

**TAXONOMY OF SUBFAMILY ORTHOTYLINAE  
(HEMIPTERA, MIRIDAE) FROM EGYPT, WITH  
*DIMORPHOCORIS TORENSIS* N. SP.**

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**INTRODUCTION**

The subfamily Orthotylinae, family Miridae, suborder Heteroptera comprises approximately 220 genera, placed in 3 tribes: Halticini, a group of about 30 genera of mostly jet black taxa primarily from Palearctic region; Nichomachini, consists of 4 myrmecomorphic genera from the Ethiopian region; and Orthotylini, a diverse group including all remaining genera (Schuh and Slater, 1995). The information about the Orthotylini in Egypt was known from Priesner and Alfieri, 1953 and Linnavuori, 1964 who recorded 11 species and 3 genera. Among these taxa *Orthotylus priesneri* Schmidt, 1939; *Orthotylus retamae* Wagner, 1951; *Orthotylus haloxyloni* Wagner, 1956 and *Habrocoris breviceps* Wagner, 1956 were described as new species from Egypt. Today many details of these publications are out of date due to recent taxonomic revisions of the subfamily. The current version of the data base "Plant bugs of the world, Insecta, Heteroptera, Miridae" of Schuh, 2004 contains the most recent taxonomic list, which allows for the retrieval of basic taxonomic information about the taxa of Orthotylinae. This database was derived from plant bugs of the world (Schuh and Slater, 1995) and includes corrections to the catalogue published by Kerzhner and Schuh, 2001. In the present work the subfamily Orthotylinae as known from Egypt is taxonomically reviewed. In addition, *Dimorphocoris torensis* n. sp. is described for the first time in the world from El-Tor (Southern Sinai, Egypt), and tribe Halticini as well as *Orthocephalus fulvipes* Reuter, 1904 are newly recorded from Egypt (El- Arish, Northern Sinai).

**MATERIAL AND METHODS**

The material examined during this investigation consisted of specimens preserved in the main Egyptian reference Collections, in addition to those collected from different localities. Samples of the new species *Dimorphocoris torensis* were swept from grasses grown under olive tree at El-Tor, Southern Sinai, 2003. On the

other hand the newly recorded species, *Orthocephalus fulvipes* Reuter was collected by hand from wild shrubs at El-Arish, Northern Sinai, 1999. The specimens were identified according to Priesner and Alfieri, 1953; and Linnavuori, 1961, 1975, 1984, 1988, 1992 a and 1994. Updating names are made according to Linnavuori, 1986, 1992 b; Yasunaga, 1999; Kerzhner and Schuh, 1998 & 2001; and further confirmed through the database of Schuh, 2004. Also specimens of the new species and the new record had been sent to Dr Linnavuori for identification, but he identified the new species only to the generic level. Drawings are made from pinned insects and mounted parts on microscopic slides. To examine male genitalia, the pygophore (9<sup>th</sup> abdominal segment) was detached and soaked in warm dilute (2%) potassium hydroxide (KOH) for 10 minutes, then the parameres were removed by a fine forceps and put in 70% alcohol. For more detailed examination of the aedeagus with vesical appendages, pygophore soaked in 10% KOH for 30 minutes, after that the anterior edge of pygophore was held with a fine forceps, detached, and aedeagus was gently pulled out (Southwood, 1953). These structures were examined in a drop of glycerin and illustrated under light microscope. Figures (2 f-l, 6c, g-j, 8f and 10) after Wagner, 1951, 1956; Linnavuori, 1964 and 1992a.

## RESULTS AND DISCUSSION

### Subfamily Orthotylinae Van Duzee, 1916

Orthotylinae Van Duzee, 1916: Univ. Calif. Pub. Entomol., Tech. Bull. 1: 211.

Type genus: *Orthotylus* Fieber, 1858: Wien. Entomol. Monat. II: 315.

**Diagnostic charactres of the subfamily:** ocelli absent, antennae 4-segmented, with 3<sup>rd</sup> and 4<sup>th</sup> segments thinner than 2<sup>nd</sup> segment; labium 4-segmented, with 1<sup>st</sup> segment the largest one in diameter; legs with trochanter 2-segmented, tarsi 3-segmented; arolia parallel or convergent toward their apices; paraempodia fleshly, broadly flattened; male parameres asymmetrical.

### Key to tribes

(Fig.1. a-c )

- Body dark brown or black in color; head (Fig.1 a) with gena (Ge) at least 2 times as long as an eye; labium (Lb) with 1<sup>st</sup> segment more than 2 times as thick as 2<sup>nd</sup> segment; female brachypterous..... tribe Halticini
- Body light yellow or green in color; head (Fig.1 b) with gena shorter at most as long as an eye; labium (Lb) with 1<sup>st</sup> segment less than 2 times as thick as 2<sup>nd</sup>

segment; both sexes macropterous, with membrane of hemelytron well developed (Me, Fig.1 c).....tribe Orthotylini

### Tribe Halticini Kirkaldy, 1902

Halticini Kirkaldy 1902: Fauna Hawaii., III (2): 139.

Type genus *Halticus* Hahn, 1832: Wanz. Ins. I: 133.

The tribe name follows the type genus *Halticus* Hahn. Kirkaldy, 1902 was the first author correctly used this tribal name (Carvalho, 1952). Halticini is represented in Egypt by two genera and two species.

