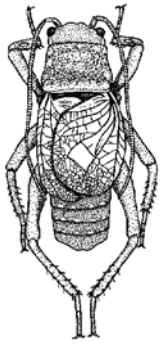

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REVIEW OF THE FAR EASTERN SPECIES OF THE GENUS *PIPIZA* FALLÉN, 1810 (DIPTERA, SYRPHIDAE)

V. A. Mutin

Komsomolsk-na-Amure State Pedagogical University,
Komsomolsk-na-Amure, 681000, Russia

Sixteen species are recorded from the Russian Far East, including four new ones. *Pipiza maritima* **sp. n.** (Kuril Islands), *P. nitidifrons* **sp. n.** (south of Far East), *P. poday* **sp. n.**, and *P. lesovik* **sp. n.** (Khabarovskii krai) are described. *P. convexifrons* Violovitsh and *P. fenestrata* Meigen are newly recorded from the Russian Far East. *P. fasciata* Meigen, *P. festiva* Meigen, *P. noctiluca* (Linnaeus), *P. signata* Meigen, *P. notata* Meigen, and *P. dubium* (Lundbeck) are excluded from the list of the Far Eastern species. New synonymy is proposed: *P. accola* Violovitsh, 1985 = *P. magadanica* Violovitsh, 1985, **syn. n.**; *P. austriaca* Meigen, 1822 = *P. austriaca nigricans* Violovitsh, 1988, **syn. n.** Key to the sixteen species in males and females is given.

KEY WORDS: Syrphidae, hoverflies, *Pipiza*, new species, taxonomy.

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Для фауны Дальнего Востока России указывается 16 видов, включая 4 новых для науки. Описываются *Pipiza maritima* **sp. n.** (Курильские о-ва), *P. nitidifrons* **sp. n.** (юг Дальнего Востока), *P. poday* **sp. n.** и *P. lesovik* **sp. n.** (Хабаровский край). *P. convexifrons* Violovitsh и *P. fenestrata* Meigen впервые найдены на Дальнем Востоке. *P. fasciata* Meigen, *P. festiva* Meigen, *P. noctiluca* (Linnaeus), *P. signata* Meigen *P. notata* Meigen и *P. dubium* (Lundbeck) исключены из списка

дальневосточных видов. Устанавлена новая синонимия: *P. accola* Violovitsh, 1985 = *P. magadanica* Violovitsh, 1985, **syn. n.**; *P. austriaca* Meigen, 1822 = *P. austriaca nigricans* Violovitsh, 1988, **syn. n.** Даны определительные таблицы 16 видов по самцам и самкам.

Комсомольский-на-Амуре государственный педагогический университет, Комсомольск-на-Амуре, 681000, Россия.

INTRODUCTION

The genus *Pipiza* Fallén, 1810 numbers more than 40 species, most of them inhabit Palaearctic Region. This syrphid genus is very difficult for the taxonomy. Even the European *Pipiza* species, referred to in recent literature, must be revised (Speight, 2001). In Europe there are no less than ten species (Peck, 1988; Ssymank et al., 1999), six of them are found in the Russian Far East. Many species, which have been described by N.A. Violovitsh from Siberia and the Russian Far East (Violovitsh, 1985a, 1985b, 1987, 1988), are needed in revision. Unfortunately, types of some Violovitsh's species probably lost. I could not to find them in the collection of Zoological Institute of Russian Academy of Sciences (St. Petersburg), where they have been deposited in 1986-1987. Hopefully I saw a few type specimens when his papers were preparing (1984-1985) and some Violovitsh's species already synonymized (Mutin & Barkalov, 1997). Species described by Japanese entomologists (Matsumura & Adachi, 1916; Matsumura, 1918; Shiraki & Edashige, 1953) differ rather well from others Far Eastern ones known for me. Nevertheless, an examination of the type specimens of these species is necessary for a confirmation of their validity.

This paper based on my material and collections of the Institute of Biology and Soil Sciences, Vladivostok, the Institute of Animal Systematic and Ecology, Novosibirsk and the Zoological Museum of the Moscow State University. Holotypes of new species are deposited in Institute of Biology and Soil Science, Vladivostok, holotype of *P. maritima* sp. n. deposited in Institute of Animal Systematic and Ecology, Novosibirsk. New records are asterisked (*).

LIST OF THE SPECIES

Genus *Pipiza* Fallén, 1810

Type species - *Musca noctiluca* Linnaeus, 1758, designated by Curtis, 1837.

NOTE. The species of the genus *Pipiza* are characterised by wide geographical and individual variation against background of uniform morphology within the genus. Pronounced sexual dimorphism troubles identification of the females. In spite of a lot of problems in the *Pipiza*-species nomenclature I describe here four new species from the Russian Far East. The descriptions of new species as list of the species and key to the Far Eastern species are given below.

1. *Pipiza accola* Violovitsh, 1985
Fig. 12

Pipiza accola Violovitsh, 1985b: 87 [holotype, ♂ – South of Primorskii krai, environs of Kavalerovo, on *Padus* flowers, 23.V 1984 (V. Mutin), examined]; Violovitsh, 1988: 119; Mutin & Gritskevich, 1998: 73; Ssymank et al., 1999: 201 (West Europe).

Pipiza alba Violovitsh, 1985a: 199, [holotype, ♂ – Primorskii krai, environs of Vladivostok, on *Salix* flowers, 5.V 1982 (V. Mutin), examined], synonymized by Violovitsh, 1988: 119.

Pipiza magadanica Violovitsh, 1985b: 90 [holotype, ♂ – Magadanskaya oblast', the mouth of Kegali River, 25.VI 1968 (Levina), not examined], **syn. n.**; Violovitsh, 1988: 119.

MATERIAL. 112 specimens: Magadanskaya oblast' (Magadan), Khabarovskii krai (Mayochan Range, Shargol', Komsomolsk-na-Amure, Pivan'), Amurskaya oblast' (Arkhara), Primorskii krai [Terney, Sedanka (paratype of *P. accola*)].

