Ichneumonidae from the Suez Canal region Egypt
(Hymenoptera, Ichneumonoidea)

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Abstract: A simple key for 43 ichneumonid species belonging to 29 genera and 11 subfamilies collected and recorded from the Suez Canal region is given. Faunistic data for each species are given. Seven species are recorded for the first time in Egypt. These are: Anomalon kazlovi (KOKUEY) (Anomaloninae), Diadegma fenestrale (HOLMGREN), D. maculata (GRAVENHORST) (Campopleginae), Mesostenus grammicus GRAVENHORST (Cryptinae), Syriophiles bizonarius (GRAVENHORST) (Diplazioninae), Barichneumon bilunatus (GRAVENHORST) and Ctenichneumon repentinus (GRAVENHORST) (Ichneumoninae).

Keywords: Ichneumonidae, Hymenoptera, Suez Canal, Egypt.

Introduction

Ichneumonidae is one of the largest families of parasitic Hymenoptera with probably more than 100,000 species (GAULD 2002) distributed worldwide. Most of them occupy the temperate regions and the humid tropics, relatively few of them are present in hot, dry areas (GAULD 1983). The eastern Palearctic and eastern Nearctic regions are especially rich in ichneumonid species (WAHL & SHARKEY 1993). The family currently comprises 37 subfamilies (YU & HORSTMANN 1997; QUICKE et al. 2009).

The majority of ichneumonid species are parasitoids attacking other insect groups and some arachnids in their various stages of development (GUPTA 1991; GHANATI 2005). They have been used successfully as biocontrol agents and there is a huge potential for their utilization in managed biocontrol programs (GUPTA 1991).

Several studies concerning their economic importance and distribution in Egypt are common, such as SHALABY (1958), HAFZ et al. (1976), TAWFIK et al. (1976), ABDEL-RAHMAN et al. (1977), EL-DAKOURY et al. (1977), GONZALEZ et al. (1980), HASSANEIN & EL-HENEIDY (1984/85), ABBAS (1988), TAWFIK (1993), MOUSA et al. (2001), EL-HENEIDY et al. (2001) and SAMAR et al. (2009).

Although the fauna of the Egyptian Ichneumonidae was previously studied by some authors (SHAUMAR 1966; AUBERT & SHAUMAR 1978 and AZAB 2007), but fauna of these important and powerful parasitoids was not perfectly studied in some regions in Egypt. So in this paper we present the result of a preliminary faunistic survey over three years (2007-2009) from Suez Canal region (including different districts of Suez canal and
North Sinai), to determine and investigate the ichneumonid species of this poorly studied region.

Material and Methods

The present study is based mainly on the material collected by regular survey of ichneumonid specimens over three years (2007-2009), covering different districts of the Suez Canal region (Ismailia, Fayed, East and west Qantara, El Tal El-Kebir (Suez canal region); El-Arish, El-Zaraniq and some wadis (North Sinai region)). The materials were collected by Malaise trap, sweep-net and light trap. Specimens were identified with the help of suitable keys (examples: KASPARYAN 1974; DELRIO 1975; AZIDAH et al. 2000; YU et al. 2005), and sent to Dr. Gavin Broad (Natural History Museum, London) and Dr. Vladimir Gokhman (Moscow State University, Russia) for identification and/or confirmation. This is in addition to studying the specimens conserved in the different Egyptian collections: 1. Efflatoun Bey Collection (EFFLC) (Entomology Dept., Faculty of Science, Cairo University). 2. Faculty of Science Collection (AUC) (Ain Shams University). 3. Alifiadi Collection (ALFC) (Faculty of Agriculture, Al-Azhar University). 4. Ministry of Agriculture Collection (MAC)(Plant Protection Institute, Dokki) and 5. The Entomological Society of Egypt collection (ESC).

Previous records from Egypt are taken from SHAUMAR (1966), AUBERT & SHAUMAR (1978) and AZAB (2007).

Photos were taken by Olympus camera (E420) attached to Olympus stereoscope (CZ-X9).

