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Revision of the Palearctic species of the genus *Ochthebius* VII. The *foveolatus* group (Coleoptera: Hydraenidae)

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Abstract

Forty species and 2 subspecies are treated. Lectotypes are designated for *Ochthebius atriceps* FAIRMAIRE, *elisae* SAHLBERG, *fausti* SHARP, *foveolatus* GERMAR, *gauthieri* PEYERIMHOFF, *marginalis* REY, *pallidulus* KUWERT, *pedicularius* KUWERT and *siculus* KUWERT. Neotypes are designated for *brunneus* DALLA TORRE and *niger* DALLA TORRE. New synonymies: *atriceps* (= *maghrebinicus* FERRO syn.n.), *fausti* (= *lioba* HEBAUER syn.n., *olympicus* JANSSENS syn.n.), *marginalis* (= *regili* VALLADARES syn.n.), *sculpturatus* SAHLBERG (= *aliabadensis* FERRO syn.n.), *sidanus* ORCHYMONT (= *persidanus* IENISTEA syn.n., *socius* BALFOUR-BROWNE syn.n.), *tacapasensis* FERRO (= *paganettii* JÄCH syn.n.) and *metallescens* ROSENHAUER (= *niger* DALLA TORRE syn.n.). *Ochthebius baeticus* FERRO is regarded as a subspecies of *tacapasensis*. Nine new species and one new subspecies are described: *afghanicus* sp.n. (Afghanistan), *depressionis* sp.n. (Soviet Union), *falcatus* sp.n. (Iran), *inconspicuus* sp.n. (Turkey), *lacustatta* sp.n. (Turkey), *mutatus* sp.n. (Lebanon), *praetermissus* sp.n. (North Africa), *recurvatus* sp.n. (Tunisia), *speculator* sp.n. (Turkey) and *pedicularius medius* ssp.n. (Kazakhstan). The aedeagi of all species, except *octofoveatus* PU, are illustrated. Distribution maps of all species, except *hesperides* BALFOUR-BROWNE (Cape Verde Islands) are provided.

In 1942 Armand d'ORCHYMONT published a short revision of the *Ochthebius foveolatus* species group ("le complexe *Ochthebius foveolatus*"), without defining the group itself.

Phylogenetically the *foveolatus* groups stands somewhere between the *metallescens* group and the *notabilis* group, also the *marinus* group shows certain affinities (*pusillus* STEPHENS - metasternum glabrous; this species probably has to be removed from the *marinus* group).

As several important morphological characters (e.g. details of aedeagus, characters of pronotum, labrum and elytra, ...) are very clinal in the genus *Ochthebius* it is usually very difficult to decide, whether two species are phylogenetically united by the same apotypic character or if they are at the end of two different clines. Thus the phylogenetic grouping presented here must be thought as a working unit and not as a phylogenetic survey. As the larvae of most species are still unknown today, any phylogenetic survey will remain tentative.

DIAGNOSIS: The *foveolatus* group differs from the *metallescens* group mainly by the colouration of pronotum and elytra (yellow to coppery brown) and by the middle of the metasternum being always glabrous. A general distinction between the *foveolatus* group (*atriceps* subgroup) and the *notabilis* group is not very easy, as the latter seems to be very diverse. Further studies are required to define the *notabilis* group.

Phallobasis always asymmetrical; distal lobe very diverse, flat or globular, rarely cylindrical (*sculpturatus*); parameres more or less symmetrical, right one usually slightly longer.

SUBGROUPS: Two subgroups can be distinguished. **A)** *foveolatus* subgroup (23 spp.): 1, 2, 5, 9, 13, 15, 17-19, 22-29, 32, 34-36, 39, 40 (numbers refer to numbers in the list below). **B)** *atriceps* subgroup (17 spp.): 3, 4, 6-8, 10-12, 14, 16, 20, 21, 30, 31, 33, 37, 38. The *atriceps* subgroup is characterized by the shape of the pronotum (front angles usually produced (except in *falcatus*) sides of lateral depression more or less straight) and by the parameres being apically widened. With the exception of *innexus*, the sides of the pronotal lateral depressions are gently

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rounded in members of the *foveolatus* subgroup; front angles are more or less rectangular, not produced and the parameres are not enlarged apically.

SEXUAL DIMORPHISM: Front margin of labrum of ♂ occasionally more distinctly upturned in certain species. Explanate margin of elytra usually wider in ♀♀. Elytral apices of ♀♀ more (*atriceps* subgroup) or less acuminate. Last tergite of female without the long blunt spines present in other species groups.

GEOGRAPHY: Members of the *foveolatus* group are found throughout the Palearctic region. One species is known from the Cape Verde Islands.

BIOLOGY: Members of the *foveolatus* subgroup (and *Ochthebius fausti* SAHLBERG) are mainly found along the shores of larger rivers (in gravel banks and pools). Members of the *atriceps* subgroup are - with the exception of *fausti* - inhabitants of saline stagnant water.

AKNOWLEDGEMENT AND ABBREVIATIONS: The material used for this study was borrowed from the following institutions and private collections (abbreviations are used to refer to collections in the text):

BML British Museum (Natural History), London (R.Aldridge)
CAL Coll.Balfour-Browne, Coll.Angus, London
CBG Coll.Bellstedt, Gotha
CBHB Coll.Balke & Hendrich, Berlin
CFA Coll.Foster, Ayr
CFL Coll.Ferro, Lancenigo
CHD Coll.Hebauer, Deggendorf
CKH Coll.Kahlen, Hall in Tirol
CPL Coll.Pretner, Ljubljana (B.Drovenik)
FMC Field Museum of Natural History, Chicago (H.Nelson)
HUB Museum der Alexander Humboldt Universität, Berlin (F.Hieke)
ISNB Institut National des Sciences Naturelles, Bruxelles (L.Baert)
IZI Institut für Zoologie der Universität Innsbruck (W.Schedl)
MFT Museum Frey, Tutzing (H.Wesiak)
MGL Musée Guimet d'Histoire Naturelle, Lyon (J.Clary)
MHNG Muséum d'Histoire Naturelle, Genève (I.Löbl)
MHNP Muséum d'Histoire Naturelle, Paris (Y.Cambefort)
MMB Musée Municipal de Brou, Bourg-en-Bresse (F.Poiret)
MTD Museum für Tierkunde, Dresden (R.Krause)
NMB Naturhistorisches Museum, Basel (M.Brancucci)
NMP Národni Nuseum v. Praze (J.Jelinek)
NMW Naturhistorisches Museum, Wien
OLL Oberösterreichisches Landesmuseum, Linz (F.Gusenleitner)
TAU Tel Aviv University (A.Freidberg)
TMB Természettudományi Múzeum, Budapest (O.Merkl, G.Szél)
WUN Women's University, Nagoya (M.Satô)
ZIL Zoological Institute (Academy of Sciences), Leningrad (A.Kirejtshuk)
ZMH Universitetets Zoologiska Museum, Helsingfors (H.Silfverberg)

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Thirty-one species have been described previously. Nine new species and one new subspecies are described herein.

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1. *O.afghanicus* **sp.n.**
2. *O.alpheius* JANSSENS
3. *O.anxifer* BALFOUR-BROWNE
4. *O.atriceps* FAIRMAIRE
   = *clathratus* GUILLEBEAU
   = *maghrebinicus* FERRO **syn.nov.**
   = *parvulus* REY
5. *O.balcanicus* IENISTEA
6. *O.cameroni* BALFOUR-BROWNE
7. *O.dentifer* REY
8. *O.depressionis* **sp.n.**
9. *O.elisae* SAHLBERG
10. *O.falcatus* **sp.n.**
11. *O.fausti* SHARP
    = *lioba* HEBAUER **syn.nov.**
    = *olympicus* JANSSENS **syn.nov.**
12. *O.faustinus* ORCHYMONT
13. *O.foveolatus* GERMAR
    = *brunneus* DALLA TORRE
14. *O.gauthieri* PEYERIMHOFF
15. *O.hellenicus* IENISTEA
16. *O.hesperides* BALFOUR-BROWNE
17. *O.inconspicuus* **sp.n.**
18. *O.indicus* IENISTEA
19. *O.innexus* BALFOUR-BROWNE
20. *O.karasui* FERRO
21. *O.lacustatta* **sp.n.**
22. *O.marginalis* REY
    = *regili* VALLADARES **syn.nov.**
23. *O.mediterraneus* IENISTEA
24. *O.merinidicus* FERRO
25. *O.mutatus* **sp.n.**
26. *O.octofoveatus* PU
27. *O.pallidulus* KUWERT
28. *O.pedicularius pedicularius* KUWERT
    O.pedicularius medius **ssp.n.**
29. *O.perpusillus* FERRO
30. *O.praetermissus* **sp.n.**
31. *O.recurvatus* **sp.n.**
32. *O.satoi* NAKANE
33. *O.sculpturatus* SAHLBERG
    = *aliabadensis* FERRO **syn.nov.**
34. *O.siculus* KUWERT
35. *O.sidanus* ORCHYMONT
    = *persidanus* IENISTEA **syn.nov.**
    = *socius* BALFOUR-BROWNE **syn.nov.**
36. *O.speculator* **n.sp.**
37. *O.tacapasensis* FERRO
    = *paganettii* JÄCH **syn.nov.**
    O.tacapasensis baeticus FERRO **stat.nov.**
38. *O.thermalis* JANSSENS
39. *O.uskubensis* HEBAUER
40. *O.virgula* FERRO

Ochthebius afghanicus sp.n.

TYPE LOCALITY: Ejan, 2050 m, Salang Valley, Hindukush, eastern Afghanistan.

TYPE MATERIAL: Holotype ♂: "O.Afghan. 1952 J.Klapperich / Hindukusch, Salangtal / Ejan 1050 m, 11.X. / R.I.Sc.N.B. 1.G.:22.647 (ISNB). Paratypes: ca. 100 exs. with similar labels in the ISNB, NMW, TMB, BML, HUB, ZMH, MHNG, DEI.

DIAGNOSIS: 1.65 - 1.95 mm long. Head and pronotum dark brown to black, with distinct coppery or metallic reflections, elytra, legs and palpi brown. Labrum deeply emarginate, not chagreened, front margin slightly elevated; clypeus distinctly microreticulate. Interfoveal areas of pronotal disc usually distinctly chagreened; anterior foveae small and round, miroreticulate, posterior foveae larger, oval, microreticulate; median groove not reaching anterior and posterior margins, constricted (rarely obsolete) between posterior foveae; lateral depression convex, finely punctate and reticulate, sides rounded; hyaline border well developed; anterior margin of pronotum only very slightly sinuous, without any prominent projections. Elytra with 5 rows of punctures between suture and shoulder, intervals flat, each puncture with a moderately long whitish seta; sides convex; explanate margin narrow in male, wider in female; anterior half of epipleura densely pubescent. Median glabrous area of metasternum large. Basal five sterna of abdomen with hydrofuge pubescence, apical two segments smooth.

Ochthebius indicus usually differs by the less distinctly chagreened head and pronotum and by the slightly wider, more evenly convex pronotum. But due to the variability of both species, no significant distinguishing feature could be found. Labrum of indicus slightly shorter.

Aedeagus (fig. 19): clearly distinct from any other species; main piece angular, distorted; distal lobe large, with two parallel branches.

DISTRIBUTION (fig. 44): Known only from the type locality.

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Ochthebius alpheius JANNSENS

Ochthebius alpheius JANNSENS 1959: 25. - IENISTEA 1978.

TYPE LOCALITY: Alfios river at Olympia, Peloponnesos, southern Greece.

TYPE MATERIAL: I did not see any of the 25 syntypes, which are probably deposited in the ISNB.

DIAGNOSIS: 1.8 mm long. Externally this species is not significantly different from *foveolatus* or *balcanicus*. Aedeagus (fig. 6): distal lobe very characteristic.

DISTRIBUTION (fig. 42): Greece.

MATERIAL EXAMINED:
G R E E C E: Pindos, Vrosina, 1.XI.1979, leg.Ferro (NMW).

Ochthebius anxifer BALFOUR-BROWNE

Ochthebius anxifer J.BALFOUR-BROWNE 1978: 71. - FERRO 1983. - IENISTEA 1988.

TYPE LOCALITY: Rio Guadalporcun, 1 km s Coripe, 200 m, Algodonales - Moron, Sevilla, Spain.

TYPE MATERIAL: The holotype ♂ is deposited in the BML. I have examined 4 of the 33 paratypes, which are deposited in the BML, CAL and NMW.

DIAGNOSIS: 1.3 - 1.6 mm long. Very similar to *atriceps*, *dentifer*, *tacapasensis*, *thermalis*, *recurvatus*, *praetermissus* - sides of pronotal depression not rounded, pronotal front angles produced, posterior foveae of pronotum connected by a shallow transverse groove, elytra of female acuminate, elytral margin of female wider than in male. I was not able to find significant characters to separate these 7 species externally. The size of the labral emargination is variable in all of the mentioned species. Pronotal chagrination usually more clearly pronounced in *thermalis*. Aedeagus (fig. 25): Main piece moderately long, dorsal and left margin distinctly convex in apical half; distal lobe almost straight, ventral margin convex.

DISTRIBUTION (fig. 43): Spain (Sevilla, Jaen, Granada), Morocco.

ADDITIONAL MATERIAL EXAMINED:
M O R O C C O: Marrakesh, coll.Thery (NMW, ISNB); Mogador, leg.Alluaud (ISNB); Fez, coll.Thery (ISNB); Casablanca, leg.Reitter (TMB).

Ochthebius atriceps FAIRMAIRE

Ochthebius atriceps FAIRMAIRE 1879: 180. - KNISCH 1924. - ORCHYMONT 1925, 1935, 1942. - NORMAND 1933. - CHIESA 1959. - JANNSENS 1960, 1965. - IENISTEA 1978. - PIRISINU 1981. - FERRO 1984b. - HEBAUER 1986.
Ochthebius parvulus REY 1884: 269 (= primary homonym of *parvulus* SHARP 1882). - KNISCH 1924. - NORMAND 1933. - ORCHYMONT 1942. - IENISTEA 1988.
Ochthebius clathratus GUILLEBEAU 1896: 239. - KNISCH 1924. - ORCHYMONT 1935.
Ochthebius maghrebinicus FERRO 1979: 19 (= syn.nov.). - HEBAUER 1986.

TYPE LOCALITY: Kasr El Boukhari ["Boghari"], northern Algeria.

TYPE MATERIAL: Lectotype ♂ (by pres.des.) of *Ochthebius atriceps*: "Boghari Raffray / Museum Paris Collection Léon Fairmaire 1906 / O.atriceps type Frm.", MHNP. Seventeen paralectotypes with similar labels in MHNP, NMW. Number of syntypes unknown.

SYNONYMS: I could not find the holotype of *O.clathratus* or any of the types of *O.parvulus* REY (not SHARP) - both described from Biskra (Algeria) - in the MHNP, MMB or MGL, but there is little doubt that both are synonyms of *atriceps*. Two specimens of *atriceps* (mounted on one pin), which I found in the Peyerimhoff collection carry 3 interesting labels, which support this supposition: "parvulus Biskra [+ illegible words] / identique aux types d'atriceps Fairm! / identiques au type unique de clathratus Guilleb. (coll.Bonn.)".

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I have examined the male paratype of *maghrebinicus* (type locality: Mateur, Tunisia), deposited in the TMB.

DIAGNOSIS: 1.5 - 1.7 mm long. Very similar to *anxifer*, *dentifer*, *tacapasensis*, *thermalis*, *recurvatus*, *praetermissus* - sides of pronotal depression not rounded, pronotal front angles produced, posterior foveae of pronotum connected by a shallow transverse groove, elytra of female acuminate, elytral margin of female wider than in male. I was not able to find significant characters to separate these 7 species externally. The size of the labral emargination is variable in all species. Pronotal chagrination usually more clearly pronounced in *thermalis*. Aedeagus (fig. 24): main piece long, distinctly curved (ventral aspect); distal lobe not curved.

DISTRIBUTION (fig. 43): Maghrebinian.

ADDITIONAL MATERIAL EXAMINED:

T U N I S I A: Le Kef, leg.Normand (MFT, FMC); Mateur, leg.Sahlberg (ZMH).

