

## New and interesting records of true bugs (Heteroptera) from Turkey, southeastern Europe, Near and Middle East

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**Abstract.** The following new records are given: *Hebrus pilipes* Kanyukova, 1997, *Microvelia reticulata* (Burmeister, 1835), *Stephanitis oschanini* Vasiliev, 1935, *Gonocerus imitator* Reuter, 1891, *Canthophorus wagneri* Asanova, 1964, *Carenoplistus acutus* (Signoret, 1880), and *Palomena mursili* Linnavuori, 1984 from Turkey (Asian part), *S. oschanini* from Afghanistan, *Hebrus montanus* Kolenati, 1857 from Bosnia Hercegovina and Serbia, and *Coranus aegyptius* (Fabricius, 1775) from Iraq and Syria. The occurrence of *H. montanus* in Bulgaria and Turkey, *Mesovelia furcata* Mulsant et Rey, 1852 in the Asian part of Turkey, *Stephanitis pyri* (Fabricius, 1775) in Bosnia Hercegovina and the European part of Turkey, and *Sehirus ovatus* (Herrich-Schäffer, 1839) in Armenia are confirmed. In addition, several records from Azerbaijan, Bulgaria, Croatia, Greece, Hungary, Iran, Iraq, Israel (Palestine), Italy, Romania, and Ukraine are included .

**Key words.** Heteroptera, Coreidae, Cydnidae, Hebridae, Mesoveliidae, Pentatomidae, Reduviidae, Tingidae, Veliidae, Palaearctic region, faunistics, new records

### Introduction

While identifying material of the Heteroptera from various collections, we acquired data which complement the fragmentary knowledge of the faunistics of Palaearctic Heteroptera. Species which we report here have not been recorded from particular Palaearctic countries in recent lists or monographs (e.g., ANDERSEN 1995, LIS 1999, MOULET 1995, PÉRICART & GOLUB 1996, PUTSHKOV & PUTSHKOV 1996). Some of these data represent new country records, while others are corrections of previously published but confused or neglected data.

## Abbreviations

We use the following codens:

JDCD	coll. Jakob Damgaard, Biological Institute, University of Copenhagen, Denmark;
JRPC	coll. Jan Růžička, Praha, Czech Republic;
KHMC	coll. Karel Hradil, Miletín, Czech Republic;
MBPC	coll. Milan Boukal, Pardubice, Czech Republic;
MMBC	coll. Moravian Museum, Brno, Czech Republic;
NMPC	coll. National Museum, Praha, Czech Republic;
PBSC	coll. Petr Baňaf, Strážnice, Czech Republic;
PKPC	coll. Petr Kment, deposited in National Museum, Praha, Czech Republic;
ZJPC	coll. Zdeněk Jindra, Praha, Czech Republic;
ZMAS	coll. Zoological Institute, Russian Academy of Sciences, St. Petersburg, Russia;
ZMOC	coll. Zbyněk Malinka, Opava, Czech Republic.

Other abbreviations: ditto – at the same locality; env. – environs of; spec. – unsexed adult(s).

## List of records

### HEBRIDAE

#### *Hebrus (Hebrus) pusillus* (Fallén, 1807)

Revision of the material of *H. pusillus* from Turkey published by HOBERLANDT (1952) revealed that this material belongs at least to three species: *H. montanus* Kolenati, 1857, *H. pilipes* Kanyukova, 1997 and '*H. pusillus*'. *Hebrus pusillus* is a widely distributed species with two valid Palaearctic subspecies: *H. p. arabicus* Linnavuori, 1971, which occurs in Iraq, Saudi Arabia and Yemen (LINNAVUORI 1971, ANDERSEN 1995), and *H. p. pusillus*, which is widespread in Albania, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Greece, Germany, Hungary, Italy, Kazakhstan (European part), Latvia, Luxembourg, Macedonia, Moldova, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia (North, Central and South European Territory, East and West Siberia, Far East), Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey (both European and Asian part), Ukraine, Algeria, Canary Islands, Egypt, Libya, Morocco, Iran, Israel, Lebanon and Syria (ANDERSEN 1995; SAFAVI 1984, NIESER & MOUBAYED 1985, COX & COX 1995, BAENA 1996, KANYUKOVA 1997, PROTIC 1998, LINNAVUORI & HOSSEINI 2000). *Hebrus pusillus* seems to be a variable species in its external characters, and some of the previously described taxa, *H. pusillus canariensis* Poisson, 1954 and *H. dupuisi* Wagner, 1954, were recently synonymized with *H. p. pusillus* (BAENA 1996). The Turkish *H. pusillus* differ somewhat from the typical specimens from central Europe. Two distinct Turkish forms could be distinguished, both of them having pale femora (dark brown in *H. p. pusillus* – see KANYUKOVA (1997)) and differing from *H. montanus* in possessing only short hairs on the inner margin of male hind tibiae and in different coloration. One of these 'forms' is macropterous, with reddish head and pronotum, ivory legs, and entirely white

clavus. It is represented by specimens from Çakıt river near Abacılar, Alacakilise, Armutlu, and Afrin river near Musabeyli (HOBERLANDT 1952). The second form is submacropterous, with dark brown head and pronotum, pale brown legs and a brown clavus with a large white basal spot, and is represented by specimens from Gyaur dağları (HOBERLANDT 1952). Both 'forms' appear to be rather similar to *H. p. arabicus*, which has e.g. the head and pronotum reddish brown, the clavus reddish brown with a milky base, and the antennae and legs yellowish-brown (LINNAVUORI 1971). A comprehensive study of the morphological and genetical variability of *H. pusillus* from its entire distributional range may shed more light into these complicated relationships.

### *Hebrus (Hebrus) montanus Kolenati, 1857*

**Material examined.** **AZERBAIJAN:** Hamarat, without date, 1 ♂, (Leder) Reitter lgt., L. Hoberlandt 1949 det. as *H. pusillus*, P. Kment revid. (NMPC). **BOSNIA HERCEGOVINA:** HERCEGOVINA, Mostar, vii.1927, 2 ♂♂ 5 ♀♀, Štěpánek lgt., P. Kment det. (NMPC). **BULGARIA mer.:** Khaskovo env., Knizhovnik, 21.vi.1961, 1 ♀, L. Hoberlandt lgt., P. Kment det. (NMPC). Khaskovo env., Dzhebel near Momchilgrad, 24.vi.1961, 1 ♂, L. Hoberlandt & Slouková lgt., P. Kment det. (ZJPC). **BULGARIA mer. occ.:** Gotse Delchev (→ Ognyanovo), Mesta river banks, 500 m a.s.l., 16.viii.1972, 2 ♂♂ 2 ♀♀, A. Merta lgt., P. Kment det. (MMBC). Kresna, Gara Kresna Mt. (Kresensko defile) near Struma river, 20.-21.viii.1972, 1 ♂ 1 ♀, A. Merta lgt., P. Kment det. (MMBC). Melnik, 24.-25.vii.1956, 1 ♂ 3 ♀♀, L. Hoberlandt lgt., P. Kment det. (NMPC, ZJPC); ditto, 12.v.1983, 2 ♂♂ 2 ♀♀, J. Adámek lgt., P. Kment det. (ZJPC, PKPC). Sandanski, Struma river banks, 110-140 m a.s.l., 9.viii.1972, 2 ♂♂, A. Merta lgt., P. Kment det. (MMBC). Sandanski (→ Lilyanovo), 30.v.-6.vi.1978, 6 ♀♀, K. Majer lgt., P. Kment det. (MMBC). Sandanski, Gara Sandanski Mt., Struma, 20.vii.1956, 1 ♂ 2 ♀♀, L. Hoberlandt lgt., P. Kment det. (NMPC). **BULGARIA mer. or.:** Svilengrad, 14.-18.vi.1947, 1 ♀, Exp. N. Mus. ČSR lgt., P. Kment det. (NMPC). **SERBIA or.:** Suva Planina Mts., Krujac [= Kruljac], 3.vi.1947, 1 ♀, Exp. N. Mus. ČSR lgt., P. Kment det. (NMPC). **TURKEY centr.:** ANKARA province, Kızılcahamam, 14.ix.1947, 1 ♀, Exp. N. Mus. ČSR lgt., L. Hoberlandt 1948 det. as *H. pusillus*, P. Kment revid. (NMPC). **TURKEY mer.:** GAZIANTEP province, Nur Dağları Mts., Nurdağı Geçidi pass – Kuşçubeli Geçidi pass, Hasanbeyli env., 1120-1250 m a.s.l., 9.-11.v.2005, 2 ♂♂ 3 ♀♀, Z. Malinka lgt., P. Kment det. (PKPC, ZMOC). **TURKEY or.:** BİNGÖL province, 10 km W of Solhan, 15.v.2005, 7 ♀♀, Z. Malinka lgt., P. Kment det. (PKPC, ZMOC).

