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Digger Wasps of the Tribe Gorytini (Hymenoptera, Sphecidae) of the Fauna of Russia and Neighboring Countries. Genera *Sphecius* Dahlbom and *Ammatomus* A. Costa*

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Abstract. There are six species of the genus *Sphecius* and five species of *Ammatomus* in the fauna of Russia and adjacent countries. Lectotypes of *Sphecius antennatus impressus*, *S. lutescens*, and *S. persa* are designated. New synonymy is established: *Sphecius antennatus* Klug (= *S. antennatus*) *impressus* Kokujev, **syn. n.**, *S. conicus syriacus* Klug. (= *S. percussor* Handl., **syn. n.**), *Ammatomus mesostenus* Handl. (= *A. mesostenus rhopalocerus* Handl., **syn. n.**; *A. mesostenus nikolajevskii* Guss.). A key to species is given.

Key words: Digger wasps; Sphecidae; Hymenoptera; faunistics.

The genera *Sphecius* and *Ammatomus*, which include 21 and 27 species, respectively, are distributed widely. However, *Ammatomus* does not occur in the New World. Their fauna and systematics in the Palearctic Region are not sufficiently worked out, especially of the genus *Sphecius*, species of which are impossible to identify with enough precision by using available keys (Roth, 1949; Pulawski, 1978; Kazenas, 1978). In this paper keys and annotated checklist of species of *Sphecius* and *Ammatomus* (6 and 5 species, respectively) of the fauna of Russia and adjacent countries are offered.

During preparation of this paper I used the collections of the Zoological Institute of the Russian Academy of Sciences, St.-Petersburg (ZIS), Zoological Museum of Moscow State University, Moscow (ZMM), Soil-Biology Institute of the Far Eastern Branch of the Russian Academy of Sciences, Vladivostok, and Institute of Zoology of the Kazakh Academy of Sciences, Alma-Ata. Localities of preservation of type specimens are indicated in the text. I sincerely thank V. L. Kazenas and A. V. Antropov for the material provided. In the paper I use the following abbreviation: *Od* - diameter of the anterior ocellus.

SPHECIUS Dahlbom, 1843

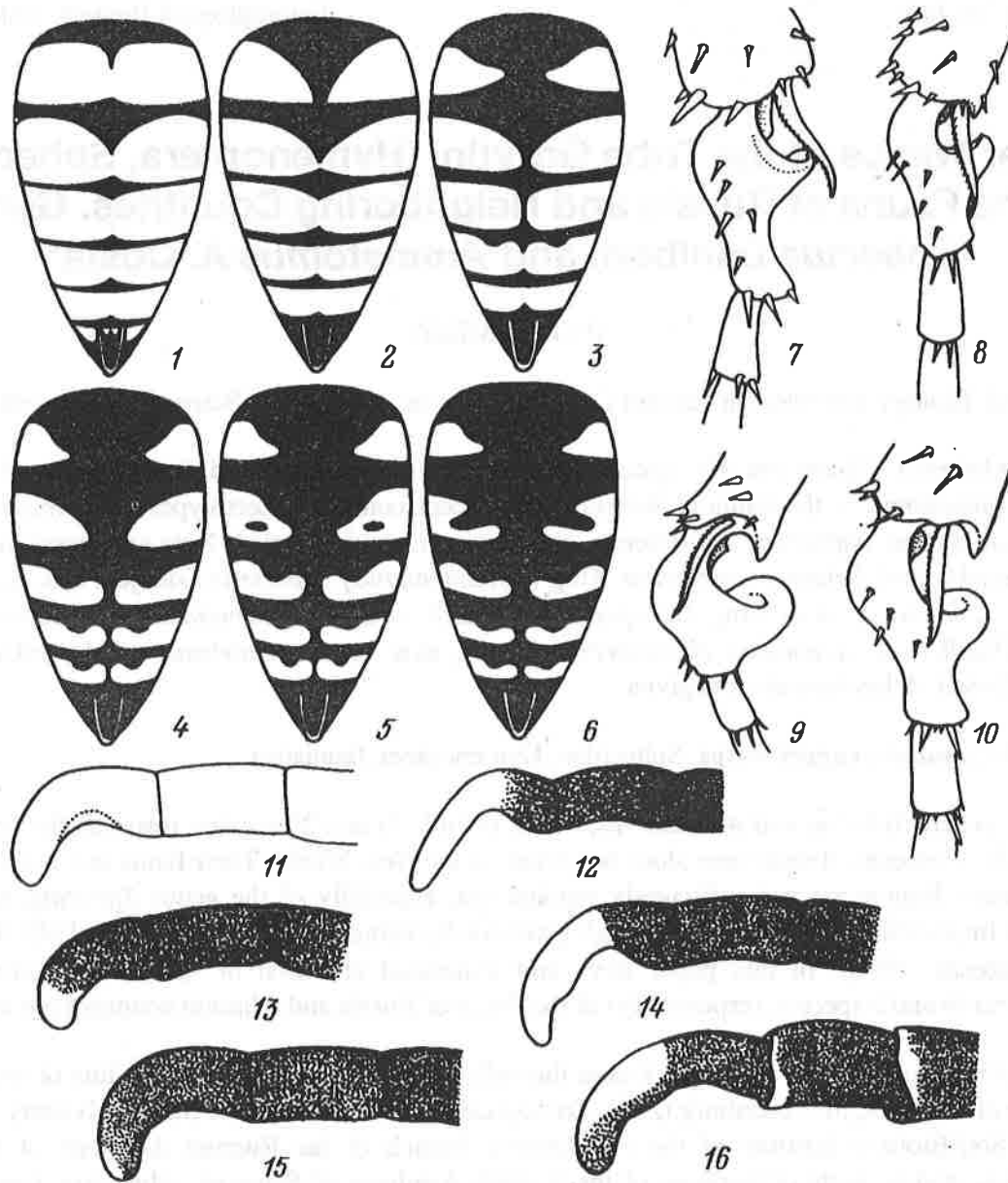
Dahlbom, 1843: 154. Type species *Sphecius speciosus* Dahlbom, 1843 = *Sphex speciosus* Drury, 1771, according to monotypy. In Palearctic Region 10 species (in key, 4 N African species included).

