

1992 a

ISSN 0013-8738

VOLUME 72 NUMBER 7  
SEPTEMBER 1993

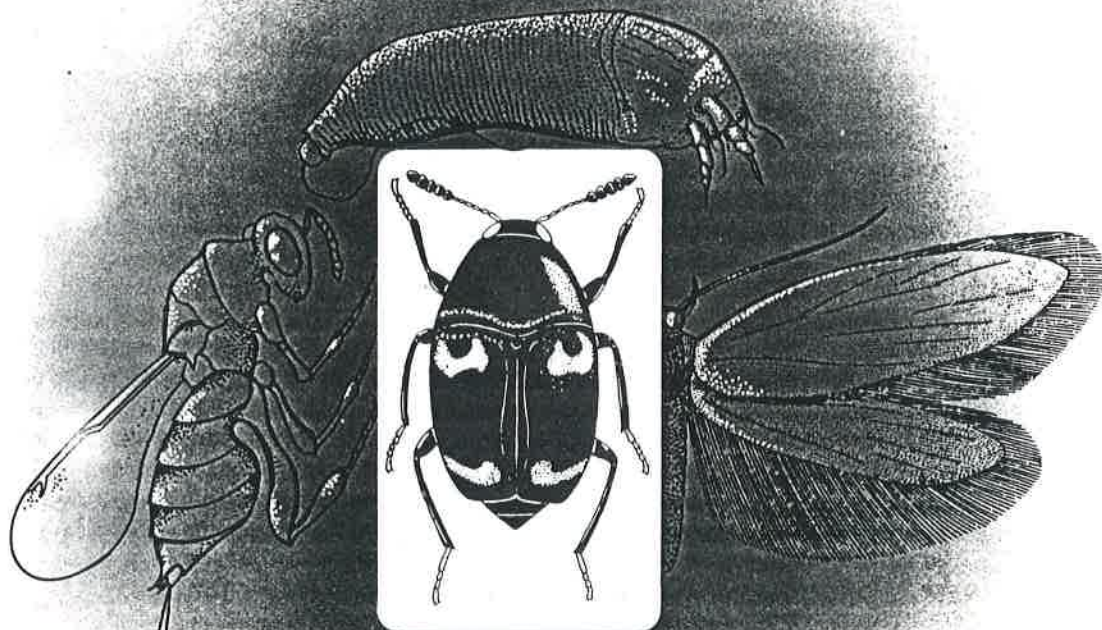
Property of  
OREGON STATE UNIVERSITY  
Library Serials  
Corvallis, OR 97331-4503

DISPLAY

Unbound issue  
Does not circulate

NOTICE  
THIS JOURNAL MAY  
BE PHOTOCOPIED BY  
COPYRIGHT LAW  
(TITLE 17 USC 107)

L  
61  
E617



# ENTOMOLOGICAL REVIEW

A Translation of  
ENTOMOLOGICHESKOYE  
OBOZRENIYE

Published in cooperation with  
THE ENTOMOLOGICAL SOCIETY OF AMERICA  
by



**SCRIPTA TECHNICA, INC.**  
A Subsidiary of John Wiley & Sons, Inc.

ENGLISH EDITION PUBLISHED JANUARY 1994

## Digger Wasps of the Tribe Gorytini (Hymenoptera, Sphecidae) of Russia and Neighboring Countries. Genera *Lestiphorus*, *Oryttus*, and *Olgia*\*

P. G. NEMKOV

Soil Biology Institute, Far Eastern Branch, Russian Academy of Sciences, Vladivostok

**Abstract.** The genera *Lestiphorus*, *Oryttus*, and *Olgia* are represented in the fauna of Russia and Central Asia by 6, 5, and 4 species, respectively. Two new species, *Lestiphorus pictus* sp. n. from Kyrgyzstan and *Oryttus dives* sp. n. from Uzbekistan, Tajikistan, and Turkmenistan are described. Descriptions of the previously unknown ♀s of *L. egregius*, *L. oreophilus*, *Oryttus cribratus*, and ♂ of *O. kaszabi* are given. A key to the Palearctic species is provided, as well as numerous figures of anatomical details.

**Key words:** Hymenoptera; Sphecidae; systematics.

The genera *Lestiphorus*, *Oryttus*, and *Olgia* include 17, 14, and 5 species of the world fauna, respectively. The first 2 genera are represented in 11 zoogeographic regions, except the Australian. *Oryttus* also occurs in the Indomalayan Region. The distribution of *Olgia* is limited to the SW Palearctic. Palearctic representatives of these genera are extremely rare in collections. Their fauna and systematics are inadequate. The existing keys (Beaumont, 1953; Pulawski, 1978; and Kazenas, 1978) do not include 11 species presented here.

During preparation of this paper I used collections of the Zoological Institute of the Russian Academy of Sciences, St. Petersburg (ZIS), the Zoological Museum of Moscow State University (MSU), and the Soil Biology Institute of the Far Eastern Branch of the Russian Academy of Sciences, Vladivostok. Localities of preservation of type materials are listed in the text.

In this paper I use the following abbreviations: *Od*, diameter of anterior ocellus; *POD*, distance between posterior ocelli; *OOD*, shortest distance between posterior ocellus and inner margin of eye; *WAS*, width of antennal pit; *OAD*, the shortest distance between inner margin of eye and antennal pit; *IAD*, distance between antennal pits; *IODs*, ratio between distance between inner margins of eyes at level of posterior ocelli and at level of antennal pits; and *A3(13)L:W*, ratio of length of 3rd (13th) segment of antenna to maximal width. In the keys the names of species not included in the annotated checklist are shown in brackets.

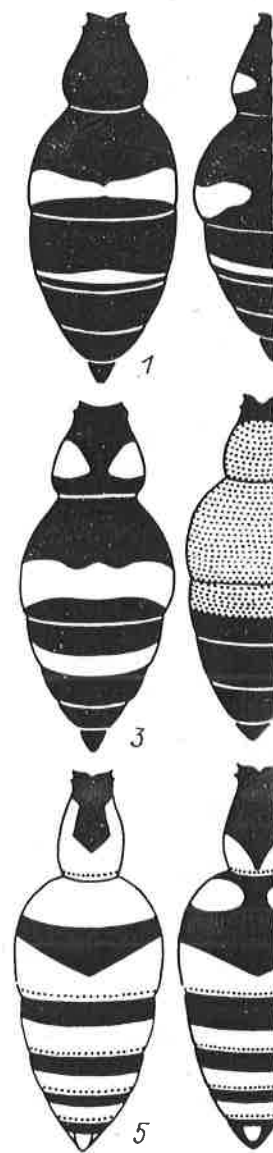
### *LESTIPHORUS* Lepeletier, 1832

Lepeletier, 1832: 70. Type species *Crabro bicinctus* Rossi, 1794, by monotypy. In the Palearctic 7 species are known.

\*Originally published in Entomologicheskoye obozreniye, Vol. 71, No. 4, 1992, pp. 935-949.

KEY TO SPECIES

- 1 (2). Thorax and abdomen without yellow pattern. Base of abdomen (Fig. 4) and most of hindfemora red (rarely entirely black). ♀ 9-12 and ♂ 8-11.5. .... *L. oreophilus* (Kuzn.-Ug).
- 2 (1). Thorax and abdomen with yellow pattern (at least collar and pronotum with yellow stripe and abdominal tergite II with band or lateral spots).
- 3 (6). Abdominal tergites IV-VI with yellow bands. Mesonotum and mesopleura with yellow spots.
- 4 (5). Abdominal segment I 1.6-1.8 times as long as wide (Figs. 5, 6), segment II yellow with black pattern. Abdomen bicolored (black and yellow). Propodeum with 2 large, yellow spots, lateral surfaces anterior to spiracular groove smooth. ♀ 11-13 and ♂ 10-12. .... *L. egregius* (Handl.).
- 5 (4). Abdominal segment I 1.4 times as long as wide (Fig. 22), segment II yellow, with ferruginous base. Abdomen tricolored (black yellow, and ferruginous). Propodeum without yellow spots, lateral surfaces entirely rugulose. (♀ not known), ♂ 8.7. .... *L. pictus* sp. n.
- 6 (3). Abdominal tergites IV-VI and mesonotum with regular, longitudinal rugulae. Abdominal segment I 1.5 times as long as wide. Clypeus, legs, and abdominal tergite III dark. ♀ about 12 and ♂ about 11. N China (Peking). .... [*L. peregrinus* (Yasumatsu)]
- 8 (7). Postscutellum and scutellum densely punctate, without longitudinal rugulae. Abdominal segment I at most 1.3 times as long as wide. Clypeus with yellow spot or completely yellow. Fore- and midfemora and all tibia with yellow spots. Abdominal tergite III with yellow stripe along posterior margin.
- 9 (10). Abdominal tergite I without apical transverse depression, tergite II matt. Humeral tubercles yellow. Pattern of abdomen as in Fig. 3. ♀ 9-12 and ♂ 7-10. *L. bicinctus* (Rossi).
- 10 (9). Abdominal tergite I with strong transverse depression and tergite II shiny. Humeral calli in ♀ black.
- 11 (12). Medial area of propodeum with longitudinal rugulae, not developed in posterior 1/3-1/5 of area; groove bordering it without transverse carinae. Lateral surfaces of propodeum without spiracular groove. Abdominal sternite II with dense, even punctation (intervals between punctations on average as long as diameter of punctation). Pattern of abdomen as in Fig. 2. ♀ 9.5-13 and ♂ 8-11.5. .... *L. bilunulatus* Costa.
- 12 (11). Medial area of propodeum usually with longitudinal rugulae on entire surface, groove bordering it with transverse carinae. Lateral surfaces of propodeum with sparse punctation (intervals between punctations 3-8 times diameter of punctation) on background of dense micropunctation. Pattern of abdomen as in Fig. 1 (♂ not known). ♀ 11-13. .... *L. pacificus* Guss.



Figs. 1-19. Abdomen of ♀  
3) *L. bicinctus*; 4) *L. oreocribratus*; 9) *O. dives*;  
*maracandica*; 16) *O. spi*.

*Lestiphorus bicinctus* (Rossi).

