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**Parasitoids complex of *Asphondylia conglomerata* De STEFANI
(Diptera: Cecidomyiidae) on the Mediterranean Saltbush, *Atriplex
halimus* L. (Chenopodiaceae) in Egypt, with descriptions of new
species from Eulophidae and Torymidae
(Hymenoptera: Chalcidoidea)**

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Abstract: In Egypt the gall midge, *Asphondylia conglomerata* De STEFANI (Diptera: Cecidomyiidae) on the stems and flower buds of the Mediterranean Saltbush, *Atriplex halimus* L. (Chenopodiaceae) was reared in 2013. In the study as main mortality factors of the gall midges were 5 species of larval/pupal parasitoids from 3 families of Hymenoptera, Eulophidae: *Kolopterna* nov.sp., *Neochrysocharis* nov.sp., Torymidae: *Torymus* n.sp., *Torymus phillyreae* RUSCHKA, Eurytomidae: *Eurytoma* sp.nr. *coleophorae* ZEROVA. The new taxa were described and their diagnostic characters and some biological data are given.

Key words: Parasitoids, new species, *Asphondylia conglomerata*, *Atriplex halimus*, Egypt.

Introduction

Up to now the gall midge, *Asphondylia conglomerata* De STEFANI 1900 (Diptera: Cecidomyiidae) has been recorded as gall inducer on *Atriplex halimus* L., in Spain, Italy, Greece, Israel by GAYNÉ (2010). In Egypt occurrence and economic importance of *A. conglomerata* will be studied in a separate work by the second author.

There are not many works on mortality factors of *A. conglomerata*. BAEZ & ASKEW (1999) studied on fauna of Chalcidoidea (Hymenoptera) in Canary Islands, and described *Neochrysocharis violaceus* ASKEW, as primary parasite of *A. conglomerata* on *A. halimus* and ASKEW et al. (2001) recorded *N. violaceus* in Los Monegros region, Zaragoza. GRAHAM & GIJSWIJT (1998) described *Torymus halimi* as primary parasite of *A. conglomerata* on *A. halimus* in Spain (Canary Islands). RUSCHKA (1921) described *Torymus schizothecae* (as *Callimome schizothecae*) reared from galls of *Steffaniella* sp. on *Atriplex patula* L. in Austria.

In Egypt several works have been conducted on chalcidoid parasites of several insect pests (ABDUL-NASR & ASSEM 1969; AL-ERVAN et al. 2000; HAFEZ et al. 1987; RAGAB 1995; ABD-RABOU 1998; TAWFIK & RAMADAN 2006; NASSER et al. 2000; TEMERAK 1983; TEMERAK et al. 1984; HEGAZI & MOURSİ 1983; GALİL 1967; GRISELL 1995).

By this work in order to obtain main mortality factors of the gall midge, *A. conglomerata*

on the stems and flower buds of the Mediterranean Saltbush, *A. halimus* was collected in Alameria District, 30°59'54"N, 29°49'70"E, Alexandria, Egypt and its parasitoid complex was studied.

Material and Methods

The study was conducted in the period from February to October, 2013 in Alameria District, 30°59'54"N, 29°49'70"E, Alexandria, Egypt by the second author. The galls of *A. conglomerata* on leaves of *A. halimus* were collected for rearing the parasitoids. The galls on the leaves were brought to laboratories in plastic bags. They were placed in glass vials (15 cm length x 1 cm diameter) and kept under laboratory conditions (30 °C temperature and 60-70 % relative humidity) for rearing purpose. The adults emerged from the galls were killed in 75% ethyl alcohol for taxonomic studies.

Morphological terminology follows LASALLE (1994) and GRAHAM (1987, 1991), The study is based upon the specimens reared from the host. Some parts of the specimens were slide-mounted in Canada balsam. The new taxa were identified by following the keys of GRAHAM (1987, 1991), and compared with the species of the genera from the Palearctic Region. The examined specimens were deposited in the collection of the Insect Museum of Plant Protection Department, Agriculture Faculty, Mustafa Kemal University, Hatay, Turkey (MKUI). Photographs of diagnostic characters of the new species were taking by using a stereo-microscope with a digital camera attached to it.

Results and Discussions

By the study conducted 5 species from 3 families of Hymenoptera were obtained. The species are: Eulophidae: *Kolopterna* n.sp., *Neochrysocharis* nov.sp., Torymidae: *Torymus* n.sp., *Torymus phillyreae* RUSCHKA, Eurytomidae: *Eurytoma* sp.nr. *coleophorae* ZEROVA. The species recorded were treated under their families as follows:

Eulophidae

Kolopterna aymani DOĞANLAR nov.sp. (Figs 1 a-e, 2 a-e, 3 a-d)

E t y m o l o g y . The name is derived from the name of its collector, Mr. Ayman Khamis Elsayed.

