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CONTRIBUTIONS TO THE HALICTID FAUNA OF THE EASTERN PALAEARCTIC REGION: SUBFAMILY NOMIOIDINAE (HYMENOPTERA: HALICTIDAE)

Yu. A. Pesenko

Zoological Institute, Russian Academy of Sciences, 199034, St. Petersburg, Russia

The paper presents the results of the taxonomic study of the bees of the subfamily Nomioidinae mostly deposited at the Zoological Institute of the Russian Academy of Sciences (St. Petersburg). A total of nine species were found in the Eastern Palaearctic Region. A key to species is given. An annotated list of the species includes data for each of species on its synonymy, general geographical distribution, and the material examined from the Eastern Palaearctic Region.

KEY WORDS: Halictidae, Nomioidinae, Palaearctic Region, taxonomy, key, distribution.

Ю. А. Песенко. Материалы к фауне галиктид Восточной Палеарктики: подсемейство Nomioidinae (Hymenoptera: Halictidae) // Дальневосточный энтомолог, 2005. № 152. С. 1-12.

В статье представлены результаты таксономического исследования пчел подсемейства Nomioidinae, в основном хранящихся в коллекциях Зоологического института РАН (Санкт-Петербург). Всего в Восточной Палеарктике выявлено 9 видов. Для всех этих видов составлена определительная таблица. Аннотированный список видов включает данные об их синонимии, общем географическом распространении и исследованный материал из Восточной Палеарктики.

Зоологический институт РАН, 199034, Санкт-Петербург, Россия.

INTRODUCTION

The subfamily Nomioiinae is represented by small and usually brightly colored forms (with a metallic green or blue tint and extensive pale integument markings), whose body size only rarely exceeds 5 mm. The distribution of the subfamily is restricted to the Old World, with a single Australian representative, *Ceylalictus perditellus* (Cockerell, 1905). Taking into account the recent revision of the Madagascan (Pesenko, 1996; Pesenko & Pauly, 2001) and African Nomioiinae (Pesenko & Pauly, in press), the subfamily contains about 90 species. The majority of species inhabit deserts and semi-deserts of Africa and Asia.

According to the modern classification of the subfamily (Pesenko, 1996, 2000a, 2000b; Michener, 2000), it includes three genera: *Cellariella* Strand, 1926, endemic to the Afrotropical Region and Madagascar, and two genera widely distributed in warm territories of Africa, Europe and Asia: *Ceylalictus* Strand, 1913 (with three subgenera, *Atronomioides* Pesenko, 1983, *Ceylalictus* s. str., and *Meganomioides* Pesenko, 1983), and *Nomioides* Schenck, 1867 (with three subgenera, *Erythronomioides* Pesenko, 1983, *Nomioides* s. str., and *Paranomioides* Pesenko, 1983).

Basing on the collection data, it can be concluded that all the Nomioiinae are polylectic species. Data on the nesting were published only for *Nomioides minutissimus* (Batra, 1966, 1977; Radchenko, 1979), *N. pulverosus* (Marikovskaya, 1972, as “*N. rotundiceps*”, 1990), and *Ceylalictus variegatus* (Batra, 1966, 1977; Rust et al., 2005); review see: Pesenko *et al.*, 2000. Nomioiinae nest in the ground usually preferring sandy and stony soils, frequently form small or large nest aggregations. On the basis of their flight activity (both sexes fly simultaneously), it can be concluded that nomioiinae are solitary or subsocial species (not eusocial). They are mostly inhabit arid and semi-arid biotopes, in Europe (three species) usually univoltine, fly in mid-summer, in North Africa and Middle Asia bi- or polyvoltine.

Only the following 9 species of the subfamily Nomioiinae can be considered inhabitants of the Eastern Palaearctic Region (as defined in the first paper of the series; see: Pesenko, 2005): *Ceylalictus variegatus* (Olivier), *Nomioides bluethgeni* Pesenko, *N. gussakovskiji* Blüthgen, *N. ino* (Nurse), *N. minutissimus* (Rossi), *N. modestus* Pesenko, *N. monticola* Pesenko, *N. ornatus* Pesenko, and *N. pulverosus* Handlirsch. All the species were recorded only from southwestern part of the region: from Mongolia and/or northern China. The information on the occurrence of the species above in the Eastern Palaearctic Region is contained in the following publications arranged in the chronological order:

Pesenko, 1977 (*C. variegatus*, “*N. pulverosus*” = *N. gussakovskiji*, *N. minutissimus*, and *N. modestus* from Mongolia);

