Studies on Palaeartic Hemiptera

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The article consists of a synopsis of the genera *Systellonotus* Fb. and *Ectomocoris* M., with descriptions of four new species: *Systellonotus usaifirae* sp.n. (Yemen), *S. lesbia* sp.n. (Central Asia), *Ectomocoris caucasicus* sp.n. (Caucasia) and *E. basra* sp.n. (Irak, Iran). In addition one new species, *Heterocordylus megara* sp.n. is descriped.

Heterocordylus megara sp.n. (Miridae)

Fig. 1. Length 4.5 mm. Black. Membrane with veins dark brown. Tibiae yellowish brown, basally and apically blackened.

Broadly ovate, broadening caudad, body about 3 × as long as basal width of pronotum. With fine adpressed hair covering. Head in apical view 1.4 × as broad as high, eyes relatively large, ocular index 1.9; basal margin of vertex sharp, a shallow depression near either eye. 1st and 2nd antennal joints (others absent) incrassate, with dense adpressed blackish hair covering; 1st joint 0.34 × as long as diatone, 2nd thick, tapering both basad and apicad, 1.3 × as long as diatone, 0.93 × as long as basal width of pronotum, 7 × as long as broad. Rostrum extending to middle coxae. Pronotum 1.4 × as broad as head, twice as broad as long at middle, trapezoidal; lateral margins straight, basal margin slightly insinuated, disk in basal two-thirds transversely wrinkled, calli faintly developed, shagreened, anterior margin finely rugose. Scutellum finely wrinkled. Elytra longer than abdomen, faintly rugose. Proportions between hind tarsal joints 11 : 17 : 18; hind tibia 1.22 × as long as basal width of pronotum.

Material studied: Portugal, Mafra, 1 ♀, type, 3. V. 1970, P. Duarte Rodrigues, my collection.

The species is easy to distinguish from its relatives, as shown by the following key.

Key to the species with totally or partly pale tibiae (*tibialis* group)

1 (2) Tibiae totally pale. Length ♂ 3.9, ♀ 3.7 – 4.4 mm. 2nd antennal joint in both sexes narrow, cylindrical ..... *benardi* Hv. (Corsica, Spain)
2 (1) Tibiae partly darkened 3
3 (6) 2nd antennal joint narrow, cylindrical 4
4 (5) Tibiae basally and apically embrowned. 2nd antennal joint about 1.0 – 1.1 (♂) or 0.88 (♀) × as long as basal width of pronotum, gracile in both sexes ..... *tibialis* (H.) (Europe)
5 (4) Tibiae basally black, apically brown. 2nd antennajoint (♀) more incrassate and shorter, 0.7 × as long as basal width of pronotum .... *pedestris* Wgn. (Morocco)
6 (3) 2nd antennal joint incrassate, in ♂ (known only in *H. montanus*) broadening apicad, in ♀ strongly thickened, tapering both basad and apicad .. 7
7 (8) Body with a dense cover of pale scale-like hairs. 2nd antennal joint about 0.75 × as long as basal width of pronotum. Length of body 4 mm .... *montanus* Ldb. (Spain)
8 (7) Body with fine pale hairs. 2nd antennal joint 0.93 × as long as basal width of pronotum. Length of body 4.5 mm ..... *megara* sp.n. (Portugal)

On the genus Systellonotus Fb. (Miridae)

A collection of the genus *Systellonotus* Fb. recently examined by me proved to contain two new species, which are described below. Redescriptions of the little known *S. velox* Hv. and *S. micelii* Rt. are also given. Since the formerkeys to the species of the genus contain some inaccuracies (e.g. the hair covering of *S. alpinus* F.-G. and *S. championi* Rt. is, at least partly, longish and erect instead of smooth), a new key is published below. The key is based mainly on material in my own collection. Since the brachypterous females of several species are unknown, the key has been prepared only for males.