T y p e s . Holotype female, Egypt: Alexandria, Alameria District, 30°59'54"N, 29°49'70"E, 06.iii. 2013, emerged as solitary parasites from galls of *Asphondylia conglomerata* on *Atriplex halimus*, leg. Ayman Kh. Elsayed, Cat. No:005-01 (MKUI) Paratypes: 30 females; 27 males, same data as Holotype. 2 females; 2 males, same data as Holotype, deposited in The Biology Centre of the museum of Upper Austria.

D i a g n o s i s . forewing with apical margin, between PM and apical apex of wing, bare; basal vein bare, speculum open below and continued as a broad bare stripe below M to somewhat beyond ST, except with a few setae near base of ST; distal part of wing rather sparsely clothed with short setae; in female with POL 2.33 times OD; antenna with scape reaching slightly above level of vertex; pedicellus plus flagellum about 1.3 times

breadth of mesoscutum; costal cell about 1.33 times as long as M and about 8 times as long as broad; ST bare except for 2 setae in the middle of the stigma;); in male antenna with scape 1.3 times as long as eye; with ventral plaque 0.23 length of scape; pedicellus plus flagellum about 2.2 times breadth of mesoscutum; clava slightly narrower than F4, 7 times as long as broad, C3, including spicula, 3 times as long as broad; whorled setae long, those of F1 reaching about level with about basal 1/3 of F3; forewing with PM half as long as ST; genitalia 10.4 times as long as broad, digitus about 1.5 times as long as broad.

Description:

Female: Head (Fig. 1 a, 3 a) with POL 1.25 times OOL; 2.33 times OD; Malar space 0.82 times length of eye; fovea sublinear, extending about or slightly more than half length of gena. Setae of head pale, length of those on vertex about 2/3 length of OD. Antenna (Fig. 2 d) with scape equal in length to eye, reaching slightly above level of vertex; pedicellus plus flagellum about 1.3 times breadth of mesoscutum; pedicellus 2.5 as long as broad, slightly shorter than F1; first two anelli lenticular, third almost quadrate, 0.25 times as long as F1; F1 3.4 times, F2 twice, F3 about 1.6 times, as long as broad; clava 2.2 times as long as broad, equal in length to F2 plus F3, obtuse, C1 quadrate, C2 and C3 progressively shorter, spine about 0.25 length of C3, with apical seta 2.5 times as long as spine; sensilla uniseriate, sparse on funicle, more numerous on clava, moderately long, decumbent with tips projecting slightly. Thorax (Fig. 1b) 1.2 times as long as broad, pronotum (Fig. 1 a,b) about 4 times as broad as long, mesoscutum 1.36 times as broad as long, with some setae in 3 rows on both sides. Scutellum (Fig. 1 b,e) slightly broader than length, finely reticulated; dorsellum almost equal to mid length of propodeum (Fig. 1 e) Legs with first tarsal segments distinctly shorter than second segments (Fig. 2 a-c) Hind femora not quite 4 times as long as broad. Forewing (Fig. 1 d) characteristic with apical margin, between PM and apical apex of wing, bare; basal vein bare, speculum open below and continued as a broad bare stripe below M to somewhat beyond ST, except with a few setae near base of ST; distal part of wing rather sparsely clothed with short setae; costal cell about 1.33 times as long as M and about 8 times as long as broad; SM with 4 dorsal setae; M 3.75 times length of ST, its front edge with 8-9 setae; ST bare except for 2 setae in the middle of the stigma; PM nearly half as long as ST. Gaster (Fig. 1 b, c) lanceolate, about 1.8 times as long as thorax and about 1.2 times as broad as thorax, acute, acuminate, 2.2 times as long as broad; tip of hypopygium at about 0.5 length of gaster. Hypopygium as in fig. 3 b.

Color yellow, head with eyes red; having fuscous spot on both sides of clypeus occipital surface just above foramen magnum, scape and pedicellus dorsally black, funicular segments apically fuscous; a fuscous dot above each prothoracic spiracle, scuto-axillar sutures and a transverse fuscous band on the hind edge of each gastral tergite; tips of ovipositor sheaths fuscous. Pronotum almost white. A pair of large spots on the front part of mid lobe of mesoscutum, and a small spot on the front of each scapula and axilla are tan-coloured. Forewing hyaline. Length 1.8-2.7 mm.

Male: Antenna (Fig. 2 e) with scape 1.3 times as long as eye, reaching above level of vertex (Fig. 3 c); about 4 times as long as broad, with ventral plaque situated in upper half and 0.23 length of scape; pedicellus plus flagellum about 2.2 times breadth of mesoscutum; pedicellus 1.6 as long as broad, slightly shorter than F1; anelli lenticular; funicle almost as broad as pedicellus, tapering distinctly distad; F1 somewhat shorter than F2, 1.6 times, F2 and F3 2.6, F4 2.4 times as long as broad; clava slightly narrower