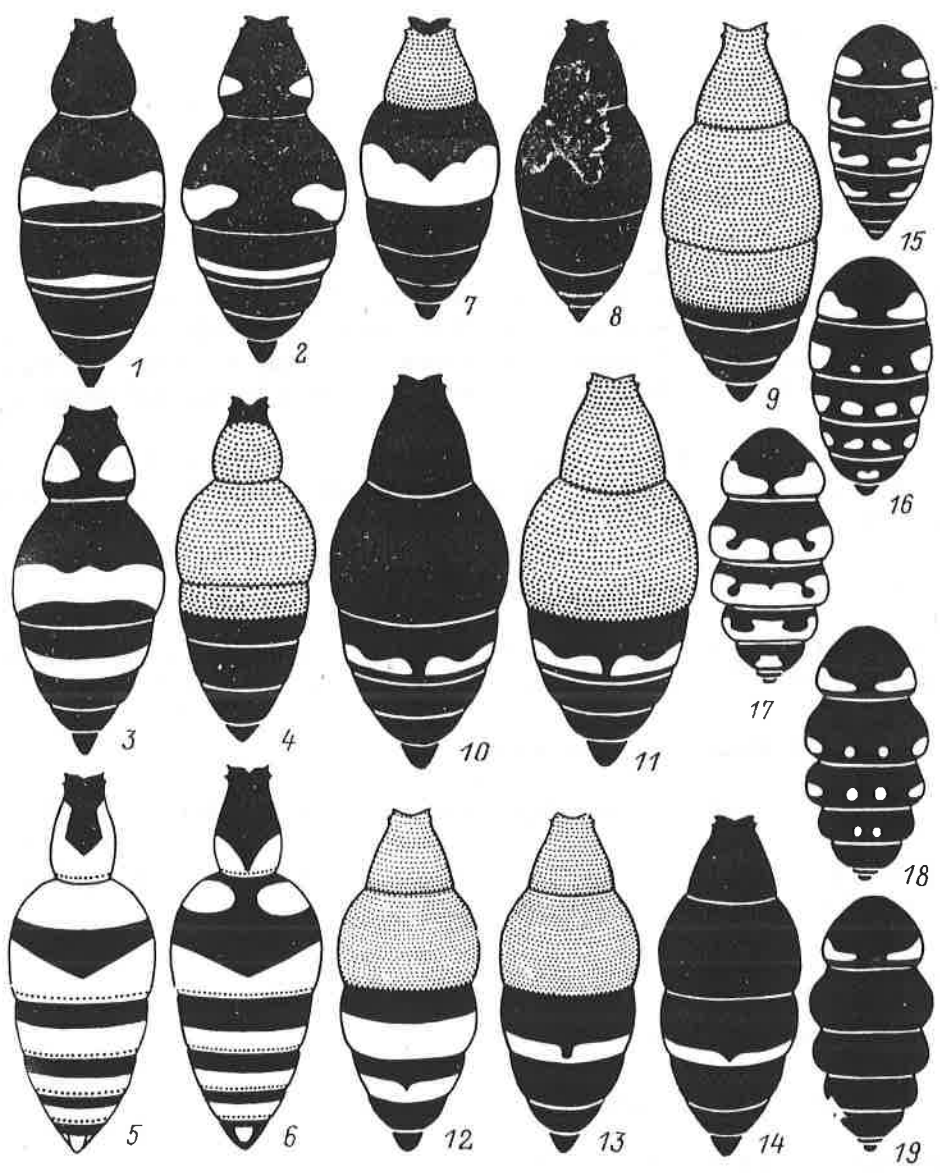
Rossi, 1794: 123, ♀ and ♂ ((

Color of face as in Figs. 34 at

Material. 1 ♀ and 2 ♂s from

abdomen (Fig. 4) and most of  
 ..... *L. oreophilus* (Kuzn.-Ug.)  
 and pronotum with yellow stripe  
 n and mesopleura with yellow  
 5, 6), segment II yellow with  
 propodeum with 2 large, yellow  
 ♀ 11-13 and ♂ 10-12.  
 ..... *L. egregius* (Handl.)  
 22), segment II yellow, with  
 and ferruginous). Propodeum  
 not known), ♂ 8.7.  
 ..... *L. pictus* sp. n.  
 longitudinal rugulae. Abdominal  
 abdominal tergite III dark. ♀  
 .. [*L. peregrinus* (Yasumatsu)]  
 longitudinal rugulae. Abdominal  
 with yellow spot or completely  
 dots. Abdominal tergite III with  
 i, tergite II matt. Humeral tu-  
 i ♂ 7-10. *L. bicinctus* (Rossi).  
 tergite II shiny. Humeral calli

developed in posterior 1/3-1/5  
 lateral surfaces of propodeum  
 use, even punctation (intervals  
 ctation. Pattern of abdomen as  
 ..... *L. bilunulatus* Costa.  
 ulae on entire surface, groove  
 propodeum with sparse puncta-  
 punctation) on background of  
 not known). ♀ 11-13. ....  
 ..... *L. pacificus* Guss.



Figs. 1-19. Abdomen of ♀s in dorsal view: 1) *Lestiphorus pacificus*; 2) *L. bilunulatus*; 3) *L. bicinctus*; 4) *L. oreophilus*; 5, 6) *L. egregius*; 7) *Oryttus concinnus*; 8) *O. cribratus*; 9) *O. dives*; 10, 11) *O. infernalis*; 12-14) *O. kaszabi*; 15) *Olgia maracandica*; 16) *O. spinulosa*; 17-19) *O. modesta* (15-17 after Beaumont, 1953).

***Lestiphorus bicinctus* (Rossi, 1794).**

Rossi, 1794: 123, ♀ and ♂ (*Crabro*).

Color of face as in Figs. 34 and 35.

**Material.** 1 ♀ and 2 ♂s from Ukraine (Irpen' and Brusnya) and Altai (Askat on Katun River).

**Distribution.** Ukraine, Altai, and S and C Europe.

*Lestiphorus bilunulatus* (Costa, 1869).

Costa, 1869: 75, ♀ and ♂.

Color of face as in Figs. 32 and 33.

**Material.** 17 ♀s and 9 ♂s from Ukraine (Kharkov), Altai (Artybash), Krasnoyarsk Terr. (Oznachennaya), Chita Prov. (Olochi on Argun River), Amur Prov. (Arkhar, Kundur, Saskal', Kleshchinskoye, 25 km SW of Shimanovsk), Khabarovsk Terr. (Bichi at mouth of Gorina River), Maritime Terr. (Ussury Reserve, Terekhovka, Tikhookeanskiy, Yuzhno-Morskoy and Chernyatino).

**Distribution.** Ukraine, Altai, S Krasnoyarsk Terr., Chita Prov., Amur Prov., S Khabarovsk Terr., Maritime Terr., Sakhalin. S and C Europe, and Korean Peninsula. E Japan (Hokkaido and Honshu), subspecies *L. bilunulatus yamatonis* Tsuneki.

*Lestiphorus pacificus* (Gussakovskij, 1932).

Gussakovskij, 1932: 29, ♀ [*Gorytes* (*Lestiphorus*); lectotype (designated here) ♀, "Maykhinskoye Forestry," Maritime Terr., Shkotovo Distr., Shtykovo, 3.IX.1929 (Shabliovskiy), preserved in ZIS].

Color of face of ♀ as in Fig. 29. ♂ not known.

Paralectotypes. 2 ♀s with label as in holotype; 1 ♂, Iman River, 5.IX.1931 (Shabliovskiy).

**Material.** 2 ♀s, Maritime Terr., Ussury Reserve, 5 and 6.IX.1987 (Antropov); 1 ♀, same locality, 25.VIII.1989 (Lehr).

**Distribution.** S Maritime Terr.

*Lestiphorus egregius* (Handlirsch, 1893).

Handlirsch, 1893: 278, ♂ (*Gorytes*).

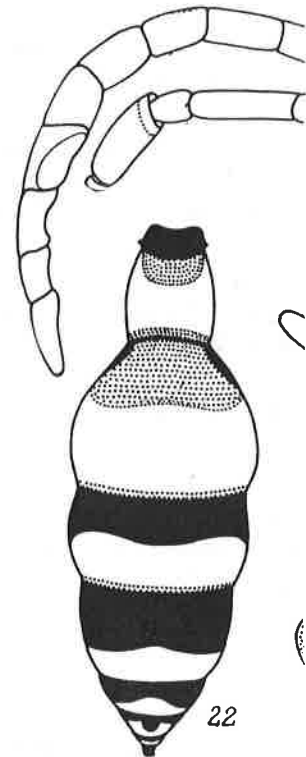
Color of face of ♂ as in Fig. 28.

♀ (previously unknown). Length of body 10-12 cm [sic.]. Clypeus moderately convex, with straight anterior margin. Inner margins of eyes weakly converging upward (Fig. 27).  $IODS = 0.77$ .  $OAD:WAS:IAD = 23:20:16$ . Frons considerably flatter than in *L. bilunulatus*, with indistinct frontal groove.  $OOD:Od:POD = 15:16:23$ .  $A3L:W = 63:12$ ,  $A4L:W = 48:14$ ,  $A11L:W = 19:13$ ,  $A12L:W = 25:12$ . Sternauli distinct. Lateral surfaces of propodeum with barely distinct spiracular groove. Abdominal segment I 1.6 times as long as wide, 2.3 times width of segment II (Fig. 5). Abdominal tergite I without apical transverse depression, rather weakly flattened. Pygidial area (Fig. 47) slightly convex, with apex slightly curved upward.

Frons matt, with indistinct scattered punctation. Mesonotum semiopaque, in center and posteriorly with rather coarse, dense, partly fused punctation (diameter of punctations 1/4-1/5 length of *Od*), laterally and in center with rather smaller and sparser punctations (diameter of punctations 1/8-1/12 length of *Od*, intervals between them 1.5-6 times their diameter) on background of dense and fine

micropunctation. Scutellum, postsutural area not punctate, shiny, in upper part with distinct margin of metapleura (sometimes reduced) becoming stripe on occipital area; propodeum with distinct, fine, dense, smooth and shiny anterior half of propodeum, shiny, sparsely punctate (diameter of punctations 1/4-1/5 times their diameter). Pygidial area with distinct, short, decumbent, silver pubescence.

