Contributions to the Hemipterous fauna of Palestine.

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A list of the Palestinian Hemiptera species has been published by F. S. BODENHEIMER in 1937. It includes a report of 469 species of Heteroptera and 105 species of leafhoppers. As Mr. J. WAHRMAN (JW.) kindly sent me some time ago leafhopper material from the Entomological Department of the Hebrew University in Jerusalem for determination and as there were some interesting species I will here publish a list of the material. In addition I have listed some Heteroptera species not reported by BODENHEIMER, which belong to the collection of the Zoological Museum of the Finnish University in Turku. The species not reported by BODENHEIMER are marked with an asterisk (*). DR. J. CARMIN has also sent me specimens from the Independent Biological Laboratories (I.B.L.) for determination, a part of which are listed below.

Fam. *Anthocoridae*

**Lyctocoris dorni* E. WAGN. (det. E. WAGNER). Galilee, Vall. Kison 31. III. 1904 (J. S. = J. SAHLBERG) 1 sp. The species was described on the basis of some specimens from Hungary. In addition I have found 1 specimen from SW Finland. *L. dorni* thus seems to have a rather wide and probably eastern distribution and to be a very rare insect.

Fam. *Miridae*

**Adelphocoris bimaculicollis* LINDB. Wadi Musrara 1 ♀ (I. B. L.). Previously from Cyprus only.

**Dimorphocoris mariae* n. sp. ♂ fig. 1 A. Much like *D. debilis* REUT. Macropterous. Length 4.6 mm. (in *debilis* 4.2 mm.) The proportion between the length of the body and the breadth of the base of the pronotum 4.22 (in *debilis* 4.0—4.08). Upper surface with a rather long, black haircovering. Colouring yellow brownish gray. Head broader (breadth about 1 mm.) than the fore margin of the pronotum. Vertex concave, 1.5 × as long as the eye. Eyes dark gray. Vertex with 4 indistinct darker brown spots. Antennae long (total length 3.5 mm.). Proportions between the joints 15 : 35 : 28 : 9.5. The 2nd joint is thus 1.25 × as long as the 3rd. (In *debilis* the antennae are shorter, total length 3.1 mm., proportions betw. the joints 13 : 31 : 24 : 9.' The 2nd joint is 1.29 × as long as the 3rd). Pronotum with nearly straight fore and hind margins, the side margins insinuated. Breadth at the base 1.1 mm. The apical part of the pronotum slightly more highly emarginated than the central and basal parts. Here and there indistinct violet-brown spots. Scutellum with a transverse basal

furrow. Scutellum with a light median line. The basal part is brownish, the apical part red-brownish. Elytrae and flying wings over 2× as long as the abdomen, greenish yellow gray. Membrane not transparent, with small, dark brown spots. Veins greenish yellow-gray. Legs as in *debilis*. Fore and middle legs and the hind tarsi and tibiae yellow-grayish brown. Hind thighs brownish with darker spots. Claws dark brown. The legs with black hairs. Length of the fore, middle and hind tibiae 1.3, 1.84 and 2.8 mm. Abdomen red-grayish brown. Genital segment with long white hairs. Styli distinctly dissimilar from *debilis*. Right stylus, fig. 2 A, with a more convex apical part, which forms a sharper angle with the narrow basal part than in *debilis*. Left stylus as in fig. 2 C, E. ♀ fig. 1 B. Brachypterous. Length 3.56 mm (in debilis 3.0 mm.). Uniform dirty yellow-green with no darker markings. Upper surface with a long, black and upwardly rising, sparse hair covering. Head longer than in *debilis*, breadth 1.08 mm. Vertex 2.1× as broad as the eye. Eyes of the same colour as the rest of the body. Facets a little smaller and more rounded than in *debilis*. Antennae long (total length 2.8 mm), proportions between the joints 11 : 28.5 : 21 : 10, the 2nd joint thus being 1.36× as long as the 3rd. In *debilis* the antennae are shorter (2.4 mm.), and the proportions between the joints 11 : 25 : 15 : 9. The 2nd joint is 1.67× as long as the 3rd. Fore margin of the pronotum straight, side and hind margins insinuated. Basal breadth 1.08 mm. Elytrae much shorter than the abdomen. The sides of the abdomen turned upwards. Abdomen longer and narrower than in *debilis*, the segments being distinctly longer. Legs strong, greenish gray with black hairs. The length of the fore, middle and hind tibiae 1.04, 1.1 and 2.48 mm.

