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## On some Palearctic Hemiptera

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The paper concerns taxonomic studies on certain Hemiptera from the Mediterranean and Eremian subregions. *Phytocoris hesperidum*, *Leptopterna dentifer*, *Megalocoleus pericarti* and *Dictyophara pales* are described as new. The taxonomic status of *Phytocoris pinkeri* Wgn. and *P. sahlbergi* Rt. is discussed and the former considered conspecific with the latter.

### 1. *Phytocoris hesperidum* sp.n. (Het., Miridae)

Length 5.5 mm. ♂, 6 mm. ♀. Dirty yellowish brown, dark pattern relatively faint, not contrasted. Head with dark markings around tylus, with a few dark obliquely transverse lateral bands at either eye and a broken faint reddish brown median stripe on vertex and frons. Eyes dark brown. 1st antennal joint yellowish, with dark brown confluent spots on inner surface, these more developed in ♂; 2nd joint (Fig. 1 b) dark brown, with base narrowly and a narrowish subapical ring whitish; other joints dark brown, base of 3rd narrowly whitish. Pronotum suffused with brown, lateral margins narrowly and an undate transverse line along basal margin dark fuscous. Scutellum with basal angles dark brown and with two small dark apical dots; brown suffusion otherwise faint. Elytra tinged with brownish, with sparse and ± indistinct dark irroration, the most distinct forming an obliquely transverse dark stripe at

medioapical area of corium; cuneus mainly pale, a small black spot present in basal inner angle; membrane milky, with dark brown irroration, leaving a largish area in lateral margin nearly immaculate; veins brown, apically pale. Under-surface ± marked with dark along sides. Legs yellow-brown; fore femora apically sparsely irrorate with brown, irroration of middle femora denser, hind femora in apical half densely irrorate with brown, dark rings of tibiae broader than the pale ones.

Body small and rather slender, distinctly broadening caudad. Upper surface with double hair covering: both the semidecumbent black hairs and the smooth yellowish hairs rather short and sparse, the latter not concentrated into special groups. Head (Fig. 1 a) about 0.7 × as broad as pronotum, short and broad, strongly decliving apicad, in lateral aspect distinctly higher than long (21:15), in apical view broader than high (26:23), frons not protruding beyond

tylus, ocular index 1.06 ( $\sigma$ ) or 1.31 ( $\varphi$ ). Antennae gracile, proportions between joints 33:53:32:23 ( $\sigma$ ), 35:56:40:2 ( $\varphi$ ); 1st joint with mainly pale bristles and smooth dark hairs, 1.27 ( $\sigma$ ) or 1.32 ( $\varphi$ )  $\times$  as long as diatone, 0.19  $\times$  as long as basal width of pronotum, 2nd joint in both sexes 1.40 – 1.43  $\times$  as long as basal width of pronotum. Rostrum to basal third of venter. Pronotum 1.8  $\times$  as broad as long, lateral margins straight or slightly insinuated. Scutellum apically rather swollen. Elytra longer than abdomen. Tibial spines pale, hind tibiae about 0.82  $\times$  as long as body. Male genitalia in Fig. 1 c – h. Genital segment with a prominent lateral tubercle.

Material studied: Portugal, Lourinhã, 1  $\sigma$ , type and 1  $\varphi$  paratype (my collection), VI. 1951, communicated by Dr. P. Duarte Rodrigues, Lisbon.

Running to number 23 (24) in WAGNER's key

to *Phytocoris* s.str. (1967, pp. 282–284). Closely related to *P. creticus* Wgn. from Crete, of which a paratype male (Crete, Psiloriti, Ida Rouvawald, Reisser leg.) exists in my collection. *P. creticus* is bigger, length 5.5 – 6.1 mm. ( $\sigma$ ), 6.7 mm.  $\varphi$ , and more robust. It is also much darker, the dark colouring dominating in the 1st antennal joint, the pronotum, the scutellum, the elytra and the under-surface of the body. The black markings of the legs are more contrasted. The dark semidecumbent hair covering of the upper surface is longer and the tomentous pale hair covering denser. Moreover, the genital segment of the male is not provided with a lateral tubercle and the left stylus is much thinner and of dissimilar shape. Since the male genitalia are correctly illustrated by WAGNER (1959, p. 18), figures are not reproduced here. *P. confusus* Rt. is much larger, length 7.2 – 8.2 mm.

