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New species of the Miridae and Lygaeidae (Heteroptera) from Yemen and Somalia

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Abstract: The article contains descriptions of five new taxa: Miridae: *Taylorilygus maia* sp.n. (Yemen), *T.rubripes* sp.n. (Somalia), *Psallomimus nigricornis* sp.n. (Yemen), *Campylomma hestia* sp.n. (Yemen), Lygaeidae: *Lasiosomus erato* sp.n. (Yemen).

INTRODUCTION

The article is based on a large Heteropteran material collected by the junior author in Yemen. The material consists of four species new for science. Moreover, a new species from Somalia is described.

Family Miridae

Taylorilygus maia sp.n. (Figs 1 A–J, 2 A–C)

Types: Yemen: Ta'izz, ♂ holotype, 4 ♂ 3 ♀ paratypes, 3–24.1.1999, A. van Harten & M. Mahyoub, in light trap; Sana'a, Pass SW of Suq Bawán, 1 ♀ paratype, 25.2.2000, Sana'a, Street Ta'izz–Ibb, 5 km S of Nagdal Ahmar, 7.3.2000, F. Aulombard, M. Fibiger, H.H. Hacker & H.-P. Schreier, in coll. Linnavuori, paratypes also in the Zoologische Staatssammlung München.

Description: Length ♂♀ 5.0–5.5 mm. Shiny. Head black, genae and lora reddish, basal margin of vertex yellow-brown; eyes dark brown with reddish tinge. 1st and 2nd antennal segments red, apical part of 2nd segment infumed, segments 3 and 4 embrowned, base of 3rd whitish. Pronotum dark yellowish-brown with the very basal margin pale. Scutellum blackish, tip yellowish-brown. Hemelytra opaquely shiny, dark

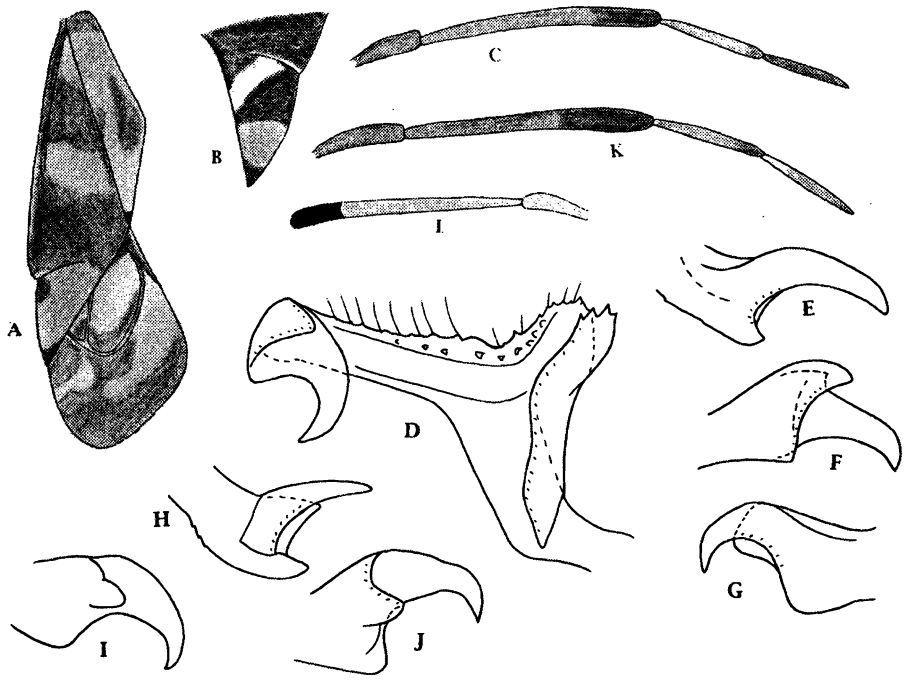

Fig.1. *Taylorilygus maia* sp.n.: (A) hemelytron; (B) cuneus of a dark specimen; (C) male antenna; (D) left style; (E–J) apex of hypophysis of left style in different views (E–H in glycerine, I–J in dry mount). *T.rubripes* sp.n. (K) male antenna. *T.simonyi* (REUTER): (L) male 1st and 2nd antennal segments.