DISTRIBUTION. Russia: Magadanskaya oblast', Khabarovskii krai, Amurskaya oblast', Primorskii krai; West Europe.

NOTES. The species has variable coloration of face pilose from pale to brown and differs well from other Palaearctic species by a pattern of male genitalia. The female does not differ from one of *P. aurea*; it has large rounded bicolor flagellomere and extensive-yellow tarsi and tibiae.

2. *Pipiza aurea* Violovitsh, 1985
Fig. 6

Pipiza aurea Violovitsh, 1985a: 200 (holotype, ♂ - Primorskii Krai, Terney, on *Caltha* flowers, 27.V 1982 (V. Mutin); Violovitsh, 1988: 120; Mutin & Gritskevich, 1998: 73.

MATERIAL. 48 specimens: Primorskii krai [Terney (paratypes), Kavalerovo, Kamenushka, Luk'yanovka, De-Friz, Vladivostok, Kedrovaya Pad'].

DISTRIBUTION. Russia: Primorskii krai.

3. *Pipiza austriaca* Meigen, 1822
Fig. 5

Pipiza austriaca: Mutin, 1983: 89; Peck, 1988: 86; Mutin & Barkalov, 1997: 202; Mutin & Gritskevich, 1998: 83.

Pipiza austriaca nigricans Violovitsh, 1988: 117 [syntypes, ♂: West Sayan, 6.VI 1981 (Varlamova); Baikal Reserve, 29.V 1980 (Barkalov), not examined], **syn. n.**

MATERIAL. 24 specimens: Magadanskaya oblast' (Myakit), Kamchatka (Kozyrevsk), Khabarovskii krai (Mayochan, the mouth of Gorin River, Komsomolsk-na-Amure, Dappy), Primorskii krai (Kavalerovo), Sakhalin (Solov'evka, Yuzhno-Sakhalinsk, Aniva).

DISTRIBUTION. Russia (Magadanskaya oblast', Khabarovskii krai, Primorskii krai, Kamchatka, Sakhalin; Siberia, European part), Kazakhstan, Caucasus, West Europe, Japan.

4. ***Pipiza bimaculata*** **Meigen, 1822**
Fig. 9

Pipiza bimaculata: Zimina, 1981: 32; Violovitsh, 1988: 125; Mutin & Barkalov, 1997: 202; Mutin & Gritskevich, 1998: 83; Gritskevich, 1997: 128; 1998: 12; Mutin, 1999: 5.

Neocnemodon nox Violovitsh, 1978: 179 [holotype, ♂ - Sakhalin, environs of Yuzhno-Sakhalinsk, 26.VI 1953 (N. Violovitsh)], synonymized by Mutin & Barkalov, 1997: 202; Violovitsh, 1982: 199; 1983: 72;

Pipiza nox: Mutin, 1988: 131.

Pipiza sachalinica Violovitsh, 1988: 123, Fig. 13, V [types, ♂ - Sakhalin, environs of Yuzhno-Sakhalinsk, 27.V 1955 and 18.VI 1955 (N. Violovitsh)], synonymized by Mutin & Barkalov, 1997: 202.

Pipiza notata: Zimina, 1981b: 32.

MATERIAL. 178 specimens: Amurskaya oblast' (Nyukzha, Zeya, Shimanovsk), Khabarovskii krai (Mayochan, the mouth of Gorin River, Khal'gaso, Komsomolsk-na-Amure, Pivan'), Primorskii krai (Kavalerovo, Chernigovka, Vladivostok, Bol'shoy Kamen'), Sakhalin (Lyutoga River, Solov'evka, Yuzhno-Sakhalinsk, Chapaevo, Aniva), Kuril Islands (Iturup, Kunashir).

DISTRIBUTION. Russia (south of Khabarovskii krai, Amurskaya oblast', Primorskii krai, Kamchatka, Sakhalin, south Kuril Islands; Siberia, European part), West Europe, Kyrgyzstan, Mongolia, Japan.

NOTES. Quite possible that complex of similar species may be under the name **"***bimaculata"*; eurytropic characteristic and strong variability of this taxon are the indirect confirmation of the supposition. According to A. Ssymank (Ssymank et al., 1999) *P. notata* Meigen, 1822 from Europe is the synonym of *P. bimaculata*.

5. ***Pipiza convexifrons*** **Violovitsh, 1985**
Fig. 7

Pipiza convexifrons Violovitsh, 1985: 203 [holotype, ♂ - West Sayan, Abaza, 6.VI 1981 (Varlamova), not examined].