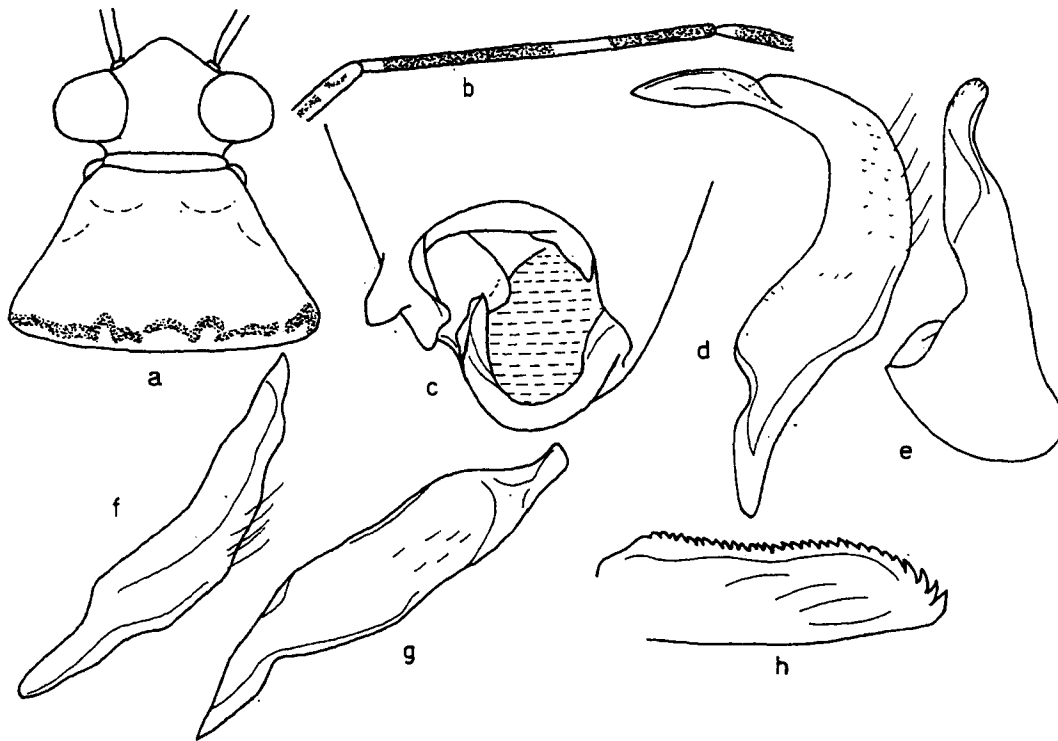


Fig. 1. *Phytocoris hesperidum* sp.n.: a head and pronotum ( $\sigma$ ); b 2nd antennal joint; c genital segment ( $\sigma$ ) from above; d – e left stylus; f – g right stylus; h comb-shaped spiculum of vesica. — Orig.

## 2. Remarks on the *Phytocoris* (*Eckerleinius*) *incanus* group

Various opinions have been advanced concerning the taxonomic status of *P. incanus* Fb., *P. sahlbergi* Rt. and *P. pinkeri* Wgn. These species have generally been regarded as synonyms, but recently WAGNER (1968 a and b) raised them to specific rank. This prompted me to revise the material of this group preserved in my collection. Unfortunately, *P. incanus* from Austria was not available. On the other hand, I have specimens of *P. pinkeri* from the type locality (Macedonia, Drenovo, 26 - 30. IX. 1959, PINKER) and of *P. sahlbergi* Rt., both from the Crimea (Kertsch, 1. IX. 1917, KIRITSHENKO, without locality, 3. VI. 1902, JAKOVLEFF) and from Central Asia (Kazakhstan, Jaivartsevo r. Urala, 14. IX. 1949, KIRITSHENKO; Turkestan, Daraut-Kurgan, Alajsk. d. Ferg., 15. VIII. 1928, KUZNETSOV; Kojlibaj, NO M. Barsuki, Turg., 13. X. 1931, LUPPEOVA). *P. sahlbergi* has been described from Turkestan.

WAGNER (1968 b, p. 177 - 178) distinguishes males of *P. sahlbergi* and *P. pinkeri* on the basis of the following details: 1) length of 1st antennal joint: 1.24 × as long as diatone in *P. sahlbergi*, 1.32 - 1.35 × in *P. pinkeri*, 2) ocular index: 1.44 in *P. sahlbergi*, 1.55 - 1.60 in *P. pinkeri*, 3) shape of left stylus: sensory lobe much lower in *P. sahlbergi* and 4) comb-shaped spiculum of vesica: short and broad in *P. sahlbergi*, narrow in *P. pinkeri*.

