

STUDIES ON THE HEMIPTEROUS FAUNA OF ISRAEL AND SINAI

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A B S T R A C T

New locality data on the Hemipterous fauna of Israel and Sinai are presented along with descriptions of the following new taxa: *Stenolemus mnesis* sp. n.; *Stenolemus pothyne* sp. n., *Collartida phryne* sp. n., *Reduvius falsus* sp. n. and *Holotrichius innesi rugicollis* ssp. n.

INTRODUCTION

A shipment of Hemipteran material from Israel and Sinai was recently forwarded to me for identification. This material was sent by Mr. P. Amitai and Dr. J. Margalit, of Jerusalem, by Dr. D. Gerling, of Tel-Aviv and by the late Mr. Y. Palmoni, of Deganya. The material contained several species not previously recorded from the area (marked with an asterisk in the following list) and the following new taxa: *Stenolemus mnesis* sp. n., *S. pothyne* sp. n., *Collartida phryne* sp. n., *Reduvius falsus* sp. n. and *Holotrichius innesi rugicollis* ssp. n.

From the biogeographical point of view, the finding of *Collartida phryne*, *Tropidothorax sternalis* (Dallas), *Polycrates bourboni* Bergevin and *Agonoscelis arabica* Linnavuori is of great interest. These species belong to the Ethiopian element which has spread northward during the Pluvial period along the mountain ranges bordering the Red Sea. The pelagic *Hermatobates djiboutensis* (Coutiere & Martin) and *Halobates hayanus* Buchanan White are representatives of the tropical marine fauna that has reached its northernmost limit in the Red Sea.

LIST OF THE SPECIES

PENTATOMORPHA

Cydnidae

Mesocricus cribripennis Horvath -- Fig. 1 a-e. Sasa, Upper Galilee, 2 ex., J. Halperin.

Sehirus delagrangi Puton -- W. Falik, 2 ex., 18-19.I.1963, Transjordan.

Pentatomidae

**Odontotarsus rufescens* Fieber -- Haifa, 1 ex., 4.IV.1968, J. Kugler. Pontomediterranean. The previously recorded "rufescens" specimens from Israel actually belong to *O. karatensis* Hoberlandt (Linnavuori 1965, p. 46).

Psacasta marmottani Puton - En Gedi, 1 ex., 6.V.1967, J. Kugler; Jeroham, 1 ex., J. Kugler.

**Mecidea pallidissima* Jensen-Haarup -- Israel: Kare Deshe, 1 ex., 22.VIII.1968, Gazit. Sinai: En Shmia, 1 ex., 11.VII.1969, J. Kugler; Hammam-Musa, 1 ex., 27.III.1969, J. Kugler. New to Israel. Eremian.

Sciocoris ochraceus Fieber -- Afula, 1 ex., V.1940, H. Bytinsky-Salz.

S. sahlbergi E. Wagner -- Sinai: En Misven, 1 ex., 4.VII.1968, J. Margalit; En Shmia, 1 ex., 11.VII.1969, J. Kugler.

S. hoberlandti E. Wagner -- Jerusalem, 1 ex., 25.X.1943, H. Bytinski-Salz.

**Carpocoris coreanus iranus* Tamanini - Sinai: Ste. Catharina, 1 ex., 12.VII.1969, J. Kugler. Irano-Turanian. Also recorded from Suez.

Dolycoris baccarum (L.) -- Sinai: Ste. Catharina, 1 ex., 12.VII.1969, J. Kugler.

**Agonoscelis arabica* Linnavuori (manuscript name) - Sinai: En Shmia, 1 male, probably of this species, 11.VII.1969, J. Kugler. Previously known from South Yemen.

Chroantha ornatula (Herrich-Schaefer) -- Sinai: En Hudra, 1 ex., 9.VII.1969, J. Kugler; Nabek, 2 ex., 13.V.1968, J. Margalit; W. Kabira, 1 ex., 22.XII.1968, G. Tsabar.

Coridius viduatus (F.) -- Sinai: Wadi Magirat, 1 ex., 21.I.1969, S. Reichenstein.

Stenocephalidae

**Dicranocephalus bianchii* Jakovlef - Sinai: near Nabek, 1 ex., 27.XI.1968, A. Shulov; Ste. Catharina, 1 ex., 27.VI.1968, J. Margalit. New record to Sinai. Eremian.

Coreidae

Microtelecerus linnavuorii Dolling (manuscript name) -- Sinai: Gabal Sarbal, 1300 m., 1 ex., 8.VIII.1968, M. Broza & A. Toren. Endemic.

Rhopalidae

**Corizus hyoscyami* (L.) -- Sinai: Ste. Catharina, 1 ex., 12.VII.1969, J. Kugler. New to Sinai. Known from Egypt and Israel.

Stictopleurus ribauti Vidal -- Israel: Deganya, some exx., 3.VI.1969, J. Palmoni. Sinai: without a locality label, 1 ex., J. Margalit, Eremian.

Maccevetus caucasicus Kolenati (= *lineola* F., n. paraeocc., *houskai* Hoberlandt) -- The genus has recently been revised by Josifov (1966). All males from Israel in my collection belong to *M. caucasicus* that seems to be the only species occurring in the area. Holomediterranean.