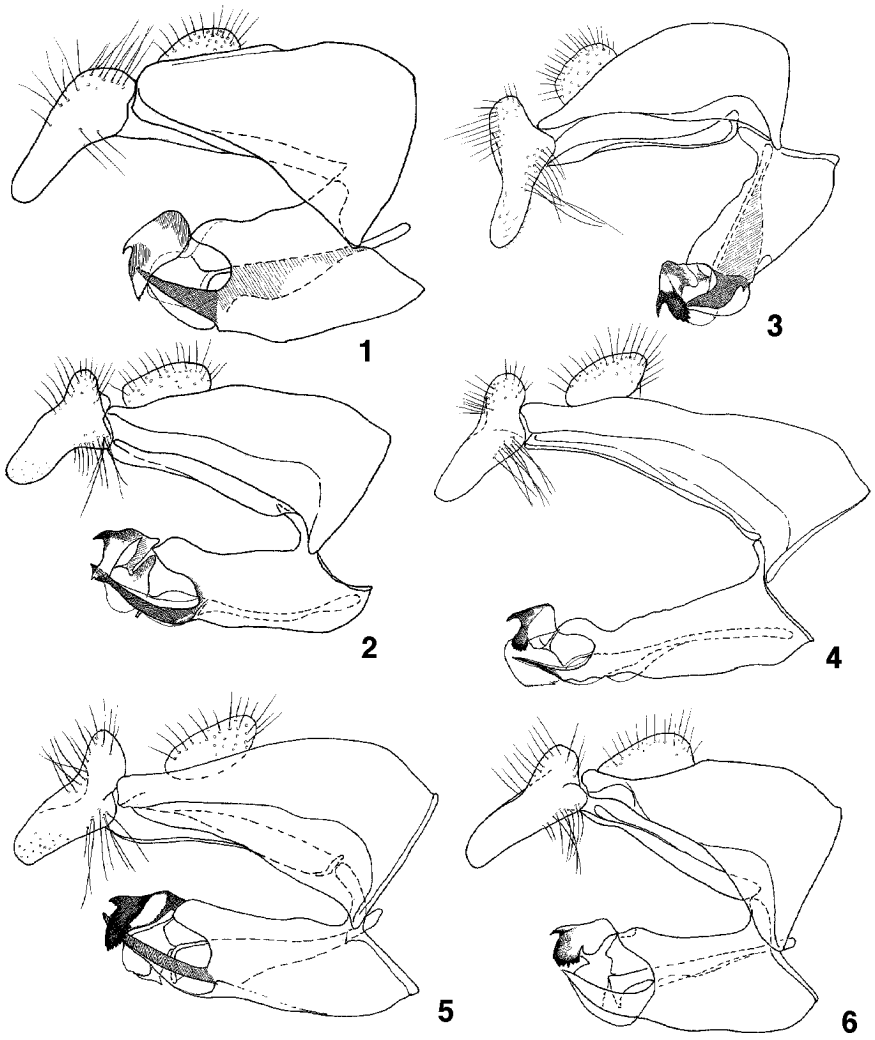
MATERIAL. 4♂: Komsomolsk-na-Amure, Silinskiy Park, 20.V, 2.VI 1986, 23.V 1987 (Mutin); 1♂, Khabarovskii krai, Pivan', 30.V 1991 (Mutin).

DISTRIBUTION. Russia (*south of Khabarovskii krai; West Sayan).

6. ***Pipiza fenestrata*** **Meigen, 1822**
Fig. 10

MATERIAL. 34 specimens: Khabarovskii krai (Komsomolsk-na-Amure, Pivan'), Amurskaya oblast' (Natal'ino), Primorskii krai (Terney, Mt Ol'khovaya, Anisimovka, Kamenushka, Vladivostok, Ryasanovka), Sakhalin (Solov'evka).

DISTRIBUTION. Russia (*south of Khabarovskii krai, *Amurskaya oblast', *Primorskii krai, *Sakhalin; Buryatiya), West Europe.



Figs 1-6. *Pipiza* spp., male genitalia, lateral aspect: 1) *P. maritima*, sp. n.; 2) *P. nitidifrons* sp. n.; 3) *P. poday* sp. n.; 4) *P. lesovik* sp. n.; 5) *P. austriaca*; 6) *P. aurea*.

7. *Pipiza lugubris* (Fabricius, 1775)
Fig. 8

Pipiza lugubris: Violovitsh, 1960: 221; 1976: 334; 1982: 199; 1983: 66; 1988: 119; Zimina, 1976: 139; 1981a: 159; 1981b: 32; Mutin, 1983: 90; Peck, 1988: 87, Mutin & Barkalov, 1997: 202; Mutin, 1999: 5.

MATERIAL. 42 specimens: Amurskaya oblast' (Novospassk), Primorskii krai (Terney, Kavalerovo, Tekhmenevo, Novogeorgievka, Novokackalinsk, Benevskoe, Lasovka River, Kievka, Brovnichi, Anisimovka, Kamenushka, Borisovka River, Vladivostok, Kedrovaya Pad', Ryasanovka, Khasan), Sakhalin (Solov'evka), south Kuril Islands (Kunashir, Shikotan, Yuriy, Anuchina).

DISTRIBUTION. Russia (south of Khabarovskii krai, Amurskaya oblast', Primorskii krai, Sakhalin, south Kuril Isl.; West Siberia, European part), West Europe, Kyrgyzstan, Mongolia, Japan.

8. *Pipiza magnomaculata* Violovitsh, 1985

Fig. 11

Pipiza magnomaculata Violovitsh, 1985b: 88 [holotype, ♂ - Primorskii Krai, environs of Ussuriysk, 8.V 1978 (Barkalov), examined]; 1988: 114; Mutin & Gritskevich, 1998: 83.

MATERIAL. 65 specimens: Khabarovskii krai (Komsomolsk-na-Amure, Pivan'), Primorskii krai (Terney, Kamenushka, Vladivostok, De Friz).

DISTRIBUTION. Russia (south of Khabarovskii krai, Primorskii krai).

9. *Pipiza mutini* Violovitsh, 1985

Pipiza mutini Violovitsh, 1985a: 204 [holotype, ♂ - Primorskii krai, Sikhote-Alin, 30 km N Terney, on Potentilla flowers, 29.V 1982 (V. Mutin), examined]; 1988: 117.

MATERIAL. The holotype only.

DISTRIBUTION. Russia (Primorskii krai).

NOTE. Quite possible that this species is a pale form of *P. quadrimaculata*.

10. *Pipiza nielseni* Violovitsh, 1985

Pipiza nielseni Violovitsh, 1985a: 203 [holotype, ♂ - Primorskii krai, 30 km N Terney, on Potentilla flowers, 31.V 1982 (V. Mutin), not examined]; 1988: 119.

DISTRIBUTION. Russia (Primorskii krai).

NOTES. The original description of *P. nielseni* looks very similar to *P. convexifrons*, but original figures of "genitalia fragments" (Violovitsh, 1985a: 204, as "*Pipiza tincta*") do not permit me synonymize these species. In his review of the genus *Pipiza* (Violovitsh, 1988) placed *P. nielseni* together with *P. accola* Viol. (as *magadanica* Viol.) in the one couplet, that I regard as additional argument for similarity of *P. nielseni* and *P. convexifrons*.

11. *Pipiza quadrimaculata* (Panzer, 1804)

Pipiza quadrimaculata: Violovitsh, 1960: 221; 1976: 334; 1982: 199; 1983: 65; Mutin, 1983: 90; Peck, 1988: 88, Mutin & Barkalov, 1997: 202; Mutin & Gritskevich, 1998: 83; Gritskevich, 1997: 128; 1998: 12.

