Linzer biol. Beitr.	33/1	905-931	30.11.2001

World revision of the *Cleptes semiauratus* group (Hymenoptera, Chrysididae, Cleptinae)

With 21 figs and 1 map

L. MÓCZÁR

A b s t r a c t : Eleven species were ranged in the *C. semiauratus* group within the subgenus *Cleptes* s.str. Two new species are described: *Cleptes anatolensis* sp.n. (male) from Turkey and *C. graecus* sp. n. (male) from Greece. *C. pallipes* LEPELETIER 1806 is revalidated from synonymy with *C. semiauratus* LINNAEUS 1761. The erroneously known and cited *C. semiauratus* (female and male) are redescribed. A key is compiled. Variability, corrections and new data of distribution are given.

This revisional series was begun with the compilation of the Cleptinae fauna of the Carpathian Basin (1949, 1967). It was continued with the examination of genitalia (1951, 1962) of the species housed in the Hungarian Natural History Museum. This elaboration of the world fauna was made possible by obtaining the type material of various museums, e.g. London, Canada, Osaka etc. (MÓCZÁR 1996a,b, 1997a,b, 1998a,b,c, 2000, 2001). The present paper revises 11 species of the subfamily Cleptinae. The subgenus *Cleptes* s.str. (MÓCZÁR 1962: 115) was synonymized by KIMSEY & BOHART (1990) but reinstated by MÓCZÁR (1998a: 223). The *C. semiauratus* group is discussed hereunder. This contribution also contains the most frequent two species in the subfamily Cleptinae: *C. pallipes* LEPELETIER and *C. semiauratus* LINNAEUS, being wide-spread in the Palaearctic, mostly in Mediterranean region, and partly in the Nearctic, the Oriental territory (Sumatra), and two species, in the West U.S.A. (California). The following new species are described: *Cleptes anatolensis* sp.n. male (from Turkey) and *C. graecus* sp.n. male (from Greece). *C. pallipes* LEPELETIER is revalidated from its synonymy with *C. semiauratus* LINNAEUS and distinguished also by its genitalia, (MÓCZÁR 1951). Several authors erroneously knew and cited the species *C. semiauratus*, both female and male, now they are redescribed. The genitalia of the new and doubtful species are depicted. Statements regarding the types are corrected, to holotype in some cases. A checklist of the *C. semiauratus* group and a key for the species of the world are compiled. New taxonomic and distribution data and information are presented concerning the variability, especially the species of *C. semiauratus* and *C. pallipes*.

The correct and detailed enumeration of the original labels of the type materials and of the material examined may facilitate the identification in the future. Therefore it is necessary to list the original labels (the type material in inverted commas). Carpathian Basin represents a uniform fauna, including Hungary, Slovakia, Sub Carpathian region of Ukraine, Transylvania from Rumania, North Yugoslavia: about the Danuble, northern part of Croatia and Slovenia partly. Although the names of locations have changed in this area, all the changes are listed in a previous work (MÓCZÁR et. al. 1972).

K e y w o r d s : Hymenoptera, Chrysididae, *Cleptes semiauratus* group, Taxonomy, Keys.

Introduction

The material for the revision has been studied either in situ, or was sent by colleagues of the institutions listed below. I got technical help for photos. For the electromicroscope photos: Prof. E. Mihalik, chair of Botanical Institute of József Attila University, (Szeged) and Gy. Gadányi (Budapest). I should like to express my gratitude to all colleagues for the help I received during this work.

- Bonn = Zoologisches Forschungsinstitut und Museum A. König, Bonn, German.
- Brno = Moravské Museum v. Brune = Moravian Museum, Department of Entomology, Brno, Czech Rep. (J. Stehlik).
- Budapest = Magyar Természettudományi Múzeum, Hungarian Natural History Museum Budapest, Hungary (L. Zombori, J. Papp).
- Davis = Bohart Museum of Enmology, University of California, Davis, U.S.A. (Richard M. Bohart, Linn S. Kimsey, L.A. Baptiste).
- Frankfurt = Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt am Main, German (D.S. Peters, J.P. Kopelke).
- Geneva = Museum d'Histoire Naturelle, Département d'Entomologie, Genève, Schwitzerland (C. Besuchet, B. Merz).
- Helsinki = Soveltavan elöintieten laitos, Dept. of Applied Zoology Helsinki, Finland (A. Pekkarinen and K. Mikkola).
- København = Zoologisk Museum, Denmark (B. Petersen).
- Leiden = Rijksmuseum van Natuurlijke Historie, Leiden, Nederland (J.T. Wiebes, C. van Achterberg).
- Linz = Oberösterreichisches Landesmuseum Linz/Biologiezentrum, Linz, Österreich, Austria (F. Gusenleitner).
- London = The Natural History Museum, (formerly British Museum Natural History), Department of Entomology, London, Great Britain (M.C. Day, C. Vardy, G.R. Else, Suzanne Lewis).
- Luzern = Private Collection of W. Linsenmaier, deposited in the Museum of Luzern, Switzerland.
- Madrid = Museo Nacional de Ciencias Naturales, Madrid, Spain (Elvira Mingo-Pérez, Carolina Martin).
- München = Zoologische Staatssammlung, München, Munich, German (E. Diller).
- Sibiu = Muzeul de Istorie Naturala Sibiu, Rumania: Transylvania.
- Ottawa = Canadian National Collection of Insect (former Agriculture and Agri-Food Research Branch) Ontario, Canada Ottawa (L. Masner, J. Huber).
- Paris = Museum National d'Histoire Naturelle Laboratoire d'Entomologie Paris, France (S. Kellner-Pillault, J. Casevitz-Weulersse).
- Prague = Narodni Museum, National Museum of Natural History Praha, Czech Rep. (O. Šustera, Zd. Bouček).
- St. Petersburg = Zoological Institut, Russian Academy of Sciences, Russia (V. Tobias).
- Sofia = Academie Bulgarie des Sciences, Museum d'Histoire Naturelle, Sofia, Bulgarie (N. Atanassov).
- Washington = US National Museum, Washington DC. U.S.A. (K.V. Krombein, A.S. Menke).

- Wien = Naturhistorisches Museum Wien, Vienna, Austria (M. Fischer, S. Schödl, B. Mayerl).
- Zurich = Eidgenössische Technische Hochschule, Entomologisches Institut, Zurich, Schwitzerland (P. Bovey and B. Genz).

Abbreviations

The following symbols or abbreviations are used throughout this as in the preceding papers. F-I (II-III) = flagellomere I (or II-III), following scape and pedicel, MS = malar space (measured across the narrowest interval (MÓCZÁR 1998c Fig. 2) between the ventral eye margin and the ventral edge of malar space, between the mandibular insertions), MOD = middle ocellus diameter transversally, OOL = shortest distance between hind ocellus and compound eye, POL = the same between hind ocelli, Ped = pedicellus (measured over its whole length, including the base, bending resembling a knee), PD = puncture diameter, T = T-I, II etc. tergum or tergite (the first segment dorsally of the abdomen etc.).

Material

Cleptes semiauratus group

Cleptes (*Cleptes* s.str.) MÓCZÁR 1962: 115-116.
Cleptes semiauratus group: LINSENMAIER 1969: 346 (with different species).
Cleptes semiauratus group KIMSEY & BOHART 1990: 58 Fig. 12c.
Cleptes semiauratus group MÓCZÁR 1998c: 505 ♀, ♂.

This species group is characterized by the structure of pronotum and the abdominal colour. The pronotum without complete groove along mid-line. Pronotum has a distinct transverse groove in front, depressed posteriorly and mostly with a row of usually larger pits. Pits indistinctly developed on the same species. Anterior abdominal segments yellowish brown, reddish or chestnut coloured, and brownish black posteriorly, often with a metallic hue laterally or entirely. The sculpture of mesopleuron and the size of propodeal corners are mostly chracteristic, through they are always not uniform on the left and right sides.

The *C. semiauratus* group comprise species from South Palaearctic, especially from Mediterranean region, partly in U.S.A. and exceptionally in Sumatra, Oriental territory.

Checklist of species

Cleptes anatolensis sp.n. - Turkey.
Cleptes cavernalis MÓCZÁR 1968 - Greece.
Cleptes graecus sp.n. - Greece.
Cleptes jordanicus LINSENMAIER 1968 - Jordan, Turkey.
Cleptes maculatus LINSENMAIER 1968 - Cyprus.

Cleptes pallipes LEPELETIER 1806 - Palaearctic, Nearctic, also Oriental terr. Sumatra. (*Diana* MOCSÁRY 1889 synonym - Greece.)

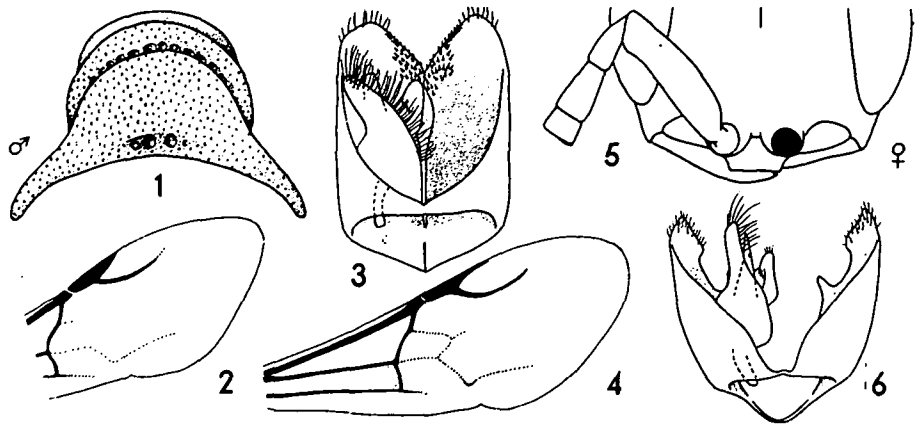
Cleptes parnassicus MOCSÁRY 1902 - Greece.

Cleptes rufifemur KIMSEY 1981 - Nearctic: West U.S.A. (California).

Cleptes rufigaster KIMSEY 1981 - Nearctic: West U.S.A. (California).

Cleptes semiauratus (LINNAEUS 1761) - Palaearctic, Nearctic.

Cleptes turceyanus LINSENMAIER 1968 - Turkey.



Figs 1-6. 1-3 – *Cleptes rufifemur* 1 pronotum, 2 fore wing, 3 male genitalia. **4-6** – *C. rufigaster*; 4 fore wing, 5 lower face in front view, 6 male genitalia. **Figs 1-6**: after KIMSEY.

Key to the species

1 Nearctic species, know from U.S.A.: California 2

- Holarctic or mostly Palaearctic and Oriental species 4

2 Posterior margin of pronotum with two large pits submedially (Fig. 1). Anterior vein of discoidal cell weakly indicated, or lacking (Fig. 2). Wings brown stained. Femora red to yellowish brown. Postscutellum usually without a pit in front. Male: T-I-II and lateral spots on T-III orange, rest of T-III, T-IV-V dark brown becoming black apically. Head and thorax blue or bluish green with a purple reflection. T-IV with dense and deep and uniform punctures. Female: Head, thorax and femora black with a blue and green highlight, terga reddish. 5 mm..... *C. rufifemur* KIMSEY ♂ and ♀

- Posterior margin of pronotum with a row of pits in shallow depression.. Discoidal cell strongly indicated, vein remnants dark stained (Fig. 4). Male femora blue or green, female femora dark brown with more or less blue and green reflections. Postscutellum with a pit in front medially 3

3 Male: Head and thorax bluish green with some purple highlights. Propodeal disc green with a golden tint, lateral teeth blunt and truncate apically. Postscutellum with a remarkably deep pit. Scape, coxae and femora bluish green, tibiae and tarsi reddish brown. 5-6 mm ..... *C. rufigaster* KIMSEY ♂

- Female. Vertex green, with a golden reflection, face gold, with a coppery tint. Pronotal disc green with a golden highlight, concave lateral part black posteriorly and green anteriorly, lobe dark brown. Mesonotum, scutellum and postscutellum bright green. Propodeum black, central area with some pale golden tint. Postscutellar pit small. Scape, coxae and femora brown, with a blue and sometimes green highlight. Femora with metallic reflections. Clypeal truncation distinctly wider than diameter of antennal socket (Fig. 5). T-I-III and lateral spots on T-IV reddish orange, rarely with a golden tint. 6.5 mm ..... *C. rufigaster* KIMSEY ♀

4 Head, thorax extensively flame red, partly coppery, golden, blue or green, females, with 4 visible abdominal segments 5

- Head, thorax extensively blue, green or partly violet, males, with 5 visible abdominal segments 8

5 Vertex and pronotum before posterior groove with a yellowish streak, posterior depression more or less hyaline with a bluish tint. Head flame red, pronotum, mesonotum, scutellum and postscutellum red, partly reddish coppery, upper face and vertex between ocelli with a small greenish blue spot. All legs entirely, scape, pedicel and partly F-I yellowish brown. T-IV brown without a metallic reflection. Propodeum black. Lateral corners of propodeum with pointed tooth directed laterally. Pronotum having a broad depression posteriorly with a keel medially, the row of pits indistinctly developed. 5.5 mm ..... *C. maculatus* LINSENMAIER

