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Orijinal araştırma (Original article)

Ichneumonidae (Hymenoptera) from Anatolia III

Anadolu'dan Ichneumonidler (Hymenoptera) III

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Summary

Faunistic data of 24 Ichneumoninae species from Anatolia (Turkey), including Erzurum, Giresun, Rize, Trabzon and Ordu (total 78 specimens) are presented. Of them 8 species - *Coelichneumon* (*Coelichneumon*) *bilineatus* (Gmelin), *Coelichneumon* (*Coelichneumon*) *desinatorius* (Thunberg), *Cratichneumon* *sexarmillatus* (Kriechbaumer), *Cratichneumon* *versator* (Thunberg), *Eupalamus* *wesmaeli* (Thomson), *Heterischnus* *excavatus* (Constantineanu), *Homotherus* *varipes* (Gravenhorst) and *Phaeogenes* *alternans* Wesmael are new records for Turkish fauna. Also, among them one species - *Heterischnus* *schachtii* at now is Turkish endemic. For each species short zoogeographical characterization is given.

Keywords. Ichneumonidae, Ichneumoninae, new records, Turkey, zoogeographical characterization

Özet

Bu çalışmada, Anadolu'nun farklı yerlerinden toplanan (Erzurum, Giresun, Rize, Trabzon and Ordu) (toplam 78 örnek) ve Ichneumoninae (Ichneumonidae) altfamilyasına ait 24 faunistik veri değerlendirilmiştir. Bunlardan *Coelichneumon* (*Coelichneumon*) *bilineatus* (Gmelin), *Coelichneumon* (*Coelichneumon*) *desinatorius* (Thunberg), *Cratichneumon* *sexarmillatus* (Kriechbaumer), *Cratichneumon* *versator* (Thunberg), *Eupalamus* *wesmaeli* (Thomson), *Heterischnus* *excavatus* (Constantineanu), *Homotherus* *varipes* (Gravenhorst) ve *Phaeogenes* *alternans* Wesmael Türkiye için yeni kayıt durumundadır. Ayrıca *Heterischnus* *schachtii* Türkiye için şu anda endemiktir. Her bir türe ait zoocoğrafik notlar da verilmiştir.

Anahtar sözcükler. Ichneumonidae, Ichneumoninae, yeni kayıtlar, Türkiye, zoocoğrafik karakterler

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Introduction

Ichneumonidae is the biggest hymenopteran family including 1579 genera and 24,281 described species (Yu et al., 2012). The family is accepted as one of the most diverse animal group (Grissell, 1999). However, it should be emphasized that every year many new species are added to this number.

In this part we include the species of subfamily Ichneumoninae. It is a very large group of Ichneumonidae with 424 genera and 4300 described species (Yu et al., 2012). This is the second largest subfamily of Ichneumonidae. They are koinobiont or idiobiont endoparasitoids of Lepidoptera. Members of this subfamily mainly parasitize lepidopteran larvae and pupae; the off spring always emerges from the pupa. Ichneumonines are often large, conspicuous colourful insects. They have a 5-sided areolet, a dorso ventrally flattened metasoma, without sternaulus and the clypeus is truncate exposing the labium (Rasnitsyn & Siitan, 1981).

Studies on Ichneumonidae of Turkey have gained acceleration, particularly, since the last one and a half decades. Çoruh et al. (2014b) reported 1033 species in 286 genera for Turkey Ichneumonidae fauna. With the below mentioned contributions (Kolarov & Çalmaşur, 2011; Çoruh et al., 2014c) and this paper, the numbers of Ichneumonidae fauna of Turkey reached to 1047 species and 286 genera.

In the present paper we report here 24 species in 15 genera of Ichneumoninae. 8 species (marked by asterisk) are new records for Turkey.

With this contribution, the species and genera of Ichneumoninae occurring in Turkey have increased to 190 and 53 respectively.

The aim of this study is to report Ichneumonidae species and plants species visited by Ichneumonids, collected from different localities in Anatolia in ongoing project (Kolarov et al., 2014a, Çoruh et al., 2014a).

Thus each new records of Ichneumonidae determined in the study may have contribute on Ichneumonidae fauna both in Turkey and in the world. This also will results to find relationships between determined plant species and Ichneumonidae.

Material and Methods

The ichneumonid samples were collected by insect net on different plants in the different localities in Anatolia (Fig. 1), during June, 2013. The materials are preserved in the Collection of Plovdiv University of (Bulgaria) for the present. The plant samples visited by Ichneumonid were collected by hand and were pressed and deposited at the Herbarium of Plant Protection Department (Erzurum). Plant specimens were identified according to Davis (1965-1988) and Herbarium of Atatürk University, Faculty of Agriculture, Department of Plant Protection by third author.