A L G E R I A: Alger, Oued Mazafran, coll.Peyerimhoff (MHNP); Mt.Ouarsensis, leg.De Vauloger (MHNP); Oran, Ammi Moussa, leg.De Vauloger (MHNP); O.Kebir, Mouzaïa, 7.VI.1933, coll.Peyerimhoff (MHNP); Biskra, leg.De Vauloger (MHNP); Biskra, 1909 (MHNP); Biskra (TMB); Constantine, leg.Sahlberg (ZMH); Mt.Gaddar, leg.Sahlberg (ZMH).

Ochthebius balcanicus IENISTEA

Ochthebius balcanicus IENISTEA 1988: 222. - JÄCH 1989.

TYPE LOCALITY: Shkumbin ["Skumbi"] river near "Kjuks", Albania.

TYPE MATERIAL: The holotype ♂ and several paratypes should be deposited in the ISNB. I have examined 8 "topotypes" (ISNB).

DIAGNOSIS: 1.6 - 1.8 mm. Very variable. Pronotal disc distinctly chagreened or smooth (even in the same population). Explanate margin of elytra of female wider than in male. I could not find reliable distinguishing characters to separate *O.balcanicus* from other related species (eg. *mediterraneus*, *hellenicus*....). Lateral depressions of pronotum of *sidanus* and *pedicularius* usually shorter, sides of pronotum more abruptly constricted. Aedeagus (fig. 16): Right branch of distal lobe small; left branch long, its ventral margin strongly sinuous.

DISTRIBUTION (fig. 41): Albania to eastern Turkey.

MATERIAL EXAMINED:

A L B A N I A: "Skutari" [Shkoder], Kiri (ISNB).

G R E E C E: Ioannina, Konitsa, 12.VI.1977, leg.Wewalka (NMW); Morea, Myloi, 23.V.1930, leg.Orchymont (ISNB, NMW); Morea, H.Vlasios, 30.IV.1930, leg.Orchymont (ISNB); Tieai, s Patras, 28.IV.1930, leg.Orchymont (ISNB); Parnass, Gravia, 350 m, 12.V.1957, leg.Janssens (ISNB); Euboea, Psakhna, 31.V.1930, leg.Orchymont (ISNB).

T U R K E Y: BURSA: Ulu Dag, 31.VII.1988, leg.Jäch (NMW); BOLU: Mudurnu, 20.V.1987, leg.Jäch (NMW); ORDU: Melet river, 28.V.1989, leg.Jäch (NMW); BITLIS: Hizan, 8.VI.1967, leg.Jäch (NMW); VAN: Güzeldere pass, 5.VI.1987, leg.Jäch (NMW); HAKKARI: Yüksekova, 3.VI.1987, leg.Jäch (NMW).

Ochthebius cameroni BALFOUR-BROWNE

Ochthebius cameroni J.BALFOUR-BROWNE 1951: 199.

TYPE LOCALITY: Strongly brackish quarry pool on Karaman Island, Yemen.

TYPE MATERIAL: The holotype ♂ and 27 paratypes are deposited in the BML. I have examined the holotype.

DIAGNOSIS: The holotype is 1.5 mm long. Very similar to *thermalis*. Differs from Saudi Arabian specimens of *thermalis* mainly by the smaller posterior pronotal foveae, which are not connected by a shallow groove. Aedeagus (fig. 30): Main piece not very long, slender; distal lobe short, distinctly curved.

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Differs from *inexus* immediately by the paler elytra and by the distinctly sinuous pronotal front margin.

DISTRIBUTION (fig. 44): Known only from the type locality.

Ochthebius dentifer REY

Ochthebius dentifer REY 1885: 25. - KNISCH 1924. - HORION 1949. - CHIESA 1959. - IENISTEA 1968, 1978, 1988. - PIRISINU 1981. - JÄCH & FERRO 1988.

TYPE LOCALITY: Provence, southeastern France.

TYPE MATERIAL: Lectotype ♂ (des. by JÄCH 1988) in MGL.

DIAGNOSIS: 1.6 - 1.8 mm long. Usually darker than *atriceps*, *anxifer*, *praetermissus*, *thermalis*, *recurvatus* and African *tacapasensis*, but otherwise very similar. Aedeagus (fig. 27): Main piece long and slender, evenly curved; distal lobe short, wide and evenly curved.

DISTRIBUTION (fig. 43): Southeastern France, Sardinia.

ADDITIONAL MATERIAL EXAMINED:

F R A N C E: ALPES-MARITIMES: Nice, 26.II.1920, leg. Ochs (CPL); GARD: Aigues-Mortes, leg.St.Cl.Deville (NMW); BOUCHES DU RHONE: Marignane; Marseille, leg.Guillebeau (NMW); Vaccarès, 19.IV.1964, leg.Steffen (MHNG); St.Maries de la Mer, leg.Chobaut (ISNB), Camargue, leg.Chobaut (CPL); Camargue, Phare de l'Espiguette, 22.IV.1981, leg.Pankow (NMW, CHD); VAR: Hyères, St.Raphael.

I T A L Y: SARDINIA: Terra Nova, leg.Paganetti (NMW, CPL).

Ochthebius depressionis sp.n.

TYPE LOCALITY: Lake Elton, east of Volgograd, Russia, Soviet Union.

TYPE MATERIAL: Holotype ♂ (NMW): "Elton See". One male paratype with identical label data (NMW).

DIAGNOSIS: 1.5 - 1.6 mm long. Head dark brown to black, with metallic reflections; pronotum brown with metallic reflections, margins paler, yellowish; elytra yellow to brown; legs and palpi yellow to brown. Head smooth, only very superficially chagreened; labrum distinctly, but not very deeply emarginate. Interfoveal areas of pronotal disc only very finely punctate and glabrous; chagrination confined to impressions; anterior foveae small and round, posterior foveae larger, oval; median groove well developed, not reaching anterior and posterior margins; lateral depression finely reticulate, sides more or less parallel-sided; front margin slightly excised behind eyes, thus front angles of pronotum produced; hyaline border well developed. Elytra with 5 rows of punctures between suture and shoulder, intervals flat, smooth; sides convex; explanate margin narrow. Median glabrous area of metasternum large. Basal five sterna of abdomen with hydrofuge pubescence, apical two segments smooth. Female unknown.

Aedeagus (fig. 38): Main piece not evenly curved in ventral view. Distal lobe large, flat.

I found no significant distinguishing feature to separate *depressionis* from *lacustatta*, *karasui* or *fausti* without aedeagus dissection.

DISTRIBUTION (fig. 42): Known only from the type locality.

ETYMOLOGY: The type locality lies 15 m below the sea level.

Ochthebius elisae SAHLBERG

Ochthebius elisae SAHLBERG 1900: 195. - KNISCH 1924. - ORCHYMONT 1942. - FERRO 1984a. - SILFVERBERG 1987. - IENISTEA 1988.

TYPE LOCALITY: Jericho, Israel.

TYPE MATERIAL: Lectotype ♂ (pres.des.): "Jerico / J.Sahlb. / Spec.typ. / O.(Cheilochth.) Elisae J.Sahlb. / Mus.Zool.H:fors Spec.typ.No772 Ochthbius elisae J.Sb.", deposited in the ZMH. One paralectotype with similar

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labels is deposited in the same museum. The two specimens had been previously dissected by an other coleopterologist. Unfortunately the aedeagus of the paralectotype is mutilated, only a small fragment beeing left.

DIAGNOSIS: 1.45 - 1.7 mm long. Explanate margin of elytra of female as narrow as in male. Elytral punctures usually only very superficially impressed. I could not find other good characters to separate *elisae* from *mediterraneus* or *balcanicus* externally. *Ochthebius foveolatus* usually with a more distinctly reticulated pronotum. I never found *elisae* to live consociate with other species of the same group. Aedeagus (fig. 23): main piece sinuous (geniculate) in lateral aspect, apex conspicuously dilated; distal lobe not very large.

DISTRIBUTION (fig. 42): Caucasus to Israel.

ADDITIONAL MATERIAL EXAMINED:

T U R K E Y: HATAY: Bakaras river, Amanos mts., 22.V.1987, leg.Jäch (NMW); SIIRT: Kizilsu river, Cizre-Sirnak, 31.V.1987, leg.Jäch (NMW); MARDIN: Mardin mts., 30.V.1987, leg.Jäch (NMW); DIYARBAKIR: Silvan, 29.V.1987, leg.Jäch (NMW).

L E B A N O N: Aouali river, 20.VIII.1979 (NMW).

I S R A E L: Snir river, 1.VIII.1985, leg.Jäch (NMW); Dead Sea Area: En Namer, 7.IV.1981, leg.Wewalka (NMW).

S O V I E T U N I O N: "Caucasus, Armen.Geb. Reitter.Leder" (NMW, TMB, OLL).

TURKEY, SOVIET UNION or IRAN: "Caucasus Araxesthal" [= Aras = Araks river] (TMB).

Ochthebius falcatus sp.n.

Ochthebius faustinus, FERRO (not ORCHYMONT) 1983: 74.

TYPE LOCALITY: Chasemabad, southeastern Iran.

TYPE MATERIAL: Holotype ♂: "S.E. Iran 11.-12. 4 73 Chasemabad 10 km E. Bampur (vall.) / Loc. no 157 Exp.Nat.Mus. Praha" (NMP). Paratypes in the NMP and CFL.

DIAGNOSIS: 1.35 mm long. Head black, with metallic reflections; pronotum dark brown with metallic reflections, margins paler brown; elytra yellowish; legs and palpi yellowish. Head distinctly chagreened, labrum distinctly emarginate (emargination wide). Interfoveal areas of pronotal disc superficially but distinctly chagreened; impressions more strongly chagreened; anterior foveae small, posterior foveae larger, oval; median groove well developed, not reaching anterior and posterior margins; lateral depression reticulate, sides straight; front margin slightly not noticeably excised behind eyes, thus front angles of pronotum more or less rectangular; hyaline border well developed. Elytra with 5 rows of punctures between suture and shoulder, intervals flat; explanate margin narrow. Median glabrous area of metasternum large. Basal five sterna of abdomen with hydrofuge pubescence, apical two segments smooth. Female unknown.

Aedeagus (fig. 29): Main piece long and slender, gently curved, distal lobe very long, evenly curved.

Ochthebius falcatus differs from related species (*fausti*, *karasui*, *lacustatta*) by the more distinctly excised labrum and the rectangular front angles of the pronotum.

DISTRIBUTION (fig. 44): Known only from the type locality.

ETYMOLOGY: falcatus (latin) - sickle-shaped, falcate. Refers to the falcate form of the distal lobe.

Ochthebius fausti SHARP

Ochthebius fausti SHARP 1887: 171. - KNISCH 1924. - ORCHYMONT 1933 1940. - CHIESA 1959. - IENISTEA 1978, 1988. - HEBAUER 1986.

Ochthebius olympicus JANNSENS 1959: 26 (= syn.nov.). - IENISTEA 1978. - FERRO 1982.

Ochthebius lioba HEBAUER 1986: 74 (= syn.nov.).

TYPE LOCALITY: Soviet Union, Orenburg.

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TYPE MATERIAL: Lectotype ♂ (pres.des.): "Ochthebius fausti Sharp Orenburg / MUSEUM Paris 1906 Coll. Leon Fairmaire", deposited in the MHNP. One female paralectotype: "Ochthebius fausti Type D.S. Orenburg, Faust / Type / Sharp Coll 1905-313" is deposited in the BML. One male paralectotype: "Ochthebius Fausti Sharp Orenburg Faust typ. / Syntypus" is housed in the DEI. Altogether 3 syntypes are mentioned in the original description.

SYNONYMS: I have examined the male holotype (CHD) and several paratypes (NMW, CPL) of *O.lioba* (type locality: Sejmen, Bulgaria).

I have not examined one of the 5 syntypes of *O.olympicus* (probably deposited in the ISNB), described from the Alfios river (Peloponnisos, Greece), but according to the description there is very little doubt about the synonymy.

DIAGNOSIS: 1.45 - 1.8 mm long. Variable species. Front angles of pronotum slightly acuminate; sides of pronotal depression almost parallel; explanate margin of elytra of female wider than in male; apices of female elytra more or less acuminate.

Aedeagus (fig. 36): main piece long and slender, curved (lateral aspect); curvature very variable, almost straight (lectotype, specimen from Sivas, Turkey), gently curved (Gaziantep and Izmir, Turkey) or strongly curved (Bulgaria, Romania, Armenia); distal lobe small, not very variable; Parameres symmetrical, right one very slightly longer than left one.

This species can hardly be distinguished from other related species of the same subgroup (*depressionis*, *karasui*, *lacustatta*).

DISTRIBUTION (fig. 42): Bulgaria, Greece, Turkey, Russia.

ECOLOGY: This species is found mainly in gravel banks along large rivers.

ADDITIONAL MATERIAL EXAMINED:

B U L G A R I A: Sejmen, Marica, 21.V.1909, leg.Rambousek (NMW, DEI, CHD); Sliven, Tundze, 28.VI.1908, leg.Rambousek (HUB).

T U R K E I: IZMIR: Izmir [Smyrna], leg.Sahlberg (NMW); IZMIR or MANISA: Gediz river [Hermos], leg.Sahlberg (NMW, ZMH). SIVAS: Kizilirmak nr Zara, 11.VI.1989, leg.Jäch (NMW); ANKARA: Karabogas river, 70 km w Ankara, 20.V.1987, leg.Jäch (NMW); GAZIANTEP: Afrin n Musabeyli, 20.VIII.1947, leg.Jelinek (NMW, CFL, NMP).

S O V I E T U N I O N: "Kaukasus", leg.Leder (TMB); Orenburg (CHD).

TURKEY, SOVIET UNION or IRAN: "Caucasus Araxesthal" [= Aras = Araks river] (NMW, TMB).

TURKEY, SYRIA or IRAQ: "Mesopotamia" (TMB).

Ochthebius faustinus ORCHYMONT

Ochthebius faustinus ORCHYMONT 1940: 15. - FERRO 1982. - IENISTEA 1988.

TYPE LOCALITY: Larnaka, Cyprus.

TYPE MATERIAL: Holotype ♂ and several paratypes in the ISNB.

DIAGNOSIS: 1.6 - 1.7 mm long. Differs from *fausti*, *karasui*, *lacustatta*, *falcatus* by the less deeply excised labrum. Sexual characters as in the mentioned species. Aedeagus (fig. 32): Main piece long and very slender; distal lobe long, strongly curved (falcate) and slender.

DISTRIBUTION (fig. 43): Known only from Cyprus.

ADDITIONAL MATERIAL EXAMINED:

C Y P R U S: Athalassa, 24.VI.1939, leg.Håkan Lindberg (ZMH, NMW); Larnaka, 1.VII.1989, leg.Håkan Lindberg (ZMH, NMW).

Ochthebius foveolatus GERMAR

Ochthebius foveolatus GERMAR 1824: 90. - CHAMPION 1920. - KNISCH 1924. - ORCHYMONT 1928, 1932, 1942. - NORMAND 1933. - HORION 1949. - WÖRNDLE 1950. - CHIESA 1959. - ENDRÖDY 1967. - IENISTEA 1968,

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1982. - FRANZ 1970. - LOHSE 1971. - GEORGUIEV 1971. - BURAKOVSKI et al. 1976. - BERCIO & FOLWACZNY 1979. - HEBAUER 1980. - PIRISINU 1981. - BALDARI et al. 1983. - LUCHT 1987.

Ochthebius foveolatus var. *brunneus* DALLA TORRE 1877: 71. - KNISCH 1924.

TYPE LOCALITY: Pfalz, probably near Odenbach (see ORCHYMONT, 1942), Germany.

TYPE MATERIAL: Lectotype ♂ (present des.): "49318 / foveolatus Müll. Germ. Müll. / Zool.Mus.Berlin", deposited in the HUB. Four paralectotypes with similar labels are deposited in the same institution.