KEY TO SPECIES

1 (14). ♀s.

2 (7). Band of abdominal tergite III narrow, in middle clearly interrupted and anteriorly doubly

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Figs. 1-16. *Sphecius* Dahlbom: 1, 2, 15) *S. lutescens*; 3, 10, 16) *S. antennatus*; 4) *S. conicus syriacus*; 5, 6, 8, 13) *S. conicus conicus*; 7, 11) *S. persa*; 9, 12) *S. nigricornis*; 14) *S. uljanini*; 1-6) pattern on abdomen of ♀, 7-10) 1st segment of midtarsus of ♂, 11-16) apex of antenna of ♂.

emarginate (Fig. 4). 2nd tergite with 2 lateral, pale spots, often anteriorly emarginate or with dark spot inside of them (Figs. 5, 6). Flagellum entirely black or at most 1st segment ventrally with pale spot. Scutum of mesonotum, scutellum, postscutellum, mesopleura, and propodeum without yellow spots.

- 3 (4). Scutellum more densely punctate: punctations not separated from each other, most of them fused with each other, flat and not clearly bordered. Pale stripes near inner margins of eyes well developed. 2nd and 3rd antennal segments ventrally with pale spot. Lateral spots of tergite II of abdomen not emarginate. Pale pattern of body always yellow. 15-17; 4. *S. nigricornis* (Dufour).