Distributed in the following countries: Albania, Bulgaria, France, Macedonia, ?Romania, Russia (South European Territory); Egypt, Morocco; Armenia, Azerbaijan, Georgia, Iran, Israel, Syria, and Turkey (Asian part) (ANDERSEN 1995; NIESER 1995, KANYUKOVA 1997, LINNAVUORI & HOSSEINI 2000). According to KANYUKOVA (1997), records from Europe, North Africa and south-western Asia need confirmation. From Turkey it was listed by STICHEL (1955), NIESER & MOUBAYED (1985), ANDERSEN (1995) and KIYAK & ÖZSARAC (2001) without exact localities. LINNAVUORI (1953) mentioned the locality 'Asm. [= Asia Minor] Fl. Hermos'. New species for Bosnia Hercegovina and Serbia; confirmed occurrence in Bulgaria and the Asian part of Turkey.

***Hebrus (Hebrus) pilipes* Kanyukova, 1997**

**Material examined.** **TURKEY** centr.: KONYA province, Kızılviran (= Kızılören), 2.ix.1947, 2 ♂♂ 9 ♀♀, Exp. N. Mus. ČSR lgt., L. Hoberlandt 1958 det. as *H. pusillus*, P. Kment revid. (NMPC). SIVAS province, Demiryurt (39°52'N 37°37'E), Tödürge Gölü lake, swamps along the road to the university camp, 1308 m a.s.l., 27.vi.2002, 1 ♀, P. Kment lgt. et det. (PKPC); ditto, 16.v.2005, 1 ♂, P. Kment lgt. & det. (JDCD). **TURKEY** mer.: ANTALYA province, Beldibi near Kemer, Bey Dağ, 1.-17.vii.1998, 1 ♂ 1 ♀, P. Bulirsch lgt., Z. Jindra det. (ZJPC). İÇEL (= Mersin) province, Taurus Mts., Alahan, 35 km NW of Silifke, 29.viii.1947, 10 ♂♂ 5 ♀♀, Exp. N. Mus. ČSR lgt., L. Hoberlandt 1958 det. as *H. pusillus* f. *rufescens*, P. Kment revid. (NMPC). Erdemli (36°37'N 34°19'E), Loc. No. 109, 24.-26.viii.1970, 2 ♂♂ 1 ♀, Exp. Nat. Mus. Praha lgt., P. Kment det. (NMPC). Erdemli (36°37'N 34°18'E), limestone hill above the city on the road to Karakeşi, puddle, 27.iv.2004, 6 ♂♂ 5 ♀♀, I. Malenovský lgt., P. Kment det. (PKPC). Kurtuluş near Silifke, 12.-17.v.1994, 12 ♂♂ 9 ♀♀, P. Průdek lgt., P. Kment det. (PKPC, ZJPC, MMBC, KHMC, PBSC). **TURKEY** or.: TUNCELİ province, Tunceli (39°06'N 39°33'E), city, Munzur river valley, oxbow lake near bridge, 22.vi.2002, 2 ♀♀, P. Kment lgt. et det. (PKPC). Material from PKPC was compared with the type series kept in ZMAS.

Recently described species known from Russia (South European Territory), Ukraine (Crimea); Georgia, Armenia, Azerbaijan, Iran (provinces Khorāsān and Māzandarān), Kazakhstan (Asian part), Tadjikistan, Turkmenistan, and Uzbekistan (KANYUKOVA 1997, LINNAVUORI & HOSSEINI 2000, LINNAVUORI & MODARRES 1998). Specimens published by HOBERLANDT (1952) from Alahan (as *H. pusillus* f. *rufescens* Rey, 1893) and Kızılviran (as *H. pusillus*) also belong to *H. pilipes*. Biology and ecology of *H. pilipes* is unknown. KIRITSHENKO (1964, misidentified as *H. pusillus* and *H. montanus* – see KANYUKOVA (1997)) collected it on a stream bank in Karatag (Tadjikistan). HOBERLANDT & TÁBORSKÝ (1948) described the Turkish localities as a mountain spring led into a stone cattle trough (Kızılviran) and a mountain spring forming a swamp covered with *Carex* sp. (Alahan). HOBERLANDT (1974) characterized locality No. 109 near Erdemli as a costal sandy zone of Mediterranean Sea with the mouth of a brook with brackish water with reed and *Pennisetum purpureum* K. Schumach. stands. We collected it on the shores of the marshes near Tödürge Gölü lake (situated on gypsum, having high water conductivity and reed vegetation along shores), in an oxbow lake in the aluvium of a large mountain river in Tunceli, and in fields near Erdemli in a small puddle fed by a leaking irrigation pipe. According to these observations, *H. pilipes* seems to be a quite euryecous species in Turkey, inhabiting different types of water bodies both in inland Anatolia as well as on the southern Mediterranean coast. New species for Turkey.

MESOVELIIDAE

***Mesovelia furcata* Mulsant & Rey, 1852**

**Material examined.** **TURKEY** centr.: SIVAS province, Demiryurt (39°52'N 37°37'E), Tödürge Gölü lake, swamps along the road to the university camp, 1308 m a.s.l., 27.vi.2002, 1 ♂ (apterous), P. Kment lgt. et det. (PKPC).

Common Euro-Siberian species recorded from Austria, Belgium, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Kazakhstan (both European and Asian part), Finland, France, Great Britain, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Moldavia, Netherlands, Norway, Poland, Romania, Russia (North, Central and South European Territory, East Siberia, Far East), Slovakia, Slovenia, Sweden, Switzerland, Ukraine, and Uzbekistan. Records from Spain, Morocco, Algeria, and Israel are considered doubtful (ANDERSEN 1995, STRPIĆ 1997, PROTIĆ 1998). One previous record from the Asian part of Turkey from the marshy area of Sultan Sazlığı near Kayseri (Central Anatolia) (ÖZEMSI & ÖNDER 1988, KIYAK & ÖZSARAC 2001) was neglected by ANDERSEN (1995). Confirmed occurrence in Turkey.