SYNONYMS: DALLA TORRE (1877) described 2 varieties of *O.foveolatus* in his list of the insects of Upper Austria: var. *niger* and var. *brunneus*. As DALLA TORRE (1877) did not mention *O.metallescens*, which is quite abundant in Upper Austria, it seems plausible that the specimens determined by Dalla Torre as *foveolatus* var. *niger* belonged to *metallescens*. The Dalla Torre collection is irretrievably lost (see JÄCH 1988: 135), thus neotypes must be designated: Neotype ♂ of *Ochthebius niger* (pres.des.): "Grünburg Austr.sup. 5612 / 4.4.1910. / Ob.-Oest. / metallescens Rh. det.Petz" (= *O.metallescens* ROSENHAUER) (OLL). Neotype ♂ of *Ochthebius brunneus* (pres.des.): "Ochtheb. foveolatus / Coll.J.Moser Zell b. Zellhof" (= *O.foveolatus*) (OLL).

DIAGNOSIS: 1.5 - 1.9 mm. Pronotum usually distinctly chagreened, only occasionally interfoveal areas glabrous. Posterior margin of sixth sternit of female with characteristic emargination, which distinguishes *foveolatus* from other related species. Explanate margin of elytra of female distinctly dilated behind middle, usually wider than in other related species.

Ochthebius mediterraneus usually with interfoveal areas of pronotal disc glabrous. Pronotum of *pedicularius* and *sidanus* usually only very superficially chagreened or glabrous, lateral depressions of pronotum usually shorter, sides of pronotum more abruptly constricted, elytra longer and more parallel.

Aedeagus (fig. 1): Main piece and parameres sinuous, distal lobe very complex. One specimen from Cyprus differs from Turkish material by the somewhat less distinctly angulate main piece (ventral aspect) and by the larger distal lobe (? subspecies).

DISTRIBUTION (fig. 42): France to Turkey.

ADDITIONAL MATERIAL EXAMINED:

F R A N C E: TOURAINE: leg.Desbrochers (MHNG); ISERE: Grenoble, Isère (ISNB).

FRANCE or SPAIN: "Pyrenaeus", coll.Reitter (TMB).

G E R M A N Y (west): BAVARIA: München, 1910-1931, leg.Ihssen (NMW, HUB); Bairisch Zell, 10.VIIII.1911, leg.Ihssen (HUB); RHEINLAND-PFALZ: Ahrweiler, Bad Neuenahr (DEI).

A U S T R I A: NIEDERÖSTERREICH: Schneeberg (NMW).

AUSTRIA or ITALY: "Tirol" (NMW).

AUSTRIA or JUGOSLAVIA: "Styria", leg.Brancik (FMC).

I T A L Y: "Italia" (OLL); Torino, Po river, 1.VI.1909, leg.Della Beffa (ZMH).

J U G O S L A V I A: BOSNIA: Ilidze, leg.Apfelbeck (NMW); SERBIA: Toplica river, 60 km w Nis, 19.VII.1988, leg.Jäch (NMW).

C Z E C H O S L O V A K I A: BOHEMIA: Prag (DEI); MORAVIA: "Moravia" (OLL); "Weisswasser" (NMW); M.Weisskirchen (= Hranice), 1896, leg.Schuler (NMW, CPL); SLOVAKIA: Trencin, leg. Brancsik (FMC).

CZECHOSLOVAKIA or POLAND: "Silesia", leg.Gerhardt (NMW).

P O L A N D: "Friedewalde" [= between Grodkow and Nysa], leg.Letzner (MHNG, DEI); Legnica, leg.Letzner (DEI).

R U M A N I A: Suceava, 18.VIII.1964, leg.Ienistea (NMW, MHNG, NMB).

B U L G A R I A: Sliven, Tundze, 28.VI.1908, leg.Rambousek (HUB); Sandanski, 23.VIII.1985, leg.Schülke (HUB).

T U R K E Y: KOCAELI (IZMIT): s Karamürsel, 4.VIII.1988, leg.Jäch (NMW); BALIKESIR: Aliova river, w Dursunbey, 2.VIII.1988, leg.Jäch (NMW); IZMIR: 40 km n Bergama, 4.VIII.1988, leg.Jäch (NMW); ANKARA: Karabogas river, 70 km w Ankara, 20.V.1987, leg.Jäch (NMW); Kizilcahamam, leg.Weirather (MHNG); ORDU: Melet river, 28.V.1989, leg.Jäch (NMW); SIVAS: Kizilirmak river nr Zara, 11.VI.1989, leg.Jäch (NMW); ERZURUM: Coruh river e Bayburt, 1.VI.1989, leg.Jäch (NMW).

C Y P R U S: "Chypre" (MHNP).

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Ochthebius gauthieri PEYERIMHOFF

Ochthebius gauthieri PEYERIMHOFF 1924: 159. - JÄCH 1988.

TYPE LOCALITY: Tozeur, Chott El Jerid, Tunisia.

TYPE MATERIAL: Lectotype ♂ (des. by Jäch 1988) and one paralectotype (♀) in the MHNP.

DIAGNOSIS: 1.7 - 1.8 mm long. Clearly a member of the *atriceps* subgroup (pronotal front angles produced), this species is immediately recognized by the convex elytral intervals. Aedeagus (fig. 40): Main piece very long, slender and evenly curved; ventral margin of distal lobe strongly convex; apices of parameres distinctly enlarged apically.

DISTRIBUTION (fig. 43): Maghrebinian.

ADDITIONAL MATERIAL EXAMINED:
A L G E R I A: Biskra, 1.II.1903, coll.Bedel (MHNP, NMW).
T U N I S I A: 20 km s Gafsa, 23.V.1982, leg.Malicky (NMW).

Ochthebius hellenicus IENISTEA

Ochthebius hellenicus IENISTEA 1988: 223. - JÄCH 1989.

TYPE LOCALITY: Platanias, Crete, Greece.

TYPE MATERIAL: The holotype ♂ and several paratypes should be deposited in the ISNB.

DIAGNOSIS: 1.6 mm long. Externally not significantly different from *mediterraneus*. Aedeagus (fig. 15): main piece geniculate (lateral aspect), left branch of distal lobe significantly longer than in *mediterraneus*.

DISTRIBUTION (fig. 43): Eastern Mediterranean islands: Samos, Crete, Cyprus.

MATERIAL EXAMINED:
G R E E C E: SAMOS: Konteika, w Mega Revma, 31.V.1933, leg.Orchymont (ISNB, NMW); Mytilini, VI.1933, leg.Orchymont (ISNB); CRETE: Platanos, 12.IV.1931, leg.Orchymont (ISBN, NMW); Kastelli-Kisamo, 19.IV.1931, leg.Orchymont (ISNB, NMW); H.Nikolaos, 150 m, 28.IV.1931, leg.Orchymont (ISNB); Khania, Kladiooe, 25 m, 11.IV.1931, leg.Orchymont (ISNB); Hiraklion, Kassabonos, 26.IV.1931, leg.Orchymont (ISNB).
C Y P R U S: Paphos, Kannaviou, 19.VII.1939, leg.Hk.Lindberg (ZMH).

Ochthebius hesperides BALFOUR-BROWNE

Ochthebius hesperides J.BALFOUR-BROWNE 1976: 26. - SILFVERBERG 1987.

TYPE LOCALITY: Sal Pedra Lume, Cape Verde Islands.

TYPE MATERIAL: Holotype ♂ and 4 female paratypes in the ZMH. Additional syntypes are deposited in the ZMH and NMW.

DIAGNOSIS: 1.5 - 1.6 mm long. Very similar to *anxifer*, *atriceps*, *dentifer*, *praetermissus*, *recurvatus*, *tacapasensis*, *thermalis*, - sides of pronotal depression not rounded, pronotal front angles produced, elytra of female acuminate. Median groove of pronotum well impressed. Aedeagus (fig. 33): Very similar to *faustinus*, but parameres inserted further proximal.

DISTRIBUTION: Known only from the type locality.

Ochthebius inconspicuus sp.n.

TYPE LOCALITY: Çaykasi river nr Erfelek, Sinop, northern Turkey.

TYPE MATERIAL: Holotype ♂ (NMW): "TR-SINOP 27.5. Erfelek (12) leg.Jäch 1989". Paratypes (NMW): 3 exs. from the type locality; 7 exs.: "TÜRKEI 28. 8 1981 Umg Namrun T14 / leg M.Jäch Kilik.Taurus"; 1 ex.: "TR-ORDU 28.5. Melet Fl.(24) leg.Jäch 1989"; 13 exs.: "TURQUIE: Kars Kagizman fleuve Aras, 1200 m 18.VI.1986 / Besuchet/Löbl Burckhardt" (MHNG, NMW, ZMH, ISNB).

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DIAGNOSIS: 1.5 - 1.7 mm long. Head and pronotum dark brown to black, with distinct coppery or metallic reflections, elytra, legs and palpi brown. Labrum deeply emarginate, front margin sometimes slightly elevated; clypeus microreticulate. Interfoveal areas of pronotal disc finely punctate, superficially chagreened or glabrous; anterior foveae small and round, miroreticulate, posterior foveae larger, oval, microreticulate; median groove narrow, not reaching anterior and posterior margins, sometimes interrupted between posterior grooves; lateral depression convex, finely punctate and reticulate, sides rounded; hyaline border well developed; anterior margin of pronotum only very slightly sinuous, without any prominent projections. Elytra with 5 rows of punctures between suture and shoulder, intervals flat, slightly rugulose, each puncture with a moderately long whitish seta; sides convex; explanate margin narrow. Median glabrous area of metasternum large. Basal five sterna of abdomen with hydrofuge pubescence, apical two segments smooth. Females differ from females of *mediterraneus* by the very narrow explanate margin of the elytra.

I could not find significant characters to distinguish males of *O.inconspicuus* externally from *mediterraneus* and related species.

Aedeagus (fig. 14): Very similar to *mediterraneus*, but left branch of the distal lobe obviously completely reduced (ventral aspect) and apex of main piece not produced (ventral aspect).

DISTRIBUTION (fig. 41): Turkey.

ETYMOLOGY: inconspicuus (latin) - inconspicuous. Refers to the comparatively simple shape of the distal lobe.

Ochthebius indicus IENISTEA

Ochthebius indicus IENISTEA 1988: 223. - JÄCH 1989.

TYPE LOCALITY: Ranikhet, Uttar Pradesh, northern India.

TYPE MATERIAL: I did not examine the holotype ♂, which should be deposited in the ISNB.

DIAGNOSIS: 1.5 - 1.7 mm long. Very similar to *O.afghanicus* and *satoi*. I could not find reliable distinguishing characters for these three variable species. Aedeagus (fig. 22): main piece distorted, distal lobe much shorter than in *afghanicus*, left paramere shorter than right one.

DISTRIBUTION (fig. 44): Himalaya.

ADDITIONAL MATERIAL EXAMINED:

I N D I A: UTAR PRADESH: Dehra Dun, R.Song, 1.IV.1928, leg.Champion (BML); Chilla, Ganges River, leg.Champion (BML).

N E P A L: Pokhara Valley, 22.II.1981, leg.Jäch (NMW); Lamosangu, 5.II.1981, leg.Jäch (NMW); Hetauda, 17.II.1981, leg.Jäch (NMW).

Ochthebius innexus BALFOUR-BROWNE

Ochthebius innexus J.BALFOUR-BROWNE 1951: 197

TYPE LOCALITY: Majil ("Migyal") al Alaf, south of San'a, Yemen.

TYPE MATERIAL: Holotype ♂ in BML.

DIAGNOSIS: 1.5 - 1.8 mm long. Colouration usually paler than in related species (*mediterraneus*, *elisae*). Interfoveal areas of pronotal disc glabrous, but usually distinctly punctured; sides of pronotal depression almost parallel, not as round as in related species (*mediterraneus*). Elytral punctures quite distinctly impressed; sides of elytra almost parallel; explanate margin narrow in both sexes, slightly angulate in the female; apex of elytra acuminate in female.

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Aedeagus (fig. 21): main piece curved and distorted; distal lobe comparatively large; left paramere distinctly shorter.

DISTRIBUTION (fig. 44): Arabian peninsula.

ADDITIONAL MATERIAL EXAMINED:
S A U D I A R A B I A: Wadi Turabah, 1310 m, 20.IV.1980, leg.Büttiker (NMB, NMW); Addar, 150 m, 1.II.1983, leg.Büttiker (NMB, NMW); Buwah, 1340 m, 15.IX.1980, leg.Büttiker (NMB).

Ochthebius karasui FERRO

Ochthebius karasui FERRO 1986: 149. - HEBAUER 1986.

TYPE LOCALITY: Araxes valley, "Caucasus" (Turkey, Soviet Union or Iran).

TYPE MATERIAL: Holotype ♂ and one female paratype in CFL, one male paratype in CHD.

DIAGNOSIS: 1.6 - 1.8 mm long. Very similar to *depressionis*, *fausti* and *lacustatta*. Elytra (abdomen) sometimes longer than in the two mentioned species; this character is probably related to the abnormal size of the aedeagus. Aedeagus (fig. 35): Main piece stout and moderately long; distal lobe unusually large, about as long as the main piece.

DISTRIBUTION (fig. 41): Presently known only from the Caucasus.

ADDITIONAL MATERIAL EXAMINED:
T U R K E Y or S O V I E T U N I O N: "Caucasus Armen. Geb. Leder Reitter" (NMW, OLL).

Ochthebius lacustatta sp.n.

TYPE LOCALITY: Saline shallow ditches at the northeastern shores of the Tuz Gölü, central Anatolia, Turkey.

TYPE MATERIAL: Holotype ♂ (NMW): "TR 21.5.1987 Tuz Gölü leg.Jäch (13)". Paratypes: 68 exs. from the same locality in the NMW, ISNB, BML, HUB, DEI, MHNG and CBG; 3 exs.: "Kopet Dagh / Ahnger" (ZMH).

DIAGNOSIS: 1.5 - 1.8 mm long. Head dark brown to black, with metallic reflections; pronotum dark brown with metallic reflections, margins paler brown; elytra yellow to brown; legs and palpi yellow to brown. Head usually distinctly chagreened, labrum distinctly emarginate. Interfoveal areas of pronotal disc only very finely punctate and glabrous; chagrination confined to impressions; anterior foveae small and round, posterior foveae larger, oval; median groove well developed, not reaching anterior and posterior margins; lateral depression finely reticulate, sides more or less parallel-sided; front margin slightly to hardly noticeably excised behind eyes, thus front angles of pronotum very slightly or distinctly produced; hyaline border well developed. Elytra with 5 rows of punctures between suture and shoulder, intervals flat, slightly rugulose, each puncture with a moderately long adpressed whitish seta; sides convex; explanate margin narrow in male; elytra of female with explanate margin widened and with apices distinctly acuminate. Median glabrous area of metasternum large. Basal five sterna of abdomen with hydrofuge pubescence, apical two segments smooth.

Aedeagus (fig. 37): Main piece quite evenly curved in ventral aspect; distal lobe semicircular, very large, remarkeably constant, much larger than in *thermalis*.

I was not able to find significant distinguishing characters to separate *lacustatta* from *fausti* or *depressionis* without aedeagus dissection; *karasui* usually with longer elytra.

DISTRIBUTION (fig. 44): Turkey, Iran, Turkmenia.

ETYMOLOGY: Lacus (latin) - lake. Tatta was the ancient name of the Tuz Gölü (type locality).

Ochthebius marginalis REY

Ochthebius marginalis REY 1886: 62. - KNISCH 1924. - ORCHYMONT 1942. - CHIESA 1959.

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Ochthebius regili VALLADARES 1986: 658 (= syn.nov.).

TYPE LOCALITY: Hautes Pyrénées, France.

TYPE MATERIAL: Lectotype ♂ (pres.des.): "Hte Pyr. Pandelle", deposited in the MGL (Rey collection). One paralectotype ("Hte Pyr.") is deposited in the same institution. I could not find the syntypes from Villie-Morgon.

SYNONYMS: I have not examined the holotype of *O.regili* (type locality: León, Spain), which is deposited in the Valladares collection (Palencia), but the aedeagus illustration of the original description agrees very well with the aedeagus of the lectotype of *marginalis*.

DIAGNOSIS: 1.65 - 1.75 mm long. Closely related with *Ochthebius foveolatus*. Aedeagus (fig. 2): distal lobe complex, resembling *O.mutatus* from the Lebanon.

DISTRIBUTION (fig. 41): Pyrenees, Iberian peninsula.