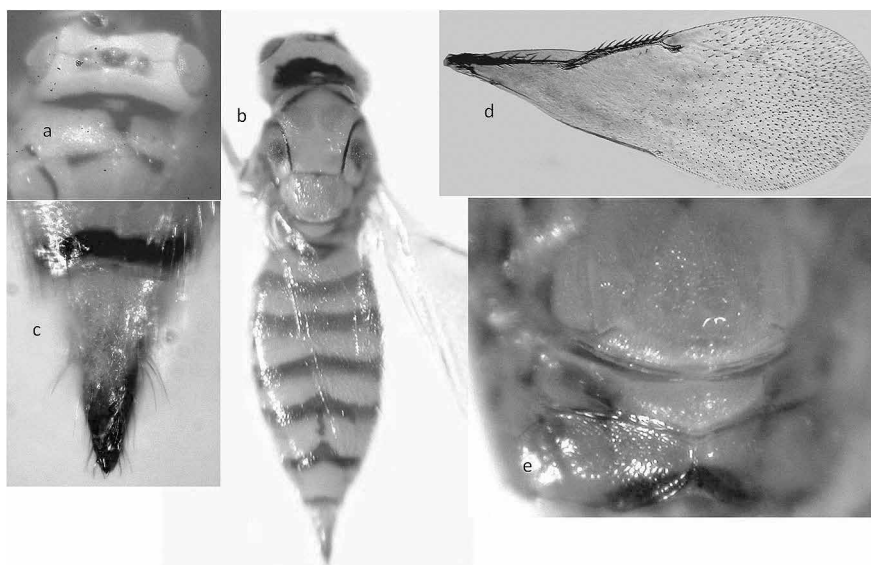


Fig. 1: *Kolopterna aymani* DOĞANLAR nov.sp. female: (a) head and pronotum, in dorsal view; (b) body, in dorsal view; (c) tip of gaster; (d) forewing; (e) apical part of scutellum, dorsellum and propodeum.

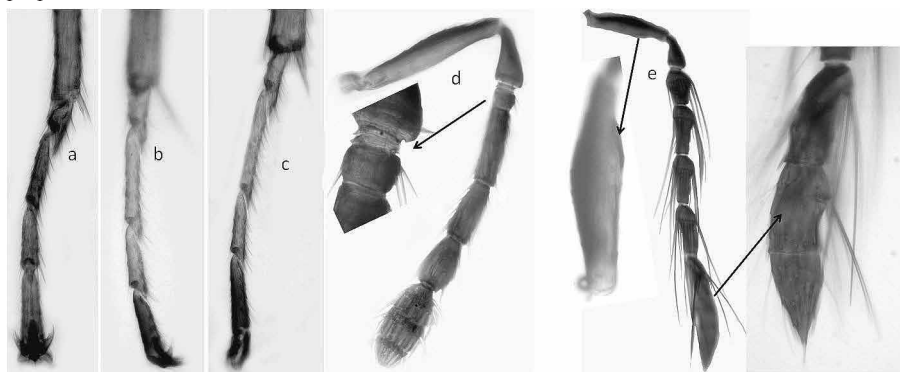


Fig. 2: *Kolopterna aymani* DOĞANLAR nov.sp.: a-d. female: a-b. tarsi: (a) fore tarsus; (b) mid tarsus; (c) hind tarsus; (d) antenna; (e) male antenna.

than F4, 7 times as long as broad, slightly longer than F2 plus F3, with C1 slightly longer than C2, twice as long as broad, C2 2.25 times as long as broad, C3, including spicula, 3 times as long as broad, spine about 0.23 length of C3, with apical seta almost as long as spine; whorled setae long, those of F1 reaching about level with about basal 1/3 of F3. Forewing as in female, PM ST bare except for 1 seta in the middle of the stigma. Gaster oblong-elliptic, about 1.33 times as long as thorax, about as broad as thorax, with ventral plica. Genitalia (Fig. 3 d) distinctly exerted from tip of gaster, about 0.73 as long as gaster, 10.4 times as long as broad, digitus about 1.5 times as long as broad. Length 1.3-2.0 mm.

Color as in female but antenna black, except ventral surface of scape yellow, a fuscous

spot on occipital surface just above foramen magnum, another in middle of front margin of mesonotum; notauli, suture on mesonotum, sublateral lines of scutellum, front and hind margin of propodeum, last tergum of gaster black, genitalia pale brown.