Results

A total of 43 species of 29 genera belonging to 11 subfamilies are listed. Seven species are recorded for the first time in Egypt. These are: Anomalon kozlovi (KORKOJEV) (Anomalonaidae), Diadephora fenestralis (HOLMGREN), D. maculata (GRAVENHORST) (Campoplegidae), Mesostenus grammicus GRAVENHORST (Cryptidae), Syrphophilus bicornarius (GRAVENHORST) (Dipterocordatae), Barichneumon bilunulatus (GRAVENHORST) and Ctenichneumon repentinus (GRAVENHORST) (Ichneumonidae).

Key to the ichneumonid species of the Suez Canal region

1. Metasomal T1 with spiracle at posterior third (fig. 1); first metasomal segment narrow at base, widened apically.................................................................2
   - Metasomal T1 with spiracle around the middle of the tergite or at its anterior half (fig. 2); first metasomal segment either gradually widened or parallel-sided along its length 32
2. Fore wing without areolet; disco-submarginal cell extending beyond vein 2m-cu (figs 3,5) [Subfamily Ophioninae]..................................................................................3
   - Fore wing with (fig. 11) or without areolet (fig. 4); disco-submarginal cell not extending beyond vein 2m-cu (fig. 4) .................................................................9
3. Mandibles normal; disco-submarginal cell of fore wing without fenestra or sclerites (fig. 5)........................................................................................................4


- Mandibles narrowed and twisted; disco-submarginal cell of fore wing with bare patch or fenestra, this fenestra is often with sclerites (fig. 3)........................................ 7
4 Head relatively longer than broad; ferrugineous to dark-brown species...........Opisopus gevri
- Head broader than long; yellowish to pale brown species ..................................5
5 Ramellus of disco-submarginal cell of forewing very short or absent; marginal cell of hind wing hairy proximally......................................................Opisopus lutes
- Ramellus of disco-submarginal cell relatively long, if not, then marginal cell of hind wing glabrous proximally; scutellum ferrugineus...........................................6
6 First sub-discal cell of forewing slightly narrow distally; 1Cu of hind wing joining cu-a closer to 1A than to M...........................................Opisopus obscuratus
- First sub-discal cell of fore wing broadly narrow distally; 1Cu of hind wing joining cu-a closer to M than to 1A...........................................Opisopus andalusiacus
7 Disco-submarginal cell of forewing with crescent-shape sclerite closer to a relatively long, slender sclerite distally..............................................Enicospilus tournieri
- Disco-submarginal cell with smaller sub-triangular sclerite than the distal one ........8
8 Second sub-discal cell of fore wing with glabrous arc behind Cul vein....................
- Second sub-discal cell of fore wing with somewhat hairy arc; distal sclerite of disco-submarginal cell sub-circular............................Enicospilus raimidlius
9 Propodeum not areolated, with coarse reticulate sculpturing (fig. 6) and often a distinct transverse basal carina; areolot of fore wing absent (fig. 4) [Anomalentinae]..........................10
- Propodeum usually areolated (fig. 7), or if mostly lacking carina, then sculptured, not
areolated; areolot present or absent .....................................................12
10 Middle tibia with two apical spurs; labial pulp 4-segmented..............................Barylycosa anabila
- Middle tibia with a single apical spur (fig. 8); labial pulp 3- or 4-segmented........11
11 Black to ferrugineus species, with head and mesosoma conspicuously marked with red; clypeus rounded at apex.................................................Anomalon eramosum
- Body not ferrugineus, head and mesosoma mostly with whitish to yellowish; clypeus
with medio-apical teeth or distinctly notched ...........................................Anomalon kozlowi
12 Mesopleuron with sternaus running for at least half its length (fig. 9) [Subfamily
Cryptinae].....................................................................................13
- Mesopleuron without sternaus ....................................................................18
13 Second recurrent vein of fore wing with 1-2 bullae; face of male rarely marked with
white or yellow; propodeum usually areolated ...........................................14
- Second recurrent vein of fore wing with one bulla (fig.10); face of male usually
marked with white or yellow; propodeum varies .......................................17
14 Areolot of fore wing very small and narrow, rectangular (fig. 12); epomia relatively
strong; first metasomal segment slender, with sub-basal lateral tooth..............15
- Areolot of fore wing large, more or less pentagonal (fig. 11); epomia weak or absent;
first metasomal segment stout .....................................................................16
15 Propodeum black, sometimes with reddish hue posteriorly; coxae, trochanters and hind
tibia black, 3rd and 4th hind tarsomeres peculiarly white; metasoma red with dark apex
..............................................................................................................Mesostenus transfigia
- Propodeum reddish brown; legs reddish; metasoma entirely red.............Mesostenus grammicus
16 Body generally flavous with last metasomal tergite whitish..............................
- Body black and red, with yellowish to whitish markings anterior to wings and on
scutellum ......................................................................................................Cryptus armator
17 Outer face of mandible with a strong subbasal swelling; propodeum with a narrow
transverse area superomedia; fore tarsus normal; black species with reddish metasomal
T2, T3 and legs ...........................................Dichrogaster aestivialis
- Outer face of mandible without such swelling; propodeum not as above; fore tarsus enlarged and spiny; black species except for a white spot on vertex............ Meringops titillator orientator