1 (2) Elytra with 3 white transverse bands .... *villiersi* Rib. (Morocco)
2 (1) Elytra with 2 white bands 3
3 (8) Large species, length at least 6 mm 4
4 (5) Body remarkably gracile, distinctly broadening caudad. Colours of elytra (Fig. 3 c) strongly contrasted: clavus, excluding the white stripe, and base of corium behind the white band blackish brown, corium between the two white bands brightly orangish. Antennae long and gracile, 2nd joint 2.2 – 2.27 × as long as diatone ..... *lesbia* sp.n. (Turkestan)
5 (4) Body more parallel-sided. Colours of elytra, excluding the white bands, not strongly contrasted. Antennae shorter, 2nd joint about 1.25 × as long as basal width of pronotum .. 6
6 (7) White band on clavus narrower, tapering mesad and slightly recurved basad. Eyes large, ocular index 1.26 (according to WAGNER & WEBER 1964, p. 367 1.5). Antennae long and gracile, 2nd joint 1.96 × as long as diatone, 1.25 × as long as basal width of pronotum (according to WAGNER and WEBER 1.33 ×), 3rd joint 0.91 × as long as 2nd. Legs longer and more gracile, e.g. hind tibia 2.64 × as long as basal width of pronotum. Length 6.2 – 6.6 mm .. *alpinus* F.-G. (Westmediterranean: Spain, France, Switzerland)
7 (6) White band on clavus (Fig. 3 a) broader, not tapering mesad, straight. Eyes much smaller, ocular index 1.70. Antennae somewhat thicker, 2nd joint 2.1 × as long as diatone, 1.23 × as long as basal width of pronotum, 3rd joint 0.93 × as long as 2nd. Legs slightly shorter and thicker, e.g. hind femur 2.54 × as long as basal width of pronotum. Length 6.5 mm..... ..... *championi* Rt. (Iberian)
8 (3) Smaller species, length at most 5.5 mm 9
9 (20) Middle white band of elytra gradually tapering mesad (Fig. 1 a – c) 10
10 (13) Small species, length 4 mm 11
11 (12) Body robust. 2nd antennal joint as long as basal width of pronotum. Ocular index 2.67 .. .. *wagneri* (Kir.) Lv. (Iran)
12 (11) Body gracile. 2nd antennal joint 1.46 × as long as basal width of pronotum. Ocular index 1.84 ..... *malaisei* Ldb. (the Far East of USSR)
10 (13) Larger species. 2nd antennal joint longer .. 14
14 (15) Length 4.6 – 5 mm. Reddish brown. Antennae reddish brown. Middle white band on elytra much as in *S. usaifirae*, the apical band roughly rectangular ..... *insularis* Wgn. (Corsica)
15 (14) Length 5 mm. or more. Darker species. Antennae dark, 1st joint paler, base of 3rd whitish. White apical band on elytra triangular. Eremian species 16
16 (17) Opaque. Pattern of elytra as in Fig. 2 b, the middle white band strongly tapering mesad. 2nd antennal joint 1.55 × as long as basal width of pronotum. Scutellum remarkably swollen apically ..... *usaifirae* sp.n. (Yemen)
17 (16) More shiny. Middle white band on elytra broader. 2nd antennal ioint shorter. Scutellum less swollen apically 18
18 (19) Ground colouring black. Ocular index 1.31. Antennae gracile, 2nd joint 1.34 × as long as basal width of pronotum. Middle white band on elytra (Fig. 2 a) more strongly narrowing mesad .. *albofasciatus* (Lc.) (Morocco, Algeria)
19 (18) Ground colouring dark reddish brown. Ocular index 1.59. Antennae thicker and shorter, 2nd joint 1.34 × as long as basal width of pronotum. Middle white band on elytra (Fig. 2 c) broader .... *micelii* Rt. (Tunisia, Algeria, Morocco)
20 (9) Middle white band on elytra suddenly constricted when entering clavus just at the claval suture (Fig. 2 b) 21
21 (22) A small species, length 3.1 – 4 mm. White spot on clavus often absent; if present, then not extending mesad beyond middle of clavus. Ground colouring black ..... *thymi* (Sgn. (= *putoni* Rt.) (Holomediterranean)
22 (11) Larger species, colour pattern not as above. Ground colouring brown 23
23 (24) White spot on clavus semilunar, separated from corresponding band on corium by a brown stripe along the claval suture ..... *triguttatus* (L.) (Europe)
24 (23) Middle white band on elytra continuous .. 25
25 (26) White spot on clavus large (Fig. 3 b). Eyes large, ocular index 0.92 – 1.0 ..... *velox* Hv.
26 (25) White spot on clavus narrow, stripe-like. Eyes much smaller 27
27 (28) White spot on clavus small, triangular, of the same type as in *S. lesbia*. Corium with a broad contrasted orangish band between the two white bands; clavus and corium otherwise dark brown. Ocular index 1.66 – 1.68. Length of body 5 – 5.5 mm ..... *discoidalis* Hv. (= *kiritshenkoi* Pop., *skopljensis* Kml.) (Pontomediterranean)
28 (27) White spot on clavus of equal width, band-like; ground colouring of clavus and corium yellow-brown, the white bands with dark borders. Ocular index 1.5 – 1.6. Length 4.85 – 5.1 mm. ..... *weberi* Wgn. (Westmediterranean: France, Spain)

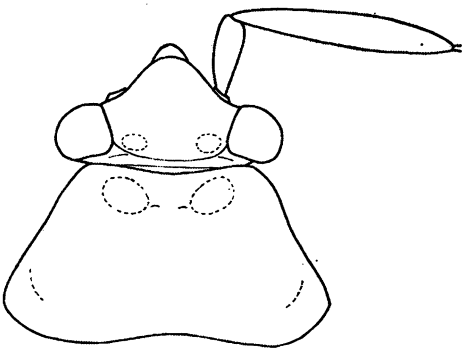

Fig. 1. *Heterocordylus megara* sp.n. head and pronotum.

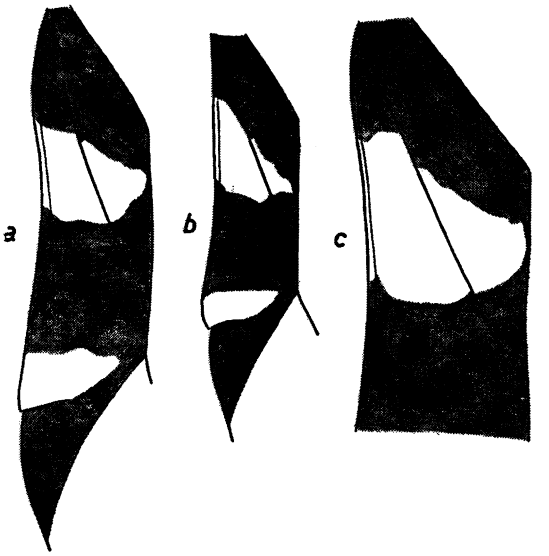

Fig. 2. Pattern of elytron of *Systellonotus albofasciatus* (Lc.) a, *S. usaifirae* sp.n. b and *S. micelii* Rt. c.

S. usaifirae sp.n.

Length 5.4 mm. Dull, blackish. Antennae blackish, 1st joint paler, basal third of 3rd joint whitish. Elytra with white pattern as in Fig. 2 b, membrane dark smoky. Femora dark brown, tibiae reddish.

Long and elongate. Upper surface apparently with erect hairs. Head small, basal width of pronotum 1.5 × as long as diatone, ocular index 1.5. Antennae long, proportions between joints 13 : 48 : 42 : 25, 2nd joint 1.55 × as long as basal width of pronotum. Rostrum to middle coxae. Pronotum broadening considerably basad. Apical part of scutellum considerably swollen. Genitalia as in the other species of the *albofasciatus* group.