General distributions of the species and association plants of the species presented in the catalog were taken from Yu et al. (2012).

Weeds are very important nutrition source for all animals in nature. They are also very important resource as shelter for animals (Özer et al., 2001). The weeds are very important as pollen and nectar sources for Ichneumonidae species. Çoruh & Özbek (2005), Çoruh & Çoruh (2008) and Çoruh (2010) recorded associated plant species with Ichneumonidae in Turkey.

Based on this information, vegetation and habitat data of each species in studied area were given. In addition host plants of some ichneumonid species are also reported.



Figure 1. Map of study area.

Results and Discussion

A total of 24 species in 15 genera of Ichneumoninae from the different provinces of Anatolia were determined. The species list is given below.

Genus *Anisobas* Wesmael, 1844

Anisobas cingulatellus Horstmann, 1997

Material examined: Erzurum: Dadaşkent, 1850 m, 19.VI.2013, 2♂♂, leg. Kolarov & Çoruh.

Distribution: Afghanistan, Azerbaijan, Europe, Iran, Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan and Turkey.

Habitat: Roadside, meadows area.

Vegetation: *Achillea biebersteinii*, *A. millefolium*, *Alopecurus myosuroides*, *Anthemis cretica*, *Cirsium arvense*, *Coronilla orientalis*, *Daucus carota*, *Eryngium billardieri*, *Euphorbia virgata*, *Falcaria vulgaris*, *Galium incanum*, *Lolium perenne*, *Plantago lanceolata*, *Plantago media*, *Poa annua*, *P. trivialis*, *Reseda lutea*, *Salvia verticillata*, *Seseli libanotis*, *Trifolium pratense*, *Urtica dioica*.

Associated plants with *A. cingulatellus*: *Anethum graveolens*, *Angelica sylvestris*, *Chaerophyllum aromaticum*, *Chaerophyllum bulbosum*, *Daucus carota*, *Daucus carota sativus*, *Euphorbia nicaeensis*, *Ferulago sylvatica*, *Heracleum sphondylium*, *Laserpitium latifolium*, *Peucedanum oreoselinum*, *Rubus* sp., *Ulex parviflorus* (Yu et al., 2012).

Remark: This species was collected on *Daucus carota* while feeding.

Genus *Coelichneumon* Thomson, 1893

**Coelichneumon (Coelichneumon) bilineatus* (Gmelin, 1790)

Material examined: Giresun: Eynesil, 88 m, 22.VI.2013, 1♀, leg. Kolarov & Çoruh.

Distribution: Europe and Japan. New record for Turkey.

Habitat: Semiwet area of the water's edge and hazelnuts area.

Vegetation: *Anthemis cretica*, *A. tinctoria*, *Cirsium arvense*, *Corylus avellana*, *Daucus carota*, *Epilobium parviflorum*, *Eryngium giganteum*, *Geranium asphodeloides*, *Heracleum platytaenium*, *Hypericum perforatum*, *Linum hypericifolium*, *Polygonum bistorta*, *Prunella vulgaris*, *Ranunculus kotschy*, *Rubus hirtus*, *Salvia forskahlei*, *Thalictrum minus*, *Trifolium pratense*, *T. repens*, *Urtica dioica*.

Associated plants with *C. (C.) bilineatus*: not known (Yu et al., 2012).

**Coelichneumon (Coelichneumon) desinatorius* (Thunberg, 1822)

Material examined: Trabzon: Çaykara, Uzungöl, 1090 m, 21.VI.2013, 1♂. leg. Kolarov & Çoruh.

Distribution: Azerbaijan, Europe Iran. New record for Turkey.

Habitat: Meadows area.

Vegetation: *Alopecurus myosuroides*, *Cirsium arvense*, *Coronilla orientalis*, *Corylus avellana*, *Cynodon dactylon*, *Daucus carota*, *Festuca pratensis*, *Erigeron acer*, *Fragaria vesca*, *Geranium ibericum*, *Heracleum platytaenium*, *Lamium purpureum*, *Lolium temulentum*, *Plantago major*, *Poa annua*, *P. trivialis*, *Polygonum bistorta*, *Pteridium aquilinum*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus discolor*, *R. hirtus*, *Salvia verticillata*, *Seseli libanotis*, *Thalictrum minus*, *Trifolium pratense*.