## VELIIDAE

### *Microvelia (Microvelia) reticulata* (Burmeister, 1835)

**Material examined.** TURKEY centr.: KONYA province, Beyşehir, Beyşehir Gölü lake, 1160 m a.s.l., 3.ix.1947, 1 ♂ 1 ♀ (apterous), Exp. N. Mus. ČSR Igt., P. Kment det. (NMPC). SIVAS province, Demiryurt (39°52'N 37°37'E), Tödürge Gölü lake, swamps along the road to the university camp, 1308 m a.s.l., 27.vi.2002, 1 ♂ 4 ♀♀ (apterous), P. Kment Igt. et det. (PKPC).

Common Euro-Siberian species known from Austria, Belgium, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Kazakhstan (both European and Asian part), Estonia, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Moldavia, Netherlands, Norway, Poland, Portugal, Romania, Russia (North, Central and South European Territory, West and East Siberia, Far East), Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland; China (Northeastern Territory), Georgia, and Japan (ANDERSEN 1995; MILLÁN et al. 1989, PROTIĆ 1998, GOGALA 2003). Not recorded from Turkey by ANDERSEN (1995) and KIYAK & ÖZSARAC (2001). New species for Turkey.

### *Microvelia (Picaultia) hozari* Hoberlandt, 1952

**Material examined.** TURKEY centr.: İÇEL (= Mersin) province, Erdemli (36°37'N 34°18'E), limestone hill above the city on the road to Karakeşti, puddle, 27.iv.2004, 1 ♀ (macropterous), I. Malenovský Igt., P. Kment det. (PKPC).

This species was transferred from the nominotypical subgenus *Microvelia* Westwood, 1834 to the subgenus *Picaultia* Distant, 1913 by ANDERSEN & WEIR (2003). It is a poorly known species described from the southern Turkish provinces of Adana (locality Suluhan near Kozan) and Gaziantep (localities Kilis and Afrin river near Musabeyli) by HOBERLANDT (1952). ANDERSEN (1995) and ANDERSEN & WEIR (2003) listed it also from Saudi Arabia. BROWN (1953a) mentioned three females from Hejaz and Northern 'Asir (Saudi Arabia) but found 'impossible to state whether they belong to the typical form or subsp. *macani* Brown (in press)'. In the subsequent paper, BROWN (1953b) described the subspecies *M. hozari macani* Brown, 1953 from Baghdad and attributed the Saudi Arabian specimens to the nominotypical subspecies. However, the species was not included in the review of Saudi Arabian Heteroptera by

LINNAVUORI (1986). CARL (1989) recorded *M. hozari* from irrigation ditches in Baiji (environs of Tikrīt) in Iraq; these specimens might be misidentified *M. (P.) macani* Brown, 1953. *Microvelia hozari* was listed from Iraq neither by LINNAVUORI (1994) nor by ANDERSEN (1995). According to HOBELANDT (1952), the Turkish specimens were collected 'on small water surfaces (at the Afrin river, unfar the course proper of the river in tiny puddles formed by the hoofs of cattle) exposed to constant insolation, without special vegetation'. Our specimen was found in fields near Erdemli in a small puddle fed by a leaking irrigation pipe. Additional record from Turkey and the first one from the İçel province.

## TINGIDAE

### *Stephanitis oschanini* Vasiliev, 1935

**Material examined.** AFGHANISTAN mer.: KANDAHĀR, Kandahār, 950 m a.s.l., 4.iii.1953, 32 ♂♂ 55 ♀♀, J. Klapperich lgt., P. Kment det. (NMPC). Kandahār – Kuna, 1200 m a.s.l., 1.iii.1953, 5 ♀♀, J. Klapperich lgt., P. Kment det. (NMPC). AFGHANISTAN or.: NÜRESTĀN, valley of Bashgul river, Kāmū, 1500 m a.s.l., 26.iv.1953, 7 ♂♂ 29 ♀♀, J. Klapperich lgt., P. Kment det. (NMPC). IRAN bor.: GILĀN province, Lāhījān near Caspian Sea, 200 m a.s.l., vii.-viii.1961, 1 ♀, J. Klapperich lgt., L. Hoberlandt 1975 det. as *Stephanitis pyri*, P. Kment revid. (NMPC). Sheykh Mahallan (= Sheykh Mahalleh), 160 m a.s.l. (37°53'N 48°55'E), 28.vi.-3.vii.1977, 2 ♀♀, Exped. Nat. Mus. Praha lgt., P. Kment det. (NMPC). MĀZANDARĀN province, Shāhī (36°28'N 52°53'E), 25.vi.1977, 23 ♂♂ 24 ♀♀, Exped. Nat. Mus. Praha lgt., P. Kment det. (NMPC). TEHRĀN province, Golhak (= Qolhak) by Tehrān, 1400 m a.s.l., ix.-x.1961, 2 spec., J. Klapperich lgt., L. Hoberlandt 1975 det. as *S. pyri*, P. Kment revid. (NMPC). Karadj (= Karaj), 5.ix.1970, 1 ♂, Sabzevari lgt., L. Hoberlandt 1973 det. as *S. pyri*, P. Kment revid. (NMPC). Teheran (= Tehrān), 7.viii.1954, 7 spec., Safavi lgt., L. Hoberlandt 1958 det. as *S. pyri*, P. Kment revid. (NMPC). Tehrān – Evin, 1700 m a.s.l. (35°49'N 51°23'E), 27.vi.1970, 4 ♂♂ 2 ♀♀, Exp. Nat. Mus. Praha lgt., L. Hoberlandt 1973 det. as *S. pyri*, P. Kment revid. (NMPC); ditto, 26.vi.-2.vii.1973, 10 ♂♂ 17 ♀♀, Exp. Nat. Mus. Praha lgt., P. Kment det. (NMPC). Tehrān env., Schahabad (= Shāhābād), 30.x.1965, 2 ♂♂ 2 ♀♀, Safavi lgt., L. Hoberlandt 1973 det. as *S. pyri*, P. Kment revid. (NMPC). IRAQ bor.: KURDISTAN, Shaklawa (= Shaqlāwah), without date, 2 ♂♂, V. Kálalová-Di Lotti lgt., L. Hoberlandt 1951 det. as *S. pyri*, P. Kment revid. (NMPC). IRAQ mer. or.: Amara (= Al' Amārah), vi.1956, K. Khalaf coll., P. Kment det. (NMPC). ISRAEL-PALESTINE: Aroob near Hebron, 600 m a.s.l., 22.x.1959, 5 spec., J. Klapperich lgt., L. Hoberlandt 1975 det. as *S. pyri*, P. Kment revid. (NMPC). TURKEY mer. or.: GAZIANTEP province, Anatolia, Gyaur dağları Mts., Tapan (by the road from Osmaniye to İslāhiye), 17.viii.1947, 23 spec., 3 larvae, Exp. N. Mus. ČSR lgt., L. Hoberlandt 1954 det. as *S. pyri*, P. Kment det. (NMPC).

Lis (2002) recognized that the widely distributed *Stephanitis pyri* (Fabricius, 1775) consists of two species and described *S. hoberlandti* Lis, 2002 from Iraq (Shaklawa, Arbil Liwa) and 'Jordan' (Aroob near Hebron in Western Jordan, i.e. in the Palestinian territory occupied by Israel). Subsequently, GOLUB (2002) synonymized *S. hoberlandti* with *S. oschanini*, confirmed the validity of that species and recognized that former records of *S. pyri* from

Transcaucasia and Middle Asia belong to *S. oschanini*. Revision of material housed in NMPC revealed that records of *S. pyri* from Iraq (HOBERLANDT 1953) and Turkey (HOBERLANDT 1956, ŠTUSÁK 1959), including the description of the 5<sup>th</sup> instar larva by ŠTUSÁK (1959), also belong to *S. oschanini*. *Stephanitis oschanini* is currently known from Afghanistan, Armenia, Azerbaijan, Georgia, Iran, Iraq, Israel (Palestine), Kirgizia, Tadjikistan, Turkey (Asian part), Turkmenistan, and Uzbekistan (GOLUB 2002, LIS 2002, this paper; see Fig. 1). New species for Afghanistan and Turkey.