### Key to genera

(Fig.1. d-f)

- Head (Fig. 1 d) subrectangular, with eyes small; hemelytron entirely pale or at least with outer half whitish, female hemelytron (fig. 1 e) with claval suture indistinct..... *Dimorphocoris* Reuter
- Head (Fig.1 f) more triangular, eyes larger; hemelytron uniformly jet black ( except in male of *O. vittipennis* Herrich-Schaeffer hemelytron black with a pale central area); female hemelytron (Fig.1 g) with claval suture more distinct ..... *Orthocephalus* Fieber

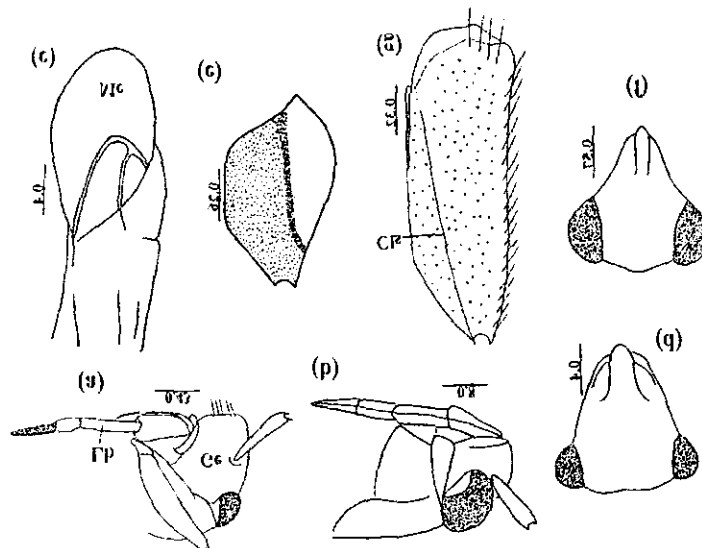


Fig. 1. (a, d & e) *Dimorphocoris torensis* n. sp., (a) head, lateral view, (d) head, frontal view, (e) right hemelytron; (b & c) *Orthotyplus sparticola* Reuter, (b) head, lateral view, (c) right hemelytron; (f & g) *Orthocephalus fulvipes* Reuter, (f) head, frontal view, (g) right hemelytron. Cl.s, claval suture; Ge, gena; Lb, labium; Me, membrane.

Genus *Dimorphocoris* Reuter, 1891

*Dimorphocoris* Reuter, 1891: Acta. Soc. Sci. Fenn., 23 : 83.

Type species *Orthotylus gracilis* (Rambur, 1839): Faun. Entomol. Andalousie: 162.

*Homococoris* Fuente, 1918: Boll. Soc. Aragon. Cien. Nat., 17: 236.

*Pedetocoris* Kerzhner, 1970: Entomol. Obozr., 49: 634.

**Diagnosis:** body gracile or pyriform in male, oval in female; head from above wider than long, eyes small, antennae with 1<sup>st</sup> segment surpassing apex of head, 2<sup>nd</sup> segment the longest, 3<sup>rd</sup> and 4<sup>th</sup> segments thin; labium with 1<sup>st</sup> segment longer than head below; pronotum squared; scutellum triangular; male macropterous or brachypterous, female brachypterous, hemelytra with cuneus and membrane absent, claval suture indistinct; connexivum well developed; male pygophore conical in shape, left paramere with broad hypophysis, right paramere L-shaped, projected from abdomen; vesica with dented or sclerified median process.

The genus *Dimorphocoris* Reuter contains at least 57 valid species, which is distributed from the Mediterranean region to Central Asia (Schuh, 2004). Many of these species have very restricted range, undoubtedly owing to a low capacity for movement caused by brachypterism of female or both sexes (Linnavuori, 1992a and Rizzotti, 1998). According to the length of the hemelytra, the genus is divided into two groups: the *gracilis* group in which males are macropterous and females are brachypterous, and the *lateralis* group in which both sexes are brachypterous.

The new described species *Dimorphocoris tornesis* n. sp. represents this genus for the first time in Egypt.

***Dimorphocoris tornesis* n. sp.**

(Fig. 2. a-e and Fig.3. a-c )

**Type material:** El-Tor, Southern Sinai (1 male Holotype, 1 female Allotype, Ain Shams Collection, Entomology Department, Faculty of Science, Cairo, Egypt), 21.10.2003.

**Etymology:** The name of the new species is derived from the collection site.

**Description:** Both sexes brachypterous. Length ♂ 2.5-2.7mm , ♀ 3.3-3.5 mm.

**Male:** Pattern as in fig. (2 a). Body gracile, 2.53 times as long as broad at broadest point of abdomen, upper surface with appressed silvery pubescence.

Head 1.78 times as broad as long, with irregular fuscous or brownish patches, eyes blackish brown. Antennae with 1<sup>st</sup> and 2<sup>nd</sup> segments light brown, 3<sup>rd</sup>

and 4<sup>th</sup> segments blackish brown, base of 3<sup>rd</sup> segment pale, proportions between antennal segments 17: 38: 26: 19. Labium light brown, with 3<sup>rd</sup> segment shortest, more or less rhomboidal, 4<sup>th</sup> segment reddish brown, reaching metathorax, about 2 times as long as 3<sup>rd</sup> segment.

Thorax: dorsum blackish brown, more darker at lateral sides, with pale longitudinal median line; ventrum grayish brown, with prothorax at middle pale ochraceous. Pronotum subquadrate, narrower than head with eyes; scutellum triangular, wider than long. Hemelytra ochraceous, with inner half light brown, more darker toward middle, 1.4 times as long as broad, coastal margin moderately diverging caudad, apical margins obliquely truncate. Legs with femora dark brown to blackish brown, tibiae ochraceous, immaculate, with black spines, tarsi black.

Abdomen: dorsum blackish, with pale irregular spots, connexivum ochraceous; ventrum grayish brown.

Genitalia: aedeagus with median process of vesica dentate (Fig. 2 b); left paramere with hypophysis (Hyp, Fig. 2 c, d) serrate at apex of ventrum, and at middle of dorsum; right paramere (Fig. 2 e) with strongly bent apical portion.