Material studied: Yemen, Usaifira, 1 mile north of Ta'izz, 4500 ft., 1 ♂, type, 13. XII. 1937, Scott & Britton, British Museum.

Of the *albofasciatus* group, differing from the other species as indicated in the key.

S. micelii Rt.

Very similar to *S. albofasciatus*, but ground colouring dark reddish brown instead of black; vertex somewhat broader, antennae shorter and thicker, median end of the anterior white band of elytron (Fig. 2 c) on clavus broader, elytra relatively somewhat shorter and legs slightly thicker.

Measurements:

micelii

1. head in apical view as broad as high.
2. ocular index 1.59.
3. proportions between antennal joints 12 : 39 : 28 (?, probably broken): ?; 2nd joint 3.25 × as long as 1st, 1.9 × as long as diatone, 1.15 × as long as basal width of pronotum.

albofasciatus

1. head in apical view as broad as high.
2. ocular index 1.31.
3. proportions between antennal joints 12 : 43 : 38 : 24; 2nd joint 3.5 × as long as 1st, 2.1 × as long as diatone, 1.34 × as long as basal width of pronotum; 3rd joint 1.85 × as long as diatone.

Range: Originally described from Tunisia (REUTER 1886, p. 121 – 122). There are two specimens identified as *S. micelii* in coll. Puton, in Mus. Paris. One of them is *S. velox*, the only species of the genus that I have seen from Tunisia. Unfortunately, I have not seen any authentic material of *S. micelii*. However, I have regarded the second specimen in coll. Puton as that species. At any rate, it is evidently not identical with *S. albofasciatus*, although very closely related to it. *S. micelii* has been recorded from Morocco and Algeria, as well as from Tunisia.

Material studied: Algeria, Biskra, 1 ♂, coll. Puton, Mus. Paris.

Mateiral examined of *S. albofasciatus:* Algeria, 20 km. west of Laghouat, 1 ♂, 10. V. 1964, Eckerlein, my collection.

S. malaisei Ldb.

♂. Length 4 mm. Colouring as in *S. wagneri* (Kir.) Lv. (see LINNAVUORI 1964, 328 – 329).

Body much more gracile than in *S. wagneri.* Head much smaller, 0.8 × as broad as pronotum, in frontal view slightly broader than high (19.5 : 18); ocular index 1.84. Antennae long, proportions between joints 11 : 35 : 32 : 22; 2nd joint 1.8 × as long as diatone, 1.46 × as long as basal width of pronotum. Pronotum rather opaque. Hind tibia 2.42 × as long as basal width of pronotum.

♀. Length 3.75 mm. Resembling *S. wagneri,* but more opaque, especially in dorsum of abdomen. Elytra reddish brown, with middle white band strongly constricted on clavus; the apical band, present in *S. wagneri,* absent. Abdomen dorsally dark brown.

Head broader than pronotum (24 : 21), globose, in apical view slightly higher than broad (25 : 24); eyes small, ocular index 4.21. Proportions between antennal joints 10 : 32 : 30 : ?; 2nd joint 1.33 × as long as diatone, 1.5 × as long as basal width of pronotum. Elytra shorter and less upcurved apically than in *S. wagneri.* Hind tibia 2.8 × as long as basal width of pronotum.

Range: The Far East of USSR.

Material studied: USSR, Nikolsk, Ussur, Prim. obl, 1 ♀, N. Kusnetsov; Sitenovo, Amursk, 1 ♂, 13. VII. 1959, I. Kerzhner, Mus. Leningrad.

S. velox Hv.

Length 4.5 – 5 mm. Shiny, dark brown species, easily distinguished by the white pattern of elytra (Fig. 3 b).

Head in apical view broader than high (21.5 : 19), about 0.7 × as broad as pronotum; frons with distinct raised microsculptured transverse bands on either side, vertex with two similar curved longitudinal bands; eyes unusually large, ocular index 0.92 – 1.0. Proportions between antennal joints 10 : 35 : 30 : 20; 2nd joint 1.63 – 1.79 × as long as diatone, 1.17 – 1.24 × as long as basa, width of pronotum; 3rd joint as long as basal width of pronotum. Rostrum to hind coxae. Pronotum convex, strongly broadening caudad, surface slightly uneven. Scutellum rather swollen. Legs gracile, hind tibia 2.53 × as long as basal width of pronotum.

Range: Tunisia, Libya, Israel.

Material studied: Tunisia, Fedjedj, 1 ♂ type and 3 ♂ paratypes of *S. velox,* Vibert, Mus. Budapest; Thala, 1 ♂ (as *S. micelii*), coll. Puton, Mus. Paris. Israel, Zeelim, 1 ♂, 6. IV. 1965, Kugler, my collection.

S. discoidalis Hv.

Systellonotus discoidalis HORVATH 1894, p. 120.
Systellonotus kiritshenkoi POPPIUS 1912, p. 202, syn.n.

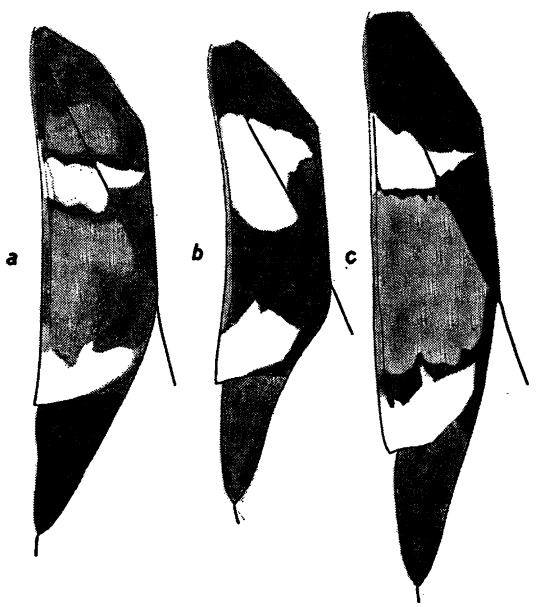

Fig. 3. Pattern of elytron of *Systellonotus championi* Rt. a, *S. velox* Hv. b and *S. lesbia* sp.n. c.