Pesenko, 1983 (*N. bluethgeni*, *N. gussakovskiji*, *N. minutissimus*, *N. modestus*, *N. monticola*, and *N. ornatus* from Mongolia and northern China);

Pesenko, 1984 (*N. bluethgeni*, *N. gussakovskiji*, “*N. minutissimus* f. *ino*” = *N. ino*, *N. minutissimus*, *N. modestus*, *N. monticola*, and *N. pulverosus* from Mongolia);

Pesenko & Wu, 1991 (*C. variegatus*, *N. gussakovskiji*, *N. minutissimus*, and *N. ornatus* from northern China);

Pesenko, 2004 (*N. ino* from Mongolia).

In the key to species below, the following abbreviations are used: S, metasomal sternum; T, metasomal tergum; e.g. T1 means tergum 1; S4, sternum 4, in metasomal

(not abdominal or gastral) numeration. In the annotated list below, species are provided with the section “Material examined” including only the data from the Eastern Palaearctic Region.

The most part (a total of about 400 specimens) of the material examined is deposited at ZISP (explanation of abbreviation used see below). A few bees have been provided for study from IZB.

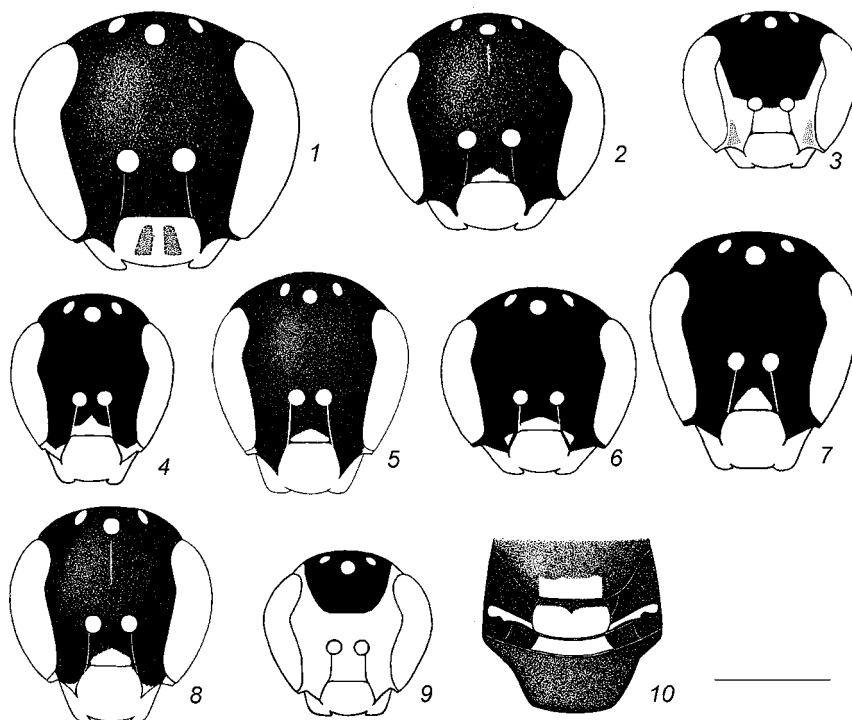
The following abbreviations are used in the text for indication of museums, institutions and private collections as depositaries for types and other material examined:

- BML** – British Museum of Natural History, London, Great Britain (curator G.R. Else);
- HMB** – Hungarian Natural History Museum, Budapest, Hungary (curator J. Papp);
- IZB** – Institute of Zoology, Academia Sinica, Beijing, China (curator Y. Wu);
- MCZC** – Museum of Compare Zoology, Harvard University, Cambridge, USA (curators J. Carpenter and S.R. Shaw);
- MNB** – Museum für Naturkunde an der Humboldt Universität zu Berlin, Germany (curator F. Koch);
- MNP** – Muséum National d’Histoire Naturelle, Paris, France (curator J. Casevitz-Weulersse);
- NMW** – Naturhistorisches Museum, Wien, Austria (curator M. Fischer);
- ZISP** – Zoological Institute, Russian Academy of Sciences, St. Petersburg (curator Yu. A. Pesenko).