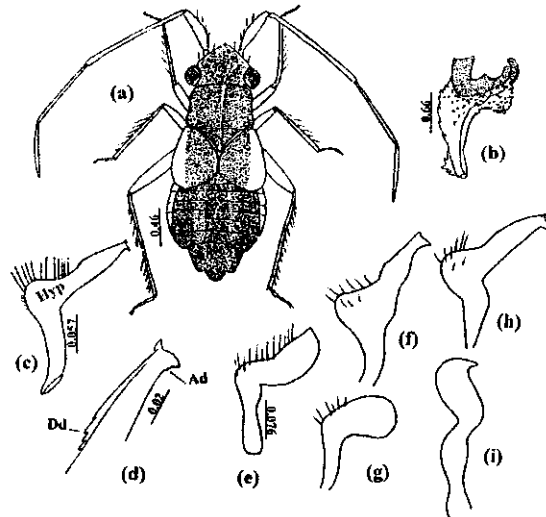


Fig. 2. (a-e) *Dimorphocoris torensis* n. sp., male (a) habitus, (b) vesica, (c) left paramere, (d) the same at apex, (e) right paramere; (f & g) *Dimorphocoris punctiger* (Horvath), (f) left paramere, (g) right paramere; (h & i) *Dimorphocoris eckerleini* Wagner, (h) left paramere, (i) right paramere. Ad, apical dents; Dd, dorsal dents; Hyp, hypophysis.

**Female** (Fig. 3a) similar to male but differs in the following : Body pyriform, 2.17 times as long as broad at broadest point of abdomen. Darker pattern much less intense than in male, dorsum ochraceous, with irregular blackish brown spots on head, lateral sides of pronotum and abdomen. Head 1.75 times as broad as long, proportions between antennal segments 13: 30: 22: 20. Thorax: pronotum subrectangular. Hemelytra with narrow longitudinal brown band at middle, 1.25 times as long as broad, coastal margin strongly convergent toward apex, with an apical spine-like angle. Legs as in male. Abdomen with pregenital segments ochraceous, genital segments blackish; subgenital plate (Sbg, Fig. 3 b, c) triangular and distinctly projected.

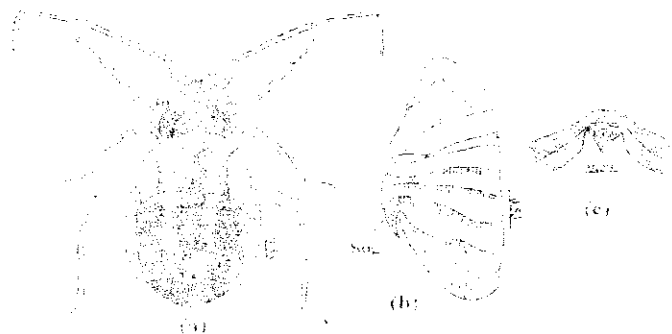


Fig. 3. (a-c) *Dimorphocoris torensis* n. sp., female (a) habitus, (b) abdomen, lateral view, (c) subgenital plate, dorsal view. Sbg, subgenital plate.

**Affinities:** The new species belongs to the *lateralis* group, which inhabiting Greece and the Middle East. In the shape of left paramere the new species resembles *D. punctiger* (Horvath, 1881) from Syria and *D. eckerleini* Wagner, 1965 from Libya and northern Palestine, but differs from them by the immaculate tibiae. Moreover the left paramere (Fig. 2 f ) of *D. punctiger* (Horvath, 1881) is characterized by broader hypophysis, and the apical portion of right paramere (Fig. 2 g) more rounded and shorter than in the new species. The other species, *D. eckerleini* Wagner, 1965 is darker in color, dorsum of hypophysis of its left paramere (Fig. 2 h ) smooth, and the right paramere (Fig. 2 i ) rather straight.

**Host plants:** Grasses.

**World distribution:** Egypt.

**Local distribution:** El Tor, Southern Sinai

Genus *Orthocephalus* Fieber, 1858

*Orthocephalus* Fieber, 1858: Wien. Entomol. Monat. II: 316.

Type species *Orthocephalus brevis* (Panzer, 1798 ): Faun. Insect. Germaniae, Nurnberg, fasc.: 59.

**Diagnosis:** body oblongovate in male, oval in female; head with eyes transverse, wider than fore pronotal margin, eyes spherical, vertex slightly curved, antennal base lie below eye margin, antennae with 1<sup>st</sup> segment surpass apex of head with 2 times of its length, 2<sup>nd</sup> segment 2.3 times as long as 1<sup>st</sup> segment, 3<sup>rd</sup> segment 0.75 as long as 2<sup>nd</sup> segment; pronotum squared, with posterior margin curved at middle; scutellum shorter than claval commissure; male macropterous, female brachypterous, hind legs with 1<sup>st</sup> tarsal segment 0.5-0.65 as long as 2nd segment.

This genus is recorded for the first time from Egypt and is represented by only one species.

*Orthocephalus fulvipes* Reuter, 1904

(Fig. 4 a, b )

*Orthocephalus tenuicornis* Mulsant & Rer, 1852: Ann. Soc. Linn. Lyon., 133. (Preoccupied).

*Orthocephalus tenuicornis fulvipes* Reuter, 1904: Ofv. Finsk. Vet. Soc. Forh., 47: 14.

*Orthocephalus fulvipes* Reuter in Wagner & Webber, 1964: Heteropt. Miridae Faun. d' Franc., 67: 272.

*Orthocephalus fulvipes* Reuter in Kerzhner and Schuh, 1998: Zoosystematica Rossica, 7: 171-172.