Agraphopus pallens K. Schmidt -- Sinai: Sharem E'Shech, 2 ex., V.1968, B. Shalmon.

Lygaeidae

**Tropidothorax sternalis* (Dallas) -- Israel: En Nimfit, 1 ex., 21.XI.1968, Grinberg. A widespread species in the northern parts of the Sudanian subregion. The nearest find is from Wadi Halfa in the Sudan. Closely related to the Palearctic *T. leucopterus* (Goeze). These species can be distinguished as follows:

- 1 (2) Hair covering of upper surface long, semidecumbent. Median carina of pronotum well raised, percurrent. Scutellum more elevated apically.
.....*sternalis*
- 2 (1) Hair covering of upper surface short and smooth, only head, lateral margins of pronotum and costal margin of elytra with longish semidecumbent hairs. Median keel of pronotum flattened basally. Scutellum less raised...*leucopterus* (Holomediterranean).

Engistus exsanguis Horvath -- Sinai: En Hudra. 1 ex., 9.VII.1969, J. Kugler.

**Artheneis aegyptiaca* Lindberg -- Sinai: Romuni, 1 ex., 4.V.1971, D. Gerling. Known from Egypt and Israel, not previously recorded from Sinai.

Artheneis alutacea Fieber. -- Israel: Enot Enan, 33 km N of Tiberias, 25.IV.1971; En-el-Turaba, 27 km S. of Jericho, 21.II.1971; Nahal David, near En Gedi, 21.II.1971; Nahal Ze'elim, 12 km S of En Gedi, 3.I.1971 and Sede-Eliahu, 11.IV.1971, D. Gerling.

**Paromius leptopides* (Bär.) -- Israel: Ilanot (Sharon), some ex., 10.VI.1959. J. Halperin. Holomediterranean.

Tropistethus lanternae Linnavuori -- Afiqim, 1 ex., VIII.1968, J. Palmoni.

**Polycrates bourboni* Bergevin -- Sinai: En Hudra, 1 ex., 9.VII.1969, J. Kugler. Widespread in the northern parts of the Sudanian subregion.

Dieuches syriacus Dohrn -- Sinai: Ste. Catharina, 1 ex., 12.VII.1969, J. Kugler.

**Gonianotus galactodermus* Fieber -- Israel: Jerusalem, 1 ex., VI.1941, H. Bytinski-Salz. Holomediterranean.

CIMICOMORPHA

Tingidae

Urentius euonymus Distant (= *abutilinus* Priesner & Alfieri) -- Israel: En Fashkha, 15 km S. of Jericho. 1 ex., 28.VI.1971, D. Gerling; Heletz, 1 ex., 7.VI.1971, D. Gerling.

**Derephysia foliacea* Fallén -- Israel: Akko, 1 ex., 20.V.1954, Krystal. Euro-Siberian.

Reduviidae

Empicoris Wolff -- Three species of this genus have been recorded from Israel: *E. culiciformis* (De Geer) (an incorrect old record), *E. mediterraneus* Hoberlandt and *E. hierosolymus* Dispons (recently described on the basis of a female from Jerusalem). The studied material revealed an additional species, *E. rubromaculatus* (Blackburn), easily recognized by the reduced lateral keels of the pronotum. The male genitalia of *E. mediterraneus* and *E. rubromaculatus* are illustrated in Fig. 2 a-e.

E. mediterraneus Hoberlandt -- Israel: Khurdani, 3 ex., 20.VII.1967, J. Margalit; Hula natural reserve, 1 ex., 20.VIII.1967, J. Margalit.

**E. rubromaculatus* (Blackburn) (= *Empicorella tingitana* Dispons) -- Israel: "Palestine", 1 ex., S. Bodenheimer; Hadera, 1 ex., 5.IX.1967, J. Margalit; Hula natural reserve, 2 ex., 20.VII.1967, J. Margalit. -- Intertropical.

**Stenolemus macrostylus* Horvath or sp. n. -- Israel: En Gedi, 1 very fragmentous specimen, 25.III.1964, G. Lev. Previously known from Egypt.

The *Stenolemus novaki* group

A study of material at hand proved that *S. novaki* Horvath is a species complex. Two new species are described below:

novaki Horvath

1. Length 8 mm
2. General colouring pale, dark pattern (illustrated in Stichel 1959, p.87-88) faint; dark rings in legs and 1st antennal joints brownish, 2nd antennal joint in basal two-thirds yellow-brown, apically dark brown.
3. Eyes remarkably small, ocular index 2.63; in profile anteocular area 0.52x as long as postocular (Fig. 3a) (proportions between anteocular area, eye and postocular = 11:14:21).
4. First antennal joint 1.32x as long as fore femur, 1.46x long as 2nd joint.
5. Anterior lobe of pronotum convex; posterior lobe (partly destroyed in the type specimen) medially somewhat depressed with median and lateral keels only faintly indicated, small humeral tubercles present.
6. Fore femora gracile, 15x as long as broad (teeth excluded).
7. Pygophore (Fig. 3f) in ventral aspect remarkably long and narrow, 1.74x as long as broad, apical process broad.

mmesis sp. n.

