

*Rhamphomyia* (Diptera: Empididae) From IsraelMIROSLAV BARTÁK<sup>1</sup> AND ŠTĚPÁN KUBÍK

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**ABSTRACT** Species of the genus *Rhamphomyia* (Diptera: Empididae) from Israel are reviewed. *Rhamphomyia* (s. str.) *furmani* sp. n. (Israel) and *Rhamphomyia* (s. str.) *hermonensis* sp. n. (Israel) are described and illustrated. *Rhamphomyia* (*Holoclera*) *tenuipes* Becker, 1907; *Rhamphomyia* (*Holoclera*) *biserialis* Collin, 1960; and *Rhamphomyia* (*Pararhamphomyia*) *intersita* Collin, 1960 are redescribed. *Rhamphomyia* (s. str.) *sulcatella* Collin, 1926 and *Rhamphomyia* (s. str.) *karamanensis* Barták, Ciftci et Hasbenli, 2007 are reported from Israel for the first time.

**KEY WORDS** Diptera, Empididae, *Rhamphomyia*, new species, Israel

*Rhamphomyia* Meigen is a large genus of the family Empididae comprising ≈350 described species in the Palaearctic Region (Barták et al. 2007); however, many new species are still awaiting description especially in southern and eastern parts of this region. Revision of the material from Tel Aviv University collected in Israel revealed two new species that are described here and a further five previously known species: three of them are redescribed here and two are new to the Israeli fauna.

Bodenheimer (1937) listed a *Rhamphomyia* sp. from Palestine, but without any data. Collin (1960) dealt comprehensively with the Empididae (including *Rhamphomyia*) from the area of the former Palestine (including present state Israel) and described two species: *Rhamphomyia* (*Holoclera*) *biserialis* Collin, 1960 and *Rhamphomyia* (*Pararhamphomyia*) *intersita* Collin, 1960. Both descriptions were rather inadequate because Collin had only damaged specimens at hand. Moreover, illustrations of male terminalia of the former species are still lacking. Therefore, the redescription of both species was necessary. Much more difficult situation is with *Rhamphomyia* (*Holoclera*) *tenuipes* Becker, 1907. This species was described from Algiers on the basis of females only, and we believe it to be conspecific with the commonest species present in the collection studied. The species, very similar to *R. lamellata* Collin, 1926, is redescribed here, too.

### Materials and Methods

The material studied is based primarily on the collection of Tel Aviv University (TAU; Museum of Natural History). Specimens are also deposited in the following collections: Canadian National Collection of Insects, Ottawa, ON, Canada (CNC), Czech Univer-

sity of Life Sciences, Prague, Czech Republic (CULSP), ZML (Zoology Museum, Lund University), The Natural History Museum, London, United Kingdom (BMNH), Muséum d'Histoire Naturelle, Neuchâtel, Switzerland (MHNN), and Muséum d'Histoire Naturelle, Geneva, Switzerland (MHNG).

The genitalia were macerated in 10% KOH (24 h; room temperature) and stored together with the specimens in plastic microvials filled with glycerine. The morphological terms used here follow those of Merz and Haenni (2000) and Sinclair (2000). Abbreviations: T1l, T2l, T3l, length of fore, mid, hind tibia, respectively; B1l, B2l, B3l, length of fore, mid, hind basal tarsomere, respectively; B1w, B2w, B3w, width of fore, mid, hind basal tarsomere, respectively; M2/D, length of vein M2; greatest length of discal medial cell; M3/Db, length of apical: preapical sections of vein CuA<sub>1</sub>; lw:ww, greatest length of wing:greatest width of wing. Length of antennal segments, length of first:second:third:style (in 0.01-mm scale). Characters marked with “?” are unclear (e.g., width of face or frons may be difficult to measure when shrunken, or length of setae when broken).

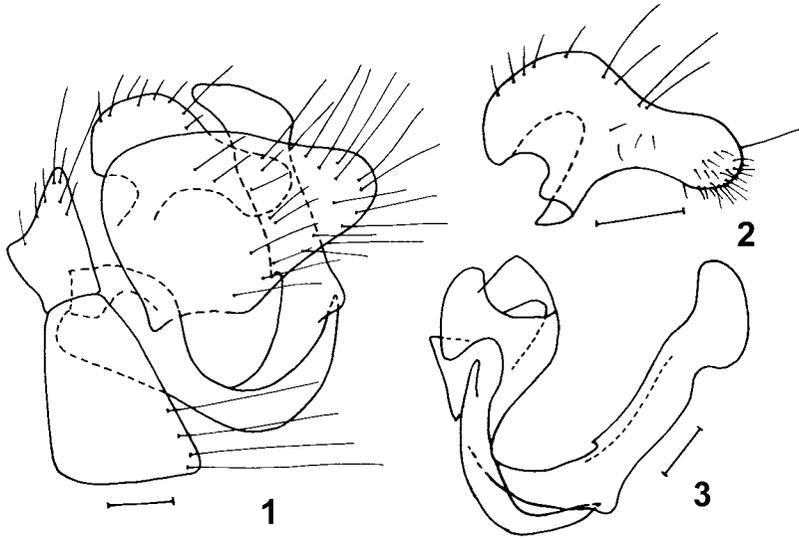
Abbreviations of collector's names: AF, A. Freidberg; BM, B. Merz; DF, D. Furth; FK, F. Kaplan; IY, I. Yarom; IZ, I. Zonstein; JPH, J.-P. Haenni; LF, L. Friedman; MB, M. Baez; MK, M. Kaplan; YN, Y. Nussbaum; OT, O. Theodor; TF, T. Furman; WK, W. Kuslitzky; YZ, Y. Zvik.

### Results and Discussion

#### *Rhamphomyia* (s. str.) *furmani* sp. nov. (Figs. 1–3)

**Descriptions. Type Material. HOLOTYPE** Male. Israel, Nahal Oren [N. Orcu], 22-VI-1981, T. Furman leg. (TAU); **PARATYPE**: Israel, Me'arot Telimon

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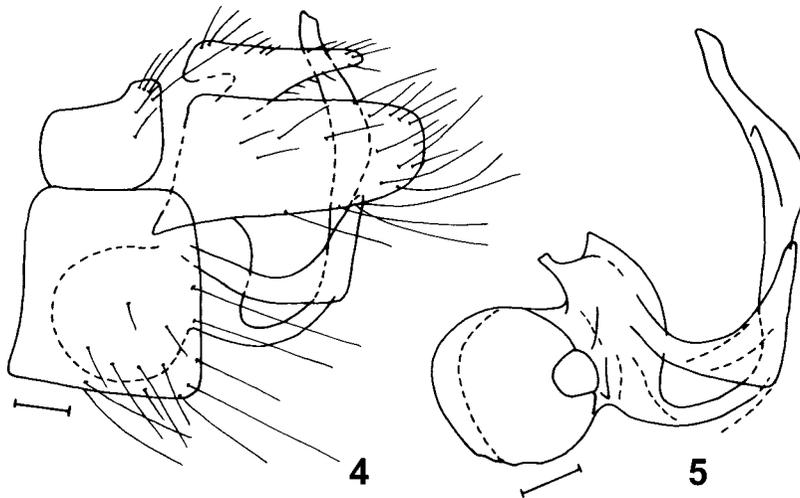


Figs. 1-3. *R. (s. str.) furmani* sp. n. 1. Male (holotype) terminalia (macerated), lateral view. 2. Male (holotype) cercus. Figure 3. Male (holotype) phallus, lateral view. Scale bars = 0.1 mm.