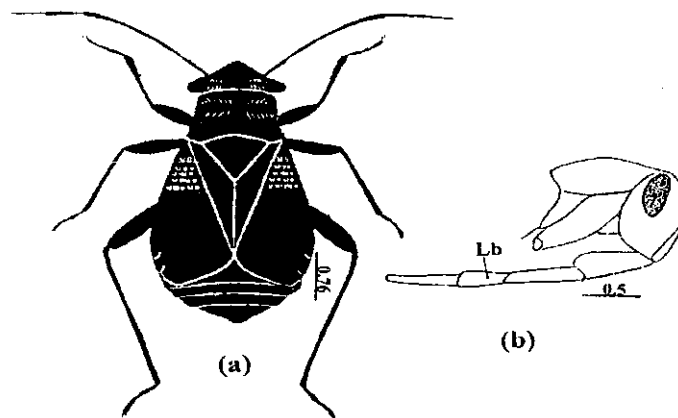


Fig. 4. (a & b) *Orthocephalus fulvipes* Reuter. female (a) habitus, (b) head, lateral view. Lb, labium.

**Diagnosis:** body ( Fig. 4 a) robust, broadly oval, convex, jet black in color, 3.5-4 mm in length, with silvery scale like pubescence on head, pronotum, scutellum, base of corium and ventrum; head with eyes wider than posterior margin of pronotum; labium (Lb, Fig. 4 b) with 1<sup>st</sup> and 2<sup>nd</sup> segments subequal in length, 4<sup>th</sup> segment longer than 3<sup>rd</sup> segment; extending to metathorax; pronotum with 2 transverse calli at middle, hemelytra in female cover more than 0.67 of abdominal terga.

**Host plants:** Herbaceous vegetations.

**World distribution:** Mediterranean region.

**Local distribution:** El Arish, Northern Sinai

#### Tribe *Orthotylini* Van Duzee, 1916

*Orthotylini* Van Duzee, 1916: Univ. Calif. Pub. Entomol., Tech. Bull. I: 211.

Type genus *Orthotylus* Fieber, 1858: Wien. Entomol. Monat. II: 315.

*Orthotylinae* is represented in the Egyptian fauna by 8 species and 3 genera.

#### Key to genera

(Fig. 5 a, b)

1. Pronotum with an apical ring (Fig. 5 a), pretarsi with arolia wanting or closely attached to claws..... *Zanchius* Distant
- Pronotum without apical ring, pretarsi with arolia free (Fig. 5 b).....2
2. Body parallel- sided, labium with 3<sup>rd</sup> and 4<sup>th</sup> segments combined as long as 2<sup>nd</sup> segment .....*Platycranus* Fieber
- Body oblong ovate, labium with 3<sup>rd</sup> and 4<sup>th</sup> segments combined longer than 2<sup>nd</sup> segment .....*Orthotylus* Fieber

#### Genus *Orthotylus* Fieber, 1858

(Fig. 5 c, d; fig. 6 a)

*Orthotylus* Fieber, 1858: Wien. Entomol. Monat. II: 315.

Type species: *Orthotylus marginalis* Reuter, 1883: Acta Soc. Sci. Fenn., 13: 350.

*Pachylops* Fieber, 1858: Wien. Entomol. Monat., 2: 314.

*Litocoris* Fieber, 1861: Eur. Hemipt. Gerold Wien. : 70.

*Litosoma* Douglas & Scott, 1865: Roy. Soc. Lond. : 334.



*Allocotus* Puton, 1874: Ann. Soc. Entomol. Fr. V, 5: 218.

*Hallocapsus* Puton, 1878: Bull. Soc. Entomol. Fr. 5: 33.

*Diommatus* Uhler, 1887: Entomol. Amer. III, 32.

*Chlorosomella* Reuter, 1904: Ofv. Finsk. Vet. Soc. Forh., 46: 6.

*Neomecomma* Southwood, 1953: Trans. R. Entomol. Soc. London 104: 433.

*Parapachylops* Ehanno & Matocq, 1990: Bull. Soc. Entomol. Fr. 94: 265-272.

*Kiiorthotylus* Yasunaga, 1993: Bull. Biogeogr. Soc. Japan, 48: 56-59.

*Ericinellus* Linnavuori, 1994 :Acta Zool. Fenn., 193: 1-84.

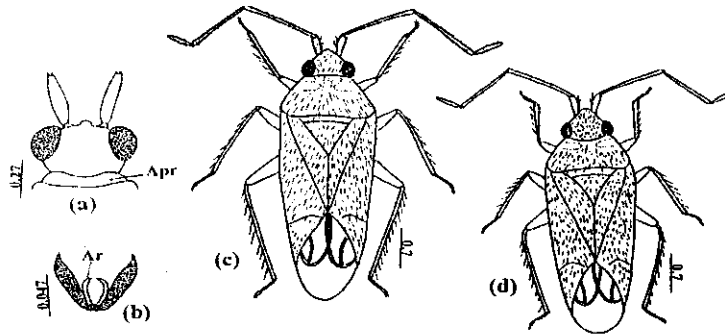


Fig. 5. (a) *Zanchius breviceps* (Wagner), head, dorsal view; (b) *Platycranus putoni* Reuter, pretarsus of fore leg; (c-d) *Orthotylus sparticolus* Reuter. (c) male habitus, (d) female habitus. Apr, anterior pronotal ring; Ar, arolia.

**Diagnosis** body (Fig. 5 c. d) narrower towards apex; head pentagonal, vertex arched, antennal base lie below eyes half, juga reach below eyes fourth, antennae with 1<sup>st</sup> segment surpass head with 2 times of its length, 2<sup>nd</sup> segment more than 3 times as long as 1<sup>st</sup> segment, 3<sup>rd</sup> segment 0.5- 0.87 as long as 2<sup>nd</sup> segment, labium with 1<sup>st</sup> segment thick, as long as head, pronotum trapezoidal, curved above scutellum, membrane of hemelytron longer in male than in female, with 2 oblong basal cells; male aedeagus (Fig. 6 a) with well developed phalotheca (Pht), ejaculatory duct (Ejd), and distal vesical appendages (Vap).

This genus is represented in Egypt by 6 species.