These details are discussed below:

1. ratio between 1st antennal joint and diatone  
*pinkeri* 1.23 - 1.31 (according to WAGNER 1968. 1.32 - 1.35)

*sahlbergi*

Crimean population 1.10 - 1.26

Turkestan » 1.19

The 1st antennal joint is longer in *P. pinkeri*, although an overlap is observable between it and the Crimean population of *sahlbergi*.

2. ratio between 2nd antennal joint and basal width of pronotum

*pinkeri* 1.36 - 1.42

*sahlbergi*

Crimean population 1.27 - 1.35

Turkestan » 1.28

The 2nd antennal joint is also longer in *P. pinkeri*, although a trend towards shortening of the antennae can be recognized in *P. sahlbergi* from west to east. It is also interesting that the 1st joint is more gracile in the Turkestan population than in the Crimean population or in *pinkeri*.

3. ocular index

*pinkeri* 1.47 - 1.59 (according to WAGNER 1968 a 1.60 - 1.67, 1968 b 1.55 - 1.60)

*sahlbergi*

Crimean population 1.44 - 1.52

Turkestan » 1.25 - 1.27

The size of the eyes in *sahlbergi* shows a tendency to increase in the direction from west to east. The overlapping between *pinkeri* and the Crimean population of *sahlbergi* is noteworthy.

4. left stylus (Fig. 1 a - c, Fig. 3 a - c)

WAGNER's statement on the sensory lobe of the left stylus is erroneous. It is, in fact, similar in the two species, but in the Turkestan population of *sahlbergi* it is slightly less prominent than in the others. The general shape of the stylus is also similar.

5. comb-shaped spiculum of vesica (Figs. 2 d and 3d)

Here also, WAGNER's record is misleading: the spiculum is similar in the two species (the breadth-length ratio is 8:30 in *pinkeri* and in the Crimean population of *sahlbergi*, 7:27 in the Turkestan population). The spiculum is provided with only two thick apical teeth. It is worth noticing that the spiculum in the closely related *P. rjabovi* Krz. is very different, with 6 teeth.

6. In general habitus *P. pinkeri* and the Crimean population of *P. sahlbergi* are alike, with a length of 7 - 7.5 mm., while the specimens from Turkestan are smaller, length 6.5 - 7 mm., and more gracile. They also have a more distinct dark colour pattern.

Unfortunately, no females of *P. pinkeri* were available and of *sahlbergi* only two females from Central Asia are at hand. In them the ocular index is 1.71–2.0 (in *pinkeri* according to WAGNER 2.14), the 1st antennal joint is 1.85–1.85 × as long as the diatone (in *pinkeri* 1.46 ×) and the 2nd joint is 1.8–1.98 × as long as the basal width of the pronotum.

#### Conclusions:

As a result of the revision, the validity of *P. pinkeri* as a separate species seems very dubious. In my opinion, it forms a race of *P. sahlbergi* inhabiting the Balkan Peninsula. It is very closely related to the Crimean population, which, as pointed out before, differs in certain respects from the Central Asian popula-

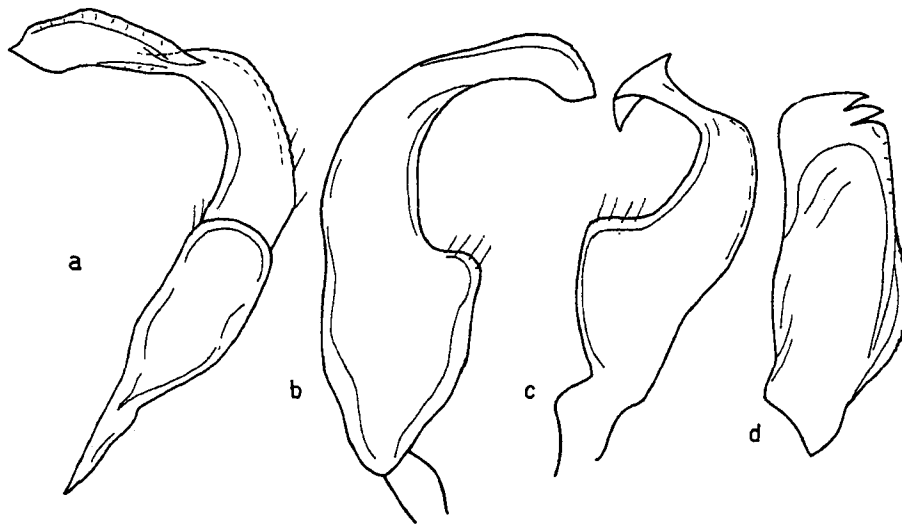


Fig. 2. *Phytocoris pinkeri* Wgn.: a–c left stylus in different aspects; d comb-shaped spiculum of vesica. — Orig.