ADDITIONAL MATERIAL EXAMINED:
S P A I N: JAEN: Rio Madera, 20.VII.1988 (Univ.of Murcia).
? F R A N C E: Drome, 16.VIII.1985, leg.Hebauer (CHD, NMW) (? label mistake).

Ochthebius mediterraneus IENISTEA

Ochthebius mediterraneus IENISTEA 1988: 223. - JÄCH 1989.

TYPE LOCALITY: Carcassonne, Aude, France.

TYPE MATERIAL: I have not seen the holotype ♂ or any of the paratypes which should be deposited in the ISNB, but I have examined one paratype from southern Italy, which is deposited in the NMW.

DIAGNOSIS: 1.55 - 1.75 mm long. Very variable. It is quite possible that the species herein regarded as *O.mediterraneus* forms a complex of two or even more closely related and variable species. Differs from *foveolatus* by the usually less densely and less distinctly chagreened pronotum. Females differ from *foveolatus* by the posterior margin of the sixth sternum. *Ochthebius balcanicus*, *hellenicus*, *inconspicuus*, *siculus*, *speculator*, *virgula* cannot always be distinguished from *mediterraneus* without dissection of the male genitalia.

Aedeagus (fig. 11): Distal lobe very variable; size of right branch (with the ejaculatory duct) variable, smaller or larger than the left branch (best observed in ventral view); in western Mediterranean specimens the left branch is usually smaller than the right branch and in eastern Mediterranean (especially Turkish) specimens it is usually larger; one population from Trabzon (Turkey) with exceptionally small right branch (smaller than in most western Mediterranean specimens). I could not find significant characters to separate different species. One specimen from Sejmen (Bulgaria) was determined as "pedicularius form.D" (= *hellenicus*) by ORCHYMONT (1942) due to the large right branch.

DISTRIBUTION (fig. 41): Mediterranean; eastern border: Azerbaydzhan.

ADDITIONAL MATERIAL EXAMINED:
F R A N C E: ALPES-MARTIMES: Nice, leg.Sainte Claire Deville (CAL).
S P A I N: Cordoba: (ISNB); GRANADA: 1 km s Orgiva, Rio Guadalfeo, 350 m, 27.V.1967, leg.Bacchus & Levey (CAL, NMW); Rio Xenil, 680 m, 19.IX.1935, leg.Orchymont (ISNB, NMW); JAEN: Rio Liche, 370 m, 16.IX.1935, leg.Orchymont (NMW, ISNB). ALBACETE: Rio Bogarra, 17.VII.1985, leg.Delgado (NMW).
I T A L Y: Emilia (HUB); Emilia, Spilamberto, X.1915, leg.Minozzi (ISNB); Calabria, Gerace, leg.Paganetti (NMW); Basilicata, Stigliano, IX.1904, leg.Fiori (HUB).
J U G O S L A V I A: BOSNIA: Capljna (NMW, CPL).
B U L G A R I A: Sejmen, Marica, 21.V.1909, leg.Rambousek (DEI).
G R E E C E: Trikala, 31.X.1979, leg.Ferro (TMB); Thrakia, 10 km n Alexandroupolis, 27.VII.1988, leg.Jäch (NMW).
T U R K E Y: KOCAELI (IZMIT): s Karamürsel, 4.VIII.1988, leg.Jäch (NMW); ÇANAKKALE: 5 km w Yenice, 4.VIII.1988, leg.Jäch (NMW); IZMIR: Isikler, 14.V.1931, leg.Orchymont (ISNB, NMW); BALIKESIR: Aliova river, w Dursunbey, 2.VIII.1988, leg.Jäch (NMW); ANKARA: Karabogas river, 70 km w Ankara, 20.V.1987, leg.Jäch (NMW); SIVAS: Kizilirmak river nr Zara, 11.VI.1989, leg.Jäch (NMW); Çaykasi river nr Erfelek,

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27.V.1989, leg.Jäch (NMW); TRABZON: Maçka, 600 m, 22.VIII.1962, leg.Janssens (ISNB, NMW); Trabzon, 26.VIII.1962, leg.Janssens (ISNB).

M O R O C C O: Khenifra, Col de Zad, 2100 m, 8.IV.1985, leg.Wewalka (NMW); Asni, 1250 m, IV.1934, leg.Ball (ISNB); Marrakesh, 27.V.1934, leg.Ball (ISNB); Fez, Oued Sebou, coll.Thery (ISNB); Fez, 350 m, leg.Alluaud (ISNB); Mogador [= Essaouira], Agadir, leg.Alluaud (ISNB); Ait el Hadj, leg.Alluaud (ISNB); Vallée du Sous, Oued Massa, leg.Alluaud (ISNB); Oued Reraïa, leg.Alluaud (ISNB); Haute Reraïa, leg.Alluaud (ISNB); Aguerd el Had, Sous (Talekjount), 1050 m, VI.1927, leg.Le Cerf & Talbot (ISNB); Cichaoua, coll.Thery (ISNB, MHNP); Telouet, coll.Thery (ISNB); Telouet, leg.Nemeth (MHNP); Ait Melloul nr Oued Sous, 2.III.1961, leg.Meinander (ZMH); Casablanca, leg.Reitter (TMB).

A L G E R I A: Maafa, 30 km s Batna, 15.V.1954, leg.Fagel (ISNB); Biskra, coll.Peyerimhoff (MHNP); Biskra, 3.III.1934 (CAL); Bouïra, coll.Peyerimhoff (MHNP); Blidah, 1905, coll.Peyerimhoff (MUNP); Bou-Saada, nw Biskra, 1908, coll.Peyerimhoff (MHNP); Constantine, leg.Sahlberg (ZMH, HUB).

S O V I E T U N I O N: AZERBAYDZHAN: "Lenkoran, Leder" (NMW).

Ochthebius merinidicus FERRO

Ochthebius merinidicus FERRO 1985: 234.

TYPE LOCALITY: Sebou river, Fes, Morrocco.

TYPE MATERIAL: Holotype ♂ in the Inst.Sci.Charia Ibn di Rabat and 28 paratypes in CFL, NMW and the above mentioned institute.

DIAGNOSIS: 1.3 - 1.7 mm long. Externally very variable. Interfoveal areas of pronotal disc distinctly punctured or impunctate and glabrous. Differs from mediterraneus usually by the less deeply excised labrum and the shorter elytra. Explanate margin of elytra of female wider than in male, apex of female slightly acuminate. Aedeagus (fig. 17): main piece short and curved, distal lobe much larger than in *mediterraneus*, flat, slightly curved.

DISTRIBUTION (fig. 42): Maghrebinian.

ADDITIONAL MATERIAL EXAMINED:

M O R O C C O: Vallée du Sous, Oued Massa, leg.Alluaud (ISNB).

A L G E R I A: Guelma s Bône (ISNB); Bône, coll.Peyerimhoff (MHNP).

T U N I S I A: Hammam Bourgiba, 6.VI.1982, leg.Malicky (NMW); Mateur, leg.Sahlberg (ZMH).

Ochthebius mutatus sp.n.

Ochthbeius foveolatus, ORCHYMONT 1940: 18.

TYPE LOCALITY: Zgharta, southeast of Tripoli, Lebanon.

TYPE MATERIAL: Holotype ♂ (MHNP): "Sgharta [Zgharta] / 628 / Ochthebius viridis Peyron (ex coll.Peyron) / A.d'Orchymont det. O.foveolatus Germ. comparé à un ex. d'Armenie det. par Reitter / Muséum Paris Coll. M. Pic".

DIAGNOSIS: 1.55 mm long. I could not find significant morphological characters to distinguish this new species externally from *foveolatus*. Chagrination of pronotal disc superficial. Interfoveal areas of pronotal disc usually smooth and glabrous in *elisae* and *mediterraneus*. *Ochthebius innexus* differs by the more distinctly impressed pronotal foveae and elytral punctures, sides of pronotum more abruptly constricted behind lateral depression, thus pronotum of *mutatus* appearing wider. *Ochthebius pallidulus* differs by the distinctly impressed pronotal foveae, by the smooth interfoveal areas of the pronotal disc, the distinct elytral punctures and the abruptly constricted sides of the pronotum. Female unknown.

Aedeagus (fig. 3): main piece stout, distal lobe very complex.

DISTRIBUTION (fig. 41): Known only from the type locality.

ETYMOLOGY: mutatus (latin) - mutated, exchanged. ORCHYMONT (1940, 1942) refers to the holotype as *Ochthebius foveolatus*.

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Ochthebius octofoveatus PU

Ochthebius exilis PU 1958:257.

TYPE LOCALITY: Lou-fong-tsouen, Yunnan, China.

TYPE MATERIAL: I did not see the holotype ♀ which should be deposited in the Zhongshan (Sun Yatsen) University, Guangzhou (Canton).

REMARKS: Described from a single female. As the elytra are described as brown, this species could be related (? synonym) with *O.rivalis* (*metallescens* group) or it could belong to the *foveolatus* group (*satoi*, *indicus*).

DISTRIBUTION (fig. 44): Known only from the type locality.

Ochthebius pallidulus KUWERT

Ochthebius *pallidulus* KUWERT 1887: 376. - KNISCH 1924.

TYPE LOCALITY: "Mesopotamia", Syria or Iraq.

TYPE MATERIAL: Lecotype ♂ (pres.des.): "49305 / pallidulus Helf. Mesopota. Helf / Zool.Mus.Berlin" (HUB). One female paralectotype with identical label data in the same museum. Two paralectotypes (♂ + ♀): "Ex.Musaeo A.Kuwert 1894 / pallidulus Er. Syria" are housed in the MHNP.

DIAGNOSIS: 1.6 - 1.7 mm long. Labrum deeply excised, interfoveal areas of pronotum convex and glabrous, finely punctured; median groove usually interrupted between posterior foveae; sides of lateral depressions gently rounded; explanate margin of elytra of female wider than in male; elytral apices of female acuminate. Aedeagus (fig. 20): Main piece not very strongly curved, stout; distal lobe complex, deeply bifurcate (lateral aspect).

DISTRIBUTION (fig. 41): Presently known only from the "Middle East".

ADDITIONAL MATERIAL EXAMINED:
S Y R I A: "Syria Dr.Stolz BH" (NMW); "Syria", coll.Reitter (DEI, TMB, NMW).
TURKEY, SYRIA or IRAQ: "Euphrat" (ZMH).

Ochthebius pedicularius pedicularius KUWERT

Ochthebius pedicularius KUWERT 1887: 375. - KNISCH 1924. - ORCHYMONT 1942. - HORION 1949. - JANNSENS 1959, 1962, 1963, 1968A, 1968B, 1971. - CHIESA 1959. - IENISTEA 1968, 1978, 1988. - GEORGUIEV 1971. - LOHSE 1971. - J.BALFOUR-BROWNE 1978. - PIRISINU 1981. - LAGAR 1984. - LUCHT 1987.

TYPE LOCALITY: Oberbayern, Germany.

TYPE MATERIAL: Lectotype ♂ (present des.): "Bav.Sup. Ochtheb.pedicularius WL / Coll.Waltl"; deposited in the NMW. Four paralectotypes: "Coll.Waltl" (NMW); 2 exs.: "foveolatus pedicularius Waltl Bavar.sup.Waltl / Ex.Musaeo A.Kuwert 1894 / var.pedicularius Waltl Bavaria" (MHNP); "49318 / pedicularius Bavar. Waltl / Zool.Mus Berlin" (HUB). Number of syntypes not known.

DIAGNOSIS: 1.6 - 1.8 mm. Pronotum usually only superficially chagreened or glabrous, lateral depressions of pronotum usually shorter than in other related species (*mediterraneus*, *balcanicus*, *foveolatus*) sides of pronotum more abruptly constricted, elytra longer and more parallel. Externally this species cannot be distinguished from *O.sidanus*. Aedeagus (fig. 8): Right branch of distal lobe not very large, dorsal margin of left branch straight, ventral margin sinuous.

DISTRIBUTION (fig. 44): Central Europe to Moldavia.

ADDITIONAL MATERIAL EXAMINED:
G E R M A N Y: "Schwaben", 1.VIII.1903 (NMW); BAVARIA: München, 24.VIII.1931, coll.Ihssen (NMW); Isar, München, 11.VII.1903, coll.Knabl (IZI); Schongau/Lech, VI.1920 (MTD).
A U S T R I A: TIROL: Axams (NMW); Lechtal (different places), V.-VII.1915, leg.Knabl (IZI); Forchach, 19.V.1941, leg.Kofler (IZI); STEIERMARK: Umg.Graz, leg.Penecke (OLL, TMB).

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I T A L Y: Südtirol: Rovereto, 5.VI.1932, leg.Pechlaner (IZI); Friuli, "Weissenfels" [= Fusine nr Tarvisio] (NMW); Emilia, Reno river, 16.VI.1901 and 27.X.1905, leg.Fiori (HUB); Udine, Tagliamento river, 140 m, 2.V.1987, leg.Kahlen (NMW, CKH).
J U G O S L A V I A: SLOVENIA: Radmannsdorf [= Radovljica) (NMW, ISNB, ZMH, MTD).
S O V I E T U N I O N: MOLDAVIA: Lipkani, 10.V.1918, leg.Springer (CPL).

Ochthebius pedicularius medius ssp.n.

TYPE LOCALITY: Dzhambul [= Aulie Ata], Kazakhstan, Soviet Union.

TYPE MATERIAL: Holotype ♂ (TMB): "Aulie-Ata / Aulie Ata / Coll.Reitter". Paratypes: 4 exs. with identical label data (TMB, NMW).

DIAGNOSIS: 1.65 - 1.8 mm long. Externally not different from the nominate form. Could be a species propria.

Aedeagus (fig. 9): Main piece more strongly curved (ventral aspect) than in the nominate form, dorsal margin more distinctly concave in left lateral view; right branch of distal lobe larger than in *pedicularius pedicularius* (especially in ventral view), left branch not significantly different from the nominate form.

DISTRIBUTION (fig. 44): Presently known only from the type locality.

ETYMOLOGY: Medius (latin) - central, refers to the type locality, which lies in Central Asia.

Ochthebius perpusillus FERRO

Ochthebius perpusillus FERRO 1985: 236

TYPE LOCALITY: Fes, northern Morocco.

TYPE MATERIAL: Holotype ♂ in CFL.

DIAGNOSIS: 1.3 mm long. I have not seen any specimens of *O.perpusillus*. According to the original description it resembles *O.sculpturatus* and thus probably belongs to the *atriceps* subgroup. Aedeagus (fig. 18).

DISTRIBUTION (fig. 43): Known only from the type locality.

Ochthebius praetermissus sp.n.

TYPE LOCALITY: Daya, Sidi Chiker, ca. 60 km nw Marrakesh, Morocco.

TYPE MATERIAL: Holotype ♂ (NMW): "MAROKKO 1982 ca. 60 km nw Marrakesh / Daya 14.4. Sidi Chiker leg.Alain Thery".

Paratypes: M O R O C C O: 2 exs.: "Marocco Knitra Mamora 20.6.26 Lindberg" (ZMH); 1 ex.: "Fez Maroc Coll.THERY / A.d'Orchymont det. Ochth. (Hymenodes) atriceps Fairmaire" (ISNB); 4 exs.: "V. de l'Oued Mellah Alluaud /53" (ISNB); A L G E R I A: 1 ♂: "Clairfontaine / Algiria / J.Sahlb. / 4264 / O.(Cheilochthebius) parvulus Rey" (ZMH); 1 ♂ :"Algeria Coll.Raffray / Collect. Hauser" (NMW); T U N I S I A: 1 ex.: "Tunis Kairouan" (ISNB).

DIAGNOSIS: 1.5 - 1.6 mm long. Head dark brown to black, with metallic reflections; pronotum dark brown with metallic reflections, margins paler brown; elytra yellowish, occasionally with a darker median spot; legs and palpi yellowish. Front margin of labrum slightly to distinctly emarginate. Interfoveal areas of pronotal disc finely punctate and glabrous or superficially chagreened; impressions distinctly reticulate; anterior foveae small and round, posterior foveae larger, oval; posterior foveae occasionally connected by a shallow depression; median groove not reaching anterior and posterior margins; lateral depression finely reticulate, sides almost straight, more or less parallel-sided; front margin slightly to distinctly excised behind eyes, thus front angles of pronotum slightly but noticeably produced; hyaline border well developed. Elytra with 5 rows of punctures between suture and shoulder, intervals flat, each puncture with a short

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adpressed seta; sides convex; explanate margin narrow in male, wider in female; elytra of female apices distinctly acuminate. Median glabrous area of metasternum large. Basal five sterna of abdomen with hydrofuge pubescence, apical two segments smooth.