Pipiza insolata Violovitsh, 1985a: 207 [holotype, ♂ – Sakhalin, Yuzhno-Sakhalinsk, 26.VI 1953 (N. Violovitsh), examined], synonymized by Mutin &Barkalov, 1997: 202; 1988: 118.

MATERIAL. 280 specimens: Khabarovskii krai (Suluk-Makit River, Myaochan, Shargol', Khal'gaso, Pivan'), Sakhalin (Lyutoga River, Solov'evka, Yuzhno-Sakhalinsk, Aniva), Kuril Islands (Kunashir).

DISTRIBUTION. Russia (south of Khabarovskii krai, Amurskaya oblast', Primorskii krai, Sakhalin, south Kuril Is.; Siberia, European part), West Europe, Kyrgyzstan, Mongolia, North America.

12. *Pipiza singula* Violovitsh, 1985

Pipiza singula Violovitsh, 1985b: 93 [holotype, ♂ – South of Primorskii krai, 10 km S Blagodatnoye, 17.VIII 1981 (V. Mutin), not examined].

MATERIAL. 5♀: Khabarovskii krai (Komsomolsk-na-Amure), Primorskii krai (Kamenushka, Vladivostok, Kievka, Preobrazhenie).

DISTRIBUTION. Russia (*south of Khabarovskii krai, Primorskii krai).

NOTES. According to original description of *P. singula* this species differs remarkably from other Palaearctic species by very thick hind femora as well as a combination of following characters: antennae fixed below the middle of eye height, frontal angle acute, facial pilose black, wing hyaline (Violovitsh, 1985b). I identified some females from the south Russian Far East as *P. singula*. They differ from other known species by a combination of following characters: body length 7.0-7.5 mm; antennae unicolor, brown; flagellomere distinctly elongate; wing with weakly developed brownish maculae or at the least darkish medially; pro- and mesotarsus with yellow 2 basal tarsomeres; apex of basotarsomere and second tarsomere of metatarsus wholly yellow; pro- and metataibia yellow on basal third; mesofemur shining, distinctly carinate apico-ventrally and rather strongly thickened (the ratio of thickness/length as 1:3 or 1:3,5); abdomen with yellow triangular maculae on tergum 2.

13. *Pipiza maritima* Mutin, sp. n.
Fig. 1

MATERIAL. Holotype – ♂: Kuril Islands, Kunashir, Cape Ivanovskii, 15.VII 1989 (Barkalov). Paratypes: 2♂, with the same labels as the holotype; 1♀, in the same place as the holotype, 1.VIII 1989 (Zinchenko); 1♀, Kunashir, Dubovoye, 30.VII 1989 (Lelej).

DIAGNOSIS. MALE. Body length 8.0-8.5 mm, length wing 6.2-7.0 mm. Face weakly pollinose, with black pile. Frons shining, with black pile. Frontal angule not more than 110°. Vertex with mainly pale pile. Antenna black; flagellomere short-oval. Thorax with mainly pale pilose, except black pilose of scutum laterally, scutellum

apically and pleuron dorsally. Wing hyaline. Legs mainly black, except basal j of metatibia, basal third and apex of pro- and mesotibiae yellow. Basal tarsomeres of pro- and metatarsi brownish. Metafemur thin, with long pale pile, without conspicuous apicoventral carinae. Abdomen black, with small reddish or yellow maculae on 2nd tergum, with mixed black and pale pile laterally. Terga 2, 3 and 4 with rather erected short black pile basally, long erected pale pile medially and long subpressed black pile apically. Genitalia – Fig. 1.

FEMALE. Body length 7-8 mm, length wing 6.2-7.0 mm. Face weakly shining, with pale pile. Frons shining, with mainly pale pile, except shorter black pile above antennae and near vertex. Vertex with black pile anteriorly and longer pale pile posteriorly. Antennae dark brown. Thorax with pale pilose. Wing hyaline. Legs mainly black, except basal 1/4 of metatibia, basal third and apex of pro- and mesotibiae, two basal tarsomeres of pro- and mesotarsus yellow. Basal tarsomeres of metatarsus brownish dorsally. Abdomen without obvious pale marks. Tergum 3 with subpressed mainly pale pile, except apical band of shorter black pile. Tergum 4 with pale pile, except some very long black pile along posterior margin. Tergum 5 and sternum 5 with apical fringe of very long rather strong pile.

DISTRIBUTION. Russia [south Kuril Islands (Kunashir)].

NOTE. This species is similar to *P. bimaculata*, but differs by more extensive pale pilose as well as unusual form of surstyli.