- Length 6.5 mm
- Dark pattern more distinct than in the other species; dark rings in legs and 1st antennal joints dark brown. 2nd antennal joint uniformly dark.
- Eyes large, ocular index 1.8; in profile anteocular area 0.41x as long as postocular (Fig. 3b) (proportions between anteocular area, eye and postocular area = 7:15:17).
- First antennal joint 1.4x as long as fore femur, 1.4x as long as 2nd joint.
- Anterior lobe of pronotum rather narrow, moderately convex; posterior lobe (Fig. 3e) slightly raised, smoothly sloping laterad, ecarinate, without humeral tubercles.
- Anterior femora gracile, about 14.3x as long as long as broad.
- Pygophore (Fig. 4b) in ventral aspect broad, only 1.43x as long as broad, apical process narrow.

pothyne sp. n.

- Length 8 mm
- Colouring as in novaki
- Eyes large, ocular index 1.91-2.2; in profile anteocular area 0.7x as long as postocular (Fig. 3c) (proportions between anteocular area, eye and postocular area = 10:17:14).
- First antennal joint 1.45x as long as fore femur, 1.30-1.33x as long as 2nd joint.
- Anterior lobe of pronotum broader than in novaki, moderately convex; posterior lobe (Fig. 3d) medially distinctly depressed, with a median keel and on either side a lateral carina, the latter ending in a distinct humeral tubercle.
- Fore femora relatively incrassate, about 12.3x as long as broad.
- Pygophore in ventral aspect broad (Fig. 4a), 1.57x as long as broad, apical process narrower than in novaki.

Stenolemus novaki Horvath -- Material studied: Yugoslavia, Lesina, 1 ♂ type, Novak, in Mus. Budapest. France: Avignon, 1 larva, 8.V.1891, Folard, Mus. Budapest. Spain: Turé de la Pineda, El Papiol, 1 ♂ 12.IV.1957, J. Ribes, in coll. Ribes, Barcelona.

* *Stenolemus pothyne* sp. n. -- Israel: En Fashkha, 1 ♂ type, 1.X.1969, J. Margalit; Hula reserve, 1 ♂ paratype, VII.1967, J. Margalit, in my collection.

* *Stenolemus mnesis* sp. n. -- Israel: Lahav, 1 ♂ type, 1.VII.1971, D. Ratner, in my collection.

Ploearia domestica Scopoli -- Israel: Muchraka, 2 ex., 26.X.1961, P. Amitai.

Tinna orientalis Dispons -- Israel: En Duyuk, 1 ex., 18.IX.1967, P. Amitai. Sinai: W. Isla, 1 ex., 8.IX.1968, G. Tsabar.

* *Collartida phryne* sp. n.

Figs. 4c, 5a. Length 5.5 mm. Shiny, yellow-brown. Head dark brown, eyes black. First antennal joint yellowish, other joints slightly embrowned. Rostrum yellow-brown. Anterior lobe of pronotum yellow. Elytra brownish-smoky. Legs yellowish.

Resembling the other species of the genus. Head in profile 2.1x as long as high; eyes moderately large, ocular index 0.73-1.18, a transverse sulcus in front of eyes, both ante- and postocular areas with a shallow longitudinal sulcus. First antennal joint with long erect hairs. Anterior lobe of pronotum broader than long, with a median depression; posterior lobe with a shallow median sulcus. Venation of elytra as in Fig. 4d. Spinulation of head and fore legs of the common type. Male genitalia in Fig. 4e. Proportions between antennal joints 79:35:43:30. Length of leg segments in units (1 unit = 0.038 mm).

Fore coxa	26,	femur	40,	tibia	28
Middle		"	82,		124
Hind		"	127,		167

Material studied: Israel: Hula reserve, 1 ♂ type, 20.VII.1967, 1 ♂ paratype, IX.1967 and Khurdani, 2 ♂ paratypes, IX.1968, J. Margalit, in my collection.

The genus *Collartida* Villiers was previously known from the savannah and savannah forest regions in tropical Africa. The find in Israel proves a northward radiation which probably occurred during the Pluvial period, when savannahs were widespread in the present Eremian belt in Northern Africa. The new species closely resembles *C. serapis* Linnavuori (the Sudan), but differs in the smaller eyes (ocular index in *C. serapis* 0.47). Moreover, the lateral teeth of the apical process of the pygophore are much sharper in *C. serapis*. *C. pericarti* Villiers (Chad) has a shorter head and a distinctly shorter and broader anterior lobe of the pronotum.

Sastrapada baerensprungi Stål^o -- Israel: Sede-Nehemya, 1 ex, J. Shoham.

Deganya linnavuorii Dispons -- Israel, 1 ex., 15.VIII.1966, J. Margalit: Sa'ar, 1 ex., 17.IX.1970, S. Blondheim; En Gev, 1 ex., 28.VII.1968, Gazit.

**Oncocephalus vescerae* Dispons -- Israel: Givat Brenner, 1 ex., 14.IX.1970, D. Gerling. Eremian.

**O. berlandi* Dispons -- Israel: Bet-Zera, 1 ex., apparently of this species, 21.V.1967, J. Palmoni. Eremian (known from Northern Africa).

