

# Two new species of Lygaeidae from the Middle East: *Geocoris (Geocoris) ernstheissi* nov.sp. and *Dieuches osellai* nov.sp. (Heteroptera, Lygaeidae)<sup>1</sup>

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**Abstract:** *Geocoris (Geocoris) ernstheissi* nov.sp. from Lebanon and *Dieuches osellai* nov.sp. from South Yemen are described. Illustrations of the male genitalia and photographs of the dorsal habitus are provided for both taxa.

**Key words:** *Dieuches*, *Geocoris*, Heteroptera, Lebanon, Lygaeidae, South Yemen.

## Introduction

The examination of a large material of Heteroptera collected in various countries of the Middle East led to the identification of two new species of Lygaeidae which are described in this work. Recently HENRY (1997), on the basis of a cladistic analysis of Lygaeoidea, proposed the splitting of Lygaeidae into several families; in the present paper the family status of Lygaeidae is retained following the traditional systematic approach discussed in the introduction to the 4<sup>th</sup> volume of the Catalogue of the Heteroptera of the Palaearctic region (HEISS et al. 2001).

### *Geocoris (Geocoris) ernstheissi* nov.sp. (Figs 1-3)

Holotype ♂: Lebanon, Bcharre, Dahr El Qadib, m. 2.200, 15.V.2000, leg. G. Sama, coll. A. Carapezza. Complying with Recommendation 16C under Article 16 of the International Code of Zoological Nomenclature, the holotypes of both species described in this paper, presently preserved in the author's collection, will be later transferred to a public Institution.

**Description.** Shiny, yellowish-orange and black. Head yellowish-orange; postero-lateral angles of head behind ocelli black;

clypeus with a narrow central brown stripe; bucculae whitish. First antennal segment orange, extreme base and apex black ventrally; second antennal segment brown, with a very narrow pale basal annulation; third segment brown, apically pale; fourth segment brown. Labium orange, ventrally with a narrow central line black.

Pronotum black; lateral margins yellowish; area between anterior margin and calli interspersed with an orange tinge.

Scutellum and hemelytra black; external margins of exocorium narrowly yellowish. Membrane uniformly infusate.

Legs yellowish-orange; third tarsomere apically brown.

Ventral surface and abdomen black; anterior margin of prosternum, acetabula, and ostiolar peritremes, pale.

Macropterous, with membrane slightly surpassing end of abdomen. Head impunctate, dorsally wider than long; eyes extending posteriorly beyond the anterior angles of pronotum; ocular index 2.3. Antenniferous tubercles not visible from above; length of antennal segments 0.27:0.53:0.43:0.50 mm; first segment projecting beyond tip of

<sup>1</sup> This paper is dedicated to the much esteemed friend and colleague Ernst Heiss as a tribute on the occasion of his 70<sup>th</sup> birthday.



**Fig. 1:** *Geocoris (Geocoris) ernstheissi* nov.sp., habitus of ♂ (holotype) in dorsal view.

clypeus by about one third of its length; second segment 0.6x as long as head width; bucculae slightly surpassing apex of clypeus; labium extending to fore coxae, first segment reaching base of head; length of rostral segments 0.61:0.35:0.38:0.41 mm.

Pronotum 1.75x wider at base than length at mid line, coarsely punctate except on calli and posterior angles; punctures on

disk behind calli forming 4 very irregular rows. Scutellum 1.4x wider than long; punctures arranged in two rows along lateral margins, leaving the central area impunctate.

Hemelytra 1.45x as long as wide; lateral margins moderately curved, reaching maximum width at level of apex of scutellum; clavus with one row of punctures along claval suture; corium with two diverging rows of punctures along claval suture with a few irregularly arranged punctures in the apical space between them, a sublateral row along the external margin, and dense punctation apically.

Legs long, somewhat robust, fore tibiae moderately curved; ratio of hind tarsomeres 12:4:7.

Dorsal vestiture consisting of short (less than 0.1 mm), semierect white setae (more easily seen in profile) on head, pronotum, scutellum and anterior part of hemelytra.