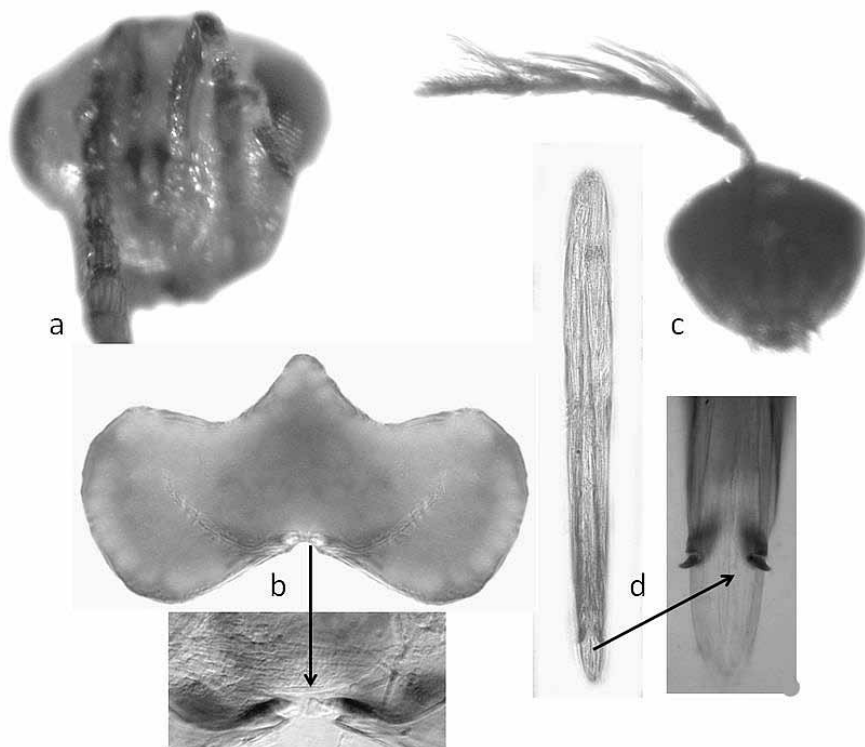


Fig. 3: *Kolopterna aymani* DOĞANLAR nov.sp. a,b, female: (a) head; (b) hypopygium; c,d. male. (c) head; (d) genitalia.

Comments. *Kolopterna* nov.sp. is similar to *Kolopterna kohatensis* GRAHAM in having forewing with apical margin, between PM and apical apex of wing, bare; basal vein bare, speculum open below and continued as a broad bare stripe below M to somewhat beyond ST, except with a few setae near base of ST; distal part of wing rather sparsely clothed with short setae. In other species of *Kolopterna* forewing with apical margin having distinct ciliae.

Kolopterna aymani differs from *K. kohatensis* in female with POL 2.33 times OD; antenna with scape reaching slightly above level of vertex; pedicellus plus flagellum about 1.3 times breadth of mesoscutum; costal cell about 1.33 times as long as M and about 8 times as long as broad; ST bare except for 2 setae in the middle of the stigma (in *K. kohatensis* POL twice OD; antenna with scape not reaching level of vertex; pedicellus plus flagellum about equal to breadth of mesoscutum; costal cell 1.7 times as long as M and about 10 times as long as broad; ST bare except for 1 seta in the middle of the stigma); in male antenna with scape 1.3 times as long as eye; with ventral plaque 0.23 length of scape; pedicellus plus flagellum about 2.2 times breadth of mesoscutum; clava

slightly narrower than F4, 7 times as long as broad, C3, including spicula, 3 times as long as broad; whorled setae long, those of F1 reaching about level with about basal 1/3 of F3; forewing with PM half as long as ST; genitalia 10.4 times as long as broad, digitus about 1.5 times as long as broad (in *K. kohatensis* antenna with scape 1.05 times as long as eye; with ventral plaque 0.27 length of scape; pedicellus plus flagellum about 1.7 times breadth of mesoscutum; clava hardly broader than F4, 5 times as long as broad, C3, including spicula, about twice as long as broad; whorled setae long, those of F1 reaching about level with tip of F3; forewing with PM rudimentary; genitalia 5.7 times as long as broad, digitus twice as long as broad

B i o l o g y . Parasite of *Asphondylia conglomerata* on *Atriplex halimus*. Parasitism level is high during the period from February to March on overwintering population.

D i s t r i b u t i o n . Egypt, Alexandria.

***Neochrysocharis conglomeratae* DOĞANLAR nov.sp. (Figs 4 a-b, 5 a-b)**

E t y m o l o g y . The name is derived from the name of its host.

T y p e : Types: Holotype female, Egypt: Alexandria, Alameria District, 30°59'54"N, 29°49'70"E, 07.iv. 2013, emerged from galls of *Asphondylia conglomerata* on *Atriplex halimus*, leg. Ayman Kh. Elsayed, Cat. No:005-02 (MKUI). Paratypes: 27 females; 23 males, same data as Holotype. 5 females; 6 males, same data as Holotype, deposited in The Biology Centre of the museum of Upper Austria.

D i a g n o s i s . propodeum with callus having 3 setae; gaster elongated, large third anellus, violet coloration and predominantly dark femora and pale tibiae; length of anelli plus two subquadrate funicle segments 1.33 times; propodeum about twice as long as dorsellum, weakly reticulate; forewing 2.08 times as long as broad; lengths of costal cell: marginal vein: stigmal vein: postmarginal vein as 20: 24: 7: 6.