18 Posterior transverse mesosternal carina complete or rarely interrupted in front of each middle coxa.................................................. 19
- Posterior transverse mesosternal carina absent or interrupted in front of each middle coxa [Subfamily Chroenominae] .............................................. 30

19 Hind tibial spurs inserted in an area separated from that of tarsus, thus apex of tibia with a sclerotized bridge between the spurs; elytral separated from face; face pale; (female entirely red and yellow, except only for the base of flagellum and petiole are black, male mainly black, marked with yellow and red) [Subfamily Cremastinae]......................... Euromastus pugillator
- Hind tibial spurs inserted in a common area with tarsus, thus apex of tibia with a membraneous insertion area; elytral and face usually black [Subfamily Campopleginae] .......................................................... 20

20 First metasomal segment circular or depressed oval in cross section near to its base; metasomal T1 without a lateral pit in front of.................................................. 21
- First metasomal segment quadrate, trapzoidal or triangular in cross section near to its base; metasomal T1 with or without a lateral pit in front of its spiracle .................. 25

21 Eyes marginate opposite antennal socket; ovipositor short; area dentipara of propodeum not defined by a carina............................................. 22
- Eyes weakly or not marginate opposite antennal socket; area dentipara of propodeum usually defined by carina............................................. 23

22 Body entirely black, with reddish legs................................................. Casinaria trochanterator
- Metasomal tergites bordered with red........................................... Casinaria albipalpis aegyptiactor

23 Propodeum with areola and petiolar area combined forming a moderately deep concave furrow........................................ Sinophorus zanthostoma
- Propodeum with areola and petiolar area forming such furrow.................. 24

24 Apex of propodeum usually not reaching middle of hind coxa; apex of male clasper rounded or with very slight notch above; relatively stout species........... Campoplex sp.
- Apex of propodeum usually reaching beyond middle of hind coxa; apex of male clasper with weak to strong dorsal subapical notch; ovipositor long, about 3-4 times as long as apical depth of metasoma (fig. 13); slender species...................................................... Venturia concessis

25 Propodeal carinae usually weak; ovipositor as long as or slightly longer than apical depth of metasoma................................................ Hyposoter sp.
- Propodeal carinae usually strong.......................................................... 26

26 Metasomal T1, without glymma; areola of propodeum very small, triangular, broadly fused with petiolar area................................................. Lemophagus curtus
- Metasomal T1, with glymma; propodeum with relatively elongated areola that is narrowly fused with petiolar area........................................ 27

27 Ovipositor distinctly shorter than hind tibia........................................... 28
- Ovipositor about as long as or longer than hind tibia.................................. 29

28 Area superomedia of propodeum broad; hind tibia with faint black bands near to base and apically; ovipositor black with orange tip; mandible with two equal teeth............................ Diadegma armillata
- Area superomedia of propodeum angulated or pointed anteriorly; hind tibia entirely red; ovipositor dark along its entire length; mandible with upper tooth slightly longer than lower one........................................... Diadegma semiclavatum