O. arcticeps Noualhier - Israel: Yeroham, 1 ex., 14.III.1961, P. Amitai.

O. aspericollis Reuter - Israel: Lahav, 1 ex., 1.VII.1968, D. Ratner.

O. thoracicus Fieber - Israel: Jerusalem, 1 ex., 17.V.1971, G. Tsabar.

Holotrichius rotundatus Stål^o

Holotrichius rotundatus Stål^o 1874, p. 77.

Holotrichius apterus Jakovlef 1879, p. 163, syn. n.

Holotrichius loricatus Dispons 1962, p. 37, syn. n.

Material studies: Israel: Dan, some ex., Hurwitz; Hermon, 1450 m., 2 ex., 6.IV.1971, P. Amitai & M. Broza; Jerusalem, 1 ♂,

type of *H. loricatus*, 10.II.1940, H. Bytinski-Salz, 1 ex., 14.V.1971, P. Amitai. Syria: Tartus, 2 ex., 15-18.V.1952, Seidenstücker, U.S.S.R.: Disar bl. Ordubada, Nahits, 1 ex., 19.VII.1933, Snojko; Paraga na NW of Ordubada, Nahits, 1 ex., 19.VII.1933, Znojko.

H. brittoni Miller from South Yemen is a closely related species. Both species can be easily distinguished by the male genitalia (Fig. 5b-e).

Holotrichius innesi Horvath

A key to the species of this group is presented below.

Males (macropterous)

- 1 (4) Pattern of the anterior lobe of pronotum distinctly pale 2
- 2 (3) Length 17 mm. Legs brownish, tibiae pale testaceous with extreme base and apex dark brown. Eyes remarkably small, ocular index 1.5. Stylus as in Fig. 5 f, subpical lobe on outer surface rounded. Median process of pygophore as in *H. innesi*.....*bodenheimeri* Dispons (Israel).
- 3 (2) Length 18-20 mm. Robust. Legs pale testaceous, femora and tibiae apically with faint brown suffusion. Eyes larger, ocular index 1.25. Genitalia as in *H. bodenheimeri**philbyi* Miller (Saudi Arabia).
- 4 (1) Pronotum unicoloured, dark brown or black 5
- 5 (6) Legs uniformly black. Vertex scarcely broader than eye*reuterianus* Dispons (= *luctuosus* Mulsant & Mayet (South Mediterranean, the ♂ unknown to me).
- 6 (5) Tibiae usually pale ochraceous, with apex and base dark, if black (in dark forms of *innesi*) then vertex distinctly broader than eye7
- 7 (8) Connexivum broadly pale ochraceous. Median process of pygophore (Fig. 5g) with a broad base*nitidicollis* Linnavuori (Yemen).

- 8 (7) Connexivum black, apico-lateral angles of segments pale. Median process of pygophore (Fig. 5 h) slender, spine-like *innesi* Horvath.

Females (apterous)

- 1 (2) Length 18-22 mm. Eyes very small, ocular index (only one specimen from Benghazi in Libya was studied) 5.2. First antennal joint distinctly shorter than diatone (49:54). Anterior lobe of pronotum greatly swollen. Hind tibiae with short spine-like setae, scarcely longer than breadth of tibia..... *reuterianus*
- 2 (1) Length 22-25 mm. Eyes larger, ocular index 3.0-3.71. First antennal joint at least slightly longer than diatone. Anterior lobe of pronotum moderately swollen. Hind tibiae with long hairs, the longest ones distinctly longer than breadth of tibia *innesi*

H. innesi Horvath

A population from Arad represents a new subspecies of *H. innesi*. The main distinguishing characters are presented below:

Holotrichius innesi innesi

Holotrichius innesi rugicollis
ssp. n

Males

- | | |
|---|--|
| 1. Eyes large, ocular index 1.38-1.47; 1st antennal joint 1.38-1.48 times as long as diatone. | 1. Eyes small, ocular index 1.40-1.59; 1st antennal joint 1.46-1.56 times as long as diatone. |
| 2. Pronotum strongly shiny, pattern of anterior lobe rather weak, posterior lobe shiny and smooth, with only a few faint transverse wrinkles. | 2. Pronotum subopaque, pattern of anterior lobe strong, posterior lobe strongly wrinkled transversely, rugose. |
| 3. Tibiae pale ochraceous, apex and base dark. | 3. Legs uniformly black, at most fore tibiae slightly paler. |

Females

- | | |
|---|--|
| 1. General colouring often blackish brown, rarely (in some Israeli specimens) black; rudiments of elytra always pale, dark-yellowish brown; latero-apical angles of connexival segments rather broadly and contrastedly pale. | 1. General colouring black; elytral rudiments black; latero-apical angles of connexival segments rather indistinctly pale, sometimes connexivum uniformly black. |
| 2. Eyes large, ocular index 3.--3.4; first antennal joint only slightly longer than diatone (65:64). | 2. Eyes appearing smaller, ocular index 3.0-3.71; first antennal joint 1.03-1.3 times as long as diatone. |
| 3. Pronotum (Fig. 5 a) generally more shiny, less rugose. | 3. Pronotum (Fig. 5b) less shiny, strongly rugose, also under surface of thorax densely and strongly rugose. |
| 4. Elytral rudiments largish, about 0.62-0.85 times as long as median length of scutellum. | 4. Elytral rudiments small, only 0.5 times as long as median length of scutellum. |