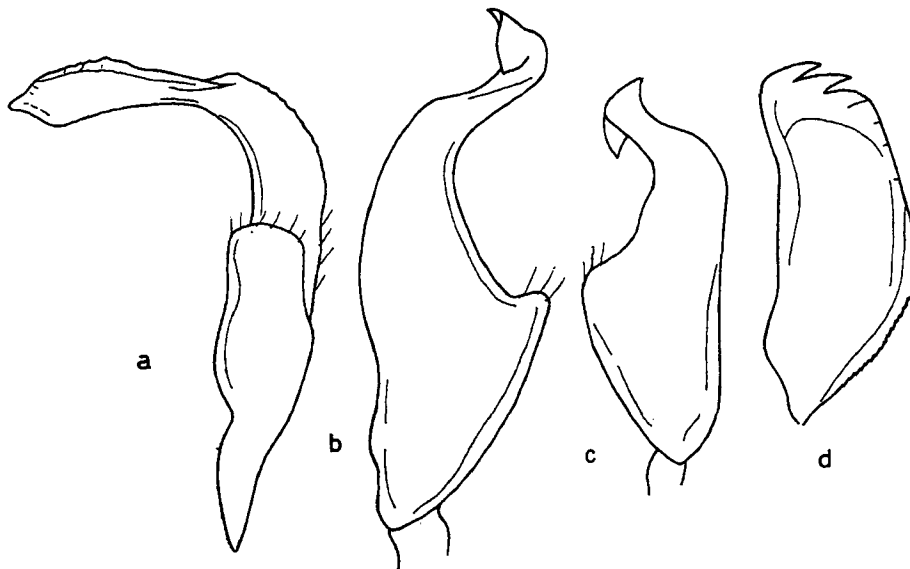


Fig. 3. *Phytocoris sahlbergi* Rt.: a–c left stylus in different aspects (a–b specimen from Crimea, c specimen from Turkestan); d comb-shaped spiculum of vesica (specimen from Crimea). — Orig.

tions representing the genuine *sahlbergi*, originally described from Turkestan. I am not going to propose here a special taxonomic name for the Crimean population, since at present it is not known whether there is a gradual variability in the size of the eyes and in the antennal length from west to east or whether, according to the 75 % rule, a splitting into two geographical races is possible. Additional material is also desirable from areas between Macedonia and the Crimea to establish whether, according to the rule in question, *pinkeri* can be distinguished as a separate race, or has to be united, without a special taxonomic name, with *sahlbergi*.

*P. incanus* Fb. differs from *sahlbergi*, according to WAGNER (1968), in the ocular index (1.85 – 1.40 in ♂, 1.75 – 1.80 in ♀), in the length of the 1st antennal joint (in both sexes 1.2 × as long as the diatone) and in the spiculum of the vesica (narrow and furnished with 3 apical teeth).

### 3. *Leptopterna dentifer* sp.n. (Het., Miridae)

Of the genus *Leptopterna* Fb. four European species have been described: *L. dolobrata* (L.)

(Holarctic), *L. pilosa* Rt. (Iberian), *L. ferrugata* (Fn.) (Holarctic) and *L. griesheimae* Wgn. (Mediterranean, known from Sicily and southern France and Spain). An examination of a collection from Spain revealed another new species.