Aedeagus (fig. 28): Very similar to *dentifer* and *tacapasensis*, but differs by the shape of the distal lobe, which is more evenly curved and regular than in *tacapasensis*, dorsal margin never undulated, apex distinctly wider than in *tacapasensis*; the aedeagus of *dentifer* differs mainly by the wider and shorter distal lobe; main piece of *dentifer* less distinctly curved in apical third (ventral aspect).

Very similar to *anxifer*, *atriceps*, *dentifer*, *recurvatus*, *tacapasensis*, *thermalis*. I was not able to find significant characters to separate these 7 species externally. The size of the labral emargination is variable in all of the species. Pronotal chagrination usually more clearly pronounced in *thermalis*.

DISTRIBUTION (fig. 43): Maghrebinian.

ETYMOLOGY: praetermissus (latin) - overlooked. This species has hitherto not been recognized as species propria.

Ochthebius recurvatus sp.n.

TYPE LOCALITY: "O.Seldja", Tunisia.

TYPE MATERIAL: Holotype ♂ (ISNB): "O.Seldja / Tunisie / parvulus / A.Thery coll. atriceps / A. d'Orchymont det: Ochth.(Hymenodes) atriceps Fairmaire". One paratype (♀) with the same label data in the ISNB.

DIAGNOSIS: 1.5 - 1.7 mm long. Head dark brown to black, with metallic reflections; pronotum dark brown with metallic reflections, margins paler brown; elytra yellow to brown; legs and palpi yellow to brown. Front margin of labrum slightly emarginate. Interfoveal areas of pronotal disc finely punctate and superficially chagreened; impressions more distinctly reticulate; anterior foveae small and round, posterior foveae larger, oval; median groove not very deep, not reaching anterior and posterior margins; lateral depression finely reticulate, sides not rounded, almost parallel-sided; front margin slightly to distinctly excised behind eyes, thus front angles of pronotum slightly but noticeably produced; hyaline border well developed. Elytra with 5 rows of punctures between suture and shoulder, intervals flat, size of punctures very variable, each puncture with a short adpressed seta; sides convex; explanate margin narrow in male, wider in female; elytra of female apices distinctly acuminate. Median glabrous area of metasternum large. Basal five sterna of abdomen with hydrofuge pubescence, apical two segments smooth.

Aedeagus (fig. 34): Very similar to *hesperides* and *faustinus*, but distal lobe more strongly curved than in these two species, thus radius considerably shorter (only seen, when distal lobe is observed in maximum outlines); apex of distal lobe slightly curved to the left side; main piece slightly smaller than in the two mentioned species; insertion of parameres like in *falcatus*.

Very similar to *anxifer*, *atriceps*, *dentifer*, *praetermissus*, *tacapasensis*, *thermalis*. I was not able to find significant characters to separate these 7 species externally. The size of the labral emargination is variable in all of the species. Pronotal chagrination usually more clearly pronounced in *thermalis*.

DISTRIBUTION (fig. 43): Known only from the type locality.

ETYMOLOGY: Recurvatus (latin) - recurved. Refers to the distinctly recurved distal lobe of the aedeagus.

Ochthebius satoi NAKANE

Ochthebius satoi NAKANE 1965: 51. - SATO 1985. - MATSUI 1986. - SHATROVSKY 1989.

TYPE LOCALITY: Shigenobu river (Morimatsu), Ehime Pref., Shikoku, Japan.

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TYPE MATERIAL: Holotype ♂ and 3 paratypes. Type depository unknown.

DIAGNOSIS: 1.45 - 1.85 mm long. Very similar to *afghanicus* and *indicus*. Very variable. Pronotal disc can be chagreened or glabrous. Could be a younger synonym of *octofoveatus*.

Aedeagus (fig. 10): very similar to *mediterraneus*, but easily recognized by the curved left branch of the distal lobe. Apex of main piece (ventral aspect) slightly variable. Distal lobe of *pedicularius medius* distinctly larger.

DISTRIBUTION (fig. 44): Mongolia, Soviet Far East, China, Japan, Taiwan.

MATERIAL EXAMINED:

M O N G O L I A: Chovd aimak, 3 km n Somon Uenc, 1450 m, 3.VIII.1966, leg.Kaszab (TMB, NMW, WUN); Chovd aimak, river Bulgan gol, 15 km n Somon Bulgan, 1300 m, 7.VII.1966, leg.Kaszab (ISNB, NMW).

C H I N A: HENAN [HONAN], Loyang, 6.VIII.1966, leg.Hammond (BML).

J A P A N: SHIKOKU: Yoshino-gawa river, Tokushima City, 14.VIII.1968, leg.Sakai (WUN); Akuigawa river, Tokushima Pref., 23.VIII.1969, leg.Sakai (WUN); HONSHU: Inabe river, Fujihara, Mie-Pref., 20.IV.1958, leg.Naruse (WUN); Murakami, Echigo, 8.VIII.1961, leg.Satô (WUN); Fussa Tokyo, Tama-gawa, 3.X.1964, leg.Watanabe (TMB).

T A I W A N: Taitong, 31.I.1991, leg.M.L.Jang (NMW); Nantou Hsien, Hsio-fong, Chingsuigo stream, 22.II.1991, leg.Jang (NMW); Hsinchu Hsien, Shangping, 31.III.1991, leg.Jang (NMW); Ilan Hsien, Luenbei, 39.III.1991, leg.Jang.

Ochthebius sculpturatus SAHLBERG

Ochthebius sculpturatus SAHLBERG 1900: 194. - KNISCH 1924.
Ochthebius aliabadensis FERRO 1982: 118: 148 (= syn.nov.).

TYPE LOCALITY: Mulla Kara [= Mollakara], western Turkmeniya, Soviet Union.

TYPE MATERIAL: Holotype (by monotypy): "Michailovo / J.Sahlb. / Spec.typ. / 123 / O.(Cheilochth.) sculpturatus n.sp.", ZIL. Although Michailovo is not mentioned in the original description, I have no doubt that this is the holotype of *sculpturatus* because several specimens, which were collected by Sahlberg at Mulla Kara [= Mollakara = Molla-kary] carry a "Michailovo" label. Michailovo [= Michailowsk] is a place not far from Mollakara.

SYNONYMS: The holotype ♂ of *aliabadensis* (type locality: Aliabad, northern Iran is deposited in the NMP, 14 paratypes are housed in the NMP, CFL and NMW.

DIAGNOSIS: 1.2 - 1.4 mm long. Clearly a member of the *atriceps* subgroup (pronotal front angles produced), it differs from *fausti* and related species by the smaller size, dark colouration, wider pronotum and the more parallel shape of the elytra. Aedeagus (fig. 39): Main piece small, subapical setae reduced; distal lobe short, cylindrical.

DISTRIBUTION (fig. 44): Western Turkmeniya and northern Iran.

Ochthebius siculus KUWERT

Ochthebius siculus KUWERT 1887: 375 (*O.metallescens* var.*siculus*). - KNISCH 1924. - ORCHYMONT 1942. - CHIESA 1959. - IENISTEA 1978, 1981. - PIRISINU 1981. - FERRO 1986.

TYPE LOCALITY: Palermo, Sicily, Italy.

TYPE MATERIAL: Lectotype ♂ (present des.): "de Palerme Ragusa / Ex.Musaeo A.Kuwert 1894", MHNP. Eight paralectotypes with similar labels are housed in the MHNP, DEI and NMW. Number of syntypes unknown.

DIAGNOSIS: 1.6 - 1.7 mm long. As I have examined only a few specimens I was unable to find significant differences between *siculus* and related species (*foveolatus*, *mediterraneus*, *virgula*). Aedeagus (fig. 4): Main piece short and stout; distal lobe almost circular, flat.

DISTRIBUTION (fig. 41): Southern Italy (Sicily, Basilicata).

ADDITIONAL MATERIAL EXAMINED:

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I T A L Y: Basilicata, Rivello, 470 m, 1.XI.1978, leg.Ferro (NMW).

Ochthebius sidanus ORCHYMONT

Ochthebius sidanus ORCHYMONT 1942: 8. - CHIESA 1959. - BURAKOVSKY et. al 1976. - IENISTEA 1978, 1982, 1988. - LOHSE 1971. - PIRISINU 1981. - VALLADARES 1986. - LUCHT 1987. - HEBAUER 1989.
Ochthebius socius J.BALFOUR-BROWNE 1978: 74 (= syn.nov.). - VALLADARES 1986.
Ochthebius persidanus IENISTEA 1988: 224 (= syn.nov.). - JÄCH 1989.

TYPE LOCALITY: Castel di Sangro, l'Aquila, Italy.

TYPE MATERIAL: I have not seen the holotype, which is deposited in the ISNB, but I have examined several topotypical specimens (NMW, DEI, CPL, HUB, TMB).

SYNONYMS: I have seen one male paratype of *O.socius* (CAL), which is identical with specimens from Austria and Italy.

I did not examine the holotype ♂ of *O.persidanus* (type locality: Alpes-Maritimes), which should be deposited in the ISNB, but I have no doubt about the synonymy.

DIAGNOSIS: Externally this species cannot be distinguished from *O.sidanus*. Aedeagus (fig. 7): distal lobe large, flat, gently curved.

DISTRIBUTION (fig. 42): Spain to Romania.

ADDITIONAL MATERIAL EXAMINED:
F R A N C E: 9.V.1950, leg.Besuchet (MHNG); ALPES-MARITIMES: Nice, 26.II.1920, leg. Ochs (CPL); HAUTES-ALPES: Briancon, 14.VII.1907, coll.Künnenmann (DEI).
S P A I N: LEON: Villafranca del Bierzo, 1.VII.1983, leg.Valladares (NMW, CHD).
I T A L Y: Südtirol: Rovereto, St.Nicolo, 13.VII.1903, leg.Halbherr (IZI); Rovereto, 12.V.1910, leg.Knabl (IZI); Rovereto (DEI); S.Colombano, leg.Halbherr (HUB); Toscana, leg.Fiori (HUB); Toscana, Montegemoli, 21.IV.1986, leg.Bußler (CHD); Cuneo, Val Pesio, 19.VII.1007, leg.Pinker (NMW).
S W I T Z E R L A N D: GENEVE: Allondon, Malval, VII.-IX.1955 (MHNG).
A U S T R I A: VORARLBERG: Bludenz, leg.Moosbrugger (NMW); NIEDERÖSTERREICH: Donauauen, coll.Kaufmann (NMW); KÄRNTEN: "Kärnten", coll.Grundmann (NMW); "Kärnten" (MTD); "Carinthia", leg.Klimsch (OLL, ZMH). SALZBURG, KÄRNTEN or STEIERMARK: "Alpen Tauern" (NMW).
P O L A N D: Glatz (= Glodzko), leg. Letzner (DEI).
J U G O S L A V I A: SLOVENIA: Trcek, coll.Praxmarer (NMW); Radmannsdorf [= Radovljica) (NMW); Bled, leg.Pretner (CPL); Triglav, 10.VIII.1934, leg.Pretner (CHD); BOSNIA: Sarajevo (ISNB, CPL, MTD).
R U M A N I A: "Siebenbürgen" (NMW).

Ochthebius speculator sp.n.

TYPE LOCALITY: River (ca. 10 m wide) nr Mutki, Bitlis, eastern Turkey.

TYPE MATERIAL: Holotype ♂ (NMW): "TR 11.6.1987 (71) Mutki w. Tatvan. Jäch".

DIAGNOSIS: 1.7 mm long. Head and pronotum dark brown to black, with distinct coppery or metallic reflections, elytra, legs and palpi brown. Labrum deeply emarginate, front margin slightly elevated; clypeus distinctly microreticulate. Interfoveal areas of pronotal disc moderately densely punctured, hardly noticeably chagreened; anterior foveae small and round, miroreticulate, posterior foveae larger, oval, microreticulate; median groove narrow, not reaching anterior and posterior margins; lateral depression convex, finely punctate and reticulate, sides rounded; hyaline border well developed; anterior margin of pronotum only very slightly sinuous, without any prominent projections. Elytra with 5 rows of punctures between suture and shoulder, intervals flat, rugulose, each puncture with a moderately long whitish seta; sides convex; explanate margin narrow. Median glabrous area of metasternum large. Basal five sterna of abdomen with hydrofuge pubescence, apical two segments smooth. Female unknown.

Aedeagus (fig. 13): main piece short, distorted; distal lobe similar to *uskubensis* (with a conspicuous circular aperture), but distinctly shorter.

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As I have examined only one specimen, I am unable to name any significant character to distinguish *speculator* from *mediterraneus* or related species without aedeagus dissection.

DISTRIBUTION (fig. 42): Known only from the type locality.

ETYMOLOGY: speculator (latin) - spy, scout. Refers to the circular "hole" in the distal lobe.

Ochthebius tacapasensis FERRO

Ochthebius tacapasensis FERRO 1983: 75.
Ochthebius tacapasensis ssp.*baeticus* FERRO 1984c: 114 (= **stat.nov.**).
Ochthebius paganettii JÄCH & FERRO 1988: 207 (= **syn.nov.**).

TYPE LOCALITY: Gabes, southern Tunisia.

TYPE MATERIAL: Holotype ♂ in NMP, 13 paratypes in NMP, CFL and NMW.

SYNONYMS: I have not seen the holotype ♂ nor the female paratype of *O.baeticus* (type locality: Murcia, Spain), which are both deposited in the CFL, but I have examined 9 specimens of *tacapasensis* from Murcia, which agree very well with the description of *baeticus*.

Ochthebius paganettii (type locality: Calabria, southern Italy) is a synonym of *O.tacapasensis*. The holotype ♂ is deposited in the NMW, 18 paratypes are deposited in the NMW and CFL, IZI.

DIAGNOSIS: 1.5 - 1.7 mm long. Very similar to *anxifer*, *atriceps*, *dentifer*, *praetermissus*, *recurvatus*, *thermalis*. I was not able to find significant characters to separate these 7 species externally. The size of the labral emargination is variable in all of the species. Pronotal chagrination usually more clearly pronounced in *thermalis*.

The specimens described from Calabria and Lucania (described as *paganettii*) are considerably darker than the remaining specimens (? subspecies).

Aedeagus (fig. 26): apical third of main piece slightly curved to the right side (ventral or dorsal aspect); this curvature is very moderate in specimens from Italy and Tunisia, slightly more pronounced in Algerian material and quite distinctly developed in specimens from Spain; the distal lobe differs from *praetermissus* by its less regular (less evenly curved) appearance, dorsal margin always undulated in apical third, apex smaller; "undulation" of the dorsal margin of the distal lobe more distinctly pronounced in Spanish material.

Due to the aedeagal differences between western and eastern populations of *tacapasensis*, I regard *baeticus* as a valid subspecies.

DISTRIBUTION (fig. 43): Maghrebinian, extenting northwards into Spain and southern Italy.

ADDITIONAL MATERIAL EXAMINED:
S P A I N: MURCIA: Rambla de la Parra, 4.VIII.1988, leg.Delgado (NMW).
I T A L Y: LUCANIA: Montalbano, 3.XI.1978, leg.Ferro (TMB); SICILY: Porto Empedocle, 15.II.1988, leg.Eyre (NMW, CFA); Montallegro, F.Platani, 21.VIII.1986, leg.Gerecke (NMW).
A L G E R I A: Bou-Saada, nw Biskra, 1875, leg.Oberthür (MHNP); Aïn Sefra, coll.Bedel (MHNP).
M O R O C C O: Figuig, leg.Alluaud (MHNP).

Ochthebius thermalis JANNSENS

Ochthebius thermalis JANNSENS 1965: 90. - IENISTEA 1978. - FERRO 1984a.

TYPE LOCALITY: Aidhipsos, Euboea, Greece.

TYPE MATERIAL: I have examined the holotype ♂: "Grèce (I.d'Eubée) Aidhipsos 16-18-v-1959 Em.Janssens / R.I.Sc.N.B.I.G.21.791 / Prep. Micr. 288595 / TYPE / E.Janssens det., 1968 Hymenodes thermalis m." (ISNB).