A KEY TO THE EASTERN PALAEARCTIC SPECIES

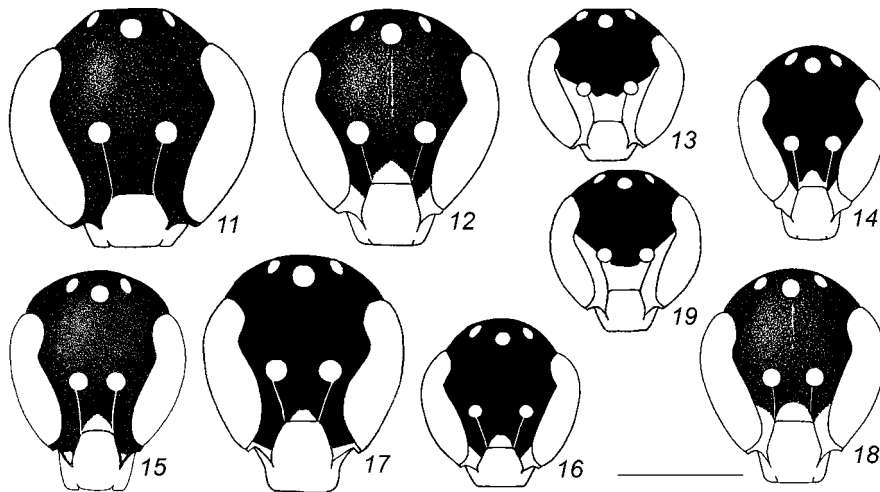
1. ♂ ♀: larger, body length 4.5-5.0 mm; transverse vein *r-m* of hind wings 1.0-1.7 times shorter than vein *RS*; metasoma with pale integument bands on discs (postgradular areas) of terga. ♂: metasoma inversely lancet-shaped; S8 without apical sclerotized lobe (Fig. 20), genital foramen rounded or longitudinal; ventral gonobasal bridge spaced distinctly behind ventral gonocoxal bridge, broader; gonoforceps curved mesad, narrowed, with strong angular projection in proximal part, directed mesally (Fig. 21). ♀: mesoscutum with yellow integumental median transverse spot near posterior margin (Fig. 10); metasoma elongate elliptical. (Genus *Ceylalicus* Strand) 1. ***C. variegatus***
- ♂ ♀: smaller, body length under 4.5 mm; transverse vein *r-m* of hind wings 2-3 times shorter than vein *RS*; metasoma yellow almost throughout or with pale integument bands formed on pregradular areas of terga and appearing through hyaline posterior areas of succeeding terga. ♂: metasoma nearly cylindrical, S8 with long apical sclerotized lobe; genital foramen transverse; ventral gonobasal bridge spaced immediately under ventral gonocoxal bridge, represented by narrow arms with point conjunction medially; gonoforceps nearly straight, flattened, broad, without projection in proximal part. ♀: mesoscutum without yellow spot near posterior margin, usually dark entirely; metasoma heart-shaped. (Genus *Nomioides* Schenck) 2
2. ♂ ♀: head higher, higher than wide in ♀ (Figs. 4, 5, 7, 8), 1.15 times or more as high as wide in ♂ (Figs. 14, 15, 17, 18). ♂: two thirds of clypeus height placed below eyes; apical lobe of S8 long, strongly evenly broadened toward distal end (Figs. 26, 28, 32, 34). ♀: clypeus higher, its median lobe 1.3 times or less as wide as high 3