### Key to the European species

- 1 (6) ♂: ocular index about 1.85 – 2.0. ♀: 2nd antennal joint of nearly equal width throughout, only slightly narrowing apicad ..... 2
- 2 (3) Hairs of legs pale, remarkably long and erect ..... *pilosa*
- 3 (2) Hairs of legs dark and rather short ..... 4
- 4 (5) Spicula of vesica long and slender (Fig. 4 c). Black pattern of vertex, pronotum and scutellum intensive ..... *dolobrata*
- 5 (4) Spicula of vesica (Fig. 4 a) shorter and thicker, the shorter one apically dentate and provided with a triangular lobe. Black pattern much less developed: vertex with a Y-shaped median spot, black longitudinal bands of pronotum present only in anterior half, scutellum only laterally darkened ..... *dentifer*
- 6 (1) ♂: ocular index at most 1.3. ♀: 2nd antennal joint distinctly thickening basad ..... 7
- 7 (8) Body more robust. 2nd antennal joint 2.5 (♂) or 2.9 (♀) × as long as diatone. In brachypterous



Fig. 4. Spicula of vesica of *Leptopterna dentifer* sp.n. a, *L. pilosa* Rt. (type) b, *L. dolobrata* (L.) c. — Orig.

female, cell in membrane of elytra absent *ferrugata*  
 8 (7) More elongate. 2nd antennal joint 3 (♂) or 3.5  
 (♀) × as long as diatone. Brachypterous female  
 with a well-developed cell in membrane of elytra  
 ..... *griesheimae*

*L. dentifer* sp.n.

♂ Length 9 mm. Yellowish. Pronotum, scutellum and elytra with a golden tinge. Tylus medially black, vertex with a black median Y-shaped figure, as in *L. ferrugata*. Antennae blackish, 1st joint with faint paler suffusion. Pronotum with two longitudinal black bands in anterior half. Scutellum laterally black, disk with a yellow median line. Elytra golden brown, costal margin narrowly pale; membrane pale brownish, veins golden brown. Under surface with minor dark markings. Legs yellow-brown, with dark dots.

Resembling *L. dolobrata*, but more gracile. Upper surface with short erect hair covering. Ocular index 1.85. Antennae incrassate, proportions between joints 38:96:49:?, 1st joint 1.2 × as long as diatone, 2nd twice as long as basal width of pronotum, 1.98 × as long as 3rd, hair covering black, semierect. Pronotum elongate, 1.88 × as broad as long (total length). Hair covering of legs blackish, rather short. Male

genitalia in Fig. 4 a and 5 c - d. Genital segment with a smaller lateral knob than in *L. dolobrata*. Shape of spicula unique: both branches thick, the shorter one provided with some apical teeth and with a triangular subapical lobe bent medio-basad.

Material studied: Southern Spain, 1 ♂, type (my collection), communicated by Mr. PARDO, Melilla.

Differing from *L. dolobrata* (and all others) in the shape of the spicula of the vesica. Moreover, the right stylus is considerably narrower and the left stylus more gracile than in *L. dolobrata* (genitalia of the last-named in Fig. 4 c, 6 a - b). *L. pilosa* (genitalia in Fig. 4 b, 5 e - f) differs in the longer and pale hair covering, the structure of the spicula, the broader right stylus and the narrower hypophysis of the left stylus. The other species *L. ferrugata* (genitalia in Fig. 5 a, 6 c) and *L. griesheimae* (genitalia in Fig. 5 b, 6 d) differ in the larger eyes etc.

4. *Megalocoleus pericarti* sp.n. (Het., Miridae)

Length ♂ 4.25 mm., ♀ 4.75 mm. Opaque Uniformly yellow. Membrane pale brownish smoky, veins yellow. Hind femora with very indistinct brown spots. 3rd tarsal joint and claws dark.

