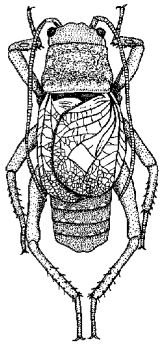


Far Eastern Entomologist

Дальневосточный энтомолог

Journal published by Far East Branch
of the Russian Entomological Society
and Laboratory of Entomology,
Institute of Biology and Soil Science,
Vladivostok

Number 190: 1-16 ISSN 1026-051X November 2008

A REVIEW OF THE GENUS *POECILAGENIA* HAUPT, 1927 (HYMENOPTERA, POMPILIDAE) OF THE RUSSIA WITH THE WORLD CATALOGUE OF THE SPECIES

A. S. Lelej, V. M. Loktionov

Institute of Biology and Soil Science, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok 690022, Russia. E-mail: lelej@biosoil.ru

A review of five species of the genus *Poecilagenia* Haupt, 1927 and the key to the Russian species are given. *P. rubricans* (Lepeletier, 1845) is redescribed and newly recorded from the Russian Far East (Primorskii krai). *P. sculpturata* (Kohl, 1898) is newly recorded from Khabarovskii krai. A catalogue of 22 species and one subspecies of the genus is given and one species is excluded from *Poecilagenia*. Ten new combinations are proposed: *Poecilagenia gracilis* (Haupt, 1959), **comb. n.** (from *Meragenia*), *P. imitator* (Ashmead, 1905), **comb. n.** (from *Meragenia*), *P. imitator clara* (Banks, 1934), **comb. n.** (from *Meragenia*), *P. nigra* (Arnold, 1959), **comb. n.** (from *Trachyglyptus*), *P. nigripes* (Banks, 1934), **comb. n.** (from *Meragenia*), *P. obumbrata* (Haupt, 1959), **comb. n.** (from *Meragenia*), *P. procera* (Haupt, 1959), **comb. n.** (from *Meragenia*), *P. rufithorax* (Banks, 1934), **comb. n.** (from *Meragenia*), *P. semirufa* (Banks, 1938), **comb. n.** (from *Meragenia*), *P. taiwana* (Tsuneki, 1989), **comb. n.** (from *Taiwagenia*). New synonymy is proposed: *Machaerothrix coactifrons* Haupt, 1938, female =*Poecilagenia sinensis* Wahis, 1970, male, **syn. n.** Lectotype is designated for *Trachyglyptus niger* Arnold, 1959.

KEY WORDS: Pompilidae, spider wasps, *Poecilagenia*, *Machaerothrix,* key, taxonomy, Russia.

А.С. Лелей, В.М. Локтионов. Обзор рода *Poecilagenia* Haupt, 1927 (Hymenoptera, Pompilidae) фауны России с каталогом видов рода // Дальневосточный энтомолог. 2008. N 190. С. 1-16.

Дан обзор 5 видов дорожных ос рода *Poecilagenia*, Haupt, 1927 и составлена определительная таблица видов фауны России. *P. rubricans* (Lepeletier, 1845) переописан и впервые указан для Дальнего Востока России (Приморский край). *P. sculpturata* (Kohl, 1898) впервые указан для Хабаровского края. Приведен каталог 22 видов и 1 подвида этого рода, а 1 вид исключен из *Poecilagenia*. Предложено 10 новых комбинаций: *Poecilagenia gracilis* (Haupt, 1959), **comb. n.** (из рода *Meragenia*), *P. imitator* (Ashmead, 1905), **comb. n.** (из *Meragenia*), *P. imitator clara* (Banks, 1934), **comb. n.** (из *Meragenia*), *P. nigra* (Arnold, 1959), **comb. n.** (из *Trachyglyptus*), *P. nigripes* (Banks, 1934), **comb. n.** (из *Meragenia*), *P. obumbrata* (Haupt, 1959), **comb. n.** (из *Meragenia*), *P. procera* (Haupt, 1959), **comb. n.** (из *Meragenia*), *P. rufithorax* (Banks, 1934), **comb. n.** (из *Meragenia*), *P. semirufa* (Banks, 1938), **comb. n.** (из *Meragenia*), *P. taiwana* (Tsuneki, 1989), **comb. n.** (из *Taiwagenia*). Предложена новая синонимия: *Machaerothrix coactifrons* Haupt, 1938, самка =*Poecilagenia sinensis* Wahis, 1970, самец, **syn. n.** Обозначен лектотип *Trachyglyptus niger* Arnold, 1959.

Биолого-почвенный институт ДВО РАН, Владивосток-22, 690022, Россия.

INTRODUCTION

The *Poecilagenia* is cleptoparasitic genus in the subfamily Pepsinae. It is characterized by short and stout antennae which are known in other cleptoparasitic spider wasps. Propodeum coarsely rugose or reticulate-rugose. This genus is distributed throughout the Old World, but is represented by 22 species and one subspecies: six species – in the Palaearctic region, nine species and one subspecies – in Oriental, and seven species – in Afrotropical region. In the Russia four species of *Poecilagenia* were known (Tobias, 1978; Lelej, 1986a, 1995, 2000), three species distributed in Japan (Shimizu, 2000). A. Shimizu (2000) gave generic characters key and description of Japanese species. In spite that *Meragenia* Banks and *Taiwagenia* Tsuneki were synonymized (Arnold, 1935; Shimizu, 2000), the species of these genera formally have not been transferred to the *Poecilagenia*.

The current paper based on 23 specimens of *Poecilagenia* and 19 specimens of *Machaerothrix.* These rare wasps were collected in 1980-2008 in the former USSR or received for an exchange and deposited in the collection of the Institute of Biology and Soil Science, Vladivostok.

GENUS *POECILAGENIA* HAUPT, 1927

Poecilagenia Haupt, 1927: 127 (key), 130 (description), ♀ ♂ (type species *Calicurgus rubricans* Lepeletier, 1845, ♀, France, by original designation); 1938: 43; Pate, 1946: 101; Haupt, 1959: 5, 7; Priesner, 1960: 68; 1967: 137; Wahis, 1970: 714 (part.); Wolf, 1971: 28; 1972: 74; Tobias, 1978: 114; Oehlke, Wolf, 1987: 342; Lelej, 1990: 74; Schmid-Egger, Wolf, 1992: 354; Wolf, 1992: 47, 52; Lelej, 1995: 230; Wahis, 1996: 211; Shimizu, 1996: 508; 2000: 101; Lelej, 2000: 622; Wahis, 2002: 76; Wahis, Smissen, 2005: 81; Wahis, 2006: 34; Jozan, 2006: 283, ♂.

Meragenia Banks, 1934: 39 (key), 75 (description), ♂ ♀ (type species: *Pseudagenia imitator* Ashmead, 1905, the Philippines, by original designation); Pate, 1946: 93; Haupt, 1959: 45; Wolf, 1993: 999; 1994: 187. Synonymized by Arnold, 1935: 30 and merely repeated by Shimizu, 2000: 102.