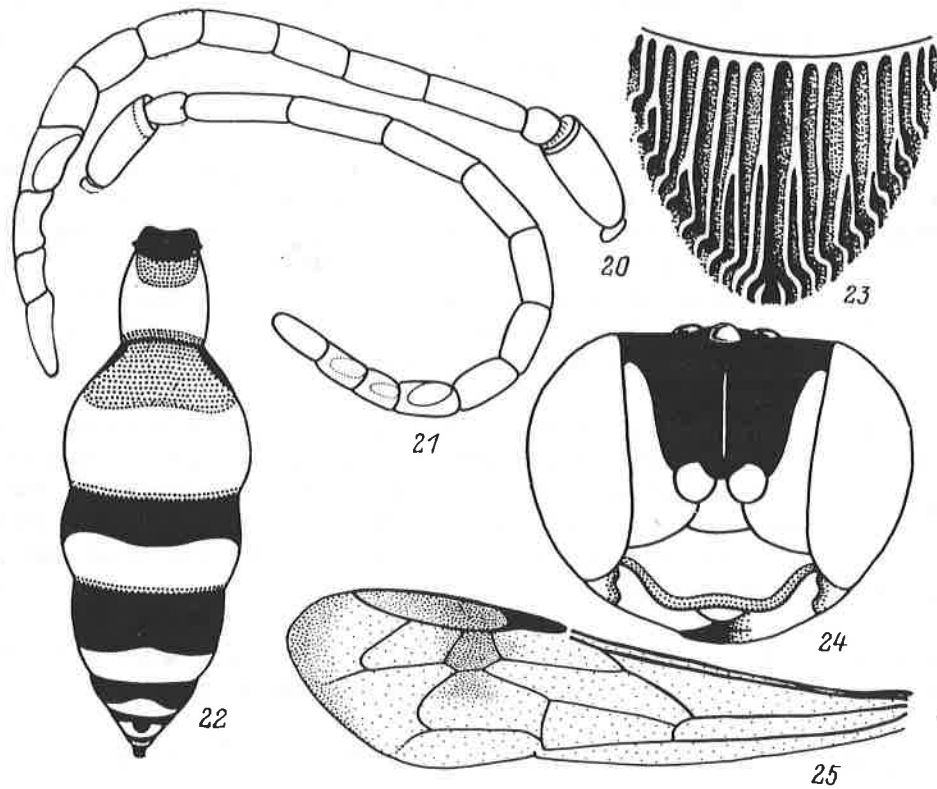
Body black, with prevalent yellowish tinge on scapes (except dark apex), scapes laterally reduced becoming stripe on occipital area; spots on segment; bands and spots on propodeum; bands and spots on sternites; and legs predominantly slightly darkened. Posterior legs brownish. Coxae and trochanter parts. Veins and pterostigma yellow.



Figs. 20-25. Details of structure of *Lestiphorus pictus*: 20) head; 21) antenna; 22) dorsal view of body; 23) medial area of abdomen; 24) leg; 25) pygidium.

micropunctuation. Scutellum, postscutellum, and mesopleura with small, scattered punctuation. Metapleura not punctate, shiny, in upper part with several coarse, short, longitudinal rugulae, not reaching anterior margin of metapleura (sometimes smoothed-out rugulae presented in lower part). Medial field of propodeum with distinct, fine, dense longitudinal rugulae. Remaining surface of propodeum, besides smooth and shiny anterior half of sides, with irregular reticulate-rugulose sculpturation. Abdomen shiny, sparsely punctate (diameter of punctations  $1/12-1/15$  length of *Od*, intervals between them 3-8 times their diameter). Pygidial area with distinct, slightly elongate punctations (diameter  $1/4-1/5$  length of *Od* and intervals between them on average as long as diameter). Body covered with barely distinct, short, decumbent, silver pubescence.

Body black, with prevalent yellow pattern. Pattern of face highly variable (Figs. 26, 27). Mandibles (except dark apex), scapes largely broad stripes on anterior part of genae (sometimes somewhat reduced) becoming stripe on occiput behind posterior ocelli; collar of pronotum, humeral calli, variably sized spots on segment; bands and spots on pronotum, mesopleura, scutellum, and postscutellum; large spots on propodeum; bands and spots on abdominal tergites (Figs. 5, 6); broad bands along posterior margin of all sternites; and legs predominantly yellow. Flagellum of antennae yellowish ferrugineous, dorsally slightly darkened. Posterior surface of hindtibia and femora and hindtarsi entirely ferrugineous or brownish. Coxae and trochanters sometimes with brown spots. Wings hyaline, without darkened parts. Veins and pterostigma yellow-brown.



Figs. 20-25. Details of structure of ♂: 20) *Oryttus dives*, antenna in dorsal view; 21-25) *Lestiphorus pictus*: 21) antenna in dorsal view, 22) abdomen in dorsal view, 23) medial area of propodeum, 24) head in anterior view, 25) forewing.

(Artybash), Krasnoyarsk Terr.  
v. (Arkhar, Kundur, Saskal,  
hi at mouth of Gorina River),  
-Morskoy and Chernyatino).

mur Prov., S Khabarovsk Terr.,  
Japan (Hokkaido and Honshu).

gnated here) ♀, "Maykhinskoye  
iovskiy), preserved in ZIS].

5.IX.1931 (Shabliovskiy).

7 (Antropov); 1 ♀, same local-

peus moderately convex, with  
pward (Fig. 27).  $IODS = 0.77$ .  
*mulatus*, with indistinct frontal  
 $L:W = 19:13$ ,  $A12L:W = 25:12$ .  
t spiracular groove. Abdominal  
I (Fig. 5). Abdominal tergite I  
l area (Fig. 47) slightly convex,

niopaque, in center and posteri-  
nctations  $1/4-1/5$  length of *Od*,  
iameter of punctations  $1/8-1/12$   
background of dense and fine

**Material.** 5 ♀s and 2 ♂s from Uzbekistan (Fergana, Aman-Kutan, Yargak; and Changir) and Tajikistan (Pendzhikent).

**Distribution.** Armenia, mountain regions of Uzbekistan, and W Tajikistan.

*Lestiphorus oreophilus* (Kuznetsov-Ugamskij, 1927).

Kuznetsov-Ugamskij, 1927: 246, ♂ [*Gorytes*; lectotype (designated here) ♂, Uzbekistan, 65 km NE of Tashkent, Min-Bulak, 7.VII.1922 (Kuznetsov-Ugamskij), preserved in ZIS].

Color of face of ♂ as in Fig. 31.

♀ (previously unknown). Length of body 9-12 mm. Clypeus slightly convex, with straight anterior margin. Inner margins of eyes almost parallel (Fig. 30).  $IODs = 0.96$ .  $OAD:WAS:IAD = 23:21:12$ . Frontal groove narrow, indistinct near anterior ocellus.  $OOD:Od:POD = 25:12:23$ .  $A3L:W = 54:12$ ,  $A4L:W = 45:13$ ,  $A11L:W = 22:11$ ,  $A12L:W = 28:10$ . Sternal partly effaced. Spiracular groove in upper half of sides of propodeum distinct, indistinct below. Abdominal segment I 1.4 times as long as wide, its width twice width of segment II (Fig. 4). Abdominal tergite I without apical transverse depression and swollen before apex.

Clypeus in center with several large punctations at base of rather long setae. Frons matt and with indistinct, scattered punctations. Thorax moderately or slightly shiny, with distinct, dense microsculpturation. Mesonotum with fine, scattered punctations (diameter of punctation 1/9-1/12 length of *Od* and intervals between them 3-10 times diameter). Scutellum, postscutellum, and anterior half of sides of mesothorax and abdominal tergite I with larger and denser punctation (diameter of punctations 1/3-1/6 length of *Od* and intervals between them 1.5-4 times diameter of punctation). Upper part of mesopleura and metapleura finely and somewhat longitudinally rugulose. Medial area of propodeum with regular, narrow, and dense longitudinal rugulae, sometimes diverging somewhat posteriorly. Remaining surface of propodeum, except smooth and shiny anterior half of its sides, with irregular reticulate-rugulose sculpturation. Abdomen, except tergite I, with rather sparse and fine punctation (diameter of punctations 1/8-1/12 length of *Od* and intervals between them 4-10 times diameter of punctations); with dense micropunctation distinct in posterior and effaced in anterior half of abdomen. Pygidial area shiny or semiopaque, doubly punctate (larger mixed with smaller punctations); its apex with short, radial diverging grooves and blunt carinae between them (Fig. 48).

Body black. Labrum, clypeus (except black stripe on anterior margin), frontal part, broad stripes along inner margins of eyes (Fig. 30), 1st-3rd antennal segments ventrally, spots on anterior trochanters, fore- and midfemora ventrally, midtibia anteriorly and fore- and midtarsi mostly pale yellow. Base of abdomen (Fig. 4) and hindfemur (except base and sometimes apex) red. Flagellum ventrally yellowish brown. Wings slightly darkened; forewings much darker near radial, 2nd radiomedial, and 2nd discal cells. Veins and pterostigma black.

**Comments.** In ♀ from W Tajikistan the body and legs are black. Small spot on scapes, foretibia in anterior view, most of foretarsi, and hindtarsi ventrally are brownish yellow.

Paralectotype. 1 ♂, Uzbekistan, Min-Bulak, 7.VII.1922 (Kuznetsov-Ugamskiy).

**Material.** 3 ♀s and 2 ♂s from Tajikistan (40 km SE of Pendzhikent), Kazakhstan (Aksu-Dzhabagly Reserve) and Kirghizia (20 km E of Talas).

