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# Two new and one newly recorded species of *Zagrammosoma* Ashmead (Hymenoptera: Eulophidae) from Israel

Zoya Yefremova[1]* & Miriam Kishinevsky[2]

[1]*The Steinhardt Museum of Natural History, Israel National Center for Biodiversity Studies, Tel Aviv University, Tel Aviv, 6997801 Israel*
[2]*Department of Evolutionary and Environmental Biology, University of Haifa, Haifa, Israel*
**Corresponding author: zyefremova@tauex.tau.ac.il, eulophids@mail.ru*

**ABSTRACT**

Two new species *Zagrammosoma ramotensis* sp. n. and *Z. lasallei* sp. n. from Israel are described and illustrated. *Zagrammosoma dulanense* Ca & Zhu, 2014 is record in Israel for the first time. A key to the Israeli species of *Zagrammosoma* is provided. *Leucoptera scitella* Zeller (Lepidoptera: Leucopteriidae) is a new host record for *Zagrammosoma talitzkii* (Bouček, 1961).

KEYWORDS: Biodiversity, Chalcidoidea, Eulophinae, Cirrospilini, Mediterranean, Middle East, new species, new record, parasitoids, tattooed wasps, Diptera, Lepidoptera.

## INTRODUCTION

Until very recently, the genus *Zagrammosoma* included 16 species: 11 of them (*Z. americanum* Girault, 1916; *Z. centrolineatum* Crawford, 1913; *Z. flavolineatum* Crawford, 1913; *Z. intermedium* Gordh, 1978; *Z. lineaticeps* (Girault, 1915); *Z. melinum* Gordh, 1978; *Z. mirum* Girault, 1916; *Z. multilineatum* (Ashmead, 1888); *Z. hobbesi* LaSalle, 1989; *Z. seini* Wolcott, 1936 and *Z. velerii* Efremova, 1995) are Nearctic; *Z. buselus* (Walker, 1839) is Neotropical; *Z. crowei* (Kerrich, 1969) is Afrotropical (Kenya); *Z. dulanense* Cao & Zhu, 2014 and *Z. talitzkii* (Bouček, 1961) are Palearctic; and *Z. latilineatum* Ubaidillah, 2000 is Australian. Perry (Perry & Heraty 2021) has described another 11 species, the majority of them being Nearctic and Neotropical: *Z. calvini* Perry (Argentina, Chile), *Z. deliae* Perry (Peru), *Z. fisheri* Perry (USA), *Z. galapagoense* Perry (Ecuador: Galapagos Islands), *Z. headricki* Perry (Mexico, USA), *Z. metallicum* Perry (USA), *Z. occidentale* Perry (Mexico, USA), *Z. triangulum* Perry (USA), *Z. trifurcatum* Perry (Belize, USA), *Z. villosum* Perry (Nearctic, Neotropical) and *Z. yanegai* Perry (Thailand).

Records of *Zagrammosoma* in the Levant are very scanty. *Zagrammosoma talitzkii* (Bouček) is known from Turkey (Çikman & LaSalle 2011) and Israel (Yefremova 2015). No *Zagrammosoma* species have been recorded from neighboring countries like Egypt, Lebanon, Syria or Jordan, except for an unidentified species from the citrus leaf-miner *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) in the Central Jordan Valley (Ateyyat 2002). In Arabian Peninsula, *Zagrammosoma* species have been found in Yemen (Yefremova 2007), UAE (Yefremova 2008; Perry & Heraty 2021), Oman and Saudi Arabia (Perry & Heraty 2021).

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In this study, we describe two new species, redescribe *Zagrammosoma dulanense* and *Z. talitzkii*, provide new distribution records and a key to *Zagrammosoma* species from Israel. *Leucoptera scitella* Zeller (Lepidoptera: Leucopteriidae) is a newly recorded host for *Z. talitzkii* from Israel. In general, members of the genus *Zagrammosoma* attack leaf-mining Lepidoptera (Gracillariidae, Tischeriidae, Elachistidae, Lyonitiidae) (Gordh 1978; Bouček 1988; LaSalle 1989) and Diptera (Agromyzidae): *Liriomyza pseudopygmina* (Hering) (Yefremova 1995*a*), *L. congesta* (Becker) and *L. trifolii* (Burgess) (Çikman & La Salle 2011), and *L. huidobrensis* (Blanchard) (Ubaidilllah *et al*. 2000*)*.

## MATERIALS AND METHODS

The study is primarily based on the material collected in Israel and deposited in the Steinhardt Museum of Natural History, Tel-Aviv University, Israel (SMNHTAU), as well as on holdings of the Zoological Institute in St Petersburg, Russia (ZISP).