Poecilageniella Ishikawa, 1965: 131, ♀ ♂ (type species: *Poecilageniella hirashimai* Ishikawa, 1965, ♀ ♂, Japan (Hokkaido), by original designation); Lelej, 1986a: 807; 1995: 230. Synonymized by Shimizu, 1996: 508.

Taiwagenia Tsuneki, 1989: 77 (♂), 177 (♀) (type species: *Taiwagenia taiwana* Tsuneki, 1989, China (Taiwan), by original designation). Synonymized by Shimizu, 2000: 102.

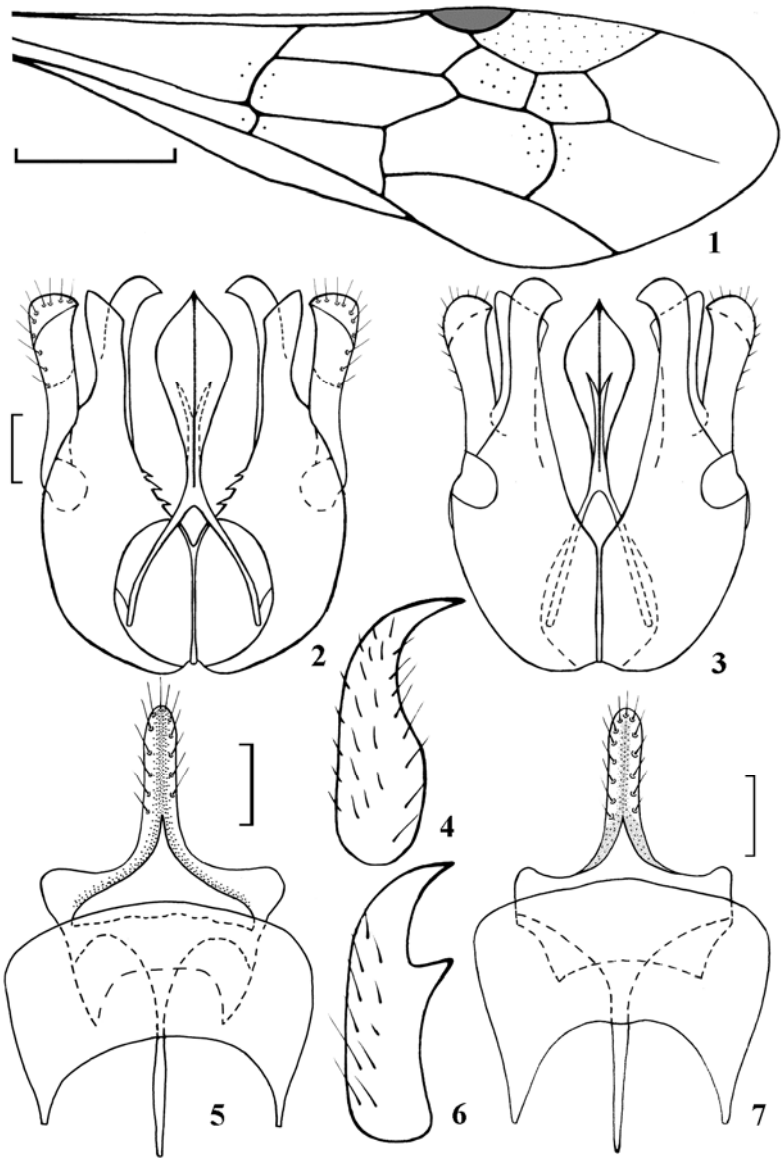
Trachyglyptus: Arnold, 1959: 498, ♀.

NOTES. Generic characters (female and male) and phylogenetic relationships of *Poecilagenia* within the tribe Ageniellini Banks, 1912 see Shimizu (1994, 2000).

The main character which differs genus *Trachyglyptus* Arnold, 1934 (type species: *Cryptosalius spinosipes* Turner, 1927, female, South Africa) from *Poecilagenia* is mentum with a few irregularly placed, erect and thin hairs (glabrous in *Poecilagenia*) (Arnold, 1934). Really the female of *Poecilagenia* has prementum with a few, fine but very long curved setae, which is considered as derived state within the Pepsinae (Shimizu, 2000). Quite possible that *Trachyglyptus* is merely a synonym of *Poecilagenia*. For the more the second species of this genus described by Arnold (1959) (*Trachyglyptus niger* Arnold, 1959) was identified by Wahis and Day as *Poecilagenia nigra* (see below).

KEY TO THE RUSSIAN SPECIES

1. Females (unknown for *P. shimizui* Lelej) 2
– Males 5
2. Third submarginal cell removed much less than its own length from wing tip. Forewing without dark fascia. Mesonotum with large punctures spaced irregularly, in addition to dense minute punctures. Metapostnotum about 0.22-0.26X as long as metanotum. Mid and hind tibiae with very short, weak, sparse spines. – Third antennal segment (flagellomere 1) 2.8-3.2X as long as thick. Relation *POD* : *OOD* 1 : 1.0-1.4 (ratio 0.7-1.0X). Body, antennae and legs black. 5.5-9.5 mm . . . . . ***P. sculpturata***
– Third submarginal cell removed more than its own length from wing tip (Fig. 1). Forewing bifasciate. Mesonotum with dense small punctures regular in size and spacing. Metapostnotum slightly shorter than metanotum. Mid and hind tibiae with more or less long, coarse spines 3
3. Frons with a pair of strongly raised longitudinal supraantennal tubercles. – Relation *POD* : *OOD* 1: 1.8-2.0 (ratio 0.5-0.55X). Third antennal segment 2.9-3.2X as long as thick. 6.5-9.2 mm . . . . . ***P. hirashimai***
– Frons without a pair of supraantennal tubercles 4
4. Body black, propodeum, metapleuron, postero-ventral part of mesopleuron, metanotum, metapostnotum, hind coxae except of apical part ferruginous-red. Supraantennal area of frons without longitudinal impressed polished median line. *M* almost touch the wing apex (Fig. 1). *2m-cu* arcuate. Third antennal segment 2.3X as long as thick. 5.5-8.0 mm . . . . . ***P. rubricans***



Figs 1-7. *Poecilagenia*. 1-5) *P. rubricans* (1- female, 2-5 - male): 1) forewing, 2, 3) genitalia (2 - ventral view, 3 - dorsal view), 4) hind tarsal claw, 5) sterna 7 and 8 (hypopygium), ventral view; 6, 7) *P. shimizui*, holotype: 6) hind tarsal claw, 7) sterna 7 and 8 (hypopygium), ventral view. Scale bar 1 mm for fig. 1, 0.1 mm for figs 2-7.

