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Muscidae (Insecta: Diptera) from the Kamchatka Peninsula and North Kuril Islands

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Abstract Twenty-four species of muscid flies, belonging to ten genra and four subfamilies, collected during the Biological Expedition to the Kamchatka Peninsula and North Kuril Islands in 1996 and1997, are recorded. Among them, four are new to science. Most of the recorded species are distributed in the Palaearctic regions, and some of them occur in Japan.

Key words: Muscidae, Diptera, Kamchatka Peninsula, Kuril Islands, new species.

The muscid fauna of the Kamchatka Peninsula and Kuril Islands has been poorly studied. According to the Catalogue of Palaearctic Diptera (Pont, 1986), the Kamchatka Peninsula falls within the Far East province of the former Soviet Union, and more detail distribution for each species is not given.

The Natural History Museum and Institute, Chiba, carried out Biological Expeditions to the Kamchatka Peninsula and North Kuril Islands in 1996 and 1997. It was a part of the project entitled "The Origin and Biogeography of the Northeast Asian Biota", in co-operation with the Institute of Biology and Pedology and the Institute of Marine Biology of the Far Eastern Branch of the Russian Academy of Sciences, Vladivostock.

More than 75 years preceeding the expedition made by Natural History Museum, Chiba, Swedish Expedition to Kamtchatka have done in 1920–1922. Among the results of entomological survey, Diptera Brachycera 3., Fam. Muscidae including Anthomyiidae and Fanniidae was reported by O. Ringdahl in 1930. In the report, he listed 13 genera and 25 known species and described five new species of muscid flies.

In the present paper, we have studied the muscid material which was collected during the expedition to the Kamchatka Peninsula and North Kuril Islands in 1996 and 1997. We added another 19 species besides Ringdahl's report. Among the ten genera and 24 species recorded, four species are described as new species.

Materials and Methods

Specimens were collected at 16 sites on the Kamchatka Peninsula, during the periods 3rd to 17th July 1996, 7th to 10th July 1997 and 27th July to 5th August 1997. On the North Kuril Islands, muscids flies were collected at six sites on Paramushir Island and one site from Shumshu Island during the periods 11 th to 24th July 1997. The localities are shown in Figs. 1 and 2 and detailed information is given below.

Kamchatka Peninsula

KP-1: 5 km west of Mt. Vilyuchinsky (52°42′N, 158°10′E), alt. ca.150 m.

KP-2: Bystraya River (riverside) 11 km north of Malki, (53°26′N, 157°32′E), alt. ca. 220 m.

KP-7: Basin of Bystraya river, 10 km southeast of Anavgay (56°02′N, 159°04′E), alt. ca. 310 m.

KP-12: Hot Spring (riverside), Malki (52°25′N, 157°30′E), alt. ca. 20 m.

KP-13: 10 km south of Paratunka (52°53′N,

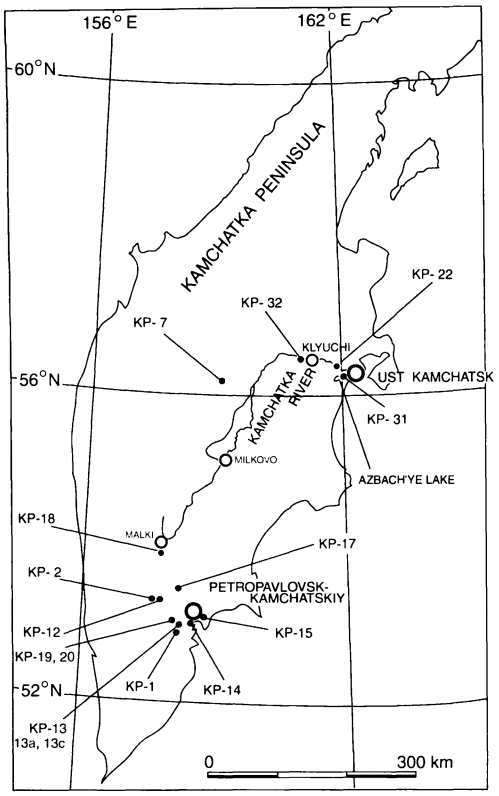


Fig. 1. Map of sampling sites in the Kamchatka Peninsula. For detailed explanations, see text.