- Body without yellowish streaks, posterior depression of pronotum not hyaline. Head, thorax of different colours. Pronotum usually red, in front often green, extensively dark blue, exceptionally. Coxae-femora blackish brown, excepting *C. pallipes,* T-IV blackish brown or with a greenish blue highlight 6

6 Pronotum red in front, dark greenish blue medially and black posteriorly. Propodeal disc blackish-greenish blue, except black oblique grooves. Mesopleuron extensively black and bright green below tegulae, ridges and elongate cavity rounded with irregular foveae; otherwise, obliquely strigose to reticulate rugose to foveolate (EADY 1968, Fig. 20). Vertex, upper face, mesonotum scutellum and postscutellum flame red, mesonotum and scutellum partly with a coppery tint. Posterior row of pits of pronotum deeper and larger medially than laterally before margin. T-I-III yellowish brown, posterior half and T-IV blackish brown, without a metallic reflection. Fore tibiae yellowish brown, middle and hind tibiae light brown. Lower face black. Inner eye margin, genae flame red. Larger species, 8 mm ..... *C. parnassicus* MOCSÁRY ♀

- Pronotum red, propodeum green. Vertical face of mesopleuron moderately sculptured, at most striate or strigose (EADY 1968) with some more elongate and shallow, less deep pits 7

7 Coxae, trochanters, femora and tibiae dark brown or brownish black, excepting yellowish brown fore tibiae, especially on lower face. Outer side of fore femora with a coppery highlight or golden tint. Scape dark brown with reddish coppery tint at upper side. Pedicel, flagellomeres brown, except pale brown Ped apically, and F-I-(II). Head, including face, usually pronotum, mesonotum extensively flame red, or often partly green; scutellum, postscutellum golden red or golden green. Propodeum, excepting the black oblique grooves, mesopleuron, extensively bluish green or greenish blue, and golden along ventral margin and in front. Mesopleuron finely (Fig. 7) striate, at most strigose partly. T-IV dark brown, without or rarely with pale blue reflection or tint. 5.5-7.5 mm ..... *C. semiauratus* (LINNAEUS)

- Legs, scape, pedicel, F-I-II-III entirely yellowish orange or pale yellowish brown. Face coppery red with two large black spots. Vertex, pronotum, mesonotum, scutellum and postscutellum reddish coppery with more or less golden and partly greenish reflections. Mesopleuron greenish and red, partly golden in front along the ventral margin. Surface finely strigose, sometimes with more elongate shallow and 1-2 larger and deeper foveae (Fig. 8) mostly along ventral margin. Propodeum usually dark bluish green. T-IV usually greenish blue. 6.5-8 mm ..... *C. pallipes* LEPELETIER

8 Propodeum usually with a row of 4-8 large, elongate foveae (larger than the row of pits of pronotum) in front medially, and shorter on both sides; foveae well outlined by ridges nearly straight or partly curved on lateral sides, and differently bordered posteriorly. Mesopleuron coarsely strigose to reticulate rugose to foveolate with deeper and larger foveae 9

- Propodeum with at most 3 elongate foveae in front medially; foveae bordered by ridges, hardly straight, mostly curved laterally and irregularly posteriorly. Mesopleuron moderately sculptured, surface striate or strigose, usually at most with 3 elongate more or less deeper foveae or round and elongate punctures 10

9 Head and thorax dark greenish blue and/or with some violet and golden reflections. T-V usually with bluish tint. Fore tibiae yellowish brown or brown above. Anterior margin of postscutellum usually arcuately excavated medially and with a row of some minute foveolae at bottom. T-I-II and laterally T-III yellowish brown or exceptionally brown. Genitalia: Fig. 15-16. 6.5-8 mm ..... *C. parnassicus* MOCSÁRY ♂

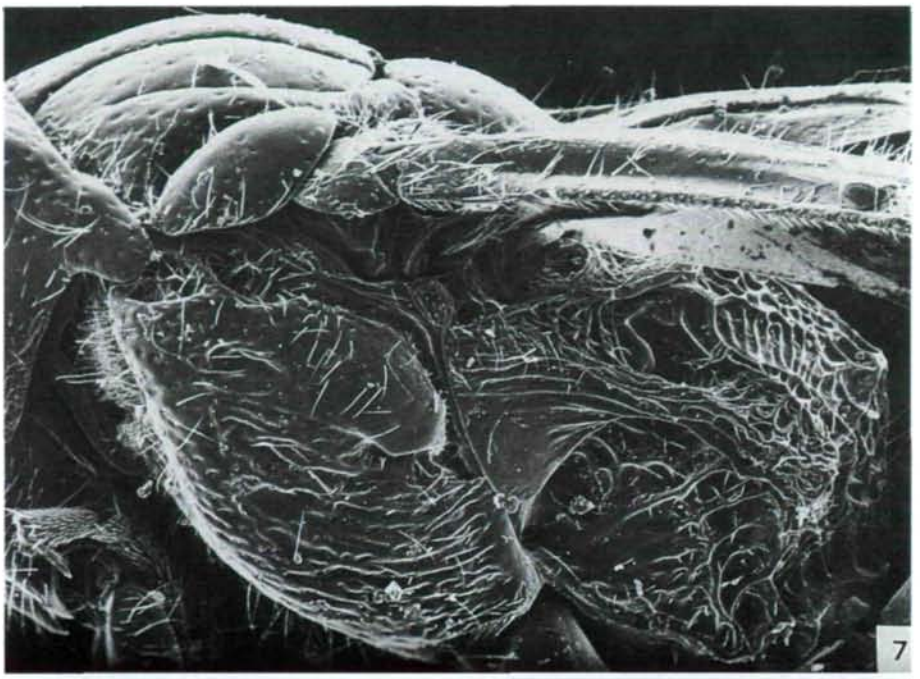
- Head, pronotum, mesonotum greenish blue, scutellum partly with some violet tint and without golden tint. T-V black without bluish tint. Fore tibiae blackish brow dark brown. Split unusually broad between scutellum and postscutellum, with distinct row of foveolae extending to the end of postscutellum T-I, T-II laterally dark reddish brown. Genitalia: Fig. 12. 5.5 mm. ..... *C. anatolensis* sp.n.

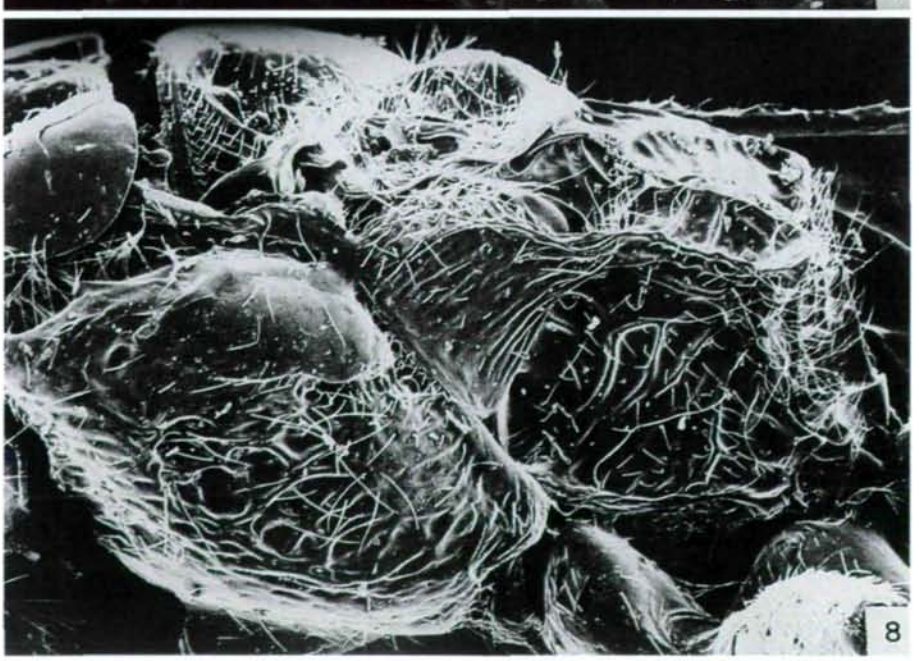
10 Posterior groove of pronotum usually deeply depressed with well outlined, more or less larger, often quadrangular pits at least medially, T-V black or with greenish blue reflection and/or T-IV often with violet reflections. Coxae-femora brown with a greenish highlight, fore tibiae mostly yellowish brown. Head and thorax greenish blue, dark green or dark blue, sometimes with violet or golden reflection. Mesopleuron with foveae 11

- Posterior groove of pronotum narrow and shallow, sometimes hardly depressed at most with some small pits. Last abdominal tergite black or with a blue reflection, exceptionally with some pale violet tint. Mesopleuron without foveae, at most with a short and narrow furrow in the fourth part of the posterior margin or with rather deep, round and elogate punctures 12

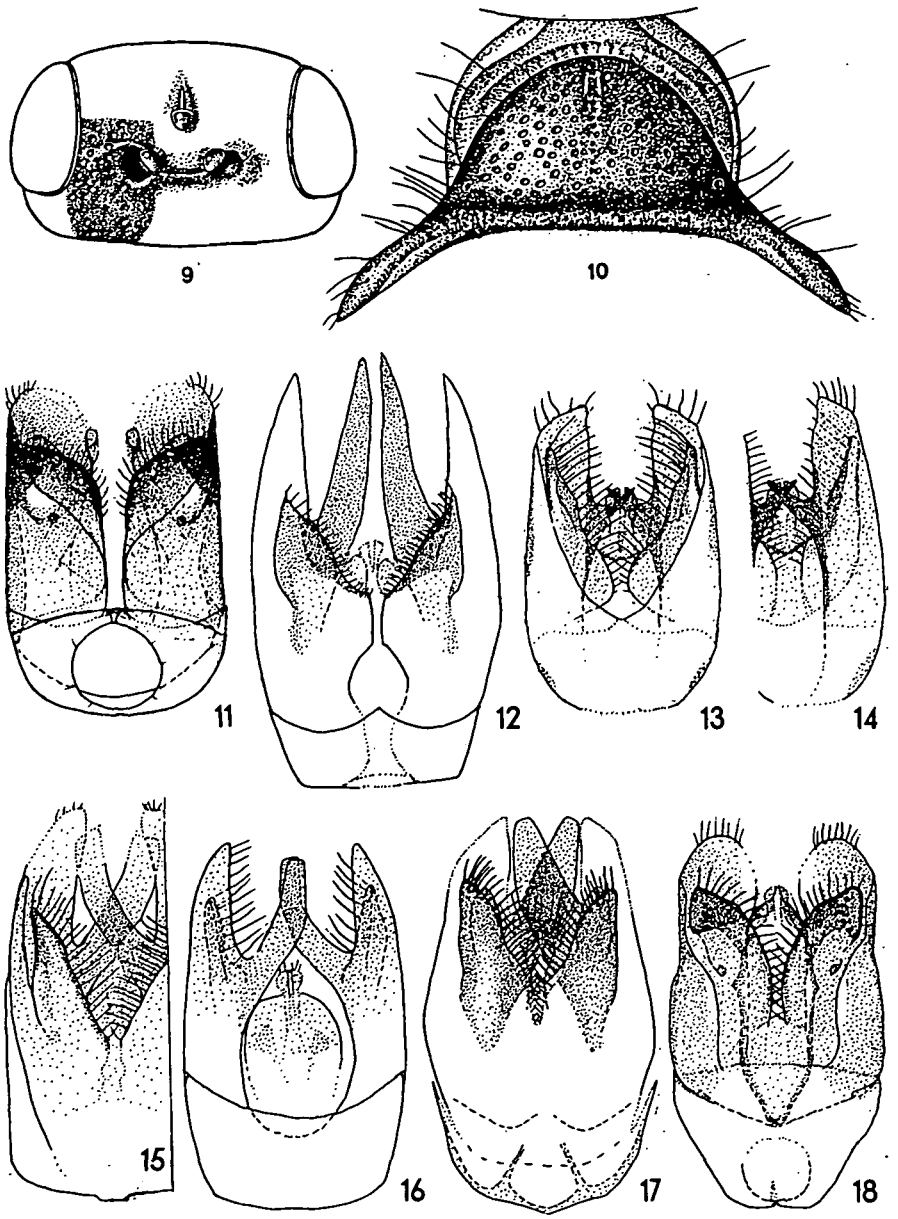
11 Fore tibiae yellowish brown or more brownish on upper side, middle and especially hind tibiae dark brown, usually with a metallic tint. T-IV-V black, without violet reflection, T-V often with some bluish tint or extensively blue. Mesopleuron with an oblique parallel ridging (Fig. 7), partly striate and strigose with 1-2 foveae along the ventral margin in front. Process of fore coxae bright, like a tooth. Genitalia: Fig. 17. 4.5-7 mm..... *C. semiauratus* (LINNAEUS)

- All tibiae usually yellowish brown, middle and hind tibiae pale brown or exceptionally with a pale greenish bronze tint. Mostly T-IV with more or less violet reflection or tint in the majority of specimens. T-IV black usually medially, greenish blue laterally, T-V greenish blue extensively or only medially; rarely T-IV-V extensiv greenish blue or T-IV rarely black, only T-V blue. Mesopleuron (Fig. 8) strigose with more elongate or more or less round and shallow foveae on its lower surface or along the ventral margin. Process of fore coxae less shining, not like a tooth. Genitalia: 13-14. 4.5-6 mm. .... *C. pallipes* LEPELETIER





Figs 7-8. Mesopleuron with electromicroscope, **7** – *Cleptes semiauratus*, **8** – *C. pallipes*. Figs 7-8: Orig by Prof. E. Mihalik.