(=Telimon Caves), 32.6° N 34.97° E (2 km NE Fureidis), 3-III-1982, 1 ♀ (TAU).

**Male.** Eyes holoptic, facets in ventral half of eye much smaller than in dorsal half. Frons (small areas just above antennae and below ocellar triangle) brownish black, light gray microtrichose, setae absent. Ocellar setae black and fine, scarcely one third as long as distance between front ocellus and base of antennae, ocellar triangle with four to five pairs of additional setae. Face brownish black, light gray microtrichose,  $\approx 0.20$  mm broad ventrally and 0.22 mm long, without setae. Occiput brownish black, light gray microtrichose, with rather long, sparse black setae, postocular row absent in ventral half. Antenna brownish black, length of antennal segments = 10:9:32:7, both basal antennomeres setose (longest setae  $\approx 0.10$  mm). Labrum brown, lustrous, two thirds as long as head is high. Palpus brown, short, with several short setae. Gena narrow and microtrichose, clypeus partly lustrous. Thorax brownish black, light gray microtrichose, mesoscutum with three darker stripes down rows of acrostichals and dorsocentrals (best visible in caudal view). All thoracic setae black. Chaetotaxy: approximately six setae on proepisternum; prosternum bare; proepisternal depression with four setae; almost 20 biserial and fine acrostichals;  $\approx 24$  irregularly two to three serial dorsocentrals (both acrostichals and dorsocentrals  $\approx 0.15$  mm long in middle of their rows), ending in one to two strong prescutellar; both intrahumeral and posthumeral scarcely distinguishable from  $\approx 20$  setae lateral of dorsocentrals in presutural part of mesoscutum; 1 long postpronotal and  $\approx 15$  shorter setae; two to three notopleurals ( $\approx 10$  shorter setae on anterior part of notopleuron); one supraalar and  $\approx 10$  further setae between prealar area and supraalar seta; one strong and one small postalar; four scutellars; laterotergite with black setae. Coxae blackish brown, concolorous with pleura, microtrichose,

black setose. Legs brown, mid and hind femora and hind tibia almost lustrous (except ventral microtrichosity), other parts of legs microtrichose, all setae black. One long seta in comb at tip of hind tibia. Fore femur with very short anteroventral and dorsal setae (approximately one third as long as femur is deep), posteroventrals are longer, up to as long as femur is deep (on distal third, half as long on proximal part). Fore tibia with dorsal and posterodorsal setation, setae unequal in length and thickness, the longest more than twice as long as tibia is deep, ventral setation very short, scarcely one-fourth as long as tibia is deep. Mid femur with row of anteroventral setae as long as femur is deep, posteroventral setae shorter, dorsal setation very short. Mid tibia with two rows of setae dorsally (four to five setae in each row) more than twice as long as tibia is deep, finer setae between them only slightly shorter, ventral setae shorter than tibia is deep. Hind femur with two posteroventral and 7-9 anteroventral setae nearly as long as femur is deep situated mostly on apical half of femur, dorsal setation short and fine. Hind tibia distinctly thickened apically, dorsally with two rows of setae slightly shorter than tibia is deep, ventral setae short and fine. Basal tarsomere of fore leg thin and short setose, T11:B11 = 2.8-2.9, B11:B1w = 4.1?, basal tarsomere of mid leg thin and short setose, ventrally with short spine like setae, T21:B21 = 3.0, B21:B2w = 3.4-3.5; basal tarsomere of hind leg slightly swollen (however, collapsed in the only available male) dorsally with 1-2 short setae, T31:B31 = 2.5-2.6, B31:B3w = 3.0?. Wing clear, stigma brownish yellow, veins brownish yellow, anal vein (A1) complete (depigmented in basal half). Costal seta absent, axillary angle sharply acute. M2/D = 1.4-1.5, M3/Db = 2.5, lw:ww = 3.0. Halter yellow, calypter yellow with dark fringes. Abdomen brownish black, light gray microtrichose (light and almost silvery gray in dorsal view), eighth sternite and genital lamellae contrast-



Figs. 4-5. *R. (s. str.) hermonensis* sp. n. 4. Male (paratype) terminalia (macerated), lateral view. 5. Male (paratype) phallus, lateral view. Scale bars = 0.1 mm.

ingly lustrous, all setae dark. Hind marginal setae on sides of tergites 2-6 slightly longer than their corresponding segments, discal setae slightly shorter, dorsum of tergites with very short setae, first sternite bare. Terminalia as in Figs. 1-3: epandrium triangular; cercus about twice as long as high; phallus broadened apically, with dorsal submedian tooth and ventral submedian swelling, ejaculatory apodeme small; hypandrium small, its tip inserted into phallus swelling. Length of body 2.9 mm (without genitalia), wing 3.3 mm.

**Female.** Similar to male but with the following differences. Eyes broadly dichoptic, all facets subequal in size. Frons 0.25 mm long and 0.18 mm broad, with five short setae on each side. Ocellar setae two thirds as long as frons. Face 0.25 mm long and  $\approx$ 0.15 mm broad. Occiput short setose. Length of antennal segments = 7:7:30:7. Labrum slightly longer than (?) head is high. Chaetotaxy as in male but setae shorter (both acrostichals and dorsocentrals  $\approx$ 0.10 mm long in middle of their rows). All femora short setose. Fore and mid tibiae with dorsal setation about as long as tibiae are deep (without prominent setae), ventral setation very short. Hind tibia with two rows of setae dorsally slightly shorter than tibia is deep. T1l:B1l = 3.0, B1l:B1w = 5.4-5.5; T2l:B2l = 2.6-2.7, B2l:B2w = 5.5; basal tarsomere of hind leg thin, T3l:B3l = 2.5-2.6, B3l:B3w = 4.0? M2/D = 1.5-1.6, M3/Db = 2.5-2.6, lw:ww = 3.0. Hind marginal setae on sides of abdominal tergites 2-4 two thirds as long as their corresponding segments. Length of body 3.2 mm, wing 3.0 mm.