brown, clavus and corium with more or less distinct obscure pale areas as indicated in Fig.1 A; cuneus yellowish with apex and outer basal angle blackish, or largely blackish with subbasal and subapical pale areas; membrane brown with hyaline areas, veins pale. Under surface largely dark brown, propleura and prosternum yellow-brown; osteolar peritremes whitish. Venter in females apically largely yellowish-brown. Coxae and legs yellowish-brown, middle femora dark brown with two pale apical spots, middle tibiae in basal two-thirds embrowned; tibial spines black; tarsi pale, apex of 3rd tarsomere embrowned. Body robust, about 2.8 times as long as broad at base of pronotum. Upper surface with dense silvery pubescence and with semierect brownish and blackish setae. Head about 0.7 (♂) or 0.6 (♀) times as broad as basal width of pronotum; ocular index 0.73–0.74 (♂), 0.85–0.92 (♀). Antennae relatively incrassate, with short hair covering, proportions between segments 12:45:22:18 (♂), 13:49:20:15 (♀), 1st segment (♂♀) 1.52–1.58 times as long as diatone, 2nd segment broadening apicad, 1.52–1.58 (♂♀) times as long as diatone, 1.07 (♂) or 0.98–1.04 (♀) times as long as basal width of pronotum. Rostrum extending to hind coxae. Pronotum about 2.3 times as broad basally as long in middle, finely punctate and rugose. Male genitalia: Left

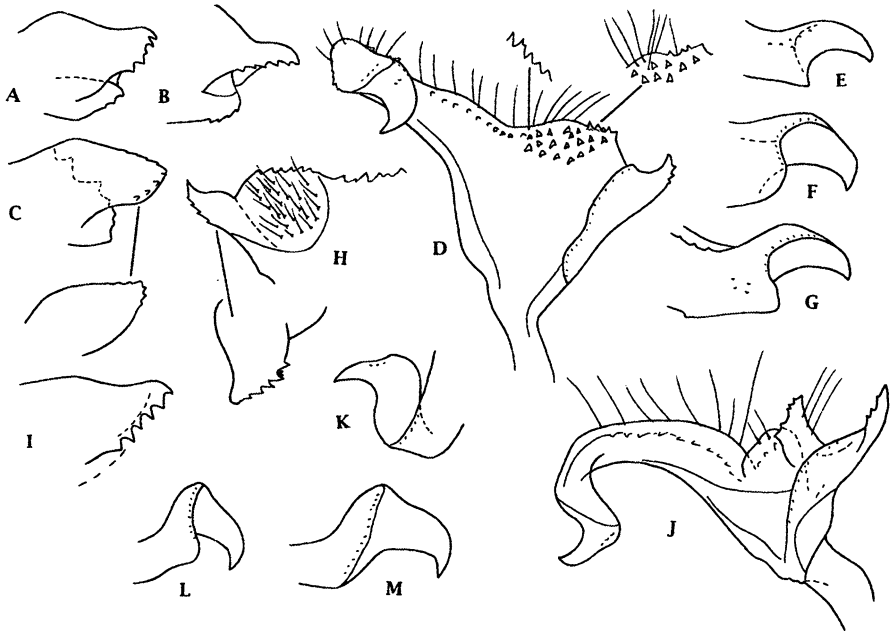

Fig.2. *Taylorilygus maia* sp.n.: (A–C) apex of sensory lobe of left style in different views (A–B in glycerine, C in dry mount). *T.rubripes* sp.n.: (D) left style; (E–G) apex of hypophysis of same in different views (E–F in glycerine, G in dry mount); (H–I) apex of sensory lobe of the same in glycerine and dry mount, respectively. *T.morosus* LINNAVUORI (paratype): (J) left style; (K–M) apex of hypophysis of same in different views (K in glycerine, L–M in dry mount).

style (Figs 1 D–J, 2 A–C): strong apical hook of hypophysis delimited basally by a prominent conical tubercle; dorsal margin of style with broadly rounded finely dentate lobe near the short conical lamellate process of sensory lobe. Other genitalia of the usual type.

Etymology: Greek mythology, Maia daughter of Atlas, mother of Hermes.

Differential diagnosis: Related to the likewise robust and dark coloured *T.morosus* LINNAVUORI, which is easily distinguished by the gracile yellowish antennae with uniformly pale 2nd segment. The size is also smaller, length (♂♀) 4.5–5.0 mm, and the differently shaped left style (Figs 2 J–M, 3 A–D): apical hook of hypophysis shorter and broader, without basal tubercle, dorsal margin of style with a strong dentate expansion near the longer, narrow and coarsely dentate lamellate process of sensory lobe.