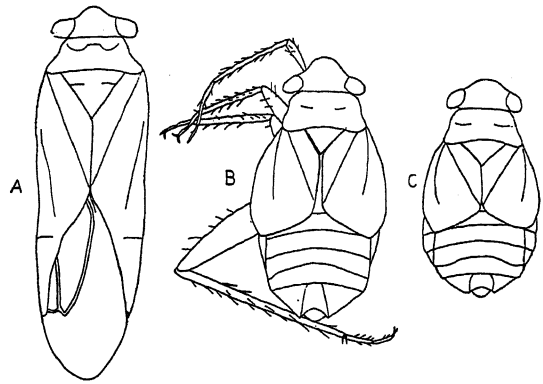

Fig. 1. *Dimorphocoris mariae* n. sp. A ♂, B ♀. – *D. debilis* REUT. C ♀. – Orig.

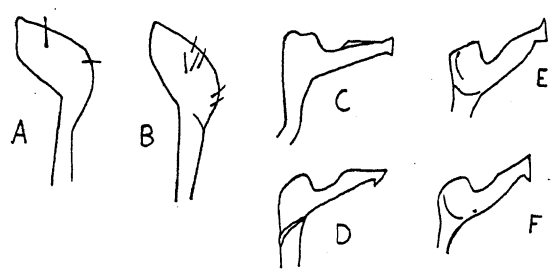

Fig. 2. *Dimorphocoris mariae* n. sp. A right stylus, C left stylus, side view, E same from above. – *D. debilis* REUT. B right stylus, D left stylus, side view, F same from above. – Orig.

Finds: Vall. Kison, Galilee 31. III. 1904 2 ♂♂, 1 ♀ (J. S.), Ness Zionah 2 ♂♂ 15. II—3. III. 1933 (I.B.L.). The type ♂ in the Finnish University in

Turku, type ♀ in the Zool. Mus. of Helsinki University, paratypes ebenda and in my collection.

Discussion: the new species is closely related to *D. debilis* REUT. which occurs in North Africa. The male of *D. mariae* is distinguished by the longer and relatively narrower body, by the longer antennae and the form of the styli. The female is easily distinguished by the greater size, the longer and narrower abdomen and by the longer antennae with different proportions of the 2nd and 3rd joints. The colouring is also dissimilar, being in *D. mariae* ♀ a uniform dirty yellow-green. *D. debilis* ♀ is light yellow-brownish gray with distinct darker red-brown spots on the vertex, pronotum, scutellum, elytrae and abdomen. Also the legs and antennae, which in *D. mariae* are coloured like the other parts of the body, are much lighter and the eyes the dark gray.

**Macrolophus costalis* FIEB. Mont. Jud. occ. 29. II. 1904 (J.S.) 1 sp.

**M. caliginosus* E. WAGN. (det. E. WAGNER) Haifa 5. IV. 1904 (J.S.) 1 sp.

**Dicyphus tamaninii* E. WAGN. Jericho 12. III. 1904 (J.S.) 1 sp.

**Hypsitylus punctipes* REUT. Some specimens from Jordan 10. III. 1904 (J.S.). Previously from Algeria.

**Platycranus putoni* REUT. Some specimens from Haifa 5. IV. 1904 (J.S.), Ness Zionah, Petah tikvah 1933 1 sp. (I.B.L.). Previously from Algeria only.

**Megalocoleus aurantiacus* FIEB. Vall. Kison, Galilee 31. III. 1904 (U. SAALAS) 3 spp.

**Macrotylus atricapillus* SCOTT. Haifa 5. IV. 1904 (J.S.) many spp.

**Tuponia guttata* E. WAGN. (det. E. WAGNER) Jaffa 18. II. 1904 (J.S.) 1 ♀

**T. concinna* REUT. Jaffa 18. II. 1904 (U. SAALAS) 1 ♀.

**T. michalki* E. WAGN.? (det. E. WAGNER) Bethlehem 26. II. 1904 (U. SAALAS) 1 damaged ♀.

Fam. *Tettigometridae*

**Tettigometra contracta* LINDB. Yarkon border hill 20. IV 1946 (I.B.L.) 1 sp. An endemic species for Palestine, previously known from 3 specimens from Haifa.

T. costulata FIEB. Jerusalem 26. VII, 2. VIII 1949 (J.W.) 2 spp., Kefar Malal 27. X 1937 (I.B.L.), Herzelia 26. IV 1938 (I.B.L.). Seems to be a common species.

T. sp. near *sulphurea* MULS. Jerusalem 15. VIII 1949 (J.W.) 1 ♀. The species resembles *T. sulphurea* MULS., but differs in the more oblong body form, in the form of the head and in the greener colouring.