#### Key to species

(Fig. 6 b-j )

- 1-Antenna with 3<sup>rd</sup> segment 0.86-0.87 times as long as 2<sup>nd</sup> segment, male right paramere with multidentated apex (Fig. 6 b), dorsum dull greenish  
 ..... *O. priesneri* Schmidt

- Antenna with 3<sup>rd</sup> segment 0.5-0.8 times as long as 2<sup>nd</sup> segment, male right paramere at most with 2 apical dents..... 2
- 2. Labium distinctly surpassing hind coxae; male right paramere (Fig. 6 c) clubed and with 2 subapical spines..... *O. pusillus* Reuter
- Labium not reaching hind coxae; male right paramere not as above..... 3
- 3. Membrane of hemelytron mottled with grey.....*O. fieberi* Frey-Gessner
- Membrane of hemelytron unicolored.....4
- 4. Head with vertex 1.5 times as wide as an eye in ♂, 2 times in ♀; male left paramere (fig. 6 d) with hypophysis (Hyp) finger-like, right paramere (fig. 6 e) with two apical processes; vesical appendages (Fig. 6 f) apically dented .....  
.....*O. spartiicola* Reuter
- Head with vertex 1.9 times as wide as an eye in ♂, 2.5 times in ♀; male left paramere with hypophysis not finger-like, right paramere with only one lateral process, vesical appendages smooth..... 5

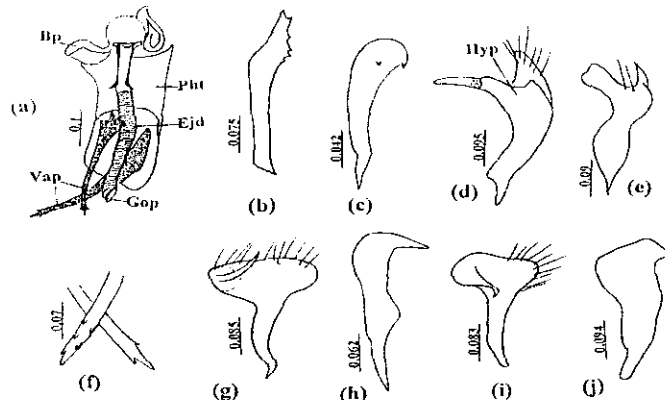


Fig.6. (a-f) *Orthotylus spartiicola* Reuter, (a) male aedeagus, (d) left paramere, (e) right paramere, (f) apices of vesical appendages; (b) *Orthotylus priesneri* Schmidt, right paramere; (c) *Orthotylus pusillus* Reuter, right paramere; (g & h) *Orthotylus hirtulus* Wanger, (g) left paramere, (h) right paramere; (i & j) *Orthotylus minutus* Jakovelv, (i) left paramere, (j) right paramere. Hyp, hypophysis.

- 5. Body 2.5-3.5 mm in length, dull whitish yellow to pale greenish, clothed with curved whitish pubescence; male left and right parameres as in fig. (6 g, h) .....*O. hirtulus* Wagner
- Body 3.3-4.4mm in length, shining green. with fine silvery scales; male left and right parameres as in fig. (6 i, j)..... *O. minutus* Jakovelv

***Orthotylus fieber* Frey-Gessner, 1864**

(Fig. 7 a-d )

*Orthotylus fieber* Frey-Gessner, 1864: Mitt. Schw. Entomol. Ges. 1: 259-262.

*Hypsitylus punctipes* Reuter, 1895: Rev. d'Entomol., 14 : 131-142.

**Diagnosis:** body 3.25- 3.6 mm in length, shining green, dorsum provided with erect black hairs intermixed with curled white hairs ( Fig. 7 a), head with eyes narrower than pronotum behind, antennae with 2<sup>nd</sup> segment longer than pronotum, pronotum trapezoidal, ventrum green with white hairs; male aedeagus with phalotheca tubuler, vesical appendages (Fig. 7 b) weakly sclerotized, thin, unbranched and toothless. left paramere (Fig. 7 c) with broad bifurced hypophysis (Hyp), right paramere (Fig. 7 d ) spoon-shaped.

**Host plants:** *Atriplex* spp.

**World distribution:** Egypt, Algeria, Libya, Palestine, Jordan, Iran, Spain and South Russia.

**Local distribution:** Meadi, Borg El Arab and Suez road.

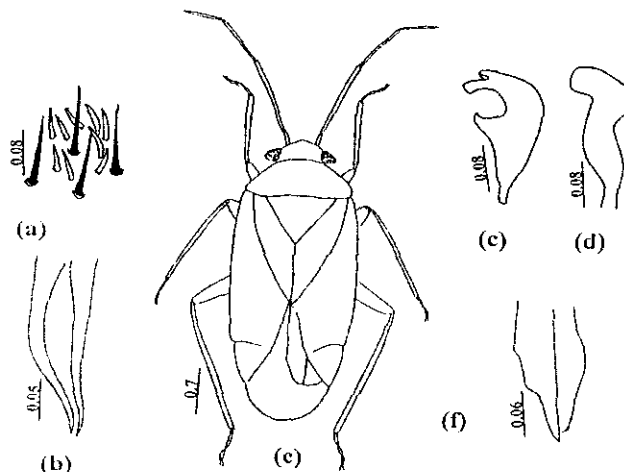


Fig. 7. (a-d) *Orthotylus fieber* Frey-Gessner, (a) dorsal hairs, (b) apices of vesical appendages, (c) left paramere, (d) right paramere; (e & f) *Orthotylus hirtulus* Wanger, male (e) habitus, (f) phalothecal plate. Hyp, hypophysis.

***Orthotylus hirtulus* Wanger, 1951**

( Fig. 6 g, h; fig. 7 e, f)

*Orthotylus (Halocapsus) hirtulus* Wanger, 1951: Bull. Soc. Entomol. Egypt., 35: 157

*Orthotylus (Melanotrichus) haloxyloni* Wanger, 1956: Bull. Soc. Entomol. Egypt., 40: 5.