Genus *Colpognathus* Wesmael, 1844

Colpognathus celerator (Gravenhorst, 1807)

Material examined: Giresun: Eynesil, 88 m, 22.VI.2013, 1♀, leg. Kolarov & Çoruh, Keşap, 95 m, 23.VI.2013, 2♂♂, leg. Kolarov & Çoruh; Ordu: Gülyalı, 100 m, 22.VI.2013, 1♀, leg. Kolarov & Çoruh; Trabzon: Çaykara, Uzungöl, 1090 m, 21.VI.2013, 1♀, leg. Kolarov & Çoruh.

Distribution: Palaearctic region.

Habitat: Semi-wet area of the water's edge and hazelnut area.

Vegetation: *Achillea millefolium*, *Alopecurus myosuroides*, *Anthemis cretica*, *A. tinctoria*, *Cirsium arvense*, *Coronilla orientalis*, *Corylus avellana*, *Cynodon dactylon*, *Daucus carota*, *Delphinium formosum*, *Festuca pratensis*, *Epilobium parviflorum*, *Erigeron acer*, *Fragaria vesca*, *Galium incanum*, *Geranium asphodeloides*, *G. ibericum*, *Heracleum pastinacifolium*, *Hypericum perforatum*, *Lamium purpureum*, *Linum hypericifolium*, *Lolium temulentum*, *L. perenne*, *Plantago major*, *Pteridium aquilinum*, *Paspalum paspalodes*, *Poa annua*, *P. trivialis*, *Polygonum bistorta*, *Prunella vulgaris*, *Ranunculus kotschy*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus discolor*, *R. hirtus*, *Salvia forskahlei*, *S. verticillata*, *Seseli libanotis*, *Setaria glauca*, *Sorghum halepense*, *Thalictrum minus*, *Trifolium pratense*, *T. repens*, *Veronica gentianoides*, *Urtica dioica*.

Colpognathus divisus Thomson, 1891

Material examined: Erzurum: Gelinkaya, 1790 m, 19.VI.2013, 7♂♂, leg. Kolarov & Çoruh; Rize: İkizdere, 570 m, 24.VI.2013, 3♂♂, leg. Kolarov & Çoruh, Ovit Mt., 2400 m, 19.VI.2013, 4♂♂, leg. Kolarov & Çoruh; Trabzon: Of, 10 m, 20.VI.2013, 1♂, leg. Kolarov & Çoruh.

Distribution: Armenia, Europe, Iran, Kazakhstan and Turkey.

Habitat: Meadows area.

Vegetation: *Achillea biebersteinii*, *A. millefolium*, *Alopecurus myosuroides*, *Anagallis arvensis*, *Anthemis cretica*, *A. tinctoria*, *Astragalus christianus*, *Cirsium arvense*, *Coronilla orientalis*, *Corylus avellana*, *Cynodon dactylon*, *Daucus carota*, *Delphinium formosum*, *Festuca pratensis*, *Erigeron acer*, *Eryngium billardieri*, *Equisetum palustre*, *Euphorbia virgata*, *Falcaria vulgaris*, *Ferula communis*, *Fragaria*

vesca, *Galium incanum*, *G. verum*, *Geranium asphodeloides*, *G. ibericum*, *G. sylvaticum*, *Heracleum pastinacifolium*, *H. platytaenium*, *Hypericum hyssopifolium*, *H. perforatum*, *Lamium purpureum*, *Linum hypericifolium*, *Lolium temulentum*, *Phleum phyleoides*, *Plantago media*, *Pteridium aquilinum*, *Pedicularis comosa*, *Poa annua*, *P. trivialis*, *Polygonum persicaria*, *P. bistorta*, *Prunella vulgaris*, *Ranunculus kotschyi*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus discolor*, *R. hirtus*, *Salvia forskahlei*, *S. verticillata*, *Seseli libanotis*, *Setaria glauca*, *Sorghum halepense*, *Tanacetum balsamita*, *Thalictrum minus*, *Trifolium pratense*, *Veronica gentianoides*, *Urtica dioica*.

Associated plants with *C. divisus*: *Adonis vernalis*, *Daucus carota*, *Deschampsia cespitosa*, *Ferula sylvatica*, *Heracleum sphondylium*, *Telekia speciosa* (Yu et al., 2012).

Remark: This species was collected on *Heracleum* spp. while feeding.

Genus *Cratichneumon* Thomson, 1893

**Cratichneumon sexarmillatus* (Kriechbaumer, 1891)

Material examined: Rize: İkizdere, 570 m, 24.VI.2013, 1♂, leg. Kolarov & Çoruh.