D e s c r i p t i o n :

Female. Head and mesosoma dark brown with strong violet reflections. a tinge of green laterally on propodeum: mesoscutum and scutellum concolorous; gaster brown with weak violet reflections, some green on first tergite; antenna pale testaceous, the clava dorsally brownish with white apical stylus; coxae concolorous with thorax, trochanters pale yellow, femora infuscate except apically, rest of legs pale yellow except for slightly brown flexor surface of front tibia and fourth tarsal segments and brown claws; wings hyaline with pale yellow veins and white pilosity. tegulae brown. Length 1.4-1.6mm.

Head with vertex finely reticulate, hairs about 1.5 times ocellar diameter: frons very weakly reticulate, about 10 hairs on lower face between lower eye margin and mouth, toruli on lower ocular line. Malar space about 0.6 times mouth opening. Antenna (Fig. 4 a) with scape slender, 4 times as long as broad and 0.72 times height of eye; length of pedicel plus flagellum 0.7 times breadth of head; pedicel twice as long as broad, hairy; three anelli, the third large and closely applied to first funicle segment; length of anelli plus two subquadrate funicle segments 1.33 times length of pedicel, the funicle segments distinctly narrower than pedicel; clava elongated, conical, about 2.75 times as long as broad and almost 1.4 times as long (including stylus) as combined length of anelli and funicle segments, apical stylus about 0.4 times as long as third claval segment.

Mesosoma in dorsal view about 1.5 times as long as broad, finely but distinctly reticulate, meshes on scutellum elongated: mesoscutum 1.7 times as broad as long, with two pairs of long setae, notaular depressions broad and very shallow: scutellum almost as

long as mesoscutum and as broad as long, with one pair of setae: dorsellum short, convex, weakly reticulate; anterior margin of mesepimeron almost straight: propodeum about twice as long as dorsellum, weakly reticulate. callus with three setae.

Forewing (Fig. 4 b) 2.08 times as long as broad. ratio length from base of parastigma to wing apex: maximum wing breadth (LW: HW of Hansson (1990)) =1.67; lengths of costal cell: marginal vein: stigmal vein: postmarginal vein as 20: 24: 7: 6; hair-lines radiating from stigma absent and space between postmarginal and stigmal vein pilose: speculum hardly developed: basal cell with 4 hairs towards apex; submarginal vein with (0-2) short hairs beneath.

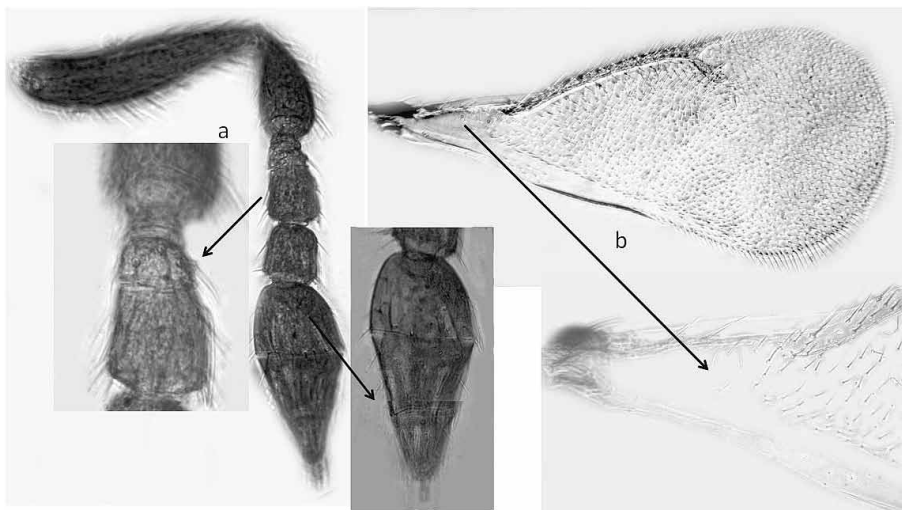


Fig. 4: *Neochrysocharis conglomeratae* DOĞANLAR nov.sp. female: (a) antenna; (b) forewing.

Gaster long ovate, 2.6-3.0 times as long as broad, about 1.4 times as long as rest of body, mesosoma length: gaster length 0.65; petiole very short; hypopygium reaching 0.38 length of gaster; apices of ovipositor sheaths just visible in dorsal view.

Male. Differs very little from female except for structure of gaster; antenna (fig. 5) with scape about 4.66 times as long as broad with long distinct setae on its surface, with ventral plaque situated in upper half and 0.18 length of scape; three anelli, the third slightly larger than others, closely applied to first funicle segment; length of anelli plus two subquadrate funicle segments 1.4 times length of pedicel, clava elongated, conical, about 3.67 times as long as broad and almost 1.3 times as long (including stylus) as combined length of anelli and funicle segments.

Diagnosis. *Neochrysocharis conglomeratae* nov.sp. is similar to *N. violaceus* ASKEW in many respects, but it differs in having length of anelli plus two subquadrate funicle segments 1.33 times; propodeum about twice as long as dorsellum, weakly reticulate. callus with three setae; forewing 2.08 times as long as broad; lengths of costal cell: marginal vein: stigmal vein: postmarginal vein as 20: 24: 7: 6 (in *N. violaceus* length of anelli plus two subquadrate funicle segments only slightly greater than length of pedicel; propodeum about 3 times as long as dorsellum, weakly reticulate. callus with two setae; forewing 2.2 times as long as broad; lengths of costal cell: marginal vein: stigmal vein: postmarginal vein as 29:24:11:9).