*Orthotylus argenteopunctatus* Wagner, 1957: Jh. Ver. Vartel. Naturk. Wurttemberg, 112: 87.

*Orthotylus omanensis* Linnavuori, 1975: Ann. Zool. Fenn., 12 : 53.

**Diagnosis:** body (Fig. 7 e) 3.3-4.4 mm in length, yellowish to pale green in color. antennae and legs light yellowish brown, corium light green with outer margins dark, membrane of hemelytron with veins yellow or yellowish brown; antennae with 1<sup>st</sup> segment as long as an eye, 2<sup>nd</sup> segment 1.1 times as width of an eye, shorter than width of pronotum at hind margin, 3<sup>rd</sup> segment 2.5-2.6 times as long as 4<sup>th</sup> segment; hind tibiae 4.5 times as long as corresponding tarsi, tarsi with 3<sup>rd</sup> segment longer than 2<sup>nd</sup> segment, male left paramere (Fig. 6 g ) with broad triangular hypophysis, right paramere (Fig. 6 h) with hooked hypophysis, provided with long curved lateral process; vesical appendages smooth, hairless; phalotheca with 2 dissimilar plates (Fig. 7 f).

**Host plants:** *Haloxylon salicornicum* and *Anabasis articulata*.

**World distribution:** Egypt, Algeria, Iraq, Oman, Iran, and Saudi Arabia.

**Local distribution:** Meadi, Wadi Digla, Suez road, Wadi El Tih and Wadi Feiran.

***Orthotylus minutus* Jakovelv, 1877**

(Fig. 6 i, j)

*Orthotylus minutus* Jakovelv, 1877: Bull. Soc. Moscou, 52 (2): 169-300.

**Diagnosis:** this species allied to *O. hirtulus* Wanger, 1951, but smaller, body 2.5-3.5 mm in length, membrane of hemelytron with darker veins, and male left and right parameres as in fig. ( 6 i, j).

**Host plants:** *Atriplex halimus*.

**World distribution:** Egypt, Turkey, Portugal, Italy and Spain

**Local distribution:** Cairo.

***Orthotylus priesneri* Schmidt, 1939**

(Fig. 6 b; Fig. 8 a-c)

*Orthotylus priesneri* Schmidt, 1939: Bull. Soc. Entomol. Egypt., 23: 22.

*Orthotylus melanotrichus macrophthalmus* Wagner, 1960: Bull. Soc. Entomol. Egypt., 44: 93-96.

*Orthotylus acaciae* Wagner, 1968: Reichenbachia 10: 1-6.

**Diagnosis:** body 3.25-3.75 mm in length, male parallel-sided (Fig. 8 a), female oblongovate, dull green in color, head pale yellowish green, eyes brown, antennae yellowish to light brown, base of scutellum yellowish brown, corium dark green, exocorium yellow, legs light green, with claws black, ventrum light green and furnished with golden hairs; antennae with 1<sup>st</sup> segment slightly longer than width of an eye, 3<sup>rd</sup> segment 1.5 times as long as 4<sup>th</sup> segment; labium reaches middle coxae, with 1<sup>st</sup> segment as long as head, 2.8 times as long as 4<sup>th</sup> segment; hind tibiae 3.6 times as long as corresponding tarsi, tarsi with 3<sup>rd</sup> segment longer than 2<sup>nd</sup> segment, scutellum 1.2 times as wide as long; male right paramere (Fig. 6 b) with multidented apex, left paramere (Fig. 8 b) hammer-shaped, aedeagus short and thick, with the dorsal vesical appendage (Fig. 8 c) hooked upwardly and serrate at apical portion.

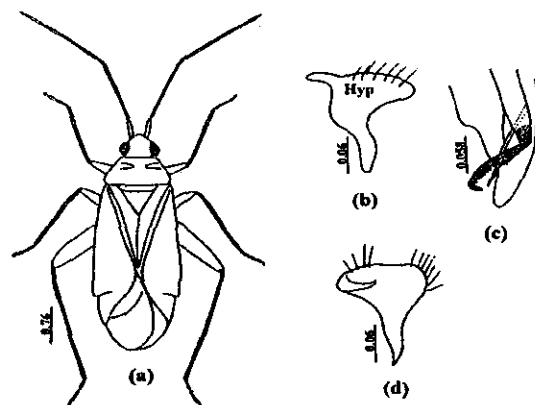


Fig. 8. (a-c) *Orthotylus priesneri* Schmidt, male (a) habitus, (b) left paramere, (c) vesical appendages; (d) *Orthotylus pusillus* Reuter, left paramere. Hyp, hypophysis.

**Host plants:** *Acacia albida* and *Acacia raddiana*.

**World distribution:** Egypt, Algeria, Sudan, Somalia, Nigeria, Yemen, Palestine and Saudi Arabia.

**Local distribution:** Meadi, Shoubra, Ezbet El Nakhl, Pyramids, Dakhla Oasis, Luxor, Kharga Oasis, Assuit, Wadi Aideb.

***Orthotylus pusillus* Reuter, 1883**

(Fig. 6 c; Fig. 8 d)

*Orthotylus pusillus* Reuter, 1883: Acta. Soc. Sci. Fenn., 13 : 313-496.

*Orthotylus (Melanotrichus) pusillus* Reuter, Wanger, 1956: Bull. Soc. Ent. Egypt, 40: 1-5.