*Stephanitis pyri* (Fabricius, 1775)

**Material examined. BOSNIA HERCEGOVINA.** HERCEGOVINA, Vardište env., Koprinka (= Kotman) village, 31.v.1967, 1 spec., P. Lauterer lgt., J. L. Stehlík 1999 det., P. Kment revid. (MMBC). **BULGARIA** mer. occ.: Gotse Delchev (→ Ognyanovo), Mesta river banks, 500 m a.s.l., 16.viii.1972, 5 spec., P. Lauterer lgt., P. Kment det. (MMBC). Kresna, Gara Kresna Mt. → Khanchie, Struma valley, 200-250 m a.s.l., 19.vii.1987, 23 spec., P. Lauterer lgt., J. L. Stehlík 1999 det., P. Kment revid. (MMBC). Sandanski (→ Lilyanovo), 250-450 m a.s.l., NW slopes, 8.viii.1972, 1 spec., P. Lauterer lgt., P. Kment det. (MMBC); ditto, 250-500 m a.s.l., NW slopes, 4.-6.vi.1976, 1 spec., P. Lauterer lgt., J. L. Stehlík 1999 det., P. Kment revid. (MMBC). **BULGARIA** mer. or.: Primorsko env., mouth of Ropotamo river, Arkutino beach, 1-10 m a.s.l., 12.vii.1973, 1 ♂ 2 ♀♀, P. Lauterer lgt., P. Kment det. (MMBC); ditto, 'Dead coast' by Arkutino, 2-10 m a.s.l., 11.vii.1973, 3 ♂♂, L. Pospíšilová lgt., P. Kment det.

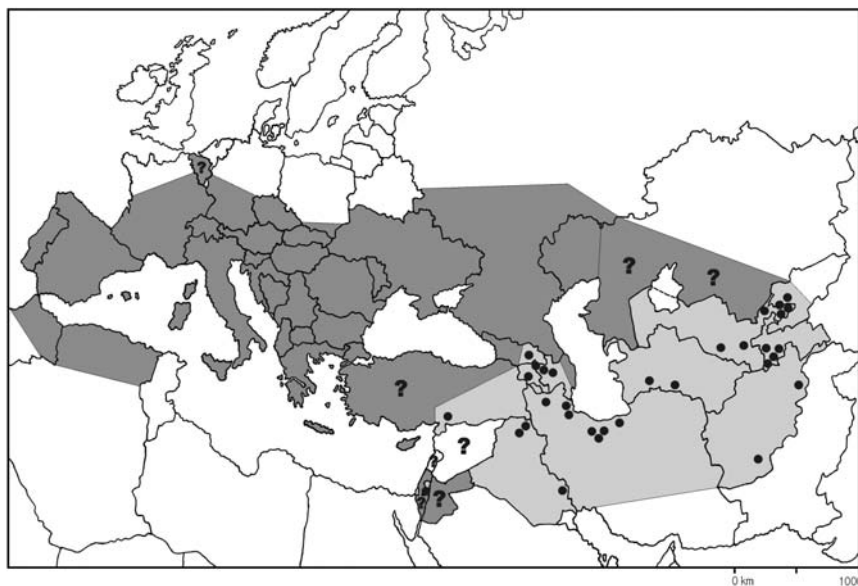


Fig. 1. Distribution of *Stephanitis oschanini* Vasiliev, 1935 (light grey area and black points) and *S. pyri* (Fabricius, 1775) (dark grey area). The regions with unconfirmed occurrence of *S. pyri* are marked by ?.

(MMBC). **CROATIA** bor.: Agram (= Zagreb), without date and collector, 1 ♀, P. Kment det. (NMPC). **CROATIA** or.: Split, Dujmanovača, *Crataegus piracantha*, 17.viii.1947, 1 spec., Novak lgt., E. Wagner det., P. Kment revid. (MMBC). **CYPRUS**: Kykko, 15.-17.vii.1939, 2 spec., H. Lindberg lgt. et det., P. Kment revid. (NMPC). **GREECE** mer.: PELOPONISSOS, Korinthia district, 0-4 km S Xilókastro, (→ Riza), 0-100 m a.s.l., close to a brook, 12.vi.1995, 3 ♂♂ 3 ♀♀, P. Lauterer lgt., P. Kment det. (PKPC). Korinthia district, Drevenakia (9 km N of Mykenai), 200 m a.s.l., pasture and maquis, 6.v.1995, 1 ♂, P. Laueter lgt., P. Kment det. (PKPC). **GREECE** or.: THESSALIA, Magnisía district, Skiathos Island, Troillos → Koukounariés, 2 m a.s.l., 12.ix.1998, 2 spec., P. Lauterer lgt., P. Kment det. (MMBC). **GREECE**: CRETE, Lasithiou plain, Agios Konstandinos, 9.iv.2004, 1 ♀, J. Batelka & H. Batelková lgt., P. Kment det. (PKPC). **HUNGARY**: Boja, 11.viii.1971, 2 ♂♂ 2 ♀♀, Dlabola lgt., J. M. Štusák 1992 det., P. Kment revid. (NMPC). **HUNGARY** centr.: Dabas env., 3 km SW of Örkény, steppe with sandy soil, beaten from flowering *Crataegus* sp., 8.v.1993, 5 ♀♀ 4 spec., J. Růžicka lgt., P. Kment det. (JRPC). **ITALY** bor. or.: FRIULI-VENEZIA GIULIA, Osoppo, 1918, 29 ♂♂ 37 ♀♀, K. Šulc lgt., J. L. Stehlík 1999 det., P. Kment revid. (MMBC). **ITALY** centr.: UMBRIA, Perugia, 1944, 1 ♀ 1 spec., C. Mancini lgt., P. Kment det. (MMBC). **ROMANIA** centr.: Munții Trăscău Mts., Petreștii de Jos, Cheile Turzii defile, sweeping near a brook, 17.vii.2002, 1 ♀, M. Boukal lgt., P. Kment det. (MBPC). **UKRAINE** occ.: ZAKARPATSKA, Užhorod (= Uzhhorod), without date, 1 spec., A. Vávra lgt., P. Kment det. (NMPC). **TURKEY** bor. occ.: EDİRNE province, Havsa env. (18 km S of Havsa), at the road 2 km S of the village Çukurköy (41°28'N 26°49'E), 19.iv.2004, 1 ♂ 1 ♀, P. Kment lgt. et det. (PKPC).