**Distribution.** W Tajikistan, Kir

*Lestiphorus pictus* Nemkov, sp

♂. Body length 8.7 mm. Clypeus anteriorly projecting semitransparent 1  $OAD:WAS:IAD = 15:14:5$ . Frontal st 10th segment deeply emarginate ver  $38:11$ ,  $AAL:W = 35:11$ ,  $A12L:W = 19$  without distinct spiracular grooves. shallow groove; longitudinal medial longitudinally rugulose area. Poster Venation of wings as in Fig. 25. Ab segment II (Fig. 22). Abdominal te indistinct apical transverse depressic

Clypeus shiny, with rather large micropunctation. Frons near inner n sparse punctations on background c microreticulate sculpturation forme tered punctations (diameter of each eter of punctation). Thorax abdom mesopleura and metapleura and micropunctation). Mesonotum, late with rather large, well bordered pu them on average equalling diamete denser punctation (diameter 1/4-1 diameter). Lower surface of mesoj dinal in upper part and oblique t rugulae (Fig. 23), extending witho or less serpentine and partly fusin surfaces of propodeum, besides s regular and weaker than on medi covered with very short weak, d dibles, in center of clypeus, and c *Od*.

Body black and with ferrug labrum, clypeus, part of frons, br segments ventrally, collar of pron of pronotum, narrow longitudinal and postscutellum entirely, large on all abdominal tergites (Fig. 2 tergite I, anterior half of tergite faces), posterior half of sternite abdominal sternite III ferrugine Flagellum yellow ferrugineous, forecoxae, midcoxae, and hindco 1st-4th hindtarsal segments mos

Distribution. W Tajikistan, Kirghizia, mountain regions of Uzbekistan, and S Kazakhstan.

*Lestiphorus pictus* Nemkov, sp. n.

♂. Body length 8.7 mm. Clypeus flattened, apex slightly concave (Fig. 24), anterior margin with anteriorly projecting semitransparent marginal stripe. Inner margins of eyes almost parallel.  $10Ds + 1.01$ .  $OAD:WAS:IAD = 15:14:5$ . Frontal stripe indistinct.  $OOD:Od:POD = 13:11:20$ . Antenna as in Fig. 21; 10th segment deeply emarginate ventrally, 11-13th segments without distinct emargination.  $A3L:W = 38:11$ ,  $A4L:W = 35:11$ ,  $A12L:W = 19:10$ ,  $A13L:W = 22:10$ . Sternauli partly effaced. Sides of propodeum without distinct spiracular grooves. Medial area of propodeum well bordered with rather wide and shallow groove; longitudinal medial groove distinct, but poorly apparent against background of coarse, longitudinally rugulose area. Posterior surface of propodeum with deep longitudinal medial groove. Venation of wings as in Fig. 25. Abdominal segment I 1.4 times as long as wide, width 0.49 width of segment II (Fig. 22). Abdominal tergite I in posterior half with almost parallel lateral margins, with indistinct apical transverse depression and preapically slightly swollen.

Clypeus shiny, with rather large (especially in center) deep punctations on background of dense micropunctuation. Frons near inner margins of eyes and below antennal pits and genae shiny, with fine, sparse punctations on background of fine micropunctuation; remaining part of frons matt with distinct microreticulate sculpturation formed of densely distributed deep micropunctations and indistinct scattered punctations (diameter of each 1/9-1/12 length of *Od* and intervals between them 3-8 times diameter of punctation). Thorax abdomen, and legs shiny, with indistinct micropunctuation (upper part of mesopleura and metapleura and posterior half of abdomen with more distinct, slightly shiny micropunctuation). Mesonotum, lateral surfaces of mesopleura, tergites I and II, abdominal sternite II with rather large, well bordered punctations (diameter of each 1.3-1/6 length of *Od*, intervals between them on average equalling diameter). Scutellum, postscutellum, and abdominal segments III-VII with denser punctation (diameter 1/4-1/9 length of *Od* and intervals between them 1.5-5 times as long as diameter). Lower surface of mesopleura impunctate. Metapleura with indistinct, thin rugulae, longitudinal in upper part and oblique below. Medial area of propodeum with sharp, regular longitudinal rugulae (Fig. 23), extending without interruption across border of area in weaker and less regular (more or less serpentine and partly fusing with each other) longitudinal rugulae of posterior surface. Lateral surfaces of propodeum, besides small, smooth area in lower part of anterior half, with rugulae, less regular and weaker than on medial area, oblique in posterior half and vertical in anterior half. Body covered with very short weak, decumbent silver setae. Sparse erect setae on outer surface of mandibles, in center of clypeus, and on occiput near ocelli, their length approximately equalling length of *Od*.

Body black and with ferruginous yellow pattern. Mandibles (except black apex), palpi, genae, labrum, clypeus, part of frons, broad stripes near inner margins of eyes (Fig. 24), 1st and 2nd antennal segments ventrally, collar of pronotum, humeral calli, small spots on anterior margin of lateral surfaces of pronotum, narrow longitudinal spots on lateral margins of mesonotum near base of wings, scutellum and postscutellum entirely, large spots on mesopleura near humeral calli, small spots on tegulae, bands on all abdominal tergites (Fig. 22), posterior half of sternite II and large spots on posterior margin of tergite I, anterior half of tergite II (except small darkened areas near anterior margin of lateral surfaces), posterior half of sternite I, anterior half of sternite II and large transverse spot at base of abdominal sternite III ferruginous or yellowish ferruginous. Remaining parts of abdomen black. Flagellum yellow ferruginous, dorsally near base slightly darkened. Legs mostly yellow. Base of forecoxae, midcoxae, and hindcoxae (hindtarsal yellow apex) black. Hindfemora and tibia dorsally and 1st-4th hindtarsal segments mostly yellowish ferruginous. 5th segment of hindtarsi blackened. Wings



hyaline and slightly darkened in area of 2nd *RM* and basal half of radial cells (Fig. 25). Veins ferrugineous. Pterostigma ferrugineous with yellow color.

♀ not known.

Holotype ♂. Kyrghyzstan, S shore of Issyk-Kul Lake, 12 km E of Kadzhi-Saya, 13.VII.1987 (Volkovich); preserved in ZIS.

The basic differences from all known Palearctic species are shown in key to species. Interesting peculiarities of the new species are the tricolored abdomen and rugulose anterior half of lateral surfaces of the propodeum.

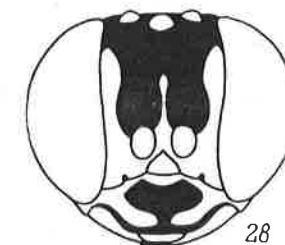
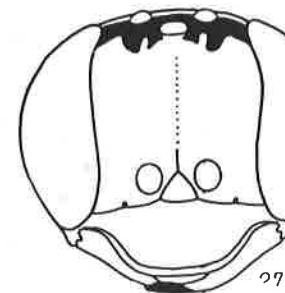
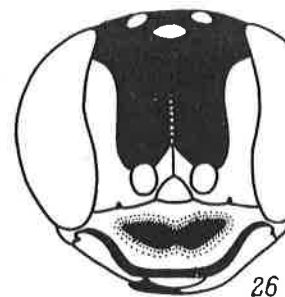
**ORYTTUS** Spinola, 1836

Spinola, 1836: 23. Type species *Arpactus concinnus* Rossi (= *Sphex concinnus* Rossi, 1790), by monotypy. 5 species are found in the region.<sup>1</sup>

KEY TO SPECIES

- 1 (6). Abdominal tergites II and III and pale band.
- 2 (3). Collar of pronotum and scutellum with pale stripes. Legs and base of abdomen usually ferrugineous-yellow or ferrugineous. Pattern of abdomen as in Figs. 12-14. ♀ 9-10.5 and ♂ 9-10. .... *O. kaszabi* Tsuneki.
- 3 (2). Collar of pronotum and scutellum without pale stripes. Legs and base of abdomen black or dark red.
- 4 (5). Wings evenly darkened. Thorax black. Pattern of abdomen as in Figs. 10 and 11. ♀ 12-13.5 and ♂ 10-13. .... *O. infernalis* (Handl.).
- 5 (4). Wings hyaline (forewings slightly darkened in area of 2nd *RM* cell). Thorax mostly red. Pattern of abdomen as in Fig. 7. ♀ 10-12 and ♂ 9.5-12. .... *O. concinnus* (Rossi).
- 6 (1). Abdominal tergites without pale bands.
- 7 (8). Medial area of propodeum irregularly rugulosely punctate (Fig. 51). Forefemora without pale spots. Abdomen entirely black or dark brown (Fig. 8). In ♀ clypeus black and flagellum of antenna dark brown. In ♂ 3rd antennal segment 3 times as long as wide. ♀ 10.5 and ♂ 9.5-10. .... *O. cribratus* (F. Mor.).
- 8 (7). Medial area of propodeum with narrow, distinct rugulae, somewhat longitudinal in anterior part of area and transverse in posterior part (Fig. 52). Forefemora ventrally with large, pale spots. Abdomen with red base and black apex (Fig. 9). In ♀ clypeus pale, flagellum of antenna mostly ferrugineous. In ♂ 3rd antennal segment 3.7 times as long as wide. ♀ 10-11.5 and ♂ 9.5. .... *O. dives* sp. n.

<sup>1</sup>*Gorytes houskai* Balthasar described from Palestine and previously included in this genus actually belongs to *Harpactus* (see: Beaumont and Bytinski-Salz, 1959).