- ♂ ♀: head shorter, as high as wide or wider than high. ♂: third or half of clypeus height placed below eyes; apical lobe of S8 of other form. ♀: clypeus shorter, its median lobe 1.5 times or more as wide as high 6
- 3. ♂ ♀: mesoscutum distinctly punctate, with polished interspaces, shiny; head and mesosoma with well developed tomentose pubescence; metasoma entirely yellow or with narrow transverse dark band on T1 (rarely also on T2). ♂: yellow pattern on paraocular area reaching level of middle of supraclypeal area (antefrons; Fig. 18); mesoscutum black, with yellow metallic tint; 2.7-3.0. ♀: mesoscutum light gold-green, on posterior half with longitudinal bright orange or crimson stripes; propodeum as long as scutellum; 3.0-3.5 8. *N. ornatus*
- ♂ ♀: mesoscutum densely granulate, mat. ♀: mesoscutum usually metallic dark green or deep blue-green (sometimes reddish in *N. ino*). Other characters variable 4
- 4. ♂ ♀: smaller, body length 3.0-3.4 mm in ♂ and 3.4-3.7 mm in ♀; clypeus very sparsely punctate, polished, shiny; pale pattern on paraocular area reaching level of middle of supraclypeal area in ♂ (Fig. 14), a band on lower part in ♀ (Fig. 4); flagellum pale fuscous-ochre to ochre-yellow on upper side; mesoscutum of sides of mesosoma finer and more superficially granulate, silk-mat; tomentose pubescence of head and sides of mesosoma dense, on mesoscutum sparse; most of legs yellow, only coxae, trochanters, and proximal third of hind femur usually pale fuscous; metasoma yellow, usually with pale fuscous bands on T1-T3 (sometimes in ♂ on T1-T5). ♀: pronotum and usually scutellum entirely yellow 4. *N. ino*
- ♂ ♀: larger in average, body length 3.2-4.0 mm in ♂ and 3.8-4.7 mm in ♀; clypeus finely granulate, mat, at least, on upper half; pale pattern on paraocular areas absent in both sexes (Figs. 5, 7) or presented by small spot on lower part in ♂ (Figs. 15, 17); flagellum pale fuscous or pale fuscous to ochre-yellow on upper side; mesoscutum of sides of mesosoma coarser granulate, mat; tomentose pubescence of head and mesosoma absent or sparse on dark part of head (in ♀ only on genal area) and sides of mesosoma, traces of such a pubescence sometimes present on anterior part of mesoscutum; coxae, trochanters and most of femora of all legs fuscous; metasoma darker, nearly throughout black or provided with wide dark-fuscous bands on T1-T5 in ♂, with black bands on T1-T3 or T1-T5 in ♀. ♀: pronotum black, except for corolla and band along anterior margin; scutellum entirely dark or with black pattern 5
- 5. ♂: apical lobe of S8 and gonoforceps wide, strongly broadened towards their apices (Figs. 32, 33); 3.7-4.0. ♀: head more massive; face metallic gold-bronze, mat, except for yellow clypeus and usually a small spot on supraclypeal area; propodeum (along dorsal surface) somewhat shorter than scutellum; 4.1-4.3 7. *N. monticola*
- ♂: apical lobe of S8 and gonoforceps much narrower (Figs. 28, 29); 3.5-4.0. ♀: lower half of supraclypeal area, lower fourth of frons and adjacent part of paraocular area blackish, slightly shiny; propodeum somewhat longer than scutellum; 3.8-4.2 5. *N. minutissimus*



Figs. 1-10. 1, 10) *Ceylacticus variegatus*; 2) *Nomioides bluethgeni*; 3) *N. gussakovskiji*; 4) *N. ino*; 5) *N. minutissimus*; 6) *N. modestus*; 7) *N. monticola*; 8) *N. ornatus*; 9) *N. pulverosus*. 1-9) head of ♀ in frontal view; 10) posterior half of mesosoma in ♀, dorsal view. Scale bar = 0.5 mm.

6. ♂ ♀: mesoscutum distinctly punctate, with polished interspaces, shiny in ♂, silk-shiny in ♀. ♂: middle flagellomeres as long as their diameters or somewhat longer; apical lobe of S8 nearly parallel-sided, truncate at distal end (Fig. 30); gonoforceps slightly narrowed in distal half (Fig. 31); 3.0-3.5. ♀: head rounded in frontal view, as high as wide (Fig. 6); clypeus, lower half of supraclypeal area, pronotum and scutellum entirely yellow; metapostnotum 0.8-0.85 times as long as scutellum, alveolate-reticulose, with short striae near anterior margin; 3.4-4.0 6. *N. modestus*
- ♂ ♀: mesoscutum densely granulate, mat; in ♂ sometimes shiny, but always without distinct punctation; other characters variable 7
7. ♂ ♀: yellow pattern on face weak, in ♂ it not reaching up level of middle of supraclypeal area (Fig. 12), in ♀ only clypeus, lower half of supraclypeal area and sometimes a spot near lower margin of paraocular area yellow (Fig. 2); dark parts on head and mesosoma metallic dark green or deep blue, without or with sparse tomentose pubescence. ♂: middle flagellomeres as long as their diameters; apical lobe of S8 short, truncate at distal end (Fig. 22); gonoforceps strongly narrowed in distal half (Fig. 23); 3.0. ♀: metapostnotum entirely bare; 3.0-3.2 2. *N. bluethgeni*



Figs. 11-19. 11) *Ceallictus variegatus*; 12) *Nomioides bluethgeni*; 13) *N. gussakovskiji*; 14) *N. ino*; 15) *N. minutissimus*; 16) *N. modestus*; 17) *N. monticola*; 18) *N. ornatus*; 19) *N. pulverosus*. 11-19) head of ♂ in frontal view. Scale bar = 0.5 mm.