Figs 9-18. *Cleptes cavernalis* **9** – front view of lower face, **10** – pronotum. Orig. **Figs. 11-18.** Male genitalia: **11** – *Cleptes graecus*, **12** – *C. anatolensis*, **13-14** – *C. pallipes*, **13** – in ventral view, **14** – right half part in dorsal view; **15-16** – *Cleptes parnassicus*, **15** – left half in part, in ventral view, **16** – in dorsal view; **17** – *C. semiauratus*; **18** – *C. jordanicus*. Orig.

12 Pits of hind ocelli remarkably large, the size of one ocellus (Fig. 9). Posterior tergites of abdomen black without metallic reflection. Occipital carina with or without a row of minute foveolae 13

- Pits of hind ocelli as small as/or smaller than ocellus. Posterior tergites of abdomen usually more or less with bluish reflection, rarely black or partly with violet reflection. Occipital carina less distinct and shorter transversally than the former ones, without foveolae. T-III-IV with double punctures 14

13 All tibiae dark brown with metallic green reflections above. Posterior shallow groove on pronotum with a shining, small ridge medially. T-III without double punctures. Medial black spots of T-II broader than one of the large yellowish brown lateral spots. Propodeal disk blackish violet between the two oblique fossae. Occipital carina with a rim and with a row of fine foveolae, reaching beyond the large ocelllar pits. Reddish brown streak on body not present. 6. mm ..... *C. graecus* sp.n.

- Fore tibiae yellowish brown, middle and hind tibiae brown, without metallic reflection. Posterio shallow groove without ridge medially (Fig. 10). T-III with remarkably double punctures. T-II yellowish brown entirely. Propodeal disc black with a violet tint medially. Occipital carina without a row of fine foveolae. Small spots behind ocelli and eyes, before posterior margin of pronotum, on mesonotum, two spots on scutellum and a transversal streak on postscutellum pale brownish red. 5.5 mm. *C. cavernalis* MÓCZÁR

14 Propodeal disc greenish blue. Postscutellum concave in front only medially, split slightly broadened medially with 3 minute foveae at bottom. T-I-II reddish brown, T-III-V black with blue reflection and T- III with large rounded brownish spots laterally. 4.5-5 mm ..... *C. turceyanus* LINSENMAIER

- Propodeal disc dark blackish blue or violet. Scutellum usually by a transversal narrow and shallow split with parallel edges on its whole width. T-I-II sometimes reddish brown, T-III black with a larger or smaller, lighter brownish spots laterally. T-IV black usually with blue, greenish blue, exceptionally violet reflection. T-V mostly blackish blue. 5 mm. ..... *C. jordanicus* LINSENMAIER

Cleptes anatolensis sp.n.

Cleptes anatolensis sp.n., 2♂♂. Holotype ♂; Turkey: Anatolia. (Budapest).

Material examined: 2♂♂. Turkey: "Burdur Anatol. NW Bucak 900 m 31.V. 1961 leg F. Rossi", "Holotypus *Clept. anatolensis* ♂ det. Móczár 2000", "Hym. Typ. No. 3861 Mus. Budapest.", (genitalia: on the label of the specimen), 1♂ holotype (Budapest.); "As. Türkei S. Aydintar 28-29.V.83 leg. Rausch", "Paratypus *Clept. anatolensis* det. Móczár 2000", "Hym. Typ. No. 3862 Mus. Budapest ♂", (genitalia separated on glass), 1♂ (Budapest).

♂. - Length 5.5 mm. Head bluish green, face extensively green (bluish in paratype); thorax greenish blue with some violet and also with golden tint together with lower face; scutellum with more violet tint (scutellum extensively violet on paratype); disc of propodeum black, with bluish (on paratype violet) tint medially; Ped, flagellomeres, cavities of scutellum and both sides of postscutellum, split, legs blackish or blackish brown; coxae-femora, scape of antenna greenish blue on outer side; all tibiae and tarsomeres dark brown (fore legs slightly lighter brown on paratype), hind tibiae with traces of pale metallic tint on upper side medially. Mesopleuron dark greenish blue. T-I and large lateral spots of T-II dark reddish brown, T-II black medially and along posterior margin, T-III with small reddish brown spots anteriorly, abdomen remnants black. Wings hyaline, weakly stained medially below pterostigma, discoidal cell strongly indicated, nervulus hardly antefurcal. Body covered with white hairs.

Face with shallow, close punctures, vertex with close punctures. Malar space 1.4 MOD long. Ped 1.7 times as long as wide, F-I 2.3 times, F-II 1.3 times, F-III 1.3 times as long as wide. Frontal sulcus distinct, interrupted broadly in the midle. Lateral edge of clypeus concave, anterior margin straight, lateral corners with pointed teeth directed obliquely. Ocellar triangle distinctly acute. Ocellar pits remarkably smaller than ocelli. Head evenly rounded behind eyes, viewed from above, occipital carina narrow. Pronotum rather flat, viewed laterally, hardly depressed posteriorly, with a row of large quadrangular and smaller round pits medially (all round on paratype), punctures dense, partly coarse. Mesonotum with dense punctures medially, remnants with scattered, scutellum with scarce punctures. Postscutellum with smaller dense punctures, impunctured medially, anterior margin moderately concave, moderately excavated twice posteriorly. Split unusual broad between scutellum and postscutellum, and with a distinct row of minute foveolae at bottom. Propodeum 2.8 times as wide as long medially, middle of disc similar to a shell (carapace), the posterio-lateral part of propodeum lies lower than the medial shell with the oblique grooves to the lateral corners, the broadest part of shell in front 1.7 times as wide as its length medially; propodeum with some elongate foveae medially in front; lateral edge hardly divergent, postero-lateral corners quadrangular or hardly acute angled. Mesopleuron smooth and punctured below tegula, surface of the larger part coarsely strigose to reticulate rugose to foveolate (EADY 1968, Fig. 29) with more foveae along the ventral margin. T-I with some very fine scattered punctures, T-II with fine, T-III with distinct, denser and with some smaller punctures, T-IV very dense with many smaller and remarkably larger punctures, namely with strong double punctures. Both parameres, dorsal processes of parameres elongate. and remarkably, sharply pointed apically. Processes reaching distinctly beyond the tips of parameres (Fig. 12), and cuspis evenly narrowing, aedagus short. Ventral margin of cuspis with a row of remarkably long white setae.

♀. - Unknown.

This new species related to *Cleptes parnassicus* MOCSÁRY, differs chiefly from it by the sharply pointed parameres and its processes of genitalia, by the dark brown fore, middle and hind tibiae and tarsomeres, by the hind tibiae with pale metallic tint, by its sculpture of propodeum in front, etc.

Cleptes cavernalis MÓCZÁR

Cleptes cavernalis MÓCZÁR 1968: 167. 1♂. Holotype ♂; Greece: Crete (München).

Cleptes cavernalis: KIMSEY & BOHART 1990: 59 (*C. semiauratus* group).

Material examined: 1♂. Greece: "Heraklion Kréta 24.5.1963 leg. K. Kusdas w.", "Holotypus *Cleptes* (*Cleptes*) *cavernalis* MÓCZÁR det. Móczár L. 1967", 1♂ (München).

Additions to the original diagnosis. Head largely green, vertex blue behind ocelli, clypeus with a golden green tint, collar green in front, occiput and pronotum with a pale violet reflection. MS 1.2 MOD long. Ped 2.8 times as long as wide, F-I length 2.4 times width, F-II length 1.7 times width, F-III length 1.3 times width. Punctures on pronotum rather deep, at posterior groove indistinct (Fig. 10). Transverse split between scutellum

and postscutellum with parallel sides and green shining at bottom. Postscutellum moderately excavated twice on the posterior margin. Propodeum 2.7 times as wide as its length medially. Lateral corners produced in stumpy teeth, directed obliquely, nearly right-angled. Mesopleuron strigose with partly wider ridges between punctures posteriorly and with a short furrow in the fourth part of the posterial margin. T-I-II and T-III yellowish brown laterally, abdomen remnants black, without metallic tint.

♀. - Unknown.

Distribution: Greece (MÓCZÁR 1968).

***Cleptes graecus* sp.n.**

Cleptes graecus sp.n., 1♂. Holotype ♂; Greece: Soufli (London).

Material examined: 1♂. Greece: "Greece: Soufli 5.V.1960 400 m' Guichard and Harvey B.M. 1960-364", "*Cleptes* LATR. *splendens* F. Abd. mehr schwarz. Linsenmaier det. 1984", "Holotypus *Clept. graecus* ♂ det Móczár 2000", Holotype 1♂ (London).

♂. - Length 6 mm. Head, thorax bluish green, vertex with violet spots between ocellar pits and eyes. Ped, flagellomeres, propodeum black with a violet tint between the two oblique grooves. Propodeal disc dark bluish green near lateral corners, black on vertical face, near by spiracle, in cavities of scutellum and of postscutellum both sides. Legs dark brown, only tarsomeres without metallic colour, femora, tibiae, scape of antenna with bluish green highlight outside, lower side of fore tibiae, middle and hind tibiae apically lighter coloured, only fore tibiae pale green above. T-I-II yellowish brown, T-II extensively black medially, T-III-V brownish black. Wings hardly infuscated, nervulus interstitial, discoidal cell moderately bordered. Body covered with whitish hairs.

Head with close punctures. MS smooth with some punctures, 1.0 MOD long. Ped 1.6 times as long as wide, F-I 2.4 times, F-II 1.9 times, T. III 1.62 times as long as wide. Frontal sulcus very narrow and interrupted below fore ocellus. Lower margin of clypeus distinctly arcuate, lateral corners with longer pointed teeth directed obliquely. Ocellar triangle acute. Ocellar pits unusually large and deep (as Fig. 9). Occipital carina reaching beyond the ocellar pits and unusually with a row of shallow minute foveolae medially. Head rather thick behind eyes, viewed from above. Pronotum convex in lateral view, punctured uniformly, punctures 1-3 PD apart in front medially and 0-2 PD apart posteriorly beside the middle; posterior margin moderately depressed with a keel medially and with partly irregular and partly small, shallow punctures. Mesonotum, scutellum with sparse, partly with scarce punctures. Postscutellum with minute punctures basally and with a close larger punctures posteriorly; lateral side and the prolongations laterally with small punctures; posterior double excavations of postscutellum unusually flat. Split hardly perceptible between scutellum and postscutellum. Propodeum 2.8 times as wide as long medially; propodeum with 3 elongate shallow and large shallow foveae medially partly with curved lateral ridges and with much smaller foveae laterally. Lateral margin of propodeum nearly parallel, corners right angled. Mesopleuron punctured below tegula, partly longitudinally strigose to reticulate rugose, partly to foveolate (EADY 1968: 71 Fig. 29), and with a short and narrow furrow in the fourth part of the posterior margin. T-I nearly impunctate, only with very fine scattered punctures, T-II with fine, close

punctures in front, becoming scattered medially and impunctured over the broad streak before the posterior margin; T-III-IV with very dense punctures upto impunctate streak posteriorly and T-IV with some smaller scattered, T-V with remarkable double punctures. Genitalia: Fig. 11. Parameres of genitalia broad above, inner margin entire, without process, aedagus turning before top, cuspis broad, nearly truncate obliquely in front, digitus nearly extending beyond cuspis.

♀. - Unknown.

This new species closely related to *Cleptes cavernalis* MÓCZÁR and *C. jordanicus* LINSENMAIER, differs from those by its occipital carina with a row of some minute foveolae, by tibiae with the bluish green metallic highlight above; by want of a split between scutelum and postscutellum; by want of reddish brown spots and streaks on body; by the large ocellar pits, not smaller as in *C. jordanicus*, and in genitalia: by not rounded paramere as in *C. jordanicus*, by cuspis not pointed apically etc.

Cleptes jordanicus LINSENMAIER

Cleptes jordanicus LINSENMAIER 1968: 4, 6♂♂. Holotype ♂; Jordanien (Luzern).

Cleptes jordanicus: KIMSEY & BOHART 1990: 61 Holotype ♂ (Jordan, Turkey, *C. semiauratus* group)

Material examined: 6♂♂. Jordan: "Jordanien ♂ Type leg. Klapperich V.63", "Holotypus *Clept. jordanicus* LINS. ♂ det. Móczár L. 2000", 1♂ (Luzern). - Turkey: Antakya 1.-7. 6. Anatolia 1965 leg. J. Gusenleitner", "ex coll. Gusenleitner Eingang 1990", "Paratype *Cleptes* LTR. *jordanicus* LINS. Linsenmaier det. 1965", "*Cleptes jordanicus* LINS. ♂ det. L. Móczár 2000", (genitalia on the label back of specimen), 1♂ (Linz); wirth the same data, except "ex coll. Gusenleitner..."; "Antakya As. Türk. 6.VI.1965 leg. Jos. Schmidt", the same labels with "Paratype.....det. Linsenmaier and Móczár's" labels as before, and "LI egg. 89 ex coll. J. Schmidt", 1♂ (Linz); the same latest label, but with date "4 VI" and "Hym. Typ. No. 3865 Mus. Budapest", 1♂ (Budapest); "Türkei Antakya 6.VI.1965 leg. M. Schwarz" and the same labels "Paratype .....det. Lins. and det. Móczár", (genitalia separated on glass), compar. with type, "Hym. Typ. No. 3863 Mus. Budapest", 1♂ (Budapest). - Spain: Hispania: Cuenca (Korb), (genitalia separated on glass), 1♂ (Budapest).