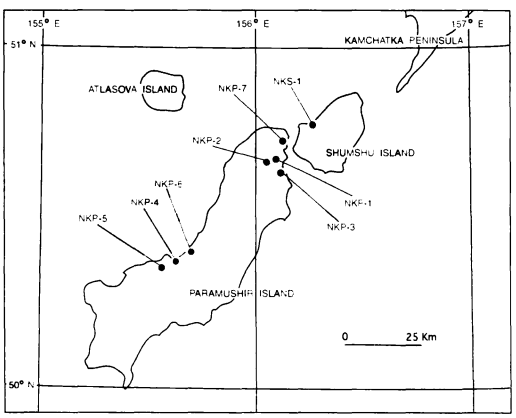


Fig. 2. Map of sampling sites in the North Kuril Islands. For detailed explanations, see text.

158°11′E), alt. ca. 100 m.

KP-13a: 5 km south of Paratunka (52°57′N, 158°14′E), alt. ca. 120 m.

KP-13c: 14 km south of Paratunka (52°50′N, 158°09′E), alt. ca. 100 m.

KP-14: Tikhayia River, about 30 km from Petropavlovsk-Kamchatskiy (53°05′N, 158°22′E), alt. ca. 40 m.

KP-15: Nagornyi, near Petropavlovsk-Kamchatskiy (53°07′N, 158°31′E), alt. ca. 150 m.

KP-17: Poperechnaya River, Bystraya River basin, 17 km from main road (53°22–23′N, 157°41′E), alt. ca. 400 m.

KP-18: Bystraya River basin, 30 km north of Ganaly (53°58′N, 157°45′E), alt. ca. 390 m.

KP-19: Mt. Vachkazhets, upper part of Takhkoloch River, Basin of Plotnikova (53°05′N, 157°55′E), alt. ca. 550 m.

KP-20: Mt. Vachkazhets, upper part of Takhkoloch River, Basin of Plotnikova (53°04′N, 157°55–56′E), alt. ca. 600 m.

KP-22: Ebet Mountains (south part), 42 km northwest of Usuti-Kamchatsk (56°30′N, 161°59′E), alt. ca. 150 m.

KP-31: Lotnaya River, near Azhabach'ye Lake (56°06′N, 161°52′E), alt. ca. 20 m.

KP-32: 25 km west of Klyuchi (56°19′N, 160°24′E), alt. ca. 150 m.

North Kuril Islands: Paramushir Island

NKP-1: Matrosskaya River, near Severo-Kurilsk (50°39′N, 156°05′E), alt. 60 m.

NKP-2: Matrosskaya River, near Severo-Kurilsk (50°40′N, 156°05′E), alt. 30–128 m.

NKP-3: 3–8 km south of Severo-Kuril'sk (50°38′N, 156°08′E), alt. 5–30 m.

NKP-4: Shelekhovo (50°22′N, 155°37′E), alt. 10 m.

NKP-5: Shelekhovo to Shimoyur River (50°22′N, 155°37′E ⇔50°22′N,155°34′E), alt. 0–100 m.

NKP-7: 4 km north of Severo-Kurilsk (50°43′N, 156°08′E), alt. 100 m.

North Kuril Islands: Shumshu Island

NKS-1: Lake Bol'shoye (50°46′N, 156°15′E), alt. 15 m.

Specimens were collected by sweeping with an entomological net in grassland, marsh and shrub around rivers. Holotypes of the new species are preserved in the Institute of Biology and Soil Sciences, Far Eastern Branch of the Russian Academy of Sciences (IBP), and paratypes and other specimens are preserved in the Natural History Museum and Institute, Chiba (CBM) and the National

Science Museum, Tokyo (NSMT).