Distribution: Palaearctic region. New record for Turkey.

Habitat: Meadows area.

Vegetation: *Anagallis arvensis*, *Anthemis cretica*, *Conyza canadensis*, *Coronilla orientalis*, *Delphinium formosum*, *Erigeron acer*, *Eryngium giganteum*, *Equisetum palustre*, *Galium incanum*, *G. verum*, *Geranium asphodeloides*, *G. ibericum*, *Heracleum pastinacifolium*, *Hypericum perforatum*, *Linum hypericifolium*, *Lolium perenne*, *Phleum phyleoides*, *Pedicularis comosa*, *Poa annua*, *Polygonum persicaria*, *P. bistorta*, *Prunella vulgaris*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus hirtus*, *Salvia forskahlei*, *S. verticillata*, *Thalictrum minus*, *Trifolium pratense*, *Veronica gentianoides*.

**Cratichneumon versator* (Thunberg, 1822)

Material examined: Trabzon: Of, 10 m, 20.VI.2013, 1♀, leg. Kolarov & Çoruh.

Distribution: Palaearctic region. New record for Turkey.

Habitat: Roadside.

Vegetation: *Alopecurus myosuroides*, *Cirsium arvense*, *Coronilla orientalis*, *Corylus avellana*, *Cynodon dactylon*, *Daucus carota*, *Delphinium formosum*, *Festuca pratensis*, *Erigeron acer*, *Fragaria vesca*, *Geranium ibericum*, *Heracleum platytaenium*, *Lamium purpureum*, *Lolium temulentum*, *Plantago leuceolata*, *P. major*, *Poa annua*, *P. trivialis*, *Polygonum bistorta*, *Pteridium aquilinum*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus discolor*, *R. hirtus*, *Salvia verticillata*, *Seseli libanotis*, *Thalictrum minus*, *Trifolium pratense*.

Cratichneumon viator (Scopoli, 1763)

Material examined: Rize: Çayeli, Beyazsu, 10 m, 23.VI.2013, 1♂, leg. Kolarov & Çoruh.

Distribution: Holarctic region.

Habitat: Meadows area.

Vegetation: *Anthemis cretica*, *Coronilla orientalis*, *Erigeron acer*, *E. annuus*, *Equisetum palustre*, *Galium incanum*, *G. verum*, *Geranium ibericum*, *G. sylvaticum*, *Heracleum pastinacifolium*, *Hypericum perforatum*, *Poa annua*, *Polygonum persicaria*, *P. bistorta*, *Rubus hirtus*, *Salvia forskahlei*, *S. verticillata*, *Trifolium pratense*.

Genus *Diphyus* Kriechbaumer, 1890

Diphyus pseudomercator Heinrich, 1978

Material examined: Giresun: Eynesil, 88 m, 22.VI.2013, 1♂, leg. Kolarov & Çoruh.

Distribution: Armenia, Europe except north parts and Turkey.

Habitat: Semi-wet area of the water's edge and hazelnuts area.

Vegetation: *Anthemis cretica*, *A. tinctoria*, *Cirsium arvense*, *Corylus avellana*, *Daucus carota*, *Epilobium parviflorum*, *Eryngium giganteum*, *Geranium asphodeloides*, *Heracleum platytaenium*, *Hypericum perforatum*, *Linum hypericifolium*, *Salvia forskahlei*, *Polygonum bistorta*, *Prunella vulgaris*, *Ranunculus kotschyi*, *Rubus hirtus*, *Thalictrum minus*, *Trifolium pratense*, *T. repens*, *Urtica dioica*.

Associated plants with *D. pseudomercator* : not known (Yu et al., 2012).

Remark: This species was collected on *Epilobium parviflorum* and *Heracleum platytaenium* while feeding.

Genus *Eupalamus* Wesmael, 1844

**Eupalamus wesmaeli* (Thomson, 1886)

Material examined: Trabzon: Of, 10 m, 20.VI.2013, 1♀, leg. Kolarov & Çoruh.

Distribution: Europe and Kamchatka oblast of Russia. New record for Turkey.

Habitat: Roadside.