Taylorilygus rubripes sp.n. (Figs 1 K, 2 D–I)

Type: Somalia: Afgoi ♂ holotype, 16–30.4.1974, L. Masutti, in coll. Linnavuori.

Description: Length 5.75 mm. Shiny. Head red, eyes pale grey. 1st and 2nd antennal segments bright red, apex of 2nd distinctly embrowned, 3rd segment pale orangish, apically darkened, 4th segment embrowned, basally whitish. Pronotum red,

humeral angles embrowned, the very basal margin pale. Scutellum red. Clavus and corium uniformly dark brown with slight reddish tinge, the very apical margin of exocorium red, cuneus blackish-brown; membrane uniformly brown, veins concolorous. Under surface red; osteolar peritremes whitish with reddish tinge; sides of venter infuscate. Legs, especially femora, uniformly bright red; 3rd tarsomere embrowned; tibial spines pale brown. Body robust, about 2.6 times as long as broad at base of pronotum. Upper surface with silvery appressed pubescence and semierect yellowish setae. Head 0.73 times as broad as basal width of pronotum; ocular index 0.71. Antennae relatively incrassate, with short hair covering, proportions between segments 15:53:21:20, 1st segment 0.52 times as long as diatone, 2nd segment expanding apicad, 1.83 times as long as diatone, 1.03 times as long as basal width of pronotum. Rostrum extending to middle coxae. Pronotum 1.8 times as broad basally as long in middle, disk finely and densely rugose and punctate. Male genitalia: Left style (Fig.2 D–I): hypophysis with short apical hook, dorsal margin of style with rounded dentate elevation near the short marginally dentate lamellate process of sensory lobe. Other genitalia of the usual type.

Etymology: In Latin ruber = red, pes = leg.

Differential diagnosis: Related to *T.maia* in the structure and colour of the antennae, but readily distinguished from this and all other known species of the genus by the peculiar colouring.

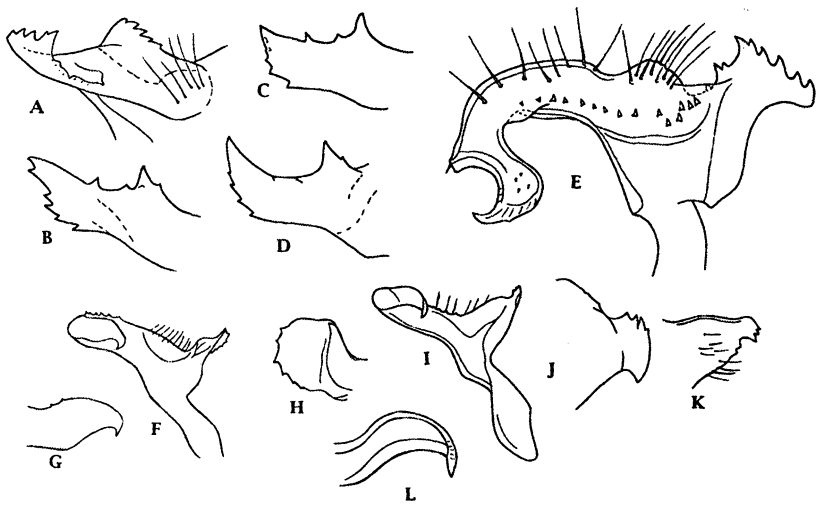

Fig.3. *Taylorilygus morosus* LINNAVUORI (paratype): (A–D) apex of sensory lobe of left style in different views (A–C in glycerine, D in dry mount). *T.simonyi* (REUTER): (E) left style. *T.figuratus* LINNAVUORI: (F) left style; (G) apex of hypophysis and (H) apex of sensory lobe of same. *T.subdivergens* LINNAVUORI: (I) left style; (J–K) apex of sensory lobe of same in two different views; (L) apex of hypophysis of left style (after LINNAVUORI 1974 and 1975 G -L).