**Differential Diagnosis.** *Rhamphomyia furmani* sp. n. belongs to *R. (s. str.) ignobilis* Zetterstedt, 1859 group of species (as delimited by Barták 2001: 314) and represents one of the smallest members of the subgenus *Rhamphomyia (s. str.)* in the Palaearctic fauna. It differs from all species of this group except *Rhamphomyia wagneri* Barták, 1998 by partly polished eighth abdominal segment, however, the latter species bears

curious polished "hump" dorsally on tergite 8. Several external characters are somewhat similar (if precise arrangement of acrostichals is overlooked) to *Rhamphomyia iranica* Barták & Kubík, 2008; however, the latter species is much larger (wing length  $>$ 5.0 mm), with multiserial acrostichals, has narrow hind basitarsus and it belongs to the *R. tibialis* group of species. Another related species, *Rhamphomyia nigromaculata* Roser, 1840, has phallus narrowed apically. The female differs from other species of *R. ignobilis* group by the very small size, mid femora lacking anteroventral spine like setae, light gray (not silvery) abdomen and hind femora lacking flattened setae.

**Distribution.** Israel.

**Dates of Occurrence.** March-June.

*Rhamphomyia (s. str.) hermonensis* sp. nov.  
(Figs. 4-5)

**Type Material.** HOLOTYPE Male. Israel, Har Hermon [Mt. Hermon], 1,600 m, 23-IV-1982, I. Yarom leg. (TAU); PARATYPES: same data as the holotype, 11  $\delta$ , Har Hermon [Mt. Hermon], 2,000 m, 23-IV-1982, 2  $\delta$ , A. Freidberg leg., Har Hermon [Mt. Hermon], one 600 m, 19-V-1983, F. Kaplan leg., 1  $\delta$ ; (TAU, CULSP).

**Male.** Eyes holoptic, facets in ventral half of eye much smaller than in dorsal half. Frons (small areas just above antennae and below ocellar triangle) blackish brown, gray microtrichose, setae absent. Ocellar setae black and fine, almost half as long as distance between front ocellus and base of antennae, ocellar triangle with two to three pairs of additional setae. Face blackish brown, largely lustrous, but microtrichose dorsally and on sides,  $\approx$ 0.25-0.30 mm broad ventrally and 0.15-0.20 mm long, without setae. Occiput blackish brown, brown microtrichose, rather densely black setose, postocular row irregular in ventral half. Antenna with two basal segments brown, remaining parts black, length of antennal segments =

11–12:8–10:42–46:11, both basal antennomeres setose (longest setae  $\approx 0.20$  mm). Labrum brownish black, lustrous, two thirds as long as head is high. Palpus brown, short, with numerous ( $>20$ ) long setae ( $\approx 0.30$  mm long). Both gena and clypeus lustrous. Thorax blackish brown, dark brown microtrichose, mesoscutum without any stripes. All thoracic setae black. Chaetotaxy:  $\approx 15$  setae on proepisternum; prosternum bare; proepisternal depression with 7–9 setae; 16–20 biserial and fine acrostichals;  $\approx 14$ –24 irregularly two to three serial dorsocentrals (both acrostichals and dorsocentrals  $\approx 0.20$ – $0.30$  mm long in middle of their rows), ending in two to three strong prescutellars; both intrahumeral and posthumeral scarcely distinguishable from  $\approx 10$ –20 setae laterad of dorsocentrals in presutural part of mesoscutum; 1 postpronotal (sometimes scarcely differentiated from  $\approx 15$ –20 slightly shorter setae); two to four notopleurals ( $\approx 4$  shorter setae on anterior part of notopleuron); one to two supraalars and approximately three to five further setae between prealar area and supraalar seta; one strong and one small postalars; four to six scutellars (sometimes with one to four additional small setae); laterotergite with black setae. Coxae blackish brown, concolorous with pleura, microtrichose, black setose. Legs blackish brown, microtrichose, black setose. One long seta in comb at tip of hind tibia. Fore femur with irregular rows of anteroventral and posteroventral setae, and with posterodorsal or posterior setae, all slightly longer than femur is deep (some of them quite strong). Fore tibia with posterodorsal setation as long as tibia is deep and with two to four prominent anterodorsal and posterodorsal setae 1.5 times as long, ventral setation very short. Mid femur with anterior and anteroventral setation approximately one third as long as femur is deep and with rather dense posteroventral setae slightly longer than femur is deep and with several anterodorsal setae as long as femur is deep. Mid tibia with two rows of prominent setae dorsally (three to four setae in each row)  $\approx 1.5$  times as long as tibia is deep, ventral setation scarcely half as long as tibia is deep, without prominent setae. Hind femur with anteroventral setae in basal third of femur as long as femur is deep and with shorter anteroventrals in apical part of femur, corresponding posteroventrals slightly longer than anteroventrals, and with both antero- and posterodorsal setae in apical third of femur as long as femur is deep. Hind tibia dorsally with two rows of setae (five to eight in each row) slightly longer than tibia is deep, ventral setae scarcely one third as long as tibia is deep. Basal tarsomere of fore leg thin, with several dorsal setae slightly longer than basitarsus is deep, T1l:B1l = 2.1–2.4, B1l:B1w = 5.5; basal tarsomere of mid leg thin and short setose, ventrally with short spine like setae, T2l:B2l = 2.6–2.8, B2l:B2w = 5.5–6.2; basal tarsomere of hind leg very thin, dorsally with several setae up to twice as long as basitarsus is deep, T3l:B3l = 2.4–2.6, B3l:B3w = 7.0–7.5. Wing light brown, stigma only slightly darker, veins brown, anal vein (A1) complete. Costal seta long, axillary angle sharply acute. M2/D = 1.4–1.6, M3/Db = 3.2–3.5, lw:ww = 2.9–3.0. Halter brown, calypter brown with

dark fringes. Abdomen brown, brown microtrichose, lateral and hind part of tergites sublustrous to almost lustrous (devoid of microtrichiae), black setose. Hind marginal setae on sides of tergites 2–7 slightly longer than their corresponding segments, discal setae slightly shorter, dorsum of tergites with very short setae, first sternite densely setose. Terminalia as in Figs. 4–5: epandrium simply ovate; hypandrium short; cercus simple, elongated,  $\approx 2$ –3 times as long as broad; phallus with slight submedian swelling, narrowed toward tip, without any spines. Length of body 4.0–4.7 mm (without genitalia), wing 4.2–4.6 mm.