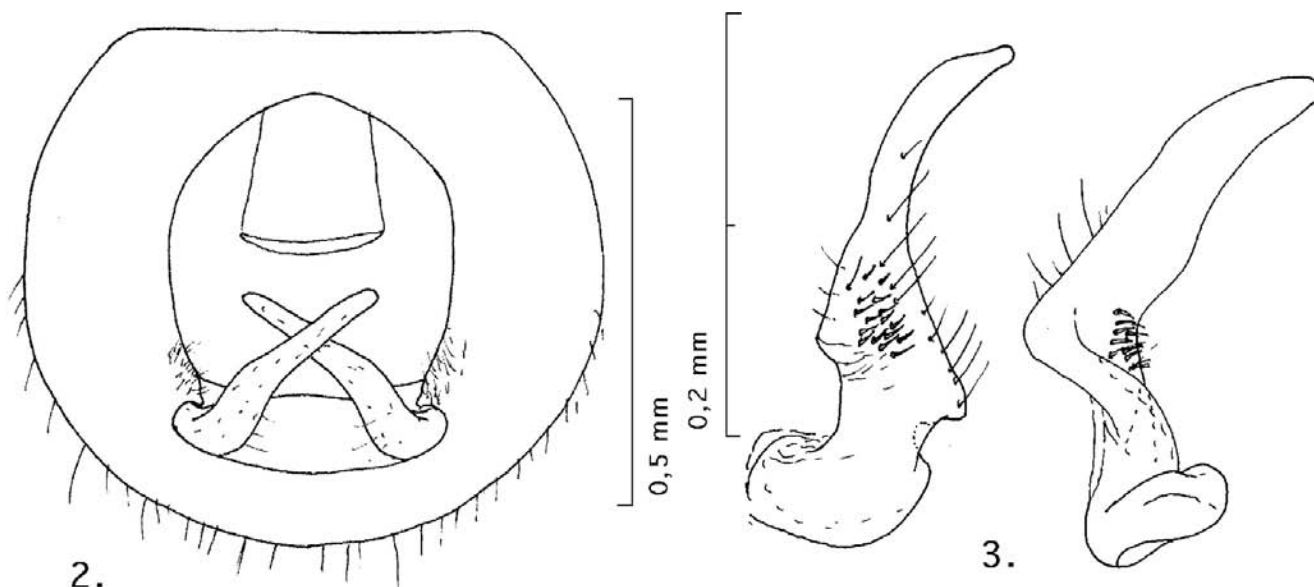
Pygophore and paramere shaped as in Figs 2-3.

Body length: 4.0 mm.

Etymology. The new species is named in honor of Ernst Heiss.

Discussion. Though *Geocoris ernstheissi* nov.sp. belongs to the subgenus *Geocoris*, as shown by the apically pointed scutellum, the second labial segment shorter than the first, and the elongate body, its colour pattern, characterized by the contrast between the orange legs and head and the prevailing black tinge of the rest of the body, resembles that of some species of the subgenus *Piocoris*, e.g. *P. (Piocoris) erythrocephalus* (LE PELETIER & SERVILE). This unique combination makes *G. (Geocoris) ernstheissi* nov.sp. unmistakable within the palaearctic species of the genus *Geocoris*.

The key to the West Palaearctic species of the genus *Geocoris* proposed by PÉRICART (1998) can be partially modified as follows in order to include *G. (G.) ernstheissi* nov.sp.



**Figs 2-3:** Male genitalia of *Geocoris (Geocoris) ernstheissi* nov.sp. (2) pygophore (3) paramere in two different views.

19(18) Corium provided with two rows of punctures along the internal margin, one along the external margin, with a few scattered punctures in the posterior area (elsewhere smooth). Head level between eyes. Hemelytra with membrane pale .20

20(21) Pronotum dark with posterior angles not pale.

20a Head black, in ♂♂ only jugae and clypeus partially yellow, in ♀♀ only anteclypeus narrowly yellow. Smaller, body length of ♂♂ 3.0-3.5 mm. Euro-sibirian with a boreo-alpine range in Europe . . . . . *G. lapponicus* ZETTERSTEDT

20b Head yellowish-orange, in ♂♂ only posterior corners dark; ♀♀ unknown. Bigger, body length of ♂ 4.0 mm. Lebanon . . . . . *G. ernstheissi* nov.sp.

21(20) Pronotum dark with at least posterior angles not pale.