The sculpture and colour of the type material are not uniform. The punctures of pronotum, the ridges on mesopleuron and especially propodeal disc differ in a small extent. According to Linsenmaier: "Pronotum mit sehr starken Mittelfurche in ganzer Länge". It is less strongly visible on holotype, present only medially (on specimen from

Spain) and a hardly perceptible depression with some irregular smaller punctures on paratypes. (e.g. specimen from Antakya, leg Schmidt). On the other hand, face closely, pronotum densely, partly coarsely, mesonotum and scutellum less densely and finely punctured. Propodeal corners are not uniform on both sides. They are cone-shaped, sometimes hardly acute-angled in consequence of the slightly concave edge of the posterior margin before the corners of propodeum. The split between scutellum and postscutellum not developed in every paratype (Anatolia, Gusenleitner). Hind tibiae are with a trace of very pale greenish tint on the upper side (Türkei, Schwarz). Middle and hind tibiae are dark brown, without metallic tint (Antakya, Schmidt; Türkei, Schwarz and Spain). Fore tibiae are yellowish brown (Türkei, Schwarz; Antakya, Schmidt). Also fore tibiae are dark brown (Spain), and fore, middle and hind tibiae are yellowish brown (Antakya, Schmidt; Anatolia, Gusenleitner). T-IV with same violet tint (Antakya,

Schmidt and Antakya, Gusenleitner). The listed small morphological and colour differences are not specific characters, they are only variations. Namely, the genitalia are uniform, usually head, clypeus, collar, thorax are greenish blue or bluish green, with a violet reflection. Further additions to the original diagnosis: MS 0.7 MOD long. Ped 2.0 times as long as wide, F-I 2.3 times as long as wide, F-II 1.4 times as long as wide. Mesopleuron with close ridging, with rather deep, round and elongate punctures. Genitalia: Fig. 18. Paramere nearly rounded apically, with narrow hyaline margin, inner margin entire, without process, cuspis and digitus relatively short, both of them somewhat pointed apically, digitus not much extending over apex of cuspis, paramere laterally, cuspis and digitus apically brownish chitinized.

♀. - Unknown.

Distribution: Jordan, Turkey (LINSENMAIER 1968). Spain.

Cleptes maculatus LINSENMAIER

Cleptes maculatus LINSENMAIER 1968: 6, 1 ♀. Holotype ♀; Cyprus: Pyrgos (Budapest).

Cleptes maculatus: KIMSEY & BOHART 1990: 61 (Holotype ♀, *C. semiauratus* group).

Material examined: 1 ♀. Cyprus: "Cypern 29.6.62 Pyrgos leg. Mavromoustakis", "Type *Cleptes* LTR. *maculatus* LINS. Linsenmaier det 1963", "Holotypus *C. maculatus* LINS. det. Móczár 1998)", Hym. Typ. No. 3864 Mus. Budapest", 1 ♀ (Budapest).

Additions to the original diagnosis. MS 1.0 MOD long. Ped 2.2 times as long as wide, F-I 2.0 times, F-II 1.0 times, F-III 0.8 times as long as wide. Hyaline spot present only in traces before apex of fore wings. Discoidal cell faintly indicated, anterior vein lacking. Postscutellum twice deeply excavated posteriorly. According to the author "Meta-Thorax schwarz mit braulicher Spitze, nur seitlich gold-grün". Presently (2000) propodeum black, only with dark green tint on lateral corners and before posterior margin of disc medially. Mesopleuron golden reddish with greenish tint. T-I, two/thirds part of T-II anteriorly and lateral spots on T-III yellowish brown, tergite remnants blackish brown. T-III with double punctures.

♂. - Unknown.

Distribution: Cyprus (LINSENMAIER 1968).

Cleptes pallipes LEPELETIER

Cleptes pallipes LEPELTIER 1806: 119 1 ♀, Lectotype ♀; France: Des environs de Paris (Paris).

Cleptes pallipes: LATREILLE 1809: 44 ♀ ♀.

Cleptes pallipes: DAHLBOM 1854: 16 (as synonym of *C. semiauratus*).

Cleptes pallipes: MOCSÁRY 1882: 20 (as synonym of *C. semiauratus*); 1889: 48 ♀ (as syn.).

Cleptes Diana MOCSÁRY 1889: 46 1 ♂, Holotypus ♂; Greece (Budapest).

Cleptes Diana: DALLA TORRE: 1892: 2 ♂ ♂ (Graecia).

Cleptes Pallipes: BUYSSON 1891: 83 ♀ ♀, 1892: 90 ♂ ♂ (as bona species, Pl. VI. fig. 4, France, German, Italy, Russia, Belgium); 1892: 91; 1897: 544-555, 563, 566; 1900: 125 (Alger); 1901: 97 (Austria inf.).

Cleptes Diana: BUYSSON 1892: 91 (as synonym of *C. semiauratus* sensu MOCSÁRY = really *C. pallipes*, according to BUYSSON).

Cleptes pallipes: DALLA TORRE 1892: 5 (as synonym of *C. semiauratus*).

Cleptes pallipes: SEMENOV-TIEN-SHANSKIJ 1920: 317 ♀ ♀, ♂ ♂ (in key).

Cleptes semiauratus var. *pallipes*: HOUSIAUX 1922: 25 (frequent in Belgium).

Cleptes pallipes: SPAČEK 1934: 139 (Svoboda n Upou, Riesengebirge, Bohemia, det. Bischoff).

Cleptes semiaurata var. *pallipes*: BERLAND & BERNARD: 1938: 23 (in key).

Cleptes pallipes: MÓCZÁR: 1949: 42 (In the Carpathian Basin: wide spread, geogr. Map I).

Cleptes pallipes: MÓCZÁR 1951: 274, Figs 20-21 (genitalia, *C. diana* MOCSÁRY as synonym),

Cleptes pallipes: ZIMMERMANN 1954: 1 (Austria, *C. Diana* MOCSÁRY as syn. of *C. semiauratus*).

Cleptes semiauratus var. *pallipes*: VOGRIN 1955: 5 (Croatia: Trnovec).

Cleptes pallipes: KUSDAS 1956: 326 (host of *Pteronidea ribesii* SCOPOLI).

Cleptes pallipes: KUSDAS 1956: 327 (frequent, wide-spread far of Niederösterreich).

Cleptes pallipes: BOUČEK 1957: 326, 327 (Czecho-Slovakia, Czech).

Cleptes pallipes: sensu LINSENMAIER 1959: 10 (as synonym of *C. semiauratus* LINNÉ).

Cleptes pallipes: MÓCZÁR 1962: 117 ♀ ♀, ♂ ♂; 1967: 6 (7 nov. subgenera in key).

Cleptes pallipes: MORGAN 1984: 10 (desig. of lectotype, and *C. pallipes* (p.: 7) as syn. of *C. semiauratus*).

Cleptes pallipes: KIMSEY & BOHART 1990: 62 (Palaearctic: SE Europe, S and SW USSR, *semiauratus* group).

Cleptes pallipes: STRUMIA 1994: 1 (*C. diana* MOCSÁRY as synonym).

Cleptes splendens: sensu LINSENMAIER 1997: 43, (44 colour illustration of *C. semiauratus*) = really *C. pallipes*.

Material examined: 156 ♀ ♀, 309 ♂ ♂ (+ about 250 ♀ ♀ and ♂ ♂ det. before 1960 = 715 spp.). Hungary: Baja, Bajánsenye, Balmazujváros, Budapest (since 1879) 12 spp. (genitalia), Bugac, Csepel 2 spp., Csorna (Malaise trap), Dunaörs 5 spp. (genitalia), Fertő-Hanság Nat. Pk., Foktő (genitalia), Fót, Gyón 2 spp., Gyula 4 spp., Jósvafő (Malaise trap), Kalocsa 2 spp., Mecsek h., Mór, Ócsa, Paks 2 spp., Simontornya 2 spp., Szigetmonostor, Telkibánya, Ujszentmargita, Tompa 5 spp., Zamárdifelső, Zemplén-Kőkapu. The collectors were: E. Bajári, P. Benedek, F. Czerva, E. Csiki, J. Erdős, J. Fodor, Gy. Fekete, E. Horváth, Hámoriné, K. Kertész, F. Mihályi, S. Mocsáry, L. Móczár, M. Móczár, J. Papp, F. Pillich, A. Podlussány, I. Rózner, Solymosné, J. Szőcs, S. Tóth, W. Trautmann, Ujhelyi, Z. Végh. The dates of collection were mainly July and June, in two cases May and August for 29 ♀ ♀ + 101 ♂ ♂ specimens (Mus. Budapest); Bősárkány July 1912 leg. Maidl 1 ♂ (Wien); Budapest, Kőszegi-hegyek, Pápa. The collectors were E. Horváth, S. Mocsáry, L. Móczár and F. Stöcklein for 6 ♀ ♀ + 2 ♂ ♂ (München); Gyula leg. E. Bajári 1 ♀, July (Madrid). -- Austria: "Innsbruck 4. 9. 1899 Friese","compared with *C. pallipes* L. Lectotyp by Morgan, *C. pallipes* L. det Móczár 1995"; Arnsdorf, Hainburg, Oberwaiden, Villach. The collectors were H. Friese, A.J. Mader and Nikolska. Collecting dates are May and September, for 3 ♀ ♀ + 2 ♂ ♂ (Budapest); Arnsdorf, Avatlon, June 1889, Burgenland, Eisenzicken Bez. Oberwart, (? = locality incertain in Austria), Damianitsch, Eichgraben, Feldkirchen Moosbrugger (*C. semiauratus* det. Kohl, = *C. pallipes*), ? Coll. Graeffe, Hainburg, Kolazy, Krivo, Lafnitz-Obersteiermark, Luggom Tir., Maria Arzbach June, Megerla, ? Nabres, Purkersdorf - Wien, ? Coll. Simony, Schlerngebiet, Schlagmind Tirol, Stayr., Triestingthal N.-Oest. Tschek Piesting Tirol 4 ♂ ♂ (Wien, 1sp. Budapest); ? Walth 1867, Wienerwald, ? Withm., Ullr, ? "Dahlbom vidit ♀ ♂ 1850" (= *C. pallipes*), ?"Coll. Förster"(Wien). The collectors were Max Fischer, A. Handlirsch, F.F. Kohl and Fr. Maidl. The collecting dates were mainly from June and July, for 23 ♀ ♀ and 50 ♂ ♂, from 1858-1964 (Wien); Alpenvorland Kremsmünster 43spp., Burgenland: Neusiedlersee Umg. 13ssp., Dörnbach (Ob.Öst.), Linz Umgeb. 14spp., Marchfeld, Mühlviertel, Salzburg, Schacherteich b. Kremsmünster 2spp., Steyrermühl 14spp. The collectors were mostly K. Kusdas, E. Hoffmann, J. Kloiber, F. Koller, R. Löberbauer, H. Priesner, M. Schwarz. The dates of the collection were June and July for 25 ♀ ♀ + 65 ♂ ♂ (München); Millstätter See, July 1962 C. de Vogg 1 ♂ (Leiden). -- Czech Rep.: Chlum u. Ol., Dobruska, Halív, 2 ♀ ♀, 2 ♂ ♂ (Budapest); (det. earlier, 1960): Babia, Brno, Belaur, Beroun, Boletice, Budislav, Bzenec, Cecchy, Ceic, Cernosice,

