

# A new species from the Near East for the genus *Ochetostethus* FIEBER 1860 (Heteroptera, Cydnidae)<sup>1</sup>

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**Abstract:** In the preliminary work for the ongoing «Hémiptères Pentatomoidea Euro-Méditerranéens», directed by Jean Péricart, examination of *Ochetostethus* from diverse private or museum collections led to the discovery of a new species, *O. heissi* nov.sp., of Pontic distribution, the description of which is given hereafter.

**Key words:** Cydnidae, Heteroptera, *Ochetostethus*, Sehirinae.

## Introduction

The genus *Ochetostethus* FIEBER includes a dozen species, most of them Palaearctic. Apart from *O. brachyscytus* REUTER, *O. orientalis* (DISTANT), *O. crassicornis* HORVÁTH, and *O. pygmaeus* (RAMBUR), which have clear distinctive characters, and *O. binotatus* HORVÁTH, whose connection to the genus *Ochetostethus* seems disputable, other species share a very similar habitus, which makes their identification at best hazardous without examination of the genitalia.

This genus has been revised by KERZHNER (1976), in a work dealing with Heteroptera from Mongolia and not well known by heteropterists. Previous authors, such as Vidal or Stichel, relied on an inappropriate nomenclature and do not give sufficient evidence for identification. A new species has been described recently by M. RIZZOTTI-VLACH (2000) from Sardinia.

In the process of reviewing material from diverse collections, I found that some specimens from the east Mediterranean Region were closely related to but did not match with either *O. balcanicus* WAGNER or *O. opacus* SCHOLTZ. The fact that these specimens belong to a hitherto overlooked species was confirmed by examination of a

large series from Cyprus found in the Eckerlein collection in Geneva.

Male and female genitalia were dissected after clearing the abdomens in cold 10 % KOH for about 24 h. The penis was not inflated, for inflation is a time-consuming, and sometimes specimen-consuming, process, and because the penis in the uninflated position gives sufficient characters for identification. Chlorazol black was used to color the spermathecae.

## *Ochetostethus heissi* nov.sp. (Figs 1, 7-11, 18)

*Ochetostethus opacus*: KERZHNER 1976: 36-38 [part].

Holotype (♂): Cyprus, (Yermasoyia river), 29/04/1965, Mavromoustakis leg. (coll. Eckerlein, MHNG). Allotype (♀): Cyprus, (Yermasoyia river), 29/04/1965, Mavromoustakis leg. (coll. Heiss). Paratypes: Cyprus, (Yermasoyia river), 29 & 30/04/1965, Mavromoustakis leg. (coll. Eckerlein, coll. Magnien): 10♂♂ / id., 29 & 30/04/1965, Mavromoustakis leg. (coll. Eckerlein, coll. Heiss, coll. Magnien): 14♀♀ / id., 15/04/67, Mavromoustakis leg., (coll. Heiss): 1♂ / Israël, Sharsheret, 18/05/1972, Eckerlein leg. (coll. Heiss): 1♂ / Turquie, Incekum, 01/07/1985, Frieser leg. (coll. Heiss): 1♂ / Bulgarie, Omygena, 29/08/1957, Josifov leg. (coll. Heiss): 1♂ / Iran, Ganjeh env. de Gilan, 28/05/1995, Linnavuori

<sup>1</sup> This paper is dedicated to my friend Ernst Heiss, who brought Heteropterology to its highest level, for the kindness and the availability he always has when I call on him.



**Fig. 1:** *Ochetostethus heissi* nov.sp., male specimen from Cyprus (scale 1.0 mm).

leg. (coll. Linnavuori): 1♂ / Iran, Lowshan env. de Gilan, 01/06/1995, Linnavuori leg. (coll. Linnavuori): 1♂ / Turquie, massif du Karakus Dagi, sud de Capali, 08/07/1999, Matocq leg. (coll. Matocq): 1♂ / Salonica, Champion coll. B.M. 1927-109: 1♂.