Due to the revalidation of *S. oschanini*, the distribution of the true *S. pyri* remains confused. It has been recorded from Albania, Austria, ?Belgium, Bosnia Hercegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Kazakhstan (European part – Ural'sk), Macedonia, Moldavia, Poland, Portugal, Romania, Russia (Central and South European Territory), Serbia, Slovakia, Slovenia, Spain, Switzerland, Turkey (European part), Ukraine; Algeria, Morocco; Azerbaijan, Georgia, ?Kazakhstan (Asian part), ?Turkey (Asian part), Cyprus, ?Israel, and ?Jordan (PÉRICART & GOLUB 1996, CHUMAKOV et al. 1997, PROTIC 1998, KATBEH et al. 2000, GOLUB 2002, BAUGNÉE et al. 2003, KMENT et al. 2005, this paper; see Fig. 1). GOLUB (2002) confirmed the occurrence of *S. pyri* in Russia, European part of Kazakhstan, Gruzia and Azerbaijan. The records from Asian part of Kazakhstan, Asian part of Turkey, Israel, and Jordan need further confirmation, because the presence of both species in these countries is possible. Published data on the biology of *S. pyri* in Turkey may concern *S. pyri* as well as *S. oschanini* (e.g., ÖNUÇAR & ULU 1989, GÜPLERÇİN & ÖNDER 1999, ÇINAR et al. 2004), BOLU et al. 2005). Confirmed occurrence in Bosnia Hercegovina and the European part of Turkey.

## REDUVIIDAE

### *Coranus (Coranus) aegyptius* (Fabricius, 1775)

**Material examined.** **IRAQ** centr.: Baghdad, without date, 1 ♂ 1 ♀, V. Kálalová lgt., P. Kment det. (NMPC); ditto, 19.ii.1957, 1 ♂, R. I. Borouni lgt., P. Kment det. (NMPC); ditto, 7.v.1957,



1 ♂, J. Kashkool lgt., P. Kment det. (NMPC); Samarra, ii.1956, 1 ♂, A. Kamil lgt., P. Kment det. (NMPC). **SYRIA**: Bahr Ataibe env. (? = Bahrat-el-Atēbe near Dimashk), 7.-10.iv.1952, 1 ♂, Coll. Am. Un. Beirut, K. Christiansen lgt., P. Kment det. (NMPC).

In the past, *Coranus aegyptius* was confused for a long time with the similar *C. griseus* (Rossi, 1790). Both species were separated as distinct taxa by PUTSHKOV (1987). The true *C. aegyptius* is an Eremian species known to occur in northern parts of Africa (Canary Islands, Morocco, Algeria, Tunisia, Libya, Egypt, Cape Verde Islands, ?Mauritania, Senegal, Chad, and Djibouti), Yemen, Saudi Arabia, Iran, Turkmenistan, Uzbekistan, and Afghanistan (PUTSHKOV & PUTSHKOV 1996). New species for Iraq and Syria.

## COREIDAE

### *Gonocerus imitator* Reuter, 1891

**Material examined.** **TURKEY** mer.: İÇEL (= Mersin) province, Erdemli (36°37'N 34°19'E) env., limestone hill above the city on the road to Karakeşti, maquis, sweeping, 27.iv.2004, 1 ♂, I. Malenovský lgt., P. Kment det. (PKPC). **TURKEY** mer. occ.: MUĞLA province, Ölüdeniz near Fethyie, 8.v.1991, 2 ♂♂, Z. Jindra lgt. et det. (ZJPC).

REUTER (1891) described this Holomediterranean species as *G. insidiator* F. var. *imitator* from Nikaria (= Ikaría Island, Greece). PUTON (1895) described a synonym, *G. Carreti* Puton, 1895, from Algeria (Gouraya). It is distributed in Greece (incl. Crete), Italy (Napoli, Sardinia), Portugal, Spain (incl. Mallorca); Algeria, Canary Islands, Libya, Madeira, Morocco, Tunisia; Cyprus and Israel (REUTER 1891; PUTON 1895; VIDAL 1937; MANCINI 1942; LINNAVUORI 1960; SIENKIEWICZ 1964; RIBES 1965; VÁZQUEZ & MONTERRAT 1978; HEISS 1985; VÁZQUEZ 1986, 1987; HEISS & BÁEZ 1992; MOULET 1995; CARAPEZZA 1997, 1998). It lives exclusively on *Pistacia lentiscus* L. (Anacardiaceae) (LINNAVUORI 1960, RIBES 1965, VÁZQUEZ & MONTERRAT 1979, MOULET 1995), which is a typical shrub of Mediterranean maquis. New species for Turkey.

## CYDNIDAE

### *Canthophorus wagneri* Asanova, 1964

**Material examined.** **TURKEY** bor.: KASTAMONU province, Agli, 56 km NNW Kastamonu, 22.vi.1996, 1 ♂, Z. Malinka lgt., P. Kment det. (PKPC). **TURKEY** bor. or.: ARTVIN province, Hopa, 17.v.1997, 2 ♂♂, V. Bryja lgt., P. Kment det. (PKPC).

Species distributed in Armenia, ?Azerbaijan, Georgia, Russia (South European Territory), and Turkmenistan (ASANOVA 1964, LIS 1999). ASANOVA (1964) illustrated the variability of the shape of aedeagal spicula from various parts of its distributional area. According to these illustrations, the genitalia of Turkish specimens are almost identical with her picture of Armenian specimens. Biology of *C. wagneri* is unknown. New species for Turkey.

***Sehirus ovatus* (Herrich-Schäffer, 1839)**

**Material examined.** ARMENIA occ.: Yerevan, 1.-27.vii.1974, 1 ♀, Z. Pádrová lgt., P. Kment det. (PKPC).

Euro-Siberian species recorded from Italy, Austria, Bulgaria, Croatia, Czech Republic, Greece, Hungary, Moldavia, Romania, Slovakia, Russia (Central and South European Territory, West and East Siberia), Ukraine; Armenia, Azerbaijan, Israel, Kazakhstan, Syria, and Turkey (AKRAMOVSKAJA 1959, LIS 1999, PROTIĆ 2001). Previous records from Armenia (AKRAMOVSKAJA 1959) were neglected by LIS (1999). The biology of this species is poorly known; in central Europe it inhabits xerothermic biotopes on various substrates (sands, eruptive rocks, limestones). It lives on plants of the family Boraginaceae (*Echium vulgare* L., *Anchusa officinalis* L.) (STEHLÍK 1983, STEHLÍK & VAVŘÍNOVÁ 1991, KMENT et al. 2003). Confirmed occurrence in Armenia.

PENTATOMIDAE

***Carenoplistus acutus* (Signoret, 1880)**

**Material examined.** IRAN mer. occ.: BOYERAHMAD VE KOHGİLŪYÉ province, Sísakht env., 5-8 km E, 1700-4000 m a.s.l., 11.-16.vii.2003, 1 ♀, I. Jeniš lgt., P. Kment det. (PKPC). **TURKEY** mer. or.: MARDIN province, Hop Geçidi pass, Çınaraltı village (37°23'N 40°51'E), 15 km NE of Mardin, 16.v.2001, 1 ♀, P. Kabátek lgt., Z. Jindra det. (ZJPC). **TURKEY** or.: ADIYAMAN province, Nemrut Dağı Mts., Bitlisi env., 27.vi.1993, 1 ♂, P. Bílek lgt., Z. Jindra det. (ZJPC).

*Carenoplistus acutus* was described as *Oestopis ?acuta* from Persia (= Iran) by SIGNORET (1880). HORVÁTH (1891) recorded it (as *O. acuta*) also from the valley of the Araxes river in the environs of Ordubad, currently in the Republic of Nakhichevan (Azerbaijan) (see also HOBERLANDT 1959). Additional records from Nakhichevan (Ordubad) were given by KIRITSHENKO (1938) and GIDAYATOV (1982). Furthermore, it is known from Armenia (Semenovka – KIRITSHENKO 1918, AKRAMOVSKAJA 1959), Iran (provinces Āzarbāyjan-Ē Gharbī, Āzarbāyjan-Ē Sharghī – KIRITSHENKO (1938); Tehrān – LINDBERG (1938), HOBERLANDT (1959); Sīstān va Balūchestān – HOBERLANDT (1954); Fārs, Kermān, and Khorāsān – HOBERLANDT (1995)), and Pakistan (Baluchistān: Quetta – ABBASI (1986), AHMAD & MEMON (2002)). HOBERLANDT (1995) further listed this species from Afghanistan without any locality, while it was not included in his former comprehensive paper on the pentatomoid fauna of Afghanistan (HOBERLANDT 1984). The biology of this species is virtually unknown. PUTSHKOV (1965) mentioned it as a species characteristic of the zone of upland xerophytes. GIDAYATOV (1982) characterized it as a high mountain element. KIRITSHENKO (1938) reported finding it on a tree stem. New species for Turkey and an additional record from Iran (the first one from Boyerahmad ve Kohgiluyé province).