Cheb, Chelc, Chlum u Olomuce, Chotec, Hradec Kralove, Jerina, Jilove, Delsine, Kelks, Kobyli, Kral. Dvuz, Kraluhy, Krc, Lednice, Lhota, Lorskovice, Lovcen, Malá Skala, Modrany, M. Ratin, Nem. Brod, Neratovice, Novi Hradec, Obucin, Pisty, Podoria, Praha, Praha-Rusyne, Pravonin, Pribran, Rajce, Radotin, Rosmital, Sardice, Sadska, Smecno, Staré Hamry, Sv. Prokov, Trautlazné, Trojacka, Tyniste nad., Ubucin, Vlatchy, Vsenory, Zemun, Zeravice, Znoimo. The collectors were Bouček, Bradl, Cepelak, Duda, Gradl, Gregor, Hacek, Hanus, Holec, Kavan, Klapalek, Komarov, Matzenauer, Obenberger, Pacirka, Roubal, Schofner, Sekera, Spaček, Šustera, Syrovatka and Weinfurt. Collection dates were from June and July through August, from 1892 till 1956, for 49♀♀ + 87♂♂=136 specimens (det. about 1960, Prag); Bohemia, N. Mesto, Brno, Mohelno, Mor. Pisek, Muhenice, Ocmanice, Policka, Sobotin, Staré Hamry, Stabr Hate, Zastávka u Brna. Collected by Gregor, Macek, Obrtel and Snoflák. Collection dates were from June and July through August from 1939-1955, for 14♀♀ + 22♂♂ = 36 specimens (det. about 1960, Brno); Bohemia Prahatitz July 1884, 2♀♀ (Wien). -- Slovakia: Árvaváralja 3 spp., Borosznó 2 spp., Hlavenec partly ex *Pristiphora abietina*, Lőcsefüred, Nagymihály, Pöstyén, Szalonca. Collected by F. Czerva, Gy. Fekete, K. Kertész. The collection dates are June and July. 5♀♀+ 10♂♂ (Budapest); Hlavenec bei Kostelec 3♀♀ + 3♂♂ (Prag); Losonz 1♀ (Wien); Szalonca leg. Fekete 3♀♀ (München). -- The Ukraine, Sub-Carpathia: Rahó, Máramarosi k.k. 2♂♂, 600 m. collected in June, by L. Zombori (Budapest). – Rumania: Transylvania and beyond the Carpathians: Files, Kolozsvár (1888) 2 spp., Kutyfalva, Lotru-Lotrioara, Orsova, Porcsesd 2 spp., Retyezát, Zetelaka. Collection dates June and July, by J. Daday, K. Kertész, E. Kiss, Z. Szilády and L. Zombori. 4♀♀+ 6♂♂; V. Mracokin, May, 1♂ collected by V. Ciochia (Budapest); Hermannstadt, collected by A. Müller and J.W. Worell, from May to August 1926-1952 3♀♀, 4♂♂ (Sibiu). -- Serbia: Jeselnica (Orsova) 1904 May leg K. Kertész, 3♂♂ (Budapest) -- Bosnia- Herzegovina: Travnik 3♂♂ (Budapest). -- Bulgaria: Kremikovzl Jun.1958 Hcr Lukov, 1♂ (Budapest). -- Greece: "Morea Cumani Brenske", "*Diana* Mocs." with Mocsáry's original writing, "*Diana* Mocs. typ" with writing of assistant Miss Pável and on the same label "det. Mocsáry" with printed character, "Praep. gen. *Clept.* No. 37" (genitalia separately on glass), "Holotypus *Cleptes Diana* MOCSÁRY", with Móczár's writing, "Hym. Typ. No. 3867 Mus. Budapest)" 1♂ (T-V damaged) (Budapest). -- Turkey - Asia Minor: Asia minor 1♀ (no more data) (Budapest). -- Armenia: Armenia Russica Kasikoporan 1♀ (Budapest). Italy: Cinconello b. Triest leg. Löbenbauer 1♂ and ? Pinzolo Col. Oldenberg 1♀ (München). -- Spain: Bilbao, coll. Seebold, 1♂ (genitalia) and Salamanca May 1978 leg. Diez, 1♀ (Madrid). -- France: "Lectotype", "Museum Paris Env. de Paris Coll. Le Peletier 160-45", "*Pallipes* ♀", "TYPE" (red), "Lectotype ♀ *Cleptes pallipes* Lepeletier det. D. Morgan 1981", "*Cleptes* ♀ *semiauratus* L. det. D. Morgan 1981", 1♀ (Paris); Ariensduin, Broût-Vernet, Paris-Vincennes, Sospel, Vernevil; Corse: S Mer., Cozzano, 900 m and 1000 m, J.F. Aubert 3 spp., R. du Buysson, C. v. Heijningen. Collecting data June and July, 7♂♂ (Budapest). -- Switzerland: A. Sauge (Broyé) Suisse (*C. pallipes* L., det. Buysson) leg. J.F. Aubert August 1953, 1♀ (Budapest). -- Luxembourg: Diekirch, leg. A.W. Steffan, June 1966, 1♀ (Budapest). -- Belgium: Ottignies June- August 1982, Malaise trap P. Dessart, 1♀ and May-June with the same data, 2♂♂ (Ottawa). -- Netherland: Arjensduin, Putten 2 spp., Rhenen (Utr.), Voorschaten, Wijster (Dr.) opp. biol. stat., Leersum Broekhuison, Malaise trap, collected C. v. Achterberg, C. v. Heijningen, M.A. Lieftinck, J. van der Vecht, H.J. Vlug, Wijster. Collecting data were June and July through August for 3♀♀, 3♂♂ (Budapest); Formerum, Leiden, Leuvenum, Nederland soestalijk, Treeswilk Waálré, Virhouten, Westerbork, Voorschoten, June and July 1941-1967, collectors are H.C. Blőte, Brongeisma, M. J. Delfos, v. Doesburg, S. Sminssen, A.M. Spejer, J. Wiebes 5♀♀, 4♂♂ (Leiden). -- Germany: Berlin, Crefeld, Darmstadt, Dillenburg, Dresden 2 spp., Fürstenberg 3♂♂ (1888), Mecklenburg 2 spp., Saxonia Daubtz Ol., Schwerin 8 spp., Spandau, Thüring. 2 spp. Collectors were, H. Koksch, M. Müller, Ulbricht, H. Wolf. Collection dates were June, mostly July through August, 12♀♀ + 13♂♂ (Budapest); Meltsch Schles., Schwerin, Deutschland Staudinger, (Wien); Friedrich. Mvoda?, 1♀, Thüring German, 1♂ (London); Köln 3♀♀ (Bonn); Berlin Coll. Oldenberg, Dachau (Malaisefalle, Darmstadt, Dingolfing, Däderholzen b. Laufen, El-Beilngries, Erlangen, Forschhanzen, Fürstenfeldbruck. Gorlav a.H. Sudmer Berg, ?Gistel, Gotha, Günzburg a/D., Harz: Gradmetal, Hückeswagen, Karlsruhe, Kassel, Keilheim a/D., Köln, ?Samml. Kriechbaumer, Mecklenburg, München (leg. E. Diller bei Fenster in Zool. Mus. Bruckmühl, Öd b. Laufen Salzach, Ottmaring, Pappelheim, Plattling, Rappelsdorf, Schacherteich

Austr. sup. bei Kremsmünster, Sollngriesbach, Spandau, Thal i.Th. The collectors were E. Bauer, P. Eigen, Gebert, Hiendlmayr, Meyer, Mitte, M. Müller, N. Obraztsov, Oldenberg, K. Warncke for 38♀♀ + 42♂♂ (München). -- Husum, Pfalz, Ratzeburg, Worms, 4♀♀ (Frankfurt M.); February 1958, Frankfurt M., Gründen, Marburg leg. H. Wolf June and July, 1942-1963, 1♀, 2♂♂ (Zürich). -- Poland: Skokowa prov. Trzebnica W.J. Pulawski, June 1967 W.J. Pulawski 1♀ (Budapest), Stargard i.m. July 1896 1♂ (Budapest); Lukavice leg. Kusdas 3♂♂ (München); Wroclaw W.J. Pulawski June 1971, 1♂ (Helsinki). -- Sweden: Silvakra: Stensoffa, collection dates were August for 2♀♀ + 2♂♂ (Budapest and London). -- Finland: Sortavala leg Rantalainen July 1931 1♀ (Helsinki). -- Russia: (det about 1960) nearly 32♀♀ + 37♂♂ = 69 specimens (St. Petersburg). -- Sumatra: Sumatra, Smith coll. pres. by Farren White, 99-303. *Cleptes* spec.nov. det. Linsenmaier 1964, (genitalia) (var. type No. 2, Map. I.), 1♂ (London). – U.S.A.: Hamilton Ont. M. Sanborne, July 1982 1♂ (genitalia), (var No. 1) (Budapest); Ithaca N.Y. Cornell Univ. Campus June 1881 G. Gibbson, off *Robinia hispida*, 1♀ (Ottawa).

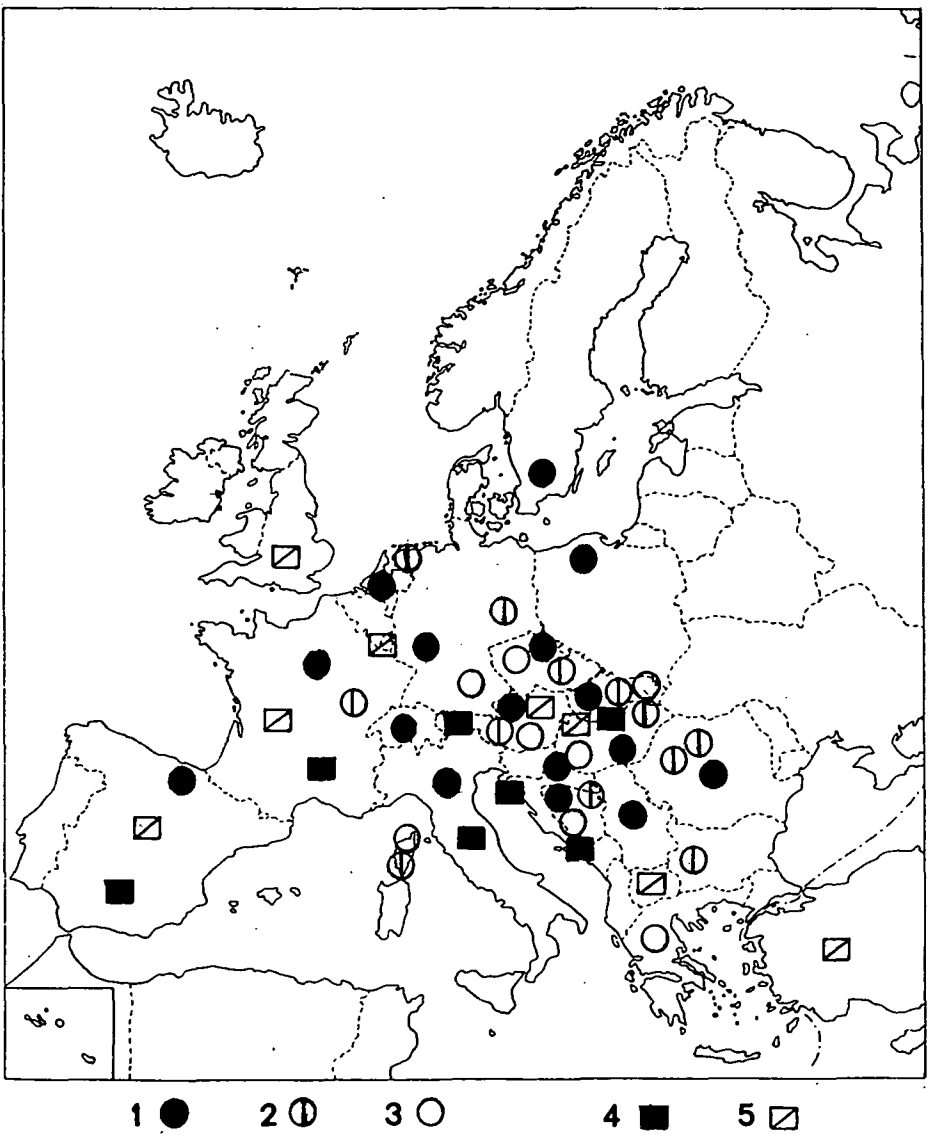
Cleptes pallipes LEPELETIER was synonymised by DAHLBOM (1854) with *C. semiauratus* like the most authors. BUYSSON (1892) reinstated from synonymy the species as a valid species. MÓCZÁR (1949 Figs 20-21) supported the validity on the basis of the male genitalia. Since that time the authors, excepting a few, follow *C. pallipes* as a valid species.

The reason of the misunderstanding of the synonymy of *C. pallipes* was the want of the detailed description of the female of *C. semiauratus*. Some authors designate the type species of *C. pallipes* (Paris) as the lectotype of *C. semiauratus*, but not from the original *C. semiauratus* material depopsited in London (Linnaean Society Collection, Burlington House). DAY (1979) labelled and designated the first *C. semiauratus* specimen as lectotype: *Sphex semiaurata* male, bearing the label "33", among the identified specimens by Richards in the Linnaean collection (London.). KIMSEY published (1981) as holotype ♂ of *Sphex semiaurata* LINNAEUS being in the Linnaean Society Collection, Burlington House, London, in spite of the fact that KIMSEY delineated (1990) *C. pallipes* in Figs 11 and 12f, and not *C. semiauratus*.

The females of *C. pallipes* and *C. semiauratus* are easily distinguishable, according to yellowish orange colour of the legs from coxa to tarsi, mesopleuron and partly antenna etc. The main characters between the males are sometimes difficult to recognize. The two males separable without any doubt on the basis of genitalia (Figs 13-14, 17).

♀. - Length 6.5-8 mm. Head and thorax reddish coppery with golden reflection partly. Fore wing with two transverse infuscate bands. Mesopleuron bluish greenish, and partly golden in front. Propodeum sometimes dark greenish black, with reddish or golden tint. T-I-III yellowish orange. T-V usually greenish blue. MS 1.3 MOD long. Ped. 2.0 times as long as wide, F-I 1.7 times, F-II 0.9 times, F-III 0-8 times as long as wide. Anterior margin of clypeus truncate or hardly concave, lateral corners rectangular, nearly acute angled. Metapleuron and lateral side of propodeum striate above. Propodeal corners more or less pointed, with stumpy basis. T-III laterally, T-IV entirely with double punctures.