Figs. 26-35. *Lestiphorus* 31) *L. oreophilus*, 32, 3

*Oryttus concinnus* (Rossi) Rossi, 1790: 66, ♀ and ♂

Color of face of ♀ as in F

**Material.** Crimea: 1 ♀, 1 ♂ 20.VIII.1982 (Kurbatov).

**Distribution.** Crimea. S

*Oryttus kaszabi* Tsuneki

f radial cells (Fig. 25). Veins

of Kadzhi-Saya, 13.VII.1987

n in key to species. Interesting  
anterior half of lateral surfaces

*Oryttus concinnus* Rossi, 1790), by

and base of abdomen usually  
as in Figs. 12-14. ♀ 9-10.5 and  
..... *O. kaszabi* Tsuneki.

gs and base of abdomen black

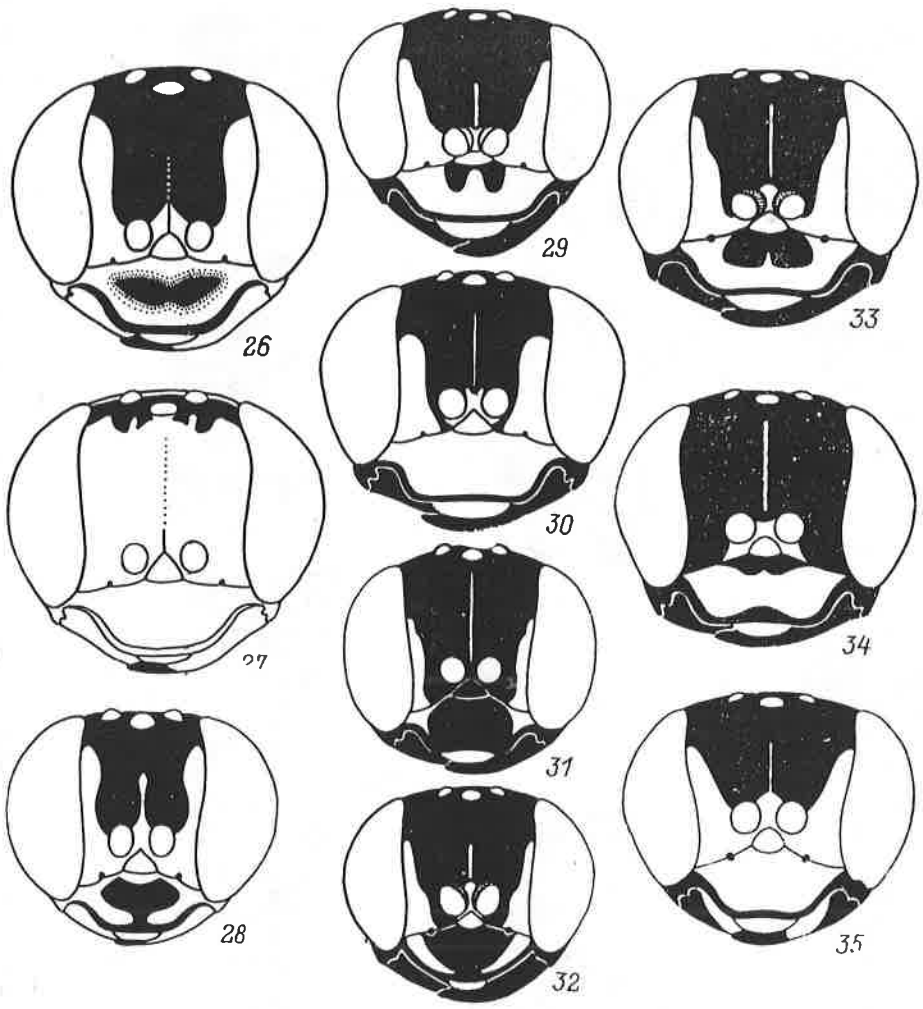
as in Figs. 10 and 11. ♀ 12-13.5  
..... *O. infernalis* (Handl.).

1 RM cell). Thorax mostly red:  
..... *O. concinnus* (Rossi):

(Fig. 51). Forefemora without  
In ♀ clypeus black and flagel-  
les as long as wide. ♀ 10.5 and  
..... *O. cribratus* (F. Mor.).

somewhat longitudinal in anterior  
refemora ventrally with large,  
) In ♀ clypeus pale, flagellum  
at 3.7 times as long as wide. ♀  
..... *O. dives* sp. n.

ly included in this genus actu-



Figs. 26-35. *Lestiphorus*, head in anterior view. 26-28) *L. egregius*; 29) *L. pacificus*; 30, 31) *L. oreophilus*; 32, 33) *L. bilunulatus*; 34, 35) *L. bicinctus* (26, 27, 29, 30, and 34 ♀; 28, 31, 32, and 35 ♂).

*Oryttus concinnus* (Rossi, 1790).

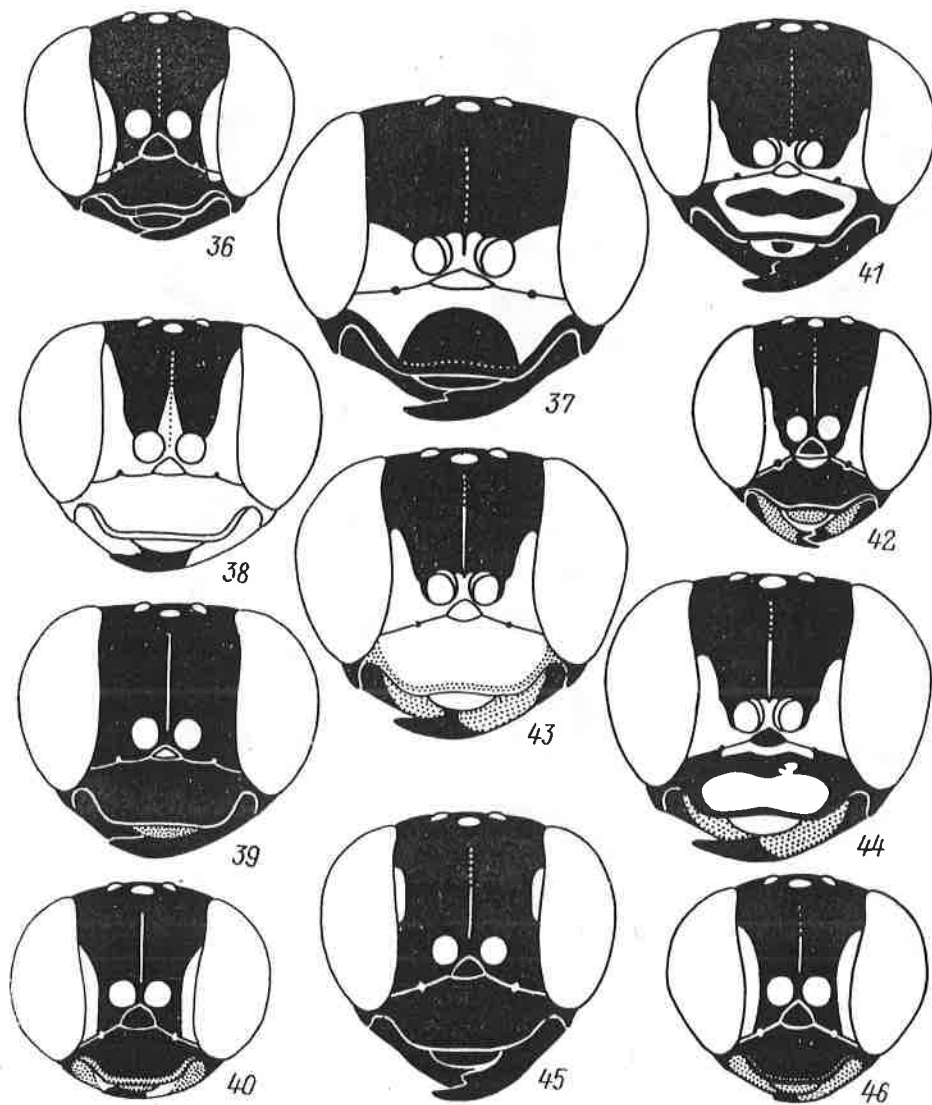
Rossi, 1790: 66, ♀ and ♂ (*Sphex*).

Color of face of ♀ as in Fig. 41.

**Material.** Crimea: 1 ♀, Koreiz, 17.VIII.1928 (Filippov); 1 ♀, Yalta, Nikitskiy Botanical Garden, 20.VIII.1982 (Kurbatov).

**Distribution.** Crimea. S Europe and Turkey.

*Oryttus kaszabi* Tsuneki, 1971.



Figs. 36-46. *Oryttus*, head in anterior view. 36, 37) *O. infernalis*; 38-40) *O. kaszabi*; 41) *O. concinnus*; 42-44) *O. dives*; 45, 46) *O. cribratus*. (37-39, 41, 43-45 ♀; 36, 40, 42, and 46 ♂).

Tsuneki, 1971: 193, ♀.

The species was described on the basis of 3 specimens. Study of materials from Tuva and Kazakhstan showed that color of ♀s of this species is variable, without distinct geographic differentiation. Obviously pale forms with extensive yellow and whitish pattern of body (color of abdomen as in Fig. 12 and color of face as in Fig. 38) and entirely ferruginous-yellow legs and antennae, which fit the original description, occur more often. In rarer dark forms, the pale body color is considerably less developed or absent entirely. Thus, a ♀ from E Kazakhstan that I examined had a black body (color of

face as in Fig. 39) with white stripes of very dark legs and antennae.

♂. (previously unknown). Length 1.9. IODs = 1.19. IAL 19:12:23. 10th antennal deeply emarginate without emargination. A3L:V Sternauli distinct. Spiracular groove in Abdominal segment I 1.26 times as long

Clypeus, except shiny impunctate, with random punctations (diameter of punctation = diameter of punctation) on background of micropunctation, shiny. Mesonotum, propodeum with rather narrow, not sharply diverging rugulae. Remaining surface of mesonotum and abdominal sternite VI semisparsely punctate (half of punctation 0.22-0.4 times diameter). Punctation on propodeum sparser. Lower half of metapleura and upper half of metapleura ventrally with rather narrow, not sharply diverging rugulae. Remaining surface of propodeum with rather sparse, scattered punctation. Sternites III-V with rather sparse, scattered punctation, sternite I and sternite II (0.2-0.4 length) with rather sparse, scattered punctation. Occipital margin of labrum with several erect setae.

Body black. Narrow stripes near humeral calli, and scutellum yellowish. Labrum ferruginous or brown. Flagellum becoming darker toward base. Abdomen with white band as in Fig. 13. Apex of abdomen sometimes yellow. Tibia and tarsi yellow, darkened area near radial, 2nd RM, ferruginous with yellow.

**Material.** 4 ♀s and 2 ♂s from Tuva (Furmanovka) and Tuva (45 km SW of Tuva).

**Distribution.** Kazakhstan, S Tuva.

*Oryttus cribratus* (F. Morawitz)

F. Morawitz, 1892: 157, ♂ [Göttingen], 6.V.1888 (A. Semenov); examined

♂. Color of face as in Fig. 46.

♀. (previously unknown). Length 1.9.

face as in Fig. 39) with white stripes on the pronotal, scutellum, and abdominal tergite III (Fig. 14) and very dark legs and antennae.