- ♂ ♀: yellow pattern of face much richer, at least, lower half entirely yellow up to antennal sockets; dark parts of head and mesosoma black, without metallic tint (except for usually metallic green mesoscutum), covered with dense white tomentum (except for scutellum). ♂: middle flagellomeres 1.2-1.6 times as long as their diameters; apical lobe of S8 club-shaped (Figs. 24, 36); gonoforceps slightly narrowed in distal half (Figs. 25, 37). ♀: metapostnotum usually laterally and along posterior margin covered with dense white tomentum. Other characters variable 8
- 8. ♂ ♀: head higher, 1.0-1.05 times in ♂ (Fig. 19), 0.9-0.95 times in ♀ as high as wide (Fig. 9). ♂: half of clypeus height placed below eyes; middle flagellomeres 1.2-1.25 times as long as their diameters; metapostnotum along posterior margin covered with white tomentum; apical lobe of S8 and gonoforceps relatively slender (Figs. 36, 37). ♀: pale pattern on face going to frons, its upper border in middle placed, at least, at level of upper margins of antennal sockets (Fig. 9). 3.4-3.9 9. ***N. pulverosus***
- ♂ ♀: head shorter, somewhat wider than high in ♂ (Fig. 13), 0.8-0.9 times as high as wide in ♀ (Fig. 3). ♂: third of clypeus height placed below eyes; middle flagellomeres 1.5-1.6 times as long as their diameters; metapostnotum entirely bare; apical lobe of S8 broad, only 2.5-3.5 times as wide as long (Fig. 24); gonoforceps 1.5 times wider than those of *N. pulverosus* (Fig. 25); 2.9-3.5. ♀: pale pattern of face not reaching frons, its upper border in middle placed, at level of middle or lower margins of antennal sockets (Fig. 3). 3.2-3.8 3. ***N. gussakovskiji***

AN ANNOTATED LIST OF THE EASTERN PALAEARCTIC SPECIES

1. *Ceylalictus (Ceylalictus) variegatus* (Olivier, 1789)

Apis variegata Olivier, 1789: 139. ♀. Holotype: ♀, ?southern France; lost.

Andrena pulchella Jurine, 1807: 231, Pl. XI. ♀ ♂. Syntypes: ?Europe; lost. Synonymy by Handlirsch (1888: 402).

Andrena flavopicta Dours, 1873: 284. ♀ ♂. Syntypes: Algeria; MNP. Synonymy by Handlirsch (1888: 403).

Nomioides jucunda Morawitz, 1874: 161. ♀. Lectotype: ♀, France: "Nizza" [Nice]; designated by Pesenko (1983: 180); ZISP. Synonymy by Handlirsch (1888: 403).

Nomioides fasciatus Friese, 1898: 307. ♀ ♂. Lectotype: ♂, Egypt: Heloan; designated by Pesenko, 1983: 180; HNB. Synonymy by Pesenko (1983: 180).

Nomioides fasciatus var. *intermedius* Alfken, 1924: 250. ♂. Holotype: ♂, Sudan: Port Sudan; MNB. Synonymy by Blüthgen (1925: 54; as *Nomioides variegata* var. *intermedia*).

Nomioides variegata var. *simplex* Blüthgen, 1925: 51. ♀. Syntypes: ♀, Libya: Bengasi-Guiliana; MNB. Synonymy by Pesenko (1983: 180).

Nomioides variegata var. *unifasciata* Blüthgen, 1925: 53. ♂. No indication of type material.

Nomioides labiatarum Cockerell, 1931: 204. ♀ ♂. Holotype: ♀, Morocco: Asni; MCZC; examined. Synonymy by Blüthgen (1934: 255).

Nomioides variegata var. *nigrita* Blüthgen, 1934: 257. ♀. Holotype: ♀, Turkmenistan: Farab; ZISP; examined. Synonymy by Pesenko (1983: 181).

Nomioides variegata var. *pseudocerea* Blüthgen, 1934: 257. ♀ ♂. Syntypes: India: Deesa; BML. Synonymy by Pesenko (1983: 181).

Nomioides variegata var. *nigriventris* Blüthgen, 1934: 258. ♂. Holotype: ♂, Algeria: La Guëtina; MNB. Synonymy by Pesenko (1983: 181).

TAXONOMY (selected publications). Blüthgen, 1925: 49; 1934: 255 (*Nomioides variegata*); Pesenko, 1983: 178 (key), 179 (key), 180, Figs. 205, 251, 343-346 (comb. n.); Pesenko *et al.*, 2000: 145.