♂. - Length 4.5 - 6 mm. Head and thorax bluish green often with some violet reflection or tint. T-I-II yellowish red, T-III partly blackish brown. Coxae-femora darker brown often with greenish reflection, all tibiae and tarsi usually, exceptionally at least fore tibiae yellowish brown. Anterior edge of clypeus longer and more pointed in the majority of specimens. MS 0.7 MOD long. Ped 1.2 times as long as wide, F-I 2.3 times, F-II 1.5 times, F-III 1.6 times as long as wide. Pronotum with large, sometimes quadrangular pits



Map 1. Spreading of *Cleptes pallipes* of forms 1-3 (see in text) and spreading of *C. semiauratus* with black (4) last segments and with blue (5) reflection.

medially along posterior margin. Wings often with infuscated spots. T-III with very dense punctures, T-IV with double punctures. Inner margin of paramere of genitalia with a very short and pointed process (Figs13-14). Cuspis slender and elongate, digitus distinctly shorter than cuspis and acute apically. Aedagus shorter than inner process of paramere.

The *C. pallipes* and *C. semiauratus* species occur nearly in the same region, consequently, the majority of the characters cross-breed specifically the outer morphological (sculpture of mesopleuron) and colour characters. According to the colouration of the tergites of the males in the investigated specimens over 10 years, they can be divide into 3 groups, excepting the earlier (1960) determined and listed locality: 1/ T- IV-V greenish blue usually and T-IV violet extending differently, about 58% of the specimens; 2/ T-IV-V greenish blue, but without violet reflections, about 37%, 3/ T-IV black and T-V greenish blue, without violet reflection, about 5%. The distribution of these variations is figured on Map I. In spite of the different colours the same male genitalia prove the identity of the specimens. However, Map I shows the spread of the specimens.

D i s t r i b u t i o n : Palaearctic, Nearctic and Oriental terr. Sumatra.

Cleptes parnassicus MOCSÁRY

Cleptes Parnassicus MOCSÁRY 1902: 339 1♀, 1♂. Lectotype ♀; Greece: Mons Parnassus (Budapest).

Cleptes parnassicus: MÓCZÁR 1951: 263 in key (male genitalia: 273 Figs 18-19); 1962: 116 published as Holotypus erroneously.

Cleptes parnassicus: MÓCZÁR 1962: 116♂ ♀.

Cleptes parnassicus: LINSENMAIER 1968: 6♀ Cyprus.

Cleptes parnassicus: KIMSEY & BOHART: 1991: 62 (Greece).

M a t e r i a l e x a m i n e d : 1♀, 2♂♂. Greece: "Mons Parnassus 27.9.", "*parnassicus* MOCS. typ. det. Mocsáry", "Lectotypus *Cleptes parnassicus* (L.B. French) MOCSÁRY" not published, "Lectotypus ♀ *Cleptes parnassicus* MOCSÁRY det Móczár 997", "Hym. Typ. No. 3868 Mus. Budapest", and the same locality and det. labels, as before, "Paralectotypus ♂ *Clept. parnassicus* MOCSÁRY, des. Móczár 997", "Hym. Typ. No. 3869 Mus. Budapest", (genitalia preparated No 18 on glass), 1♂ and 1♀ (Budapest); Graecia, Peloponnes Zachlorou, 28.5.1960, leg. Kusdas, (genitalia prepared and sticking on plastic label behind the specimen), *Cleptes* ♂ *splendens* F. det. Linsenmaier 61, *Cleptes parnassicus* MOCSÁRY ♂ det. L. Móczár 1997, 1♂ (Budapest).

Addition to the original diagnosis. ♀: Head flame red, pronotum dark red, mesonotum golden red, partly with greenish tint. Lower face with two extensive black spots. MS 0.8 MOD long. Ped 1.8 times as long as wide, F-I 1.7 times, F-II 0.75 times, F-III 1.6 times as long as wide. Collar, both transverse rows of pits and lateral side black. Posteriolateral processes of pronotum red. Mesopleuron green below tegula, remaining part, together with propodeum black. Scutellum and postscutellum separated by a split with some small foveolae at bottom. I-III laterally, T-IV medially double punctured, T-IV blackish brown without a metallic tint.

♂: Head, thorax with extended dark violet reflections. Scape above, coxae-femora, middle and hind tibiae with bluish green reflections on outer side. Lateral corners of clypeus slender, pointed apically and slightly emarginated in front. MS 0.9 MOD long.

Ped 1.6 times as long as wide, F-I 2.1 times, F-II 1.4 times, F-III 1.4 times as long as wide. Frontal sulcus interrupted medially. Pronotum with a longitudinal, short and more or less perceptible furrow posteriorly on male. Propodeal disc irregularly ridging on posterior two-thirds. Mesopleuron smooth and punctured below tegula posterioly. T-III-IV with strong deep and double punctures, moderately punctured only laterally. Genitalia Figs 15-16. Dorsal margin of paramere with a slightly curved, elongate process and being distinctly shorter than top of paramere. Lateral margin of parameres nearly parallel and truncate apically. The genitalia similar as of *C. semiauratus*, but differs mainly by its slender processe of paramere, by the lateral margins parallel and shorter on *C. parnassicus*.

D i s t r i b u t i o n : Greece (MOCSÁRY 1889).

Cleptes rufifemur KIMSEY

Cleptes (*Cleptes*) *rufifemur* KIMSEY 1981: 814, 10♂♂, 1♀. Holotype ♂; California, Yolo county, Davis (Davis).

Cleptes (*Cleptes*) *rufifemur*: BOHART & KIMSEY 1982: 13 Figs. 20, 22, 27 (California; collected in April through June and August).

Cleptes rufifemur: KIMSEY & BOHART 1990: 63 (*C. semiauratus* group, Nearctic: W U.S.A.).

M a t e r i a l e x a m i n e d : 1♂. U.S.A.: California: Davis May 1960, L.A. Stange (det. Kimsey), 1♂ (Davis).

Further data partly from KIMSEY's diagnosis: Male: Scape, coxae and femora brown. MS 0.7 MOD long. Ped 1.7 times as long as wide, F-I 2.7 times as long as wide, F-II 1.6 times as long as wide. Lower margin of clypeus distinctly wider than diameter of antennal socket (as Fig. 5). Postscutellum with a small longitudinally deepening in front medially, not touching scutellum, with many minute foveae at bottom; posteriot margin of postscutellum remarkably deeply emarginate. Mesopleuron smooth with round punctures. Paramere of the male genitalia (Fig. 3) apically rounded, inner margin entire and smoothly convex, cuspis relatively short, apex not much extending apex of digitus. Digitus apically rounded. Female MS 1.2 MOD long. Ped about twice as long as wide. F-I 1.7 times as long as wide. F-II wider than long.

D i s t r i b u t i o n : U.S.A.: California (KIMSEY 1981).

Cleptes rufigaster KIMSEY

Cleptes (*Cleptes*) *rufigaster* KIMSEY 1981: 814, 1♂, 1♀. Holotype ♂; California: Rocklin (Davis).

M a t e r i a l e x a m i n e d : 3♂♂, 1♀. U.S.A.: California: Blue Lakes, Lake Co. May 1959 (S.M. Fidel) 1♀ and Jolon Montrey Co. May 1959 R.T. Haig, 1♂ (both were det. Kimsey) (Davis); Paraiso Springs, Monterey Co Cal. May 1922, 1♂ (Ottawa); Sonoma Co. Calif. 1♂ (Budapest).

Further data mostly from KIMSEY's diagnosis: Male: MS 1.2 Mod long. Ped 1.7 times as long as wide, F-I 2.4 times width, F-II length 1.6 times width. Clypeal truncation wider than diameter of antennal socket (Fig. 5). Nervulus antefurcal. T-I-IV reddish orange, T-V bluish. Paramere of genitalia (Fig. 6) apically pointed, deeply notched subapically, on inner margin with a digitate projection; cuspis elongate; digitus pointed apically. Females: Ped twice as long as wide, F-II wider than long. Mesopleuron bright blue and

purple posteriorly below tegulae. The ridging on mesopleuron hardly perceptible.

One male specimen (Sonoma) differs to a small degree from the original diagnosis. Mesopleuron "with extensive ridging" according to author. It is smooth, shining basally, below the origin of the wings in the male (Sonoma), without distinct ridges in front, surface hardly convex between the rows of more or less round and elongate punctures and with partly very fine ridges with slightly convex intervalls posteriorly. Propodeal teeth short, stumpy, but pointed apically. T-IV partly blackish. The pronotum of two males with a shallow, longitudinal depression medially of different length and ending before posterior groove. Certainly it is not equivalent with the longitudinal sulcus along mid-line between the two pit rows. However, the genitalia of male from Sonoma agree completely with Fig. 6.

D i s t r i b u t i o n : U.S.A.: California (KIMSEY 1981).

Cleptes semiauratus (LINNAEUS)

Sphex semiaurata LINNAEUS 1761: 413, 2♂♂. Lectotype ♂ (Sweden). (Linnean Society Collection, Burlington House, London).

Chrysis semiaurata FABRICIUS: 1775: 359 ♀; *Cleptes s.* 1804: 154♀.

Cleptes semi-auratus: LATREILLE 1802: 316.

Cleptes semiaurata: LEPELETIER 1806: 119 ♀, ♂.

Cleptes semiaurata: DAHLBOM 1831: 23 ♀, ♂; 1945: 2 ♀, ♂; 1854: 15 ♀, ♂, T.1. F. 3-11.

Cleptes semiauratus: MOCSÁRY 1882: 19 ♀, ♂; 1889: 47 ♀, (♂ = *C. pallipes* accord. to Buys).

Cleptes semiaurata: BUYSSON 1892: 91 ♀, ♂, Pl. VI. Fig. 6 (*C. Diana* MOCSÁRY ♂ as synonym).

Cleptes semiauratus: DALLA TORRE 1892: 5 (*C. pallipes* as synonym).

Cleptes semiaurata: BUYSSON 1897: 544-545, 563; 1908: 10 (Egypt).

Cleptes semiauratus: SEMENOV-TIAN-SHANSKIJ 1920: 316 ♀, ♂ (in key).

Cleptes semiauratus: HOUSIAUX 1922: 25 ♀, ♂ (key, Belgium: Uccle stalle, on *Ribes*, *Alnus* with *Nematus miliaris* PZ.).

Cleptes semiauratus: UCHIDA 1931: 55 (Japanese text).

Cleptes semiauratus: BERNARD and BERLAND 1938: 22.

Cleptes semiauratus: MÓCZÁR 1949: 42 (nearly everywhere in the Carpathian Basin, geogr. Map I); 1951: 273♀♂ Figs 22-23 (genitalia). 1951: 277 (*C. diana* MOCSÁRY as synonym of *C. pallipes*).

Cleptes semiauratus: ZIMMERMANN 1954: 1 (Austria).

Cleptes semiauratus: VOGRIN 1955: 5 (Croatia: Karlovac, Krapina (on Umbellifer and *Ribes*), Ruma).

Cleptes semiaurata: BOUČEK 1957: 327 (in key, Czecho-Slovakia).

Cleptes semiauratus: LINSENMAIER 1959: 10 (in key, *C. pallipes* as synonym).

Cleptes semiauratus: MÓCZÁR 1962: 112, 117 ♀, ♂, (descr. 7 nov. subgenera); 1967: 5 ♀,♂, in key).

Cleptes semiauratus: GAUSS 1964: 225 (really *C. pallipes*!), (parasite on *Pristiphora abietina* CHRIST).

Cleptes semiauratus: LINSENMAIER 1968: 5, (some difference with *C. splendens* FABRICIUS).

Cleptes semiauratus: KUSDAS 1968: 81, 84 (biotope and ethology).

Sphex semiaurata: DAY 1979: 72 ♂ (*Cleptes* s., desig. lectotype ♂ Sweden, L.S. London).

Cleptes (*Cleptes*) *semiauratus*: KIMSEY 1981: 809, 815 (in key, holotype).

Cleptes semiauratus: BOHART & KIMSEY 1982: 12, 14 (in key).

Cleptes semiauratus: MORGAN 1984: 7, *C. pallipes* as syn, 10: desig. lectotype of *C. pallipes*, and 14: in key ♀, ♂, Fig. 91 (really *C. pallipes* ♀) (England).

Cleptes semiauratus: KIMSEY & BOHART 1990: 63 ("Lectotype female desig. herein" Paris, *C. semiauratus* group). (Fig. 11, 12f not *C. semiauratus* = really *C. pallipes* ♀).

Cleptes semiauratus: STRUMIA 1994: 1 (Italy, *C. splendidus* FABRICIUS 1794 as syn.).

Cleptes semiauratus: KUNZ 1994: 47, 72 (in key, sensu LINSENMAIER: German: Baden Würtenberg).

Cleptes semiauratus: LINSENMAIER 1997: 10 (Fig. 5 *C. splendens* accordig to author) really genitalia of *semiauratus* (!), 31 (in key), 42 (description of *C. semiauratus*), 45 (colour illustration of *C. semiauratus*) = really *C. pallipes*.