***Dieuches osellai* nov.sp. (Fig. 4)**

Holotype ♂: South Yemen, Hadramawt, Azan, 1.I.1999, leg. G. Osella, coll. A. Carapezza. Paratypes: 3♂♂ and 3♀♀, same data as holotype; 1♂ and 1♀, South Yemen, env. Sh. Otman, VII.1986, leg. Materlik, coll. R. Linnavuori.

Description. Pale brown with pale subapical corial spot not isolated (Fig. 4). Head reddish-brown. First and second antennal segments pale; third segment pale (apically brown); fourth segment brown, with broad pale annulation near base (completely pale in pale specimens).

Pronotum with lateral carina pale to mid lateral point of posterior lobe, posterior portion light brown; anterior margin partly pale; disc of anterior lobe brown; disc of posterior lobe brown except for a pale antero-central area and a faint longitudinal lateral spot behind transverse impression.

Scutellum brown except for two small longish spots (sometimes not visible) and apex, pale. Clavus pale with brown punctures sometimes forming a central fuscous streak. Corium pale with brown punctures; dark transverse band interrupted between vein M and lamellate costal margin, consisting only of a brown spot in the region of the inner angle between vein M and vein Cu and of a small elongate dot along the lamellate costal margin; hence the pale subapical corial spot is centrally continuous with the pale anterior area of corium; basal half of corium with a brown streak along vein Cu; with a brown triangular spot in apical angle. Membrane uniformly pale or light brown, with a paler subapical area.

Legs pale; fore and hind femora occasionally faintly brown in middle.

Ventral surface reddish-brown; coxae antero-apically pale; posterior margin of metapleuron pale; lateral margin of abdomen with pale spots.

Slightly brachypterous, with membrane extending to the posterior margin of the seventh tergum. Head wider than long (1.37x in ♂♂; 1.25x in ♀♀), dorsally im-

punctate; distance between anterior margin of eye and base of antenna 0.39x as long as eye length; sides of head between front of eyes and base of antennae gently diverging; ocular index 2.5 in ♂♂, 2.8 in ♀♀. Length of antennal segments 1.0:1.83:1.66:1.73 mm in ♂♂, 1.0:1.86:1.63:1.80 mm in ♀♀; first segment projecting beyond tip of clypeus by two-thirds of its length; labium extending to anterior margin of mid coxae, first segment reaching base of head.

Pronotum basally wider than length at mid line, 1.30x in ♂♂, 1.48x in ♀♀; anterior lobe slightly longer than the posterior lobe in both sexes; lateral carina as wide as first antennal segment at level of transverse impression. Scutellum wider than long (1.18 x in ♂♂, 1.35 x in ♀♀).

Fore femur antero-ventrally with one long preapical spine, three to five small apical spines and five to six spines evenly distributed between the long spine and base of femur; postero-ventrally with row of six small spines (in ♀♀ substituted by a row of bristles). Fore tibia of ♂♂ straight, provided with about 6 tooth-like spines.

Pygophore ventrally with a single prominent external projection. Pygophore and paramere shaped as in Figs 6-7.

Body length: 7.8-8.6 mm in ♂♂; 8.1-9.2 mm in ♀♀.

**Etymology.** Named after the collector of the holotype, the well-known Italian entomologist Giuseppe Osella (University of L'Aquila).

**Discussion.** *Dieuches* is a very large genus of Lygaeidae-Rhyparochrominae consisting of 135 species distributed in the South Palaearctic, Ethiopian, Oriental and Australian regions; almost two thirds of them live in the Ethiopian region only.

*Dieuches osellai* nov.sp. belongs to the large group of species in which the corium has a pale subapical spot centrally broadly continuous with the pale area in the basal half. This is an important taxonomic character in a genus in which "also finer variations in wing markings serve to separate species" (EYLES 1973: 29-30).

There are 35 more species in which the subapical pale spot is not completely cut off from the pale areas in the basal half of the corium by a dark transverse band. Of these, *D. osellai* nov.sp. is nearest to *D. braunsi* EYLES known from South Africa, Namibia, and Togo (DECKERT & EYLES 2002), *D. junctus* EYLES from Guinea, and *D. parvipictus* DISTANT from Democratic Republic of the Congo, Tanzania, and Zambia. However, *D. braunsi* has the first labial segment reaching beyond base of head, and a double prominent projection on the pygophore; and *D. parvipictus* has a shorter first labial segment (not reaching base of head), and the clavus paler. *Dieuches osellai* nov.sp. is distinguished from *D. junctus* by the rounded (rather than pointed) apical border of the corial spot part of the spot and stripe combination, which also extends inwards much nearer to the corial apical margin (Fig. 4).