MATERIAL EXAMINED (133 ♂, 81 ♀). **Mongolia:** Ömnögov' (Bordzon Gobi, 80 km SSE Nomgon). **China:** Gansu ("oase Sachzhou" [at present Dunhuang]; Shule He River near Dunhuang).

DISTRIBUTION. A western Palearctic species reaching Mongolia in the east. North Africa to Kenya, Gambia, Burkina Faso, Cameroon and Senegal in the south; southern Europe and warm places of Middle Europe to Austria in the north; steppes and deserts of Western Asia to northern China, northern India and Mongolia in the east.

2. *Nomioides (Nomioides) bluethgeni* Pesenko, 1979

Nomioides (Nomioides) bluethgeni Pesenko, 1979: 176, Figs. 1-3, ♂. Holotype: ♂, Uzbekistan: Kurgan-Tyube; ZISP.

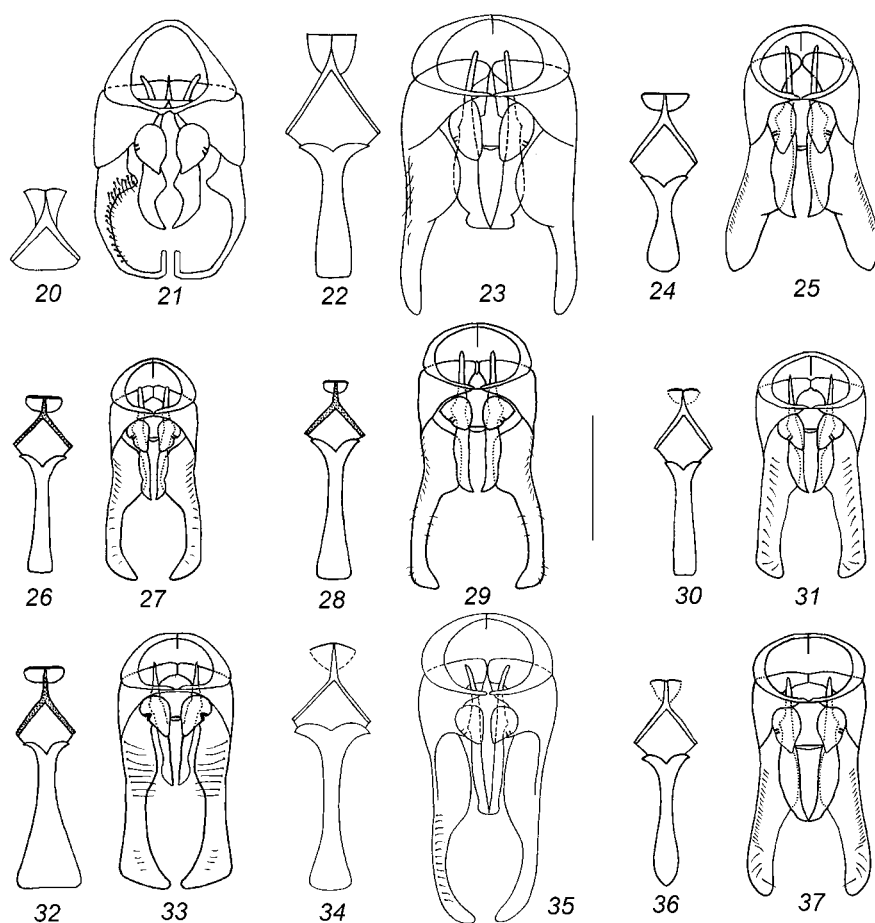
MATERIAL EXAMINED (2 ♀). **Mongolia:** Hentei (10 km SSW Buyant).

DISTRIBUTION. A desert Palearctic species. Morocco, Egypt, Kenya, Jordan, Syria, Armenia, Uzbekistan, Tajikistan, northeastern Mongolia.

3. *Nomioides (Nomioides) gussakovskiji* Blüthgen, 1933

Nomioides gussakovskiji Blüthgen, 1933: 121, Figs. 9, 10. ♀ ♂. Lectotype: ♀, Uzbekistan: Khiva; designated by Pesenko (1983: 158); MNB.

TAXONOMY. Blüthgen, 1934: Figs. 21, 22; Pesenko, 1983: 125 (key), 128 (key), 158, Figs. 189, 230, 299, 300.