- 4 (3). Scutellum rarely punctate: punctations at least in center separated from each other with distinct intervals, deep, distinctly bordered. Pale stripes near inner margins of eyes weakly developed. 2nd and 3rd antennal segments completely black. Pale pattern of body yellow or whitish.
- 5 (6). Bands on abdomen whitish. Lateral spots of abdominal tergite II anteriorly emarginate or with well distinct dark spot inside them (Figs. 5, 6). 15-18 2a. *S. conicus conicus* (Germar).
- 6 (5). Bands on abdomen yellow. Lateral spots of abdominal tergite II not marginated (Fig. 4) or at most with weakly distinct pale spot inside of them. 10-19 2b. *S. conicus syriacus* (Klug).
- 7 (2). Band on abdominal tergite III broad, whole, not marginated (Figs. 1, 2) (in some spms. of *S. antennatus* band interrupted and anteriorly doubly marginated, but antennal flagellum almost entirely ferrugineous). Tergite II with uninterrupted or barely interrupted band (Fig. 3). Flagellum usually paler. Scutum of mesonotum, scutellum, postscutellum, mesopleura, and propodeum often with yellow spots.
- 8 (9). Body, except yellow pattern, 4th-12th antennal segments, and legs entirely ferrugineous. 17-18. Iran 5. *S. persa* Guss.
- 9 (8). Body black, with somewhat developed yellow pattern. At least 11th and 12th antennal segments black. Color of legs usually differing.
- 10 (11). Clypeus shiny, fine, longitudinally striate, and with sparsely scattered punctation; its upper half (measured along medial line) covered with dense, decumbent silver pubescence masking sculpturation. Stripes near inner margins of eyes in lower part fused with spot of frons and yellow color of clypeus. Abdominal sternites II-V with broad, entire, or barely interrupted yellow bands. Legs completely yellow. Wings wholly hyaline and without yellow hue. 17-22 6. *S. uljanini* (Rad.).
- 11 (10). Clypeus weakly shiny, with small, irregular, reticulate-folded sculpturation; only upper 1/4 covered with dense pubescence masking sculpturation. Stripes near inner margins of eyes distinctly separated from spot of frons and yellow color of clypeus with dark interval. Legs predominately ferrugineous (*S. lutescens*) or yellow with darkened coxae, trochanters, and femora (*S. antennatus*). Wings, except apical 1/4, with distinct yellow hue.
- 12 (13). Vertex behind posterior ocelli shining weakly, with dense, small punctations on background of distinct micropunctation. Poster half of scutum of mesonotum in middle densely punctate (intervals between punctations on average not greater than diameter of punctation) and shining weakly. At least 1st-3rd (usually 1st-7th) antennal segments completely ferrugineous. Band of abdominal tergite I broadly interrupted (minimal width of interval on vertex twice or greater than *Od*, as in Fig. 3). Coxae and trochanters black. Femora dark (black or dark brown), with ferrugineous apex, forefemora and midfemora usually with yellow spots in ventral view. Tarsi ferrugineous, foretarsi partly yellow. 20-26 1. *S. antennatus* (Klug).
- 13 (12). Vertex behind posterior ocelli shiny, with sparse scattered punctation on background of fine micropunctation. Posterior half of scutum of mesonotum rather sparsely punctate (intervals between punctations distinctly greater than diameter of same) and shiny. Only

- 1st flagellar segment completely ferrugineous and other segments dorsally or entirely darkened. Band of abdominal tergite I whole (Fig. 1) or barely interrupted (minimal width of dark interval not greater than *Od* as in Fig. 2). Legs usually entirely ferrugineous, rarely with somewhat developed yellow spots on femora, tibia, and tarsi. 19-28. 3. *S. lutescens* (Rad.).
- 14 (1). ♂s.
- 15 (16). Flagellum of antenna entirely pale ferrugineous. Thorax partly ferrugineous. Forelegs and midlegs ferrugineous, with somewhat developed yellow spots, hindlegs entirely ferrugineous. Bands on abdominal tergites II-VI broad, occupying almost entire surface of tergite, include 2 dark lateral spots each. Bands on sternites II-V anteriorly doubly margined (on sternites II and III in middle narrowly interrupted and on following sternites entire). Last antennal segment as in Fig. 11. 1st midtarsal segment as in Fig. 7. 16-19. 5. *S. persa* Guss.
- 16 (15). Antennal flagellum partly or completely darkened. Thorax (except yellow and whitish spots) completely black, without ferrugineous color. Color of legs differs. Shape of bands of abdominal segments differing.
- 17 (18). Apical, not widened part of 1st segment of midtarsi distinctly wider than long (Fig. 9). Lower surface of last antennal segment forming almost right angle (Fig. 12). 15-17. 4. *S. nigricornis* (Dufour).
- 18 (17). Apical, not widened part of 1st midtarsal segment not wider than long (Figs. 8, 10). Last antennal segment differing in shape.
- 19 (22). Last antennal segment not longer than segment preceding last segment, and more regularly curved (Fig. 13). 2nd-12th antennal segments of completely black. 1st midtarsal segment less deformed (Fig. 8), maximal width not greater than width of midtibia on apex.
- 20 (21). Bands of abdomen whitish. Lateral spots of abdominal tergite II anteriorly margined, or with distinct dark spot inside them (Figs. 5, 6). 13-17. ... 2a. *S. conicus conicus* (Germar).
- 21 (20). Bands of abdomen yellow. Lateral spots of abdominal tergite II not margined (Fig. 4) or at most with weakly distinct dark spot inside them. 14-18. 2b. *S. conicus syriacus* (Klug).
- 22 (19). Last antennal segment 1.2-1.5 times as long as segment preceding last segment and less regularly curved (Figs. 14-16). At least 2nd and 3rd antennal segments completely or partly pale. 1st midtarsal segment more deformed (Fig. 10), maximal width 1.1-1.3 times width of midtibia on apex.
- 23 (24). Last antennal segment in basal part strongly curved (Fig. 14), apical 2/3 usually completely yellow. 7th-10th antennal segments posteriorly in ventral view with peculiar pale yellow oval spots similar to tiloids. Coxae and trochanters mainly yellow. Hindfemora entirely yellow. Bands on abdominal sternites II-V broad, whole barely interrupted (width of dark interval not greater than diameter of anterior ocellus). 15-19. 6. *S. uljanini* (Rad.).