– Body totally black. Supraantennal area of frons with a distinctly impressed, polished median line. *M* depigmented a little beyond juncture with *3r-m*. *2m-cu* subangulate or arcuate near middle. Third antennal segment 3.1-3.4X as long as thick. 5.0-9.9 mm . . . . . ***P. maruyamai***

5. Submarginal cell 3 removed much less than its own length from wing tip. Mesonotum with very large punctures spaced irregularly, in addition to dense minute punctures. Metapostnotum much shorter than metanotum. – Third antennal segment 1.6-2.2X as long as thick, 0.45-0.6X as long as scape and pedicel combined. Relation *POD* : *OOD* 1 : 1.1-1.5 (ratio 0.7-0.9X). Hind tarsal claws asymmetrical, inner claw unidentate and outer one edentate and acutely bent preapically. 5.1-7.8 mm . . . . . ***P. sculpturata***

– Submarginal cell 3 removed more than its own length from wing tip. Mesonotum with dense small punctures regular in size and spacing. Metapostnotum almost as long as metanotum 6

6. Frons with a pair of strongly raised longitudinal supraantennal tubercles. – Third antennal segment 2.1-2.3X as long as thick, 0.5-0.55X as long as scape and pedicel combined. Relation *POD* : *OOD* 1 : 1.3-1.7 (ratio 0.6-0.75X). 5.5-6.8 mm . . . . . ***P. hirashimai***

– Frons without a pair of supraantennal tubercles 7

7. Hind tarsal claws unidentate (Fig. 6). – Propodeum gently sloping with dense rough punctures. Third antennal segment 1.9X as long as thick, 0.4-0.45X as long as scape and pedicel combined (Fig. 13). Genitalia and sterna 7, 8 (Figs 7-9). 4.8-6.0 mm . . . . . ***P. shimizui***

– Hind tarsal claws edentate (Fig. 4). 8

8. Hind tarsal claws strongly bent preapically. Propodeum gently sloping, less reticulo-punctate and rugose. Third antennal segment 2.0-2.1X as long as thick, 0.65-0.75X as long as scape and pedicel combined. 4.9-8.1 mm . . . . . ***P. maruyamai***

– Hind tarsal claws weakly bent preapically (Fig. 4). Propodeum abrupt, strongly reticulo-punctate and rugose. Third antennal segment 1.5-1.6X as long as thick, 0.4-0.45X as long as scape and pedicel combined. Genitalia and sterna 7, 8 (Figs 2, 3, 5). 4.9-6.0 mm . . . . . ***P. rubricans***

LIST OF THE RUSSIAN SPECIES

1. *Poecilagenia rubricans* (Lepeletier, 1845)

Calicurgus rubricans Lepeletier, 1845: 409, ♀ (type locality: Forêt de Bondy [France, environs of Paris]).

Poecilagenia rubricans: Haupt, 1927: 130, ♀ ♂; Priesner, 1967: 138; Wahis, 1970: 714; 1971: 603; Wolf, 1971: 28; 1972: 75; Tobias, 1978: 114; Oehlke, Wolf, 1987: 342; Wahis, Gros, 1991: 56; Wolf, 1992: 84; Schmid-Egger, Wolf, 1992: 354; Wolf, 1993: 999; Wahis, Smissen, 2005: 81; Wahis, 2006: 34; Jozan, 2006: 283.

Pompilus speciosus Verhoeff, 1890: 328, ♀ (type locality: “Germania”). Synonymized by Haupt, 1927: 130.

Salius scarlatinosus Morawitz, 1892: 153, ♀ "Kurjasch" [Ukraine, Kharkov], type material probably lost. Synonymized by Haupt, 1927: 130.

Poecilagenia unimaculata Haupt, 1937: 66, 70 [holotype - ♀, Bologna, 5.VI 1936 (Ronzano)]. Synonymized by Wahis, 1986: 15.

Because the description (especially the male) of the type species is insufficient the redescription based on studied material is given below.

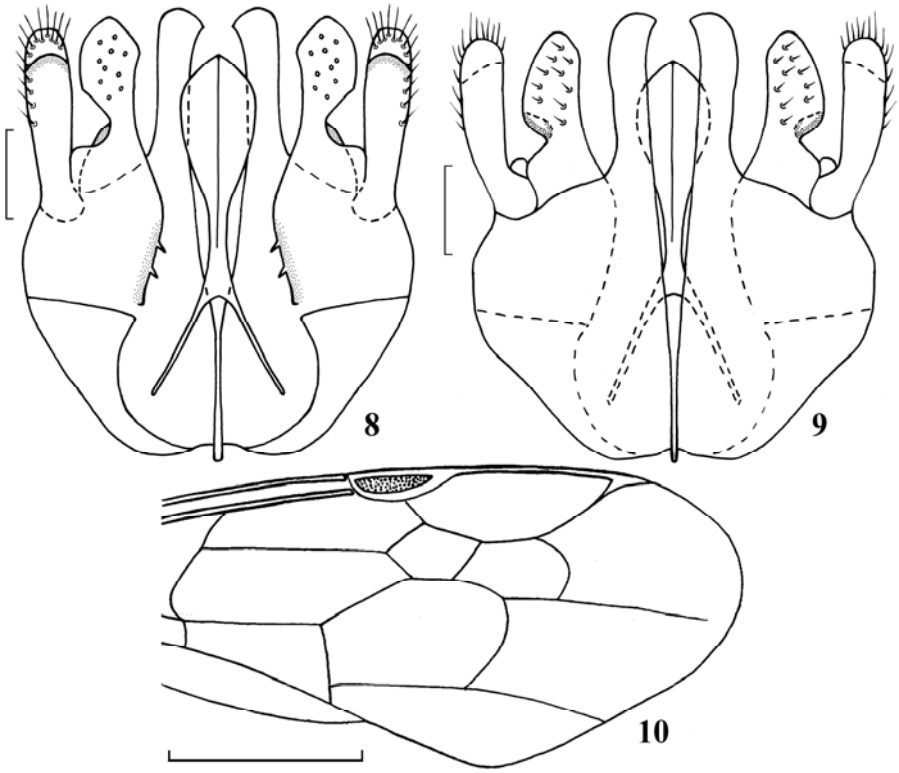
REDESCRIPTION. FEMALE (based on specimen from Primorskii krai). Body length 5.5 mm. Head in frontal view 1.1X as broad as long. Supraantennal area of frons with a distinctly impressed median line. Ocelli small, ratio *POD* : *OOD* = 0.8X. Clypeus 2.9X as broad as long, weakly convex, with arcuate anterior margin. Lubrum with a medial weak excision. Relation of first four antennal segments 25 : 14 : 25 : 22; third antennal segment (flagellomere 1) 2.3X as long as thick. All tarsal claws symmetrical, with little tooth on inner side. Metapostnotum slightly shorter than metanotum. Forewing venation (Fig. 1): *3r-m*, *2m-cu* arcuate, *M* almost touch the wing apex. Forewing slightly infuscate with a scarcely visible fascia on second abscissa of vein *M* and crossvein *cu-a*, and a second one occupying submarginal cell 2 and 3, radial cell and apical part of discoidal cell 2 (Fig. 1). Hind wing hyaline, without dark fascia. Mid and hind tibiae with four longitudinal rows of short spines (stronger on hind tibia) and apical spines. Basitarsus of mid and hind tarsi spinose.