## Description

Habitus of male (Fig. 1): Head blackish brown, finely and densely punctured, clypeus short, apically entirely enclosed by the paraclypei. Paraclypei large, almost parallel at the base, broadly rounded apically. Eyes small, of a slightly lighter brown, ocelli small. Antennae light brown, first segment not reaching apex of head, third and fourth segments more or less conical, fifth fusiform. Rostrum light brown, reaching middle of mesosternum, first segment reaching base of head, third reaching apex of procoxae. Pronotum blackish brown, more coarsely punctured than head, margins slightly convergent, rounded anteriorly and embracing head, with a transverse impression behind middle, not reaching margins and ending in two slightly deeper rounded impressions. Scutellum blackish brown, almost triangular, coarsely punctured, punctuation slightly fading on posteriorly. Corium reddish brown, slightly darkened anteriorly, mesocorial disc with an overall punctuation slightly fading posteriorly, with one row of punctures along clavo-corial suture. Clavus small, for two thirds covered by the scutellum, wearing three rows of punctures. Endoexocorial suture slightly sinuate, evenly punctured, forming a groove anteriorly. Membrane very pale brown, veins somewhat dark brown, reaching apex of abdomen. Tergites brown, slightly larger than corium posteriorly. Venter black, except for a lighter spot just behind procoxae. Thorax with medial groove for rostrum, this reaching metacoxae, depth of groove twice thickness of rostrum in prothorax and even in mesothorax. Propleuron coarsely granular, mesopleuron punctured. Evaporatoria as in Fig. 18. Sternites less and evenly punctured. Legs dark brown, slightly lightened at joints, tarsi light brown.

Genitalia: Parameres as in Fig. 9, of the hook type common to all species of the genus. Penis as Figs 7 & 8, small, elongate, with one pair of stylets. Stylets long, slender,

regularly curved in lateral view, sinuate in dorsal view. Ejaculatory duct in lateral view, having a nearly right angle near the basis of the stylets. External female genitalia as in Fig. 10. Spermatheca (Fig. 11) small, bulb not much broader than intermediary piece, with no clear limit between intermediary piece and bulb, duct of medium length, U-shaped.

Measurements (mm): Length: 2.95-3.65 (♂♂), 3.25-3.80 (♀♀); Overall width: 1.65-1.95 (♂♂), 1.75-1.95 (♀♀); Pronotum width: 1.55-1.80 (♂♂), 1.70-1.85 (♀♀); Ocular index:  $2.95 \pm 0.35$  (♂♂),  $3.35 \pm 0.50$  (♀♀); Lengths of 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> segments of antenna: 0.18-0.26, 0.24-0.28, 0.32-0.40 (♂♂), 0.20-0.24, 0.24-0.32, 0.36-0.40 (♀♀).

Distribution: This species has been found from northeastern Greece to Iran to the east and from Bulgaria to Israel to the south. Its presence in most countries of the Near and Middle East is therefore probable.

Derivatio nominis: This species is dedicated to my friend Ernst Heiss, who has always been willing to help my studies by lending his material to me. In fact, I made the discovery of this new species when examining the specimens he sent me for the study of *Ochetostethus*.