29 Metasomal tergites with distinct reddish markings......................... Diadegma maculata
- Metasomal tergites entirely black; metasomal T5 with deep emargination.......................... Diadegma fonestrale
30 Clypeus confluent with face, apical margin of clypeus grooved transversely; mandible usually with two teeth ........................................Diadromus collarti
- Clypeus separated from face by a groove; mandible usually with a single tooth ........31
31 A median fold present on all metasomal sternites excluding the last two (fig. 14) ..................................................Barichneumon bilunulatus
- A median fold present on metasomal S2 and S3 in male (fig. 15), in female on S5, other sternites sclerotized ..................................Ctenichneumon sp.
32 Clypeus confluent with face, whole surface strongly bulging and coarsely punctured (fig. 16) [Subfamily Metopinae] ..................................Exoelius castaniventris
- Clypeus separated from face by a groove (fig. 17), whole surface not bulging as above .....33
33 Hind wing with vein cu-a intercepted with Cu much closer to A than to M (fig. 18); upper tooth of mandible broad and subdivided, thus appearing tridentate (fig. 17) [Subfamily Diplazontinae] ..................................................34
- Hind wing with vein cu-a intercepted with Cu much closer to M than to A (fig. 19); mandible bidentate (fig. 20) ........................................35
34 Metasomal T2 and T3 with postmedian transverse grooves (fig. 23); propodeum with strong carina (fig. 21); hind tibia banded with black and ivory (fig. 23) ..................................................Diplazon lactatorius
- Metasomal T2 and T3 without postmedian transverse grooves; propodeum with microreticulations (fig. 22); hind tibia uniformly coloured ..................Syrphophilus bizonarius
35 Mandibles strongly twisted; metasomal T1 often with deep glymma (fig. 24); ovipositor short, simple, without notch or teeth; orange to brownish species [Subfamily Tryphoninae] ..................................................Netelia spp.
- Mandibles not twisted; metasomal T1 often with or without shallow glymma; ovipositor with apical teeth ventrally or sub-apical notch dorsally; (if all the previous features absent, then ovipositor long and flexible); black species, with or without pale markings .................................................................36
36 Clypeus flattened, sometimes notched apically; ovipositor with ventral apical teeth (fig. 26), or front tibia with apical tooth and ovipositor with a notch; metasomal T1 often sharply arising medially, with dorsal carina and heavily sculptured or flattened and shiny [Subfamily Pimpiinae] ..................................................37
- Clypeus convex; ovipositor with dorsal notch (fig. 25) or plain; metasomal T1 flat or gently curved dorsally, lacking dorsal carina [Subfamily Banchininae] ...........Exertistes syriacus
37 Second metasomal segment broader than long; median longitudinal carina of propodeum distinct ..................................................Exeristes roborator
- Second metasomal segment about as long as or slightly longer than broad; median longitudinal carina of propodeum indistinct ..................................................38
38 Ovipositor hooked downward at tip; inner orbits of eyes in both sexes and face of male are mostly whitish to yellow ..................................Apechites quadridentata
- Ovipositor straight along its entire length; inner orbits of eyes and face in both sexes entirely black ..................................................39
39 Ovipositor longer than hind tibia; tarsal claws simple ..................................Itoplectis alternans
- Ovipositor shorter than hind tibia; tarsal claws pectinate ..................................40
40 Mesopleuron densely and closely punctate, the punctures separated by a distance equal to their own diameters; pronotum with yellow stripe posteriorly; hind coxa black ...........................................Pimpla tourionella
- Mesopleuron finely punctured, punctures separated by a distance equal to two or more their own diameters; pronotum without yellow stripe posteriorly ...........................................41
41 Fourth tarsomere of front tarsus distinctly broader than long, deeply notched apically; ovipositor sheath about as long as or longer than hind tibia; hind tibia banded with red ..................................Pimpla spuria
- Fourth tarsomere of front tarsus about as long as broad, less notched apically; ovipositor sheath shorter than hind tibia; hind tibia banded with white. ................................................. Pimpla contemplator

Systematic checklist of the collected species

Subfamily Anomaloninae

Anomalon cruentatum (Geoffroy 1785)
Distribution: Middle and South Europe, Turkey, Kazakhstan, Middle Asia (as Anomalon foliaria, Kolarov 1995). In Egypt, this species is widely distributed all the year round.