Material studied:

H. innesi innesi Horvath - Egypt: Fayed, 1 ♂, H. Priesner, my collection; Heluan, 1 ♀, cotype of *H. innesi*, H. Rolle and Masara; 1 ♂ cotype of *H. innesi*, selected here to the lectotype, Innes, in Mus. Budapest; Arabia, 1 ♂, in my collection. Sinai: 50 km S of Nahel, 1 ex., 22.IV.1968, A. Shulov; Wadi Wuset., 1 ex., 14.I.1970, M. Broza; Israel: Road of Jericho, 22 km E of Jerusalem, 2 ex., 12.VIII.1970, S. Reichenstein; Mash'abbe Sade, 1 ex., 6.IV.1964, J. Kugler; Neot Hakikar, 1 ex., 1.IV.1963, E. Kamon; Wadi Gilt, 1 ex., 6.X.1970, T. Zrahia.

The species is probably identical with *H. laevigatus* Reuter, recorded from Tunisia, Libya and Egypt. Unfortunately, no authentic material of that species was available. At any rate the Egyptian specimens of *H. laevigatus* are identical with *H. innesi*.

H. innesi rugicollis ssp. n. - Israel: Arad. 1 ♂, type and 10 paratypes, 1968, P. Amitai, my collection, paratypes also in the Hebrew University.

Pasira basiptera Stal^o - Israel: Nazareth, 1 ex., 17.II.1968, P. Amitai.

Reduvius falsus sp. n.

Reduvius nigricans Linnavuori 1961, p. 39, nec Klug sensu Miller 1951, p. 26-27.

Length 17 mm. Head black, antennal tubercles apically brown. Antennae and remainder of body dark-coffee brown, rather opaque. Legs pale yellow-brown, femora with apex and a fuscous subapical ring.

Head 0.75 times as long as pronotum; sulcus of vertex relatively deep; ocular index 1.25; ocelli large, interspace about as broad as ocellus. Anterior lobe of pronotum 0.73 times as long as basal lobe, median sulcus rather weak, pattern relatively obscure, interspace distinctly shagreened; posterior lobe distinctly rugose, faintly depressed medially. Disk of scutellum deeply excavate with transverse sulci apically and oblique sulci basally laterally; spine short, thick, nearly horizontal (Fig. 5e). Elytra as long as abdomen. Fossula spongiosa of fore tibiae 0.35 times as long as tibia. Male genitalia in Fig. 5 c-d, f-h).

Material studied: Israel: 1 ♂, type, S. Bodenheimer, in my collection; Lahav, 1 ♂, paratype, 1.VII.1968, D. Ratner, in the Hebrew University.

R. falsus differs in the unique shape of the median process of the pygophore from all species in Miller's revision except *R. brunnipes* Miller, (Somalia) but that species is considerably smaller, length 15 mm; has darker legs, smaller ocelli, a more elongated pygophore, etc.

R. personatus (L.) - Israel: Qiryat Tivon. 1 ♀ probably of this species, 1971, in the Hebrew University.

R. austrani Reuter - Israel: Mahanaim, 2 ex., 23.V.1966, T. Shoham.

R. pallipes (Klug) - Israel: En-Karem, 1 ex., 25.IX.1970, N. Primor.

R. tabidus (Klug) - Israel: Bet Guvrin, 1 ex., 27.IV.1961, P. Amitai.

R. jakovleffi Reuter - Sinai: Bir-Tmade, 1 ex., 23.VII.1968, Y. Peretz; 19 km NE En Chadjeh, 1 ex., 25.IV.1968, A. Shulov.

R. ustulatus Miller - Sinai: Ein Zaituna, 1 ex., 6.IX.1968, and Nabek, 1 ex., 22.XI.1968, G. Tsabar. Endemic.

Ectomocoris melanogaster (Fieber) - Israel: Jerusalem, 1 ex., 12.IX.1969, P. Amitai.

Rhaphidosoma bergevini Poppius - Sinai: Wadi-um-Matirdi, 1 ex., 22.IV.1968, A. Shulov. Range: Northern Africa, known from Egypt. The "*bergevini*" specimens from Israel examined by me actually belong to *R. argillaceum* Horvath. The *Rhaphidosoma* species of Israel and Sinai can be distinguished as follows:

- 1 (2) Testaceous, sides of head and thorax with a longitudinal black band. Dorsum of abdomen and connexivum with irregular dark pattern. Antennae and legs yellowish
..... *lutescens* Poppius.
- 2 (1) Ground colouring blackish or dark brown, abdomen with indistinct pale spotting. Antennae and legs brown or yellowish brown, only tibiae pale ochraceous.....3
- 3 (4) Female. Dorsum of abdomen with a longitudinal row of 4 pairs of erect plug-shaped median tubercles (plus the apical and subapical horizontal median tubercles). Antennae appearing a little shorter, first joint about 1.8 times as long as head *bergevini* Poppius (only ♀ known to me).
- 4 (3) Female. Dorsum of abdomen with a longitudinal row of 3 pairs of erect plug-shaped median tubercles (plus the apical and subapical horizontal median tubercles).....
..... *argillaceum* Horvath.