- 24 (23). Last antennal segment in basal 1/3 less curved (Figs. 15, 16) and differently colored. 7th-10th antennal segments without peculiar spots similar to tiloids. Coxae and trochanters black and at most partly ferrugineous. Hindfemora ferrugineous or black with yellow apex. Bands on abdominal sternites II-V narrow, broadly interrupted, usually in form of only small spots in posterior lateral corners of sternite.
- 25 (26). 4th-9th antennal segments black, ventrally partly brown or yellow-brown. Last antennal segment on apex strongly curved (Fig. 15), only on very end slightly yellowish. Hindfemora ferrugineous and rarely yellow on apex. 16-20. 3. *S. lutescens* (Rad.).
- 26 (25). 4th-9th antennal segments partly ferrugineous, anteriorly yellowish and slightly darkened dorsally. Last antennal segment on apex weakly curved (Fig. 16), with large pale spot dorsally and in apical half. Hindfemora with yellow apex. 15-21. 1. *S. antennatus* (Klug).

1. *Sphecius antennatus* (Klug, 1845).

Klug, 1845: Pl. 46, Fig. 5, ♂ (*Latra*).—*aberratus* Eversmann, 1849: 391, ♂ ♀ (*Stizus*; "Hab. in prov. Orenburg et Volgam inferiorem," type not found); Handlirsch, 1889: 8.—*impressus* Kokujev, 1910: 248, ♂ [*antennatus* var.; lectotype (designated here) - ♂, Tajikistan, Pamir, Dubeba, 6.VI.1898 (Bogoyavlenskiy); preserved in ZIS], **syn. n.**; Bohart and Menke, 1976: 11 (*antennatus* sbsp.).

Examination of type series of *S. impressus* did not reveal any significant differences from form of typical spms. of *S. antennatus*.

Material: 64 ♀s and 139 ♂s from Crimea (Simferopol', Dzhankoy, Staryy Krym, Otuzskaya Valley), Volgograd Prov. (Sarepta), Krasnodar Terr. (Anapa), Stavropol' Terr. (Praskoveya), Azerbaijan (Kiravabad, Geokchay, Shamkhor, Tash-Bulag, Kudly, Dzhul'fa, Nakhichevan), Kazakhstan (Alma-Ata, Chiili, Temir, Emba, Indel, Krasnoyarskiy), Uzbekistan (Yargak, Baysun), Turkmenia (Kara-Kala, Repetek, Firyuza, Shakhi-Burun, Sakka, Kaakhka, and Sary-Yazy), Tajikistan (Dushanbe, Ungyut-Muran'), Mongolia (Bayankhongor), China (Edzingol R.).

Distribution. S European Russia, Crimea, Caucasus, Kazakhstan, Uzbekistan, Turkmenia, Tajikistan, Yugoslavia, Albania, Greece, Cyprus, Turkey, Syria, N Iran, Mongolia, N China.

2a. *Sphecius conicus conicus* (Germar, 1817).

Germar, 1817: 262, ♀ ♂ (*Stizus*).—*luniger* Eversmann, 1849: 391, ♀ (*Stizus*; "Cepi ... ad Volgam inferiorem," type not found); Handlirsch, 1989: 18.

Material: 12 ♀s and 17 ♂s from Dagestan (Derbent), Volgograd Prov. (Sarepta), Orenburg, Kazakhstan (Emba, Mugodzhary Mts., Kokchetav, Kurgal'dzhinskiy Reserve, 30-40 km W of Ayaguz), Altai (without precise indication of locality of collection).