The morphological terminology and abbreviations follow Gibson (1997), and the following abbreviations are used: F1–F2 – first and second flagellomeres; SMV, MV, PMV, STV – lengths of the submarginal, marginal, postmarginal and stigmal veins; POL – the minimum distance between the posterior ocelli; OOL – the minimum distance between the eye margin and the adjacent posterior ocellus; Gt – gastral tergite.

Absolute measurements in millimeters (mm) were taken for the body and forewing lengths. All other measurements are relative. Observations and measurements were done using a Leica M 125 microscope. The photographs were taken using a Leica Imaging System with a Z16 APO microscope, and stacked using Zerene Stacker (version 1.04. © Zerene Systems, LLL); Figs 1–3 and 5–10 were taken using Leica Application Suite.

## TAXONOMY

### Family Eulophidae Westwood, 1829
### Subfamily Eulophinae Westwood, 1829
### Genus *Zagrammosoma* Ashmead, 1904

**Diagnosis:** Two funiculars on antennae, elongated pronotum; notaulus curved and extending to anterior half of axilla; axilla strongly advanced, typically elongate, mostly anterior to scutellum; mesoscutum elongate, longer than scutellum. Antennae situated at the level of lower margin of the eyes. Propodeum without a median carina or it is weakly developed (Gordh 1978). Axillae placed in front of the base of mesoscutum and scutellar groove and notauli continued into the scuto-axillar line (Yefremova 1995a). Forewing often with fuscate areas. Other characteristics were mentioned by Cao *et al* (2014). Color of body at least partly yellow, not metallic.

**Identification:** A key to nine Nearctic species of *Zagrammosoma* was published by Gordh (1978). Three Chinese species were keyed by Cao *et al*. (2014). The following key includes species of *Zagrammosoma* in Israel.

**Key to species of *Zagrammosoma* in Israel**

1 Mesososma with two dark stripes on pronotum laterally (Figs 2, 8, 10, 13).....2
– Mesososma with one broad dark stripe on pronotum laterally (Figs 15, 17, 18) ..... *lasallei* n. sp.
2 Antenna with F1 1.6–1.8× as long as broad (Fig. 2) .....*talitzkii*
– Antenna with F1 1.0–1.1× as long as broad (Figs 7, 8, 13, 15, 18).....3
3 Forewing with triangular area between PMV and STV bare; MV with short setae (Fig. 5), apical fringe short.....*dulanense*
– Forewing with triangular area between PMV and STV setose; MV with long setae (Figs 11–13), apical fringe long .....*ramotensis* n. sp.

*Zagrammosoma talitzkii* (Bouček, 1961)

(Figs 1–4)

*Cirrospilus talitzkii* Bouček, 1961: 18.
*Zagrammosoma talitzkii* (Bouček): Yefremova 1995*a*: 50.

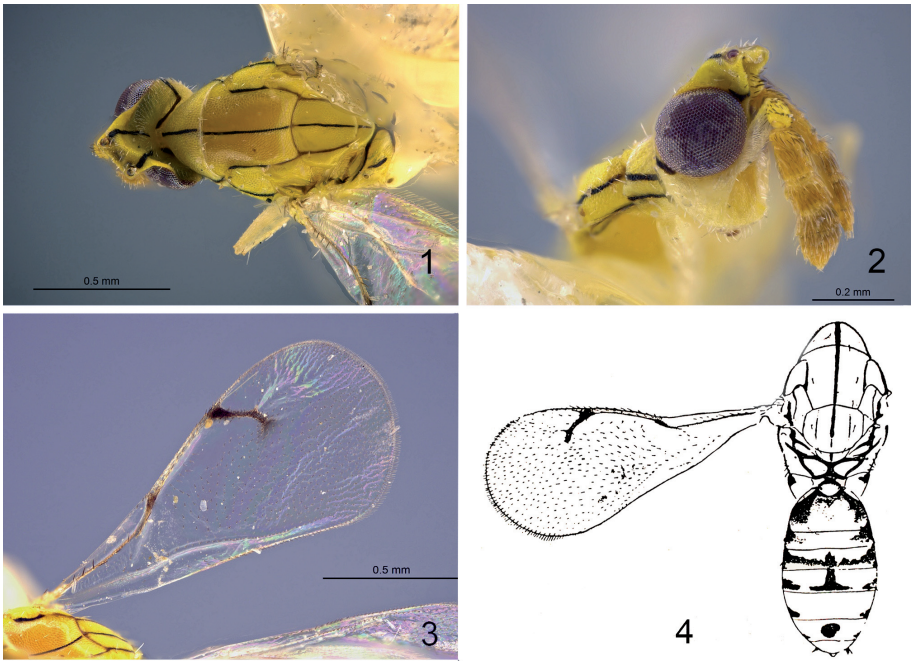
Female of this species had been unknown at the time of the original description (Bouček 1961), but was briefly described and illustrated later (Yefremova 1995*a*: p. 51). Cao *at al*. (2014) included female of *Z. talitzkii* in the key to the Asian *Zagrammosoma* species without its description.