R. lutescens Poppius - Israel: Yeroham, 1 ex., 26.XI.1967, P. Amitai.

**Amphibolus vanator* Klug - Sinai: 20 km S. of Nahel, 1 ex., 22.IV.1968, A. Shulov. Known from Israel and Egypt.

Rhinocoris bipustulatus (Fieber) - Israel: Azaria, 1 ex., 30.IV.1970, S. Blondheim; En Gedi, 1 ex., 23.I.1958, A. Shulov; Har-Hazofim, 1 ex., 25.V.1969, I. Israeli; Jerusalem, 1 ex., 18.II.1956, A. Shulov. Sinai: W. Tlah, 1 ex., 13.VII.1968, M. Broza.

R. abeillei (Puton) - Israel: Etanim, 1 ex., 27.V.1957, A. Singerman; Jerusalem, 2 ex., 25.IV.1964, A. Shulov.

Sphedanolestes pulchellus (Klug) - Israel: Har-Meron, 1 ex., 28.V.1971, B. Shalmon.

S. annulatus Linnavuori -- Israel: Har-Meron, 1 ex., 15.IV.1962, E. Kamon.

Coranus angulatus Stål^o - Sinai: Wadi e'Shekh, 1 ex., 18.VII.1968, A. Shulov.

C. priesneri Miller - Sinai: W. Katzeb, 1 ex., 24.III.1969, J. Kugler. Previously known from Jebel Elba in the Red Sea Coast in the Sudan.

Nabidae

Prostemma guttla (F.) - Israel: Bet Oved, 1 ex., 21.II.1958, R. Rosin.

**Nabis* (*Stalia*) *major* (Costa) - Israel: Har Meron, 1 ex., 5.X.1961, R. Rosin. Holomediterranean, also extending into Central Europe. The nearest record from Cyprus.

Anthocoridae

Elatophilus hebraicus Pericart - Israel: Mt. Carmel, 2 ex., 7.VII.1959, J. Halperin.

**Scoloposcelis angustus* Reuter - Israel: Menashe Hills near Haifa, some ex., 13.VI-25.X.1960, J. Halperin, On *Pinus halepensis*. Holomediterranean.

Miridae

**Phytocoris tridens* Wagner - Israel: Kinneret, 1 ex., 19.V.1969, J. Palmoni. Pontomediterranean.

Eurystylus bellevoeyi (Reuter) - Sinai: En Taiba, 1 ex., 26.IX.1967, D. Gerling; W. Hibron, some ex., 21.III.1969, J. Kugler; W. Natzeb, 1 ex., 24.III.1969, J. Kugler.

Taylorilygus pallidulus (Blanchard) (= *apicalis* Fieber)
- Sinai: Wadi Hibron, 1 ex., 21.III.1969, J. Kugler.

**Macrolophus melanotoma* (Costa)

Distinguished from the closely related *M. costalis* Fieber by the smaller eyes: ocular index in *M. melanotoma* o 1.93-2.0, o 2.29-2.4, in *M. costalis* ♂ 1.3-1.6, ♀ 2.0.

Material studied: Sinai: Wadi Feiran. 2 ex., 25-29.IX.1962, Linnavuori (incorrectly recorded as *M. costalis* in Linnavuori, 1964; p. 323). Corfu. 1 ex., J. Sahlberg. Portugal: Alburitel, some ex., 14.X.1969, J.A. Quartau. Holomediterranean. Previously recorded from Sardinia, Southern Italy and Northern Africa.

**Cyrtopeltis turcica* Seidenstücker - Israel: Afiqim, 1 ex., IX.1969, J. Palmoni. Syrio-Anatolian.

Platycranus putoni Reuter - Sinai: Um-Ahmed, 1 ex., 21.III.1969, J. Kugler.

**Stenoparia putoni* Fieber ? - Israel: Kinneret, 1 immature probably of this species, 20.V.1969, J. Palmoni. Holomediterranean.

Aphaenophyes richteri (E. Wagner) - Sinai: Mozar, 80km W El Arish, 1 ex., D. Gerling.

Tuponia tamaricicola Lindberg - Israel: near Eshel Hanasi 12 km NW of Beer Sheva. 1 ex., 14.IV.1971, D. Gerling. Sinai: Mozar, 80 km W of El Arish, 1 ex., 4.V.1971, D. Gerling.

T. lethierryi vulnerata Linnavuori - Israel. W. Faria, 22 km N of Jericho, 2 ex., 9.IV.1971, D. Gerling. Sinai: Romani, some ex., 4.V.1971, D. Gerling.

**T. michalki* E. Wagner - Sinai: Romani, 1 ex., 4.V.1971, D. Gerling. Holomediterranean.

AMPHIBICORIOMORPHA

Gerridae

**Halobates hayanus* Buchanan White - Sinai: Sharem-el-Mankata, 2 ex., 16.IX.1967, A. Yagar. A pelagic species with a wide range from the Red Sea to Oceania. The nearest finds from Port Sudan and Mersa Halaib in the Sudan.