Material examined 248♀♀, 179♂♂ (+det. about 1960: 153♂♂♀♀ = 580) specimens. Hungary: Budapest 10 spp., Cinkota, Csévharaszt 2 spp., Dunaörs 3 spp. (genitalia), Felsölövő, Csurgó Fehér m., Gyón, Hidegkút, Hajós, Isaszeg, Jánoshalma 2 spp., Jászberény, Kalocsa 3 spp., Kelebia 2 spp., Kunfehértó 4 spp., Mátra-h. 2 spp., Németbogsán (genitalia), Nográdszakál, őrszentmiklós 4 spp., Derekegyháza 2 spp., Pestszentimre 3 spp., Pécel, Piliscsaba (genitalia), Rákóczifalva, Rárós-Ipoly 13 spp. partly on *Anthriscus*, Rákoskeresztúr 2 spp., Simontornya 5 spp., Soroksár, Sukoró 2 spp., Szigetbecse, Tompa 6 spp., Tard, Tihany -Barátlakások, Tihany-Akasztódomb 3 spp., Tompa 4 spp., Vörs 3 spp. The collectors are: E. Bajári, J. Bartkó, L. Biró, J. Erdős, Gy. Fekete, E. Horváth, Z. Kaszab, K. Kertész, D. Kuthy, O. Merkl, S. Mocsáry, L. Móczár, M. Móczár, F. Pillich, K. Sajó, Solymosné, Á. Soós, V. Székessy, Sztudva, Thálhammer, S. Tóth. The dates of collection were mainly May and June, in a few cases in July. The total number of specimens are 29♀♀+ 64♂♂ = 93 spp.(Budapest); Budapest 9 spp., Kalocsa, Pestszentimre 5 spp., Siófok 3 spp., Vácz-Szöd, Vác-Tudósdomb 2 spp. The collectors were Bartkó, L. Biró, Heinrich, E. Horváth 5♀♀ + 12♂♂ (München) Hungar. central. (leg Mocsáry) (with Mocsáry writing), 1♀ (London).– Austria-Tirol: Civezzano May 1916, leg. J. Fodor, 1♂. (Budapest); (? = locality uncertain) Damianitsch, ? Festion, ? Coll. Graeffe, Kolazy, Lafnitz Obersteiermark, Megerla, Mödling, ? Nabres, Oberweiden, Coll. Simony, Schlerngebiet, Tschek-Piesting, Ullr, ? Wtm. The known collector is A. Handlirsch. The dates of collection were May and June from 1869-1910 for 5♀♀ and 21♂♂ (Wien). Wiener Prater July 1958 1♀, 2♂♂ (Leiden); Döbriach Millstätter See July 1962 leg. C. de Vogg, 1♀ (Leiden); Tirol: Latocha; (Budapest). Austria inf., Burgenland: Neusiedlersee Umg. 143 spp., Kolbnitz, Carinth., 6spp., Korneuburg, Wien/Wienerberg, Wolfenreith. The collectors were K. Kusdas, Legerssky & A.I. Mader for 143♀♀ + 11♂♂ (München). Czech Rep.: the same locality listed in *C. pallipes*, det about 1960: 10♀♀, 29♂♂ (Prag), Brno;– Slovakia. Mer. June 1932 leg. Šnoflák, 1♀ (Budapest), the same locality listed in *C. pallipes*, det. about 1960: 24♀♀, 42♂♂ (Brno). Moravia: Breclav (München). - Slovakia: Szalonca Skoplje (München); -- Romania: Transylvania: Borosjenő May, 1930 leg. L Diószeghy, 1♀, Németbogsán leg. E. Merkl, 1 ♂ (genitalia) (Budapest) -- Serbia: Macedonia: Ranica valley June 1965 J.T. Wibes, 1♂ (Budapest). Montenegro: Ponferrada and Krivosije leg Paganetti (København). -- Montenegro: Ponferrada and Krivosije leg. Paganetti (København). Croatia: Senjsko Bilo July 1907, 1♀ (Budapest); Istrien (Coll. Graeffe) ♀ (Wien). -- Bulgarian P.R.: Pazardzsik leg. May, Nedelkov, 1♂ (Sofia). – Turkey: Ankara- Camlidere June 1996 leg. A. Podlussány, 1♂ (Budapest). -- Italy: Ibarska Klisura June 1886, 1♂; La Napole June 1966 J.F. Aubert, 1♀ (Budapest); Turin, Pedemont 2♀♀ (København); Bologna Marzabotto-Vergato 250 m leg. F. Koller, Calabria Aspromontre leg. Paganetti, 2, Triest Umg. Conconello leg. Kusdas 17♂♂ (München). -- Switzerland: Basel July 1♀ and Peney July 1889, 2♀♀, Genève, (Geneva); Münstertal Santa Maria 1400 m June 1953 Lindberg, 1♀ (Helsinki). -- France: Broût Vernet, R. du Buysson, 1♀+ 1♂; St Genis Rhone, G. Nicod July 1946, 1♀; Corsica: Bicchisano July 1965 J.F. Aubert, Olmeto s/Mer. July 1965 J.F. Aubert 2♀♀ (Budapest). --Spain: Montealegre Walladoid leg. E. Asensio June 1979 (genitalia), 1♀ (Budapest); Escorial leg. G. Mercet, 1♀+ 1♂ (genitalia); Salamanca leg. Diez May 1978 1♀; El Pardo Madrid Tr. Malaise, leg. Nieves and Rey, June 1991, 1♂; El Ventorillo 1480 m Madrid Nieves and Rey, June 1989, 1♂; El Ventorillo Yellow pan Trap 1 leg. A. Garrido, July 1991, 1♂ and with the same dates, except T. Malaise 1 and 2, 2♀♀; El Ventrillo T Malaise 1 leg. A. Garrido, July 1991, 1♂, (Madrid). -- Portugal: Trevim, NLH Krause August 1960 1♀, (Budapest). -- Luxembourg: June 1910 leg. Zerny 1♂ (Budapest). -- England:

Torla 1♂ (London). – Denmark: Denmark about 18♀♀, 30♂♂ (København). -- German: Köln, Crefeld, Koblenz, 1♀, 4♂♂ (Bonn), Lübeck (Wien); – Poland--: Stettin July 1942 leg Zeller 1♀, 2♂♂ (Leiden). Lukovice leg. Kusdas (München) – Russia: more, about dozen ♀ and ♂ (St. Petersburg).

♀. - Length 5.5-7.5 mm. Head, usually face, pronotum- mesototum flame red, pronotum often green in front. Mesototum often, scutellum, postscutellum usually golden reddish or golden green. Propodeum, except black oblique grooves, and mesopleuron extensively bluish green or greenish blue, ventral margin golden in front. Propodeum, mesopleuron and metapleuron with bluish, partly violet tint. Fore tarsi usually pale brown or yellowish brown, middle and hind tibiae darker, femora with metallic green reflection. Scape dark brown with reddish coppery tint on upper side. F-I or II partly pale brown. Fore wing moderately infuscated, discoidal cell distincty indicated, upper vein somewhat pale. T-I-II, usually anterior half or lateral spots on T-III yellowish brown, remnants of tergite blackish brown, at most with metallic pale blue laterally and T-III-IV without violet reflections.

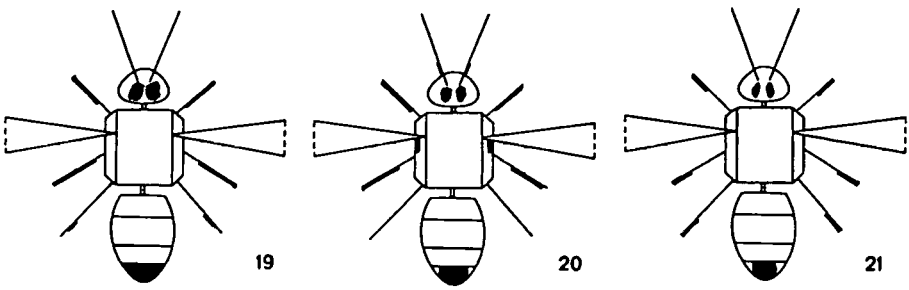
Face usually closely and shallowly, pronotum deeply, mostly sparsely punctured. MS 1.6 MOD long. Ped 2.0 times as long as wide, F-I 1.9 times, F-II 0.7 times, F-III 0.9 times as long as wide. Frontal sulcus usually broadly interrupted medially. Lateral margin of clypeus divergent, lateral corners sharply pointed. Ocellar triangle distinctly acute. Head broad, viewed from above, occipital carina narrow, often present, without minute foveae. Posterior groove of pronotum mostly with large, sometimes distinctly quadrangular pits medially. Mesonotum, scutellum with fine punctures. Postscutellum with small, dense punctures. Postscutellum not touching scutellum, with a row of minute foveolae between them. Propodeal disc usually with about 3-4 longitudinal ridges medially over the whole horizontal surface and/or same shorter ridges laterally. Posterlateral corners of propodeum usually rectangular, but often with a short stumpy or slightly acute spine. Mesopleuron mostly with some small, elongate, shallow or deeper foveae along the strigose, partly striate surface. Mesopleuron somewhat coarsely ridged. Metapleuron and lateral side of propodeum striate above partly finely strigose. T- I with minute punctures medially, T-II-III with fine and very dense punctures, T-III with double punctures only laterally, T-IV with large, scarce punctures.

♂. - Length 4.5-7 mm. Head, thorax entirely greenish blue with more or less violet reflections or tint. Pedicel, flagellomeres, vertical face of propodeum and sometimes disc black. Propodeum rarely dark reddish medially. Scape above, outer side of coxae, femora, often hind tibiae with green metallic highlights. Fore tibiae usually pale brown above, middle and hind tibiae darker brown. Tarsomeres usually yellowish brown. T-I-II usually yellowish or redish brown, T-III often partly brownish, or extensively brown with lateral spots. T-IV black without violet reflection, T-V black or with more or less blue-greenish blue reflection. Fore wing hardly infuscated, nearly hyaline without a brownish spot. Discoidal cell well indicated. Nervulus not always antefurcal, in some specimens interstitial. Face densely, partly coarsely punctured. MS 0.8 MOD long. Ped 2.0 times as long as wide, F-I 2.0 times, F-.II 1.6 times, F-III 1.7 times as long as wide. Frontal sulcus distinct or interrupted medially. Clypeus with pointed corners anteriorly,

lateral side oval. Ocellar triangle acute. Head broadened behind eyes, viewed from above. Narrow occipital carina present. The row of pits in posterior groove of pronotum not always quadrangular and remarkably larger medially. Pronotum deeply and densely punctured. Scutellum with deep punctures. Postscutellum not touching scutellum, with a deep and rather broad groove with a row of minute foveae between them. Lateral corners of propodeum somewhat pointed (Corsica), or stumpy in another specimen (from Corsica). Mesopleuron with oblique parallel ridging or strigose with some shallow foveolae, striate longitudinally, as well as metapleuron and lateral side of propodeum partly. T-III-IV with very dense, nearly close punctures, T-III with moderate double punctures laterally and T-IV medially with moderate double punctures. Genitalia Fig. 17. Paramere and process of paramere of equal length. Process of paramere distinctly broader on basal half, converging toward the top on apical half. Cuspis gradually slender toward tip. Digitus nearly as long as cuspis. Aedagus short, similarly as in *C. pallipes*.

Variation. *C. semiauratus* is a widely distributed and often common species of perplexing variability within populations and between countries. The number of examined males with black T-V is only about 25%, in contradiction to the 62% of the males with more or less bright blue or with pale blue reflections or tint. The distribution of these variations are figured on Map I. There are some specimens with irregular colours. Lower face flame red on female, with larger or smaller black spots on both sides (which is characteristic for *C. pallipes*), they are also in specimens mostly collected in the same place and time (i.e. Hungary: Kelebia, France: Rhone Brouth-Vernet, Portugalia). One normal coloured *C. semiauratus* male (with genitalia) (Transylvania: Németbogsán) has an expanded blue reflection on its T-IV, similarly as in *C. pallipes* (T-V lost). Another male (Spain: Ventorillo 1450 m, Madrid) is *C. semiauratus*, but both sides of T-IV have blue spots, T-V black (genitalia unknown). One male (Spain: Escorial) more or less is similar to *C. semiauratus*, but T-IV with very pale blue tint, and T-V blue. The same 9 males genitalia prove the identity of the specimens with black and with bright or pale blue last tergite, the spread of these specimen is shown on Map I. The 3 females from Spain (e.i. El Ventrillo, leg Garrido) differ from normal female of *C. semiauratus* by the brownish black fore tibiae with narrow metallic streaks. One male colleted with the same data differs by mesopleuron with more foveae and by much coarser sculpture. All tibiae and partly tarsomeres brownish black. Another males (Spain) differ from the European males first of all by mesopleuron with more foveae, by the partial strigose and coarser ridging, and by the greenish metallic streaks on all tibiae. Genitalia of 3 males (Portalegre, Escorial, Salamanca) were prepared by E. Mingo, they are stuck on the label dry, below the specimen. It is curious, that the genitalia of the three males seem to be near to the genitalia of the species *C. parnassicus* (Fig. 15-16). Neither the sculpture of the propodeum in front, brownish legs without metallic reflection, nor the yellowish fore tarsi agree with *C. parnassicus*, at least below. Only a larger material can solve this problem. More interesting are 3 females, which show up different characters of both species: *C. semiauratus* and *C. pallipes*. The transitional forms are from: Italy: La Napole, Corsica: Olmeto and Bicchisano. Figs 19, 20, 21.