Distribution. Russia (S European part and Altai), Kazakhstan (except S), Yugoslavia (Rieka, Krk Island), Hungary.

2b. *Sphecius conicus syriacus* (Klug, 1845).

Klug, 1845: Pl. 46, Fig. 6, ♀ (*Larra*)—*percussor* Handlirsch, 1889: 16, ♂, **syn. n.**—*nigricornis* (non Dufour, 1838): Radoszkowski, 1877: 35.

Examination of material showed that *S. percussor*, as A. Handlirsch (1889: 17) supposed, is a junior synonym of *S. syriacus*. The shape of the last antennal segment of ♂ (previously believed the only reliable character for differentiating *S. percussor* and *S. syriacus*) is not constant even within limits of local populations.

Material: 8 ♀s and 15 ♂s from Kazakhstan (Aksu-Dzhabagly Reserve), Uzbekistan (Pskem, Aman-Kutan, Say-Kara-Kyz), Tajikistan (35-45 km N of Dushanbe).

Distribution. S Kazakhstan, Uzbekistan, Tajikistan, Turkey, Syria, NW China (Dzhungaria).

3. *Sphecius lutescens* (Radoszkowski, 1877).

Radoszkowski, 1877: 36 ♀s and ♂s *Stizus*; lectotype (designated here)—♀, "Kyzylkum," 15.V.1871 (Fedchenko); preserved in ZMM.—*turanicus* Roth, 1959: 68, ♀s and ♂s; Pulawski, 1981: 365.

Material: 19 ♀s and 10 ♂s from Kazakhstan (Chelkar, Chiili, 20 km N of Karabugut, 60-70 km N of Furmanovka, Boguty Mts., Charyn R., 20 km E of Makanchev), Uzbekistan (Fergana), Turkmenia (Akhcha-Kuyma), Tajikistan (Shurab), Mongolia (Bayan-Khorog Aimak, 13 km E of Tsagan-Bulak; S Gobi Aimak, and Gurvan-Tes).

Distribution. Kazakhstan (except W and N), Uzbekistan, Turkmenia, Tajikistan, N Iran (Shakhrud), and Mongolia.

4. *Sphecius nigricornis* (Dufour, 1838).

Dufour, 1838: 271, ♀ ♂ (*Stizus*).

Material: 1 ♀ and 5 ♂s from Azerbaijan (Tash-Bulag, Dzhaferabad, 35 km N of Nakhichevan, Dzhulfa).

Distribution. Azerbaijan, Spain, S France, Italy (including Sicily), Bulgaria, Algeria.

5. *Sphecius persa* Gussakovskij, 1932.

Gussakovskij, 1932: 288, ♀ ♂ [lectotype (designated here)—♀ "Bandun-Niebandun," Iran, 23.V.1896 (Zarudnyy); preserved in ZIS].

Paralectotypes. Iran: 2 ♂s, Husseinabad, 6.VI.1986 (Zarudnyy); 1 ♀, Neyzar-Husseinabad, 1-4.VI.1901 (Zarudnyy); 18 ♂s, Kerman, Sargad region, 14.V.1901 (Zarudnyy).

Distribution. E Iran.

6. *Sphecius uljanini* (Radoszkowski, 1877).

Radoszkowski, 1877: 38, ♀ [*Stizus*; holotype—♀, "Kyzylkum," 15.V.1871 (Fedchenko); preserved in ZMM, examined].

Material: 7 ♀s and 5 ♂s from Kazakhstan (Kzyl-Orda, Kazalinsk, Chiili), Uzbekistan (Bukhara), Turkmenia (Murgab and Imam-Baba).

Distribution. S Kazakhstan, Uzbekistan, Turkmenia, N Iran.

AMMATOMUS A. Costa, 1859

A. Costa, 1859: 36. Type species *Gorytes coarctatus*, by monotypy. In Palearctic 7 species (in key 1 S China and 1 N African species are not included).

