, Belgium, Bulgaria, Canada, China, Czech Republic, Finland, France, Germany, Greenland, Hungary, Iran, Italy, Japan, Kazakhstan, Korea, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Moldova, Mongolia, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Turkmenistan, United Kingdom, USA, Uzbekistan.

Host records: It has been reported from *Malacosoma disstria* Hübner, 1820, *M. neustria* (Linnaeus, 1758) (Lepidoptera: Lasiocampidae), *Melanolophia imitata* (Walker, 1860) (Lepidoptera: Geometridae), *Acronicta leporina* (Linnaeus, 1758), *Panolis flammea* (Denis & Schiffermüller, 1775), *Rhizedra lutosa* (Hübner, 1803) (Lepidoptera: Noctuidae), *Promachus magnus* Bellardi, 1861 (Diptera: Asilidae).

Genus *Dichrogaster* Doumerc, 1855

Dichrogaster longicaudata (Thomson, 1884)

Material examined: Province of Tehran, Shemiranat, 35°56'N 51°35'E, 2♀, 6.VII.2013.

General distribution: Austria, Bulgaria, Canada, Czech Republic, Egypt, Finland, France, Germany, Greece, Iran, Iraq, Israel, Italy, Moldova, Mongolia, Norway, Poland, Serbia & Montenegro, Spain, Sweden, Turkey, USA.

Host records: *Chrysopa carnea* Stephens, 1836 (Neuroptera: Chrysopidae).

Genus *Gambrus* Förster, 1869

Gambrus incubitor (Linnaeus, 1758)

Material examined: Province of Tehran, Firuzkuh, 35°44'N 52°45'E, 1♂, 1♀, 22-25.VIII.2014.

General distribution: Austria, Azerbaijan, Belgium, Bulgaria, Croatia, Czech Republic, Finland, France, Germany, Hungary, Iran, Ireland, Italy, Kenya, Latvia, Lithuania, Norway, Poland, Romania, Russia, Serbia & Montenegro, Spain, Sweden, Switzerland, Turkey, United Kingdom.

Host records: It has been reported from *Macaria liturata* (Clerck, 1959) (Lepidoptera: Geometridae), *Saturnia pavonia* (Linnaeus, 1758) (Lepidoptera: Saturniidae), *Synanthedon formicaeformis* (Esper, 1779) (Lepidoptera: Sesiidae), *Zygaena filipendulae* (Linnaeus, 1758), *Z. lonicerae* (Scheven, 1777) (Lepidoptera: Zygaenidae), *Panolis flammea* (Dennis & Schiffermüller, 1775) (Lepidoptera: Noctuidae), *Utetheisa jacobaeae* (Linnaeus, 1758) (Lepidoptera: Erebidae), *Bathythrix argentata* (Gravenhorst, 1829) (Hymenoptera: Ichneumonidae), *Pristiphora erishsonii* (Hartig, 1837) (Hymenoptera: Tenthredinidae), *Trichiosoma lucorum* (Linnaeus, 1758) (Hymenoptera: Cimbicidae).

Subfamily *Diplazontinae* Viereck, 1918

Genus *Diplazon* Nees, 1818

Diplazon laetatorius (Fabricius, 1781)

Material examined: Province of Tehran, Pakdasht, 35°28'N 51°46'E, 2♀, 14-15.V.2013; Firuzkuh, 35°44'N 52°45'E, 2♀, 22-25.VIII.2014; Damavand, 35°35'N 52°07'E, 1♀, 22-25.VIII.2014.

General distribution: Afghanistan, Albania, Argentina, Australia, Austria, Azerbaijan, Belarus, Belgium, Brazil, Bulgaria, Burundi, Canada, Chile, China, Congo, Costa Rica, Croatia, Cyprus, Czech Republic, Egypt, Estonia, Ethiopia, Fiji, Finland, France, Germany, Greece, Guam, Guatemala, Hungary, Iceland, India, Indonesia, Iran, Ireland, Israel, Italy, Japan, Korea, Latvia, Libya, Lithuania, Luxembourg, Madagascar, Mexico, Moldova, Mongolia, Netherlands, New Zealand, Norway, Pakistan, Papua New Guinea, Peru, Philippines, Poland, Portugal, Romania, Russia, Rwanda, Réunion, Senegal, Serbia & Montenegro, South Africa, Spain, Sudan, Sweden, Switzerland, Tajikistan, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Kingdom, Uruguay, USA, Uzbekistan, Zambia, Zimbabwe.

Host records: It has been reported from a wide range of insects hosts belonging to the families Chrysomelidae, Curculionidae (Coleoptera), Depressariidae, Tortricidae, Pyralidae, Noctuidae, Plutellidae, Gelechiidae (Lepidoptera), Syrphidae, Muscidae (Diptera), Pteromalidae, Diprionidae, Pamphiliidae (Hymenoptera), Aphididae (Hemiptera).