Eight species of *Dieuches* were previously known from Yemen. PÉRICART (2001: 193-197) lists *D. africanus* (DISTANT), *D. armatipes* (WALKER), *D. coenosus* (STÅL), *D. forbesii* (KIRKALDY), *D. mucronatus* (STÅL), *D. opaciclavus* EYLES, *D. similis* MANCINI, *D. syriacus* DOHRN. Out of them the new species is near to *D. similis* MANCINI (dorsal habitus, Fig. 5) from which it can be separated by the not isolated pale subapical corial spot (in *similis* the subapical corial spot is anteriorly bounded by a wide dark transverse band), by the completely pale legs (in *similis* the distal two thirds of fore femur and the distal half of mid and hind femora are dark brown) and by the longer antennae (length of antennal segments in ♂♂ of *similis* 1.0:1.73:1.93:2.26 mm; the 4th antennal segment is 1.15-1.19x longer than head width in ♂♂ of *D. osellai*, 1.32-1.42x in ♂♂ of *D. similis*).

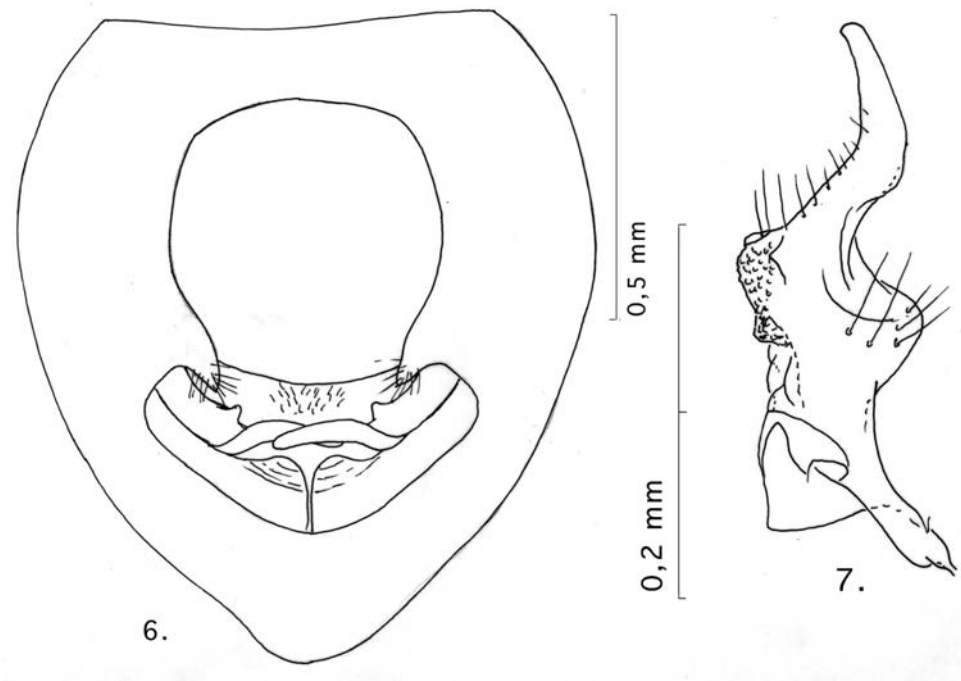
## Acknowledgements

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**Figs 4-5:** Habitus of ♂ in dorsal view (4) *Dieuches osellai* nov.sp. (5) *Dieuches similis* MANCINI.



**Figs 6-7:** Male genitalia of *Dieuches osellai* nov.sp. (6) pygophore (7) paramere.

## Zusammenfassung

*Geocoris* (*Geocoris*) *ernstheissi* nov.sp. aus dem Libanon und *Dieuches osellai* nov.sp. aus dem Südjemen werden beschrieben. Zeichnungen der männlichen Genitalien und Photos des dorsalen Habitus werden für beide Arten zur Verfügung gestellt.

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