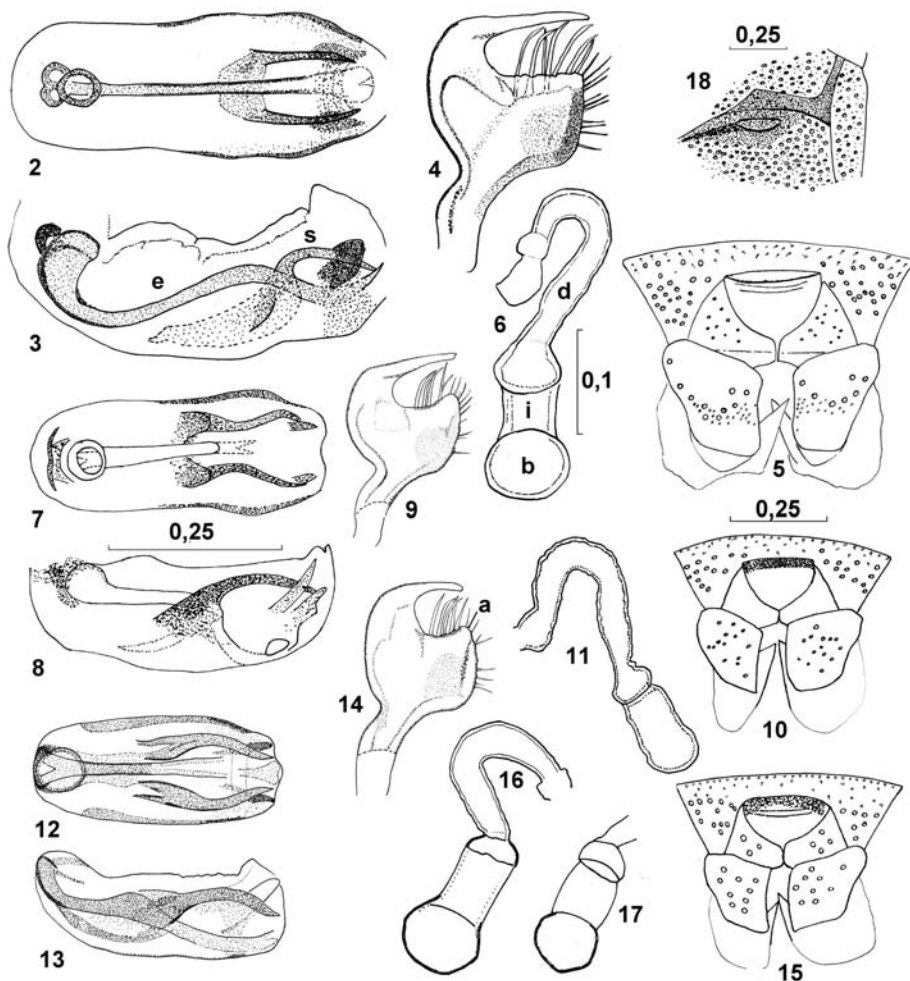
## Discussion

Most probably this new species was confused with *O. opacus* SCHOLTZ, until KERZHNER (1976) made his revision of the genus. At that time, he found that *O. opacus* had: "a clinal variability at the line E Europe - Central Europe... In the direction towards Near East, the body becomes on the average smaller and more shiny, aedeagus smaller, large process of conjunctiva longer, compared to its base, and wavy, with curved apex, sclerotized process near its apex becomes larger, and the tubercle in the midline smaller and desclerotized"; but Kerzhner did not give a name to this form. In my review of the material from different collections, particularly the collection of Eckerslein in Geneva, which seems to have been overlooked by Kerzhner when he made his revision, it appears that this point of view is defeated by the fact that *O. opacus* of the

“regular“ form can also be found in Turkey and Iran, and that this “clinal form“ is also found in Greece. So the two forms share the same geographic domain, and therefore should be considered either as the result of individual variability or as two different species. The form of the stylets (i. e., the large process of the conjunctiva in Kerzhner’s paper) is very constant and I have been unable to find any intermediate form. I conclude that the form described by KERZHNER (1976) should be upgraded to species status.

Some differences are also to be found in the parameres: the inner angle of the sensorial lobe is raised at its inner end in *O. heissi* nov.sp. (cf Fig. 9) whereas this end is almost at a right angle in *O. opacus* (cf Fig. 4), the outer angle is well marked in *O. opacus*, but completely rounded in for *O. heissi* nov.sp.. Regarding the females, some differences can be found in the shape of external genitalia (see Figs 5, 13, 15), but the most useful characters lie in the shape of the spermatheca (Figs 6, 11, 16, 17). The bulb of the *O. heissi* nov.sp. spermatheca cannot be clearly separated from the intermediary piece, whereas there is a clear separation in *O. balcanicus* and *O. opacus*, the bulb being clearly broader than the intermediary piece in these species. The shape of the duct seems also to differ, being much longer in *O. heissi* nov.sp. than in *O. balcanicus*, and the two branches of the U being subequal whereas they are completely asymmetrical in *O. opacus*. However, this should be viewed with some precaution, the spermatheca being very variable in *Ochetostethus* species, as shown for example in Figs 16 & 17, picturing the terminal part of spermathecae of two specimens of *O. balcanicus* from the same locality (Corfu in Greece).