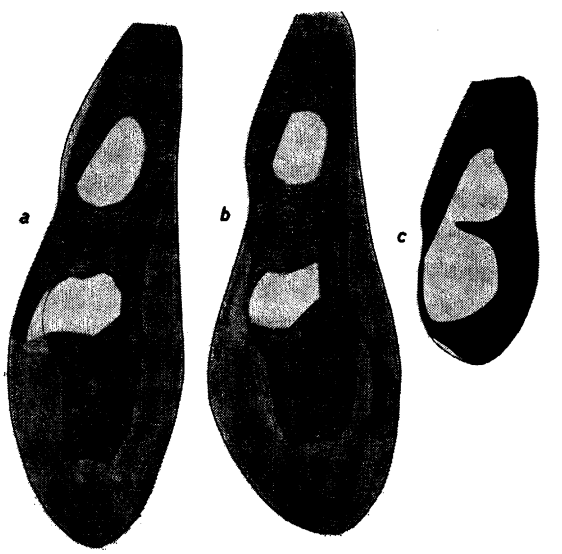

Fig. 4. Pattern of elytron of *Ectomocoris caucasicus* sp.n. a, *E. jordanensis* Lv. b and *E. melanogaster* (Fb.). c.

Systellonotus skopljensis KORMILEV 1939, p. 195, syn.n.
Range: Pontomediterranean.
Material studied: Bulgaria, Mariza Strasse, Plovdiv-Cirpan, 1 ♀, 2. VIII. 1957, Eckerlein and Petritsch, 1 ♀, 7. – 12. VII. 1959, Josifov, my collection. USSR: The Crimea, Kertsch, 1 ♂, 26. V. 1918, Kiritshenko, my collection; Sarepta, 1 ♂, type of *S. discoidalis*, coll. Horvath, Mus. Budapest.

S. lesbia sp.n.

♂. Length 7 mm. Shiny, blackish brown. Antennae dark brown; 1st joint paler, base of 3rd pale yellowish. Colours of elytra (Fig. 3 c) strongly contrasted: clavus and base of corium blackish brown, with a triangular transverse whitish band; apical part of corium brightly orangish, apex of corium with a transverse whitish spot narrowly bordered with dark brown, cuneus purplish; membrane with veins dark brown. Legs purplish brown.

Body remarkably long and gracile, about 5.5 × as long as broad at base of pronotum, distinctly broadening caudad. Hair covering of upper surface erect and concolorous. Head 0.7 × as broad as pronotum, in apical view as broad as high; frons with raised microsculptured transverse bands on either side and a shallow longitudinal median sulcus, continuing onto vertex; eyes relatively small, ocular index 1.35 – 1.38. Antennae long, proportions between joints 13 : 47 : 38 : 25; 1st joint with some longer erect bristles; hair covering of other joints shorter, semidecumbent and dense; 2nd joint 2.2 – 2.27 × as long as diatone, 1.44 – 1.47 × as long as basal width of pronotum; 3rd joint 0.80 – 0.82 × as long as 2nd, 1.15 × as long as basal width of pronotum. Rostrum reaching to hind coxae. Pronotum convex, strongly broadening caudad; disk with faint microsculpturing. Scutellum convex, with a basal depression. Elytra much longer than abdomen, tip of abdomen extending to base of cuneus; length of elyctra 5.32 mm., 3.2 × as long as broad at broadest doint of membrane. Legs long and gracile, hind tibia 2.6 × as long as basal width of pronotum.

♀. Brachypterous. Length 4.5 – 5 mm. Shiny black. Antennae dark reddish brown, apically blackish brown; 3rd joint narrowly pale at base. Elytra opaque, dark to blackish brown, with a triangular transverse white band, as in *S. discoidalis*. 2nd tergite with a transverse pale band on either side of hind margin. Legs dark reddish brown.

Much resembling *S. discoidalis*, but bigger. With erect bristles. Head globose, slightly broader than pronotum (26 : 25), in apical view higher than broad (30 : 26), finely shagreened; eyes small, ocular index 3.2 – 3.28. Antennae rather incrassate, proportions between joints 11 : 40 : 31 : 22, 2nd joint 1.54 × as long as diatone, 3rd joint 0.78 × as long as 2nd. Rostrum to middle coxae. Pronotum nearly cylindrical, only slightly broadening caudad; humeral angles rather sharp, hind margin distinctly insinuated, disk finely shagreened. Scutellum convex. Elytra short, covering only base of abdomen, concave; apical margin rounded. Abdomen strongly globose, suddenly constricted basally. Hind tibia 3 × as long as basal width of pronotum.

Material studied: USSR, Altai, Koš-Agetš, 1 ♂, type and 1 ♂ and 2 ♀♀ paratypes, 19. VI. 1964, Kerzhner, my collection. Dr. Kerzhner has informed me in a letter that the species has also been found from Tuva and the mountains of Tarbagatai and Saur in eastern Kazakhstan.

Closely related to *S. discoidalis*. However, the ♂ of the latter species is much smaller and more parallel-sided, paler brown, with a smaller and paler orangish spot on the corium and a paler brown membrane. The ocular index is 1.66 – 1.68. The antennae are somewhat shorter (e.g. the 2nd joint is 2.16 × as long as the diatone and 1.38 × as long as the basal width of the pronotum). The elytra are considerably shorter, the tip of the abdomen nearly reaching the apex of the cuneus. The female of *S. discoidalis* is smaller and more gracile, length 4.0 – 4.5 mm. The head is more globose, distinctly broader than the pronotum (24 : 20); the eyes are smaller, ocular index 4.44. The antennae are much more gracile, their 2nd joint being ca.