Abbreviations for descriptive text used in this paper are listed below; ac: acrostichal bristle; *ad*: antero-dorsal; apical: apicoscutellar bristle; av: antero-ventral; d: dorsal; p: posterior; dc: dorsocentral bristle; ds: discoscutellar bristle; h: humeral bristle; ia: intra-alar bristle; laterals: lateroscutellar bristles; nt: notopleural bristle; pa: post-alar bristle; pd: postro-dorsal; ph: post humeral brislte; pra: prealar seta(e); prs: presutural bristle; pv: postero-ventral, sa: supra-alar bristle; scut: scutellar bristle; st: sternopleural bristle; v: ventral.

For each species, the following information is given: scientific name, reference to original description, site of collection (abbreviation), number of specimens, date, registration number, known distribution, and remarks, if necessary. Collector's names are abbreviated as follows. AS: Akiko Saito; RBK: Ryoichi B. Kuranishi.

Taxonomic Accounts

1. *Thricops hirtulus* (Zetterstedt, 1838)

Anthomyza hirtula Zetterstedt, 1838: 673.

Material examined. **KP-17:** 1 female, 27. VII. 1997, RBK leg., CBM-ZI 81584; **KP-18:** 13 males, 99 females, 30. VII. 1997, AS leg., CBM-ZI 81558, 81560–81578, 81585–81605, 81771–81813, 81833–81835, 81840–81843; **KP-19:** 1 male, 17. VII. 1996, RBK leg.; 1 male, 3 females, 3. VIII. 1997, AS leg., CBM-ZI 81581, 81838, 81839; **NKP-2:** 2 males, 1 female, 14. VII. 1997, RBK leg., CBM-ZI 81628; **NKP-5:** 1 male, 4 females, 17. VII. 1997, AS leg., CBM-ZI 81612, 81613, 81845, 81846, 81878; **NKS-1:** 10 males, 14 females, 21–22. VII. 1997, RBK leg., CBM-ZI 81583, 81615–81627, 81829–81831; 1 male, 6 females, 21. VII. 1997, AS leg., CBM-ZI 81582, 81610, 81611, 81847.

Distribution. Europe, Russia, Mongolia, Kamchatka Peninsula, North Kuril Islands, Japan; Nearctic region.

2. *Thricops spiniger* (Stein, 1904)

Thricops spiniger Stein, 1904: 428.

Material examined. **KP-18:** 21 males, 30. VII. 1997, AS leg., CBM-ZI 81836, 81862–81874; KP-19: 1 male, 3. VIII. 1997, AS leg., CBM-ZI 81875; **NKP-7:** 1 male, 24. VII. 1997, AS leg., CBM-ZI 81837; **NKS-1:** 2 males, 21–22. VII. 1997, RBK leg., CBM-ZI 81876, 81877.

Distribution. Russan Far East; Nearctic Region.

3. *Thricops cunctans* (Meigen, 1826)

Anthomyia cunctans Meigen, 1826: 133.

Material examined. **KP-2:** 3 males, 1 female, 5. VII. 1996, RBK leg., CBM-ZI 81668, 81706; **KP-13c:** 1 female, 17. VII. 1996 RBK leg., CBM-ZI 81861; **KP-14:** 1 female, 9. VII. 1997, RBK leg., CBM-ZI 81667; 1 male, 7. VII. 1997, AS leg., CBM-ZI 81702; **KP-18:** 11 males, 11 females, 30. VII. 1997, AS leg. CBM-ZI 81559, 81579, 81606–81609, 81653–81656, 81691–81697, 81766, 81819–81820, 81828, 81844; **KP-19**: 1 female, 17. VII. 1996, RBK leg.; 1 male, 2 females, 3. VIII. 1997, AS leg., CBM-ZI 81580, 81614, 81703; **KP-31:** 3 males, 1 female, 12. VII. 1996, RBK leg., CBM-ZI 81704, 81705, 81747; **KP-32:** 2 females, 10. VII. 1996, RBK leg.; **NKP-2:** 8 males, 12 females, 14. VII.1997, RBK leg., CBM-ZI 81663–81666, 81707, 81708, 81745, 81746, 81767–81770, 81822-81827, 81851, 81852; **NKP-5:** 4 males, 40 females, 17. VII. 1997, AS leg., CBM-ZI 81639–81652, 81709–81712, 81753–81765, 81821, 81853–81858; 2 females, 17. VII. 1997, RBK leg., CBM-ZI 81859, 81860; **NKP-7:** 9 males 17 females, 24. VII. 1997, AS leg., CBM-ZI 81657–81662, 81698–81701, 81742–81744, 81748–81752, 81814–81818, 81848–81850; **NKS-1:** 1 male, 3 females, 21. VII. 1997, AS leg., CBM-ZI 81638, 81690, 81713, 81714; 25 males, 36 females, 22. VII. 1997, RBK leg., CBM-ZI 81629–81637, 81669–81689, 81715–81741, 81832.