D i s t r i b u t i o n : Palaearctic, Nearctic.



Figs 19-21. Transitional forms **19** – Cleptes semiauratus specimen from La Napole, **20** – from Corse: Bicchisano and **21** – from Corse: Olmeto; Normal line = *C. semiauratus*; thick line = *C. pallipes*. Figures partly after H. Wolf. Orig.

Cleptes turceyanus LINSENMAIER

Cleptes turceyanus LINSENMAIER 1968: 5, 2♂♂.Holotype ♂; Turkey: Tarsus (Budapest).

Cleptes turceyanus: KIMSEY & BOHART 1990: 64 (*C. semiauratus* group).

M a t e r i a l e x a m i n e d : 2♂♂. Turkey: "Tarsus 23.-24.4.55 Seidenstücker", "♂ Type *Cleptes* Ltr. *turceyanus* Lins. Linsenmaier det. 1965", 1♂ holotype (Budapest); "Antakia I.-7.6. Anatolia 1965 leg. Gusenleitner", "♂ Paratype *Cleptes* Latr. *turceyanus* Lins. Linsenmaier det. 1965", (genitalia separating on glass, damaged), "Hym. Typ. No. 3866 Mus. Budapest", 1♂ (Budapest).

Face with larger and dense punctures, similarly to pronotum in front. Frontal sulcus relatively broad and deep, cavity rather flat on both sides. MS 0.5 MOD long on holotype and 0.3 on paratype. Ped 2.0 and 1.8 times as long as wide. F-I 2.5-2.5 times as long as wide, F-II 1.3-1.5 times as long as wide, F-III 1.3-1.3 as long as wide. Pronotum convex viewed from the side, without longitudinal sulcus medially. Posterior groove of pronotum with a narrow depression, without row of pits., only with irregular punctures. Lateral edge of propodeum nearly right angled. Mesopleuron shining by the rounded off longitudinal ridges between the row of elongate and round punctures below surface. The triangularly pointed black streak posteriorly before margin of T-III, T-IV-V with bluish highlights, partly with a more or less violet tint. Anterior tibiae yellowish brown, middle and hind tibiae darker brown.

D i s t r i b u t i o n : Turkey (LINSENMAIER 1968).

Literature

BERLAND L. & F. BERNARD (1938): Hyménoptères vespiformes. III. Cleptidae, Chrysidae, Trigonalidae. — In Faune de France **34**: 145 pp. 241 Figs P. Lechevalier, Paris.

BOHART R.M. & L.S. KIMSEY (1982): A synopsis of the Chrysididae in America north of Mexico. — Mem. Amer. Ent. Inst. **33**: 1-166. (Cleptinae: 12-16, Figs 5-12).

BOUČEK Z. (1952): Hbitenky - Bethyloidea. — In KRATOCHVIL J.: Klič Zvireny ČSR II: 326-330. (746 pp. 1-1108 Figs).

BUYSSON R. du (1891-1892): Cleptidea Aaron. — In. ANDRÉ E.: Species des Hyménoptères d'Europe et d'Algerie **VI**: 64-93 Pl. VI.

BUYSSON R. du (1897): Étude des Chrysidides de Muséum de Paris. — Ann. Ent. Soc. France **66**: 544 - 574, Pl.18-19.

BUYSSON R. du (1900): Contribution aux Chrysidide du globe. — Rev. Ent. France **19**: 125-158.

BUYSSON R. du (1901): Sur quelque Chrysidides du Musée de Vienne. — Ann. Naturhist. Hofmus. Wien **16**: 97-104.

BUYSSON R. du (1908): Revision des Chrysidides de l'Egypt. — Mém. Soc. Ent. Egypt. **1**: 1-99.

DAHLBOM A.G. (1831): Monographia Chrysididarum Sueciae. — In Acad. Carol. Audit. Hist. Nat. **II-IV**: 19-34.

DAHLBOM A.G. (1845): Disposito methodica specierum Hymenopterorum, secundum Insectorum naturales **8**: 1-21, Lund.

DAHLBOM A.G. (1854): Hymenoptera Europaea precipue Borealia etc. **2**: 412 pp. Tab. I.

DALLA TORRE C.G. (1892): Chrysididae. — Catalogus Hymenoptertorum **VI**: 118 pp.

DAY M.C. (1979): The species of Hymenoptera described by LINNAEUS in the genera *Sphex*, *Chrysis*, *Vespa*, *Apis* and *Mutilla*. — Biol. Journ. Linnean Soc. **12**: 45-84.

EADY R.D. (1968): Some illustrations of microsculpture in the Hymenoptera. — Proc. R. ent. Soc. Lond. (A) **43** (4-6): 66-72, 31 Figs.

FABRICIUS J.C. (1775): Systema entomologiae, etc., XXVIII + 832 pp. Libraria Kortii, Flensburgi et Lipsiae.

GAUSS R. von (1964): *Cleptes semiauratus*: im Rahmen der Parasitenliste von *Pristiphora abietina* (CHRIST) in Süswestdeutschland. — Z. ang. Entomologie **54**: 225-232, Figs.

HOUSIAUX A. (1922): Les Chrysididae de Belgique. — Bull. Soc. Ent. Belg. **4**: 19-38.

KIMSEY L. S. (1981): The Cleptinae of the Western Hemisphere. — Proc. Biol. Soc. Wash. **94**: 801-818, 1-29 Figs.

KIMSEY L.S. & R.M. BOHART (1990): The Chrysidid Wasps of the World. (Subfamily Cleptinae: 52-70). — Oxford Univ. Press. 652 pp., 156 Figs.

KUNZ P.X. (1994): Die Goldwespen (Chrysididae) Baden-Württenbergs. — Beih. Veröff. Naturschutz Landschaftspflege Bad. - Württ. **77**: 1-188, *Cleptes*: 42 Figs, 153-157.

KUSDAS K. (1956): Beitrag zur Kenntnis der Goldwespenfauna (Chrysididae und Cleptidae) Oberösterreichs. — Naturkundl. Jahrb. Linz **1956**: 307-326.

KUSDAS K. (1968): Über Lebensraum und Lebensweise palaearktischer *Cleptes*-Arten. — Nachrichtenblatt der Bayer. Entom. **17** (5): 77-86.

LATREILLE P.A. (1802): Histoire naturelle, générale et particulière des Crustacés et des Insects. — Paris **3**: 467 pp.

LEPELETIER de A.L.M. (1806): Mémoire sur quelques espèces nouvelles d'insectes de la section des Hyménoptères, apelles les porte-tuyaux, et les charactères de cette famille et des genres qui la composent. — Ann. Mus. Hist. Nat. Paris **7**: 115-129, ♀ ♂.

LINNAEUS C. (1761): Fauna Suecica 578 pp. — Laurentii, Salvii, Stockholm.

LINSENMAIER W. (1959): Revision der Familie Chrysididae. — Mitt. Schweiz. Ent. Ges. **32** (1): 1-232, 1-711 Figs.

LINSENMAIER W. (1968): Revision der Familie Chrysididae. - Zweiter Nachtrag. — Mitt. Schweiz. Ent. Ges. **41**: 1-144, Figs 1-13.

LINSENMAIER W. (1969): The Chrysidid wasp of Palestine, a faunistic catalogue with descriptions of new species and forms. — Israel J. Ent. **4**: 343-376.

LINSENMAIER W. (1997): Die Goldwespen der Schweiz. — Veröff. Nat. Mus. Luzern **9**: 1-139, Figs 118, T 1-15.

MOCSÁRY S. (1882): Chrysididae Fauna Hungariae. - **III**: 94 pp. — Hungarian Academy of Sciences, Budapest.

MOCSÁRY A.(=S.) (1889): Monographia Chrysididarum orbis terrarum universi. — Budapest, Franklin t., 643 pp. T-I-II.

MOCSÁRY S. (1902): Additamentum secundum ad Monographiam Chrysididarum orbis terrarum universi. — Természetr. Füz. **15**: 213-240.

MOCSÁRY A. (1902): Species aliquot Chrysididarum novae. — Természetr. Füz. **25**: 339-349.

MÓCZÁR L. (1949): Les Cleptides du Bassin des Karpathes. — Folia ent. hung. (S.N.) **3**: 40-45 Map I.

MÓCZÁR L. (1951): Les Cleptidae du Musée Hongrois d'Histoire Naturelle. — Annls hist.-nat. Mus. natn. Hung. **1** (N.S.): 260-283. Figs 1-36.

MÓCZÁR L. (1962): Bemerkungen über einige *Cleptes*-Arten (Hymenoptera: Cleptidae). — Acta Zool. **8**: 115-125.

MÓCZÁR L. (1967): Fémdarázsalkatúak - Chrysidoidea. — In Fauna Hung. **86**(2) (XIII Hym. III) p. 1-118, 65 Figs.

MÓCZÁR L. (1968a): Drei neue *Cleptes*-Arten. — Acta Zool. Acad. Sci. Hung. **14**: 164-173, 7 Figs.

MÓCZÁR L. (1968b): Einige *Cleptes*-Arten aus der Sammlung von Karl Kusdas. — Opuc. Zool. Budapest **8**: 367-370.

MÓCZÁR L., NAGY C. (Rumania), OKÁLI I.(Czecho-Slovakia), OSYCHNIUK A.Z. (USSR) & G. SZÖLLŐSI (Yugoslavia) (1972): Das Fundortverzeichnis des Faunenkatalogs der Hymenopteren I-XXIV. des Karpatenbeckens. (Cat. Hym. XXV.). — Folia ent. hung. (S.N.) **25**: 111-164, Map I.

MÓCZÁR L. (1996a): Additions to American Cleptinae.- In NORDE B.B. & A.S. MENKE Contribution on Hymenoptera and Associated Insects dedicated to Karl V. Krombein. — Mem. Ent. Soc. Washington **17**: 153-160, 1-22 Figs.

MÓCZÁR L. (1996b): New data on the Subfamily Cleptinae. — Acta. zool. hung. **42** (2): 133-144.

MÓCZÁR L. (1997a): Revision of the *Cleptes nitidulus* group of the world. — Entomofauna **18** (3): 25-44, 1-2 Figs.

MÓCZÁR L. (1997b): Revision on *Cleptes* (*Leiocleptes*) species of the world. — Folia ent. hung. **58**: 89-100 Figs.10.

MÓCZÁR L. (1998a): Revision on the *Cleptes* (*Holcocleptes*) species of the world. — Acta zool. hung. **43**: 323-343 Figs 19.

MÓCZÁR L. (1998b): Supplement to the revision of *Cleptes* (*Leiocleptes*) of the world. - Folia ent. hung. (N.S.) **59**: 209-211.

MÓCZÁR L. (1998c): Revision of the Cleptinae of the World. Genus *Cleptes* subgenera and species groups. — Entomofauna **19** (31): 501-516, 9 Figs.

MÓCZÁR L.: Revision of the *Cleptes asianus* and *townesi* groups of the World (Hymenoptera, Chrysididae, Cleptinae). - Acta zool. hung. [in print].

MÓCZÁR L. (2000): World revision of the *Cleptes satoi* group. — Annls hist.-nat. Mus. natn. hung. **92**: 297-324, 30 Figs.

MORGAN D. (1984): Cuckoo-Wasps Hymenoptera, Chrysididae. — In Handbooks Ident. Brit. Ins. **6** (5): 1-37, 95 Figs.

RICHARDS O.W. (1935): Note on the nomenclature of the aculeate Hymenoptera, with special reference to British genera and species. — Trans. R. Ent. Soc. Lond. **83**: 143-176.

SEMENOV-TIEN-SHANSKIJ A. (1920): Revisio synoptica Cleptidarum Faunae rossicae. — Bull. Acad. Sci. Russ.: 303-328.

SPAČEK K. (1934): Ulovky zlatének v ceském podkrkonosi (Hym. Chrysididae). — Časopis Čs. Spol. Ent. **31**: 138-139.

STRUMIA F. (1994): Hymenoptera Chrysididae. — In Checklist delle Specie Animali della Fauna Italiana Fasc. **099**: 1-10.

UCHIDA T. (1931): *Cleptes semiauratrus* LINNÉ. In: Takagi's - Studies with control of the larch sawfly. — Bull. Forrest. Exp. Stn. Chosen 12: 55.

VOGRIN V. (1995): Ein Beitrag zur Fauna der Hymenoptera Aculeata Jugoslaviens. — Zastitta bilja Belgrade **31**: 3-74.

ZIMMERMANN S. (1954): Hymenoptera-Tubulifera: Cleptidae, Chrysididae. — In STROUHAL H.: Catalogus Faunae Austriae **XVIIa**: 1-10.

Author's address: László MÓCZÁR
Szabolcska M. u.1.
H-1114 Budapest, Hungary