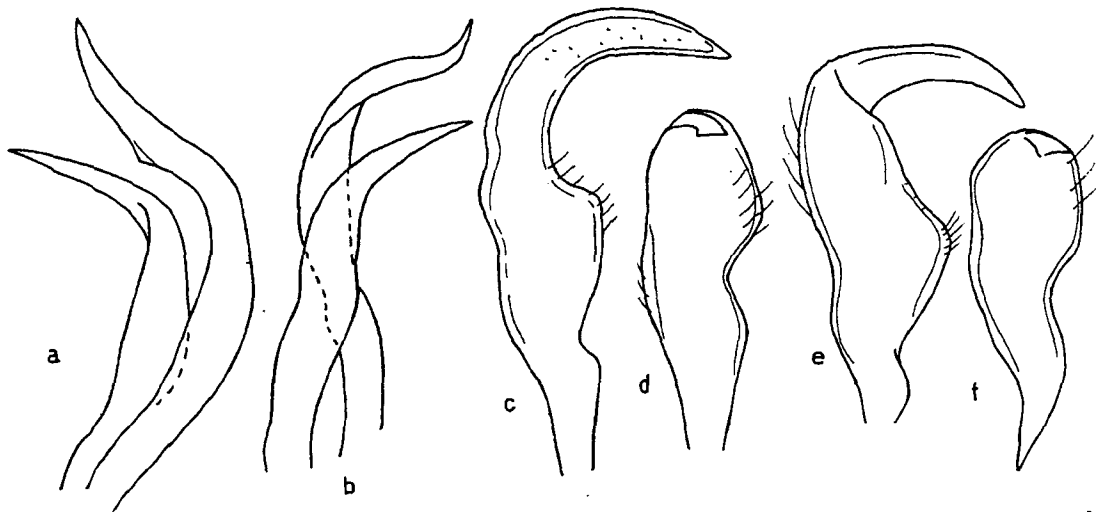


Fig. 5. Spicula of vesica of *Leptoterna ferrugata* (Fn.) a, *L. griesheimae* Wgn. b. — *L. dentifer* sp.n.: c left stylus; d right stylus (broad aspect). — *L. pilosa* Rt. (type): e - f same. — Orig.

♂ elongate, nearly parallel-sided, almost 3 × as long as broad, ♀ elongately ovate, about 2.8 × as long as broad. Hair covering of upper surface longish, dense, yellow and semidecumbent. Head (Fig. 7 a - b) 0.68 - 0.70 × as broad as pronotum, relatively short and broad, in apical view broader than high (ratio breadth: height = 21.5:18 in ♂, 24:21 in ♀), in lateral view about as long as high; vertex and frons convex, the last-named rather strongly decliving ventrad; eyes relatively small, ocular index 1.91 (♂) or 2.8 (♀). Antennae with dense yellow hair covering, in ♂ slightly thicker than in ♀, proportions between joints 8:31:21:10, 1st joint 0.8 (♂) or 0.8 (♂) × as long as synthlipsis, 2nd in ♂ nearly as long as basal width of pronotum (31:32), in ♀ considerably shorter (31:38). Rostrum in ♂ to middle of venter, in ♀ slightly beyond hind coxae. Pronotum 2.1 - 2.2 × as broad as long, lateral margins slightly curvate, hind margin nearly straight, calli indistinct. Elytra extending well beyond abdomen in both sexes. Tibial spines black. Proportions between hind tarsal joints 9:19:15. Claw in Fig. 7 c. Male genitalia in Fig. 7 d - i.

Material studied: Corsica, Ghizonaccia, 1 ♂, type and 1 ♀ paratype (my collection), 5. VI. 1961, J. PÉRICART. On *Anthemis* sp.

The following species have the combination of the yellow colouring, the pale pubescence and the rostrum extending to the middle of the

venter: *M. chrysotrichus* (Fb.), *M. bolivari* (Rt.) and *M. mellai* (Rt.). *M. chrysotrichus* has pale tibial spines and larger eyes (ocular index 1.88 in ♂, 2.4 in ♀). In apical view the ratio between the breadth and the height of the head is 23:18 (♂) or 24:20 (♀) and the ratio between the length of the 2nd antennal joint and the basal width of the pronotum 29:34 (♂) or 27:35 (♀). Moreover, the female is more broadly ovate and has shorter elytra extending much less far beyond the tip of the abdomen. In *M. bolivari* the head in apical view is nearly as high as broad in ♂, about 1.25 × as high as broad in ♀, the ocular index is > 2.0 in ♂ or nearly 3.0 in ♀ and the 2nd antennal joint is as long as the basal width of the pronotum in both sexes. The species lives on *Anthemis maritima*. *M. mellai* is smaller, length 3.7 - 3.9 mm. (♂) or 3.4 - 3.8 mm. (♀). The head in apical view is slightly broader than high in ♂, as broad as high in ♀. The eyes are considerably larger; the ocular index is 1.87 (♂) or 2.88 (♀). Host *Achillea tomentosa*.

The specimens have been recorded as *M. aurantiacus* (Fb.) by PÉRICART (1965, p. 380), which differs, at any rate, in the black hair covering of the upper surface and in the smaller eyes (ocular index > 2.0 in ♂, 3.0 in ♀) etc.

##### 5. *Dictyophara pales* sp.n. (Hom., Dictyopharidae)

Length 13 mm. Greenish yellow. Median parts of face unicoloured; sides of the cephalic process dark brown except in dorsal margin, with pale spots situated especially along the sublateral longitudinal keels, the dark area also visible in dorsal view along the lateral longitudinal keels. Elytra hyaline, veins yellowish, pterostigma not embrowned. Spines of hind legs dark-tipped.