Vegetation: *Alopecurus myosuroides*, *Cirsium arvense*, *Coronilla orientalis*, *Corylus avellana*, *Cynodon dactylon*, *Daucus carota*, *Delphinium formosum*, *Festuca pratensis*, *Erigeron acer*, *Fragaria vesca*, *Geranium ibericum*, *Heracleum platytaenium*, *Lamium purpureum*, *Lolium temulentum*, *Plantago media*, *Poa annua*, *P. trivialis*, *Polygonum bistorta*, *Pteridium aquilinum*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus discolor*, *R. hirtus*, *Salvia verticillata*, *Seseli libanotis*, *Thalictrum minus*, *Trifolium pratense*.

Associated plants with *E. wesmaeli*: *Chaerophyllum aromaticum*, *Daucus carota*, *Erica* sp., *Heracleum sphondylium*, *Rubus fruticosus* (Yu et al., 2012).

Genus *Heterischnus* Wesmael, 1859

**Heterischnus excavatus* (Constantineanu, 1959)

Material examined: Giresun: Keşap, 95 m, 23.VI.2013, 1♂, 1♀, leg. Kolarov & Çoruh; Rize: İkizdere, 570 m, 24.VI.2013, 3♀♀, leg. Kolarov & Çoruh.

Distribution: Bulgaria, Czech Republic, Germany, Romania, and Russia (Karachayevo-Cherkesskaya oblast). New record for Turkey.

Habitat: Meadows and hazelnuts area.

Vegetation: *Anthemis cretica*, *A. tinctoria*, *Cirsium arvense*, *Corylus avellana*, *Daucus carota*, *Epilobium parviflorum*, *Eryngium giganteum*, *Geranium asphodeloides*, *Heracleum platytaenium*, *Hypericum perforatum*, *Linum hypericifolium*, *Polygonum bistorta*, *Prunella vulgaris*, *Ranunculus kotschyi*, *Rubus hirtus*, *Salvia forskahlei*, *Thalictrum minus*, *Trifolium pratense*, *T. repens*, *Urtica dioica*.

Note. The species was described only by female (Constantineanu, 1965). Later Kolarov (1986) described the male. On the material here we add some details to male description: Body 7.1 mm long.

Flagellum with 27 segments. Tyloids on 6-15 flagellar segments (on 14-15 segments shorter than previous).

Heterischnus schachti Diller, 1995

Material examined: Erzurum: Gelinkaya, 1790 m, 19.VI.2013, 2 ♂♂, leg. Kolarov & Çoruh.

Distribution: Turkey.

Habitat: Meadows area.

Vegetation: *Achillea biebersteinii*, *A. millefolium*, *Alopecurus myosuroides*, *Anthemis cretica*, *Cirsium arvense*, *Coronilla orientalis*, *Daucus carota*, *Euphorbia virgata*, *Galium incanum*, *Pedicularis comosa*, *Poa annua*, *Polygonum persicaria*, *P. bistorta*, *Prunella vulgaris*, *Ranunculus kotschy*, *Rhinanthus angustifolius*, *Salvia forskahlei*, *Salvia verticillata*, *Seseli libanotis*, *Setaria glauca*, *Trifolium pratense*.

Remark: This species was collected on *Seseli libanotis* while feeding.

Heterischnus truncator (Fabricius, 1798)

Material examined: Giresun: Keşap, 23.VI.2013, 1 ♂, leg. Kolarov & Çoruh; Trabzon: Of, 10 m, 20.VI.2013, 2 ♀♀, leg. Kolarov & Çoruh.

Distribution: Azerbaijan, Europe, Iran and Turkey.

Habitat: Hazelnuts area.

Vegetation: *Anthemis cretica*, *A. tinctoria*, *Cirsium arvense*, *Corylus avellana*, *Daucus carota*, *Epilobium parviflorum*, *Eryngium giganteum*, *Geranium asphodeloides*, *Heracleum platytaenium*, *Hypericum perforatum*, *Linum hypericifolium*, *Polygonum bistorta*, *Prunella vulgaris*, *Ranunculus kotschy*, *Rubus hirtus*, *Salvia forskahlei*, *Thalictrum minus*, *Trifolium pratense*, *T. repens*, *Urtica dioica*.

Genus *Homotherus* Foerster, 1868

**Homotherus varipes* (Gravenhorst, 1829)

Material examined: Trabzon: Of, 10 m, 20.VI.2013, 1 ♂, leg. Kolarov & Çoruh.

Distribution: Palaearctic region. New record for Turkey.

Habitat: Roadside.