Hermatobatidae

**Hermatobates djiboutensis* (Coutière & Martin) - Israel: Elat, 1 ex., 1954, L. Fishelson. Previously known from Djibouti in the French Somaliland.

HYDROCORIOMORPHA

Corixidae

**Micronecta wui alkani* Hoberlandt - Israel: several ex., in samples of water bugs from Bab-el-Hawa and En Barad in the Golan area, M. Avrahami, Syrio-Anatolian.

Hesperocorixa parallela Horvath - Israel: Bab-el-Hawa, 1 ex., J. Margalit. Pontomediterranean (known e.g. from Syria).

**Sigara emesa* Seidenstücker - Israel: several ex., in samples of aquatic Heteroptera from the Golan area (Bab-el-Hawa, Sachnin, Somka, Talpia Vohadie), M. Avrahami and J. Margalit. Previously known only from Homs in Syria.

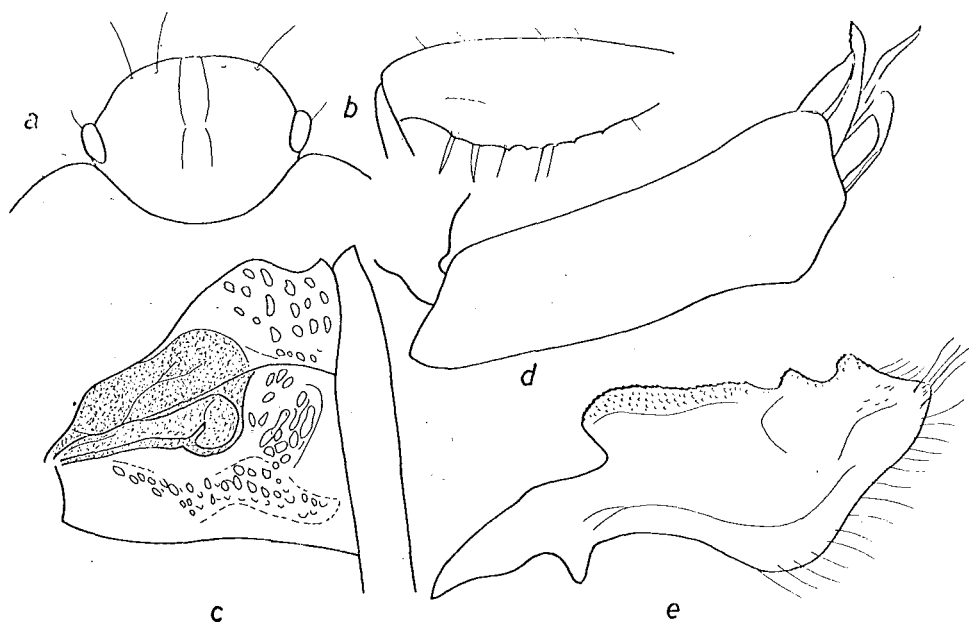


Fig. 1. *Mesocricus cribripennis* Horvath: a, head; b, fore femur; c, meso- and metathorax; d, penis, lateral aspect; e, stylus.

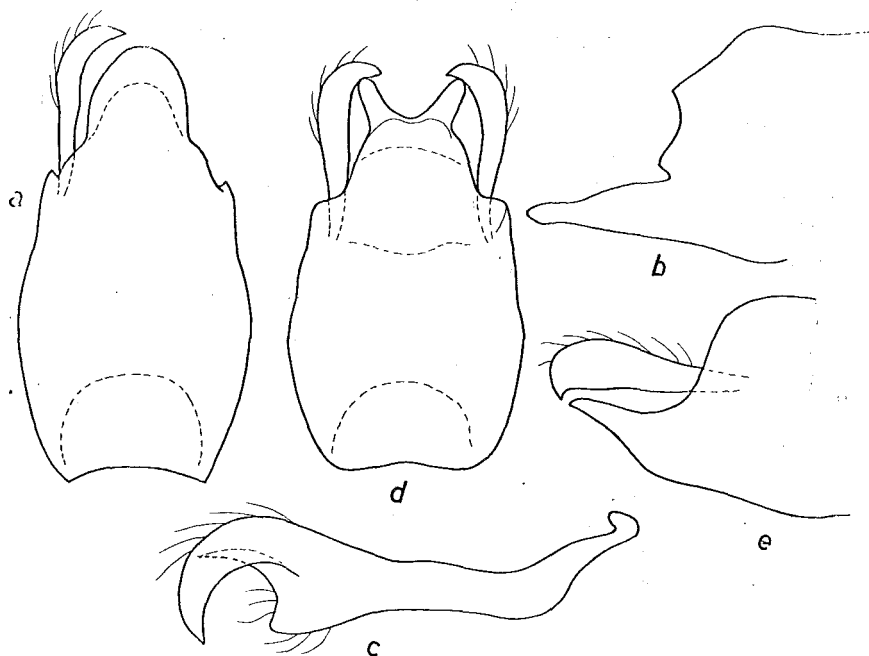


Fig. 2. *Empicoris mediterraneus* Hoberlandt: a, pygophore, ventral aspect; b, same, lateral aspect; c, stylus. *E. rubromaculatus* (Blackburn): d, pygophore, ventral aspect; e, same, lateral aspect.