KEY TO SPECIES

- 1 (2). Posterior surface of propodeum bare. Abdomen not narrowed between tergites I and II; lateral margins of tergite I diverging posteriorly. Apical end of tergite II almost always interrupted. ♀ 8-11, ♂ 6.5-10. 4. *A. rogenhofferi* (Handl.).
- 2 (1). Posterior surface of propodeum covered with setae. Abdomen narrowed between tergites I and II; lateral margins of tergite I not diverging posteriorly. Apical band of tergite II whole.
- 3 (4). Thorax densely punctate. Middle area of propodeum in middle part without micropunctuation and pubescence; lateral parts with dense punctations, partly fused with each other, intervals between which considerably smaller than diameter. In ♀ forecoxae and hindcoxae almost always finely and sparsely punctate. ♀ 8-11, ♂ 7-9.5. 2. *A. coarctatus* (Spinola).
- 4 (3). Thorax sparsely punctate. Middle area after propodeum in middle part usually with micropunctuation and pubescence; lateral parts with sparser punctations, not fusing with each other, intervals between which considerably greater than diameter or at least as long as diameter. In ♀ coxae not punctate.
- 5 (6). Lateral carinae of abdominal tergite I extending to its semitransparent apical marginal stripe. Pubescence of middle area of propodeum very short and sparse, not distinct, sharply differing from dense pubescence of lateral parts of dorsal surface of segment. All segments of hindtarsi pale yellow. ♀ 8.5-10, and ♂ 8-9. 1. *A. asiaticus* (Rad.).
- 6 (5). Lateral carinae of abdominal tergite I far not reaching its semitransparent apical marginal stripe. Pubescence of middle area of propodeum fine and not very dense, but distinct, similar to pubescence of lateral parts of dorsal surface of segment. At least apical half of 5th hindtarsal segment dark.
- 7 (8). 1st-3rd hindtarsal segments completely yellow. In ♀ forefemora ventrally with weakly developed longitudinal crest. ♀ ♂ 7-9. 3. *A. mesotenus* (Handl.).
- 8 (7). 1st-3rd hindtarsal segments on apex black. In ♀ forefemora ventrally usually with distinct longitudinal crest. ♀ 8-9 and ♂ 7-8. 5. *A. rufonodis* (Rad.).

1. *Ammatomus asiaticus* (Radoszkowski, 1886).

Radoszkowski, 1886: 36 ♂s (*Lestiphorus*); Pulawski, 1973: 277, ♀ ♂.

Material: 7 ♀s and 3 ♂s from Uzbekistan (Changir) and Turkmenia (Ashkhabad, Akhcha-Kuyma and Pereval).

Distribution. Uzbekistan and Turkmenia.

2. *Ammatomus coarctatus* (Spinola, 1808).

Spinola, 1808: 245 (*Gorytes*); Pulawski, 1973: 277, 1981: 365.—*handlirschi* F. Morawitz, 1890: 610, ♀ ♂ [*Gorytes*; lectotype (Pulawski, 1973) - ♀, Turkmenia, Ashkhabad (coll. of F. Morawitz); examined].—*mitjaevi* Kazenas, 1972: 148, ♀ ♂ [*Gorytes (Lestiphorus)*]; holotype—♀, Kazakhstan, Alma-Ata Prov., Lavar, 10.VII.1968 (Kazenas); examined].

Material: 29 ♀s and 72 ♂s from Crimea (Sudak and Karadag), Uzbekistan (Tashkent, Kuropatkino, Changir, Nikol'skoye, Kamashi, Kyzyl-Tal, Yargak, Kumak, Dzhuma, and Katta-Kurgan), Turkmenia (Ashkhabad, Firyuza, Annau, Kara-Kala, Akhcha-Kuyma), Tajikistan (Dushanbe, Kurgan-Tyube, Kabadian, Obi-Garm, Kulyab and Garm), Cyprus (Famagusta), Iran (Shakhrud).

Distribution. Crimea, Armenia, Azerbaijan, Kazakhstan (S and SE), Uzbekistan, Turkmenia, Tajikistan, S and partly C Europe, Cyprus, Turkey, Syria, Israel, Iran, Algeria.

3. *Ammatomus mesostenus* (Handlirsch, 1888).

Handlirsch, 1888: 30, ♂ (*Gorytes*); Pulawski, 1973: 279, ♀ ♂.—*rhopalocerus* Handlirsch, 1985: 55, ♀ ♂ (*Gorytes*), **syn. n.**; Pulawski, 1973: 279, ♀ ♂ (*mesostenus* subsp.).—*nikolajevskii* Gussakovskiy, 1928: 17, ♂ [*Gorytes (Ammatomus)*]; lectotype (Pulawski, 1973) - ♂, Uzbekistan, Sayat ner Khiva, 27.V.1979 (Nikolaevskiy); examined] **syn. n.**; Pulawski, 1973: 279, ♀ ♂ (*mesostenus* subsp.).