Key to the species of the genus *Taylorilygus* LESTON of Yemen and the adjacent parts of NE Africa

1 Antennae immaculate, pale 2
- Apex of 2nd antennal segment at least distinctly embrowned 4
2 Colour uniformly green, only extreme tip of cuneus dark. Length 5.0–5.7 mm. Cosmopolitan ..... *T.apicalis* (FIEBER, 1861)
- Colour different 3
3 Length 3.5–3.75 mm. Small reddish ochraceous species; apex of cunes sanguineous. Dorsal margin of left style (Fig.3 I–K) smooth near the lamellate process of sensory lobe. Endemic for Yemen ..... *T.subdivergens* LINNAVUORI, 1974
- Larger dark species, length 4.5–5.0 mm. Pronotum blackish-brown. Scutellum with large triangular, apically bifid blackish figure. Clavus and corium mostly coffee-brown, tip of cuneus black. Dorsal margin of left style (Figs 2 J–M, 3 A–D) with dentate expansion near the lamellate process of sensory lobe. Endemic for Yemen .... *T.morosus* LINNAVUORI, 1975
4 1st and 2nd antennal segments red, apex of the latter moderately darkened 5
- 1st and 2nd antennal segments pale yellow, apex of the latter (Fig.1 L) black 6
5 Large species, length 6 mm. Head, pronotum, save humeral angles, scutellum, and legs red. Hemelytra uniformly dark brown, membrane brown, immaculate. Somalia ..... *T.rufipes* sp.n.
- Smaller species, length 5.0–5.5 mm. Head and scutellum largely black, pronotum dark yellow-brown. Hemelytra dark brown with obscure pale pattern as in Fig.1 A–B. Legs yellow-brown. Endemic for Yemen ..... *T.maia* sp.n.
6 Dorsal margin of left style (Fig.3 E) with rounded lobe near the narrow, coarsely dentate lamellate process of sensory lobe; apex of hypophysis strongly hooked. SW Arabia, East Africa ..... *T.simonyi* (REUTER, 1903)
- Dorsal margin of left style (Fig.3 F–H) straight, lamellate process of sensory lobe broadly rounded, apical hook of hypophysis small. Ethiopia, Soqotra .... *T.figuratus* LINNAVUORI, 1975

Psallomimus nigricornis sp.n. (Fig. 4 A–I)

Types: Yemen, Ta'izz, ♂ holotype, 26.–28.7.1999, A. van Harten & A. Awadi, in light trap; Hudaydah, 20 km S of Hays, ♀ paratype, 5.5.1992, R. Linnavuori, in coll. Linnavuori.

Description: Length ♂ 2.25 mm, ♀ 2.0 mm. Shiny. Uniformly blackish. Eye pale grey. Antennae and legs black. Membranes of hemelytra with veins blackish-brown. Tibial spines black. Body small, in ♂ gracile, 3 times as long as broad at base of pronotum, in ♀ elongately ovate, 2.6 times as long as broad at base of pronotum. Hair covering on upper surface long, pale, semierect. Head 0.73 (♂) or 0.76 (♀) times as broad as basal width of pronotum; ocular index 1.8 (♂), 2.12 (♀). Antennae gracile, hair covering short, appressed, proportions between segments 10:33:25:21 (♂), 19:32:23:18 (♀), 1st segment (♂♀) 0.26 times as long as diatone, 2nd segment 0.63 (♂) or 0.7 (♀) times as long as basal width of pronotum. Rostrum extending to hind coxae. Pronotum 2.4 (♂) or 2.6 (♀) times as broad basally as long in middle. Hind tibia 0.4–0.5 times as long as basal width of pronotum. Proportions between hind tarsomeres