Fam. *Cixiidae*

Oliarus major KBM. Jerusalem 23. VII 1949 1 sp. and 25. VII 1949 1 sp, (J.W.). This big *Oliarus* species has previously been reported from SE. Europe. Asia Minor, Syria and the Caucasus.

Fam. *Araeopidae*

Calligypona propinqua FIEB. (= *albicollis* MOTSCH.). Wadi Musrara 15. IV 1931 2 spp. (I.B.L.).

C. vibix HPT. Some specimens from Wadi Musrara and Tel Aviv (I.B.L.). Probably a common species. The male genitalia as in fig. 3.

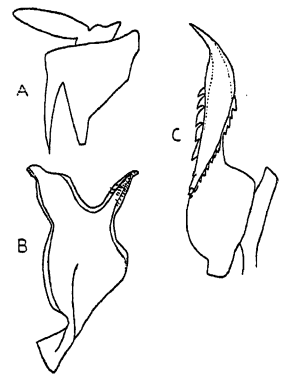

Fig. 3. *Calligypona vibix* HPT. A anal tube, B stylus, C penis. – Orig.

Fam. *Dictyophoridae*

**Dictyophora* sp. 'Ein Geddi (nr. Dead Sea) 1 larva 8. IV 1951 (J.W.). The larva has a long head and belongs to the group of *D. pannonica* GER. Perhaps *D. xiphias* PUT., which has been reported from Syria.

Fam. *Issidae*

Hysteropterum grylloides F. Chaderah 31. I 1928 (I.B.L.) many spp.

**H. maculipes* MEL. Jerusalem 1. VIII 1949 2 ♂♂ (J.W.) on olive. The males of this species are much smaller and mostly a more uniform brownish colour than the females. The colouring seems to be variable. Male genitalia: anal tube as in fig. 4 A. Penis (fig. 4 C, D) thick, curved, the dorsal side smoothly curved, the ventral side with two long appendages (a) whose apex is thin and turned outwards (fig. 4 E). Genital plates as in fig. 4 B. *Hysteropterum* species are rather difficult to determine. The male genitalia seem, however, to be very characteristic for every species. For comparison I have described the male genitalia of *H. pictifrons* MEL. (fig. 4 F – J), a relative of *H. maculipes*.

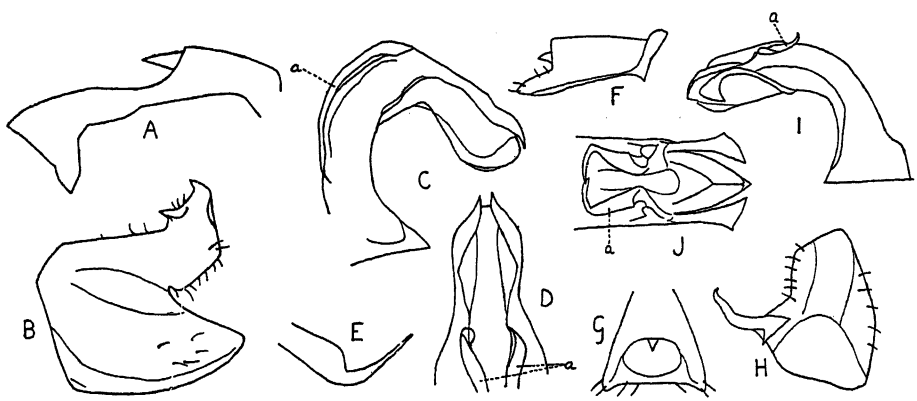

Fig. 4. *Hysteropterum maculipes* MEL. A anal tube, side view, B genital plate, C penis, side view, D apex of the penis, from the ventral surface, E apex of the ventral appendage of the penis. – *H. pictifrons* MEL. (from Transcaspia) F anal tube, side view, G same from above, H genital plate, I penis, side view, J apex of the penis from ventral surface. – Orig.