***Palomena mursili* Linnavuori, 1984**

**Material examined.** IRAN bor.: GĪLĀN province, 40 km E of Rūdbār, 1030 m a.s.l. (36°48'N 49°38'E), 27.-28.vi.2000, 1 ♀, P. Kabátek lgt., Z. Jindra det. (ZJPC). **TURKEY** mer.: İÇEL

(= Mersin) province, Güzeloluk env. (36°48'N 34°06'E), 1200-1400 m a.s.l., 11.-12.iv.1996, 1 ♂ 1 ♀, V. Švihla lgt., Z. Jindra det. (ZJPC).

Described from northern Iraq (Dahuk: Sulaf) (LINNAVUORI 1984, 1993) and southwestern Iran (Lorestān: Bolkha) (LINNAVUORI 1984). LINNAVUORI (1984) reported it from deciduous trees in a dense wood in a valley of a mountain brook. New species for Turkey and an additional record from Iran (the first one from the Gilān province).

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### References

- ABBASI Q. A. 1986: Morpho-taxonomic studies of the family Pentatomidae Leach 1815 (Heteroptera: Pentatomomorpha) of South Asia (Pakistan, Azad Kashmir and Bangladesh) with reference to the phylogeny of the group. *Pakistan Journal of Entomology Karachi* **5**: 105-247.
- AHMAD I. & MEMON N. 2002: A new Halyine species of *Carenoplistus* Jakovlev from Karachi, Sindh (Hemiptera: Pentatomidae: Pentatominae). *Pakistan Journal of Zoology* **34**: 205-207.
- AKRAMOVSKAJA E. G. 1959: Nastoyashchie poluzhestkokrylye (Hemiptera-Heteroptera) Armyanskoy SSR. [True bugs (Hemiptera-Heteroptera) of Armenian Soviet Republic]. *Materialy po Izucheniyu Fauny Armyanskoy SSR* **4**: 79-144 (in Russian, Armenian summary).
- ANDERSEN N. M. 1995: Infraorder Gerromorpha Popov, 1971 – semiaquatic bugs. Pp. 77-114. In: AUKEMA B. & RIEGER Ch. (eds.): *Catalogue of the Heteroptera of the Palaearctic Region. Vol. 1. Enicocephalomorpha, Dipsocoromorpha, Nepomorpha, Gerromorpha and Leptopodomorpha*. The Netherlands Entomological Society, Amsterdam, xxvi + 222 pp.
- ANDERSEN N. M. & WEIR T. A. 2003: The genus *Microvelia* Westwood in Australia (Hemiptera: Heteroptera: Veliidae). *Invertebrate Systematics* **17**: 261-348.
- ASANOVA R. B. 1964: Poluzhestkokrylye roda *Canthophorus* Muls. et Rey (Heteroptera, Cydnidae) v faune SSSR. (Genus *Canthophorus* Muls. et Rey (Heteroptera, Cydnidae) in the fauna of the USSR). *Entomologicheskoe Obozrenie* **43**: 138-144 (in Russian, English title).
- BAENA M. 1996: Notas sobre *Hebrus* Curtis, 1833 Españoles (Heteroptera: Hebridae). *Zapateri* **6**: 123-125.
- BAUGNÉE J.-Y., DETHIER M., BRUERS J., CHÉROT F. & VISKENS G. 2003: Liste des punaises de Belgique (Hemiptera Heteroptera). *Bulletin de la Société Royale Belge d'Entomologie* **139**: 41-60.
- BOLU H., OZGEN İ. & ÇINAR M. 2005: Dominancy of insect families and species recorded in almond orchards of Turkey. *Acta Phytopathologica et Entomologica Hungarica*. **40**: 145-157.
- BROWN E. S. 1953a: Additional records of aquatic Hemiptera from Arabia. *Annals and Magazine of Natural History* **(12)** **6**: 432-433.
- BROWN E. S. 1953b: Notes on aquatic Heteroptera from Syria and Iraq. *Annals and Magazine of Natural History* **(12)** **6**: 579-600.
- CARAPEZZA A. 1997: Heteroptera of Tunisia. *Naturalista Siciliano* **21(Suppl. A)**: 1-312.
- CARAPEZZA A. 1998: New species and new records of Heteroptera from Cyprus (Insecta). *Atti dell'Accademia Roveretana degli Agiati*, Ser. VII **8B**: 29-40.
- CARL M. 1989: Aquatische Insekten aus dem Irak: Ihre Verbreitung und Lebensräume (Ephemeroptera, Odonata, Heteroptera, Coleoptera, Diptera). *Nachrichtenblatt der Bayerischen Entomologen* **38**: 12-20.