14. *Pipiza nitidifrons* Mutin, sp. n.
Fig. 2

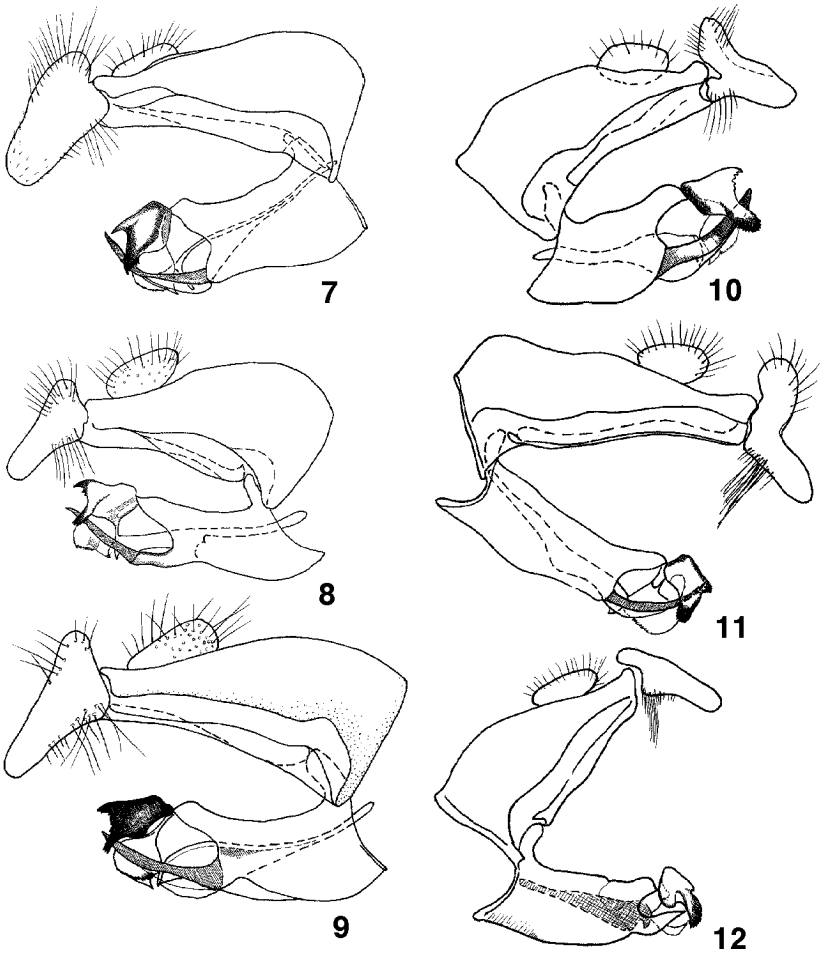
MATERIAL. Holotype - ♂: Komsomolsk-na-Amure, 7.VII 1977 (Mutin). Paratypes: 1♂, Amurskaya oblast', Malyi Khingan, Kundur, 22.VII 1988 (Makarkin); 1♂, Kuril Islands, Kunashir, Cape Ivanovskii, 14.VII 1989 (Barkalov).

DIAGNOSIS. MALE. Body length 6.5-7.5 mm, wing length 5.5-6.0 mm. Face weakly pollinose, with as the rule black pile. Frons bright shining, with black pile. Frontal angle near 90° or a little more. Vertex with mainly pale pile. Thorax as a rule entirely pale pilose (continental specimens) or black pilose with medial vitta of pale pile (island specimens). Wing hyaline. Legs mainly black, except basal third and apex of pro- and mesotibiae yellow. Metafemur shining, distinctly thickened, without developed apicoventral carinae. Abdomen rather narrow. Abdominal margin mainly pale pilose (continental specimens) or almost wholly black pilose (island specimens). Terga with short and mainly black pile dorsally, without pale marks. Genitalia – Fig. 2.

FEMALE unknown.

DISTRIBUTION. Russia (south of Khabarovskii krai, Amurskaya oblast', south Kuril Islands).

NOTE. This species differs from the most Palaearctic species by narrow abdomen and brightly shining frons; it is more similar to *P. bimaculata*, but have different pattern of male genitalia.



Figs 7-12. *Pipiza* spp., male genitalia, lateral aspect: 7) *P. convexifrons*; 8) *P. lugubris*; 9) *P. bimaculata*; 10) *P. fenestrata*; 11) *P. magnomaculata*; 12) *P. accola*.

15. *Pipiza poday* Mutin, sp. n.
Fig. 3

MATERIAL. Holotype – ♂: Lower Amur, the mouth of Gorin River, Adyurma Stream, 4.VI 1986 (Mutin). Paratypes: 2♂, Khabarovskii Krai, environs of Pivan, Bel'go River, 28, 29.V 1991 (Mutin); Komsomolsk-na-Amure, Silinskii Park, 11.V 1985 (Mutin).

DIAGNOSIS. MALE. Body length 6.0-7.5 mm, wing length 5.2-6.0 mm. Face and frons barely pollinose, with black pile. Vertex and occiput with black pile. Antenna mainly brown; flagellomere short-oval, reddish basoventrally. Thorax with almost entirely black pilose, except small mixture of pale pile on scutum medially. Membrane of wing rather unicolor, brownish. Legs mainly black; except basal tarsomeres of pro- and mesotarsi, basal third and apex of pro- and mesotibiae brownish. Abdomen black, without pale marks, with mainly black pile; lateral margin of 2nd tergum with black pile, lateral margin of terga 3 and 4 with mainly pale pile. Genitalia – Fig. 3.

FEMALE unknown.

DISTRIBUTION. Russia (south of Khabarovskii krai).

16. *Pipiza lesovik* Mutin, sp. n.
Fig. 4

MATERIAL. Holotype - ♂: Komsomolsk-na-Amure, Silinskii Park, 21.V 1986 (Mutin).

DIAGNOSIS. MALE. Body length 9.0 mm, wing length 7.0 mm. Face pale-pollinose, with pale pile. Frons pale-pollinose, with short dark pile above antennae and longer pale pile on flatted posterior part. Frontal angle near 100°. Antenna mainly brown; small short-oval flagellomere reddish basoventrally. Vertex with pale pilose. Thorax, abdomen and legs with pale pile. Wing hyaline. Basal third and apex of pro- and mesotibiae yellow. Protarsus mainly yellow except basal tarsomere darkened dorsally. Mesotarsus yellow, with dark 2 apical tarsomeres. Metafemur weakly thickened toward apex, with hardly visible apicoventral carinae, covered by dense short yellow pile. Basal *j* of metatibia yellow. Metatarsus mainly yellow except basal tarsomere brown dorsally and weakly darkened 2 apical tarsomeres. Tergum 2 with rather narrow almost rectangular dull yellow maculae. Genitalia – Fig. 4.

FEMALE unknown.

DISTRIBUTION. Russia (south of Khabarovskii krai).

NOTE. This species is similar to the West-Palaearctic species, *P. festiva* (sensu Stackelberg, 1970) and *P. fasciata* (sensu Stackelberg, 1970), which have also extensive yellow coloration of tarsi and tibiae, but *P. lesovik* differs from them by an absence of dark medial maculae on wing and bicolor short-oval flagellomere as well as the male genitalia. New species differs well from Japanese ones with yellow maculae on second tergum by absence of dark medial macula on wing and of dark pilose on legs.