**Diagnosis: Female.** Length 2.1–2.3 mm. Antenna: F1 1.6–1.8× as long as broad, 1.46× as long as F2, clava 2.3× as long as broad (Fig. 3). Pronotum yellow with 2 narrow lateral dark stripes. Forewing 2.5× as long as broad. Triangular area between PMV and STV bare (Fig. 3). Parastigma and stigmal vein fuscate (Fig. 3). SMV with 3–4 setae. STV 3.0–3.2× as long as PMV. Gaster yellow with black transverse stripes, Gt7 tergite with one black spot, Gt6 with 3 spots.

**Male.** Length 1.3–2.0 mm. Body light yellow with few black stripes or lines on the thorax and brown-black spots on the gaster. There are two lateral dark lines on the pronotum, upper and lower (Fig. 4). Antenna: F1 and F2 almost 2× longer than broad. Thorax and forewing as in Fig. 4. Dorsellum almost 2× shorter than propodeum. Forewing: stigma vein 3.0× shorter than broad of forewing and 2.0× shorter than marginal vein; postmarginal vein almost 2.0× shorter than stigma vein; fringe very short.

**Description: Female.** Body length 2.1–2.3 mm.

Color. Body yellow with black stripes and spots (Fig. 1), frons yellow with two black stripes laterally extending from vertex to upper lateral eye margin (Fig. 2). Antenna brownish, scape and pedicel yellow (Fig. 2). Pronotum, mesoscutum scutellum and propodeum yellow with longitudinal black stripes (Fig. 1). Propodeum with dark stripe along the anterior margin and with median line of both sides of median carina. Metasoma yellow with black transverse stripes. Forewings hyaline; veins yellow with fuscate parastigma and STV (Fig. 3). Legs yellow. Sheaths of




**Figs 1–4:** *Zagrammosoma talitzkii* Bouček: (1–3) female, head+mesosoma+propodeum in dorsal view (1), head+antennae+pronotum in lateral view (2), forewing (3); (4) male, body in dorsal view (after Bouček, 1961).

ovipositor black in posterior half, Gt7 tergite with one black spot, Gt6 with 3 spots.

Head: POL 1.8× as OOL. Antenna (Fig. 2): scape 3.7× as long as broad, pedicel 1.75× as long as broad, F1 1.8× as long as broad and 1.46× as long as F2, F2 1.0× as long as broad, clava 1.6× as long as broad.

Mesosoma 1.7× as long as broad; pronotum 1.8–2.0× as broad as long; mesoscutum 1.2–1.4× as broad as long; scutellum 1.1× as broad as long; dorsellum 3.3× as broad as long; propodeum 7.6–8.0× as broad as long; callus with 3–4 setae. Forewing (Fig. 3) 2.0–2.5× as long as broad; relative measurement of veins: SMV: prestigma:MV:PMV:STV 31:6.5:30:5:16; SMV with 3–4 setae. Forewing STV 3.0–3.2× as long as PMV, MV 1.9–2.0× as long as STV. Triangular area between PMV and STV bare, MV with 13 setae. Admarginal setae present. Speculum open.

Gaster 2.0–2.3× as long as broad.

**Male.** Body length 1.3–2.0 mm. Antenna: F1 1.75× as long as broad, F2 1.2× as long as broad, clava 2.6× as long as broad; F1 1.2× as long as F2. Gaster 1.75–1.8× as long as broad (Fig. 4).

**Holotype** (not examined): ♂ **Moldova:** "USSR, Kishinev [Chișinău], from leaf mine of *Malus* sp. ex larva *Lithocolletis corylifoliella* Haw., 17.iii.58, Z. Bouček" (National Muzeum v Praze, Prague, Czech Republic, No. 3579).

**Material examined: Russia:** 1♀ Taganrog, 26.vi.1921. C. Ahnger (Coll. Kokuev) (Figs 1–3) and 2♀ with same labels (*C. talitzkii* det. Z. Bouček 1966). 1♀ **Mongolia:** Khovd aimag, Bodonchin-Gol River, 12 km SW Altai Mts, 22.vii.1970, M. Kozlov (*C. talitzkii* det. Yefremova, 2016) (ZISP). 1♀ **Israel:** Ein Yahav, sweeping, 10.ix.1983, A. Freidberg (SMNHTAU); 1♀ 1♂ Botanical Garden, Tel Aviv University, 17.viii.2011, Z. Yefremova, V. Kravchenko, Malaise trap (SMNHTAU). 2♀ **Iran:** Azarbaijan-e Sharhi, Marand, 11.vi.1995, reared from *Leucoptera scitella* Zell., Jafarzadach (SMNHTAU).