DIAGNOSIS: 1.35 - 1.75 mm long. Very similar to *anxifer*, *atriceps*, *praetermissus*, *recurvatus*, *tacapasensis*, but chagrination of pronotum more clearly developed; pronotal foveae slightly

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larger. Aedeagus (fig. 31): Very similar to *praetermissus* and *tacapasensis*, but distal lobe distinctly wider.

DISTRIBUTION (fig. 41): Eastern Mediterranean.

ADDITIONAL MATERIAL EXAMINED:

G R E E C E: Olympia, Miraklia, 7.V.1930, leg.Orchymont (ISNB); Elevsis, Lagune, 25.V.1930, leg.Orchymont (ISNB, NMW); Milos: Achivadolimni, 21.IX.1990, leg.Jäch (NMW); Crete: H.Nikolaos, IV.1931, leg.Orchymont (ISNB).

L E B A N O N: Beirut, leg.Sahlberg (ZMH).

I S R A E L: UPPER GALILEE: Banyas, 31.VII.1985, leg.Jäch (NMW); SOUTHERN COASTAL PLAIN: Berekhat Nizzanim quarry, 24.VII.1985, leg.Jäch (NMW); JORDAN VALLEY: Lower Jordan river, 26.VIII.1985, leg.Jäch (NMW); DEAD SEA AREA: En Tamar, 2.III.1985, leg.Jäch (NMW); En Ha'Kikar, 16.XII.1980, IES 2019/Col.147901 (TAU).

S A U D I A R A B I A: Wadi Ghamra, 17 km before Kaybar, 660 m, 25.IV.1979 (NMB, NMW).

E G Y P T: Alexandria (NMW, DEI, MHNP, ZMH, TMB); Fayum, Sadiya, Lake Karoun, 10,X,1957 (TMB); Oasis Bahariye, 383 km sw Cairo, 4.IV.1989, leg.Balke (CBHB, NMW); Sinai, Ayun Musa, 1.IV.1989, leg.Balke (CBHB, NMW); Heluan, 26.VI.1933, leg.Alfieri (FMC).

T U N I S I A: Douz, 14.IV.1986, leg.Schillhammer (NMW); s Kebili, 24.V.1982, leg.Malicky (NMW).

? A U S T R I A (obviously label mistakes): BURGENLAND: Neusiedler See, coll.Strauss (NMW); NIEDERÖSTERREICH: Marchfeld, coll.Strauss (NMW).

Ochthebius uskubensis HEBAUER

Ochthebius uskubensis HEBAUER 1986: 76. - IENISTEA 1988.

TYPE LOCALITY: Skopje, Macedonia, Jugoslavia.

TYPE MATERIAL: Holotype ♂ in CHD, 26 paratypes in CHD, CPL, CFL, BML and NMW. Additional topotypical material in the ISNB.

DIAGNOSIS: 1.7 - 1.85 mm long. Interfoveal areas of pronotal disc usually moderately punctate and glabrous, without microreticulation. Differs from *mediterraneus* by the slightly longer, behind the lateral depressions more strongly attenuate pronotum and by the paler elytra, which are more yellowish than brown. Elytral striae darkened in Turkish specimens. Aedeagus (fig. 12): dorsal branch of distal lobe small, ventral branch long, flat and slightly twisted.

DISTRIBUTION (fig. 41): Albania to the Caucasus.

ADDITIONAL MATERIAL EXAMINED:

A L B A N I A: "Skutari" [= Skoder], Mesi (CPL, ISNB, CHD).

B U L G A R I A: Sliven, Tunzha river, 28.VI.1908, leg.Rambousek (DEI).

T U R K E Y: SIVAS: Kizilirmak nr Zara, 1.VI.1989, leg.Jäch (NMW).

S O V I E T U N I O N: "Kaukasus", leg.Leder (TMB).

Ochthebius virgula FERRO

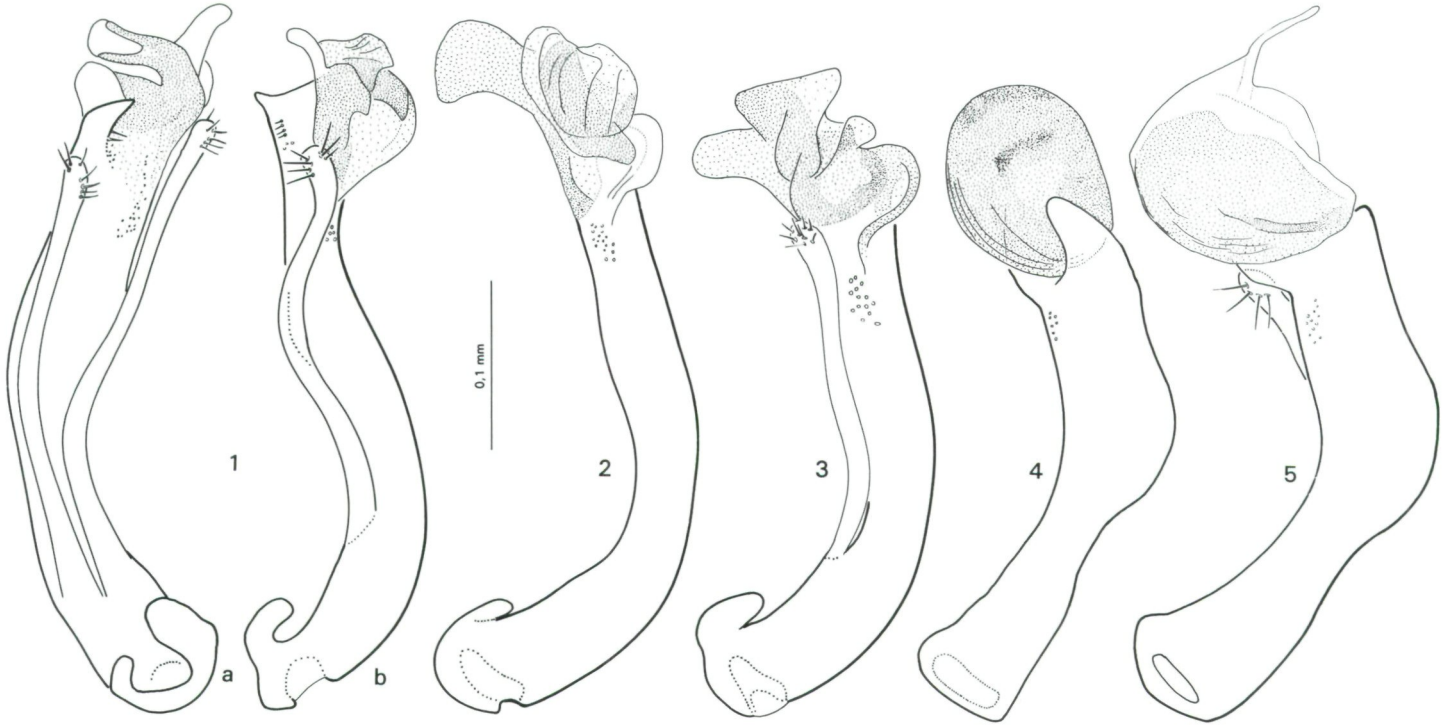
Ochthebius virgula FERRO 1986: 149.

TYPE LOCALITY: Sele river, Salerno, Campania, Italy.

TYPE MATERIAL: Holotype ♂ and ca. 30 paratypes in CFL, 2 paratypes in NMW, 1 paratype in the CHD.

DIAGNOSIS: 1.4 - 1.65 mm long. As I have examined only 3 specimens I was unable to find significant differences between *virgula* and related species (*foveolatus*, *mediterraneus*, *siculus*). Aedeagus (fig. 5): quite distinctive; main piece stout and more strongly curved than in siculus, distal lobe semicircular, with a small and inconspicuous filamentous process, which is absent in *siculus*.

DISTRIBUTION (fig. 42): Italy (Emilia, Campania, Puglia, Lucania, Calabria).



Figs. 1 - 5: Aedeagus: 1) *Ochthebius foveolatus* (Ordu, Turkey), (a) ventral aspect, (b) lateral aspect; 2) *O.marginalis* (lectotype), dorsolateral; 3) *O.mutatus* (holotype), dorsolateral; 4) *O.siculus*, paralectotype, dorsolateral, distal lobe with maximum outlines and 5) *O.virgula*, paratype (Cesena, Italy), dorsolateral.

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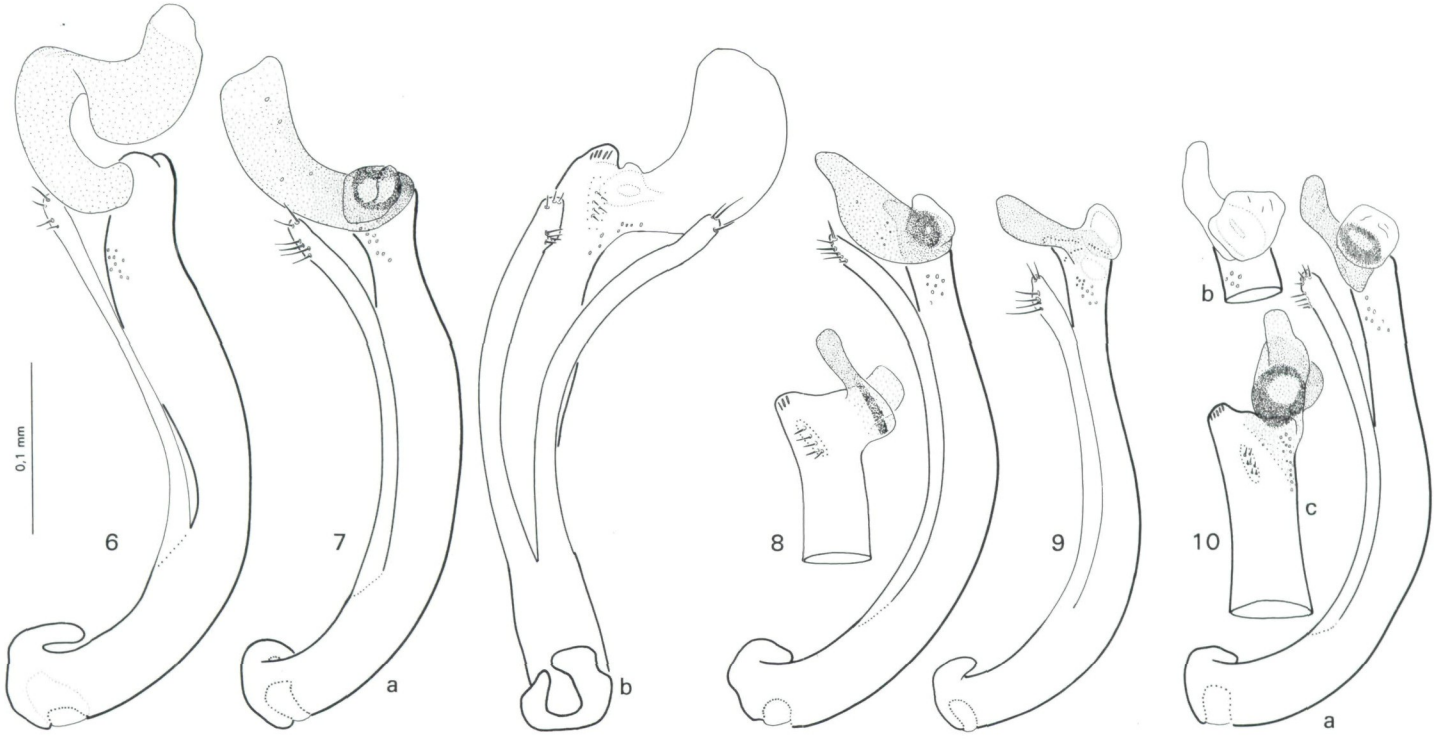

Figs. 6 - 10: Aedeagus: 6) *Ochthebius alpheius* (Pindos, Greece), lateral; 7) *O.sidanus*, (a) dorsolateral (Bosnia, Yugoslavia), (b) ventral (Slovenia, Yugoslavia); 8) *O.pedicularius pedicularius* (Slovenia, Yugoslavia), lateral, inset: same, ventral view of apex; 9) *O.pedicularius medius*, paratype, dorsolateral; 10) *O.satoi*, (a) dorsolateral view, (Harbin, China), (b) lateral view of apex (Mongolia), (c) ventral view of apex (Tokyo, Japan).

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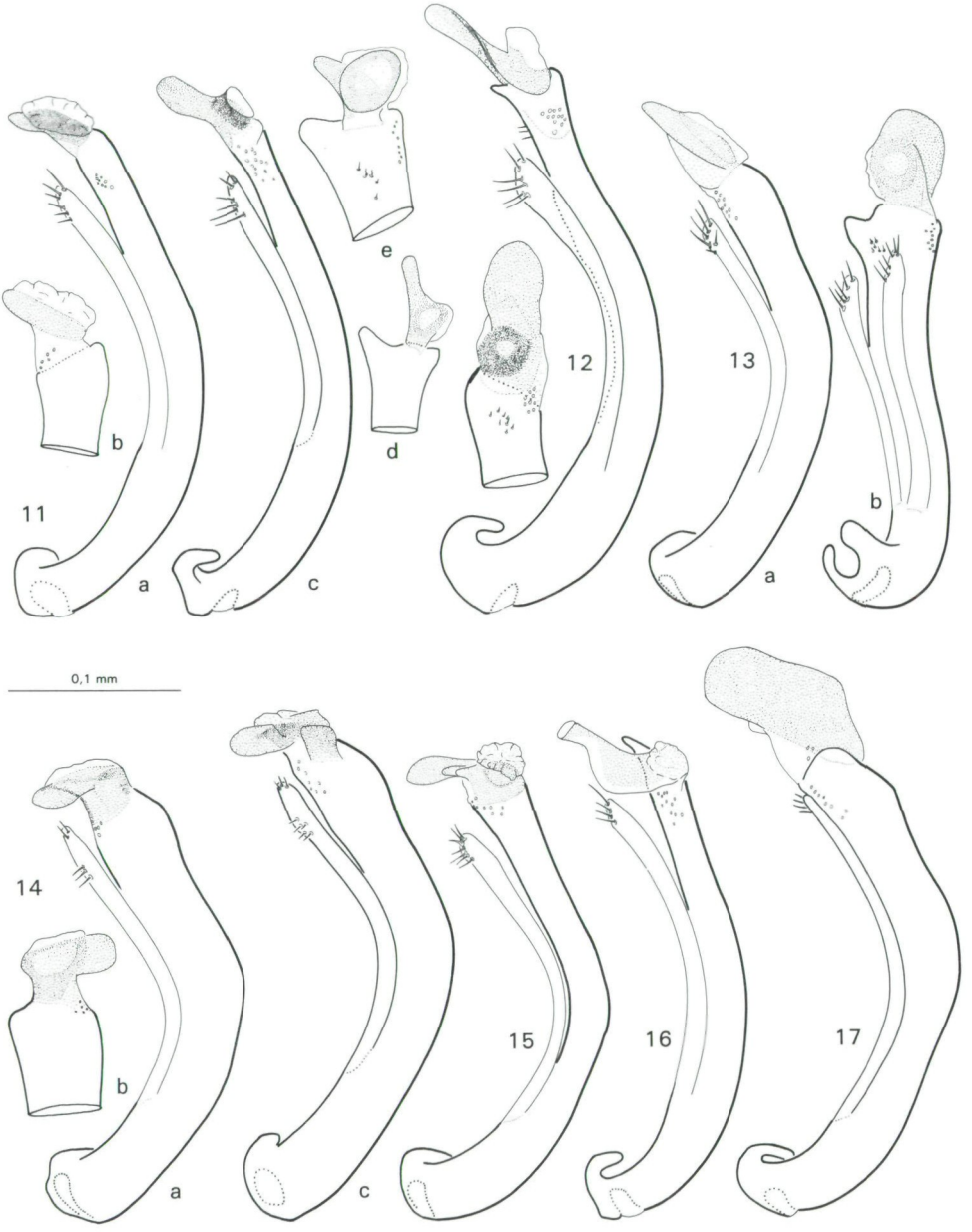

Figs. 11 - 17: Aedeagus: 11) *Ochthebius mediterraneus*, (a) lateral (Ankara, Turkey), (b) apex, dorsolateral (Kizilirmak, Turkey), (c) lateral (Hercegowina, Yugoslavia), (d) ventral view, apex (Trabzon, Turkey), (e) ventral view, apex (Bulgaria); 12) *O.uskubensis*, paratype, lateral aspect, inset: apex of same, ventral view; 13) *O.speculator*, holotype, (a) dorsolateral, (b) ventral; 14) *O.inconspicuus*, (a) dorsolateral (Erfelek, Turkey), (b) apex of same, ventral view, (c), dorsolateral (Namrun, Turkey); 15) *O.hellenicus*, dorsolateral (Crete, Greece); 16) *O.balcanicus*, lateral (Bursa, Turkey); 17) *O.merinidicus*, dorsolateral (Tunisia).