- CHUMAKOV L. S., MEDVED' E. L. & GOLUB V. B. 1997: First record of *Agramma ruficornis* (Germ.) from Belarus with notes on erroneous records of some lacebugs from Belarus and Baltia (Heteroptera: Tingidae). *Zoosystematica Rossica* **6**: 94.
- ÇINAR M., ÇİMEN İ. & BOLU H. 2004: Elazığ ve Mardin İlleri kiraz ağaçlarında zararlı olan türler, doğal düşmanları ne önemlileri üzerinde gözlemler. (The cherry pests, their natural enemies and observations on some important species in Elazığ and Mardin provinces of Turkey). *Türkiye Entomoloji Dergisi* **28**: 213-220 (in Turkish, English summary).
- COX P. & COX M. L. 1995: The water bugs of Amirkelayeh and Anzali marshes in Northern Iran. *Entomologist's Monthly Magazine* **131**: 187-198.
- GIDAYATOV D. A. 1982: *Poluzhestkokrylye gruppy Pentatomomorfa Azerbaydzhana*. [True bugs of the group *Pentatomomorpha* of Azerbaijan]. Izdatelstvo Elm, Baku, 159 pp (in Russian).
- GOGALA A. 2003: Heteroptera of Slovenia, I.: Dipsocoromorpha, Nepomorpha, Gerromorpha and Leptopodomorpha. *Annals for Istrian and Mediterranean Studies, Series Historia Naturalis* **13**: 229-240.
- GOLUB V. B. 2002: On the status, synonymy and distribution of *Stephanitis oschanini* Vasiliev with corrected data on the distribution of *S. pyri* (Heteroptera: Tingidae). *Zoosystematica Rossica* **11**: 154.
- GÜLPERÇİN N. & ÖNDER F. 1999: Bornova koşullarında *Stephanitis pyri* (F.) (Heteroptera: Tingidae)'nin biyolojisi ve doğal düşmanları üzerinde çalışmalar. (Some investigations on the biology and natural enemies of *Stephanitis pyri* (F.) (Heteroptera: Tingidae) Bornova (Turkey)). *Türkiye Entomoloji Dergisi* **23**: 51-56.
- HEISS E. 1985: Heteropteren aus Kreta III (Insecta: Heteroptera). *Berichte des Naturwissenschaftlich-Medizinischen Vereins in Innsbruck* **72**: 173-181.
- HEISS E. & BÄEZ M. 1990: A preliminary catalog of the Heteroptera of the Canary Islands. *Vieraea* **18**: 281-315.
- HOBERLANDT L. 1952: Results of the Zoological Scientific Expedition of the National Museum of Prague to Turkey. 2. Hemiptera – Heteroptera 1. The aquatic and semiaquatic Heteroptera of Turkey. *Acta Entomologica Musei Nationalis Pragae* **26(352)**(1948): 1-74 + 9 pls.
- HOBERLANDT L. 1953: Hemipteren-Heteropteren von Shaqlawa in Südkurdistan. *Beiträge zur Entomologie* **3**: 377-384.
- HOBERLANDT L. 1954: Hemiptera – Heteroptera from Iran, I. *Acta Entomologica Musei Nationalis Pragae* **29**: 121-148.
- HOBERLANDT L. 1956: Results of the Zoological Scientific Expedition of the National Museum in Prague to Turkey. 18. Hemiptera IV. Terrestrial Hemiptera-Heteroptera of Turkey. *Acta Entomologica Musei Nationalis Pragae, Supplementum* **3**(1955): 1-264.
- HOBERLANDT L. 1959: Hemiptera-Heteroptera from Iran, II. *Acta Entomologica Musei Nationalis Pragae* **33**: 497-523.
- HOBERLANDT L. 1974: Results of the Czechoslovak-Iranian entomological expedition to Iran 1970. No. 1: Introduction. *Acta Entomologica Musei Nationalis Pragae, Supplementum* **6**: 9-20 + 2 maps + 10 pls.
- HOBERLANDT L. 1984: Heteroptera of Afghanistan. Acanthosomatidae, Cydnidae, Scutelleridae and Pentatomidae. *Acta Faunistica Entomologica Musei Nationalis Pragae* **17**: 69-128.
- HOBERLANDT L. 1995: Results of the Czechoslovak-Iranian entomological expeditions to Iran 1970, 1973 and 1977. Heteroptera: Acanthosomatidae, Cydnidae, Scutelleridae, Pentatomidae. *Acta Entomologica Musei Nationalis Pragae* **44**: 181-128.
- HOBERLANDT L. & TÁBORSKÝ K. 1948: Výsledky zoologické expedice Národního musea v Praze do Turecka. 1. Úvod. (Results of the zoological scientific expedition of the National Museum in Praha to Turkey. 1. Introduction). *Acta Entomologica Musei Nationalis Pragae* **26(346)**: 1-10 + 8 pls (in Czech and English).
- HORVÁTH G. 1891: Hémiptères recueillis dans l'Arménie Russe avec la description d'espèces et variétés nouvelles. *Revue d'Entomologie* **10**: 68-81.
- KANYUKOVA E. V. 1997: Hebridae of Russia and adjacent countries (Heteroptera). *Zoosystematica Rossica* **6**: 223-236.
- KATBEH A., CARAPEZZA A. & AKKAWI M. 2000: Heteroptera of Jordan: Specimens preserved in the University of Jordan Insects Museum (Insecta). *Atti dell'Accademia Roveretana degli Agiati, Ser. VII* **10B**: 111-137.
- KIRITSHENKO A. N. 1918: Poluzhestkokrylye (Hemiptera-Heteroptera) Kavkazskogo kraya. (Hemiptera Heteroptera faunae Caucasiae). *Zapisky Kavkazskogo Muzeya, Seria A (= Mémoires du Musée du Caucase (A))* **6**: i-iv + 1-177 pp (in Russian, Latin title).

- KIRITSHENKO A. N. 1938: Nastoyashchie poluzhestkokrylye nasekomye (Hemiptera) Nakhichevanskoj ASSR. (Die echten Halbflügler (Hemiptera) der Nachitschewan ASSR). *Trudy Zoologicheskogo Instituta, Azerbaidzhanskii Filial Akademii Nauk SSSR* **viii/42**: 75-121 (in Russian, German summary and Latin descriptions).
- KIRITSHENKO A. N. 1964: *Poluzhestkokrylye (Hemiptera-Heteroptera) Tadzhikistana*. [Bugs (Hemiptera-Heteroptera) of Tadzhikistan]. Izdatel'stvo Akademii Nauk Tadzhikskoy SSR, Dushanbe, 259 pp (in Russian).
- KIYAK S. & ÖZSARAC Ö. 2001: Checklist of aquatic and semiaquatic Heteroptera of Turkey, with a new record. *Journal of the Entomological Research Society* **3**: 17-32.
- KMENT P., BRYJA J., HRADIL K. & JINDRA Z. 2005: New and interesting records of true bugs (Heteroptera) from the Czech Republic and Slovakia III. *Klapalekiana* **41**: 157-213.
- KMENT P., BRYJA J., JINDRA Z., HRADIL K. & BAŇAŘ P. 2003: New and interesting records of true bugs (Heteroptera) from the Czech Republic and Slovakia II. *Klapalekiana* **39**: 257-306.
- LINDBERG H. 1938: Einige Heteropterenfunde aus Nord-Persien. Beschreibung einer neuen Art, Eurydema persicum. *Notulae Entomologicae* **18**: 88-91.
- LINNAVUORI R. E. 1953: A Palaearctic Heteropterous material collected by J. Sahlberg und U. Saalas. *Annales Entomologici Fennici* **19**: 147-167.
- LINNAVUORI R. E. 1960: Hemiptera of Israel I. *Annales Zoologici Societatis Zoologicae Botanicae Fennicae „Vanamo“* **22(1)**: 1-108.
- LINNAVUORI R. E. 1971: Hemiptera of the Sudan, with remarks on some species of the adjacent countries. I. The aquatic and semiaquatic families. *Annales Zoologici Fennici* **8**: 340-366.
- LINNAVUORI R. E. 1984: New species of Hemiptera Heteroptera from Iraq and the adjacent countries. *Acta Entomologica Fennica* **44**: 1-59.
- LINNAVUORI R. E. 1986: Heteroptera of Saudi Arabia. *Fauna of Saudi Arabia* **8**: 31-97.
- LINNAVUORI R. E. 1993: Hemiptera of Iraq. II. Cydnidae, Thaumastellidae, Pentatomidae, Stenocephalidae, Coreidae, Alydidae, Rhopalidae, and Pyrrhocoridae. *Entomologica Fennica* **4**: 37-56.
- LINNAVUORI R. E. 1994: Hemiptera of Iraq. IV. Heteroptera, the aquatic and subaquatic families, Saldidae and Leptopodidae. *Entomologica Fennica* **5**: 87-95.
- LINNAVUORI R. E. & HOSSEINI R. 2000: *Heteroptera of Guilan with remarks on species of the adjacent areas. Part I. Nepomorpha, Gerromorpha, Leptopodomorpha, Cimicomorpha: Nabidae, Anthocoridae, Cimicidae, Microphysidae*. Guilan University Press, Rasht, 94 pp.
- LINNAVUORI R. E. & MODARRES M. 1998: Studies on the Heteroptera of the Khorasan province in N. E. Iran. I. Nepomorpha, Gerromorpha, Leptopodomorpha, Cimicomorpha (Nabidae, Anthocoridae), and Pentatomomorpha (Coreoidea). *Entomologica Fennica* **9**: 237-241.
- LIS B. 2002: Stephanitis hoberlandti – a new west Palaearctic lace-bugs species (Hemiptera: Heteroptera: Tingidae). *Genus* **13**: 165-169.
- LIS J. A. 1999: Burrower bugs of the Old World – a catalogue (Hemiptera: Heteroptera: Cydnidae). *Genus* **10**: 165-249.
- MANCINI C. 1942: Contributo alla conoscenza degli Emitteri dell Barca (Cirenaica). *Bollettino della Società Entomologica Italiana* **74**: 86-96.
- MILLÁN A., VELASCO J. & NIESER N. 1989: Sobre la presencia de Microvelia reticulata (Burmeister, 1835), (Het. Gerromorpha) en la P. Ibérica. *Boletín de la Asociación Española de Entomología* **13**: 455.
- MOULET P. 1995: *Faune de France et régions limitrophes. Vol. 81. Hémiptères Coreoidea (Coreidae, Rhopalidae, Alydidae), Pyrrhocoridae, Stenocephalidae Euro-Méditerranéens*. Fédération Française des Sociétés de Sciences Naturelles, Paris, 336 pp.
- NIESER N. 1995: Gerromorpha from Israel (Heteroptera semiaquatica). Pp. 153-155. In: NITZU E. (ed.): *Soil fauna of Israel I*. Editura Academiei Române, București, 155 pp.
- NIESER N. & MOUBAYED Z. 1985: Les Hétéroptères aquatiques du Liban. I. Inventaire faunistique. *Annales de Limnologie* **21**: 247-252.
- ÖNUÇAR A. & ULU O. 1989: İzmir ili çevresindeki kestane yetiştirme alanlarında fauna tespiti ve meyvelerde kurtlanmaya neden olan zararlılar ile savaşım olanakları üzerinde araştırılmalı. (Faunistic survey studies in chestnut plantations and establishment of control measures against the infectious pest in nuts in İzmir). *Doga Turk Tarım ve Ormancılık Dergisi (= Turkish Journal of Agriculture and Forestry)* **13(3a)**: 637-643 (in Turkish, English summary).