Frons, clypeus, pronotum, mesonotum and mesopleuron with dense strongly regular punctures; genae, occiput, metasoma with smaller and sparser punctures. Propodeum coarsely strongly transversely rugose and reticulate. Metasoma shining.

Body black, propodeum, postero-ventral part of mesopleuron, metanotum, metapostnotum, hind coxae except apical part ferruginous-red.

MALE. Body length 6.0-8.0 mm. Head in frontal view 1.1X as broad as long. Ocelli small, ratio *POD* : *OOD* 0.9-1.0X. Clypeus 2.4X as broad as long and weakly convex. Relation of four basal antennal segments 21 : 11 : 13 : 16 . Third antennal segment (flagellomere 1) 1.5-1.6X as long as thick and 0.23X upper interocular distance. Metapostnotum slightly shorter than metanotom. Propodeum in dorsal view roundly produced postero-laterally, 0.64-0.68X as long as width. Marginal cell long, removed 0.33-0.42X its own maximal length from wing tip. Ratio of submarginal cell 2 : submarginal cell 3 1.0-1.1X on vein *Rs* and 0.90-0.95X on vein *M*. Submarginal cell 2 1.7-1.75X as long as high, submarginal cell 3 1.41-1.45X as long as high. Tarsal claws of hind legs symmetrical edentate and weakly bent preapicaly (Fig. 4), fore and mid claws unidentate. Sternum 7, 8 (hypopygium) and genitalia (Figs 2, 3, 5).

Clypeus with coarse punctures in apical part except polished rim, in other part with even somewhat reticulo-punctate. Frons with dense strong punctures regular in size and spacing. Vertex and genae with small sparse punctures. Pronotal dorsum with strong coarse punctures forming reticulate. Scutum and disc of scutellum with dense large punctures regular in size and spacing. Lateral part of scutellum weakly striate. Disc of metanotum with dense small punctures, its lateral part polished and delicate obliquely striate. Metapostnotum finely transversally striate. Propleuron strongly densely punctate, upper-front portion reticulo-punctate. Mesopleuron with dense, coarse punctures. Metapleuron reticulo-striate. Propodeum coarsely transversally reticulo-rugose.



Figs 8-10. *Poecilagenia shimizui*, male (holotype): 8, 9) genitalia (8 – ventral view, 9 – dorsal view), 10) forewing. Scale bar 0.1 mm for figs 8, 9, 1 mm for fig. 9.

Body black, tergum 7 with ivory-white marking, legs from brown to pale-brown except coxae. Clypeus, mesosoma, coxae with whitish, sparse pubescence, other parts of head, metasoma with brownish, sparse pubescence. Propleuron, lateral part of pronotum with sparse rather long brown hairs; propodeum postero-laterally and hind coxae dorsally with dense silver hairs.

SPECIMENS EXAMINED. Russia: Krasnodarskii krai, Sochi, Lazarevskoe 9.VIII 1985, 1♂ (Shlyakhtenok); Primorskii krai, Chuguevka, upper part of the Pravaya Sokolovka River, secondary birch forest, 18.VIII 2008, yellow pan trap, 1♀ (Loktionov). Ukraine: Zaporozhskaya oblast, Vasil'evka 6.VIII 1980, 1♂ (Tolkanits).

DISTRIBUTION. Russia: Krasnodarskii krai (Tobias, 1978), Far East (new record) (Primorskii krai). – Austria, Belgium, Bulgaria, Corsica, Czech Republic, France, Germany, Italy, Spain, Hungary, Poland, Greece, Slovenia, Croatia, Serbia, Turkey: Asian part (Wahis & Gros, 1991, 2007), Ukraine (Tobias, 1978).

2. *Poecilagenia hirashimai* (Ishikawa, 1965)

Poecilageniella hirashimai Ishikawa, 1965: 133, ♀ ♂ (holotype - ♀, Japan, Yukomanbetsu on Mt. Daisetsuzan in Central Hokkaido, 2.VIII 1955 (Y. Hirashima) [Japan], deposited in Entomological Laboratory, Kyushu University, examined by ASL); Lelej, 1986a: 808; 1995: 231.

Poecilagenia hirashimai: Shimizu, 1996: 509; 2000: 108; Lelej, 2000: 623.

SPECIMENS EXAMINED. Russia, Primorskii krai: "Kedrovaya Pad'" reserve, 21.VIII 1979, 1♀ (Belokobylskij); Vladivostok, Sedanka, 31.VII 1984, 2♂ (Belokobylskij); 20 km SE of Spassk, 22.VII 1998, 3♂ (Belokobylskij); Chuguevka, upper part of the Pravaya Sokolovka River, 20, 21.VIII 2008, 1♂, 2♀ (Loktionov). Japan: Niigata Prefecture, Sasagamine Myoko, 14.IX 1980, 1♀ (Itami).

DISTRIBUTION. Russia: Primorskii krai (Lelej, 1986a, 1995). – Japan: Hokkaido, Honshu (Shimizu, 2000).

3. *Poecilagenia maruyamai* (Ishikawa, 1965)

Poecilageniella maruyamai Ishikawa, 1965: 136, ♀ (holotype - ♀, Karuizawa, Nagano Pref., 9.IX 1954 (Ishikawa) [Japan, Honshu], deposited in the National Science Museum, Tokyo, examined by ASL).

Poecilagenia maruyamai: Shimizu, 1996: 509, ♀; 2000: 111, ♀ ♂.

SPECIMENS EXAMINED. Japan: Aichi, Asahi, Yawata Shrine 12-21.VIII 1998, 1♂ (Ozawa).

DISTRIBUTION. Japan (Honshu, Kyushu), Korea (Shimizu, 2000).

4. *Poecilagenia sculpturata* (Kohl, 1898)

Pseudagenia sculpturata Kohl, 1898: 102, ♀ (type locality Spain).

Poecilagenia sculpturata: Wahis, 1970: 714; Wolf, 1972: 75; Lelej, 1990: 74; 1995: 230; Wahis, 1996: 211; Lelej, 2000: 622; Shimizu, 2000: 104; Wahis, 2002: 76; 2005: 47; 2006: 34; Jozan, 2006: 283.