Subfamily *Pimplinae* Wesmael, 1845

Genus *Dolichomitus* Smith, 1877

Dolichomitus kriechbaumeri (Schulz, 1906)

Material examined: Province of Tehran, Damavand, 35°35'N 52°07'E, 1♀, 22-25.VIII.2014.

General distribution: Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Cyprus, Czech Republic, Egypt, Finland, France, Germany, Greece, Hungary, Iran, Israel, Italy, Netherlands, Poland, Romania, Russia, Serbia & Montenegro, Spain, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan.

Host records: It has been reported from *Anthaxia manca* (Linnaeus, 1767), *Melanophila picta* Pallas, 1793, *Sphenoptera tappesi* Marseul, 1865 (Coleoptera: Buprestidae), *Phymatodes testaceus* (Linnaeus, 1758) (Coleoptera: Cerambycidae), *Cydia pomonella* (Linnaeus, 1758), *Epinotia margarotana* Herrich-Schaffer, 1851 (Lepidoptera: Tortricidae), *Etiella zinckenella* (Treitschke, 1832) (Lepidoptera: Pyralidae) (Bolu, 2008; Yu et al., 2012; Abbasipour et al., 2013).

Genus *Endromopoda* Hellén, 1939

Endromopoda arundinator (Fabricius, 1804)

Material examined: Province of Tehran, Pakdasht, 35°28'N 51°46'E, 2♀, 14-15.V.2013; Firuzkuh, 35°44'N 52°45'E, 1♀, 22-25.VIII.2014.

General distribution: Algeria, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Czech Republic, Finland, France, Germany, Hungary, Iran, Ireland, Italy, Latvia, Lithuania, Moldova, Mongolia, Netherlands, Norway, Poland, Romania, Russia, Serbia & Montenegro, Spain, Sweden, Turkey, Ukraine, United Kingdom, Uzbekistan.

Host records: It has been reported from *Anthonomus pomorum* (Linnaeus, 1758) (Coleoptera: Curculionidae), *Alsophila aescularia* (Denis & Schiffermüller, 1775), *Lycia hirtaria* (Clerck, 1759), *Phigalia pilosaria* (Denis & Schiffermüller, 1775) (Lepidoptera: Geometridae), *Agonopterix heracliana* (Linnaeus, 1758) (Lepidoptera: Depressariidae), *Cydia discretana* Wocke, 1861, *C. pactolana* (Zeller, 1840) (Lepidoptera: Tortricidae), *Dioryctria simplicella* Heinemann 1963 (Lepidoptera: Pyralidae), *Physokermes piceae* (Schrink, 1801) (Hemiptera: Coccidae), *Lipara lucens* Meigen, 1830, *L. rufitarsis* Loew, 1858, *L. similis* Schiner, 1854, *Platycephala planifrons* (Fabricius, 1798) (Diptera: Chloropidae), *Noeeta pupillata* (Fallén, 1814) (Diptera: Tephritidae), *Pediobius fascialis* (Giraud, 1863) (Hymenoptera: Encyrtidae).

Subfamily Tryphoninae Shuckard, 1840

Genus *Netelia* Gray, 1860

Netelia (Besobates) latungula (Thomson, 1888)

Material examined: Province of Tehran, Shahriar, 35°66'N 51°06'E, 2♂, 10.VI.2014.

General distribution: Armenia, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, Canada, China, Croatia, Czech Republic, Finland, France, Germany, Hungary, Iran, Ireland, Japan, Korea, Latvia, Lithuania, Moldova, Netherlands, Norway, Poland, Romania, Russia, Serbia & Montenegro, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, USA.

Host records: *Cabera pusaria* (Linnaeus, 1758), *Eupithecia centauriata* (Denis & Schiffermüller, 1775), *E. succenturiata* (Linnaeus, 1758), *Ligdia adustata* (Denis & Schiffermüller, 1775), *Operophtera brumata* (Linnaeus, 1758), *O. fagata* Scharfenberg, 1805 (Lepidoptera: Geometridae), *Cerura vinula* (Linnaeus, 1758) (Lepidoptera: Notodontidae), *Lymantria dispar* (Linnaeus, 1758) (Lepidoptera: Lymantriidae).

Genus *Tryphon* Fallén, 1813

Tryphon latrator (Fabricius, 1781)

Material examined. Province of Tehran, Pakdasht, 35°28'N 51°46'E, 1♂, 14-15.V.2013.

General distribution. Albania, Austria, Belarus, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Iran, Ireland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Moldova, Mongolia, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine, United Kingdom, Uzbekistan.

Host records. It has been reported from *Boea murana* (Curtis, 1827) (Lepidoptera: Crambidae), *Orthosia stabilis* (Denis & Schiffermüller) (Lepidoptera: Noctuidae), *Dolerus nigratus* (Müller, 1776) (Hymenoptera: Tenthredinidae).

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