1.3 × as long as the diatone. The pronotum is narrow, the humeral angles are not prominent and the disk is more shiny.

On the Palaeartic species of the genus Ectomocoris M. (Reduviidae)

The centre of origin of the genus *Ectomocoris* M. is in the Old World tropics, where several species are known both in Africa and in the Oriental Region. Some of them, for instance *E. fenestratus* (K.) and *E. cordiger* St., have invaded the adjacent parts of the Palearctic Region too, there inhabiting the arid areas around the Mediterranean and in the Orient. The remaining Palearctic species are descendants of ancestors which spread into the region during former climatic periods. Thus a northward radiation of an ancestor of the *quadrimaculatus* group has led to the evolution of three closely related species: *E. cognatus* Mill. in Southern Arabia, *E. jordanensis* Lv. in Palestine, and *E. aucasicus* Lv. in Caucasia. Likewise, *E. basra* Lv. in Irak has evolved from the more southern *E. chiragra* (F.).

In a collection of the genus recently examined by me, two new species besides two new synonyms were detected. Moreover, *Pirates chiragra* (F.) proved to belong to *Ectomocoris*, agreeing with this genus in the colour pattern, the long fossula spongiosa of the fore tibiae (in *Pirates* at most 0.5 × as long as the tibia), and the broad styli (much narrower in *Pirates*, see Fig. 8 c).

E. ochropterus St. (= *posticus* Wk.) is omitted from the following key. It has been recorded from Egypt, but the record is certainly based on an incorrect identification, which undoubtedly refers to the closely related *E. luridus*. The genuine *E. ochropterus* is an Indian species, not found outside the Oriental Region.

Key to the species

1 (8) Legs, at least partly, reddish or yellowish brown 2
2 (3) Pronotum bicoloured, anterior lobe black, posterior lobe yellowish ..... *luridus* (K.) (Egypt, Ethiopian Region)
3 (2) Pronotum totally black 4
4 (5) Femora apically blackish ..... *cordiger* St. (Iran, Oriental Region)
5 (4) Legs completely pale 6
6 (7) Macropterous. Elytra pale reddish or yellowish brown ..... *ululans* (R.) (Mediterranean Subregion, the Near East, Turkestan)
7 (6) Brachypterous. Elytra black, with a whitish yellow spot (Fig. 4 c) ..... *melanogaster* ..... (Fb.) (Sicily, Israel)
8 (1) Legs black. Elytra black, with pale pattern 9
9 (10) Apical half of clavus and adjacent parts of corium and of membrane pale ..... *amseli* Hob. (Afghanistan)
10 (9) Clavus black 11
11 (12) Elytra with only one pale spot situated along claval suture in apical part of corium ..... *costatus* Mill. (Arabia)
12 (11) Membrane also with pale markings 13
13 (14) Large species, length 19 – 22 mm. Membrane with an inverted V-shaped pale spot in outer basal angle, but without a pale central spot .. .. *fenestratus* (K.) (Canary Is., Libya, Egypt, Ethiopian Region)
14 (13) Smaller species. Membrane with a pale spot in inner cell 15
15 (22) Body robust. Whitish spot in membrane large and contrasted, basal costal area of membrane unicoloured dark (*quadrimaculatus* group) .. 16
16 (17) Length 13.5 mm. Pale spot of corium rather small and roundish (as in *quadrimaculatus*). Anterior lobe of pronotum less deeply sulcate and disk of scutellum less deeply impressed than in *quadrimaculatus* ..... *cognatus* Mill. (Yemen)
17 (16) Larger species 18
18 (19) Pale spot in internal cell of membrane large, extending mesad beyond the vein delimiting the cell (Fig. 4 a). Spots on corium also remarkably large. Styli (Fig. 7) large, their greatest width 1.17 – 1.18 mm. and 1.08 mm. ..... *caucasicus* sp.n.
19 (18) Pale spot of internal cell of membrane not extending mesad beyond the cell. Styli much smaller, their greatest width < 1 mm. 20
20 (21) Head (Fig. 5 b) in profile apically narrower. Eyes smaller, ocular index 1.0 – 1.03. Anterior lobe of pronotum with strong pattern. Styli as in Fig. 6 ..... *quadrimaculatus* (S.) (Arabia, Ethiopian Region)
21 (20) Head (Fig. 5 a) in profile apically broader. Eyes larger, ocular index 0.91. Anterior lobe of pronotum with faint pattern. Styli as in Fig. 8 a – b ..... *jordanensis* Lv. (Israel)

22 (15) Smaller, elongate species. Pale spot of internal cell of membrane not contrasted; membrane also provided with a small hamate yellowish spot in the basal costal area (*chiragra* group) 23

23 (24) More robust. 2nd antennal joint 1.24 – 1.30 × as long as diatone. Anterior lobe of pronotum (Fig. 9 a) broader. Fossula spongiosa of fore tibiae 0.60 – 0.67 × as long as tibia (Fig. 5 c) .... *chiragra* (F.) (Madeira, Canary Is., Mediterranean Subregion, Ethiopian Region, Arabia)

24 (23) Elongate. 2nd antennal joint 1.35 × as long as diatone. Anterior lobe of pronotum narrower (Fig. 9 b). Fossula spongiosa of fore tibiae (Fig. 9 c) 0.75 × as long as tibia ..... *basra* sp.n. (Irak)

E. luridus (K.)

Reduvius luridus KLUG 1830, plate 19, Fig. 8.
Ectomocoris dichrous STÅL 1865, p. 116, syn.n.