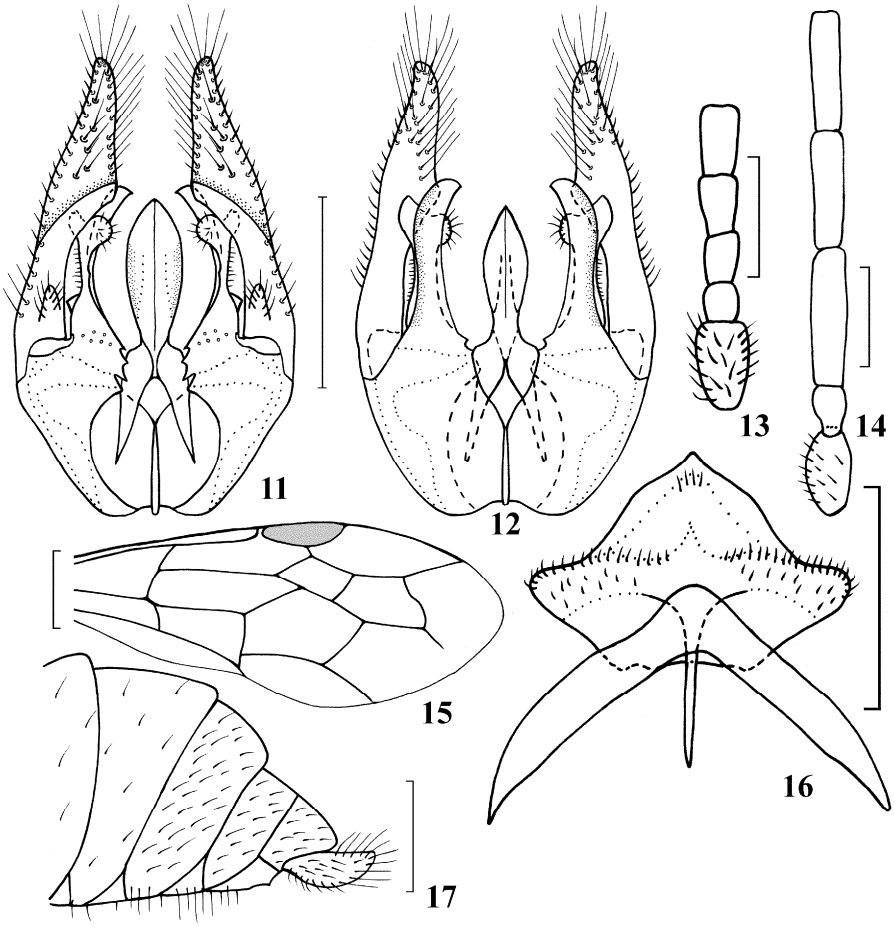
Meragenia sculpturata: Wolf, 1993: 999, 1994: 187.

Poecilagenia nigrina Haupt, 1938: 43, ♀ nec ♂ (holotype - ♀, Podčetrtek, leg. Jaeger [Slovenia]). Synonymized by Wahis, 1970: 716.

Poecilagenia moreli Nouvel et Ribaut, 1958: 519, ♀ (type locality "Montbartier et d'Orange" [South France]). Synonymized by Wahis, 1970: 716.

Poecilagenia rubricans moreli: Wolf, 1965: 8; Priesner, 1967: 138.

SPECIMENS EXAMINED. Russia, Primorskii krai: Yakovlevka, 1.VII 1986, 1♀ (Lelej); Lazovskii reserve, Pryamushka River, 19.IX-3.X 2001, 1♀ (Quest); Khabarovskii krai: Evoron Lake, 17.VII 2006, yellow pan trap, 1♀ (Proshchalykin). Japan: Aichi Kasugai, Takagi (weed land), 1-7.VI 1994, 1♀ (Sanda).



Figs 11-17. Males of *Machaerothrix* and *Poecilagenia*. 11, 12, 14-17) *M. ussuriensis*, male: 11, 12) genitalia (11 - ventral view, 12 - dorsal view), 14) antennal segments 1-5, 15) forewing, 16) sterna 7 and 8 (hypopygium), ventral view, 17) last metasomal segments, laterla view; 13) *P. shimizui*, holotype, antennal segments 1-5. Scale bar 1 mm for fig. 15, 0.5 mm for figs 11-14, 16, 17.

DISTRIBUTION. Russia: Khabarovskii krai (new record), Primorskii krai (Lelej, 1990, 1995). – Japan (Honshu, Kyushu) (Shimizu, 2000), China (Shanghai, Heilongjiang) (Haupt, 1938; Shimizu, 2000), Slovenia (Haupt, 1938), Spain, South France including Corsica, Austria, Italy (Wahis, 2005, 2007), Hungary (Jozan, 2006).

5. *Poecilagenia shimizui* Lelej, 2000

Poecilagenia shimizui Lelej, 2000: 622 (holotype - ♂, Lazovskii reserve, 10 km W of Preobrazhenie, 15.VIII 1986 (Lelej) [Russia, Primorskii krai], deposited in the Institute of Biology and Soil Science, Vladivostok).

NOTES. The differences from related species see key above. Because the genitalia figure in the original description (Lelej, 2000) was not accurate we gave here the new ones and added the hypopygium and claw figures (Figs 6-9).

SPECIMENS EXAMINED. Besides the holotype and paratype the following specimens are studied. Russia, Primorskii krai: 5 km E of Zarubino, Andreyevka, 5.VIII 1985, 1♂ (Belokobylskij); Novokachalinsk, 23.VII 1995, 1♂ (Belokobylskij); 20 km SE of Spassk, 22.VII 1998, 1♂ (Belokobylskij); Ussuriysk, meadow, 20.VII 2008, 1♂ (Loktionov).

DISTRIBUTION. Russia: Primorskii krai (Lelej, 2000).

CATALOGUE OF THE *POECILAGENIA* SPECIES

(references are given for the species not listed above)

P a l a e a r c t i c

hirashimai (Ishikawa, 1965) (*Poecilageniella*), ♀ ♂. – Russia (Primorskii krai), Japan (Hokkaido, Honshu).

maruyamai (Ishikawa, 1954) (*Poecilageniella*), ♀♂. – Japan (Honshu, Kyushu), Republic of Korea.

rubricans (Lepeletier, 1845) (*Calicurgus*) (=*speciosus* Verhoeff, 1890; =*scarlatinosus* Morawitz, 1892; =*unimaculata* Haupt, 1937), ♀ ♂. – Russia (Krasnodarskii krai, Primorskii krai), Austria, Belgium, Bulgaria, Czech Republic, France (including Corsica), Germany, Italy, Spain, Hungary, Poland, Greece, Slovenia, Croatia, Serbia, Ukraine, Turkey (Asian part).

rufipes (Priesner, 1955) (*Pseudagenia*), ♀. – Egypt (Priesner, 1955, 1960).

sculpturata (Kohl, 1898) (*Pseudagenia*) (=*nigrina* Haupt, 1938; =*moreli* Nouvel et Ribaut, 1958), ♀ ♂. – Russia (Khabarovskii krai, Primorskii krai), Japan (Honshu, Kyushu), China (Heilongjiang), Austria, Slovenia, Spain, South France (including Corsica), Italy, Hungary.

shimizui Lelej, 2000, ♂. – Russia (Primorskii krai).