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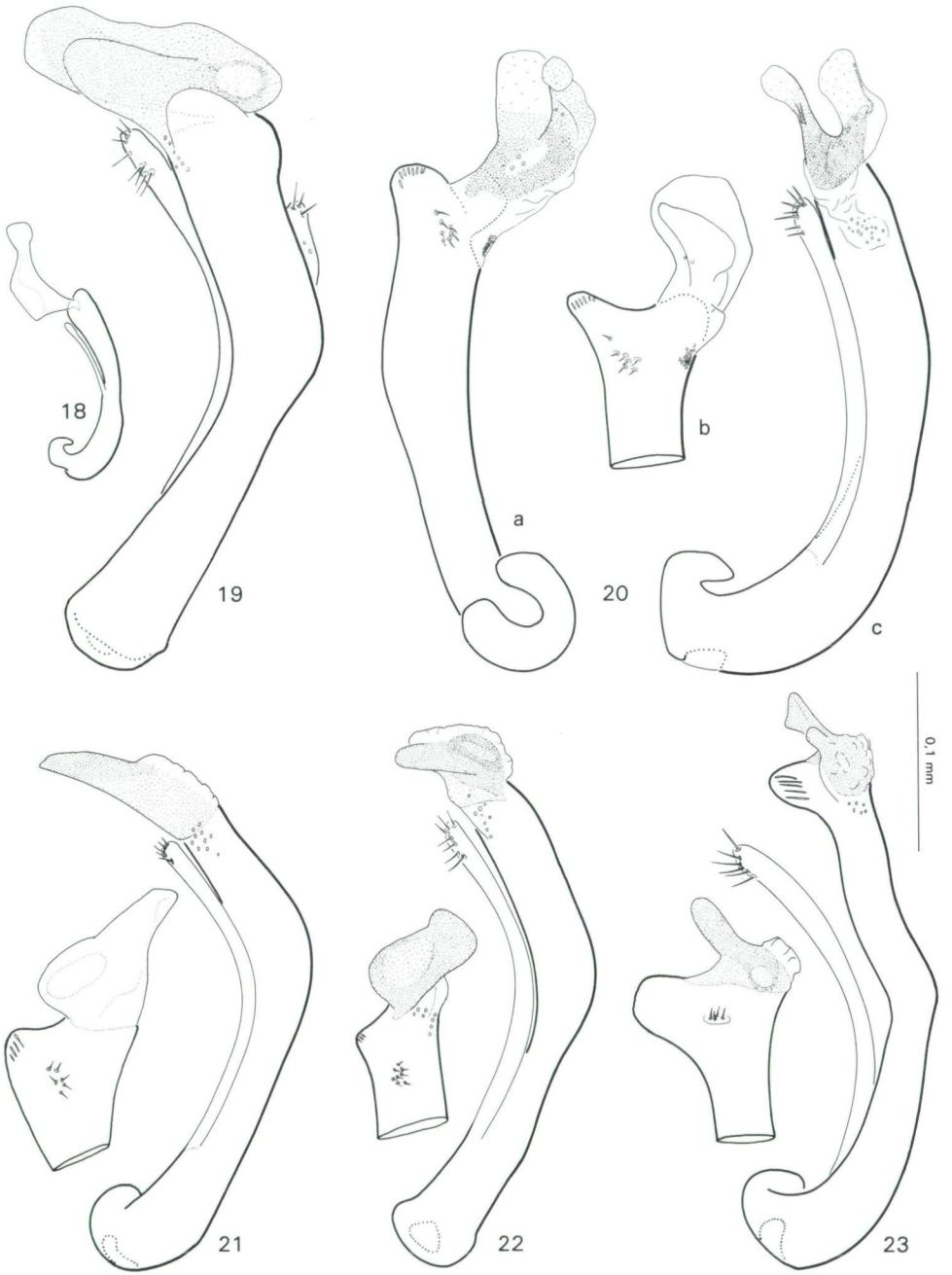

Figs. 18 - 23: Aedeagus: 18) *Ochthebius perpusillus*, redrawn from FERRO (1985, fig. 3), not to scale; 19) *O.afghanicus*, dorsolateral, paratype; 20) *O.pallidulus*, (a) ventral view, paralectotype, (b) apex of same, ventral aspect, but slightly different orientation, (c) same, lateral aspect; 21) *O.innexus*, dorsolateral (Saudi Arabia), inset: apex of same, ventral aspect; 22) *O.indicus*, dorsolateral (Nepal), inset: apex of same, ventral view; 23) *O.elisae*, dorsolateral (Turkey), inset: apex of same, ventral view.

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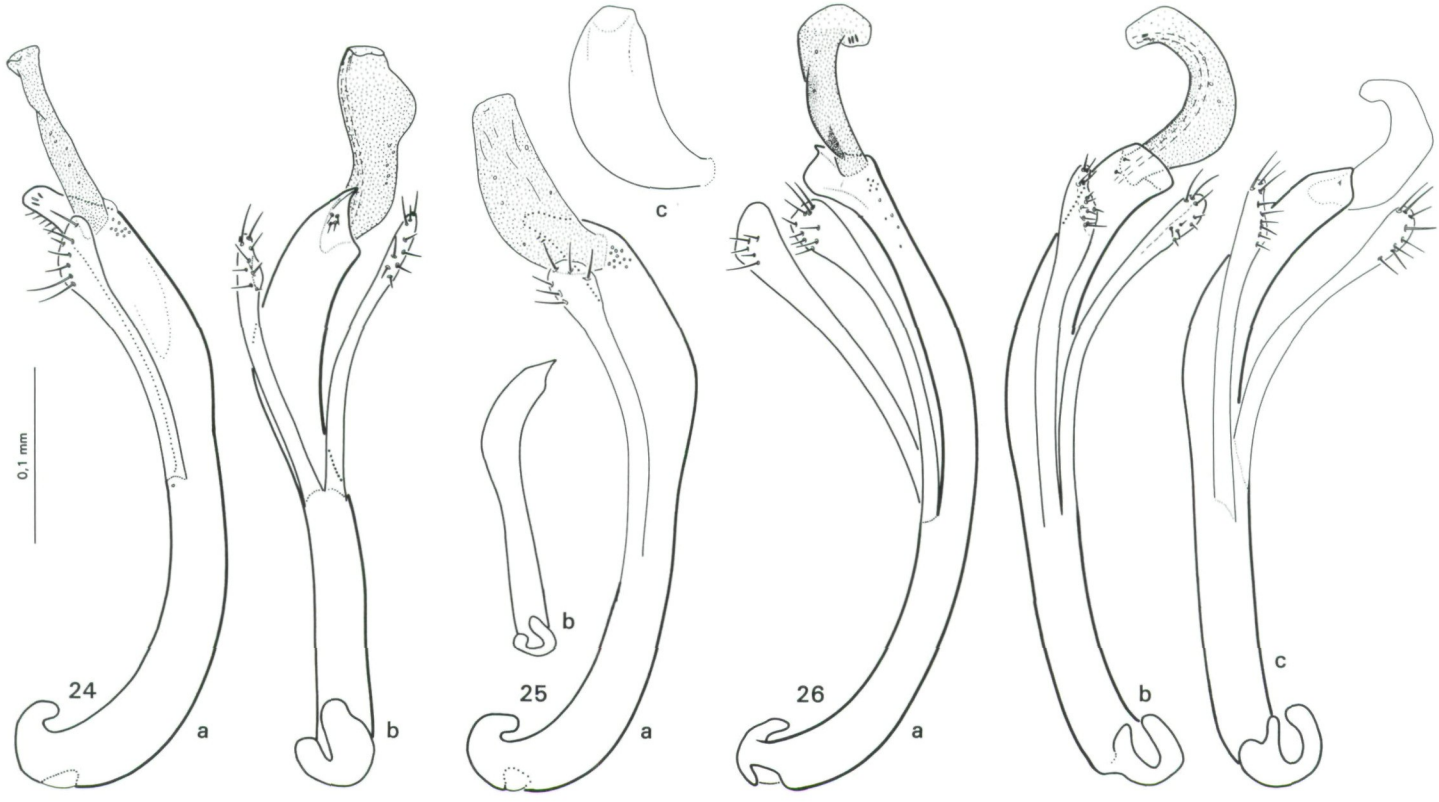
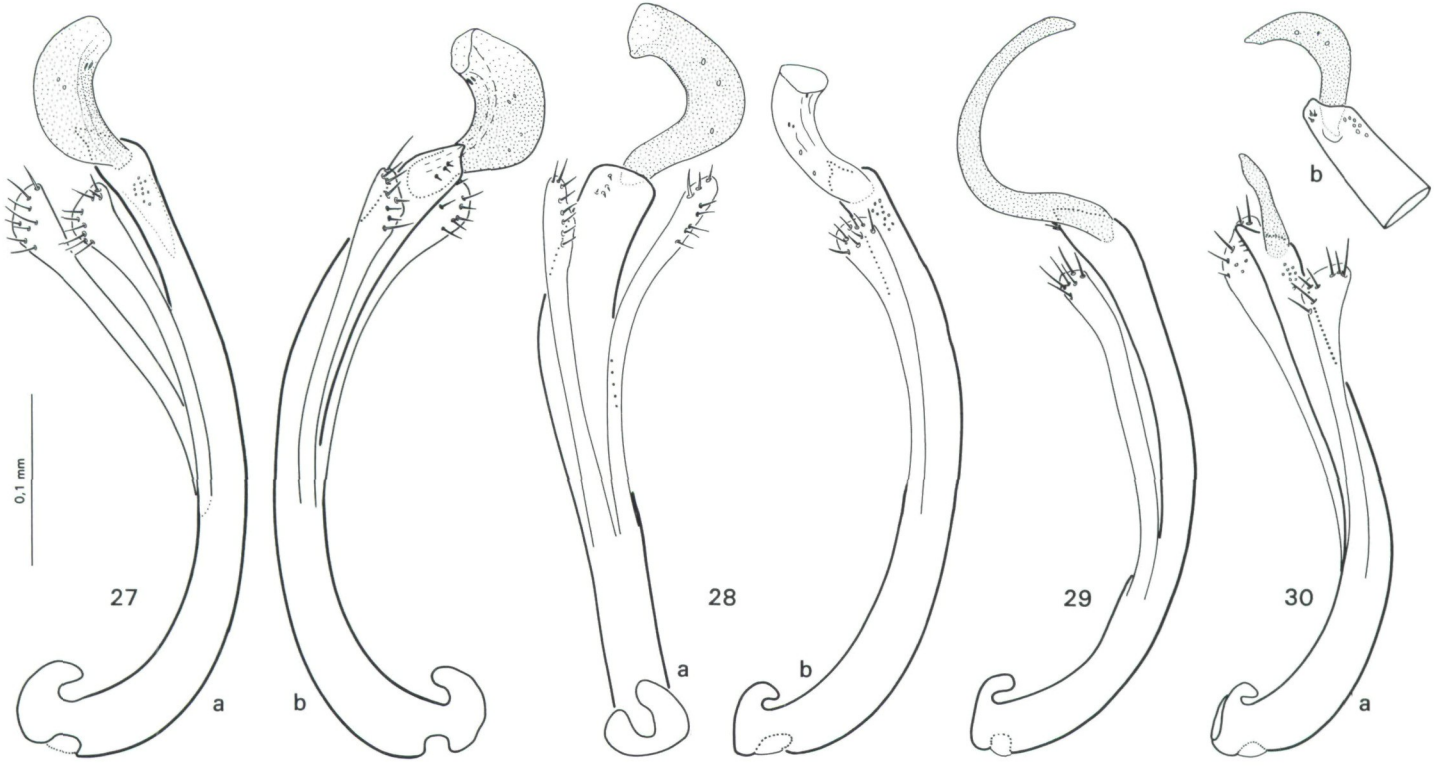


Figs. 24 - 26: Aedeagus: 24) *Ochthebius atriceps*, (a) lateral view (Algeria), (b) same, ventral aspect; 25) *O.anxifer*, (a) dorsolateral (Morocco), distal lobe almost in maximum outlines, (b) same, main piece in ventral aspect, (c) same, distal lobe in maximum outlines; 26) *O.tacapasensis* (a) lateral view (Italy), (b) same, ventral view, (c) ventral view (Ain Sefra, Algeria).



Figs. 27 - 30: Aedeagus: 27) *Ochthebius dentifer*, (a) lateral view, (b) same, ventrolateral view; 28) *O.praetermissus*, (a) ventral view (Morocco), (b) same, lateral view; 29) *O.falcatus*, lateral view, holotype; 30) *O.cameroni*, holotype, (a) lateral view, (b) apex of same, ventral view, distal lobe with maximum outlines.