The only differences between the original description of *E. luridus* and the specimens of *E. dichrous* examined are in the colouring of the head, which in *E. luridus* is totally black while in *E. dichrous* it is apically pale, and in the colouring of the antennae, which are totally ochraceous in *E. luridus* but somewhat darkened apically in *E. dichrous*. However, in the latter species the colouring of the antennae of the specimens studied is somewhat variable. These slight differences are of hardly any taxonomic value. *E. luridus* has been recorded from Egypt and the Sudan (the type locality is Ambukohl). I have seen specimens from Nubia (Ed Damer) that agree perfectly with *E. dichrous* from more southern regions. Consequently, I regard *E. dichrous* as conspecific with *E. luridus*.

Range: The Ethiopian Region and Egypt.

E. quadrimaculatus (S.)

E. quadrimaculatus, *E. jordanensis* and *E. caucasicus* are very closely related to each other. The main characters of the first-mentioned species are listed below.

1. Length 16 mm.
2. General colouring blackish; pale spot of corium rather small, roundish; spot in inner membranal cell not extending mesad beyond the cell.
3. Head (Fig. 5 b) relatively small, in profile considerably narrower; eyes of moderate size, ocular index 1.0 – 1.03.
4. 2nd antennal joint about 1.37 × as long as diatone.
5. Pronotum shorter and broader, anterior lobe shorter; ratio between median lengths of anterior and posterior lobes 60 : 35, and generally smaller; sulcate pattern distinct.
6. Genital segment rather small, e.g. length of pygo-

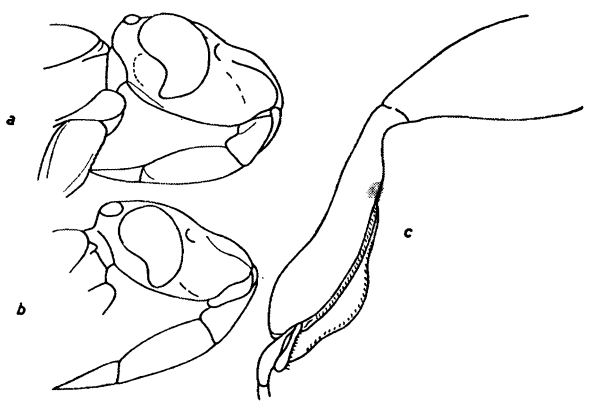

Fig. 5. *Ectomocoris jordanensis* Lv.: a head from side. — *E. quadrimaculatus* (S.): b same. — *E. chiragra* (F.) (♀): c fore tibia.

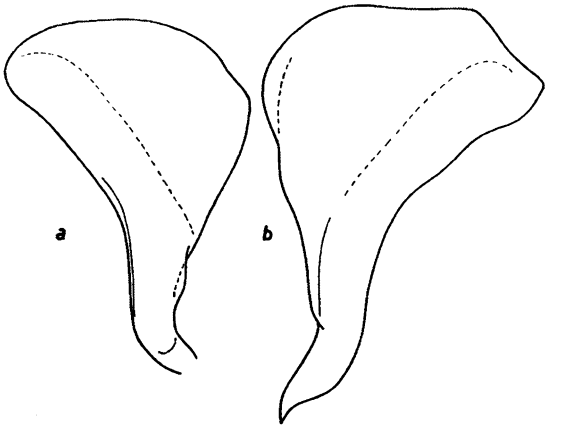

Fig. 6. *Ectomocoris quadrimaculatus* (S.): a left, b right stylus.

phoral process about 0.75 mm. Styli as in Fig. 6; greatest breadth of left stylus about 0.83 mm., of right stylus about 0.77 mm. Length of penis (lateral aspect) about 1.52 mm.

Range: South Yemen, the Ethiopian Region.

Material studied: Ethiopia, Gall, R. Hauash, 1 ♂, 9. V. 1898, Dmitriev and near Nazareth, some, 20. – 21. VI. 1963, Linnavuori, my collection.

E. jordanensis Lv., status. n.

Ectomocoris quadrimaculatus jordanensis LINNAVUORI 1961, p. 41.

1. Length 16 mm.
2. Colouring as in *E. quadrimaculatus*, but pale spot of corium slightly larger (Fig. 4 b).
3. Head (Fig. 5 a) more robust, in profile considerably broader apically; eyes prominent, ocular index 0.91.
4. 2nd antennal joint 1.28 × as long as diatone.
5. Pronotum shorter and broader, anterior lobe larger and longer than in *E. caucasicus*, ratio between median lengths of anterior and posterior lobes 65 : 35; sulcate pattern faint.
6. Genital segment somewhat robuster, e.g. length of pygophoral process 0.84 mm. Styli as in Fig. 8 a – b; greatest width of left stylus 0.84 mm., of right stylus 0.75 mm. Length of penis (lateral aspect) 1.63 mm.

Range: Israel.

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

E. caucasicus sp.n.

Ectomocoris quadrimaculatus LINNAVUORI 1961, p. 41.

1. Length 18 mm.
2. General colouring somewhat paler, e.g. antennal joints 2 – 4, hind tibiae and hind tarsi brownish instead of blackish; pale spot of corium (Fig. 4 a) large, ovate; spot in inner membranal cell extending mesad beyond the cell.
3. Head as in *E. jordanensis*, but eyes smaller; ocular index 1.08.
4. 2nd antennal joint 1.37 × as long as diatone.
5. Pronotum more elongate; anterior lobe elongate, ratio between median lengths of anterior and posterior lobe 70 : 36, the sulcate pattern faint.
6. Genital segment large, e.g. length of pygophoral process 1.05 – 1.22 mm. Styli (Fig. 7) remarkably large; greatest breadth of left stylus 1.17 – 1.18 mm., of right stylus 1.08 mm. Length of penis (lateral aspect) 2.09 mm.

Range: USSR (Caucasia).

Material studied: USSR, Geok Tapa, Elisavet. gub., 1 ♂, type, 1 ♂ paratype, 12. VIII. 1914, A. Mordvilko, my collection; Caucasia, Lenkoran, 1 ♂ paratype, Reitter, Mus. Helsinki.