**Distribution:** Bulgaria (Boyadzhiev 2006), Italy (Radeghieri *et al*. 2002), Moldova (Bouček 1961), Ukraine (Bouček & Askew 1968), Kazakhstan, Turkmenistan (Yefremova 1995*a*), Russia (Yefremova 2002), Iran (Yefremova *et al*. 2007), Turkey (Çikman & LaSalle 2011), Israel (Yefremova 2015; Fig. 19-1).

**Hosts:** Solitary ectoparasitoids of larvae of *Liriomyza pseudopygmina* (Hering) (Diptera: Agromyzidae), *Bucculatrix crataegi* Zeller (Lepidoptera, Bucculatricidae), *Phyllonorycter cerasicolella* H. and *P. connexella* (Zeller) (Lepidoptera, Gracillariidae) (Yefremova 1995a); *Liriomyza trifoli* (Burgess) and *L. congesta* (Becker) (Gikman & LaSalle 2011); species of Heliozelidae and Lyonitiidae (Lepidoptera) (Yefremova *et al*. 2007); *Leucoptera scitella* Zeller (Lepidoptera: Leucopteriidae), new record.

## *Zagrammosoma dulanense* Cao & Zhu, 2014

(Figs 5–10)

*Zagrammosoma dulanense* Cao & Zhu in Cao, LaSalle & Zhu, 2014: 48.

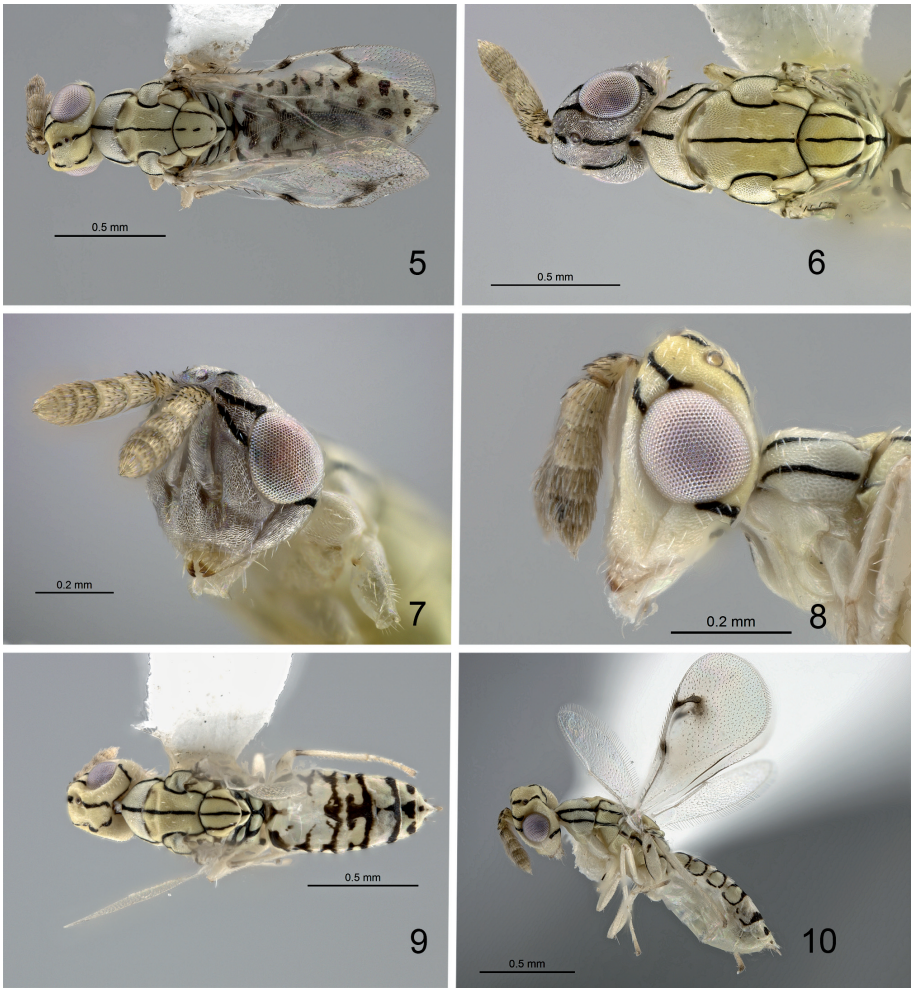
**Diagnosis** (from Cao & Zhu 2014): "Antenna with fuscate setae on flagellum … Mesosoma yellow with dark pattern and marking except pronotum and lateral lobes of mesoscutum pale yellow. A narrow median black stripe extends along the whole length of the mesosoma excluding the neck. Forewing with large bare area and fuscate parastigma and stigma vein … Stigma long and slightly curved. …black marking pattern on gastral tergites, on which there are three black spots on Gt6 and Gt7 respectively in female and marking on Gt7 are reduced into one median black spot in male".