*Female.* Unknown.

**Differential Diagnosis.** *Rhamphomyia hermonensis* sp. n. belongs to *Rhamphomyia* (s. str.) *melania* Becker, 1887 group of species (as delimited by Barták 2001: 316). Male differs from all known species of this group by polished to subpolished lateral parts of abdominal tergites and short labrum. Female remains unknown, however, it may be similar to *R. melania*.

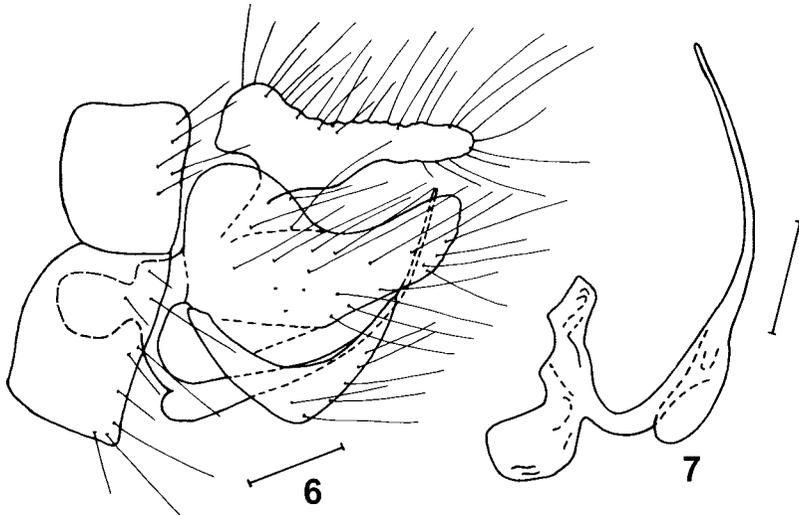
**Distribution.** Israel.

**Dates of Occurrence.** April–May.

*Rhamphomyia (Holoclera) biserialis* Collin, 1960  
(Figs. 8–10)

Collin, 1960: Ann. Mag. Nat. Hist. 13 (1959): 395.

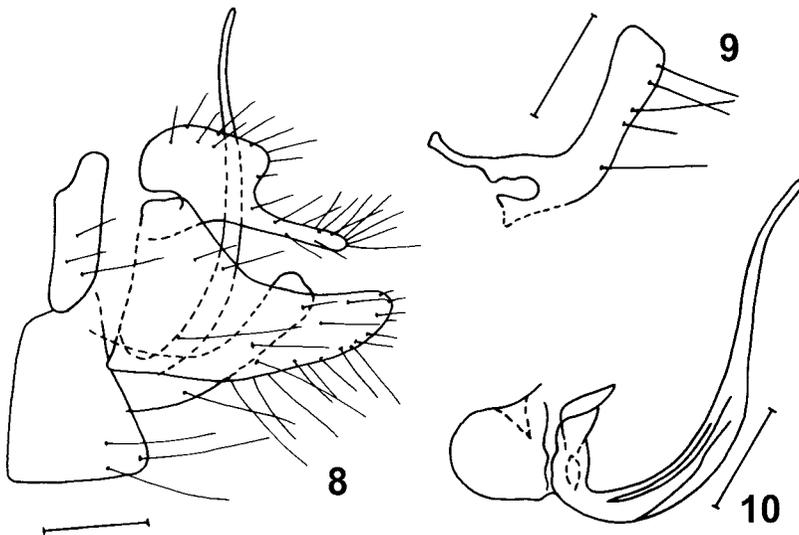
**Redescriptions.** *Male.* Eyes holoptic, facets in ventral half of eye much smaller than in dorsal half. Frons (small areas just above antennae and below ocellar triangle) brownish back, microtrichose, setae absent. Ocellar setae black, slightly less than half as long as distance between front ocellus and base of antennae, ocellar triangle with one to two pairs of additional rather long setae. Face brown, microtrichose,  $\approx 0.15$  mm broad ventrally and 0.10 mm long, without setae. Occiput brown, microtrichose, with rather dense and long black setae, postocular row complete but irregular in ventral third. Antenna with two basal segments brown, remaining parts black, length of antennal segments = 5–6:7:30–31:10–12, both basal antennomeres with short setae (longest setae  $\approx 0.10$  mm long). Labrum brown, slightly longer than head is high. Palpus brown, short, with only one to three short setae. Both gena and clypeus microtrichose. Thorax brownish black, microtrichose, mesoscutum with two scarcely visible stripes between acrostichals and dorsocentrals that seem dark viewed from the front and light viewed from behind. All thoracic setae black. Chaetotaxy: three to five setae on proepisternum; prosternum bare; proepisternal depression with two to four setae; 12–16 irregularly biserial dorsocentrals ( $\approx 0.15$ – $0.23$  mm long in middle of their rows), ending in two to four prescutellars; acrostichals absent; intrahumeral absent; one posthumeral and  $\approx 7$ –10 nearly equally long setae laterad of dorsocentrals in presutural part of mesoscutum; one to two long postpronotal and three to seven shorter additional setae; three notopleurals (four to eight shorter setae on anterior part of notopleuron); two to three setae in prealar region; supraalar present or absent; one strong and one very



Figs. 6-7. *R. (Holoclera) tenuipes* Becker, 1907. 6. Male terminalia (macerated), lateral view. 7. Male phallus, lateral view. Scale bars = 0.1 mm.

small postalar; four scutellars (sometimes with an additional pair of shorter setae); laterotergite with black setae. Legs including coxae brown, microtrichose, with black setae. One very short and nearly indistinct seta in dense comb at tip of hind tibia. Fore femur with anterior row of (sensory?) setae  $\approx 0.03$  mm long and with relatively long posterodorsal setae (slightly longer than femur is deep and up to 0.25 mm long) and similar but slightly shorter posteroventrals, anteroventrals very short. Fore and mid tibiae with only short setation, without prominent setae (except preapicals). Mid and hind femora with short setation, no prominent setae, several setae dorsally on proximal part may be somewhat longer than femur is deep. Hind tibia with four to six irregularly arranged setae dorsally

slightly shorter than tibia is deep, otherwise with short setation only. Basal tarsomeres of both fore and mid legs thin and short setose,  $T1l:B1l = 1.5-1.7$ ,  $B1l:B1w = 9.0-10.2$ ;  $T2l:B2l = 2.0-2.5$ ,  $B2l:B2w = 8.4-9.4$ ; basal tarsomere of hind leg thin, short setose, ventrally with several short spine like setae,  $T3l:B3l = 2.0-2.1$ ,  $B3l:B3w = 6.5-6.7$ . Wing brown, stigma indistinct or only slightly darker, veins brown, anal vein (A1) gradually missing distally, indistinct in distal third (sometimes present just before wing margin). Costal seta present, axillary angle right,  $M2/D = 1.8-2.1$ ,  $M3/Db = 4.0-4.7$ ,  $lw:ww = 2.6-2.8$ . Halter brownish black, calypter brownish black with dark fringes. Abdomen blackish brown, microtrichose, black setose. Hind marginal setae on sides of tergites 2-4 about as long as their