O r i e n t a l

gracilis (Haupt, 1959), **comb. n.** (from *Meragenia*), ♀. – Myanmar (Haupt, 1959).

imitator (Ashmead, 1905), **comb. n.** (described in *Pseudagenia*, replaced to *Meragenia* by Banks, 1934), ♀ ♂. – Philippines (Banks, 1934).

imitator clara (Banks, 1934), **comb. n.** (from *Meragenia*), ♀. – Philippines (Banks, 1934).

nigripes (Banks, 1934), **comb. n.** (from *Meragenia*), ♀. – Philippines (Banks, 1934).

obumbrata (Haupt, 1959), **comb. n.** (from *Meragenia*), ♀. – China ["Canton" (Guangdung)] (Haupt, 1959).

procera (Haupt, 1959), **comb. n.** (from *Meragenia*), ♀. – China (Taiwan) (Haupt, 1959).

rufithorax (Banks, 1934), **comb. n.** (from *Meragenia*), ♀. – Philippines (Banks, 1934).

semirufa (Banks, 1938), **comb. n.** (from *Meragenia*), ♀. – Singapore (Banks, 1938).

stulta (Bingham, 1896) (*Pseudagenia*), ♀. – Myanmar ("Tenasserim") (Bingham, 1897).

taiwana (Tsuneki, 1989), **comb. n.** (from *Taiwagenia*), ♀ ♂. – China (Taiwan) (Tsuneki, 1989).

A f r o t r o p i c a l

braunsi Arnold, 1934, ♀ ♂. – Liberia, Cameroon ("Eloby"), Uganda, South Africa (KwaZuluNatal) (Arnold, 1934).

longicollis Arnold, 1951, ♀. – Ghana ("Aburi, Gold Cost") (Arnold, 1951).

major Arnold, 1952, ♀. – Malawi ("Mlanje, Nyasaland, 2000 ft.") (Arnold, 1952).

nigeriensis Arnold, 1934, ♀ ♂. – Nigeria, Uganda (Arnold, 1934).

nigra (Arnold, 1959), ♀, **comb. n.** (from *Trachyglyptus*). – South Africa (Arnold, 1959). Lectotype (designated here, deposited in the Museum of Zoology, Lund University): ♀ – with seven labels: S.Afr. Cape Prov./ Cape Peninsula. Hout/ Bay. Skoorsteenkop/ 26.XII.50. No.95 // Swedish South Africa/ Expedition/ 1950-1951/ Brinck - Rudebeck // Insect trap 7 Alt. ft. // TYPE "♀"/ *Trachyglyptus*/ *niger*/ G.Arnold (Red label) // 1973/142 (Green loan number) // *Poecilagenia*/ *niger* (Arnold) "♀"/ det. M.C.Day 1977 // R.Wahis det. 1992/ *Poecilagenia* "♀"/ *nigra*/ (Arnold). We have requested the addition of a eighth (red) label: "LECTOTYPUS / *Trachyglyptus niger* / Arnold, 1959, ♀ / Lelej & Loktionov, 2008".

reversa (Bischoff, 1913) (*Pseudagenia*), ♀. – Zimbabwe (Bulawayo) (Bischoff, 1913), South Africa (Arnold, 1934).

rugosa Arnold, 1951, ♂. – Mali ("Diafarabé, French Sudan") (Arnold, 1951).

SPECIES EXCLUDED FROM THE GENUS *POECILAGENIA*

Poecilagenia sinensis Wahis, 1970

Poecilagenia nigrina Haupt, 1938: 43, ♂ nec ♀ (China: Shanghai).
Poecilagenia sinensis Wahis, 1970: 715, ♂ (China: Shanghai).

NOTES. *Poecilagenia nigrina* Haupt, 1938 has been described by female (holotype from Podčetrtek, Slovenia) and three males (paratypes from Shanghai, China). Wahis (1970) synonymized this species with *P. sculpturata* (Kohl, 1898) and proposed

new name *P. sinensis* for the males of *P. nigrina* sensu Haupt, 1938. The latter extremely differ from all males of *Poecilagenia* species by having very long antennal segment 3 (flagellomere 1) ["Fühler zeimlich lang, 3. Glied etwas länger als Schaft + Pedicellus"] which is longer than scape and pedicel combined (0.4-0.75 in Palaearctic *Poecilagenia* species), by having partly exposed gonostyli (not exposed in *Poecilagenia* species). These exposed gonostyli has been wrongly recognized by Haupt as the hypopygium ["Genitalplatte in Seitenansicht kahnförming, am Ende lang behaart, von seiner Spitze tief gespalten, was sich aber nicht gut erkennen lässt"].

Haupt (1938) described his *P. nigrina* in the tribe Calicurgini Haupt 1937, subfamily Ctenocerinae Arnold (Claveliinae sensu Haupt, 1938) together with *Machaerothrix coactifrons* Haupt, 1938 from China (Shanghai) (type species of the monotypic genus *Machaerothrix* Haupt, 1938). For the latter species male was unknown (Haupt, 1938). Later Haupt (1959) transferred the genus *Machaerothrix* (misspelled *Machaerotrix*) to the subfamily Macromerinae [currently tribe Ageniellini Banks, 1912 (Auplopiini sensu Haupt, 1959) in Pepsinae) and described *M. decorata* Haupt, 1959 from Canton [Guangzhou], China) by female only. Haupt (1938, 1959) not recognized the male of his genus *Machaerothrix*. Really Haupt (1938) studied the male of *Machaerothrix* which has been recognized by him as the male of *Poecilagenia nigrina*. We studied the male of *Machaerothrix ussuriensis* Lelej, 1986 (Lelej, 1986b) which superficially resembles the male of *Poecilagenia sculpturata* by having black body with pale tergum 7, by having reticulate-rugose integument of propodeum, by having narrow metapostnotum, by having very similar forewing venation (Fig. 15), but quite differs in having very long antennal segment 3 (Fig. 14 vs. Fig. 13). Fore the more the partly exposed gonostyli in lateral view (Fig. 17) resemble roof-like hypopygium. Volsella and parapenial lobe are very short, placed in the gonostylus inner emargination and practically not visible in dorsal or ventral view (Figs 11, 12). The true hypopygium of *Machaerothrix* (Fig. 16) is almost hidden. The male of *M. johni* Wahis, 2000 (paratype is studied) (Wahis & Krombein, 2000) has the same position of gonostyli and hypopygium. We made the conclusion that *Poecilagenia sinensis* Wahis, 1970, male (=*nigrina* Haupt, 1938, male nec female) is the opposite sex of *Machaerothrix coactifrons* Haupt, 1938, described from the same place. Therefore new synonymy is proposed: *Machaerothrix coactifrons* Haupt, 1938 = *Poecilagenia sinensis* Wahis, 1970, **syn. n.**