Frons (Fig. 8 a - b) strongly concave in profile owing to the completely horizontal, straight cephalic process. Lower part of frons slightly tapering upwardly, then strongly narrowing to the delicate, parallel-sided cephalic process in

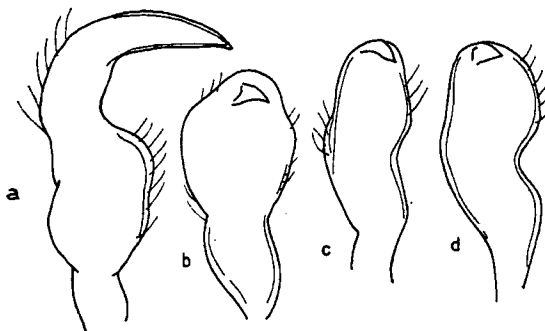


Fig. 6. *Leptopterna dolabrata* (L.): a left stylus; b right stylus (board aspect). — *L. ferrugata* (Fn.): c right stylus (broad aspect). — *L. griesheimae* Wgn.: d same. — Orig.

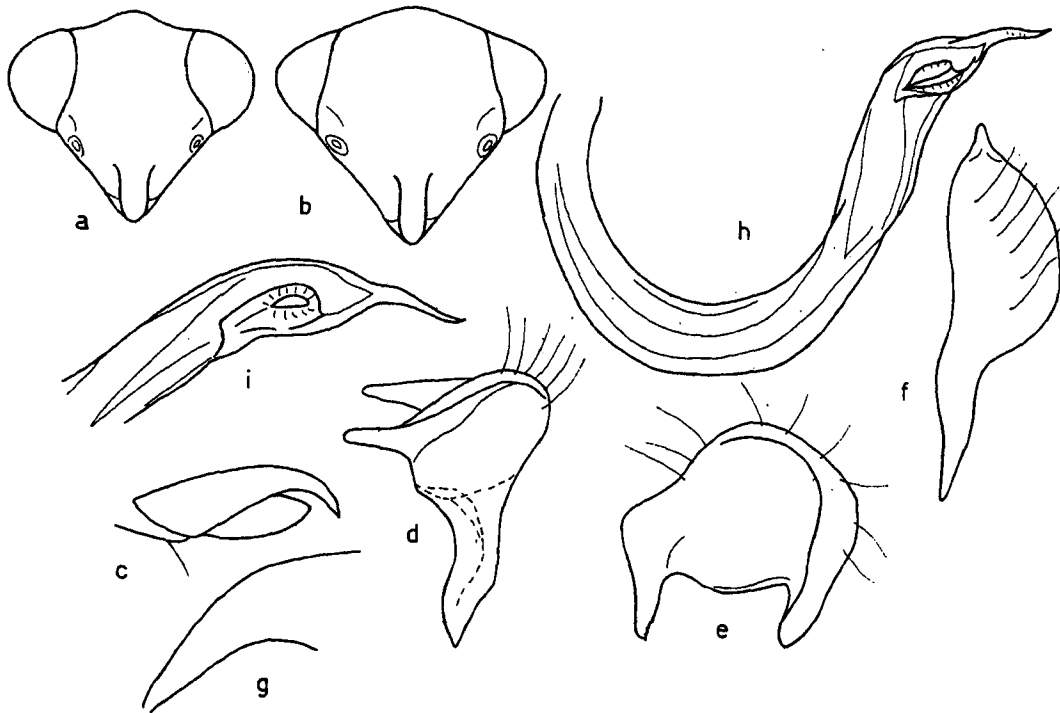


Fig. 7. *Megalocoleus pericarti* sp.n.: a head, frontal view (♂); b same (♀); c claw; d - e left stylus; f right stylus; g theca; h - i vesica. — Orig.