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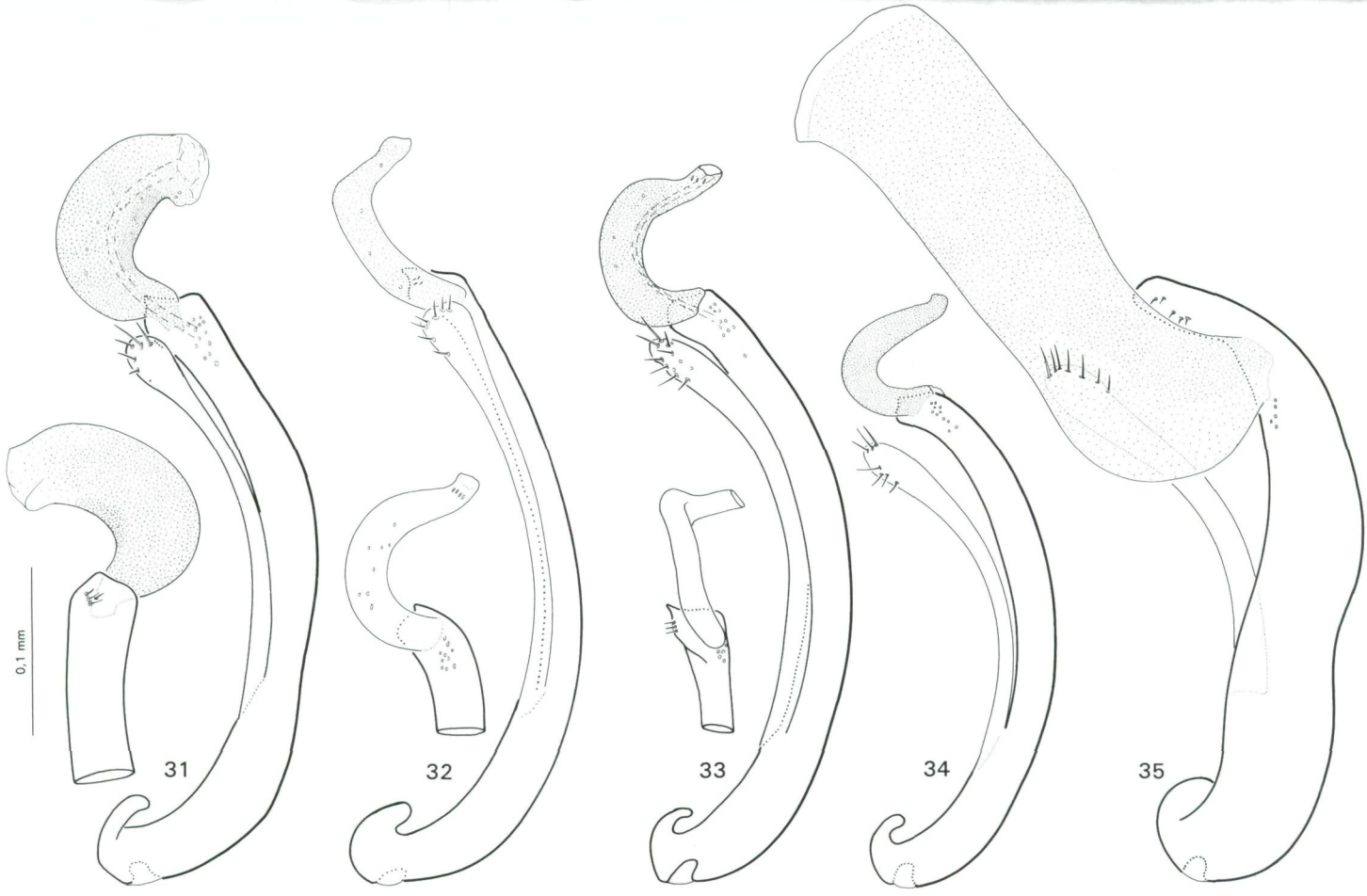
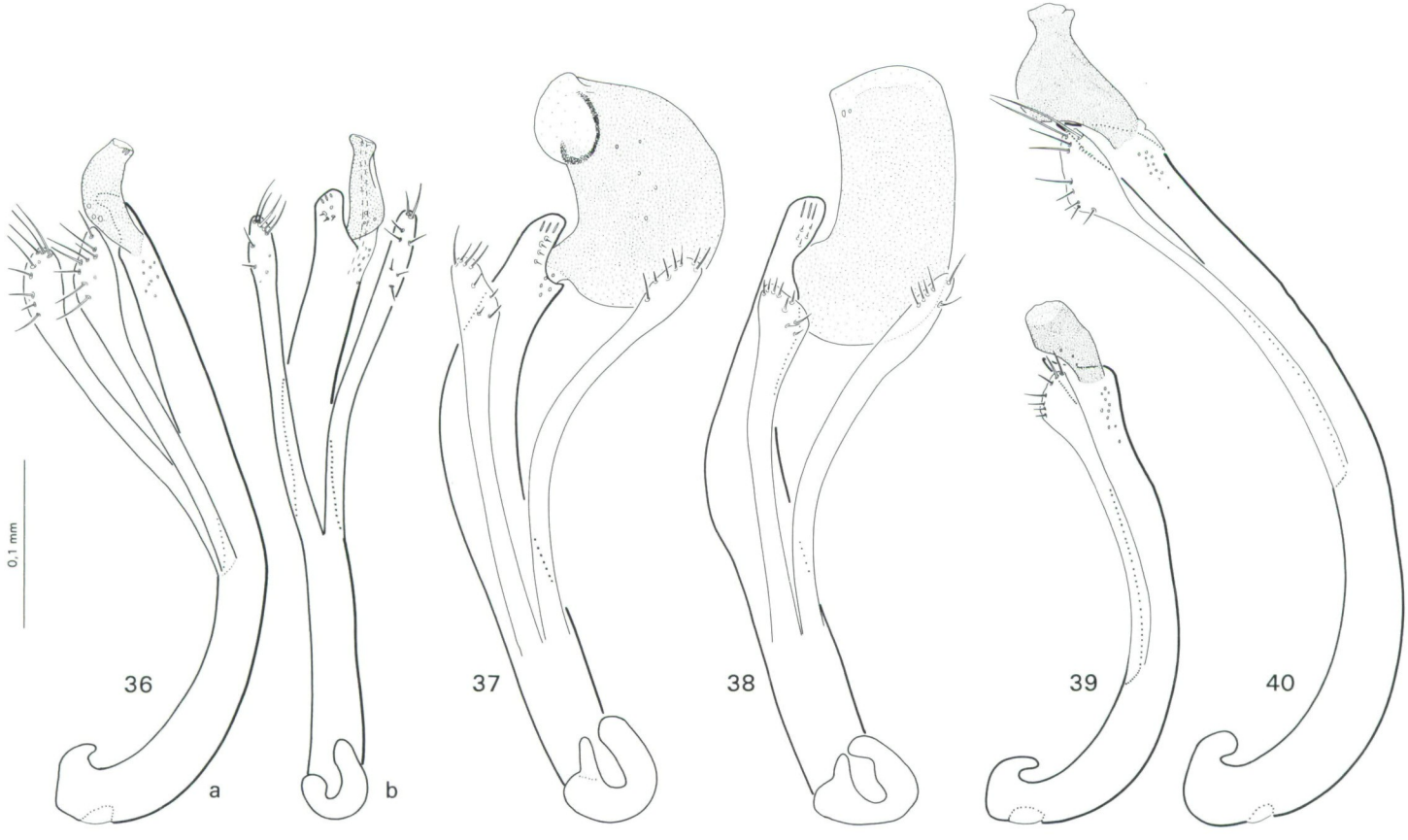


Figs. 31 - 35: Aedeagus: 31) *Ochthebius thermalis*, lateral, inset: apex of same, ventral; 32) *O.faustinus*, lateral, (Cyprus), distal lobe not with maximum outlines, inset: apex of same, distal lobe with maximum outlines; 33) *O.hesperides*, lateral (Cape Verde Islands), distal lobe more or less with max.outlines, inset: apex of same, dorsal view; 34) *O.recurvatus*, lateral, holotype; 35) *O.karasui*, dorsolateral ("Armenia").



Figs. 36 - 40: Aedeagus: 36) *Ochthebius fausti*, (a) lateral, lectotype, (b) same, ventral; 37) *O.lacustatta*, ventral, lectotype; 38) O.depressionis, ventral, holotype; 39) *O.sculpturatus*, lateral, holotype; 40) *O.gauthieri*, lateral (Gafsa, Tunisia).

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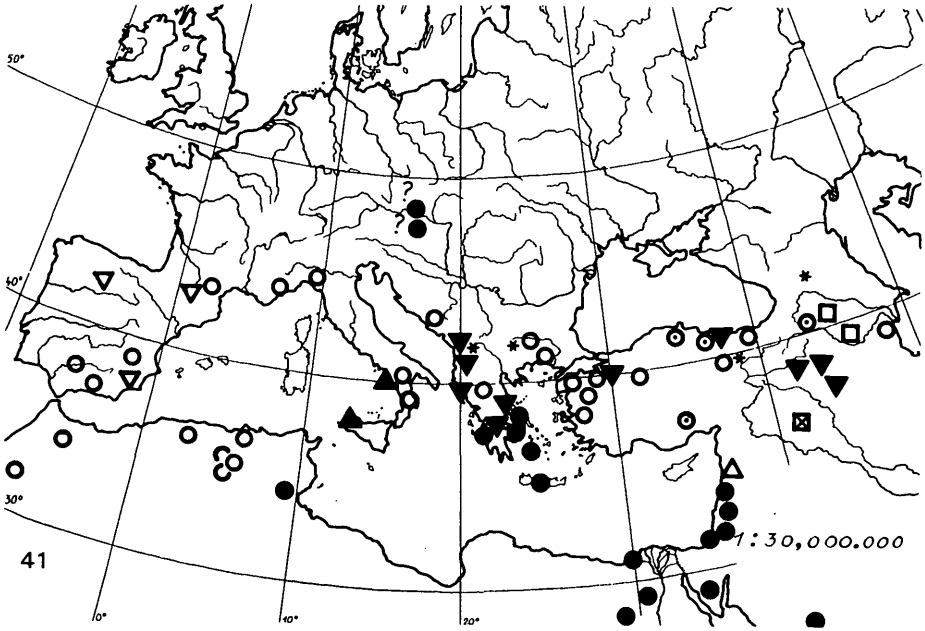

Fig. 41: Geographical distribution of *Ochthebius balcanicus* (▼), *inconspicuus* (⊙), *karasui* (□), *marginalis* (▽), *mediterraneus* (○), *mutatus* (△), *pallidulus* (⊠), *siculus* (▲), *thermalis* (●) and *uskubensis* (✱).

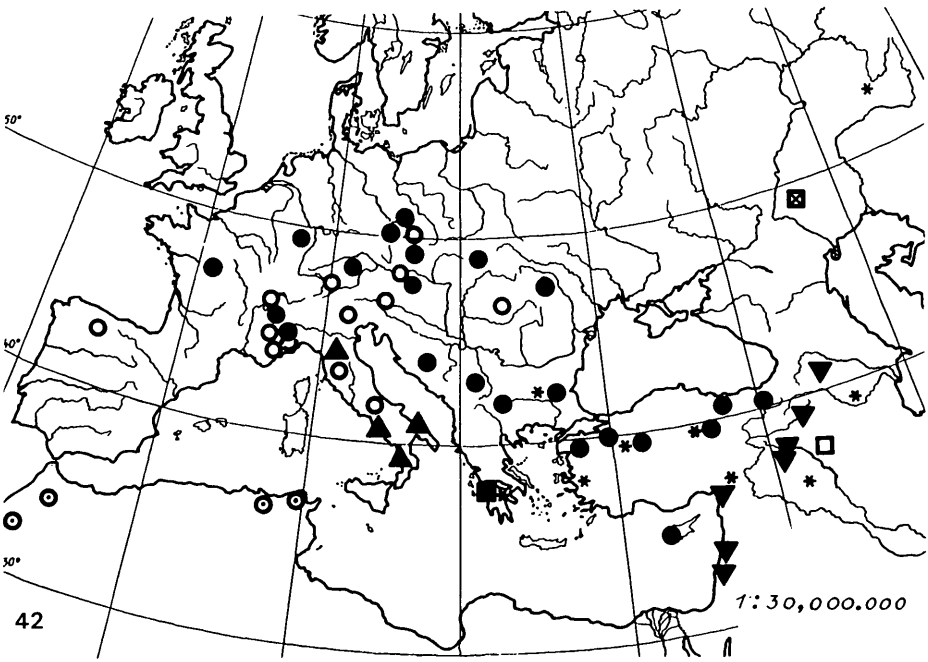

Fig. 42: Geographical distribution of *Ochthebius alpheius* (■), *depressionis* (⊠), *elisae* (▼), *fausti* (✱), *foveolatus* (●), *merinidicus* (⊙), *sidanus* (○), *speculator* (□) and *virgula* (▲).

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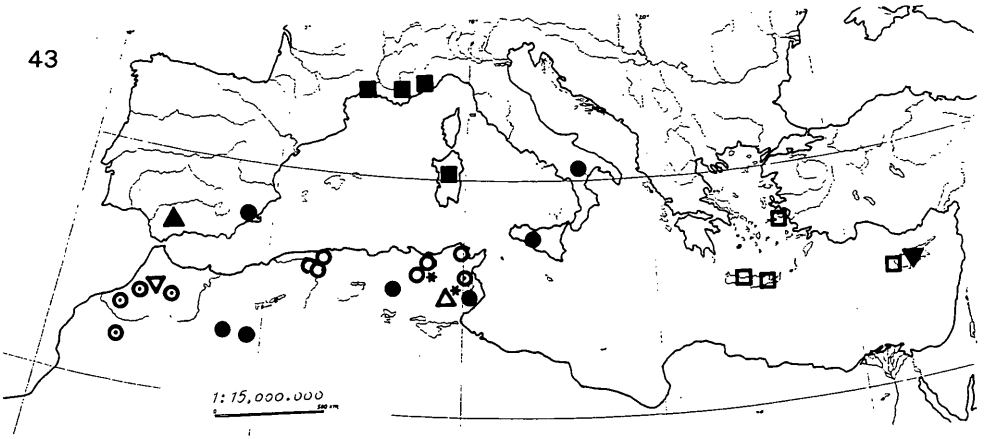

Fig. 43: Geographical distribution of *Ochthebius anxifer* (▲), *atriceps* (○), *dentifer* (■), *faustinus* (▼), *gauthieri* (✱), *hellenicus* (□), *perpusillus* (▽), *praetermissus* (⊙), *recurvatus* (△), and *tacapasensis* (●).

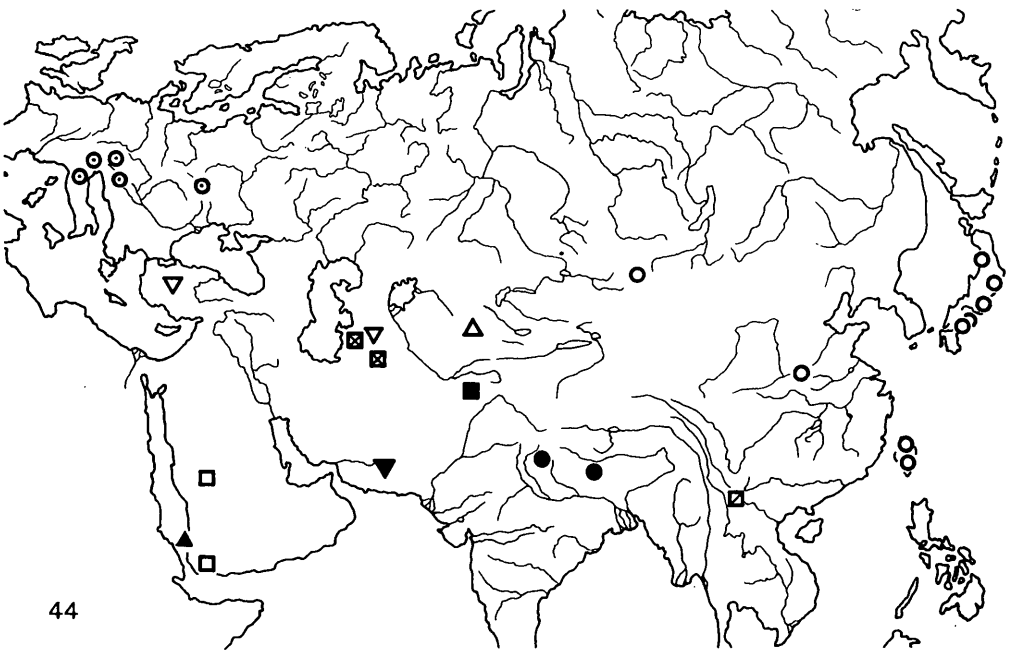

Fig. 44: Geographical distribution of *Ochthebius afghanicus* (■), *cameroni* (▲), *falcatus* (▼), *indicus* (●), *innexus* (□), *lacustatta* (▽), *octofoveatus* (▨), *pedicularius pedicularius* (⊙), *pedicularius medius* (△), *satoi* (○) and *sculpturatus* (⊠).

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Zusammenfassung

Vierzig Arten und 2 Unterarten werden behandelt. Lectotypen werden für *atriceps* FAIRMAIRE, *elisae* SAHLBERG, *fausti* SHARP, *foveolatus* GERMAR, *gauthieri* PEYERIMHOFF, *marginalis* REY, *pallidulus* KUWERT, *pedicularius* KUWERT und *siculus* KUWERT designiert. Für *brunneus* DALLA TORRE und *niger* DALLA TORRE werden Neotypen festgelegt. Neue Synonymien: *atriceps* (= *maghrebinicus* FERRO syn.n.), *fausti* (= *lioba* HEBAUER syn.n. = *olympicus* JANSSENS syn.n.), *marginalis* (= *regili* VALLADARES syn.n.), *sculpturatus* SAHLBERG (= *aliabadensis* FERRO syn.n.), *sidanus* ORCHYMONT (= *persidanus* IENISTEA syn.n. = *socius* BALFOUR-BROWNE syn.n.), *tacapasensis* FERRO (= *paganettii* JÄCH syn.n.) und *metallescens* ROSENHAUER (= *niger* DALLA TORRE syn.n.). *Ochthebius baeticus* FERRO wird als Unterart von *tacapasensis* betrachtet. Neun neue Arten und eine neue Subspezies werden beschrieben: *afghanicus* sp.n., *depressionis* sp.n., *falcatus* sp.n., *inconspicuus* sp.n., *lacustatta* sp.n., *mutatus* sp.n., *praetermissus* sp.n., *recurvatus* sp.n., *speculator* sp.n. und *pedicularius medius* ssp.n. Die männlichen Genitalorgane aller Arten außer *octofoveatus* PU sind illustriert. Verbreitungskarten aller Arten außer *O.hesperides* BALFOUR-BROWNE (Kapverdische Inseln) wurden angefertigt.

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