KEY TO THE FAR EASTERN SPECIES

1. Males: eyes contiguous dorsally (holoptic) 2
– Females: eyes widely separated by frons (dichoptic) 18
2. Metafemur with strong developed double apicoventral carina, covered by hard black pile. Genitalia – Fig. 5. 8.0-10.0 mm . . . . . ***P. austriaca*** Mg.

– Metafemur with weakly developed apicoventral carinae or barely distinguished tracks of ones 3

3. Metafemur very strong thickened; its length near 3 times as long as the thickness. 7.0 mm . . . . ***P. singula*** Viol.

– Metafemur from distinctly thickened to weakly thickened or rather thin, at the least its length near or more 4 times as long as the thickness 4

4. Antennae fixed distinctly below the middle of eye height. Terga 2 and 3 either with a pair of large subrectangular yellow maculae, sometimes tergum 4 with small yellow macula on the right 5

– Antennae fixed near or above the middle of eye height. Tergum 2, as a rule, with a pair of pale maculae. Tergum 3 without pale maculae or with narrower falcate yellow maculae 6

5. Scutum and abdomen with mainly black pile. 6.0-7.5 mm . . . . ***P. quadrimaculata*** Pz.

– Scutum and abdomen with mainly pale pile. 8.0 mm . . . . ***P. mutini*** Viol.

6. Lateral margin of tergum 2 with entirely pale pilose or with a few black pile near posterior corner 7

– Lateral margin of tergum 2 with entirely black pilose or with at the least black pile on posterior half 13

7. Wing with less or more developed medial dark macula, with diffuse outer boundary. Metafemur distictly thickened subapically, as a rule, with sharp spot of short subpressed black pile above apicoventral carinae covered by rather hard black pile. Tergum 2 with well developed yellow maculae. Genitalia – Fig. 10. 7.7-10.3 mm . . . . ***P. fenestrata*** Mg.

– Wing hyaline, without medial dark macula. Metafemur weakly thickened subapically, at the least apicoventral carinae barely visible and covered by long thin pale or rarely black pile. Tergum 2 with yellow maculae or without 8

8. Tergum 3 as a rule with distinct narrow falcate yellow maculae. Tergum 2 with large subtriangular yellow maculae. Sometimes abdomen black entirely. Genitalia – Fig. 11. 8.0-10.5 mm . . . . ***P. magnomaculata*** Viol.

– Tergum 3 without yellow maculae. Tergum 2 with narrow subrectangular yellow or grey pollinose maculae or their tracks, rarely tergum 2 black entirely 9

9. Frons brightly shining. Metafemur thickened near middle. Abdomen black entirely. Genitalia – Fig. 2. 6.5-7.5 mm . . . . ***P. nitidifrons* sp. n.**

– Frons densely pollinose. Metafemur not thickened or weakly thickened toward apex. Tergum 2 with yellow or grey maculae, sometimes maculae strongly reduced 10

10. Pro- and mesotarsi yellow. Frons with mainly pale pile and large apical flat area occupied major portion of frons. Genitalia – Fig. 4. 9.0 mm . . . ***P. lesovik* sp. n.**

– Pro- and mesotarsi brown or darkened dorsally, at the least mesotarsi with dark apical tarsomeres. Frons with mainly dark pile 11

11. Frons normal size; frontal angle less 110°. Pro- and mesotarsi usually yellow basally. Genitalia – Fig. 6. 7.5-8.0 mm . . . . ***P. aurea*** Viol.

– Frons large, inflated; frontal angle near 120-130°. Pro- and mesotarsi usually darkened 12

12. Face with mainly or entirely dark pile. Genitalia – Fig. 7. 7.0-9.0 mm . . . . ***P. convexifrons*** Viol., ***P. nielseni*** Viol.

– Face as a rule with pale pile. Genitalia – Fig. 12. 7.0-9.0 mm . . **P. accola** Viol.

13. Wing with more or less developed medial maculae, with sharp outer boundary, at the least basal tarsomeres of pro- and mesotarsi yellow. Metafemur strong thickened. Tergum 2 wholly black or with weakly visible yellow maculae. Genitalia – Fig. 8. 6.5-9.0 mm . . . . ***P. lugubris*** F.

– Wing hyaline, without dark maculae. Metafemur normal, weakly thickened, at the least basal tarsomeres of pro- and mesotarsi darkened dorsally 14

14. Frons inflated, with dense grey pollinose; frontal angle more 120°. Genitalia – Fig. 12. 7.0-9.0 mm . . . . ***P. accola*** Viol.

– Frons normal size, more or less shining; frontal angle less 110°, usually right . . 15

15. Scutum with mainly pale pile. Tergum 4 with mixed short and long, pale and dark pile. Genitalia – Fig. 1. 8.0-8.5 mm . . . . ***P. maritima*** **sp. n.**

– Scutum with dark pile or with some admixture of pale pile medially. Tergum 4 with uniform short pile. 16

16. Flagellomere brown-reddish, more pale ventrally. Abdomen with blue reflection. Genitalia – Fig. 3. 6.0-7.5 mm . . . . ***P. poday*** **sp. n.**

– Flagellomere wholly deep-brown or black. Abdomen black, without blue reflection. Tergum 2 sometimes with yellow maculae or its tracks 17

17. Frons brightly shining, plump. Abdomen wholly black. Genitalia – Fig. 2. 6.5-7.5 mm . . . . ***P. nitidifrons*** **sp. n.**

– Frons weakly shining, flattened posteriorly. Abdomen sometimes with tracks of pale maculae on tergum 2. Genitalia – Fig. 9. 5.5-7.5 mm . . ***P. bimaculata*** Mg.

18. Wing with more or less distinct darkened medial macula. Metafemur strong thickened 19

– Wing wholly hyaline or with weakly darkish medially. Metafemur from thin to very swollen 22

19. Dark macula of wing with sharp outer boundary 20

– Dark macula of wing with diffuse outer boundary 21

20. Wing with very dark maculae. Abdomen wholly black. 6.5-8.0 mm . . . . ***P. lugubris*** F.

– Wing with weakly developed brownish medial macula. Abdomen with yellow maculae on tergum 2. 7.0-7.5 mm . . . . ***P. singula*** Viol.