ACKNOWLEDGEMENTS

We are grateful to Akira Shimizu (Tokyo Metropolitan University, Japan) for help with an identification of *Poecilagenia rubricans* Lepeletier, female and sending us the *Poecilagenia* specimens for an exchange, Denis Brothers (School of Biological and Conservation Sciences, University of KwaZulu-Natal, Pietermaritzburg, South Africa) for help in receiving the copy of important Arnold's papers, Roy Danielsson (Museum of Zoology, Lund University, Sweden) for help in locating the lectotype of *Trachyglyptus niger*, Raymond Wahis (Faculte Universitaire des Sciences Agrono-

miques, Gembloux, Belgium) and Vasily Grebennikov (Ontario Plant Laboratories, Canada) for help in receiving important papers, late Karl Krombein for providing of paratypes *Machaerothrix johni*, Ryôsuke Ishikawa (Tokyo Metropolitan University, Japan) for the permission to study the holotypes of his *Poecilageniella* species. Also our thanks are due to S.A. Belokobylskij (Zoological Institute, St. Petersburg, Russia), M.Yu. Proshchalykin (Institute of Biology and Soil Science, Vladivostok, Russia), V.I. Tolkanits (Institute of Zoology, Kiev, Ukraine), M. Quest (Institute of Zoo and Wildlife Research, Berlin, Germany) for help in collecting of spider wasps.

The work was supported in part by the Russian Foundation for Basic Research (grant number 08-04-00184, A.S. Lelej principal investigator).

REFERENCES

Arnold, G. 1934. The Psammocharidae of the Ethiopian Region. Part 3. Subfamily Macromerinae Haupt. – Annals of the Transvaal Museum 15: 283-399.

Arnold, G. 1935. Some considerations on a recent classification on the family Psammocharidae (Hymenoptera). – Occasional Papers of the National Museum of Southern Rhodesia 4: 29-30.

Arnold, G. 1951. Sphecidae and Pompilidae (Hymenoptera) collected by Mr. K.M. Guichard in West Africa and Ethiopia 1941-1948. – Bulletin of the British Museum (Natural History). Entomology 2(3): 95-183.

Arnold, G. 1952. New species of African Hymenoptera, No. 10. – Occasional Papers of the National Museum of Southern Rhodesia 2(17): 460-493.

Arnold, G. 1959. Hymenoptera: Pompilidae. – In: South African Animal Life. Results of the Lund University Expedition in 1950-1951. Vol. 6. Uppsala: Almqvist & Wiksells Boktryckeri AB. P. 492-509.

Banks, N. 1934. The Psammocharidae of the Philippines. – Proceedings of the Academy of Arts and Sciences 69(1): 1-117.

Banks, N. 1938. Some Psammocharidae from Singapore. – Proceedings of the Entomological Society of Washington 40: 236-249.

Bingham, C.T. 1897. Hymenoptera. – Vol. I. Wasps and bees. – In: W.T. Blanford (Ed.). Fauna of British India, including Ceylon and Burma. London: Taylor and Francis. XXIX + 579 p.

Bischoff, H. 1913. Psammochariden und Crabroniden aus Rhodesia. – Archiv für Naturgeschichte 79: 43-76.

Haupt, H. (1926)1927. Monographie der Psammocharidae (Pompilidae) von Mittel-, Nord- und Osteuropa. – Deutsche Entomologische Zeitschrift, 1926 Beiheft: 1-367.

Haupt, H. 1937(1936). Zur Kenntnis der Psammochariden-Fauna Italiens V. – Bolletino dell'Istituto di Entomologia della R. Università degli studi di Bologna 9: 65-72.

Haupt, H. 1938. Psammocharidae von unteren Yang-Tse. – Notes d'Entomologie Chinoise, Shanghai 5(5): 33-48.

Haupt, H. 1959. Elemente einer systematischen Aufteilung der Macromerinae m. (Hymenoptera-Sphecoidea) Fam. Pompilidae, Subfam. Macromerinae. – Nova Acta Leopoldina 21(141): I-XI, 5-74.

Ishikawa, R. 1965. On new genus *Poecilageniella* (Hymenoptera, Pompilidae) with descriptions of two new species. – Bulletin of the National Science Museum, Tokyo 8(2): 131-138.

Jozan, Z. 2006. Adatok Dél-Dunántúl fullánkos hártyásszárnyú (Hymenoptera, Aculeata) faunájának ismeretéhez. – Natura Somogyiensis 9: 279-288.

Kohl, F.F. 1898. Neue Hymenopteren. – Annalen des k. k. Naturhistorischen Hofmuseums 13: 91-102.

Lelej, A.S. 1986a. [Spider Wasps of genera *Dipogon* Fox and *Poecilageniela* Ishikawa (Hymenoptera, Pompilidae) of the Far East]. – Entomologicheskoe Obozrenie 65(4): 799-808 [In Russian].

Lelej, A.S. 1986b. [To the knowledge of spider wasps of subfamily Pepsinae (Hymenoptera, Pompilidae) of the Soviet Far East]. – In: Lehr, P.A. & Kupianskaya, A.N. (Eds). Sistematika i Ekologiya Nasekomykh Dal'nego Vostoka [Insect Systematic and Ecology of the Russian Far East]. Vladivostok. P. 73-82. (In Russian).

Lelej, A.S. 1990. [New and little-known species of spider wasps (Hymenoptera, Pompilidae) from Far East of USSR]. – In: Lelej A.S., Storozheva N.A. & Storozhenko S.Y. (Eds). Novosti Sistematiki Nasekomykh Dal'nego Vostoka [News of Insects Systematics of Soviet Far East]. Vladivostok. P. 71-78. [In Russian].

Lelej, A.S. 1995. 64. Fam. Pompilidae – Spider wasps. – In: Lelej A.S., Kupianskaya A.N., Kurzenko N.V. & Nemkov P.G. (Eds). Key to the Insects of the Russian Far East. Vol. IV. Neuropteroidea, Mecoptera, Hymenoptera. Pt 1. Sankt-Petersburg: Nauka. P. 211-264. [In Russian].

Lelej, A.S. 2000. Fam. Pompilidae – Spider wasps. Addition. – In: Lelej A.S., Kupianskaya A.N., Nemkov P.G. & Kholin S.K. (Eds). Key to the Insects of the Russian Far East. Vol. IV. Neuropteroidea, Mecoptera, Hymenoptera. Pt 4. Vladivostok: Dalnauka. P. 615-624. [In Russian].

Lepeletier de Saint-Fargeau, A. 1845. Histoire Naturelle des Insectes. Hyménoptères. Tome Troisième. Roret, Paris. [4] + 1-646.

Morawitz, F. 1892. Hymenoptera aculeata rossica nova. – Horae Societatis Entomologicae Rossicae 26: 132-181.