Fig. 3. *Stenolemus novaki* Horvath: (type): a, head and pronotum from side; f, pygophore, ventral aspect. *S. mnesis* sp. n.: b, head and pronotum from side; e, base of pronotum, caudal view. *S. pothyne* sp. n.: c, and d, same.

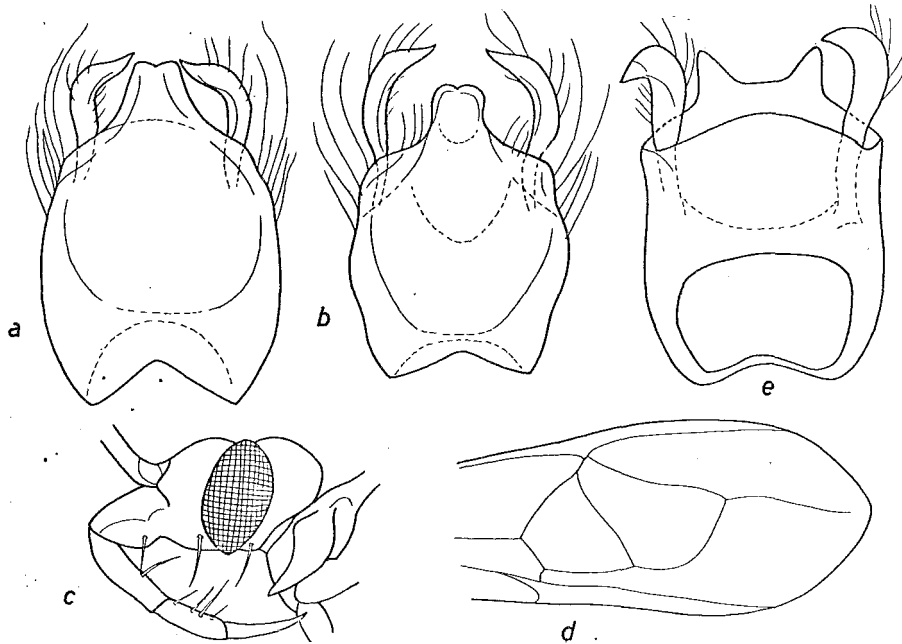


Fig. 4. *Stenolemus pothyne* sp. n.: a, pygophore, ventral aspect. *S. mnesis* sp. n.: b, same. - *Collartida phryne* sp. n.: c, head in profile; d, apex of elytron; e, pygophore, dorsal aspect.



Fig. 5. *Collartida phryne* sp. n.: a, head and pronotum. *Holotrichius rotundatus* Stål: b, median process of pygophore; c, stylus. *H. brittoni* Miller: d-e, same. *H. bodenheimeri* Dispons (type): f, stylus. *H. nitidicollis* Linnavuori (type): g, median process of process of pygophore. *H. innesi* Horvath: h, same; i, pygophore in dorsal aspect (specimen from Arabia); k, stylus (the same specimen); j, same (specimen from Fayed).

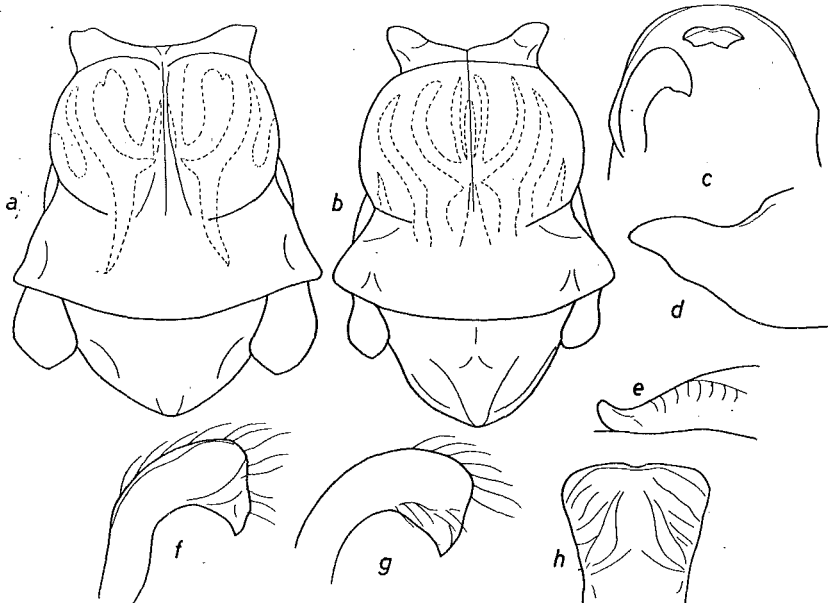


Fig. 6. *Holotrichius innesi* Horvath (lectotype): a, pronotum, scutellum and elytral rudiments of ♀. *H. innesi rugicollis* ssp. n.: b, same. *Reduvius falsus* sp. n.: c, pygophore, dorsal aspect; d, same in profile; e, scutellum in profile; f-g, stylus; h, median process of pygophore.

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