21. Tergum 2 with a pair of large, as a rule, joint yellow maculae. Metafemur without distinct apico-ventral carinae. Pro- and mesotarsi entirely or partly yellow. 8.5-10.0 mm . . . . ***P. fenestrata*** Mg.

– Abdomen wholly black. Metafemur with double well developed sharp apico-ventral carina. Pro- and mesotarsi entirely brown or basal tarsomeres paler, brownish. 7.5-9.5 mm . . . . ***P. austriaca*** Mg.

22. Metafemur very strong thickened. Abdomen with a pair of yellow maculae on tergum 2 and tracks of pale maculae on tergum 3. 7.0-7.5 mm . . . . . ***P. singula*** Viol.
– Metafemur thin or moderate-thickened. Abdomen with yellow maculae or wholly black 23
23. Antennae fixed distinctly below the middle of eye height (lateral view). Terga 2 and 3 with usually large subrectangular yellow or reddish maculae, sometimes pale maculae very strong reduced or undistinguished. Flagellomere rounded, paler basoventrally. Frons wide; frontal width before anterior ocellus near 1/3 as wide as width of head. 5.5-8.0 mm . . . . . ***P. quadrimaculata*** Pz.
– Antennae fixed near or above the middle of eye height. Abdomen black entirely or with yellow maculae on tergum 2. Flagellomere uniform dark or partly reddish-yellow. Frontal width before anterior ocellus often less than 1/3 of head width 24
24. Flagellomere uniform black or deep-brown 25
– Flagellomere brown apicodorsally and reddish-yellow basoventrally 26
25. Tergum 4 with short pile; length of its pilose at most near 2 times as long as width of premarginal sulcus. Abdomen with a pair of yellow maculae on tergum 2. 5.5-8.0 mm . . . . . ***P. bimaculata*** Mg.
– Tergum 4 with long pile; length of its pilose at the least near 3 times as long as width of premarginal sulcus. Abdomen without yellow maculae on tergum 2. 7.0-8.5 mm . . . . . ***P. maritima*** **sp. n.**
26. Pro- and mesotarsi entirely or mainly yellow. Metatarsi with tarsomeres 2 and 3 yellow. Pro- and mesotibiae yellow at least in basal third 27
– Pro- and mesotarsi entirely black or partly brown. Pro- and mesotibiae brownish basally. 6.0-7.5 mm . . . . . ***P. convexifrons*** Viol.
27. Larger: 9.0-10.5 mm. Abdomen black wholly or with a pair of yellow maculae on tergum 2, sometimes tergum 3 with very narrow yellow maculae . . . . . ***P. magnomaculata*** Viol.
– Smaller: 6.5-8.5 mm. Abdomen with a pair of more or less narrow yellow maculae on tergum 2 . . . . . ***P. accola*** Viol., ***P. aurea*** Viol.

LIST OF THE SPECIES WRONGLY RECORDED FROM THE RUSSIAN FAR EAST

Pipiza fasciata **Meigen, 1822**

DISTRIBUTION. Siberia, Europe.

NOTE. All records of *Pipiza fasciata* from Russian Far East (Violovitsh, 1983: 65; Peck, 1988: 86; Mutin & Gritskevich, 1998: 83) are based on wrong identification of *P. fenestrata* and *P. magnomaculata*. According to A. Ssymank (Ssymank et al., 1999) *P. fasciata* is the synonym of *P. festiva*.

***Pipiza festiva* Meigen, 1822**

DISTRIBUTION. Siberia, Europe, Kyrgyzstan, Caucasus.

NOTE. All records of *Pipiza festiva* from Russian Far East (Zimina, 1981b: 32; Violovitsh, 1982: 199; 1983: 65; Mutin, 1983a: 89; Peck, 1988: 86, Mutin & Barkalov, 1997: 202; Mutin & Gritskevich, 1998: 83) are based on wrong identification of *P. fenestrata* and *P. magnomaculata*.

***Pipiza noctiluca* (Linnaeus, 1758)**

DISTRIBUTION. Siberia, Europe, Kyrgyzstan, Caucasus.

NOTE. All records of *Pipiza noctiluca* from Russian Far East (Zimina, 1972: 42; 1981a: 159; Violovitsh, 1982: 199; 1983: 66; 1988: 122; Peck, 1988: 87; Mutin & Gritskevich, 1998: 83) are based on wrong identification of *P. magnomaculata*.

***Pipiza signata* Meigen, 1822**

DISTRIBUTION. Siberia, Europe, Japan.

NOTE. All records of *Pipiza signata* from Russian Far East (Zimina, 1972: 42; Mutin, 1983: 90; Violovitsh, 1988: 120; Peck, 1988: 88; Gritskevich, 1997: 128, 1998: 12; Mutin & Gritskevich, 1998: 83) are based on wrong identification of *P. bimaculata* and other small size species. Moreover, according to A. Ssymank (Ssymank et al., 1999) *P. signata* is the synonym of *P. noctiluca*.

***Pipiza dubium* (Lundbeck, 1916)**

DISTRIBUTION. Europe.

NOTE. *Pipiza dubium* was recorded from Primorskii krai (Violovitsh, 1982: 198). This species is the synonym of *Heringia heringi* (Zetterstedt, 1843), which is absent in the Russian Far East (Peck, 1988).

REFERENCES

Gritskevich, D.I. 1997. [Activity and trophic relations of the hoverflies (Diptera: Syrphidae) in the Myaochan range]. – A.I. Kurentsov's Annual Memorial Meetings 7: 125-133. (In Russian).

Gritskevich, D.I. 1998. Hover-flies (Diptera: Syrphidae) in anthophilous complexes of plants of Myaochan range, Khabarovskii krai. – Far Eastern Entomologist 65: 10-14.

Matsumura, S. 1918. New species of the economic Syrphidae of Japan. – J. Coll. Agric. Hokk. Imp. Univ., Sapporo 8 (1): 1–31.