Nouvel, H. & Ribaut, H. 1958. Une nouvelle espèce du genre *Poecilagenia* (Hymenoptera, Pompilidae). – Bulletin de la Société d'Histoire Naturelle de Toulouse 93(3-4): 519-521.

Oehlke, J. & Wolf, H. 1987. Beiträge zur Insekten-Fauna der DDR: Hymenoptera – Pompilidae. – Beiträge zur Entomologie 37(2): 279-390.

Pate, V.S.L. 1946. The generic names of the spider wasps (Psammocharidae olim Pompilidae) and their type species. – Transactions of the American Entomological Society 72: 65-130.

Priesner, H. 1955. A review of the Pompilidae of Egypt (Hymenoptera). – Bulletin de la Societe Entomologique d'Egypt 39: 1-215.

Priesner, H. 1960. Zur Kenntnis der Pompilidae (Hym.) Aegyptens. – Polskie Pismo Entomologiczne 30(5): 65-82.

Priesner, H. 1967. Studien zur Taxanomie und Faunistik der Pompiliden Österreichs. Teil II. – Naturkundliches Jahrbuch der Stadt Linz. 1967: 123-140.

Schmid-Egger, V.C. & Wolf, H. 1992. Die Wegwespen Baden-Württembergs (Hymenoptera, Pompilidae). – Veröffentlichungen für Naturschutz und Landschaftspflege in Baden-Württemberg 67: 267-370.

Shimizu, A. 1994. Phylogeny and classification of the family Pompilidae. – Tokyo Metropolitan University Bulletin of Natural History 2: 1-142.

Shimizu, A. 1996. Key to the genera of the Pompilidae occurring in Japan north of the Ryukyus (Hymenoptera) (Part 2) . – Japanese Journal of Entomology 64(3): 496-513.

Shimizu, A. 2000. Taxonomic studies on the Pompilidae occurring in Japan north of the Ryukyus: The genus *Poecilagenia* Haupt (Hymenoptera). – Entomological Science 3(1): 101-113.

Tobias, V.I. 1978. Superfamily Pompiloidea. – In: Medvedev G.S. (Ed.). Key to the Insects of the European Part of the USSS. Vol. III. Hymenoptera. Pt 1. Leningrad: Nauka. P. 83-147. [In Russian].

Tsuneki, K. 1989. A study on the Pompilidae of Taiwan (Hymenoptera). – Special Publications of the Japan Hymenopterists Association 35: 1-180.

Verhoeff, C. 1890. Ein Beitrag zur deutschen Hymenopteren-fauna. – Entomologische Nachrichten 16: 321-336.

Wahis, R. 1970. Nouvelle contribution à la connaissance des Hyménoptères Pompilides de la Yougoslavie (Hymenoptera: Pompilidae). – Bulletin des Recherches Agronomiques de Gembloux 5(N.S.): 709-744.

Wahis, R. 1971. Hyménoptès Pompilides des Collections Carvo et Doublet (Hymenoptera: Pompilidae). – Bulletin des Recherches Agronomiques de Gembloux 6(3-4): 597-610.

Wahis, R. 1986. Catalogue systematique et codage des Hymenopteres Pompilides de la region ouest-europeenne. – Notes Fauniques de Gembloux 12: 1-91.

Wahis, R. 1996. Contribution à la connaissance des Pompilides d'Italie. Récoltes de M. Michael Terzo en Sicilia et Latina, en juillet 1993. – Bulletin et Annales de la Société Royale Belge d'Entomologie 132: 205-221.

Wahis, R. 2002. Contribution à la connaissance des Hyménoptès Pompilides de Bulgarie (Hymenoptera: Pompilidae). – Notes Fauniques de Gembloux 46: 75-81.

Wahis, R. 2005. Sur quelques Pompilides nouveaux ou rares en France avec description d'un *Dipogon* nouveau: *Dipogon fonfriai* sp.n. et présence du genre *Telostegus* Costa (Hymenoptera: Pompilidae). – Notes Fauniques de Gembloux 58: 37-56.

Wahis, R. 2006. Mise à jour du Catalogue systématique des Hyménoptères Pompilides de la région ouest-européene. Additions et Corrections. – Notes Fauniques de Gembloux 59(1): 31-36.

Wahis, R. 2007. Fauna Europaea: Hymenoptera, Pompilidae. Fauna Europaea version 1.3, http://www.faunaeur.org

Wahis, R. & Gros, E. 1991. Sur trois Pompilides méditerranéens peu connus: *Poecilagenia rubricans* (Lepeletier, 1845), *Agenioideus fascinubecula* Wolf, 1986 et *Arachnospila conjugens* (Kohl, 1898) (Hym. Pompilidae). – Bulletin de la Société Entomologique de France 96(1): 55-67.

Wahis, R. & Krombein K.V. 2000. A new *Machaerothrix* Haupt from Sri Lanka with notes on the genus (Hymenoptera: Pompilidae: Pepsinae: Ageniellini). – Proceedings of the Entomological Society of Washington 102(2): 271-279.

Wahis, R. & Smissen, J.van der. 2005. Hyménoptères Pompilides de l'Ardèche (Hymenoptera, Pompilidae). – Bulletin de la Société Entomologique de France 110(1): 77-88.

Wolf, H. 1965. Systematisches Verzeichnis der Wegwespen (Hym. Pompiloidea) Mittel- und Nordeuropas. – Nachrichten des Naturwissenshaftlichen Museum der Stadt Aschaffenburg 72: 1-38.

Wolf, H. 1971. Prodromus der Hymenopteren der Tschehoslowakei. Pars 10: Pompiloidea. – Acta Faunistica Entomologica Musei Nationalis Pragae 14(3): 1-76.

Wolf, H. 1972. Hymenoptera Pompilidae. Zürich, 176 S. (Insecta Helvetica Fauna, Bd. 5).

Wolf, H. 1992. Bestimmungsshlüssel für die Gattungen und Untergattungen der westpaläarktischen Wegwespen (Hymenoptera: Pompilidae). – Mitteilungen des Internationalen Entomologischen Vereins 17(2): 45-119.

Wolf, H. 1993. Katalog der Österreichischen Wegwespen (Insecta, Hymenoptera, Pompiloidea). – Linzer Biologische Beiträge 25(2): 993-1011.

Wolf, H. 1994. *Meragenia sculpturata* (Kohl 1898) – eine für Östrreich neue mediterrane Wegwespe (Hymenoptera, Pompilidae). – Linzer Biologische Beiträge 26(1): 187-189.

© **Far Eastern entomologist (Far East. entomol.)** Journal published since October 1994.
Editor-in-Chief: S.Yu. Storozhenko
Editorial Board: A.S. Lelej, V.S. Sidorenko, N.V. Kurzenko, P.G. Nemkov
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 web-site: http://www.biosoil.ru/fee