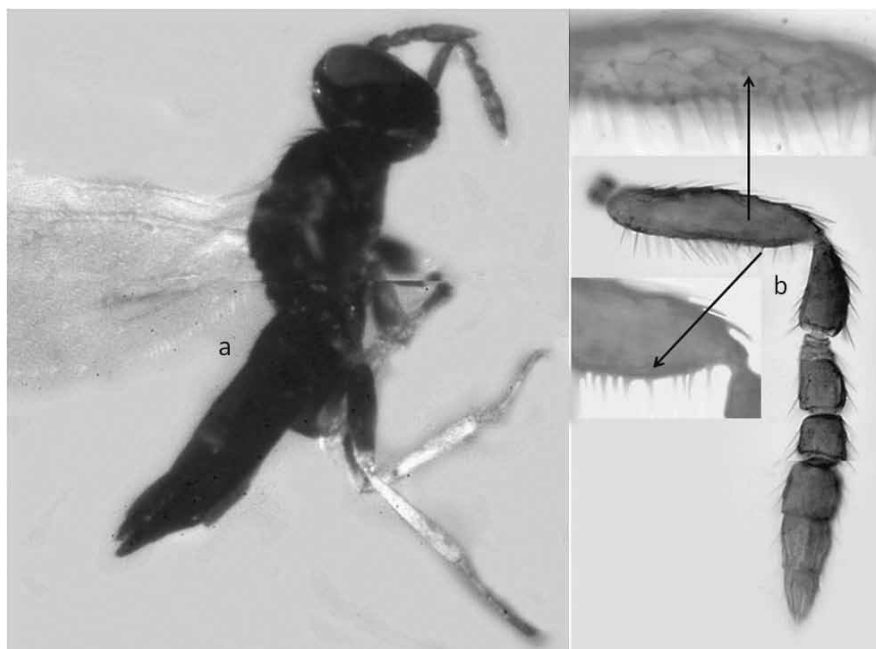


Fig. 5: *Neochrysocharls conglomeratae* DOĞANLAR nov.sp. Male: (a) body, in lateral view; (b) antenna.

Biology. Parasite of *Asphondylia conglomerata* on *Atriplex halimus*. Level of parasitism is high during the period from the middle of March to the end of the 1st generation.

Distribution. Egypt, Alexandria.

Torymidae

Torymus egypticus DOĞANLAR nov.sp. (Fig. 6 a-e)

Etymology. The name is derived from the name of the country where the specimens were collected.

Type: Types: Holotype female, Egypt: Alexandria, Alameria District, 30°59'54"N, 29°49'70"E, 09.iii.2013, emerged from galls of *Asphondylia conglomerata* on *Atriplex halimus*, leg. Ayman Kh. Elsayed, Cat. No:005-03 (MKUI). Paratypes: 2 females, same data as Holotype.

Diagnosis. Hind coxa with many setae dorsally in basal half; basal cell, on upper surface of forewing, with a row of setae below SM; spurs of hind tibia not so very unequal, the shorter spur 0.8 the length of the longer spur; tip of hypopygium extending $\frac{3}{4}$ along gaster; ovipositor sheaths 1.1-1.25 length of body; index 3.9. OOL 1.1 OD; POL 2.0-2.21 times OOL. Malar space 0.39 length of eye. Mouth 2.2-2.3 malar space. Ovipositor sheaths length of body; index 3.8; legs with all coxae dark, concolorous with thorax, all femora and tibiae infusate, tarsi yellow, except pretarsi black; antenna black, except basal half of scape yellow; antenna with anellus slightly broader than long. Head with temples slightly curved. Antennal scape not reaching anterior ocellus. Hind coxa 2.6 times as long as broad. Forewing with ST not very oblique.