**Extended diagnosis** (based on Israel material): Antenna: F1 1.0–1.1× as long as broad (Fig. 8), and as long as F2, clava 1.5–1.6× as long as broad. Pronotum pale yellow or whitish with two narrow lateral dark stripes (Figs 8, 10). Forewing 2.2× as long as broad. Triangular area between PMV and STV bare. SMV with 5–6 setae (Fig. 5). STV 1.85–1.90× as long as PMV. Size: female 2.2–2.4 mm, male 1.8–2.0 mm.

**Description: Female.** Body length 2.2–2.4 mm.

Color. Face whitish from frons, vertex yellow (Figs 7, 8). Occipital foramen with two pairs of dark stripes diverging from occipital foramen (Figs 6, 9). Pronotum whitish. Propodeum with a black stripe on median line in female (Figs 5, 6).

Head: POL 1.6× as OOL. Antenna (Figs 7, 8): scape 4.2× as long as broad; pedicel 1.1× as long as broad; F1 and F2 as long as broad, F1 1.2× as long as F2; clava 3-segmented and 1.7× as long as broad.




**Figs 5–10:** *Zagrammosoma dulanense* Cao & Zhu: (5–8) female: (5) body in dorsal view, (6) head+mesosoma in dorsal view, (7) face+antennae in frontal view, (8) head+antennae+pronotum in lateral view; (9, 10) male, body in dorsal (9) and lateral views (10). (Fig. 7 after Perry & Heraty (2021))

Mesosoma (Figs 5, 6) 1.8× as long as broad. Pronotum 2.7× as broad as long. Mesoscutum 1.2× as broad as long. Scutellum 1.2× as broad as long. Dorsellum as long as propodeum medially. Propodeum 7.5× as broad as long; callus with 2 setae. Forewing 1.95× as long as broad. SMV with 5–6 setae. SMV:MV:PMV:STV 50:41:14:26. Triangular area between PMV and STV bare, or with single seta. MV with 13 setae. Admarginal setae absent. Speculum large and open.

Gaster (Fig. 5) 1.8× as long as broad, 1.2× as long as thorax, smooth. Sheaths of ovipositor slightly extending from gaster.

**Male.** Body length 1.8–2.0 mm.

Color (Figs 9, 10) same as in female except three black triangular spots on Gt6 (Fig. 9). Antenna (Fig. 10): scape 4.2× as long as broad; pedicel 1.13× as long as broad; F1 1.06× as long as broad and F2 transverse (1.2× as broad as long), F1 1.13× as long as F2; clava 2.0× as long as broad.

**Material examined** (all SMNHTAU): **Israel:** 2♀ Hefer Valley, 32°22'48.7"N 34°55'58.4"E, 17.vii.2013, suction from herbaceous vegetation in a pomegranate orchard, M. Kishinevsky; 2♂ same data but 31.vii.2013, M. Kishinevsky; 2♀ Givat Haim [32°23'30"N 34°55'51"E], 17.vii.2013, suction from herbaceous vegetation in a pomegranate orchard, M. Kishinevsky.

**Distribution:** China (Cao *et al*. 2014), Israel (new record for the country; Fig. 19-2).

**Host:** *Micrurapteryx sophorivora* Kusnetsov & Tristan (Lepidoptera: Gracillariidae) (Cao *et al*. 2014).

**Taxonomic remarks:** Perry and Heraty (2021) synonymized *Z. dulanense* under *Z. talitzkii* stating that morphological differences between these species are of the intraspecific level. We, however, disagree with this synonymy and treat *Z. dulanense* as a valid species. There is a distinct hiatus in characters between *Z. dulanense* and *Z. talitzkii*. Thus, in female of *Z. dulanense* scape 4.0× as long as broad (3.7× in *Z. talitzkii*), F1 1.0–1.1× long as F2 (1.6–1.8× in *Z. talitzkii*), POL 1.6× as OOL (1.8× in *Z. talitzkii*), STV 1.8–1.9× as long as PMV (3.0× in *Z. talitzkii*), body pale yellow with whitish fontal face and pronotum (Figs 5, 6) (body bright yellow in *Z. talitzkii*; Figs 1–3). In male of *Z. dulanense*, F1 1.13× as long as F2 and 1.06× long as broad and F2 1.2× long as broad (F1=F2 and 2.0× long as broad in *Z. talitzkii*), three black spots on Gt7 (Fig. 9) (only one spot on Gt 7 in *Z. talitzkii*; Fig. 4).