*Anomalon kozhoi (Kukojev 1915)
Material: 1♀, Ismailia, 2.11.2008.
Distribution: Romania, Russia Central, new to Egypt.

Barybopa amabile (Tosquinet 1900)
Material: 1♀, Arish, 16.5.2007.
Distribution: USSR, Eastern Europe, Egypt.

Subfamily Banchinae

Exetastes syriasus Schmiedeknecht 1910
Distribution: Nearctic region, North Africa, Egypt (Maadi (Helwan), Bahariah Oasis and Siwa Oasis (Libyan Desesert, 50 km east of the Libyan border)).

Subfamily Campopleginae

Campoplex sp.
Black with orange legs; metasomal T3 and T4 with some ferruginous; antenna dark brown, scape pale below, mandibles orange with dark teeth. Antenna 30-33 segmented, gradually shortened and tapered towards tip. Clypeus conflu-
ent with face. Mandibles with two equal teeth. Notauli present, complete, convergent posteriorly. Propodeum strongly reticulate, with fine punctures among reticulations, finely hairy. Fore wing with petiolar, rhombic areolepet. Ovipositor long, gently curved along its whole length, with sub-apical notch.

**Material:** 5 ♀, 3 ♂. Arish, 15.2.2007.

**Casinaria albipalpis aegyptiator** AUBERT & SHAUMAR 1978


**Material:** 2 ♀, Wadi Acideb (N. Sinai), 28.2.1938 (MAC); 1 ♂, Rafah (N. Sinai), 6.11.2000 (MAC).

**Distribution:** Egypt (W. Cansisroob (Gabal Elba)).

**Casinaria trochanterator** AUBERT 1960


**Material:** 1 ♂, Arish, 26.3.2007; 1 ♂, Arish, 20.12.2008.

**Distribution:** Corsica, France, North Africa, Egypt (Shoubra and El Marg (Cairo), Wadi ar Rayyan (Red Sea), Helwan).

**Diadeagma armillata** (GRAVENHORST 1829)

*Campospex armillata* GRAVENHORST 1829 - Ichm. eur. 3: 514.

**Material:** 1 ♀, Arish, 1.11.2007.

**Distribution:** Australian region, Europe and Turkey (KOLAROV, 1995), Egypt (Tamiya (Fayoum), Wadi Aeidab and Wadi Garawi (south Helwan)).

*Diadeagma fenestrale* (HOLMGREN 1860)


**Material:** 1 ♀, 1 ♂. Arish, 15.7.2007.

**Distribution:** Palearctic region (KOLAROV 1995), new to Egypt.

*Diadeagma maculata* (GRAVENHORST 1829)

*Campospex maculata* GRAVENHORST 1829 - Ichm. eur. 3: 536.

**Material:** 1 ♀, Ismailia, 5.6.2007; 1 ♀, 1 ♂. Arish, 16.10.2008.

**Distribution:** Western Europe, Turkey (KOLAROV 1995), Palearctic and south-east to Sri Lanka and the Phillipines (AZIDAH et al. 2000); new to Egypt.

**Diadeagma semiclausum** (HELLÉN 1949)


**Material:** 1 ♀, Arish, 15.6.2007.

**Distribution:** Palearctic region (KOLAROV, 1995; AZIDAH et al. 2000), Egypt.
**Hyposoter sp.**

Mostly black with orange legs (except middle and hind coxae), hind tibia banded with brown and ivory; basal third of hind metatarsus, palpi, hind tibial spurs, front and middle tarsi (except their last segment) whitish.

Antenna with 38 flagellomeres. Clypeus thin, separated from face by a weak groove; apical margin rounded or convex. Mandibles with two equal teeth. Propodeum wider than long, strongly reticulate, with dense hairs especially laterally. Fore wing with closed areolet. Ovipositor short, erect, with dorsal sub-apical notch.