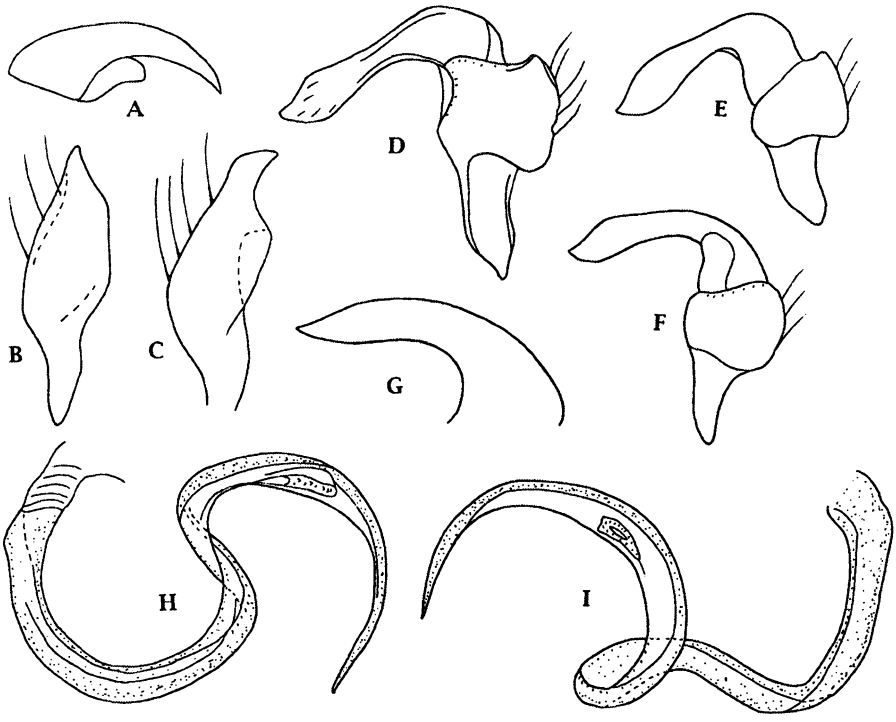

Fig.4. *Psallomimus nigricornis* sp.n.: (A) claw; (B–C) right style; (D–F) left style (D in slide mount, E–F in glycerine); (G) theca; (H–I) vesica in slide mount and glycerine, respectively.

6:10:9. Claws as in Fig.4 A. Male genitalia (Fig.4 B–I): Pygofer narrowly conical. Hypophysis of left style apically expanded, blade-like, sensory lobe broad, quadrangular. Vesica long and gracile, strongly coiled.

Etymology: Latin, nigricornis = with black antennae.

Differential diagnosis: The genus *Psallomimus* WAGNER was revised by LINNAVUORI (1993: 227–229). *P.nigricornis* is readily distinguished from all other known species by the small size and the uniformly black colouring.

Campylomma hestia sp.n. (Fig. 5 C–L)

Types: Yemen: Al Kowd, ♂ holotype, 6 ♂ 9 ♀ paratypes, 12.–14.7.1999, A. van Harten & S. Al Haruri, in coll.Linnavuori.

Description: Subopaque. Uniformly whitish-ochraceous. Eyes pale grey. Antennae whitish-yellow, immaculate. Membranes of hemelytra pale, brownish hyaline. Legs pale yellow. Fore and middle femora with small black apical spots; under surface of hind

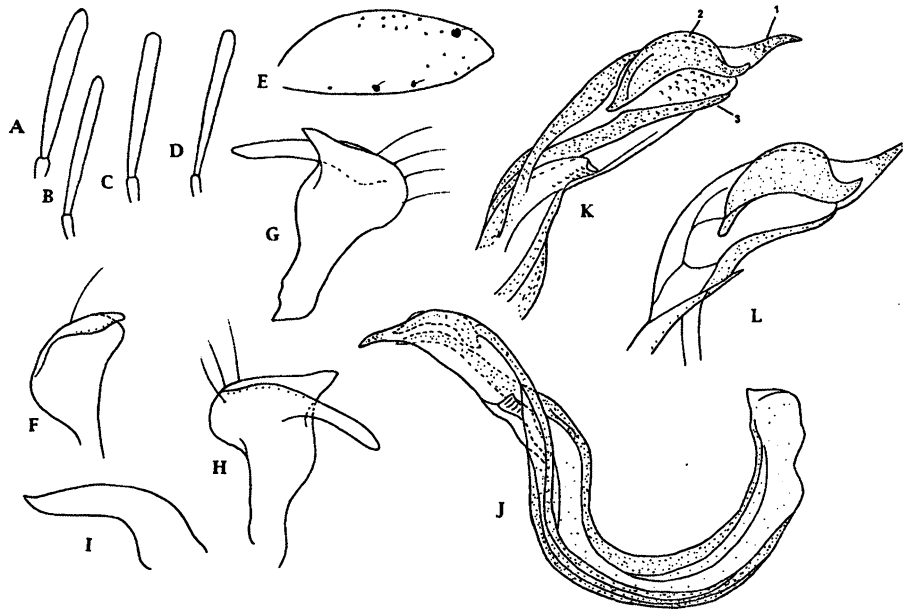

Fig.5. *Campylomma unicolor* POPPIUS: (A–B) male and female 1st and 2nd antennal segments. *C.hestia* sp.n.: (C–D) same; (E) hind femur; (F) right style; (G–H) left style; (I) theca; (J) vesica in slide mount; (K -L): apex of vesica in slide mount and glycerine, respectively.