### *Zagrammosoma ramotensis* n. sp.

(Figs 11–14)

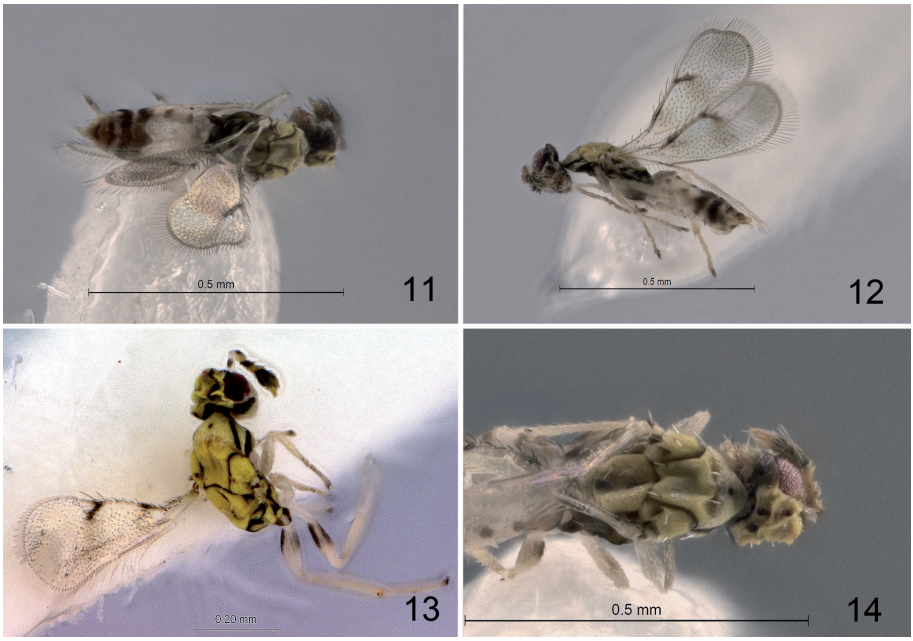
**LSID:** urn:lsid:zoobank.org:act:C2D45750-43E6-46F2-AF6C-EC598141963C.

**Etymology:** The species name refers to Moshav Ramot, where the type series was collected.

**Diagnosis:** Antenna. F1 1.1× as long as broad and as long as F2, clava 2.0× as long as broad (Figs 13, 14). Pronotum yellow with two narrow lateral dark stripes. Forewing 2.5× as long as broad, with long fringe (Figs 12, 13). Triangular area between PMV and STV with setae (Fig. 12). Parastigma and stigmal vein fuscate (Figs 12, 13). SMV with 3 setae. STV 3.0× as long as PMV. Gaster yellow with black pattern. Length: female 0.9–1.1 mm, male 0.60–0.75 mm.

**Description: Female.** Body length 0.9–1.1 mm (holotype 1.04 mm).

Color. Body yellow with black stripes and spots (Figs 13, 14). Face yellow with black stripes. Face with black transverse stripes at level of mid height of eyes. Occipital foramen with two pairs of dark stripes diverging from occipital foramen to posterior ocelli. Antenna yellow with a dark brown pattern. Scape white with a




**Figs 11–14:** *Zagrammosoma ramotensis* n. sp., body of male dorsally (11) and laterally (12), and female laterally (13) and dorsally (14).

dorsal dark brown spot at the middle area. Scape and pedicel yellow with a dorsal dark brown spot, F1 dark brown, F2 yellow and clava dark brown except yellow C3 (Fig. 13). Pronotal collar pale yellow. Pronotum with two black stripes (Fig. 13). Mesoscutum with black stripes along notauli. Scutellum with short interrupted median black stripe in the middle. Propodeum with black transverse stripes. Fore wings with fuscate parastigma and below parastigma, STV dark and a large dark spot below stigma reaching posterior margin (Fig. 13). Metasoma yellow with black coloration pattern. Legs white with a dark brown spot on the middle and hind femora (Fig. 13).

Head: POL 1.0× as OOL. Antenna (Figs 13, 14): scape 5.3× as long as broad; pedicel 1.5× as long as broad, F1 1.1× as long as broad and F2 as broad as long, F1 as long as F2; clava 3-segmented and 2.0× as long as broad.

Mesosoma 1.6× as long as broad. Pronotum 2.0× as broad as long. Mesoscutum 2.2× as broad as long. Scutellum 1.2× as broad as long. Dorsellum 1.2× as long as propodeum medially. Propodeum 4.5× as broad as long; callus with 2 setae. Forewing (Fig. 13) 2.5× as long as broad. SMV with 3 setae. SMV:MV:PMV:STV 35:43:4:12. SMV 1.3–1.4× as long as MV, PMV as stub, STV 3.0× as long as PMV. Triangular area between PMV and STV with setae. MV with 6 long setae. Marginal seta 2.0× as long as seta on submarginal vein. Speculum very small and

closed below. Forewing with long fringe (seta on apical margin of forewing 3.0× shorter than width of wing).

Gaster 2.2× as long as broad. Sheaths of ovipositor slightly extending from gaster.