Figs. 8-10. *R. (Holoclera) biserialis* Collin, 1960. 8. Male terminalia (macerated), lateral view. 9. Male hypandrium, lateral view. 10. Male phallus, lateral view. Scale bars = 0.1 mm.

corresponding segments, on remaining segments slightly shorter, discal setae slightly shorter than marginals, dorsum of tergites with short setae, first sternite bare. Terminalia as in Figs. 8–10: hypandrium long and broad, long setose; epandrium narrowed toward tip; cercus long, much broader in proximal half than in its distal half, distal part parallel sided, dorsum long setose; phallus thin and relatively short, without subbasal swelling. Length of body 2.9–3.4 mm (without genitalia), wing 2.9–3.3 mm.

*Female.* Similar to male but with the following differences. Eyes dichoptic, facets subequal in size. Frons 0.25 mm long and 0.11 mm broad, almost parallel sided, with three to five rather long (up to 0.10 mm) setae on each side. Ocellar setae slightly more than half as long as distance between front ocellus and base of antennae. Face  $\approx 0.15$  mm broad ventrally and 0.10 mm long. Hind femur slightly more lustrous in proximal part than in male. Fore femur with shorter setation than in male, posterodorsals  $\approx 0.10$  mm long. Mid tibia with several setae both dorsally and ventrally shorter than tibia is deep; T1l:B1l = 1.9–2.1, B1l:B1w = 9.6–11.8; T2l:B2l = 2.4–2.6, B2l:B2w = 8.0–8.6; T3l:B3l = 2.0–2.3, B3l:B3w = 10.0; M2/D = 1.8–2.1, M3/Db = 3.8–4.8, lw:ww = 2.7–3.0. Hind marginal setae on sides of tergites 2–3 two thirds as long as their corresponding segments, on remaining segments slightly shorter (one third as long as segments). Length of body 3.2–4.1 mm, wing 3.0–3.8 mm.

*Notes.* *R. (Holoclera) biserialis* was described on the basis of a single badly damaged (headless) male from “Mikue, coastal plain” [=Miqwe], three females from “Hedera” [=Hadera] and a further female from “Nataniah” [=Netanya]. The species belongs to *R. (Holoclera) nigripennis* group of species. Both sexes of this species can be easily recognized from other species of this group according to the irregularly biserial dorsocentrals (all other known West Palaearctic species of this group have uniserial dorsocentrals). Moreover, the male has relatively very long posteroventral setae on the fore femur.

**Material Examined.** Israel. 'En-Ziwan, 9-IV-1987, 5♀, YN; Nahal Poleg [W. Falik], 27-II-1968, 1♀, Kugler coll.; Nahal Poleg, 14-I-1975, 2♂, 6-II-73, 14♂, 2♀—all AF; Bet-Yehoshua', 12-I-1972, 1♀, MK; Palmahim, 8-III-1975, 1♀, MK; Bet Lehem, 10-II-1995, 1♀, YN; (TAU or CULSP).

**Distribution.** Israel.

**Dates of Occurrence.** January–April.

*Rhaphomyia (Holoclera) tenuipes* Becker, 1907  
(Figs. 6–7)

Becker, 1907: Z. Syst. Hymenopt. Dipterol., 7: 121.

*Male.* Eyes holoptic, facets in ventral half of eye much smaller than in dorsal half. Frons (small areas just above antennae and below ocellar triangle) brown, brown microtrichose, setae absent. Ocellar setae black, about half as long as distance between front ocellus and base of antennae, ocellar triangle with one to two pairs of additional setae. Face brown,

microtrichose,  $\approx 0.10$ – $0.13$  mm broad ventrally and 0.12–0.15 mm long, without setae. Occiput brown, microtrichose, sparsely black setose (setae on dorsal two thirds of occiput confined to two rows), postocular row almost complete but distant from eye margin in ventral half. Antenna with two basal segments reddish brown, remaining parts brown, length of antennal segments = 5–7:6–7:21–30:9–13, both basal antennomeres short setose (longest setae  $\approx 0.07$  mm long). Labrum brown, about as long as head is high. Palpus brown, short, with only one to three short setae. Both gena and clypeus microtrichose. Thorax brown, microtrichose, mesoscutum light brownish gray viewed from front or from sides and uniformly dark brown viewed from above; without any stripes or with two narrow stripes between acrostichals and dorsocentrals that seem dark viewed from front and pale viewed from behind. All thoracic setae black. Chaetotaxy: one to three setae on proepisternum; both prosternum and proepisternal depression bare; 4–10 uniserial dorsocentrals ( $\approx 0.15$ – $0.20$  mm long in middle of their rows), ending in one to two only slightly longer prescutellars; acrostichals absent; intrahumeral absent; one strong posthumeral (no additional setae laterad of dorsocentrals in presutural part of mesoscutum); one long postpronotal and one to three very short additional setae; three notopleurals (zero to two shorter setae on anterior part of notopleuron); one to two short supraalar (inserted in rather cranial position, almost in prealar region); one strong and one very small postalar; four scutellars; laterotergite with black setae. Fore coxa yellow, both mid and hind coxae yellowish brown to dark brown, microtrichose, black setose. Legs brown (bases of all femora sometimes brownish yellow), microtrichose (hind and sometimes mid femora at least partly lustrous), black setose. One very short and weakly distinct seta in dense comb at tip of hind tibia. Fore femur with short setation (no prominent setae), anterior row of (sensory?) setae  $\approx 0.03$  mm long. Fore tibia with only short setation, without prominent setae (except preapicals). Mid femur with short setation, no prominent setae. Mid tibia often with one submedian posterodorsal seta, otherwise with only short setation. Hind femur with short setation, without prominent setae, only dorsal setae on proximal part slightly longer than femur is deep. Hind tibia with two to five posterodorsal setae slightly longer than tibia is deep (situated mostly on distal half of tibia), otherwise with short setation only. Basal tarsomeres of both fore and mid legs thin and short setose, T1l:B1l = 1.5–1.7, B1l:B1w = 12.0; T2l:B2l = 2.2–2.3, B2l:B2w = 12.0–14.0; basal tarsomere of hind leg very thin, short setose, ventrally with several spine like setae slightly longer than basitarsus is deep, T3l:B3l = 2.0–2.3, B3l:B3w = 8.8–11.4. Wing light brown, sometimes almost clear in lower half, stigma indistinct or only slightly darker, veins brown, anal vein (A1) gradually missing distally, indistinct in distal third. Costal seta long, axillary angle right. M2/D = 1.6–1.9, M3/Db = 3.5–3.9, lw:ww = 2.6–3.2. Halter brown with paler stem, calypter light brown with dark fringes. Abdomen brown (sometimes brownish yellow in basal