♂. (previously unknown). Length of body 9-10 mm. Clypeus rather convex, with straight anterior margin, and anteriorly outwardly curved marginal stripe. Inner margins of eyes slightly converging downward (Fig. 40).  $IODs = 1.19$ .  $IAD:WAS:IAD = 15:15:6$ . Frontal groove distinct.  $OOD:Od:POD = 19:12:23$ . 10th antennal deeply emarginate below, 11th and 12th segments with weaker and 13th segment without emargination.  $A3L:W = 48:13$ ,  $A4L:W = 40:14$ ,  $A12L:W = 22:14$ ,  $A13L:W = 28:11$ . Sternauli distinct. Spiracular groove in upper half of sides of propodeum distinct ventrally indistinct. Abdominal segment I 1.26 times as long as wide.

Clypeus, except shiny impunctate anterior 1/3 and upper half of frons semiopaque, with dense random punctations (diameter of punctation 1/4-1/8 length of *Od*, intervals between them 0.2-4 times diameter of punctation) on background of distinct and dense micropunctuation. Thorax with fine micropunctuation, shiny. Mesonotum, postscutellum, and sides of mesonotum with rather coarse, pitlike punctation (half of punctation 0.22-0.40 length of *Od* and intervals between them on average considerably less than diameter). Punctuation of scutellum and lower surface of mesopleura less coarse and sparser. Lower half of metapleura and anterior half of sides of propodeum smooth and impunctate. Upper half of metapleura ventrally with sparse, in upper part with dense punctation. Medial area of propodeum with rather narrow, not sharp, irregular (serpentine and in part branching) and posteriorly diverging rugulae. Remaining surface of propodeum irregularly rugulose-punctate. Abdominal tergites III-VII and abdominal sternite VI semiopaque, with distinct punctation. Remaining abdominal surface with indistinct micropunctuation and shiny. Abdominal segments (except impunctate anterior half of sternites III-V) with rather sparse, scattered punctation, diameter of which gradually declining from tergite I and sternite II (0.2-0.4 length of *Od*) to last segment (1/8-1/12 length of *Od*). Body with short decumbent, silver pubescence. Occiput, region near ocelli, center of clypeus, mandibles, and anterior margin of labrum with several erect setae, length of which approximately equalling length of *Od*.

Body black. Narrow stripes near inner margins of eyes (Fig. 40), stripe on collar of pronotum, humeral calli, and scutellum yellowish white. Middle 1/3 of mandibles and scapes yellow dorsally. Labrum ferruginous or brown. Flagellum dark yellow ventrally and brown dorsally, color gradually becoming darker toward base. Abdominal segments I and II ferruginous-yellow or yellow. Tergite III with white band as in Fig. 13. Apex coxae and trochanters ferruginous. Femora ferruginous (forefemora sometimes yellow). Tibia and tarsi yellowish-ferruginous with yellow. Wings hyaline, forewings with darkened area near radial, 2nd *RM*, and distal halves of 2nd discal cell. Veins brown. Pterostigma ferruginous with yellow.

**Material.** 4 ♀s and 2 ♂s from Kazakhstan (Aktau, Uil, 27 km E of Katon-Karagay, 70 km NW of Furmanovka) and Tuva (45 km SW and 10 km of Samagaltay).

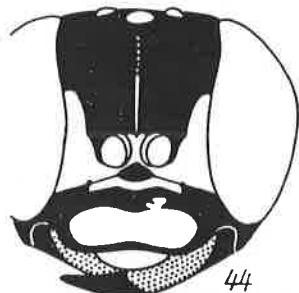
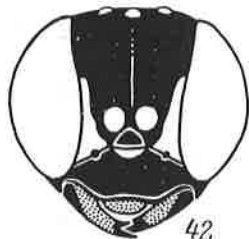
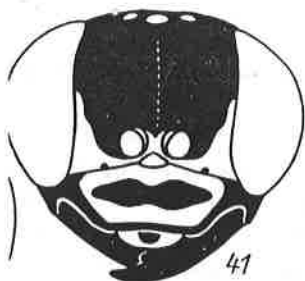
**Distribution.** Kazakhstan, S Tuva. Mongolia.

*Oryttus cribratus* (F. Morawitz, 1892).

F. Morawitz, 1892: 157, ♂ [*Gorytes*; holotype ♂, Turkmenistan, Dort-Kuyu (37° 38' N, 61° 18' E), 6.V.1888 (A. Semenov); examined]; Pulawski, 1981: 365 (*Oryttus*).

♂. Color of face as in Fig. 46. Abdomen black or dark brown. Legs black or ferruginous.

♀. (previously unknown). Length of body 10.5 mm. Clypeus moderately convex, with straight

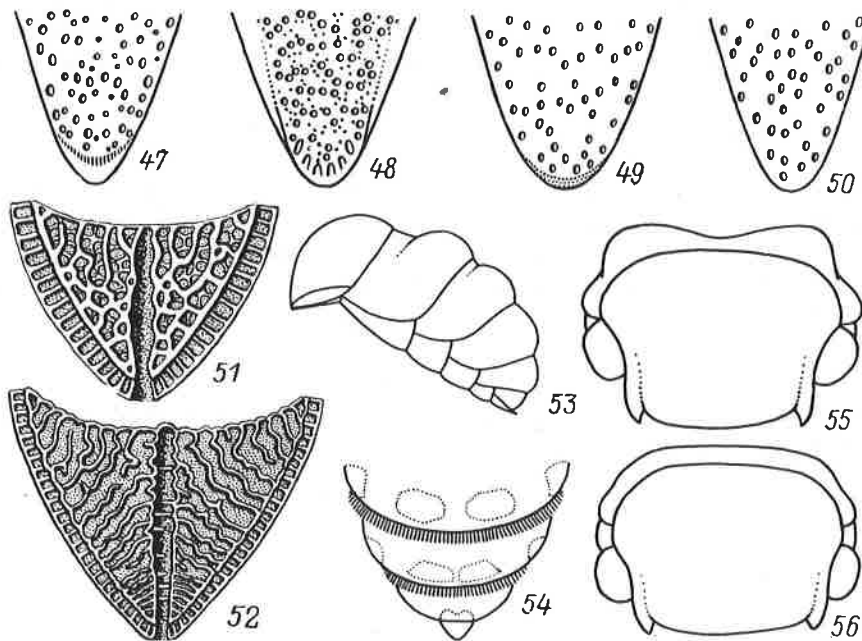


*ternalis*; 38-40) *O. kaszabi*; (37-39, 41, 43-45 ♀; 36,

Study of materials from Tuva and thout distinct geographic differentiation of body (color of abdomen as in -yellow legs and antennae, which fit : pale body color is considerably less examined had a black body (color of

apex, stripe on anterior margin not convex anteriorly. Inner margins of eyes approximately parallel (Fig. 45).  $IODs = 1.02$ .  $OAD:WAS:IAD = 21:17:10$ . Frons above antennal pits with narrow, longitudinal carina, slightly above middle of eye sharply ending and becoming indistinct groove extending to anterior ocellus.  $OOD:Od:POD = 21:14:24$ .  $A3L:W = 65:12$ .  $A4L:W = 49:12$ ,  $A11L:W = 24:11$ ,  $A12L:W = 30:10$ . Sternauli distinct. Spiracular grooves on lateral surfaces of propodeum complete, but rather poorly developed against background of coarse sculpturation. Abdominal segment I 1.18 times as long as wide. Pygidial area slightly convex, with apex convex upward.

Clypeus (except shiny, impunctate anterior 1/3) and upper half of frons semiopaque, with dense, deep pitlike punctation (diameter of which .2-.29 length of  $Od$  and intervals between them not longer than diameter on background of fine microsculpturation. Lower half of frons with sparser weak punctation. Thorax shiny, indistinct micropunctation. Mesonotum and sides of mesothorax with coarse pitlike punctations (diameters of which .22-.29 length of  $Od$  and intervals between them no longer than diameter). Lower part of mesothorax with sparser punctation. Scutellum and postscutellum with smaller punctation than on mesonotum, but dense and deep. Metapleura with sharp, parallel, slightly oblique (almost horizontal) rugulae, not quite reaching anterior margin. Anterior half of sides of propodeum smooth. Medial area irregularly rugulose-punctate (Fig. 51). Remaining surface of propodeum with irregular, fine reticulate sculpturation. Abdomen shiny (tergites III shining rather weakly), with indistinct microsculpturation. Abdominal segments with rather sparse punctation (intervals between 1-3 times diameter), diameter of punctations gradually declining from tergite I and sternite II .22-.29 length of  $Od$ ) to tergite V and sternite VI (1/10-1/15 length of  $Od$ ). Pygidial area shiny, with rather large punctation, slightly extended longitudinally (Fig. 50). Body with weak pubescence of very short,



Figs. 47-56. Details of structure of ♀s: 47-50) pygidial area; 47) *Lestiphorus egregius*, 46) *L. oreophilus*, 49) *Oryttus dives*, 50) *O. cribratus*; 51, 52) medial area of propodeum: 51) *O. cribratus*, 52) *O. dives*; 53) *Olgia modesta*, abdomen in lateral view; 54) *O. spinulosa*, apex of abdomen in dorsal view; 55, 56) anterior part of thorax in dorsal view: 55) *O. bensoini*, 56) *O. maracandica*. (53-56 after Beaumont, 1953).

decumbent, silver setae. Occiput near labrum with several erect setae, length

Body black. Short and narrow surface of foretibia and foretarsi, for hindtarsal segment yellow. Flagellum brown. Collar of pronotum, posterior 2/3 darkened (darker in forewings than

Material. 1 ♀ and 1 ♂. Turkmenistan.

Distribution. Turkmenistan.

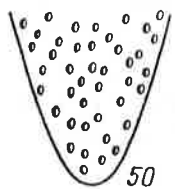
*Oryttus dives* Nemkov, sp. n.

♀. Length of body 10-11.5. C middle, anterior margin with rather narrow, upper 1/3 of frons against base = 22:16:26.  $A3L:W = 64:12$ .  $A4L:W$  in middle 1/3 reniform. Propodeum surfaces, with barely distinct longitudinal medial area with deep and distinct punctations (Fig. 52). Venation of wings of usual type, width of 2nd segment, and length broadly rounded and slightly up turned.