Figs. 20-37. 20, 21) *Ceylacticus variegatus*; 22, 23) *Nomioides bluethgeni*; 24, 25) *N. gussakovskiji*; 26, 27) *N. ino*; 28, 29) *N. minutissimus*; 30,31) *N. modestus*; 32, 33) *N. monticola*; 34, 35) *N. ornatus*; 36, 37) *N. pulverosus*. 20, 22, 24, 26, 28, 30, 32, 34, 36) S8 of ♂. 21, 23, 25, 27, 29, 31, 33, 35, 37) genital capsule of ♂. Scale bar = 0.25 mm.

MATERIAL EXAMINED (38♂, 5♀). **Mongolia:** Hovd (Elhon locality, 20 km S Altai; Bodonchin-gol River, 12 km SW Altai), Ömnögov' (110 km SE Bayan-Obo; Bayan-dzag, 30 km NNE Bulgan; Noen-bogdo), Gov'Altai (10 km NW Hatan-hairan Mt.; 15 km WNW Dzakhoi), Bajan-Hongor (oase Ehin-gol; 55 km SSW Shine-dzhinst; Dzhinst-ula, 15 km S Shine-dzhinst), Dornod-Gov' (southern shore of Lenger-nur). **China:** Gansu ("oase Sachzhou" [at present Dunhuang]; Shule He River near Dunhuang; Shiguza).

DISTRIBUTION. A desert Asian species. Jordan, Turkey, Armenia, southern Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, Mongolia, northern China.

4. *Nomioides (Nomioides) ino* (Nurse, 1904)

Ceratina ino Nurse, 1904: 575. ♀ ♂. Lectotype: ♀, Pakistan: Quetta; designated by Pesenko (1983: 135); BML.

Nomioides minutissima var. *purpurascens* Blüthgen, 1934: 241, ♀. Holotype: ♀, Kazakhstan: Tartugai; examined; ZISP; synonymy by Pesenko (2004: 287).

TAXONOMY. Pesenko, 1983: 137 (*N. minutissimus* f. *ino*); 2004: 292 (key).

MATERIAL EXAMINED (6 ♂, 29 ♀). **Mongolia:** Gov'-Altai (Haichi-bulak), Dornod-Gov' (Nomt-ula Mt., 30 km SSE Shohoi-nur), Ömnögov' (Gun-daichin-huduk, 20 km WSW Une-huduk; Dzemgin Gobi, 25 km SSE Hablystyn-huduk; 20 km NNE Aguit-ula Mt.).

DISTRIBUTION. A desert Asian species. Jordan, Turkey, Armenia, Afghanistan, Iran, Iraq, southern Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, Pakistan, Mongolia.

5. *Nomioides (Nomioides) minutissimus* (Rossi, 1790)

DISTRIBUTION. A common steppe and semi-desert, western Palaearctic species. It is considered to be consisting of two subspecies: *N. minutissimus maurus* Blüthgen, 1925 (= *N. campanulae* Cockerell, 1931; *N. senecionis* Cockerell, 1931; *N. maura* var. *tingitana* Blüthgen, 1933), inhabiting the west of North Africa; and the nominotypical subspecies, occupying the most part of the specific distributional range (see below).

5a. *Nomioides (Nomioides) minutissimus minutissimus* (Rossi, 1790)

Apis minutissima Rossi, 1790: 109. ♂. Syntype(s): "Etrusca"; lost.

?*Apis parvula* Fabricius, 1798: 277. ♀. Syntype(s): Italy; lost.

Nomioides minutissima var. *obscurata* Blüthgen, 1925: 9. ♀. Syntypes: "Karlowitz bei Breslau und Ungarn"; NMW.

Nomioides minutissima var. *versicolor* Blüthgen, 1925: 9. ♀. Syntypes: ♀, "Palma, Mallorca und Krim"; MNB.

Nomioides minutissima var. *violascens* Blüthgen; 1925: 9. ♀. Holotype: ♀, Austria: Wien; NMW.

Nomioides minutissima var. *schencki* Blüthgen, 1925: 10. ♂. No indication of type material.

Nomioides minutissima var. *tristis* Blüthgen, 1934: 241. ♀. Holotype: ♀, Uzbekistan: Khiva; MNB.

Nomioides minutissima var. *fusca* Blüthgen, 1934: 241. ♀. Holotype: ♀, Uzbekistan: Iskander-Kul; ZISP; examined.

TAXONOMY (selected publication). Pesenko, 2004: 293 (key).