**Material:** 1♂, Arish, 26.4.2007; 4♀♂, Arish, 16.5.2007; 6♀, 2♂, Arish, 15.6.2007; 4♂, Arish, 15.7.2007.

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**Lemophagus curtus Townes 1965**

*L. curtus* Townes 1965 - Polski Pismo Entomol. 35: 409.

**Material:** 1♀, Arish, 15.6.2007.

**Distribution:** Austria, Britain, Czech Republic, Danish mainland, Germany, French mainland, Italy, Poland, Romania, Ukraine, Russia Central, Sweden, previously unrecorded from Egypt.

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**Sinophorus xanthostoma (Gravenhorst 1829)**


**Material:** 1♀, Ismailia, 14.2.2008; 1♀, Ismailia, 15.3.2008.

**Distribution:** Europe, North Africa, Turkey, Cyprus, Israel, Jordan, Armenia, Iran, Saudi Arabia (Kolarov 1995). In Egypt, this species is widely distributed all the year round (recorded as *Campaoplex* (Euimmenium) *xanthostoma* Grav. by El-Dakrouy et al. 1977).

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**Venturia canescens (Gravenhorst 1829)**


**Distribution:** Europe, Turkey, Caucasus, Middle Asia (Kolarov 1995), Egypt (Azarita and Abu Kir (Alexandria), Shoubra (Cairo), Marsa Matrouh, Wadi Rabdet, Kafir Tisfa (Ad Daqahlia)).

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**Subfamily Cremastinae**

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**Eucremastus pugillator Shaumar 1966**


**Material:** 1♂, 1♀, Suez Road. 20.4.1931 (ALFC).

**Distribution:** North Africa, Egypt.
Subfamily Cryptinae

Cryptus armator FABRICIUS 1804
Material: 1♀, Arish, 26.3.2007; 1♀, Arish, 16.5.2007.
Distribution: Asian Turkey, Caucasian Russian Republic, Georgia, Armenia, Azerbaijan, Lebanon, Syria, Israel, Egypt, Arabian Peninsula, Iran, Iraq, Oriental Region, Egypt (King Mariut (Alexandria), El- Hammam (40km to the north-east of el-Faiyum), BORG Abu Sir, Giza, Wadi Salat, W. Aeideb (S. Sinai) (as Pychocryptus armatorius, AZAB 2007)).

Dichrogaster aestivalis (GRAVENHORST 1829)
Distribution: Egypt (El-Arab El-Nakhl and Kafr Hakim, Siwa Oasis, W. El-Arish).

Meringopus titillator orientator (SHAUMAR 1966)
Material: 1♂, Ismailia, 26.3.1929 (ALFC).
Distribution: Egypt (El-Ameriah, Hammam (N.Cost), Mansouria, Kerdasa and Wadi Shallal (as Pychocryptus titillator orientator, AZAB 2007)).

*Mesostenus grammicus GRAVENHORST 1829
M. grammicus GRAVENHORST 1829 - Jahn. eur. 2: 757.
Distribution: Europe, Turkey, Middle Asia (KOLAROV 1995); new to Egypt.

Mesostenus transfuga GRAVENHORST 1829
M. transfuga GRAVENHORST 1829 - Jahn. eur. 2: 757.
Distribution: Asian Turkey, Caucasian Russian Republic, Georgia, Armenia, Azerbaijan, Lebanon, Syria, Israel, Jordan, Egypt (Sinai Peninsula), Arabian Peninsula, Iran, Iraq, N. Africa, Oriental region (KOLAROV & GHANARI 2007), In Egypt (Kafr Hakim (Giza), Ismailia K5).

Synchyrotus sanguinolentus (BRULLÉ 1846)
Cryptus bovi BRULLÉ 1846 - Lep. Hym. 4: 199.
Material: 1♂, Wadi El-Arish to Hassana (N.Sinai), 13.3.1937 (MAC).
Distribution: Egypt (Cairo, Kharga Oasis, Wadi Hekwal (Gabal Elba), Mansouria (as Pycnecryptus bovei, AZAB 2007)).
Subfamily Diplazontinae

Diplazon lactatorius (FABRICIUS 1781)
Material: This species was collected in a large number all the year round.
Distribution: Cosmopolitan.