femora with black spots and minute brown irroration as indicated in Fig.5 E. Tibiae with distinct black spots, spines also black. Body small, elongately ovate, about 2.5 times as long as broad at base of pronotum. Upper surface with short pale appressed pubescence and longish semierect yellow hairs. Head 0.70–0.76 (♂) or 0.67–0.70 (♀) times as broad as basal width of pronotum; eyes relatively small, ocular index 1.30–1.42 (♂), 1.64–2.0 (♀). Proportions between antennal segments 9:36:19:12 (♂), 9:37:21:14 (♀), 1st segment (♂♀) about 0.24 times as long as diatone, 2nd segment in ♂ moderately incrassate, in ♀ gracile, 0.92–0.95 (♂♀) times as long as diatone, in ♂ 0.67–0.74, ♀ 61–0.64 times as long as basal width of pronotum. Rostrum extending to hind coxae. Pronotum about 2.3 times as broad basally as long in middle. Male genitalia in Fig.5 F–L. Vesica with 3 processes, the apical process claw-like, the subapical process incrassate, blade-like and finely dentate, the third process gracile, falcate.

Etymology: Greek mythology, Hestia daughter of Kronos and Rhea.

Differential diagnosis: Of the group of species with uniformly pale antennae (at most 1st segment with very small faint dark dot) and distinct black spots on the hind femora. Recognized by the small size, pale colouring and the structure of the vesica.

Key to the species of the group in Yemen

1 Large species, length 3.0–3.25 mm. 2nd antennal segment longer than diatone. Vesica in Fig.6 A–D. Endemic for Yemen ..... *C.rivulorum* LINNAVUORI & AL-SAFADI, 1993

\- Smaller species. 2nd antennal segment shorter than diatone 2

2 Colour bright green. Upper surface with long semierect black hairs. Vesica in Fig.6 E–G. Endemic for Yemen ..... *C.viridissima* LINNAVUORI & AL-SAFADI, 1993

\- Colour yellowish. Upper surface with pale semierect hairs 3

3 Body robust. Eyes larger, ocular index 0.83–1.21 (♂), 1.40–1.84 (♀). 2nd antennal segment (Fig.5 A–B) in ♂ more incrassate. Vesica (Fig.6 H–J) with two apical processes. Widely distributed in the Eremian and Sudanese subregions ..... *C.unicolor* POPPIUS, 1914

\- Body slender. Eyes smaller, ocular index 1.30–1.42 (♂), 1.64–1.84 (♀). 2nd antennal segment in ♂ more gracile. Vesica (Fig.5 J–L) with three apical processes ..... *C.hestia* sp.n.

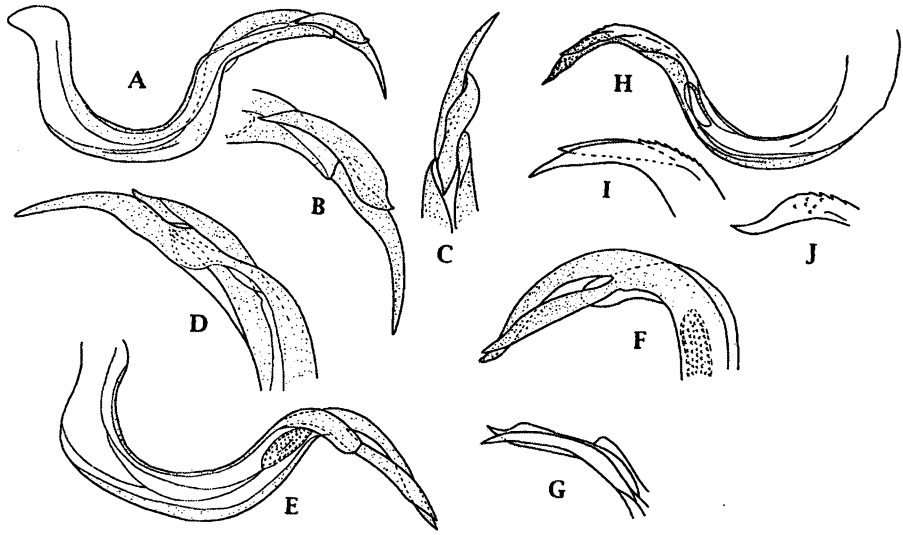

Fig.6. *Campylomma rivulorum* LINNAVUORI & AL-SAFADI: (A) vesica; (B–D) apex of vesica in different views. *C.viridissima* LINNAVUORI & AL-SAFADI: (E) vesica: (F–G) apex of vesica in different views. *C.unicolor* POPPIUS: (H) vesica; (I) apex of vesica; (J) dentate process of vesica (after LINNAVUORI 1993 H–I and LINNAVUORI & AL-SAFADI 1993 A–G).