MATERIAL EXAMINED (11 ♂, 5 ♀). **Mongolia:** Gov'-Altai (15 km WNW Dzakhoi), Bajan-Hongor (oase Ehin-gol), Ömnögov' (30 km SSE Sughiin-huduk). **China:** Gansu ("oase Sachzhou" [at present Dunhuang]; Shule He River near Dunhuang).

DISTRIBUTION. Southern Europe (to Austria, Poland, and Udmurtia in the north), steppes of Asia as far in the east as Mongolia, northern China, and northern India.

6. *Nomioides (Nomioides) modestus* Pesenko, 1977

Nomioides (Nomioides) modestus Pesenko, 1977: 584. ♀ ♂. Holotype: ♂, Mongolia: 20 km SE Altai on Bodokchin-Gol River (Kobdos aimak); ZISP.

TAXONOMY: Pesenko, 1983: 125 (key), 131 (key), 172, Figs. 202, 247, 331, 332.

MATERIAL EXAMINED (14♂, 23♀). **Mongolia:** Gov'-Altai (Shargyn Gobi, 25 km NE Bayan; 20 km SW Sharga), Hentei (10 km SSW Buyant), Suh-Baatar (7 km W Hongor), Hovd (Bodonchin-gol River, 12 km SSW Altai; Elhon, 20 km SE Altai), Ömnögov' (110 km SE Bayan-obo; Dzemgin Gobi, 25 km SSW Hailastynhuduk), Dornod-Gov' (23 km WSW Bayan-munh; 10 km ENE Erdene; 15 km E Dzun-bayan; Nomt-ula Mt., 30 km SSE Shohoi-nur; 5 km W Tenger-nur; Tsagan-guve, 65 km S Agarut).

DISTRIBUTION. A desert Asian species. Near East, Asia Minor, Armenia, Kazakhstan, Middle Asia, Mongolia.

7. *Nomioides (Nomioides) monticola* Pesenko, 1983

Nomioides (Nomioides) monticola Pesenko, 1983: 123 (key), 126 (key), 139, Figs. 175, 216, 268-270. ♀ ♂. Holotype: ♂, Kyrgyzstan: 30 km W Rybach'ye; ZISP.

TAXONOMY. Pesenko, 2004: 293 (key).

MATERIAL EXAMINED (4♂, 19♀). **Mongolia:** Ömnögov' (Udzur-dzah, 40 km ESE Han-bogdo Mt.), Dornod-Gov' (Nomt-ula Mt., 30 km SSW Shohoi-nur).

DISTRIBUTION. Montane deserts of Tajikistan, Kyrgyzstan and Mongolia.

8. *Nomioides (Nomioides) ornatus* Pesenko, 1983

Nomioides (Nomioides) ornatus Pesenko, 1983: 124 (key), 127 (key), 150, Figs. 184, 226, 287-290. ♀ ♂. Holotype: ♀, Turkmenistan: Dzhebel; ZISP.

MATERIAL EXAMINED (3♂, 1♀). **China:** Gansu ("oase Sachzhou' [at present Dunhuang]; Shule He River near Dunhuang; Shiguza).

DISTRIBUTION. Egypt, Niger, Burkina Faso, Niger, Chad, Israel, Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, northwestern and northern China.

9. *Nomioides (Nomioides) pulverosus* Handlirsch, 1888

Nomioides pulverosus Handlirsch, 1888: 405, Fig. 1. ♀. Lectotype: ♀, Turkmenistan: "Pul-v-Chatum"; designated by Pesenko (1983: 151); NMW.

Nomioides subgalerita Blüthgen, 1933: 117. ♀ ♂. Lectotype: ♀, Turkmenistan: Imam-baba; designated by Pesenko (1983: 151); ZISP.

TAXONOMY. Morawitz, 1894: 66 (♂); Blüthgen, 1925: 28; 1933: 116, Figs. 4, 5, Pesenko, 1983: 125 (key), 128 (key), 151, Figs. 186, 187, 228, 293-296.

MATERIAL EXAMINED (3♂). **Mongolia:** Ömnögov' (Bayan-dzag, 30 km NNE Bulgan).

DISTRIBUTION. Kalmykia, Daghestan, southern Kazakhstan, Turkmenistan, Uzbekistan, Tajikistan, southern Mongolia.

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Address: Institute of Biology and Soil Science, Far East Branch of Russian Academy of Sciences, 690022, Vladivostok-22, Russia.

E-mail: entomol@ibss.dvo.ru

FAX: (4232) 310 193