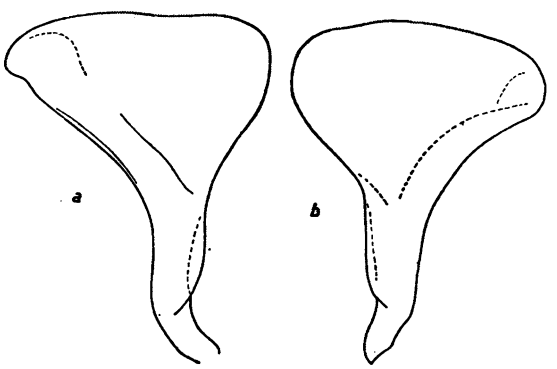

Fig. 7. *Ectomocoris caucasicus* sp.n.: a left, b right stylus.

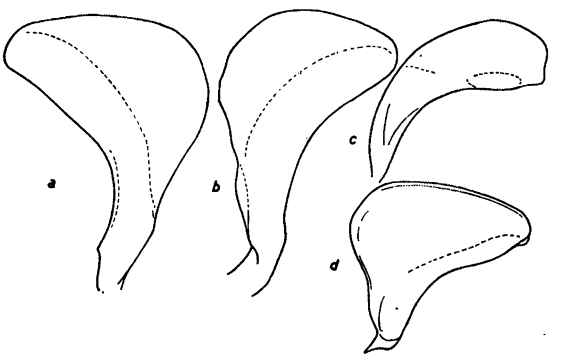

Fig. 8. *Ectomocoris jordanensis* Lv.: a left, b right stylus. — *E. chiragra* (F.): d stylus. — *Pirates strepitans* (Rb.): c same.

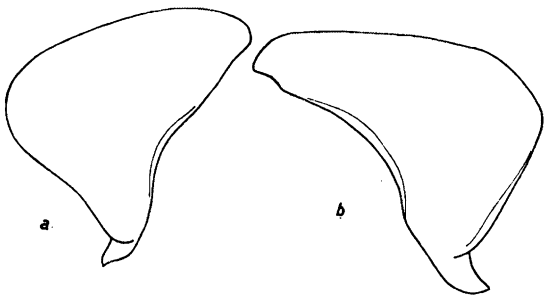

Fig. 9. *Ectomocoris basra* sp.n.: a right, b left stylus.

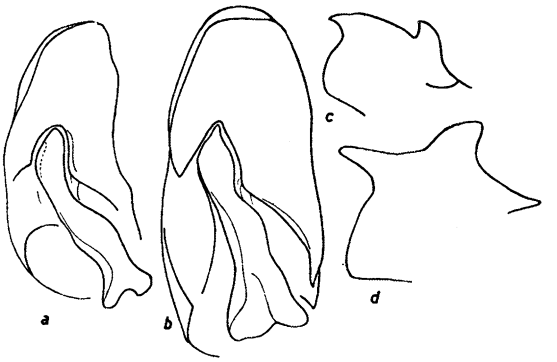

Fig. 10. *Ectomocoris chiragra* (F.): a penis, dorsal aspect; c unpaired basal process of right side of theca. — *E. basra* sp.n.: b and d same.

E. chiragra (F.), comb.n.

Reduvius chiragra FABRICIUS 1803, p. 278.

Ectomocoris infimus MILLER 1954, p. 401 – 403, n.syn.

Ectomocoris lindbergi MILLER 1956, p. 5 – 6.

E. chiragra and *E. basra* are very closely related to each other, but differ as follows.

E. chiragra

1. Body robuster.
2. Antennae shorter, proportions between joints 26 : 46 : 42 : 45, 2nd joint 1.24 – 1.30 × as long as diatone.
3. Pronotum (Fig. 11 a) shorter and broader; anterior lobe considerably broader, ratio between its median length and greatest width 50 : 60.
4. Elytra more brownish, at most indistinctly iridescent; pale spot on corium large, elongately ovate, yellowish.
5. Legs shorter and thicker, fossula spongiosa of fore tibiae (Fig. 5 c) 0.60 – 0.67 × as long as tibia.
6. Styli narrower; greatest breadth of right stylus 0.90 mm, of left stylus 0.98 mm. Penis as in Fig. 10 a and c.

Range: Widely distributed in the Sudanian Subregion from the Cape Verde Is. to Ethiopia and Yemen. Also known from Madeira, the Canary Is., North Africa, Spain and Greece.

E. basra sp.n.

1. Body more elongate.
2. Antennae longer, proportions between joints 30 : 54 : 47 : 50, 2nd joint 1.35 × as long as diatone.
3. Pronotum (Fig. 11 b) more elongate; anterior lobe considerably narrower, ratio between its median length and greatest width 60 : 65.
4. Elytra more blackish brown, iridescent; pale spot of corium smaller, roundish and whitish.
5. Legs longer and more gracile; fossula spongiosa of fore tibiae (Fig. 11 c) 0.72 – 0.75 × as long as tibia.
6. Styli (Fig. 9) broader; greatest breadth of right stylus 1.13 mm, of left stylus 1.20 mm. Penis as in Fig. 10 b and d.

Range: Irak, Basra, 1 ♀, type, 10. VII. 1930, Zhenzhurist; Iran, 1 ♂ paratype, Zarudny, my collection. The specimens were labelled as *E. infimus* Mill. This latter species, of which a paratype from Yemen in the British Museum was examined, is a synonym of *E. chiragra*.