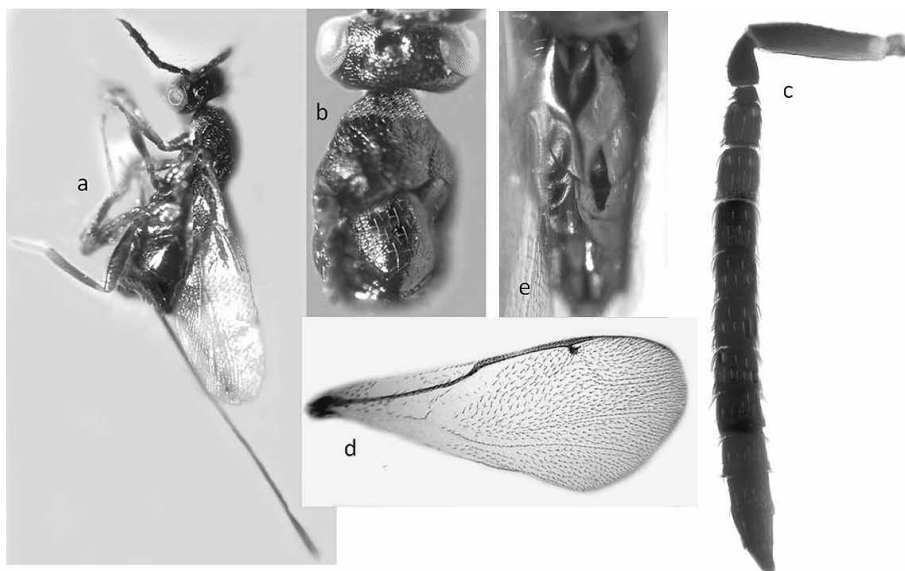


Fig. 6: *Torymus egypticus* DOĞANLAR nov.sp. Female: (a) body, in lateral view; (b) head and part of mesosoma; (c) antenna; (d) forewing; (e) metasoma.

Description. female. Body (Fig. 6 a) with head (Fig. 6 a) in dorsal view twice as broad as long, temples 0.33 apparent length of eyes, fairly strongly convex, slightly curved; POL 2.0-2.21 OOL, OOL 1.1 OD. In frontal view the head is trapeziform with about straight genae. Mouth 2.2-2.3 malar space, which is 0.39 length of eye. Clypeus very slightly produced, weakly curved. Antennae with toruli well above lower eyeline, but slightly nearer to clypeus than to anterior ocellus; antenna (Fig. 6 c) scape 4.5 times as long as broad, not quite reaching anterior ocellus; pedicellus plus flagellum 1.25 breadth of head, flagellum proximally slightly stouter than pedicellus, filiform; pedicellus 1.5 times as long as broad; anellus twice as broad as long; F1 1.25 times longer than broad, F2-F5 1.3 times, F6 slightly longer than broad, F7 very slightly transverse; clava 2.4 times as long as broad; sensilla arranged in two rows, (2+4). Mesosoma (Fig. 6 b) 1.5 times as long as broad, mesonotum 1.56 times as broad as long, with fine reticulation, more scaly in frontal half, setae short, subdecumbent, without punctures, scutellum 1.2 times as long as broad, broadly rounded at base, sculpture as mesonotum, setae short, moderately long in hinder third; flange very narrow, minutely trabeculate. Dorsellum smooth. Propodeum smooth, with row of very fine fovea at base. Mesepimeron 1.6 times longer than broad, shorter than mid coxa (52:33). Hind coxa 2.6 times as long as broad with finely but distinctly raised reticulation, its hind edge strongly curved. Hind femur 4.8 times as long as broad. Spur of hind tibia 0.36 length of basitarsus. Forewing (Fig. 6 d) 2.26 times as long as broad; costal cell 6.2 times as long as broad, upper surface with some setae basally, beneath with one broken row in basal quarter and distal third plus a few scattered setae in the same area; basal vein with 6-7 setae; basal cell closed below; speculum open, extending beyond parastigma; M:PM:ST=60:18:5, stigma very shortly petiolate, slightly oblique. Gaster (Fig. 6 e) distinctly compressed; basal sternite extending beyond coxa by about one-third length of latter; hypopygium extending three quar-

ters along gaster, bare except tip. Ovipositor (Fig. 6 a) index 3.8, slightly longer than body. Length 2.6 mm.

Colour: body dark green, with metallic reflection; scapus basally yellow. Palpi testaceous. Legs with all coxae dark, concolorous with thorax, all femora and tibiae infuscate, tarsi yellow, except pretarsi black;. Wings hyaline, veins brown.

Male: unknown.

Comments. One species of *Torymus*, *T. halimi* GRAHAM & GIJSWIJT, has been known as parasite of *A. conglomerata* on *A. halimus* in Canary Islands, Spain, another species, *Torymus schizothecae* RUSCHKA reared from galls of *Steffaniella* sp. on *Atriplex patula* L. in Austria. By this study *Torymus phillyreae* RUSCHKA was reared from galls of *Asphondylia conglomerata* on *Atriplex halimus*. *Torymus egypticus* DOĞANLAR sp. new differs from the species mentioned above in having ovipositor at least slightly longer than body (ovipositor as long as metasoma plus half of mesosoma in *T. halimi* and *T. phillyreae*, and as long as gaster in *T. schizothecae*); ovipositor index in *T. egypticus* 3.8 (in the other species index at most 2). Beside those species the new species similar to *T. impar* (RONDANI) and *T. borealis* THOMSON in having malar space 0.3-0.35 length of eye, mouth 2.1-2.65 malar space, ovipositor sheaths 1.1-1.25 length of body, 3.9-4.6, but it differs from both of them in having POL 2.0-2.21 OOL, OOL 1.1 OD (in the both species at most POL 1.6-1.8 times OOL, OOL at least 1.27 OD); it differs from *T. impar* in having head with temples slightly curved, and reared from galls of *A. conglomerata* on *A. halimus* (in *T. impar* head with temples distinctly curved, and Reared from galls of *Rabdophaga rosaria* (LOEW) (Dipt. Cecidomyiidae) on *Salix* spp.).