Table 1. Differences in male terminalia

	<i>R. tenuipes</i>	<i>R. lamellata</i>
8th sternite	With 2-4 long marginal setae and 2-5 additional shorter setae	With many short setae in two irregular rows (10-12 setae in each row)
Cercus	Parallel-sided in apical half, with only short setae ventrally	Distinctly broadened apically, with long setae also along ventral margin
Epanthrium	Gently rounded apically, without spine-like setae apically	Sharpened apically, with 1-2 strong spine-like setae apically
Hypandrium	Long and densely setose, setae longer than maximum height of hypandrium	Short and sparsely setose, setae shorter than maximum height of hypandrium

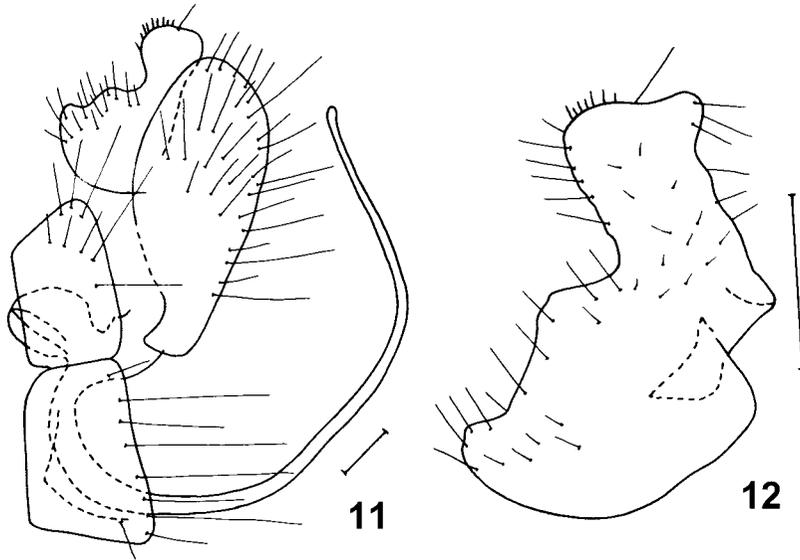
part or ventrally), brown microtrichose, black setose. Hind marginal setae on sides of tergites 2-3 slightly longer than their corresponding segments, on remaining segments slightly shorter, discal setae slightly shorter than marginals, dorsum of tergites with short setae, first sternite bare. Terminalia as in Figs. 6-7: hypandrium large and long setose; epanthrium elongate ovate, with gently rounded tip; cercus long, twice broader in proximal half than in distal half, distal part parallel sided, dorsum long setose; phallus thin, with subbasal swelling. Length of body 2.8-3.4 mm (without genitalia), wing 3.0-3.6 mm.

**Female.** Similar to male but with the following differences. Eyes dichoptic, facets subequal in size. Frons brown, microtrichose, 0.20-0.26 mm long and 0.09 mm broad, almost parallel sided, with two to four rather long (up to 0.10 mm) setae on each side. Ocellar setae slightly more than half as long as the distance between front ocellus and base of antennae. Labrum slightly longer than head is high. Clypeus partly lustrous. Legs paler than in male: femora yellow to yellowish brown, tibiae brownish yellow, mid and hind coxae brownish yellow to yellowish brown. Mid tibia with one to two pairs of ventral setae shorter than tibia is deep and with one to two pairs of dorsal setae slightly longer than tibia is deep. Dorsal setae on proximal part of hind femur shorter than in male, most females with short but distinct anteroventral seta one third before apex of femur. Hind tibia often with both antero- and posterodorsal setae. T1l:B1l = 1.7-1.9, B1l:B1w = 13.0-17.0; T2l:B2l = 2.2-2.3, B2l:B2w = 10.0-13.0; T3l:B3l = 2.1-2.3, B3l:B3w = 9.9-11.4. Wing clear, at most light brownish in costal part, M2/D = 1.4-1.6, M3/Db = 2.0-2.1, lw:ww = 2.8-2.9. Halter yellowish brown, calypter yellow with dark fringes. Abdomen yellowish brown, microtrichose, lateral part of tergites 2-5 sublustrous. Hind marginal setae on sides of tergites 2-3 half as long as their corresponding segments, on remaining segments slightly shorter (one third as long as segments). Length of body 2.7-4.2 mm, wing 3.0-3.9 mm.

**Notes.** *R. (Holoclera) tenuipes* was described on the basis of "Einige Exemplaren aus Algier." There are two conspecific females belonging to *R. (Holoclera) nigripennis* group of species deposited in Zoologisches Museum, Berlin. They are labeled: "Algier 52238. iv", "tenuipes Beck.", "Typus", "Zool.Mus.Berlin". Both are situated on one pin and in good condition (one with left wing missing, the other with left antenna and left

hind leg missing). In spite of the fact that identification of females in *R. nigripennis* group is difficult, we believe both syntypes to be conspecific with the specimens used here for the redescription of the species (both syntypes share the same diagnostic characters as females of *R. lamellata*, however, the latter species does not occur in North Africa). *R. tenuipes* is extremely similar to *R. lamellata*. The latter species is slightly darker (mesoscutum velvety black), with darker wings (almost blackish in male), with male cercus distinctly broadened apically and covered with setae about as long as cercus, but nearly parallel-sided in distal half in *R. tenuipes*, covered with distinctly shorter setae (compare Fig. 6 with fig. 149b, Collin 1961, p. 427). Differences in male terminalia are summarized in the following table. Collin's record of *R. lamellata* from Palestine (Collin 1960) most probably also refers to *R. tenuipes* (Table 1).