Vegetation: *Alopecurus myosuroides*, *Cirsium arvense*, *Coronilla orientalis*, *Corylus avellana*, *Cynodon dactylon*, *Daucus carota*, *Delphinium formosum*, *Festuca pratensis*, *Erigeron acer*, *Fragaria vesca*, *Geranium ibericum*, *Heracleum platytaenium*, *Lamium purpureum*, *Lolium temulentum*, *Plantago media*, *Poa annua*, *P. trivialis*, *Polygonum bistorta*, *Pteridium aquilinum*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus discolor*, *R. hirtus*, *Salvia verticillata*, *Seseli libanotis*, *Thalictrum minus*, *Trifolium pratense*.

Genus *Ichneumon* Linnaeus, 1758

Ichneumon ignobilis Wesmael, 1855

Material examined: Rize: İkizdere, 570 m, 24.VI.2013, 1 ♂, leg. Kolarov & Çoruh.

Distribution: Europe and Turkey.

Habitat: Meadows area.

Vegetation: *Anagallis arvensis*, *Anthemis cretica*, *Conyza canadensis*, *Coronilla orientalis*, *Delphinium formosum*, *Erigeron acer*, *Eryngium giganteum*, *Equisetum palustre*, *Galium incanum*, *G. verum*, *Geranium asphodeloides*, *G. ibericum*, *Heracleum pastinacifolium*, *Hypericum perforatum*, *Linum hypericifolium*, *Lolium perenne*, *Phleum phyleoides*, *Pedicularis comosa*, *Poa annua*, *Polygonum persicaria*, *P. bistorta*, *Prunella vulgaris*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus hirtus*, *Salvia forskahlei*, *S. verticillata*, *Thalictrum minus*, *Trifolium pratense*, *Veronica gentianoides*.

Associated plants with *I. ignobilis*: *Ferulago sylvatica*, *Vaccinium* sp. (Yu et al., 2012).

Ichneumon proletarius Wesmael, 1848

Material examined: Erzurum: Gelinkaya, 1790 m, 19.VI.2013, 20♂♂, leg. Kolarov & Çoruh; Rize: İkizdere, 570 m, 24.VI.2013, 1♂, leg. Kolarov & Çoruh.

Distribution: Algeria, Azerbaijan, Europe, Georgia, Iran and Turkey.

Habitat: Meadows area.

Vegetation: *Achillea biebersteinii*, *A. millefolium*, *Alopecurus myosuroides*, *Anthemis cretica*, *Cirsium arvense*, *Coronilla orientalis*, *Daucus carota*, *Euphorbia virgata*, *Galium incanum*, *Pedicularis comosa*, *Poa annua*, *Polygonum persicaria*, *P. bistorta*, *Prunella vulgaris*, *Ranunculus kotschyi*, *Rhinanthus angustifolius*, *Salvia forskahlei*, *Salvia verticillata*, *Seseli libanotis*, *Setaria glauca*, *Trifolium pratense*.

Associate plants with *I. proletarius*: *Anethum graveolens*, *Angelica sylvestris*, *Anthriscus sylvestris*, *Chaerophyllum aromaticum*, *Daucus carota*, *Euphorbia virgata*, *Ferulago sylvatica*, *Heracleum sphondylium*, *Medicago sativa*, *Pastinaca graveolens*, *Peucedanum oreoselinum*, *Rubus fruticosus* (Yu et al., 2012).

Genus *Phaeogenes* Wesmael, 1844

**Phaeogenes alternans* Wesmael, 1845

Material examined: Rize: İkizdere, 570 m, 24.VI.2013, 1♂, leg. Kolarov & Çoruh.

Distribution: Europe. New record for Turkey.

Habitat: Meadows area.

Vegetation: *Anagallis arvensis*, *Anthemis cretica*, *Conyza canadensis*, *Coronilla orientalis*, *Delphinium formosum*, *Erigeron acer*, *Eryngium giganteum*, *Equisetum palustre*, *Galium incanum*, *G. verum*, *Geranium asphodeloides*, *G. ibericum*, *Heracleum pastinacifolium*, *Hypericum perforatum*, *Linum hypericifolium*, *Lolium perenne*, *Phleum phyleoides*, *Pedicularis comosa*, *Poa annua*, *Polygonum persicaria*, *P. bistorta*, *Prunella vulgaris*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus hirtus*, *Salvia forskahlei*, *S. verticillata*, *Thalictrum minus*, *Trifolium pratense*, *Veronica gentianoides*.

Associated plants with *P. alternans*: not known (Yu et al., 2012).

Genus *Rictichneumon* Heinrich, 1961

Rictichneumon lombardi (Berthoumieu, 1897)

Material examined: Erzurum: Gelinkaya, 1790 m, 19.VI.2013, 1♀, leg. Kolarov & Çoruh.