Pulawski (1973) considers *A. rhopalocerus* (Algeria and Morocco) and *A. nikolajevskii* (S Kazakhstan and C Asia) as subspecies of *A. mesostenus* (Egypt and Yemen) and notes that they differ only in color of body and shape of first abdominal segment. Specimens from Libya, Israel, Iraq, Iran, and Afghanistan that he had in his possession he did not place in any of these subspecies, perhaps because of not clearly developed subspecific characters in these specimens. Examination of material from Kazakhstan, C Asia, Algeria, Egypt, Israel, Iran, and China showed that differences between specimens from these localities are not significant. For example, specimens from China in color and shape of abdominal segment I do not differ from specimens from C Asia and Algeria. In my view *A. rhopalocerus* and *A. nikolajevskii* should be considered as synonyms of *A. mesostenus*.

Material: 12 ♀s and 17 ♂s from Kazakhstan (Chiili), Uzbekistan (Bukhara, Khiva, Dangara), Turkmenia (Kara-Kala, Farab), Tajikistan (Dushanbe), Algeria (Sidi-Bel'-Abbes), Egypt (Cairo), Israel (Beer-Sheba), Iran (Gorgan, Shiraz), China (Nanking).

Distribution. S Kazakhstan, Uzbekistan, Turkmenia, Tajikistan, Israel, Yemen, Iraq, Iran, Afghanistan, S China, Algeria, Morocco, Libya, Egypt.

4. *Ammatomus rogenhofferi* Handlirsch, 1888.

Handlirsch, 1888: 23, ♀ ♂ (*Gorytes*); Pulawski, 1973: 275.

Material: 31 ♀s and 35 ♂s from Crimea (Sevastopol', Khersones, Dzhankoy), Georgia (Vashlovan Reserve), Azerbaijan (Tash-Bulag), Uzbekistan (Tashkent), Turkmenia (Firyuza, Kara-Kala, and I-Dere), Tajikistan (Dushanbe and Nurek), Israel (Jerusalem), Cyprus (Famagusta), Turkey (Bursa).

Distribution. S European Russia (Astrakhan), Crimea, Caucasus, Uzbekistan, Turkmenia, Tajikistan, Albania, Bulgaria, Greece, Cyprus, Turkey, Israel, E China (Tzyansu Prov.).

5. *Ammatomus rufonodis* (Radoszkowski, 1877).

Radoszkowski, 1877: 41, ♂ [*Hoplisis*; holotype - ♂ "Zeravsh. Valley," Tajikistan, Zeravshan River valley, 1.VI.1869 (Fedchenko); examined]; Pulawski, 1973: 282.

Material: 5 ♀s and 17 ♂s from Kazakhstan (Khumsan), Turkmenia (Khodzha, Kara-Kala, 15 km W of Firyuza), Tajikistan (Kondara, Dushanbe, Pendzhikent, Kulyab, Ayvadh).

Distribution. Armenia, S Kazakhstan, Turkmenia, Tajikistan, Algeria, Israel, Turkey, Iran.