**Material Examined.** Israel. Gonen, 15-III-1975, 35♂, 20♀, AF or FK; Qusbiye [Qasabiya], 22-I-1984, 1♀, 17-II-1984, 1♀—all YN; Montfort, 10-III-1981, 1♂, 2♀, TF; Montfort, 4-III-1993, 1♂, 1♀, 6-III-2000, 5♂—all AF; Haifa, 17-II-1973, 2♀, 20-II-1976, 1♀—all AF, 9-IV-1989, 1♂, YN; Carmel, 14-II-1976, 2♀, AF; Hammat Gader, 1-VI-1986, 1♂, AF; Even Yizhaq, 20-II-2002, 1♂, LF; Jordan Valley, 26-IV-1931, 1♀, OT; Ma'agan Mikha'el, 26-V-1976, 1♂, AF; Hadera, 22-II-1981, 2♂, AF; Nahal Alexander, 15-II-1975, 11♂, FK; Nahal Poleg, 14-I-1975, 1♀, 6-II-1973, 1♂—all AF, 7-II-2002, 4♂, 1♀, LF; Shekhem, 1-III-1973, 1♀, AF; Qalqilya, 17-XII-1972, 1♂, 27-XII-1972, 2♂, 1♀—all AF; Herzliyya, 10-XI-1981, 1♂; 17-XI-1981, 1♂; 21-XI-1981, 1♀; 24-XI-1981, 1♂, 1♀; 25-XI-1981, 3♂; 30-XI-1981, 2♂, 2♀; 2-XII-1981, 1♂; 5-XII-1981, 1♂; 7-XII-1981, 1♂, 13-XII-1981, 4♂; 1♀; 17-XII-1981, 2♂; 21-XII-1981, 1♂, 2♀; 12-IV-1982, 1♂; 17-IV-1982, 1♂; 13-VI-1982, 1♂—all Malaise trap, AF, 1-XII-2006, 1♂, AF (all TAU), 12-13-III-1995, 2♂, 1♀, BM (MHNG); Baptist's Village, 11-I-1984, 1♂, IY; Tel Aviv University, 1-XII-2006, 1♂, WK; Tel Aviv, Ramat Hen, 24-II-1973, 1♀, MK; Tel Aviv, 8-II-1982, 1♀, 10-II-1973, 4♂—all AF; Tel Aviv, Abu-Kabir, 23-I-1973, 2♂, 1♀, 15-III-1976, 2♂, 23-V-1973, 1♂—all MK or FK; Savyon, 2-XII-1973, 1♀, 7-III-1982, 1♂—all YZ; Holon, 16-II-1995, 2♂, AF; Ashdod, 1-I-1975, 6♂, 1♀, AF; Nizzanin, 7-II-1996, 3♂, 2♀, IY+AF, 23-III-1995, 2♂, IY, on *Tamarix* sp.; Mavqi'im, 18-II-2004, 2♂, 2♀, YZ; Ziqim, 10-I-1998, 2♂, AF; Hulda, 4-II-1976, 1♂, 6-II-1975, 1♂—all AF; 'En Besor, 31-III-1975, 1♂, FK; Nahal 'Arugot, 6-IV-1988, 1♂, FK;



Figs. 11–12. *R. (Pararhamphomyia) intersita* Collin, 1960. 11. Male terminalia (macerated), lateral view. 12. Male cercus, lateral view. Scale bars = 0.1 mm.

Lower 'En Aqev, 21-XI-1983, 1♀, YN; (all TAU or CULSP); Horbat haEmir [Waset], 2-III-1984, 1♂, YN (CNC); Egypt: Sinai, W[adi] Tlach, 7-IV-1974, 1♂, DF; Sinai, W[adi] Tlach, 7-IV-1974, 1♂, DF (all TAU). Cyprus: 1♂, 2002, Glaszner (BMNH); Kissausa, 27-IV-2002, 1♀, BM (MNHG); Turkey: Antalya, Phaselis, 27-IV-2000, 1♂, BM; Antalya, Selalesi, 29-IV-2000, 1♂, BM (MHNG); Spain: Tenerife, Bco. Badajoz, 27-II-1975, 1♂, 1♀, MB (CULSP), Crete: Lassithiplatan, 13-V-1979, 1♂ (ZML); Morocco: Essaouira, 3-IV-2002, 1♂, 1♀, JPH (MHNN).

**Distribution.** Broadly distributed species in southern parts of Mediterranean province.

**Dates of Occurrence.** November–May.

*Rhamphomyia (Pararhamphomyia) intersita* Collin, 1960

(Figs. 11–12)

Collin, 1960: Ann. Mag. nat. Hist., 13 (1959): 394.

**Male.** Eyes holoptic, facets in ventral half of eye much smaller than in dorsal half. Frons (small areas just above antennae and below ocellar triangle) blackish brown, light gray microtrichose, setae absent. Ocellar setae black and fine, scarcely half as long as the distance between front ocellus and base of antennae, ocellar triangle with two pairs of additional setae. Face blackish brown, light gray microtrichose,  $\approx 0.15$  mm broad ventrally and 0.15 mm long, without setae. Occiput blackish brown, light gray microtrichose, sparsely black setose dorsally and pale setose ventrally, postocular row incomplete. Antenna with two basal segments reddish brown, remaining parts black, length of antennal segments = 7–8:5–7:32–36:10, both basal antennomeres short setose (longest setae  $\approx 0.08$  mm long). Labrum brown, lustrous, two-thirds as long

as head is high. Palpus yellow, short, with several both pale and brown setae. Both gena and clypeus microtrichose. Thorax blackish brown, light gray microtrichose, mesoscutum with two somewhat darker stripes between acrostichals and dorsocentrals and two darker spots laterad of dorsocentrals best visible in anterior view. Thoracic setae both black and yellow. Chaetotaxy:  $\approx 10$  pale setae on proepisternum; prosternum bare; proepisternal depression with three to five pale setae;  $\approx 20$  biserial acrostichals;  $\approx 20$  irregularly biserial dorsocentrals (both acrostichals and dorsocentrals mostly black, foremost may be pale, both  $\approx 0.15$ – $0.20$  mm long in middle of their rows), ending in two to three longer prescutellars; one intrahumeral; one posthumeral (both intrahumeral and posthumeral accompanied with one to three additional pale setae); one long black postpronotal and  $\approx 10$  much shorter pale additional setae; three notopleurals (one to two shorter pale setae on anterior part of notopleuron); one to two supraalar, one to three prealar setae (and one to two other setae between supraalar and prealar); one postalar; six scutellars (inner pair usually black, outer one to two pairs pale); laterotergite with yellow setae. Coxae concolorous with pleura, pale setose. Legs brown, microtrichose, mostly brown setose. One long seta in comb at tip of hind tibia. Fore femur with sparse and short anteroventral setae (half as long as femur is deep), posterior and posteroventral setae irregularly arranged and up to 1.5 times as long as femur is deep, dorsal setation very short. Fore tibia slightly swollen in distal half, with irregularly arranged and rather dense dorsal setation (in antero- to posterodorsal position) up to twice as long as tibia is deep (longest setae  $\approx 0.25$  mm long), ventral setation shorter than tibia is deep. Mid femur similarly setose as fore femur, only posteroventral setae about as long