*Syrphophilus bizonarius (GRAVENHORST 1829)
Baxius bizonarius GRAVENHORST 1829 - Ichm. cur. 3: 350.
Material: 1♀, 1♂, Arish, 26.3.2007; 1♀, Arish, 16.5.2007.
Distribution: Holoarctic (KOLAROV 1995), new to Egypt.

Subfamily Ichneumoninae

*Barichneumon bilunulatus (GRAVENHORST 1829)
Distribution: Bulgaria, France, Poland, Russia Central, Spain, Morocco, Tunisia, Algeria, Europe, Azerbaijan, Georgia, Turkey, Kazakhstan, Iran (KOLAROV & GHAHARI 2008), new to Egypt.

*Ctenichneumon repentinus (GRAVENHORST 1829)
Distribution: Europe, Caucasus, Middle Asia, Siberia, Iran (KOLAROV 1995), Algeria, Iceland, Azerbaijan, Korea, Japan (KOLAROV & GHAHARI 2008), new to Egypt.

Diadromus collaris GRAVENHORST 1829
Material: 1♀, Wadi el Ghideirat (N. Sinai), 24.5.1935 (ALFC).
Distribution: Europe, Turkey, Caucasus, Altay (KOLAROV 1995), Egypt.

Subfamily Metopinae

Exochus castaniventris BRAUNS 1826
Distribution: Middle and South Europe, Turkey, Kazakhstan, Middle Asia, Egypt (as E. erkini, KOLAROV 1995), Egypt (Cairo as E. meridionalis SEYRIG, AZAB 2007).
Subfamily Ophioninae

Enicospilus ramidulus (LINNAEUS 1758)
Ichneumon ramidulus LINNAEUS 1758 - Syst. Nat. 10: 566.
Distribution: Palearctic region (KOLAROV 1995), Egypt (Kharga Oasis, Siwa Oasis, El-Kattash, Wadi Rabdet, El-Matana).

Enicospilus tournieri (VOLLENHOVEN 1879)
Material: 1♀, Arish, 26.3.2007; 1♀, 1♂, Arish, 26.4.2007; 1♀, Arish, 16.5.2007.
Distribution: Palearctic Region (KOLAROV 1995), Egypt (Heliopolis (Cairo), Maadi (Helwan), Abu Rauwash, Kerdasa (Giza)).

Enicospilus undulatus (GRAVENHORST 1829)
Material: 1♀, Suez Road 6th tower, 5.3.1926 (ALFC).
Distribution: Egypt (Wadi Hoff, Ogret El-Sheikh).

Ophion geyri HAMBERMEHL 1921
Distribution: N. Africa, Egypt (Wadi Morrah, Kerdasa, Bir Tarfa (N. Sinai)).

Ophion luteus (LINNAEUS 1758)
O. luteus LINNAEUS 1758 - Syst. nat. 10: 506.
Distribution: Europe, Turkey, Egypt (St. Catherine (S. Sinai), Ismailia K6).

Ophion obscuratus FABRICIUS 1798
O. obscuratus FABRICIUS 1798 - Ent. Syst. Suppl.: 273
Material: 1♀, Arish, 26.3.2007; 1♀, Ismailia, 2.2009.
Distribution: Palearctic region (KOLAROV 1995), Egypt (Wadi El Kohla (1700m south east Gabal Mousa, South Sinai), Mansouriah (Giza), Ismailia (Suez Canal region), Maamura (Alexandria), Wadi El-Rabaa, Wadi Sallal, Kerdasa, Wadi Aeidab, El-Zaraniq (N. Sinai), Banha, Wadi Cansisroeb (Gabal Elba), El-Mallaha (N. Coast)).

Ophion turcomanicus SZEPLIGETI 1905
Distribution: Egypt (Cairo, El-Zaraniq (N. Sinai)).
Subfamily Pimplinae

Apechthis quadridentata (THOMSON 1877)
Pimpla quadridentata THOMSON 1877 - Opusc. Ent. 8: 749.
Distribution: Palaeartic region (KOLAROV 1995), Egypt (El-Zaraniq (N. Sinai)).