Family Lygaeidae

Lasiosomus erato sp.n. (Figs 7 and 8 B–F)

Types: Yemen, Djebel An Nabi Shuaib, ♂ holotype, ♂ and ♀ paratype, 25.11.1993, A. van Harten, in coll.Linnavuori.

Description: Length ♂ 2.75–3.0 mm, ♀ 3.25 mm. Shiny. Head black, tylus yellow-brown; eyes pale grey. Antennae yellow-brown, 4th segment and apical part of 3rd dark brown. Rostrum yellow-brown. Pronotum black, posterior margin and humeral angles yellowish-brown. Hemelytra yellow-brown, apically largely blackish-brown, rudiments of membranes somewhat paler; puncturing of hemelytra brown. Dorsum of abdomen blackish-brown. Under surface black or blackish-brown: osteolar peritremes apically and metapleura yellow-brown. Legs yellow-brown, upper surface of middle and hind femora with small brown dots, 3rd tarsomeres dark brown. Brachypterous. Body gracile, elongately pyriform, broadest at apical third of hemelytra, 2.6 (♀) or 2.95 (♂) times as long as broad at broadest point of abdomen. Upper surface with very long erect pale hairs. Head 0.83–0.85 (♂♀) times as broad as basal width of pronotum, finely wrinkled, coarsely and densely puncate, middle of vertex impunctate; ocelli absent; eyes small, ocular index 3.0–3.4 (♂), 3.0 (♀). Antennae long, with appressed pale pubescence, proportions between segments 17:32:29:32 (♂), 19:33:30:30 (♀), 2nd segment 0.91 (♂) or 0.83 (♀) times as long as diatone, 0.76–0.78 (♂) or 0.70 (♀) times as long as basal width of pronotum. Rostrum extending to middle coxae. Pronotum appearing narrow, about 1.3 (♂) or 1.4 (♀) times as broad basally as long in middle; lateral margins distinctly insinuated, in apical lobe rounded ventrad, in posterior lobe obtusely keeled, apical margin and basal lobe behind callal area coarsely and densely punctate, callal area convex, nearly impunctate, humeral angles and basal margin impunctate. Puncturing on scutellum somewhat finer and sparser than on pronotum. Hemelytra extending to 6th tergite, clavus and corium fused, with a row of dense and coarse puncturing along scutellar margin of clavus, on each side of the obscure claval suture and along R + M on exocorium, otherwise only incomplete and sparse puncture rows exist in the middle of clavus and on basal part of the endocorium; membrane rudiments broadly ligulate, sloping ventrad. Tergites finely and densely transversely wrinkled. Venter finely rugose, with long hair covering. Legs with short semidecumbent hairs. Fore femora armed below on distal third with small tooth. Male genitalia in Fig.8 B–F.

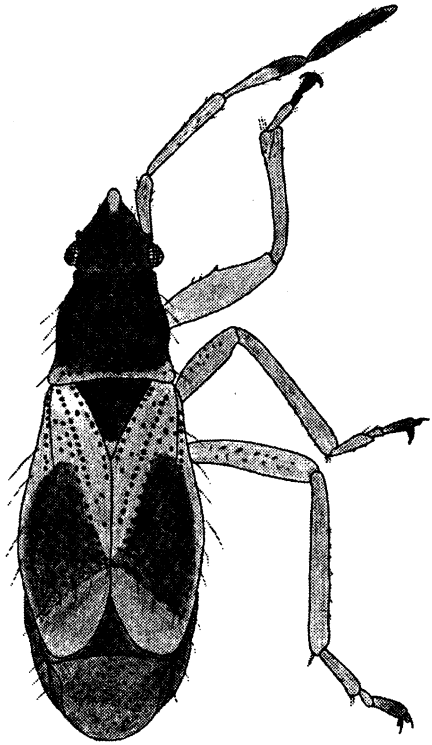

Fig.7. *Lasiosomus erato* sp.n. male, dorsal view.