**Diagnosis:** body 2.5-3.05 mm in length, whitish yellow to light green in color, antennae yellowish brown, base of scutellum yellowish brown, corium green, membrane of hemelytron smoky gray with dark green veins, legs light yellow; vertex 2.2 as wide as an eye; antennae with 1<sup>st</sup> segment as long as width of an eye, 2<sup>nd</sup> segment as long as pronotum behind, 3<sup>rd</sup> segment 0.8 times as long as 2<sup>nd</sup> segment, more than 2 times as long as 4<sup>th</sup> segment; labium surpassing hind coxae; pronotum at hind margin 1.3-1.4 times as wide as head; hind tibiae 2.75-2.8 times as long as corresponding tarsi, 2<sup>nd</sup> and 3<sup>rd</sup> tarsal segments subequal in length; male right paramere (Fig. 6 c ) with clubbed hypophysis, provided with 2 subapical spines, left paramere (Fig. 8 d) with triangular hypophysis, aedeagus with phallosome oblique, vesical appendages smooth and unbranched .

**Host plants:** *Suaeda maritima* and *Suaeda monoica* on salt marshes.

**World distribution:** Egypt, Algeria, Northern Sudan, Tunisia and Palestine.

**Local distribution:** Meadi, Wadi Digla and Fayoum.

***Orthotylus spartiicola* Reuter, 1904**

(Fig. 6 a, d- f)

*Orthotylus spartiicola* Reuter, 1904: Ofv. Finsk. Vet. Soc. Forh., 47: 1-26.

*Orthotylus retamae* Wagner, 1951: Bull. Soc. Entomol. Egypt, 35: 141.

**Diagnosis:** body 4.2-4.4 mm in length, dorsum clothed with black and white hairs, yellow to yellowish green in color, head with brownish markings between eyes, antennae brown, pronotum and scutellum grayish green, with bases blackish brown; fore wing with corium yellowish or greenish yellow, membrane gray or grayish brown with whitish yellow veins, legs yellow, with tarsi dark brown; vertex 1.5-2 as wide as an eye; antennae with 1<sup>st</sup> segment 0.75-0.86 times as long as width of vertex, 2<sup>nd</sup> segment 0.87 times as long as pronotum behind, 3<sup>rd</sup> segment 0.7 times as long as 2<sup>nd</sup> segment, 2.5-2.7 times as long as 4<sup>th</sup> segment; labium reaching middle coxae, with 1<sup>st</sup> segment as long as head, 2.8 times as long as 4<sup>th</sup> segment; hind tibiae 3.9 times as long as corresponding tarsi, 3<sup>rd</sup> tarsal segment 1.5 times as long as 2<sup>nd</sup> segment ; male vesical appendages (Fig. 6 a, f) chitinized and epically dented, left paramere (Fig. 6d ) with bifurcated hypophysis, inner branch with long process, right paramere (Fig. 6 e) with 2 projections at apex of hypophysis.

**Host plants:** *Retaema raelam* and in blooms of *Spartium* spp.

**World distribution:** Egypt, Libya, Palestine and Syria.

**Local distribution:** Suez road and Wadi Um Assad.

Genus *Platycranus* Fieber, 1870

( Fig. 9 a-c )

*Platycranus* Fieber, 1870: Verh. Zool. Bot. Gesell. Wien., 20: 252.

Type species: *Platycranus eberi* Fieber 1870: Verh. Zool. Bot. Gesell. Wien., 20: 252.

*Genistocapsus* Wagner, 1963: Boll. Soc. Entomol. Italiana, 93: 130.

**Diagnosis:** body (Fig. 9 a, b) slender, nearly parallel-sided; head between eyes pentagonal; eyes oval; antennal base lie at middle of eye height, 1<sup>st</sup> antennal segment thick, narrowed toward apex, 2<sup>nd</sup> segment rod-like, 3<sup>rd</sup> and 4<sup>th</sup> segments filiform; labium (Lb, Fig. 9 c) reaching mesothoracic sternum, with 1<sup>st</sup> segment not reach basal margin of head, 2<sup>nd</sup> segment longest, as long as 3<sup>rd</sup> and 4<sup>th</sup> segments combined; pronotum trapezoidal in male, subquadrate in female, with lateral sides straight, anterior tubercles large; scutellum equisided triangle; cuneus oblong, triangular in shape, hind femora longer than anterior pair, tarsi less than 0.25 times as long as tibiae, 1<sup>st</sup> segment shortest, 2<sup>nd</sup> and 3<sup>rd</sup> segment subequal in length.

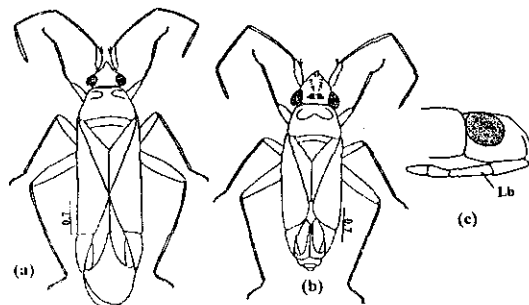


Fig. 9. (a-c) *Platycranus putoni* Reuter, (a) male, (b) female, (c) head, lateral view. Lb, labium.

*Platycranus putoni* Reuter, 1879

(Fig. 9 a-c )

*Platycranus putoni* Reuter, 1879: Ofv. Finsk. Vet. Soc. Forh., 21: 30-41.

**Diagnosis:** body 4-5 mm in length, dorsum clothed with whitish hairs, yellow or pale orange in male, pale green in female, eyes golden yellow, head between eyes and anterior calli of pronotum reddish yellow, antennae with 1<sup>st</sup> and 2<sup>nd</sup> segments yellow, 3<sup>rd</sup> and 4<sup>th</sup> segments brown, base of scutellum brownish orange, legs yellow, with apex of terminal tarsal segment blackish; hemelytra yellow, claval suture whitish; antennae with 1<sup>st</sup> segment surpassing apex of head

with more than its half length; labium (Lb, Fig. 9 c) with 1<sup>st</sup> segment 0.5 times as long as head below, 2<sup>nd</sup> segment surpassing fore margin of pronotum, hemelytron not reaching apex of abdomen in female; hind leg with 1<sup>st</sup> tarsal segment 0.5 times as long as 2<sup>nd</sup> segment.