Distribution: Albania, Bulgaria, France, Hungary, Israel, Romania, Switzerland and Turkey.

Habitat: Meadows area.

Vegetation: *Achillea biebersteinii*, *A. millefolium*, *Alopecurus myosuroides*, *Anthemis cretica*, *Cirsium arvense*, *Coronilla orientalis*, *Daucus carota*, *Euphorbia virgata*, *Galium incanum*, *Pedicularis comosa*, *Poa annua*, *Polygonum persicaria*, *P. bistorta*, *Prunella vulgaris*, *Ranunculus kotschyi*, *Rhinanthus angustifolius*, *Salvia forskahlei*, *Salvia verticillata*, *Seseli libanotis*, *Setaria glauca*, *Trifolium pratense*.

Genus *Stenichneumon* Thomson, 1893*Stenichneumon culpator* (Schrank, 1802)

Material examined: Giresun: Eynesil, 88 m, 22.VI.2013, 2♂♂, leg. Kolarov & Çoruh.

Distribution: Holarctic region.

Habitat: Semi-wet area of the water's edge and hazelnuts area.

Vegetation: *Anthemis cretica*, *A. tinctoria*, *Cirsium arvense*, *Corylus avellana*, *Daucus carota*, *Epilobium parviflorum*, *Eryngium giganteum*, *Geranium asphodeloides*, *Heracleum platytaenium*, *Hypericum perforatum*, *Linum hypericifolium*, *Salvia forskahlei*, *Polygonum bistorta*, *Prunella vulgaris*, *Ranunculus kotschyi*, *Rubus hirtus*, *Thalictrum minus*, *Trifolium pratense*, *T. repens*, *Urtica dioica*.

Genus *Stenodontus* Berthomieu, 1896*Stenodontus marginellus* (Gravenhorst, 1829)

Material examined: Erzurum: Gelinkaya, 1790 m, 19.VI.2013, 1♂, leg. Kolarov & Çoruh.

Distribution: Europe, Japan and Turkey.

Habitat: Meadows area.

Vegetation: *Achillea biebersteinii*, *A. millefolium*, *Alopecurus myosuroides*, *Anthemis cretica*, *Cirsium arvense*, *Coronilla orientalis*, *Daucus carota*, *Euphorbia virgata*, *Galium incanum*, *Pedicularis comosa*, *Poa annua*, *Polygonum persicaria*, *P. bistorta*, *Prunella vulgaris*, *Ranunculus kotschyi*, *Rhinanthus angustifolius*, *Salvia forskahlei*, *S. verticillata*, *Seseli libanotis*, *Setaria glauca*, *Trifolium pratense*.

Genus *Virgichneumon* Heinrich, 1977*Virgichneumon callicerus* (Gravenhorst, 1820)

Material examined: Trabzon: Çaykara, Uzungöl, 1090 m, 21.VI.2013, 1♂, leg. Kolarov & Çoruh.

Distribution: Azerbaijan, Europe, Iran, Kazakhstan, Siberia, Turkey and Western China.

Habitat: Meadows area.

Vegetation: *Alopecurus myosuroides*, *Cirsium arvense*, *Coronilla orientalis*, *Corylus avellana*, *Cynodon dactylon*, *Daucus carota*, *Delphinium formosum*, *Festuca pratensis*, *Erigeron acer*, *Fragaria vesca*, *Geranium ibericum*, *Heracleum platytaenium*, *Lamium purpureum*, *Lolium temulentum*, *Plantago media*, *Poa annua*, *P. trivialis*, *Polygonum bistorta*, *Pteridium aquilinum*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus discolor*, *R. hirtus*, *Salvia verticillata*, *Seseli libanotis*, *Thalictrum minus*, *Trifolium pratense*.

Genus *Vulgichneumon* Heinrich, 1962*Vulgichneumon deceptor* (Scopoli, 1763)

Material examined: Erzurum: Gelinkaya, 1790 m, 19.VI.2013, 1♂, 1♀, leg. Kolarov & Çoruh;
Trabzon: Çaykara, Uzungöl, 1090 m, 21.VI.2013, 1♀, leg. Kolarov & Çoruh.

Distribution: Europe, Georgia, Kazakhstan and Turkey.

Habitat: Meadows area.