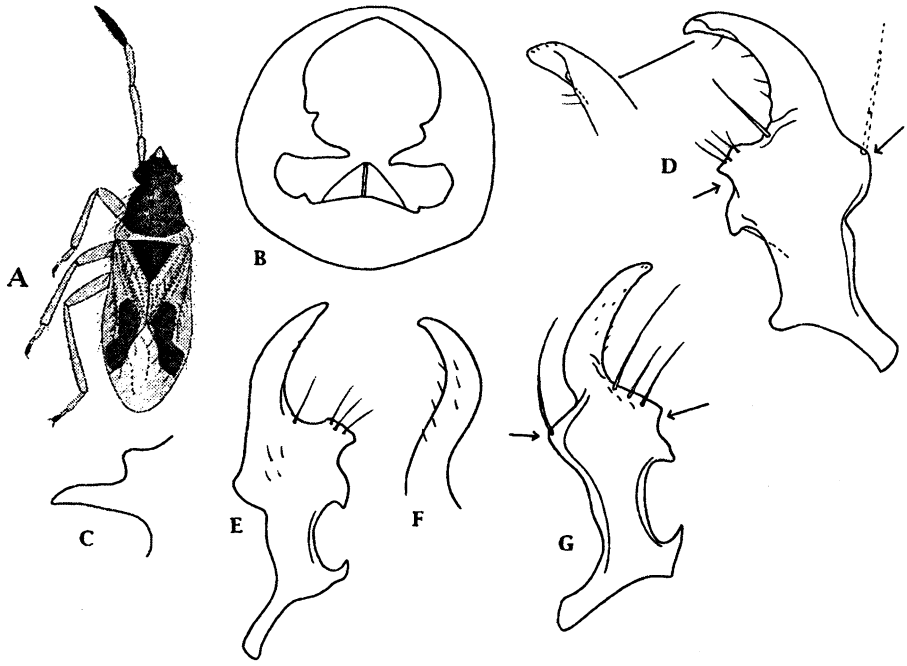

Fig.8. *Lasiosomus terpsikhore* LINNAVUORI: (A) dorsal view; (G) style (slide mount). *L.erato* sp.n.: (B) pygofer, caudal view; (C) lateral process of genital opening; (D–E) style in slide and in dry mount, respectively; (F) apex of style in glycerine (after LINNAVUORI 1989 A).

Etymology: Greek mythology, Erato = Muse of lyrics of love.

Differential diagnosis: Resembling *L.terpsikhore* LINNAVUORI (Fig.8 A–C), but differing in the brachypterism, much narrower body, smaller eyes (ocular index in *L.terpsikhore* 2.38–2.50), absence of ocelli, much narrower pronotum (in *L.terpsikhore* 1.70–1.75 times as broad basally as long in middle), and in the shape of the style (differences pointed by arrows). *L.kilimandjariensis* SCUDDER, 1962, (Fig.9), known from Kenya and Tanzania, is the only formerly known brachypterous species of the genus. It also lacks ocelli, but differs, for example, in the broader body, shorter vestiture, apically dark 1st and 2nd antennal segments, and the edentate fore femora.

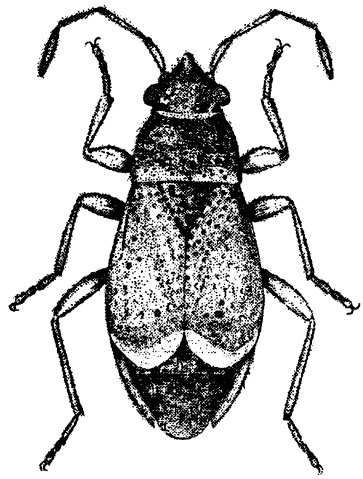

Fig.9. *Lasiosomus kilimandjariensis* SCUDDER in dorsal view (after O'ROURKE 1975).

Key to the Palaearctic species of the genus *Lasiosomus* FIEBER

1 Lateral margins of pronotum distinctly carinate. Hair covering on upper surface longish, semi-decumbent. Head at most indistinctly punctate 2
- Lateral margins of pronotum rounded ventrad in apical lobe, obtusely keeled in posterior one. Upper surface with very long erect hairs. Head coarsely punctate 3
2 Fore femora edentate. Westmediterranean with a wide range in Central Europe, Caucasia and Middle East ..... *L.enervis* (HERRICH-SCHAEFFER, 1835)
- Fore femora provided with a subapical tooth on anteroventral margin. Widespread in tropical Africa, Morocco, Algeria, and the Middle East ..... *L.lasiosomoides* (BERGEVIN 1930)
3 Macropterous. With ocelli. Israel ..... *L.terpsikhore* LINNAVUORI, 1989
- Brachypterous. Ocelli absent. Yemen ..... *L.erato* sp.n.

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