- ÖZEMŞİ U. & ÖNDER F. 1988: Sultan Sazlığı (Kayseri) nin sucul Heteroptera ve Coleoptera türleri üzerinde faunistik bir çalışma. (Faunistic studies on the aquatic Heteropterous and Coleopterous insects of Sultan Sazlığı (Kayseri/Turkey)). *IX. Ulusal Biyoloji Kongresi, 21-23 Eylül, Cilt 2 - Sivas*, 177-186 pp (in Turkish, English summary).
- PÉRICART J. & GOLUB V. B. 1996: Tingidae Laporte, 1832 – lacebugs. Pp. 3-77. In: AUKEMA B. & RIEGER Ch. (eds.): *Catalogue of the Heteroptera of the Palaearctic Region. Vol. 2. Cimicomorpha I*. The Netherlands Entomological Society, Amsterdam, xiv + 361 pp.
- PROTIĆ Lj. 1998: Catalogue of the Heteroptera fauna of Yugoslav countries. Part one. *Prirodnjački Muzej u Beogradu, Posebna Izdanja* **38**: 1-215.
- PROTIĆ Lj. 2001: Catalogue of the Heteroptera fauna of Yugoslav countries. Part two. *Prirodnjački Muzej u Beogradu, Posebna Izdanja* **39**: 1-271.
- PUTON A. 1895: Hémiptères nouveaux. *Revue d'Entomologie* **14**: 83-91.
- PUTSHKOV P. V. 1987: O statuse nekotorych khishchnetsov (Heteroptera, Reduviidae) Palearkticheskoy fauny. (On the status of some Palaearctic assassin-bugs (Heteroptera, Reduviidae)). *Vestnik Zoologii* **1987(5)**: 3-9 (in Russian, English summary).
- PUTSHKOV P. V. & PUTSHKOV V. G. 1996: Family Reduviidae Latreille, 1807 – assassin-bugs. Pp. 148-265. In: AUKEMA B. & RIEGER CH. (eds.): *Catalogue of the Heteroptera of the Palaearctic Region. Volume 2. Cimicomorpha I*. The Netherlands Entomological Society, Amsterdam, xiv + 361 pp.
- PUTSHKOV V. G. 1965: *Shchitniki Sredney Azii (Hemiptera, Pentatomoidea)*. [Shield bugs of Central Asia (Hemiptera, Pentatomoidea)]. Ilim, Frunze, 329 pp (in Russian).
- REUTER O. M. 1891: Griechische Heteroptera gesammelt von E. v. Oertzen und J. Emge. *Berliner Entomologische Zeitschrift* **36**: 17-34.
- RIBES J. 1965: Hémipteros de Mallorca. *Publicaciones del Instituto de Biología Aplicada* (Barcelona) **39**: 71-95.
- SAFAVI M. 1984: (Contribution a la connaissance des Hémiptères-Hétéroptères de l'Iran). *Journal of Entomological Society of Iran* **7**: 41-44 (Persian numbers), separate summary on p. 9 (European numbers) (in Persian, French summary).
- SIENKIEWICZ I. 1964: *The catalogue of the "A. L. Montandon collection" of Palaearctic Heteroptera preserved in the "Grigore Antipa" Museum of Natural History, Bucharest*. Bucharest, 145 pp.
- SIGNORET V. 1880: De quelques genres nouveaux et espèces nouvelles de l'ordre des Hemiptères faisant partie de la collection du Musée Civique de Gênes. *Annali del Museo Civico di Storia Naturale di Genova* **15**: 531-545.
- STEHLÍK J. L. 1983: Results of the investigations on Hemiptera in Moravia made by the Moravian Museum (Pentatomoidea II.). *Acta Musei Moraviae, Scientiae Naturales* **68**: 153-172.
- STEHLÍK J. L. & VAVŘÍNOVÁ I. 1993: Results of the investigations on Heteroptera in Slovakia made by the Moravian Museum (Introduction, Pentatomoidea I). *Acta Musei Moraviae, Scientiae Naturales* **76**: 185-223.
- STICHEL W. 1955: *Illustrierte Bestimmungstabellen der Wanzen. II. Europa (Hemiptera-Heteroptera Europae)*. Vol. 1. W. Stichel, Berlin – Hermsdorf, 168 pp.
- STRPIĆ V. 1997: Four species of semiaquatic bugs (Heteroptera, Gerromorpha) new for Croatian fauna. *Natura Croatica* **6**: 451-455.
- ŠTUSÁK J. M. 1959: Contribution to the knowledge of new or little known last nymphal instars of some Tingid-bugs (Hemiptera-Heteroptera, Tingidae). *Acta Entomologica Musei Nationalis Pragae* **33**: 363-376.
- VÁZQUEZ M. A. 1986: El genero *Gonocerus* Berthold 1827 nuevo para las Islas Canarias (Heteroptera, Coreidae). *Vieraea* **16**: 39-46.
- VÁZQUEZ M. A. 1987: Inventario de los Coreoidea Reuter, 1910 de la región paleártica occidental (Hemiptera, Heteroptera). *Boletín de la Real Sociedad Española de Historia Natural, Sección Biología* **83**: 229-247.
- VÁZQUEZ M. A. & MONTSERRAT V. J. 1978: Una especie de Coreidae nueva para la Peninsula Iberica (Hemiptera, Heteroptera). *Miscelanea Zoologica* **4**: 47-49.
- VIDAL J. P. 1937: Contribution à l'étude des Hémiptères-Hétéroptères du Maroc. *Bulletin de la Société d'Histoire Naturelle de l'Afrique du Nord* **28**: 185-208 + 2 pls.