*Ochetostethus heissi* nov.sp. belongs to the dark brown group of species of the genus, and therefore can only be distinguished from the other by its genitalia. Among all these species, it is closer to *O. opacus* and to *O. balcanicus*. The other species of the group have very different male genitalia. On average smaller than *O. opacus*, it can be separated by the shape of the stylets, the pronounced angle made by the ejaculatory duct in the male, the shape of the U in the duct of the spermatheca and



the shape of the bulb in female. Larger than *O. balcanicus*, it can also be distinguished by the shape of the stylets and ejaculatory duct in the male, and the shape of the bulb of the spermatheca in the female.

### About a key to species from genus *Ochetostethus*

I have been unable to find another mean of determining a specimen than to compare its genitalia to those of every known species; therefore I cannot yet establish a key to the species of the genus. As a matter of fact, based on genitalia examination, a certain discrimination of male specimens is possible; but, on the contrary, I found no such permanent characters in the female genitalia, the shape of the spermatheca being very variable within the species. At best, by a combination of geographic and morphological characters (length, form of spermathecae), it is possible to tell that a specimen is more likely to belong to one

**Figs 2-17:** (2-6) *Ochetostethus opacus* SCHOLTZ (7-11, 18) *O. heissi* nov.sp. (12-17) *O. balcanicus* WAGNER (2, 7, 12) penis from above (3, 8, 13) penis, view from lateral (4, 9, 14) left paramere (5, 10, 15) external genitalia of females (6, 11, 16, 17) spermatheca (18) evaporatoria. Figs 2, 3, 7, 8, 12, 13 share the 0.25 mm scale under Fig. 7; Figs 5, 10, 15 share the 0.25 mm scale above Fig 5; Fig. 18 has its own 0.25 mm scale; other figures share the 0.1 mm scale. a: inner angle of sensorial lobe, b: bulb, d: ductus, e: ejaculatory ductus, i: intermediary piece, s: stylet.

species than another. The biology of all species of the genus makes it quite possible to find different species in a series collected in the same place at the same time, as is for example, the case in France for *O. nanus* and *O. tarsalis* MULSANT & REY. I once collected a single specimen of *O. nanus* among about twenty specimens of *O. tarsalis*.

## Acknowledgements

This work would not have been possible without the great help of Izya Kerzhner who translated his paper from Russian into English for me. I must also thank for loans of the material which made this work possible, apart from our friend Ernst, A. Carapezza, Ch. Lienhard and P. Schwendinger (MHNG), R. Linnavuori, R. Lupoli. A. Matocq, C. Meloni, J. Péricart, D. Pluot-Sigwalt (MNHN), J. Ribes, H. Strümpel (ZMUH), H. Zettel (NHMW), and M. Webb (BMNH).

## Zusammenfassung

Während der Arbeiten für das von Jean Péricart koordinierte Projekt "Hémiptères Pentatomoidea Euro-Méditerranéens", wurde bei der Untersuchung von *Ochetostethus* in verschiedenen privaten und Museumssammlungen eine neue, pontisch verbreitete Art entdeckt, die im Folgenden als *O. heissi* nov.sp. beschrieben wird.

## Résumé

Une nouvelle espèce du Proche-Orient du genre *Ochetostethus* FIEBER 1860. À l'occasion du travail préliminaire pour l'ouvrage en cours de parution "Hémiptères Pentatomoidea Euro-Méditerranéens", dirigé par Jean Péricart, l'examen d'*Ochetostethus* provenant de diverses collections privées ou de muséums a conduit à la constatation de l'existence d'une nouvelle espèce, de distribution pontique, décrite dans le présent travail sous le nom d'*O. heissi* nov.sp.

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Autor(en)/Author(s): Magnien Philippe

Artikel/Article: [A new species from the Near East for the genus Ochetostethus FIEBER 1860 \(Heteroptera, Cydnidae\) 513-516](#)