**Male.** Body length 0.60–0.75 mm. Color (Figs 11, 12) same as in female, gaster with a pale yellow area on Gt1 and Gt4. Antenna: scape 2.5× as long as broad; pedicel 2.0× as long as F1, F1 1.3 shorter than F2; clava 3-segmented and 2.08× as long as broad. Gaster 1.7× as long as broad.

**Holotype:** ♀ **Israel:** Golan Heights, Ramot, 32°50'23.5"N 35°40'28.5"E, 16.vi.2015, suction from herbaceous vegetation and *Ziziphus lotus*, M. Kishinevsky (SMNHTAU).

**Paratypes: Israel:** 2♀ 6♂ Golan Heights, Ramot, 32°50'18.3"N 35°40'28.6"E, 16.vi.2015, suction from herbaceous vegetation and *Ziziphus lotus*, M. Kishinevsky (SMNHTAU).

**Distribution:** Currently known only from Israel (Fig. 19-3).

**Host:** Unknown. Associated plant *Ziziphus lotus* (L.) (Rhamnaceae).

### *Zagrammosoma lasallei* **n. sp**.

(Figs 15–18)

**LSID:** urn:lsid:zoobank.org:act:3CEF75D7-F403-4AA5-820C-C18E6D410A8C.

**Etymology:** The species is named after John LaSalle, a major contributor to the taxonomy of the Eulophidae.

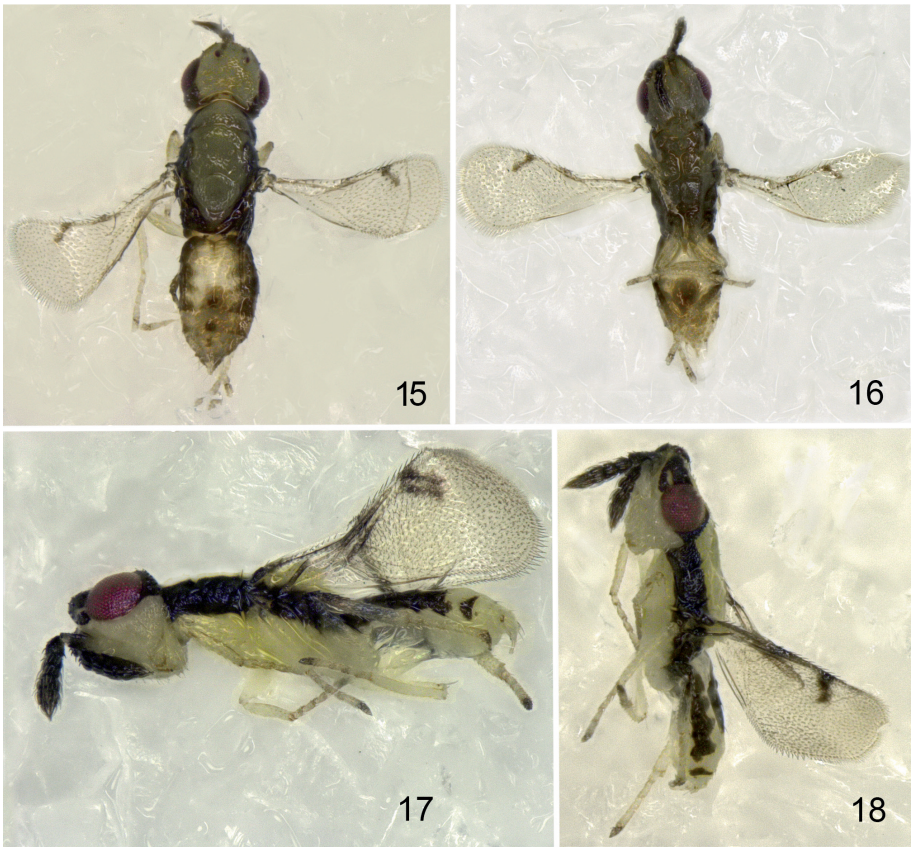
**Diagnosis:** Antenna: F1 as long as F2, subquadrate (Fig. 15); clava 2.6× as long as broad. Pronotum yellow with one broad lateral dark stripe. Forewing 2.75× as long as broad. Triangular area between PMV and STV with setae (Fig. 15). Parastigma and stigmal vein fuscate (Figs 15–18). SMV with 4 setae. STV 4.0× as long as PMV. Gaster yellow with distinct lateral dark stripes. Three black spots on Gt6 indistinct. Length: female 1.3 mm, male 1.1–1.2 mm.

**Description: Female.** Body length 1.3 mm.

Color. Body yellow with black longitudinal stripes (Fig. 15). Face pale yellow, whitish between frons and clypeus (Fig. 15). Eyes red. Vertex with two pairs of dark stripes diverging from anterior ocellus to eyes. Antenna dark brown (except pale yellow scape). Pronotum yellow with broad lateral dark stripe on each side. Mesoscutum yellow with dark scapulae. Scutellum and metanotum yellow. Propodeum yellow, callus dark. Forewing with fuscate parastigma and STV (Fig. 15). Metasoma yellow with distinct lateral dark stripes. Legs whitish (except brown distal part on femora and brown apical part on tibiae of hind leg) with brown last tarsal segments.