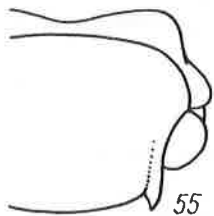
Upper half of frons with distinct punctation. Upper 2/3 of clypeus, lower half sometimes also lower half of gena shiny and with indistinct microsculpturation. Mesonotum, postscutellum, and sides of mesothorax (shorter than diameter) double punctation, smaller punctation, sometimes few mesosternum slightly lighter; scutellum sparser than on mesonotum. Clypeus setae, lower 1/3 bare with sparse punctation, weakly distinct under cover. Upper 1/4 with coarse rugulose-punctations, near posterior margin with sinuous folds, sometimes sinuous folds, more or less longitudinal. Remaining surface of propodeum with distinct punctations, gradually decreasing from middle (intervals between punctations rather coarse and denser) to middle part (intervals between punctations rather fine and shiny, with distinct, small and slightly

s of eyes approximately parallel  
 al pits with narrow, longitudinal  
 indistinct groove extending to  
 49:12,  $A11L:W = 24:11$ ,  $A12L:W$   
 propodeum complete, but rather  
 nal segment I 1.18 times as long

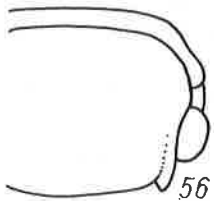
of frons semiopaque, with dense,  
 intervals between them not longer  
 half of frons with sparser weak  
 sides of mesothorax with coarse  
 als between them no longer than  
 and postscutellum with smaller  
 sharp, parallel, slightly oblique  
 rior half of sides of propodeum  
 ing surface of propodeum with  
 ning rather weakly), with indis-  
 nctation (intervals between 1-3  
 te I and sternite II .22-.29 length  
 al area shiny, with rather large  
 weak pubescence of very short,



50



55



56

*Orestiphorus egregius*, 46)  
 dial area of propodeum:  
 in lateral view; 54) *O.*  
 part of thorax in dorsal  
 Beaumont, 1953).

decumbent, silver setae. Occiput near ocelli, center of clypeus, mandibles, and anterior margin of labrum with several erect setae, length of which approximately equal to length of *Od*.

Body black. Short and narrow stripes along inner margins of eyes (Fig. 45), scapes below, lower surface of foretibia and foretarsi, foreclaws (except dark apex) and small spot on upper surface of 5th hindtarsal segment yellow. Flagellum of antennae dorsally and lower surface of midtarsi yellow-brown. Collar of pronotum, posterior corner of mesopleura brown. Basal 1/3 of wings hyaline, apical 2/3 darkened (darker in forewings than in hindwings). Veins and pterostigma dark brown.

**Material.** 1 ♀ and 1 ♂. Turkmenistan, Akhcha-Kuyma, 2 and 5.VI.1976 (Leley).

**Distribution.** Turkmenistan.

*Oryttus dives* Nemkov, sp. n.

♀. Length of body 10-11.5. Clypeus moderately convex, with straight, apex slightly concave in middle, anterior margin with rather wide, slightly convex anteriorly semitransparent marginal stripe. Inner margins of eyes almost parallel (Fig. 49).  $IODs = 1.04$ .  $OAD:WAS:IAD = 21:20:10$ . Frontal groove narrow, upper 1/3 of frons against background of coarse sculpturation, barely distinct.  $OOD:Od:POD = 22:16:26$ .  $A3L:W = 64:12$ .  $A4L:W = 47:13$ ,  $A11L:W = 13$ ,  $A12L:W = 31:12$ . Sternauli complete, but in middle 1/3 reniform. Propodeum with indistinct trace of spiracular groove in upper half of lateral surfaces, with barely distinct longitudinal groove against coarse background on its posterior surface; medial area with deep and distinct medial groove, well bordered with shallow, crenulate groove (Fig. 52). Venation of wings of usual type Abdominal segment I 1.23 times as long as wide, width 0.52 width of 2nd segment, and length 0.8 length of segment II. Pygidial area distinct convex and with broadly rounded and slightly up turned apex (Fig. 49).

Upper half of frons with distinct shagreened microsculpturation between dense micropunctuation. Upper 2/3 of clypeus, lower half of frons, abdominal tergites IV-V and base of tergite VI (and sometimes also lower half of genae, lower part of mesothorax, and last abdominal sternite) slightly shiny and with indistinct microsculpturation. Upper half of frons, occiput, upper half of genae, mesonotum, postscutellum, and sides of mesothorax with coarse, dense (intervals between punctuation shorter than diameter) double punctuation; large, pitlike dots (diameter 1/3-1/4 length of *Od*) mixed with smaller punctuation, sometimes few and therefore poorly distinct among larger ones. Punctuation of mesosternum slightly lighter; scutellum and lower half of genae with coarse and scattered punctations, sparser than on mesonotum. Clypeus in center with several large punctations at base of long erect setae, lower 1/3 bare with sparse and indistinct punctuation. Upper 2/3 of clypeus and lower half of frons (except 2 in impunctate, oval depressions above antennal pits) with rather sparse, scattered punctuation, weakly distinct under dense, decumbent pubescence of short, silver setae. Metapleura in upper 1/4 with coarse rugulose-punctate sculpturation, lower 3/4 smooth, with several distinct punctations, near posterior margin with short, sharp, very oblique (also vertical) parallel folds, not reaching anterior margin of metapleura. Anterior half of sides of propodeum with sparse, large punctations and effaced, oblique folds, sometimes not developed. Medial area with rather regular, narrow, slightly sinuous folds, more or less longitudinal in anterior part of area and transverse in posterior half (Fig. 52). Remaining surface of propodeum with irregular sculpturation. Abdominal segments with distinct punctations, gradually decreasing in diameter from tergite I and base of sternite II (0.2-0.4 length of *Od*) to tergite V and sternite VI (1/8-1/16 length of *Od*); near lateral margins of sclerites, punctuation rather coarse and denser (intervals between punctations usually not longer than diameter) than in middle part (intervals between punctations 2-5 times as long as diameter). Pygidial area somewhat shiny, with distinct, small and slightly longitudinally extended punctuation (Fig. 49). Body with barely

distinct pubescence of very short, sparse, silver setae. Upper 2/3 of clypeus (especially near lateral margins) densely pubescent. Several erect setae on mandibles, anterior margin of labrum, and in center of clypeus, length greater than length of *Od*. Shorter and sparser erect setae on occiput near ocelli.

Body black. Labrum, clypeus (except semitransparent, ferruginous marginal stripe on anterior margin and occasionally ferruginous or dark spot in center), widened ventrally from stripe near inner margins of eyes (Figs. 43 and 44), spot between antennal pits (also sometimes frontal part), 1st-3rd antennal segments ventrally, lower surface of forelegs, 1st tarsal segments, and midtibia pale yellow. Abdominal segments I-III entirely or only in part (Fig. 9), tegulae, middle part of mandibles, most of all legs (rarely very dark) red. Bases of abdominal tergites IV-VI and apex of pygidial area sometimes reddish. Flagellum of antennae yellowish ferruginous, in upper part, near base slightly darkened. Wings hyaline, forewings slightly darkened in area of radial, 2nd *RM*, and apex of 2nd discal sella. Pterostigma ferruginous or dark brown, usually with small yellow spot at base. Veins brown or dark brown.

♂. Length of body 9.5 mm. Inner margins of eyes slightly diverging upward (Fig. 42). *IODs* = 1.22. *OAD:WAS:IAD* = 12:15:5. *OOD:Od:POD* = 18:12:21. Antenna as in Fig. 20; 10th-12th segments emarginate ventrally, 13th segment without distinct emargination. *A3L:W* = 41:12, *A4L:W* = 30:12, *A12L:W* = 20:15, *A3L:W* = 27:12. Midtibia with 2 spurs. Remaining characters of structure, sculpturation, and pubescence of body similar to ♀.

Body black. Small spot at base of clypeus, ventrally widening stripes near inner margins of eyes, scapes in lower part, and apical half of lower surface of forefemora yellowish white. Middle part of mandibles, labrum, abdominal segment I, and base of segment II red. Flagellum ventrally yellowish ferruginous and brown dorsally. Legs mostly dark brown. Tibia and tarsi of fore- and midlegs yellow. Apex of hindtibia ventrally yellowish brown. Color of wings as in ♀.

Holotype ♀, Uzbekistan, Changir, 16.VI.1930 (Zimin). Paratypes: 2 ♀s, same locality, 8.VI and 9.VII.1930 (Zimin); 1 ♀, Yargak, 19.VI.1929 (Zimin); 1 ♀, foothills of Ak-Tau Mountains, 19.VI.1928 (Zimin). Lyaylik, 30.V.1929 (Zimin); 1 ♂, Turkmenistan, Bagir, 25.V.1928 (Gussakovskiy); 1 ♀, Tajikistan, Babatay Mountains, Kafirnigan River, Isambay, 27.V.1982 (Belokobyl'skiy). Holotype and paratypes preserved in ZIS.

The species is close to *O. cribratus*. Its basic differences from all known Palearctic species are shown in the key.

Comments. V. V. Gussakovskiy distinguished but did not describe this species under the same name for 2 ♀s from Uzbekistan. I included them in the type series; however, he placed the ♂ of this species, collected in Turkmenia, in *O. cribratus*.

#### Genus *OLGIA* Radoszkowski, 1877

Radoszkowski, 1877: 33. Type species *Olgia modesta* Radoszkowski, 1877, by monotypy. 2 species in Palearctic Region.

#### KEY TO SPECIES

- 1 (2). Abdominal tergites (especially II and III) strongly flattened before apex (Figs. 17 and 53), ♀ 7-8 and ♂ 6.5-8. .... *O. modesta* Rad.
- 2 (1). Abdominal tergites not swollen before apex (Figs. 15, 16).