Itopectis alternans (GRAVENHORST 1829)
Distribution: Europe, Turkey, Caucasus, Altay (KOLAROV 1995), Egypt (Wadi Tlah (N. Siani)).

Exeristes roborator (FABRICIUS 1793)
Ichneumon roborator FABRICIUS 1793 - Ent. Syst. 2: 170.
Distribution: Palaeartic region (KOLAROV 1995; KOLAROV & GAHARI 2006). In Egypt, this species is widely distributed.

Pimpla contemplator (MÜLLER 1776)
Material: 1♀, 1♂, Arish, 10.5.2007; 1♂, Ismailia, 30.4.2008.
Distribution: European-Mediterranean (KASPARYAN 1974), Middle and South Europe, south part of eastern Europe, Caucasus, Turkey, Turkmenistan, Iran (KOLAROV & GAHARI 2006), Egypt (Tura, Maadi (Helwan), Ezbet el-Nakhil (Cairo)).

Pimpla spuria GRAVENHORST 1829
P. spuria GRAVENHORST 1829 - Ichn. eur. 3: 179.
Material: 1♀, 1♂, Arish, 26.3.2007; 1♂, Arish, 16.5.2007; 1♂, Arish, 25.3.2008.
Distribution: Europe, Turkey, Caucasus, Kazakhstan, Middle Asia, Italy, Iran, Egypt (KASPARYAN 1974; YU et al. 2005; KOLAROV & GAHARI 2006), Egypt (Kerdasa, Cairo, Kafr Hakim, Helwan, El-Mansouriah (Giza)).

Pimpla tourionella (LINNAEUS 1758)
Ichneumon tourionella LINNAEUS 1758 - Syst. nat. 10: 564.
Distribution: Palaeartic region (KOLAROV 1995), Egypt (El-Zaraniq).

Subfamily Tryphoninae

Netelia testacea (GRAVENHORST 1829)
Paniscus testacea GRAVENHORST 1829 - Ichn. eur. 3: 626.
Material: 1♀, Arish, 26.4.2007.
Distribution: Afghanistan, Austria, China, Finland, France, Germany, India, Italy, Japan, Korea, Romania, Russia, Switzerland (DELLEIO 1975), Spain (BORDERO et al. 1988), Sweden, Turkey (SZEPLIGETI 1911), Egypt (El Kattash (as N. fuscicarpus, AUBERT & SHAUMAR 1978)).

_Netelia thoracica_ (WOLDSTEDT 1880)


Material: 1♀, Arish, 26.3.2007.

Distribution: North Africa, Egypt (El-Kattash (as _N. ahngeri_, AUBERT & SHAUMAR 1978)).

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Zusammenfassung


References


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Fig. 1-9: (1) Empoepius turneri, first metasomal segment; (2) Nectea thoracica, first metasomal segment; (3) Empoepius sp., part of fore wing; (4) Anomalus cruentatus, fore wing; (5) Ophion obscurus, fore wing; (6) A. cruentatus, propodeum; (7) Cryptus armator, propodeum; (8) A. cruentatus, middle tibia; (9) C. armator, sternopleurum.
Fig. (10-17): (10) Dichrogastrus aestivus, fore wing; (11) C. arnauoi, areola of fore wing; (12) Mosoetes sp., areola of fore wing; (13) Venturia canescens, ovipositor; (14) Barichneumon sp., ventral aspect of metasoma; (15) Ctenichneumon sp., ventral aspect of metasoma; (16) Exochus castaneiventris, frontal view of head; (17) Diplozoon lactarius, frontal view of head.
Fig. (18-26): (18) *D. lacuitorius*, hind wing; (19) *Notelis* sp., hind wing; (20) *Notelis* sp., frontal view of head; (21) *D. lacuitorius*, propodeum; (22) *Syropophila bizonaria*, propodeum; (23) *D. lacuitorius*, dorsal aspect of metasoma; (24) *Notelis* sp., lateral aspect of first metasomal segment showing gymma; (25) *Euctoes syriacus*, ovipositor; (26) *Exoristes roborator*, ovipositor.