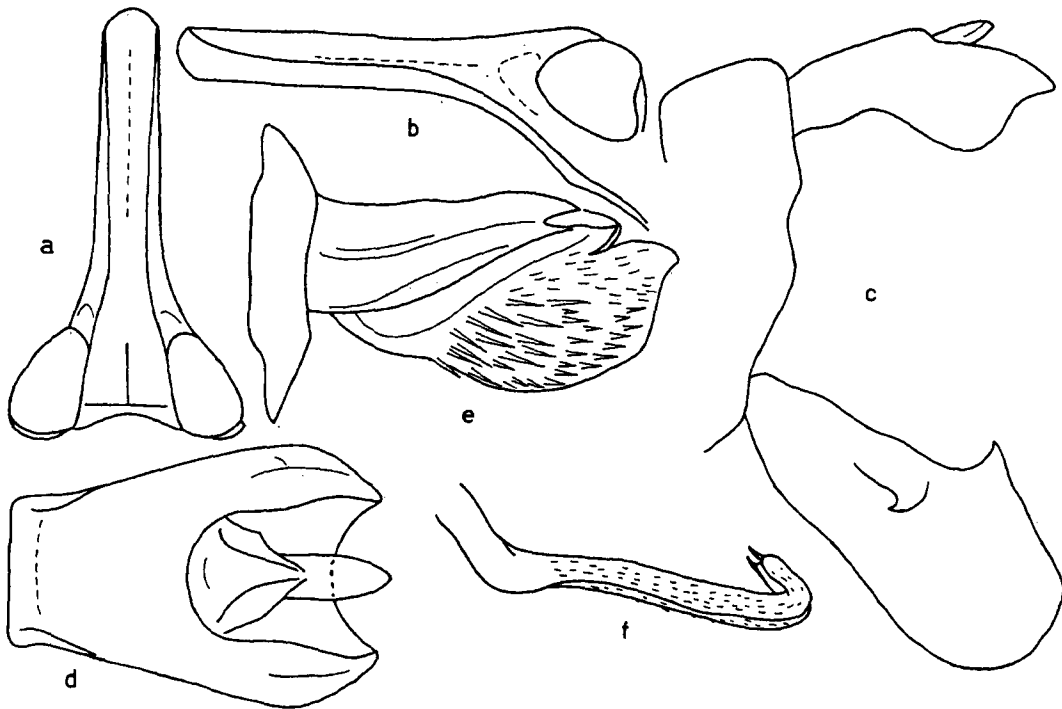


Fig. 8. *Dictyophara pales* sp.n.: a head from above; b same in profile; c genital segment (♂) from side; d anal tube, dorsal aspect; e penis (without appendages), lateral aspect; f acdeagal appendages. — Orig.



front of eyes; median keel distinct only in basal half; sublateral ridges there rather near the median keel, sharp and close to each other in the cephalic process. Ratio between length of vertex and total length of body = 1:4.6. Vertex  $2.5 \times$  as long as broad, strongly tapering in front of eyes, the cephalic process therefore remarkably gracile, nearly parallel-sided, concave; median keel sharp only in basal part of vertex, the sharp lateral keels of face well visible from above throughout. Pronotum with a sharp median keel, lateral keels faint, scutellum with 3 distinct ridges. Elytra elongate, vein net dense

in apical part as in *D. exoptata* Dlab. & Heller. Hind tibiae with 7 lateral spines. Male genitalia in Fig. 8 c - f.

Material studied: Israel, 1 ♂, type, in my collection.

Easily recognized by the peculiar cephalic structure. Possibly related to *D. exoptata* DLABOLA & HELLER (1962) from Iran. This species is known only in the female sex. In *D. exoptata* the cephalic process is slightly recurved ventrad in profile, the vertex is less strongly tapering in front of the eyes, the dark markings of the head are absent, etc.

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## Prevalence of bed bugs, cockroaches and human fleas in Finland

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MARKKULA, M. & TIITTANEN, K. 1970. Prevalence of bed bugs, cockroaches and human fleas in Finland. — Ann. Ent. Fenn. 36, 99 - 107.

Information about the prevalence of bed bugs, cockroaches and human fleas in homes, and their control, was requested from the local authorities and others with knowledge of the vermin situation in 1968. Bed bugs and cockroaches are prevalent in 40 per cent of the communes of the country and human fleas in 10 per cent. Of the homes 1 per cent are infested with bed bugs, 3 per cent with cockroaches and 0.2 per cent with human fleas. Vermin are more prevalent in the communes than in small country towns and cities, and nearly all replies stated that vermin are rarer than ten years ago. Control is neglected or the measures taken are inadequate in every fifth home infested with vermin.

Household and store-room insecticides are used in Finland in considerably larger quantities than agricultural insecticides (see e.g. MARKKULA and TIITTANEN 1969). The Plant Protec-