- 3 (4). Posterior margin of ab  
Pale bands on these tergites  
.....
- 4 (3). Posterior margin of ab  
only once (Fig. 15).
- 5 (6). Corners of collar of p  
yellow spots. ♀ 6.5-7 ;
- 6 (5). Corners of collar of p  
small yellow spots.
- 7 (8). Mesonotum shiny, wi  
somewhat larger punc  
5.5 and ♂ 5-5.5.....
- 8 (7). Mesonotum weakly, s  
of fine micropunctati  
Postscutellum yellow.

#### *Olgia modesta* Radoszkowski

Radoszkowski, 1877: 33, P  
Kyzylkum sand desert, Karak Mo  
MSU].

Paralectotypes. 1 ♂, Uzbekis  
1 ♂, S Kazakhstan, Chimkent Pro

Material. 5 ♀s and 12 ♂s f  
Denau), Tajikistan (Dunshanbe, K

Distribution. Turkmenistan

#### *Olgia maracandica* Radosz

Radoszkowski, 1877: 43, P  
"Chardara," Chardara steppe, 25.

Material. 1 ♀ and 6 ♂s fr

Distribution. Uzbekistan

#### *Olgia helena* Beaumont, 1

Beaumont, 1953: 218, ♀ a

Material. 5 ♀s and 4 ♂s ;

2/3 of clypeus (especially near lateral anterior margin of labrum, and in center erect setae on occiput near ocelli.

rugineous marginal stripe on anterior dened ventrally from stripe near inner (also sometimes frontal part), 1st-3rd l segments, and midtibia pale yellow. ae, middle part of mandibles, most of and apex of pygidial area sometimes er part, near base slightly darkened. id RM, and apex of 2nd discal sella. ow spot at base. Veins brown or dark

erging upward (Fig. 42). IODs = 1.22. a as in Fig. 20; 10th-12th segments n. A3L:W = 41:12, A4L:W = 30:12, g characters of structure, sculpturation,

ng stripes near inner margins of eyes, ora yellowish white. Middle part of I red. Flagellum ventrally yellowish and tarsi of fore- and midlegs yellow. ♀.

atypes: 2 ♀s, same locality, 8.VI and lls of Ak-Tau Mountains, 19.VI.1928 ir, 25.V.1928 (Gussakovskiy); 1 ♀, 1982 (Belokobyl'skiy). Holotype and

om all known Palearctic species are

describe this species under the same s; however, he placed the ♂ of this

877

zkowski, 1877, by monotypy. 2 spe-

flattened before apex (Figs. 17 and ..... *O. modesta* Rad.

, 16).

- 3 (4). Posterior margin of abdominal tergites II-IV with several strong, erect setae (Fig. 54). Pale bands on these tergites interrupted 3 times (Fig. 16). ♀ 8.5 and ♂ 7.5..... *O. spinulosa* Beaumont.
- 4 (3). Posterior margin of abdominal tergites without setae. Pale bands on tergites interrupted only once (Fig. 15).
- 5 (6). Corners of collar of pronotum strongly swollen (Fig. 55). Femora ferrugineous, with yellow spots. ♀ 6.5-7 and ♂ 5.5-6.5. N Africa. .... [*O. bensoini* Beaumont].
- 6 (5). Corners of collar of pronotum not swollen (Fig. 56). Femora black and with or without small yellow spots.
- 7 (8). Mesonotum shiny, with rather distinct double punctation: small punctations mixed with somewhat larger punctations. Flagellum ferrugineous. Postscutellum and axilla black. ♀ 5.5 and ♂ 5-5.5..... *O. maracandica* (Rad.)
- 8 (7). Mesonotum weakly, shining with distinct, rather large, scattered punctation on background of fine micropunctation. Flagellum of antennae at least in basal half dorsally darkened. Postscutellum yellow. In ♂ axillae yellow. ♀ 6-7 and ♂ 6-7. .... *O. helena* Beaumont.

*Olgia modesta* Radoszkowski, 1877.

Radoszkowski, 1877: 33, Pl. 5, Fig. 11, ♂ and ♀ [lectotype (designated here) ♀, "Karak," Kyzylkum sand desert, Karak Mountain, 7.V.1871, coll. A. Fedchenko (S Kazakhstan), preserved in MSU].

Paralectotypes. 1 ♂, Uzbekistan, Zeravshan River valley, E of Samarkand, 10.V.1869 (Fedchenko); 1 ♂, S Kazakhstan, Chimkent Prov., vicinity of Dyusebay well, 12.V.1871 (Fedchenko).

**Material.** 5 ♀s and 12 ♂s from Turkmenistan (Firyuza), Uzbekistan (Samarkand, 30 km SW of Denau), Tajikistan (Dunshanbe, Kammashi, 20 km NW of Kurgan-Tyube), Kazakhstan (Iliysk).

**Distribution.** Turkmenistan, Uzbekistan, Tajikistan, S and SE Kazakhstan.

*Olgia maracandica* Radoszkowski, 1877.

Radoszkowski, 1877: 43, Pl. 5, Fig. 10, ♀ and ♂ [*Kaufmannia*; lectotype (designated here) ♂, "Chardara," Chardara steppe, 25.V.1869, coll. A. Fedchenko (S Kazakhstan), preserved in MSU].

**Material.** 1 ♀ and 6 ♂s from Uzbekistan (Golodnaya Steppe).

**Distribution.** Uzbekistan and S Kazakhstan.

*Olgia helena* Beaumont, 1953.

Beaumont, 1953: 218, ♀ and ♂.

**Material.** 5 ♀s and 4 ♂s from Crimea (Sevastopol, Alushta, and Belbek).



**Distribution.** Crimea, Greece, and Turkey.

*Olgia spinulosa* Beaumont, 1953.

Beaumont, 1953: 221, ♀ and ♂.

**Material.** 1 ♂, Armenia, Yerevan, 12.VI.1956 (Smirnov).

**Distribution.** Armenia, Yugoslavia, and Turkey.

#### LITERATURE CITED

- BEAUMONT, J. de. 1953. Le genre *Olgia* Radoszk. (Hym. Sphecidae.) Rev. Suisse Zool. 60(3): 205-223.
- BEAUMONT, J. de, and H. BYTINSKI-SALZ. The Sphecidae (Hymen.) of Erez Israel. 2. Subfam.: Nyssoninae (Tribes: Gorytini, Nyssonini, Alyssonini) and Philanthinae. Bull. Res. Council. Israel. 5(1): 32-60.
- COSTA, A. 1869. Prospetto sistematico Immenotteri Italiani da servire d'prodromo della Immenotterologia Italiana. Ann. Mus. Zool. Univ. Napoli 5: 60-116.
- GUSSAKOVSKIJ, V. V. 1932. Verzeichnis der von Herrn Dr. R. Malaise im Ussuri und Kamtschatka gesammelten Aculeaten Hymenopteren. Arkiv Zool. 24A(10): 1-66.
- HANDLIRSCH, A. 1888. Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. III *Gorytes*. Sitzber. Akad. Wiss. Wien, Math.-Nat. Classe. 97(1): 316-565.
- HANDLIRSCH, A. 1895. Nachträge und Schlusswort zur Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. Sitzber. Akad. Wiss. Wien, Math.-Nat. Classe 104(1): 801-1079.
- KAZENAS, V. L. 1978. Digger wasps of Kazakhstan and Central Asia (Hymenoptera, Sphecidae). [In Russ.]. In: *Opredelitel'*, Alma-Ata, 172 pp.
- KUZNETSOV-UGAMSKIJ, N. N. 1927. Zur Kenntnis der mittelasiatischen Sphecodea. I. Zool. Anz. 71(9/10): 244-249.
- LEPELETIER DE SAINT-FARGEAU, A. 1832. Mémoire sur le genre *Gorytes*. Ann. Soc. Entomol. France 1: 52-79.
- MORAWITZ, F. 1892. Hymenoptera Aculeata Rossica nova. Hor. Soc. Entomol. Ross. 26(1/2): 132-181.
- PULAWSKI, V. V. 1978. Fam. Sphecidae, digger wasps. [In Russ.]. In: *Opredelitel' nasekomykh yevropeyskoy chasti SSSR; Pereponchatokrylyye*. Leningrad 3(1): 173-279.
- PULAWSKI, W. J. 1981. New synonyms in Old World Sphecidae (Hymenoptera). Mitt. Schweiz. Entomol. Ges. 54: 363-366.

RADOSHKOVSIIY, O. I. 187  
Turkestan chlena-osnovate  
(Imper. obshch. lyubit. yete

ROSSI, P. 1790. Fauna Etrusca. 1

ROSSI, P. 1794. Mantassa insect

SPINOLA, M. 1836. Notiz in der  
23.

TSUNEKI, K. 1971. Ergebnisse  
239. Sphecidae (Hymenopt

RADOSHKOVSKIY, O. I. 1877. Chrysidiformes, Mutilidae and Sphecidae. In: Puteshvestviye v Turkestan chlena-osnovatelya obshch. A. P. Fedchenko. Part 5, 4(2): 1-87 + Tab. 1-8. Izvestiya (Imper. obshch. lyubit. yetestv. antropol. i etnogr. 26(1): 205-223.

ROSSI, P. 1790. Fauna Etrusca. Liburni 2: 348 pp.

ROSSI, P. 1794. Mantassa insectorum. Pisa 2: 123.

SPINOLA, M. 1836. Notiz in den Bullet. de la séance du 16 Mars 1836. Ann. Soc. Entomol. France 5: 23.

TSUNEKI, K. 1971. Ergebnisse der zoologischen Forschungen von. Dr. Z. Kaszab in der Mongolei. 239. Sphecidae (Hymenoptera). 1-2. Acta Zool. Acad. Sci. Hung. 1(1/2): 139-217.

Rev. Suisse Zool. 60(3): 205.

n.) of Erez Israel. 2. Subfam.:  
inae. Bull. Res. Counc. Israel.

la servire d'prodromo della  
6.

ise im Ussuri und Kamtchatka  
5.

verwandten Grabwespen. III  
-565.

e der mit *Nysson* und *Bembex*  
lasse 104(1): 801-1079.

Hymenoptera, Sphecidae). [In

chen Sphecodea. I. Zool. Anz.

: *Gorytes*. Ann. Soc. Entomol.

Entomol. Ross. 26(1/2): 132-

In: Oprelitel' nasekomykh  
173-279.

Hymenoptera). Mitt. Schweiz.