**Host plants:** *Retaema raetam* on coastal dunes and in desert conditions on tamarisk.

**World distribution:** Europe, North Africa and Palestine.

**Local distribution:** Cairo, Wadi Gandali, Wadi El Natroun, Suez road, Wadi Bir Qena.

Genus *Zanchius* Distant, 1904

(Fig. 10 a)

*Zanchius* Distant, 1904: Faun. Brit. Ind. Rhynch. Heteropt., 2: 477.

Type species: *Zanchius annulatus* Distant, 1904: Faun. Brit. Ind. Rhynch. Heteropt., 2: 477.

*Zonodorus* Distant, 1909: Ann. Mag. Nat. Hist. (8) 4:522.

*Uzeliella* Poppius, 1911: Ofv. Finsk. Vet. Soc. Forh., 53 A (2): 31.

*Poppiella* Bergroth, 1911: Ann. Soc. Entomol. Belg., 55: 188.

*Habrocoris* Wagner, 1951: Bull. Soc. Entomol. Egypt., 35: 153.

**Diagnosis:** body (Fig. 10 a) oblong, parallel-sided, head transverse, truncate in front, eyes strongly bulging, gena 0.5 times as long as an eye, antennal base lie below eye, antennae slender, with 1<sup>st</sup> segment stout, 2<sup>nd</sup> segment longer than pronotum behind, pronotum trapezoidal, with anterior transverse furrow, scutellum shorter than scutellar commissure, membrane of hemelytra with outer cell larger than inner cell, abdomen slender.

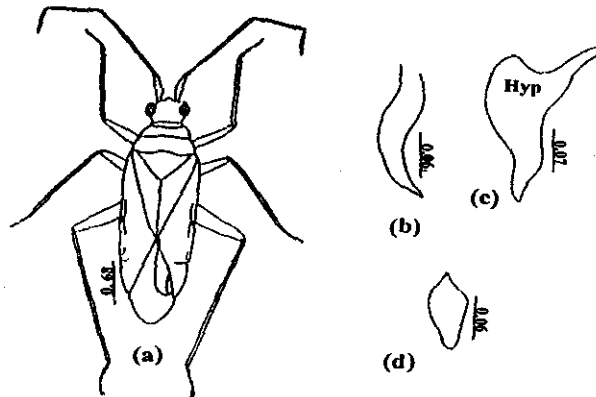


Fig. 10. (a-) *Zanchius breviceps* (Wagner), (a) male, (b) apex of vesical appendage, (c) left paramere, (d) apex of right paramere. Hyp, hypophysis.



***Zanchius breviceps* (Wagner, 1951)**

(Fig. 10 a-d )

*Habrocoris breviceps* Wagner, 1951: Bull. Soc. Entomol. Egypt., 35: 153.*Zanchius breviceps* Wagner in Linnavuori, 1964: Ann. Zool. Fenn.1: 329.*Zanchius stami* Van Doesburg, 1984: Zool. Mededelingen 59: 27.

**Diagnosis:** body 3.3-3.6 mm in length, with fine yellowish hairs, pale green in color, antennae yellowish brown, hemelytra translucent, with exocorium behind middle and before cuneus with dark spots, cuneus bright, membrane with green veins, outer cell with short green vein or stripe near apex, all tarsi with 3rd segments brown, vertex 2.3 times in female - 2.5 times in male as an eye width; antennae with 2<sup>nd</sup> segment 1.8 times in male - 2 times in female as long as pronotum behind, 1.33 times as long as 3<sup>rd</sup> segment; labium extending between hind coxae; pronotum with upper lobe shorter and narrower than lower lobe, scutellum equilateral triangular in shape; male with vesical appendages blade-like (Fig. 10 b), left paramere (Fig. 10 c) with a curvate, slender hypophysis; right paramere with pointed apex (Fig. 10 d).

**Host plants:** *Abutilon* spp. , *Gossypium* spp. and at lamp among grasses.

**World distribution:** Egypt, Chad, Sudan, Nigeria, Eritrea, Palestine, Iraq and Saudi Arabia

**Local distribution:** Meadi, Saft, Assuit and Luxor.

**Check list of Orthotylinae from Egypt:**

(\*New species,\*\* New record, \*\*\*New status)

*\*Dimorphocoris torensis* n. sp.**\*\*Orthocephalus fulvipes** Reuter*Orthotylus fieber* Frey-Gessner*Orthotylus hirtulus* Wanger*Orthotylus minutus* Jakovelv*Orthotylus priesneri* Schmidt*Orthotylus pusillus* Reuter**\*\*\*Orthotylus sparticola** Reuter*Platycranus putoni* Reuter**\*\*\*Zanchius breviceps** (Wagner)

## SUMMARY

A taxonomic review of the subfamily Orthotylinae (Hemiptera, Miridae) from Egypt was given, with a description of *Dimorphocoris torensis* n. sp. from El-Tor, Southern Sinai. In addition *Orthocephalus fulvipes* Reuter, 1904 is newly recorded, from El- Arish, Northern Sinai. The two latter species are belonging to tribe Halticini which is represented for the first time from Egypt. As a result of the present investigation, 10 species, 5 genera within 2 tribes (Halticini and Orthotylini) are confirmed from Egypt. Updating names includes synonymizing of *Orthotylus retamae* Wagner, 1951 with *Orthotylus spartiicola* Reuter, 1904 and *Orthotylus haloxyloni* Wagner, 1956 with *Orthotylus hirtulus* Wagner, 1951. Also the genus *Habrocoris* Wagner, 1951 is synonymized with genus *Zanchius* Distant, 1904 and *Habrocoris breviceps* Wagner, 1951 is transferred to *Zanchius breviceps* (Wagner, 1951). Diagnosis and keys with illustrations for the identification of the tribes, genera and species are presented. Check -list of the Egyptian orthotylin species, distribution notes and host plants are also given.

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