Eurydema syriacum Kk. (= placens Wk.) (Pentatomidae)

Fig. 12. Length 6.75 mm. Shiny. Pale ochraceous. Black pattern with a greenish lustre. Head metallic black, with a longitudinal orangish ochraceous spot on either side in front of eyes, also lateral margins of genae narrowly pale. Eyes dark reddish brown, ocelli purplish. Antennae black. Rostrum mainly dark brown. Pronotum whitish, tinged with orangish in callal area and at humeral angles; anterior part with a transverse black spot on either side; disk

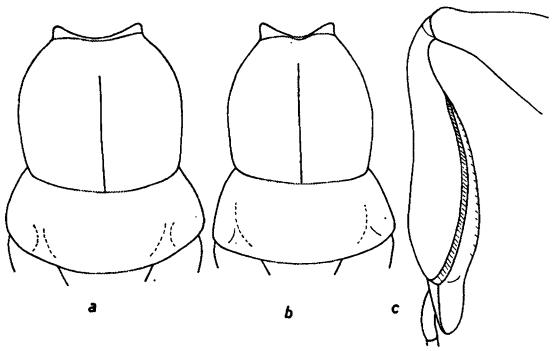

Fig. 11. *Ectomocoris chiragra* (F.) (♀): a pronotum. — *E. basra* sp.n.: b same; c fore tibia.

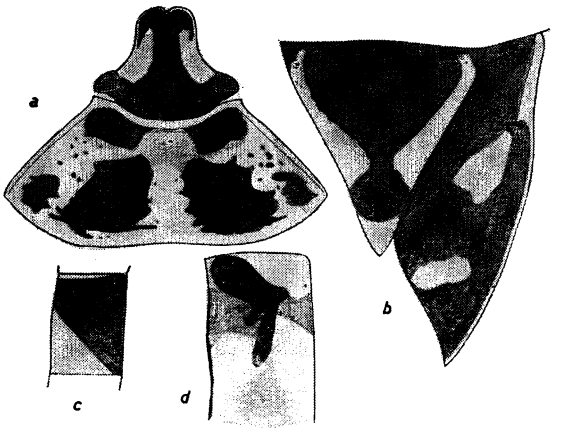

Fig. 12. *Eurydema syriacum Kk.* a head and pronotum; b scutellum and elytron; c paratergite; d pattern of sternites.

with 4 metallic black spots, the median pair large and irregularly squarish, and also a few single black punctures. Scutellum metallic black, apex and a band along lateral margins in basal part, whitish ochraceous. Elytra metallic black; clavus immaculate; mesocorium with a large triangular basal spot and a transverse apical spot, pale ochraceous, with a slightly orange tinge; exocorium basally pale ochraceous; extreme lateral margin also elsewhere pale; membrane dark. Dorsum reddish, medially and apically largely darkened. Paratergites whitish ochraceous, with large black basal spots. Under surface whitish ochraceous; pleurae with a roughly ovate or roundish black figure, mesosternum with two black longitudinal bands. Venter slightly darkened medially; sternites provided with roughly boot-shaped black lateral figures in the middle of a red longitudinal band on either side. Femora pale ochraceous, with longitudinal black markings; tibiae dark brown with a pale longitudinal band on lateral surface; tarsi blackish.

Of the *formosum* group. Relatively small, remarkably coarsely punctate species. Head about 1.25 × as broad as long, 0.46 × as broad as pronotum, the dark parts coarsely and densely punctate, puncturing of the pale areas more remote; vertex and genae medially slightly convex, ocular index 3.5. Proportions between antennal joints 3 : 18 : 15 : 18 : 23 (diatone = 44 units). Pronotum transverse, 2.74 × as broad as long medially; lateral margins almost straight, strongly diverging caudad; humeral angles prominent, triangular; anterior margin strongly raised; callal area swollen, strongly sloping apicad, less strongly caudad; puncturing of apical part finer and sparser, basal part, especially in the dark figures, coarsely and very densely punctate, surface between punctures uneven, somewhat callose, the pale median band with only a few scattered punctures. Scutellum longer than broad (66 : 60); apex narrowish, basal part distinctly raised medially; puncturing dense and rather coarse (finer than in pronotum), surface between punctures somewhat callose, uneven, not shagreened, pale apex with remote, fine puncturing. Puncturing of elytra equalling that of scutellum, surface between punctures only indistinctly shagreened. Connexivum densely and coarsely punctate. Propleurae laterally and basally rather coarsely punctate, meso- and metapleurae punctate only along segmental margins. Venter shagreened, only finely and remotely punctate.

Range: Sinai (the type locality Mount Sinai).

Material studied: Sinai, Ein Hudera, 1 ♀, 9. VII. 1969, Kugler, my collection.

E. formosum Pt. (Syria, Turkey, Iran): The dark areas of the upper surface with a strong green lustre. The pattern is different: pronotum with two large and compact black spots, occupying most of disk; scutellum black, tip pale; mesocorium with only apical pale spot. The pronotum is narrower, the lateral margins are distinctly curvate and diverge less strongly caudad, the humeral angles are rounded, and the puncturing of the disk is finer and considerably less dense. The scutellum is somewhat broader, more finely punctate and in the basal part generally finely transversely rugose. The puncturing of the elytra is much finer and the areas between the punctures are strongly shagreened, giving the elytra an opaque appearance. *E. putoni* Jak. (Southern USSR, Irak, Iran) is closely related to *E. formosum*, but differs in having a red or yellowish marginal spot on either side of the scutellum and a basal spot of variable size of the same colour on the mesocorium. In this respect it resembles *E. syriacum* but differs in all the other characters mentioned above in connexion with *E. formosum*. *E. caligatum* Hv. (Syria, Turkey), unknown to me in nature, is larger, length 6.9 – 7.5 mm. The dark areas of the upper surface are black, without a distinct greenish lustre. The pronotum has a large and compact, squarish black spot on either side. The venter is medially black, laterally pale, and the stigmata are surrounded by a black ring. The legs are black. *E. lundbladi* Ldb. (Canary Is.) is much smaller, length 5 mm., and has a different pattern on the pronotum and elytra; the head is flatter, the pronotum narrower, the bases of the pronotum and scutellum are transversely wrinkled, etc.

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