Vegetation: *Achillea biebersteinii*, *A. millefolium*, *Alopecurus myosuroides*, *Anthemis cretica*, *Cirsium arvense*, *Coronilla orientalis*, *Corylus avellana*, *Cynodon dactylon*, *Daucus carota*, *Delphinium*

formosum, *Euphorbia virgata*, *Erigeron acer*, *Festuca pratensis*, *Fragaria vesca*, *Geranium ibericum*, *Heracleum platytaenium*, *Lamium purpureum*, *Lolium temulentum*, *Pedicularis comosa*, *Plantago media*, *Poa annua*, *P. trivialis*, *Polygonum persicaria*, *P. bistorta*, *Prunella vulgaris*, *Pteridium aquilinum*, *Ranunculus kotschy*, *Reseda lutea*, *Rhinanthus angustifolius*, *Rubus discolor*, *R. hirtus*, *Salvia forskahlei*, *S. verticillata*, *Seseli libanotis*, *Setaria glauca*, *Thalictrum minus*, *Trifolium pratense*.

***Vulgichneumon saturatorius* (Linnaeus, 1758)**

Material examined: Giresun: Eynesil, 88 m, 22.VI.2013, 1♂, 1♂, leg. Kolarov & Çoruh; Rize: Çayeli, Beyazsu, 10 m, 23.VI.2013, 1♂, leg. Kolarov & Çoruh.

Distribution: Oriental region (Pakistan) and Palaearctic.

Habitat: Meadows and hazelnuts area.

Vegetation: *Anthemis cretica*, *A. tinctoria*, *Cirsium arvense*, *Corylus avellana*, *Daucus carota*, *Epilobium parviflorum*, *Eryngium giganteum*, *Geranium asphodeloides*, *Heracleum platytaenium*, *Hypericum perforatum*, *Linum hypericifolium*, *Polygonum bistorta*, *Prunella vulgaris*, *Ranunculus kotschy*, *Rubus hirtus*, *Salvia forskahlei*, *Thalictrum minus*, *Trifolium pratense*, *T. repens*, *Urtica dioica*.

***Vulgichneumon suavis* (Gravenhorst, 1820)**

Material examined: Giresun: Eynesil, 88 m, 22.VI.2013, 2♂♂, leg. Kolarov & Çoruh; Rize: Çayeli, Beyazsu, 10 m, 23.VI.2013, 1♂, leg. Kolarov & Çoruh, İkizdere, 570 m, 24.VI.2013, 1♂, leg. Kolarov & Çoruh.

Distribution: Azerbaijan, Europe, Iran, Israel and Turkey.

Habitat: Meadows and hazelnuts area.

Vegetation: *Anthemis cretica*, *A. tinctoria*, *Cirsium arvense*, *Corylus avellana*, *Daucus carota*, *Epilobium parviflorum*, *Eryngium giganteum*, *Geranium asphodeloides*, *Heracleum platytaenium*, *Hypericum perforatum*, *Linum hypericifolium*, *Polygonum bistorta*, *Prunella vulgaris*, *Ranunculus kotschy*, *Rubus hirtus*, *Salvia forskahlei*, *Thalictrum minus*, *Trifolium pratense*, *T. repens*, *Urtica dioica*.

Zoogeographical characterization

The zoogeographical characterization follows mainly the chorotype classification of the Near East fauna, proposed by Taglianti et al. (1999). After investigation of the recent geographic distribution of the species, listed above, they can be divided into the following groups:

1. Species distributed in two zoogeographical regions (Palaearctic and Oriental) - *Vulgichneumon saturatorius*.
2. Holarctic ranges have 2 species - *Cratichneumon viator* and *Stenichneumon culpator*.
3. With Palaearctic ranges are 7 species –transpalaearctic *Colpognathus celerator* and amphipalaearctic *Coelichneumon* (*Coelichneumon*) *bilineatus*, *Cratichneumon sexarmillatus*, *C. versator*, *Eupalamus wesmaeli*, *Homotherus varipes* and *Stenodontus marginellus*.
4. One species - *Virgichneumon callicerushas* Siberoeuropean range.
5. With Turano-Europeo-Mediterranean range is the species *Ichneumon proletarius*.
6. Turano-European ranges have *Anisobas cingulatellus*, *Coelichneumon* (*Coelichneumon*) *desinatorius*, *Colpognathus divisus*, *Heterischnus truncator*, *Vulgichneumon deceptor* and *Vulgichneumon suavis*.
7. With European ranges are the species *Diphyus pseudomercator*, *Heterischnus excavates*, *Ichneumon ignobilis*, *Phaeogenes alternans* and *Rictichneumon lombardi*.
8. One species - *Heterischnus schachti* at now is Turkish endemic.

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