Matsumura, S. & Adachi, J. 1916. Synopsis of the economic Syrphidae of Japan (Pt. I). – Entomological Magazine, Kyoto 2(1): 1–36.

Mutin, V.A. 1983a. [Fauna and ecology of hover flies (Diptera, Syrphidae) as pollinators of some Angiosperms of the Lower Amurland]. – In: Sistematica i ecologo-faunisticheskii obzor nekotorykh otryadov nasekomykh Dal'nego Vostoka. Vladivostok: 86-99. (In Russian).

Mutin, V.A. 1988. [A review of the Far Eastern species of the genus Neocnemodon Goffe, 1944 (Diptera, Syrphidae)]. – In: Zolotarenko, G. S. (ed.). Takonomiya zhivotnykh Sibiri. Novosibirsk: 126-131. (In Russian).

Mutin, V.A. 1999. Hover-flies (Diptera, Syrphidae) collected in Kuril Islands in 1998, with the description of a new species. – Far Eastern Entomologist 80: 1-8.

Mutin, V.A. & Barkalov, A.V. 1997 A review of the hover-flies (Diptera: Syrphidae) of Sakhalin and the Kuril Islands, with descriptions of two-new species. – Species Diversity 2(2): 179-230.

Mutin, V.A. & Gritskevich, D.I. 1998. [Ecology-faunistic outline of the hover-flies (Diptera, Syrphidae) of the Low Amur Territory]. – A.I. Kurentsov's Annual Memorial Meetings 8: 71-86. (In Russian).

Peck, L. V. 1988. Family Syrphidae. – In: Soós, A. (ed.) Catalogue of Palaearctic Diptera. Budapest: 11-230.

Shiraki, T. & Edashige, E. 1953. The Insect Fauna of Mt. Ishizuchi and Omoro Walley, Iyo, Japan. – Trans. of the Shikoku Entomol. Soc., 3 (5–6): 84–125.

Speight, M.C.D. 2001. Species accounts of European Syrphidae (Diptera): Special commemorative issue, First International Workshop on the Syrphidae, Stuttgart 2001. – In: Speight, M.C.D., Castella, E., Obrdlik, P. and Ball, S. (eds.). Syrph the Net, the database of European Syrphidae , Vol. 26. Syrph the Net publications, Dublin: 257 p.

Ssymank, A., Doczkal, C., Barkemeyer, W., Claussen, C., Löhr, P.-W. & Scholz, A. 1999. Syrphidae. - In: Schumann, H., Bährmann, R. & Stark, A. (Hrsg.) Checkliste der Dipteren Deutschlands. – Entomofauna Germanica 2, Studia dipterologica Supplement 2: 195-203.

Violovitsh, N. A. 1960. [A contribution to the knowledge of the hover flies fauna (Diptera, Syrphidae) of Sachalin and the Kuril Isles]. – Trudy Vsesoyuznogo Entomologicheskogo Obshchestva 47: 217-272. (In Russian).

Violovitsh, N. A. 1976. [Materials about sirphid fauna (Diptera, Syrphidae)of Siberia]. – In: Zolotarenko, G. S. (ed.). Fauna gelmintov i chlenistonogikh Sibiri. Novosibirsk: 326-346. (In Russian).

Violovitsh, N. A. 1978. [Some new Palearctic species of hoverflies (Diptera, Syrphidae)]. – In: Cherepanov, A. I. (ed.) Taksonomiya i ekologiya chlenistonogikh Sibiri. Novosibirsk: 172-181. (In Russian).

Violovitsh, N. A. 1982. [Fauna of hoverflies (Diptera, Syrphidae) of the North Asia]. – In: Zolotarenko, G. S. (ed.) Poleznye i vrednye nasekomye Sibiri. Novosibirsk: 184-222. (In Russian).

Violovitsh, N. A. 1983. Sirphidy Sibiri (Diptera, Syrphidae). Opredelitel. Novosibirsk, 241 p.

Violovitsh, N. A. 1985a. [New species of the genus *Pipiza* Fallén (Diptera, Syrphidae) from the Palaearctic fauna]. – In: Zolotarenko, G. S. (ed.) Chlenistonogie Sibiri i Dalnego Vostoka. Novosibirsk: 199-207. (In Russian).

Violovitsh, N. A. 1985b. [New species of syrphids (Diptera, Syrphidae) from the Palaearctic fauna]. – In: Sistematica i biologiya chlenistonogikh i gelmintov. Novosibirsk: 80–96. (In Russian).

Violovitsh, N. A. 1987. [New species of hoverflies (Diptera, Syrphidae) of the Palaearctic fauna] – In: Cherepanov, A.I. (ed.) Nasekomye, kleshchi i gelminty. Novosibirsk: 47-54. (In Russian).

Violovitsh, N. A. 1988. Short review of Palaearctic species of the genus *Pipiza* Fallén (Diptera, Syrphidae). – In: Zolotarenko, G.S. (ed.) Taksonomiya zhivotnykh Sibiri. Novosivirsk: 108-126. (In Russian).

Zimina, L.V. 1972. [Hoverflies (Diptera, Syrphidae) of Magadanskaya oblast. Ecology-faunistic outline]. – Byulleten Moskovskogo obshchestva ispytatelei prirody. Otdel biologicheskii 77 (1): 37–45.

Zimina, L.V. 1976. [Rare and interesting Syrphidae (Diptera) of a collection of Zoological Museum MSU, 1.] – Sbornik trudov Zoologicheskogo museya MGU, Moscow 15: 136-148. (In Russian).

Zimina, L.V. 1981a. [Rare and interesting Syrphidae (Diptera) of a collection of Zoological Museum MSU, 2.] – Sbornik trudov Zoologicheskogo museya MGU, Moscow 19: 150-170. (In Russian).

Zimina, L.V. 1981b. [Syrphids (Diptera, Syrphidae) of the north of Amurskaya Oblast]. – In: Sokolov, L.I. & Shatalkin, A.I. (eds.). Ecologo-faunisticheskie issledovaniya. Biologicheskie resursy territorii v zone stroitelstva BAM. Moscow: 27–38. (In Russian).

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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