as femur is deep. Mid tibia with similar antero- to posterodorsal setation as fore tibia, ventrally with two almost regular rows of setae as long as tibia is deep. Hind femur with anteroventral setae up to as long as tibia is deep on proximal part of femur but shorter more distally, posteroventral and dorsal setation shorter than anteroventral. Hind tibia with irregularly arranged antero- and posterodorsal setae twice longer than tibia is deep (up to 0.30 mm long), ventral setae finer and about as long as tibia is deep. Basal tarsomeres of both fore and mid legs thin and long setose dorsally (setae similar to those on tibiae and this long setation proceeds at least on two following tarsomeres), T1l:B1l = 2.1–2.2, B1l:B1w = 7.1–7.7; T2l:B2l = 2.4–2.6, B2l:B2w = 7.2–7.4; basal tarsomere of hind leg very thin, long and sparsely setose dorsally (second and the following tarsomeres short setose), T3l:B3l = 2.5–2.6, B3l:B3w = 6.7–7.3. Wing clear, stigma brown, veins pale brown, anal vein (A1) distinct as fold only. Costal seta long, axillary angle right, discal medial cell elongated. M2/D = 0.9–1.1, M3/Db = 1.1–1.3, lw:ww = 2.8–3.0. Halter yellow, calypter light brown with pale fringes. Abdomen brownish black, light gray microtrichose (ventral part of eighth sternite lustrous), silvery gray in dorsal view. All setae yellowish white. Hind marginal setae on sides of tergites 2–5 subequally long as their corresponding segments (discal setae almost equally long), marginals on remaining segments slightly shorter (discal setae shorter than marginals), dorsum of tergites with rather long setae, first sternite bare. Terminalia as in Figs. 11–12: hypandrium small and semimembranose; epandrium ovate, densely covered with fine yellow setae; cercus simple (though seemingly bipartite) with three small dorsal lobes; phallus long and thin, forming broad bow. Length of body 3.0–3.8 mm (without genitalia), wing 3.7–4.6 mm.

*Female.* Similar to male but with the following differences. Eyes dichoptic, facets subequal in size. Frons 0.19 mm long and 0.14–0.17 mm broad, with 3–8 rather long (up to 0.11 mm) black setae on each side. Ocellar setae nearly as long as frons. Face ≈0.20 mm broad. Length of antennal segments = 9–10:6–7:30:10. Thorax colored and setose as in male, only setae shorter (both acrostichals and dorsocentrals ≈0.10 mm long in middle of their rows). Legs differently setose than in male. All femora very short setose, setae scarcely half as long as femora are deep. Both fore and mid tibiae short setose, without prominent setae or at most with one short anterodorsal seta. Hind tibia with several scarcely differentiated anterodorsal and anteroventral setae shorter than tibia is deep, ventral setation very short. Basal tarsomeres of all legs thin and short setose, T1l:B1l = 1.9–2.4, B1l:B1w = 5.8–7.9; T2l:B2l = 2.6–2.9, B2l:B2w = 6.1–7.1; T3l:B3l = 2.7–2.9, B3l:B3w = 6.9–8.0. Wing light brownish; M2/D = 0.9, M3/Db = 1.2–1.3, lw:ww = 2.9–3.1. Abdomen light gray microtrichose throughout, but not silvery. Hind marginal setae on sides of tergites 2–5 slightly shorter than their corresponding segments. Length of body 3.5 mm, wing 4.3–4.5 mm.

**Notes.** *R. (Pararhamphomyia) intersita* Collin, 1960 was described on the basis of a single male from "Ben Shemen L" (=a moshav near Lod) (holotype deposited in TAU). It belongs to a species rich group of *Pararhamphomyia* with multiserial (at least biserial) dorsocentrals, dark legs and body partly pale setose. The species redescribed above may be quite easily recognized from any other Palaearctic species of this group by yellow palpus and elongated discal medial cell in both sexes.

**Material Examined.** Israel. Bar'am, 18–20-XI-1977, 4♂, 1♀, 22-XI-1977, 2♂—all AF; Montfort, 8-I-1975, 12♂, AF; Har Meron, 1,100 m, 22-X-2006, 2♂, AF; Haifa, 17-II-1973, 1♀, AF; Migdal Afeq [Migdal Zedek], 22-XII-1993, 1♂, AF; Latrun, 24-XII-1974, 2♂, AF or FK (TAU or CULSP).

**Distribution.** Israel.

**Dates of Occurrence.** October–February.

### Faunistic Records

*Rhamphomyia* (s. str.) *karamanensis* Barták, Ciftci et Hasbenli, 2007. Israel. Horbat haEmir [Waset], 2-III-1984, 1 ♀, YN; Horbat Hushniya [Khashniye], 17-IV-1973, 1 ♂, DF (TAU).

*Rhamphomyia* (s. str.) *sulcatella* Collin, 1926. Israel. Golan, Merom Golan, 17-III-1981, 1♂, AF (TAU); Horbat haEmir [Waset], 2-III-1984, 1♂, YN (CNC).

### Key to *Rhamphomyia* of Israel

1. Acrostichals absent. Simultaneously: halter dark (brown to brownish black) and axillary angle right . . . . . 2
- Acrostichals present. Halter yellow and/or axillary angle acute . . . . . 3
- 2(1). Dorsocentrals irregularly biserial . . . . . *R. biserialis*
- Dorsocentral uniserial . . . . . *R. tenuipes*\*
- 3(1). Body partly pale setose . . . . . *R. intensita*
- Body exclusively dark setose . . . . . 4
- 4(3). Prosternum covered with setae. Acrostichals more than biserial . . . . . *R. sulcatella*
- Prosternum bare (setae confined to proepisternum) Acrostichals biserial . . . . . 5
- 5(4). Halter brown. Costal seta long . . . . . *R. hermonensis*
- Halter pale yellow. Costal seta absent or very short (less than twice as long as costal ciliation) . . . . . 6
- 6(5). Very small species (wing <3.5 mm long). Four scutellars. Male eighth abdominal tergite polished. Cercus simple. . . . . *R. furmani*
- Larger species (wing >5.5 mm long). Two scutellars. Male eighth abdominal tergite microtrichose. Cercus with submedian process . . . . . *R. karamanensis*

Note: Asterisk (\*) indicates another still undescribed species from Turkey, leading to this section differing

from *R. tenuipes* in having mesoscutum partly polished.

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