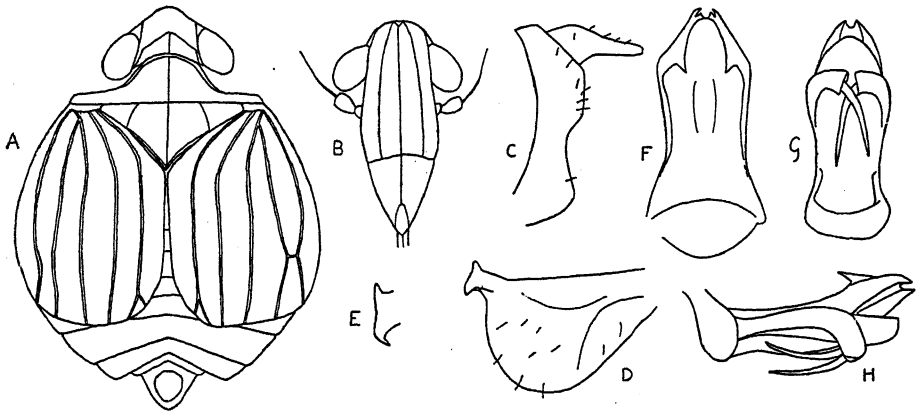

Fig. 5. *Perissus circularis* n. sp. A ♂, B face, C genital segment, side view, D genital plate, E apex of it, F penis from the dorsal surface, G same from the ventral surface, H same, side view. – Orig.

**Perissus circularis* n. sp. ♂. Length 4.6 mm., breadth 3.2 mm. Body form roundish (fig. 5 A) and rather flat. Colouring yellow-brown and ± dull. The fore margin of the head sharp, rounded outwards. In the middle part of the vertex there is a triangular ridge. Eyes dark reddish brown. Frons (fig. 5 B) broadening below, with 3 ridges, the areas between them faintly incurved, smooth. Clypeus with a longitudinal ridge. Rostrum long, reaching far beyond the hind coxae, as long as the frons. The end joint of the rostrum narrower and with black apex. The middle furrow of the rostrum brown. The outer margins of the rostrum short haired. The 1st antennal joint small, the 2nd bigger, roundish, the 3rd long, hairlike, black. The side parts of the pronotum narrow. The fore margin of the central part sharp, the median ridge faint. Scutellum with a median ridge and a pair of bowlike curved side ridges. Fore and middle thighs flattish, haired. Tibiae quadrangular, haired. Tarsi narrow, haired. Claws brown. Hind thighs flat, but quadrangular, hairs shorter. Hind tibiae quadrangular with stronger hair lines. About 1/3 from the apex there is a black-topped spine. Apex with 6 black-topped spines. The 1st tarsal joint long, the apex with 6 black-topped spines, the 2nd joint shorter, the apex with 2 black-topped spines, the 3rd joint longer than the 2nd. Claws brown. Measures of the thighs 0.6 mm. and of fore and middle tibiae 2.2 mm. and of hind tibiae 2.8 mm. Elytrae dull, non-transparent, only a little longer than broad, with 5 longitudinal veins, the apex broadly rounded. Abdomen dull, conically tapering backwards. Anal tube and pygophor from the side as in fig. 5 C. Penis thick as in fig. 5 F – H, with two long ventral appendages. The dorsal apical part with two small sharp appendages. Genital plates rather large as in fig. 5 D, E, apex strongly chitinized, brown. — ♀ unknown.

Type, 1 ♂, Jebel' Ureif (Negev) (J.W.) 4. XII. 1949 in the coll. of the Zool. Mus. of the Hebrew University in Jerusalem.

I am not sure if the species described above is congeneric with the typ. gen. *Perissus jakowleffi* PUT., an Iranian species, which is unknown to me and whose genitalia have not yet been described, but as my species has only one spine in the hind tibia, which is characteristic of the genus *Perissus*, I have at least provisionally placed it in this genus.

Fam. *Flatidae*

Phantia subquadrata H.S. Jerusalem 10. VII. 1951 (J.W.) 1 sp.

**Eurima astuta* MEL. 'Ein Hosb (Negev) (GOLDSCHMIDT leg.) 23. VI. 1950 1 sp. A very rare species, previously known from Iran, from where it has been described on the basis of one specimen.

Fam. *Jassidae*

Batracomorphus glaber HPT. Wadi Musrara 9. IX. 1931 (I.B.L.) 1 ♀. An endemic species for Palestine.

**Eupteryx cypria* RIB. Wadi Musrara 7. V. and 2. VII. 1932 (I.B.L.) several specimens. Previously from Cyprus only.

Eupelix cuspidata F. f. *depressa* F. Wadi Musrara 4. VI. 1932 (I.B.L.) 1 ♀.

Parabolocratus eximius KBM. 'Ein Merocha (nr. Dead Sea) 6. IV. 1951 (J.W.) 1 ♂. HAUPT (1927, p. 19 – 20) also mentions the species from Palestine. In addition it has been found in Sicily and in Iran.

Selenocephalus griseus FABR. f. *pallens* LINDB. Jerusalem 5. VI. 1950 (J.W.) 1 ♀.

Phlepsius intricatus FIEB. Wadi Musrara 30. V. 1931, Ness Zionah 1930 2 spp. (I.B.L.).