LITERATURE CITED

- BOHART, R. M., and A. S. MENKE. 1976. Sphecid Wasps of the World: A Generic Revision. Berkeley; Los Angeles; London: 695 pp.
- COSTA, A. 1859. Imenotteri aculeati, familia degli Sphecidei. In Costa G. and A. Costa. Fauna del Regno di Napoli. Napoli: 1-56.
- DAHLBOM, A. G. 1983. Hymenoptera Europaea praecipue borealia, formis typicis nonnullis speciorum generumque exoticorum aut extraneorum propter nexum systematicum associatis. 1. *Sphex* in sensu Linenano. Fasc. 1. Lund: 1-172.
- DUFOUR, L. 1838. Observations sur de genre *Stizus*. Ann. Soc. Entomol. France 7: 269.
- EVERSMANN, E. 1849. Fauna hymenopterologica Volgo-Uralensis. Fam. III. Sphegidae Latr. Bull. Soc. Imper. Natur. Moscou 22 (4): 359-436.
- GERMAR, E. R. 1817. Reise durch Österreich, Tirol, etc. nach Dalmatien, in dem Gebiet von Ragusa. Leipzig: 320 pp.
- GUSSAKOVSKIY, V. V. 1928. New species of Sphecidae from Transcaspian region and Khiva. [In Russ.]. Izv. Kursov Prikladn. Zool. i Fitopatol. 4: 3-19.
- GUSSAKOVSKIY, V. V. 1932. Sphecidae and Psammocharidae (Hymenoptera, Sphecidae) collected by N. Zarudnyy in eastern Persia. [In Russ.]. Yezhegodn. Zool. Inst. Akad. Nauk SSSR 1: 269-308.
- HANDLIRSCH, A. 1888. Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. III. *Gorytes*. Sitz. Acad. Wiss. Wien, Math.-Nat. Klasse. 97: 316-565.
- HANDLIRSCH, A. 1889. Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. IV. Sitz. Acad. Wiss. Wien, Math.-Nat. Klasse. 98: 440-517.
- HANDLIRSCH, A. 1895. Nachträge und Schlusswort zur Monographie der mit *Nysson* und *Bembex* verwandten Grabwespen. Sitz. Acad. Wiss. Wien, Math.-nat. Klasse 104: 801-1079.
- KAZENAS, B. L. 1972. Digging wasps (Hymenoptera, Sphecidae) of southeastern Kazakhstan. [In Russ.]. In: Nasekomye Aridnykh Oblastey SSSR i Sopredel'nykh Stran. Leningrad: 93-186. (Tr. Vsesoyuzn. Entomol. Obshch. 55).

- KAZENAS, V. L. 1978. Royushchiye osy Kazakhstana i Sredney Azii (Hymenoptera, Sphecidae): Opredelitel'. [In Russ.; Digging Wasps of Kazakhstan and Central Asia (Hymenoptera, Sphecidae): Key]. Alma-Ata: 172 pp.
- KLUG, J. C. F. 1845. Symbolae physicae seu icones et descriptiones Insectorum quae ex itinere per African borealem et Asiam F. G. Hemprich et C. H. Eherenberg studio novae aut illustratae redierunt. Decas 5. Berolini, Tab. 41-50 + 41 pp.
- KOKUJEV, N. R. 1909. Hymenoptera asiatica nova. IX. Rev. Rus. Entomol. 1910. 9 (3): 246-248.
- MORAWITZ, F. 1890. Hymenoptera fossoria Transcaspia nova. Horae Soc. Entomol. Ros. 24 (3/4): 570-645.
- PULAVSKIY [PULAWSKI], V. V. 1978. Fam. Sphecidae - digging wasps. [In Russ.]. In: Opredelitel' Nasekomykh Yevropeyskoy Chasti SSSR. 3. Pereponchatokrylyye. 1, Leningrad: 173-279.
- PULAWSKI, F. 1973. Les *Ammatomus* A. Costa (Hym., Sphecidae) de la region paléarctique occidentale et centrale. Pol. Pismo Entomol. 43 (2): 273-287.
- PULAWSKI, W. 1981. New synonyms in Old World Sphecidae (Hymenoptera). Mitt. Schweiz. Entomol. Ges. 54: 363-366.
- RADOSZKOWSKI, O. I. 1877. Chrysidiformis, Mutilidae and Sphecidae. [In Russ.]. In: Puteshestviye v Turkestan Chlena-Osnovatelya o-va A. P. Fedchenko, 14 (2). Zoogeograph. Issled. 5. SPb; Moscow: 1-87 + Tab. 1-8. [Izv. Imper. Obshch. Lyubit. Yestestvozn., Antropol. i Etnograph. 21 (1)].
- RADOSZKOWSKI, O. I. 1886. Faune hymenopterologique Transcaspienne. Horae Soc. Entomol. Ros. 20 (1/2): 3-56.
- ROTH, P. 1949. *Sphecius* paléarctiques (Hym., Sphecidae). Ann. Soc. Entomol. France 118: 79-94.
- ROTH, P. 1959. Les *Sphecius* paléarctiques (Hymn., Sphecidae). Note supplémentaire. Bull. Soc. Entomol. France 64(3/4): 68-79.
- SPINOLA, M. 1808. Insectorum Liguriaie species novae aut rariores quas in agro Ligustico nuper detexit etc. 2, Genoa: 162 pp.