Biology. It may be a hyperparasitoid or parasitoid on *Asphondylia conglomerata* on *Atriplex halimus* and has low level of parasitism during the period from January to April.

Distribution. Egypt, Alexandria.

***Torymus phillyreae* RUSCHKA (Fig. 7 a-e)**

Torymus phillyreae RUSCHKA 1921: 340-341. Lectotype female, (NHMW), designated by GRAHAM & GIJSWIJT (1998).

The synonym list host list were given by GRAHAM & GIJSWIJT (1998).

Distribution. France, Great Britain, Ireland, Netherlands, Sweden (GRAHAM & GIJSWIJT 1998).

Diagnosis. Body (Fig. 7 a) with ovipositor sheaths as long as metasoma plus half of mesosoma; index 2.0. Head with OOL 1.27 OD; POL 1.8 times OOL. Malar space 0.4 length of eye. Mouth 1.5 malar space. Antenna (Fig. 7 e) with anellus slightly broader than long. Scutellum (Fig. 7 b) finely reticulated; propodeum (Fig. 7 c) finely longitudinally striated; Hind coxa 1.8 times as long as broad, with many setae dorsally in basal half. Forewing (Fig. 7 d) with basal cell, on upper surface of forewing, with a row of setae below SM; spurs of hind tibia not so very unequal, the shorter spur 0.8 the length of the longer spur; tip of hypopygium extending $\frac{1}{4}$ along gaster.

Studied materials: 10 females, Egypt: Alexandria, Alameria District, 30°59'54"N, 29°49'70"E, 09.iii. 2013, emerged from galls of *Asphondylia conglomerata* on *Atriplex halimus*, leg. Ayman Kh. Elsayed, Cat. No:005-04 (MKUI).

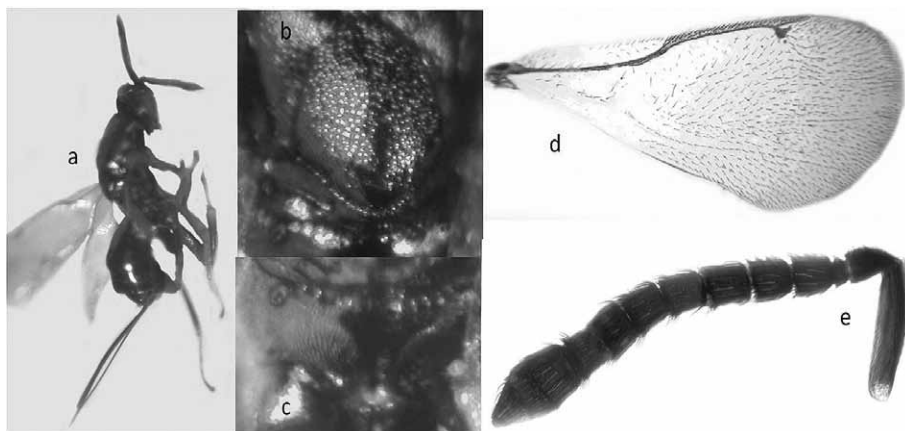


Fig. 7: *Torymus phillyreae* RUSCHKA. Female: (a) body, in lateral view; (b) head and part of mesosoma; (c) antenna; (d) forewing; (e) metasoma.

Biology. It may be a hyperparasitoid or parasitoid on *Asphondylia conglomerata* on *Atriplex halimus* and has low level of parasitism during the period from January to April.

Distribution. Egypt, Alexandria.

Eurytomidae

Eurytoma sp. near *coleophorae* ZEROVA

Studied materials: Egypt: Alexandria, 09.iii. 2013, emerged from galls of *Asphondylia conglomerata* on *Atriplex halimus*, leg. Ayman Kh. Elsayed Cat. No:005-03 (MKUI).

Biology. It may be a hyperparasitoid or parasitoid on *Asphondylia conglomerata* and it has moderate level of parasitism during the period from January to April.

Zusammenfassung

Die Gallmücke *Asphondylia conglomerata* de STEFANI (Diptera: Cecidomyiidae) wurde in Ägypten 2013 auf Blättern der mediterranen Melde *Atriplex halimus* L. (Chenopodiaceae) gezogen. Die Haupttodesursache der Gallmücke waren Larven- und Puppenparasiten der Hymenopterenfamilien Eulophidae, Torymidae und Eurytomidae. Die Taxa *Kolopterna* nov.sp., *Neochrysocharis* nov.sp., *Torymus* n.sp., *Torymus phillyreae* RUSCHKA und *Eurytoma* sp.nr. *coleophorae* ZEROVA konnten als Ergebnis belegt und beschrieben werden.

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