**Grypotes staurus* IV. Jerusalem 8. VI. 1951 (J.W.) 1 ♂.

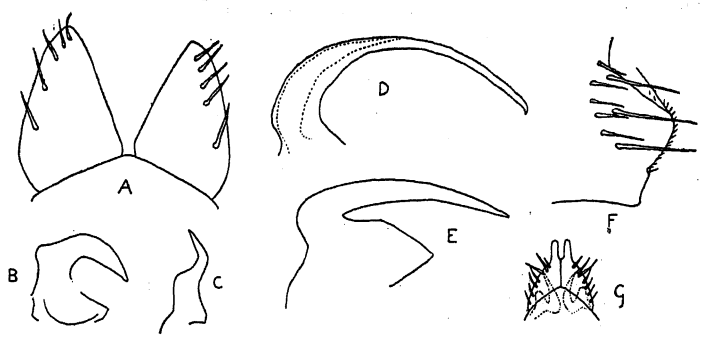

Fig. 6. *Allygus theryi* HORV. A genital plates, B penis, C stylus. – *Balclutha flava* HPT. D penis, E stylus (with great enlargement), F apex of the pygophor, side view, G genital plates. – Orig.

**Deltocephalus schmidtgeni* W. WAGN. Ness Zionah 24. VII – 6. VIII. 1933 (I.B.L.) 1 ♂, which in the form of the penis fits well with the description of this species previously known from Central Europe.

**Psammotettix majusculus* LINNAV. Wadi Musrara, Petah Tikvah 2. VI. 1931 1 ♂ and 2. XI. 1931 1 ♂ (I.B.L.). Previously from Cyprus only.

**Euscelis plebeius* FALL. f. *ochreata* HPT. Wadi Musrara, Petah Tikvah 15. IV. 1931 (I.B.L.) 1 ♂.

**Euscelidius variegatus* KBM. Wadi Musrara 12. XI. 1931 (I.B.L.) 1 ♀.

**Allygus theryi* HORV. Aqua Bella 10. V. 1950 (J.W.) 1 ♂. Previously known from Morocco and Sardinia. In size and colouring the male is similar to *A. mixtus* F. Male genitalia as in fig. 6 A – C. Genital plates much broader and more rounded than in *mixtus* and with only 5 macrochaetes. Penis also thicker and dissimilarly curved.

**Mimodrylix taeniaticeps* KBM. Mosad Rupin 5. X. 1950 (J.W.) 1 ♀.

Macrosteles sexnotatus FALL. f. *diminuta* HORV. Ness Zionah 8. VII – 5. VIII. 1930 several specimens (I. B. L.). All specimens have only four round black spots on the vertex. In Finland the species has always a much more darkly pigmented head. From France Albi (Tarn) I have two specimens of *M. sexnotatus* with a fourspotted head determined as v. *diminuta* HORV. (J. CARAYON det.)

Balclutha flava HPT. This species, endemic for Palestine was represented by 1 ♂ in the material from Jerusalem 3. XI. 1950 (J.W.). In body form it is similar to *B. punctata* THNB. The colour is, however, yellow with no markings. Male genitalia as in fig. 6 D – G. The apical part of the genital plates narrow and parallel. The outer margin with 7 macrochaetes. Styli very characteristic, strongly chitinized, brown, and extraordinarily large. Penis with a thicker apical part than in *B. punctata*, the apex being a little downturned.

Fam. *Membracidae*

Oxyrhachis delalandei FAIR. Bat Yam 3. X. 1945 (J.W.) 1 sp.

Fam. *Cercopidae*

Philaenus spumarius L. Jerusalem 16. IX. 1949 (J.W.) 1 sp.

Fam. *Cicadidae*

Cicada orni OLIV. Jerusalem 30. VII. 1950 (J.W.) 1 sp.

Cicadatra longipennis SCHUM. Jerusalem 20. VII. 1946 (J.W.) 1 ♂. It agrees well with SCHUMACHER's description (1923). The species is small and easily recognized by the dark colouring (especially that of the legs) and by the long and narrow wings. Endemic for Palestine.

C. livida SCHUM. (= *decumana* SCHUM.) A ♀ from Jerusalem 26. VI. 1946 (J.W.) agrees fairly well with the description of *C. decumana* (SCHUMACHER 1923, p. 228). The size is, however, a little smaller than the measures mentioned by SCHUMACHER. The yellowish colouring with only a few, rather indistinct, darker markings, the gold-yellow hair covering and the relatively broad fore wings are characteristic of *decumana*. According to HAUPT (1927, p. 14 – 15) *decumana* is the female of *C. livida* SCHUM.

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