Head: POL 1.7× as OOL. Antenna scape 4.0× as long as broad; pedicel 1.1× as long as broad; F1 and F2 subquadrate, F1 as long as F2; clava 3-segmented and 2.6× as long as broad.

Mesosoma 1.5× as long as broad. Pronotum 2.3× as broad as long. Mesoscutum 1.0× as broad as long. Scutellum 1.1× as broad as long. Dorsellum 3× as long as




**Figs 15–18:** *Zagrammosoma lasallei* n. sp., body of female laterally (15), and male ventrally (16), laterally (17) and ventrolaterally (18).

propodeum medially. Propodeum 10× as broad as long, callus with 2 setae. Forewing (Fig. 15) 2.75× as long as broad. SMV with 4 setae. SMV:MV:PMV:STV 18:16:1:3.5. SMV 1.1× as long as MV, PMV as stub, STV 3.5× as long as PMV. Triangular area between PMV and STV with numerous setae. Speculum very small and closed below.

Gaster 1.48× as long as broad. Sheaths of ovipositor slightly extending from gaster.

**Male.** Body length 1.1–1.2 mm.

Similar to female in color. Head: POL 1.65× as OOL. Antenna (Figs 16–18): scape 3.2× as long as broad; pedicel 1.5× as long as broad; F1 and F2 subquadrate, F1 as long as F2; clava 3-segmented and 3.0× as long as broad.

Mesosoma 1.6× as long as broad. Pronotum 2.6× as broad as long. Mesoscutum 1.3× as broad as long. Scutellum 1.2× as broad as long. Dorsellum 3.0× as long

as propodeum medially. Propodeum 10.8× as broad as long, callus with 2 setae. Forewing (Figs 17, 18) 2.7× as long as broad. SMV with 4 setae. SMV:MV:PMV:STV 44:40:5:20. SMV 1.1× as long as MV, PMV as stub, STV 8.0× as long as PMV. Triangular area between PMV and STV with setae. Speculum very small and closed below.

Gaster 1.6× as long as broad.

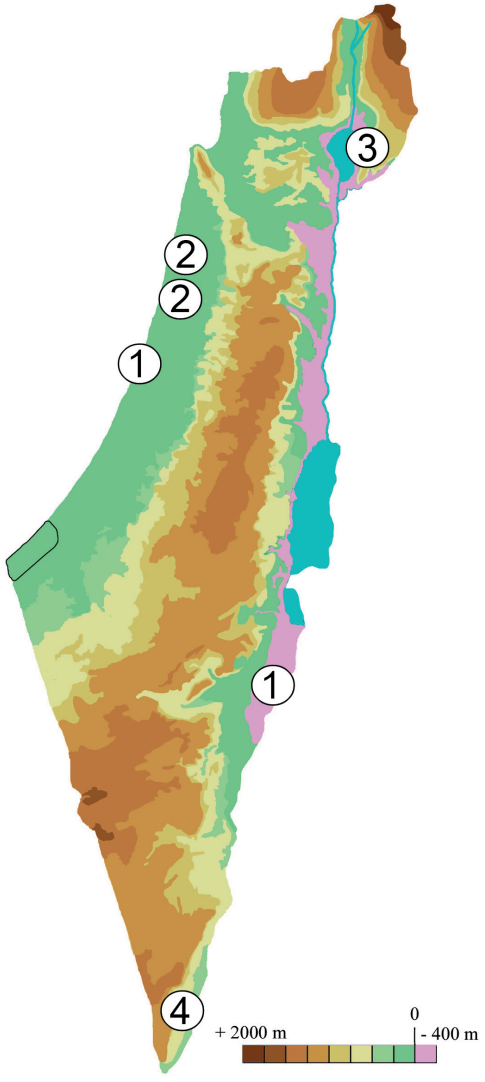



**Fig. 19:** Distribution of *Zagrammosoma* species in Israel: (1) *Z. talitzkii*, (2) *Z. dulanense*, (3) *Z. ramotensis* n. sp., (4) *Z. lasallei* n. sp.

**Holotype**: ♀ **Israel:** Southern 'Arava, Evrona Nature Reserve, 29°67'05.53"N 35°00'46"E, v.2016, suction *Vachellia tortilis* (Fabaceae), M. Segoli (SMNHTAU).

**Paratypes: Israel:** 2♂ with same label data (SMNHTAU).

**Distribution:** Currently known from Israel (Fig. 19-4).

**Host:** Unknown. Associated plant *Vachellia tortilis* (Forssk.) Galasso & Banfi (Fabaceae).

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