Distribution. Europe, Russia, Mongolia, Kamchatka Peninsula, North Kuril Islands, Japan.

4. *Thricops coquilletti* (Malloch, 1920)

Trichopticus coquilletti Malloch, 1920: 156.

Material examined. **KP-2:** 1 female, 5. VII. 1996, RBK leg., CBM-ZI 81890; **KP-12:** 1 male, 1 female, 17. VII. 1996, RBK leg.; **NKP-1:** 1 male, 1. VII. 1997, RBK leg.; **NKP-4:** 2 fe-

males, 15–16. VII. 1997, RBK leg., CBM-ZI 81892; **NKP-5:** 3 females, 17. VII. 1997, AS leg., CBM-ZI 81891; **NKS-1:** 5 males, 21 females, 21–22. VII. 1997, RBK leg. CBM-ZI 81879–81889.

Distribution. Northern Europe, Mongolia, Kamchatka Peninsula, North Kuril Islands.

5. *Morellia aenescens* Robineau-Desvoidy, 1830

Morellia aenescens Robineau-Desvoidy, 1830: 406.

Material examined. **KP-18:** 1 female, 30. VII. 1997, AS leg., CBM-ZI 82091.

Distribution. Europe, Russia, Mongolia, China, Kamchatka Peninsula, Japan.

6. *Mesembrina decipiens* Loew, 1873

Mesembrina decipiens Loew, 1873: 239.

Material examined. **KP-15:** 1 female, 26. VII. 1997, RBK leg., CBM-ZI 81947.

Distribution. Asian part of Russia, Mongolia, Kamchatka Peninsula, Korea, China.

7. *Mesembrina resplendens* Wahlberg, 1844

Mesembrina resplendens Wahlberg, 1844: 66.

Material examined. **KP-17:** 1 female, 27. VII. 1997, AS leg., CBM-ZI 81946.

Distribution. Europe, Russia, China, Kamchatka Peninsula, Japan.

Remarks. Zimin (1951) described *Mesembrina gracilior* and recorded it from the Kamchatka Peninsula, Sakhalin and the Urals. However, Hennig (1964) synonymized *M. gracilior* with *M. resplendens* and considered *M. resplendens sensu* Zimin as an unnamed species or subspecies. Pont (1986) also treated *Mesembrina gracilior* as a synonym of *Mesembrina resplendens*, and *M. resplendens* Zimin as an unnamed species. According to the suggestion of Mr. A, C, Pont, Hope Entomological Collection, Oxford, *M. resplendens sensu* Zimin is actually *Mesembrina alascensis* Townsend, which is known from the western Nearctic and eastern Palaearctic regions.

8. *Phaonia hybrida* (Schnabl, 1888)

Aricia hybrida Schnabl, 1888: 396.

Material examined. **KP-13a:** 1 male, 1 female, 7. VII. 1997, AS leg., CBM-ZI 81948; **KP-13:** 1 male, 1 female, 7. VII. 1997, RBK leg., CBM-ZI 81959, 81960; **NKP-5:** 1 male, 1 female, 17. VII. 1997, AS leg., CBM-ZI 81949, 81950; **NKS-1:** 7 males, 6 females, 21–22. VII. 1997, RBK leg., CBM-ZI 81951–81958.

Distribution. Europe, Mongolia, China, Kamchatka Peninsula, North Kuril Islands; western Nearctic region.

9. *Phaonia kamchatkensis* Shinonaga and Zhang, n. sp.

(Figs. 3, 4, 11)

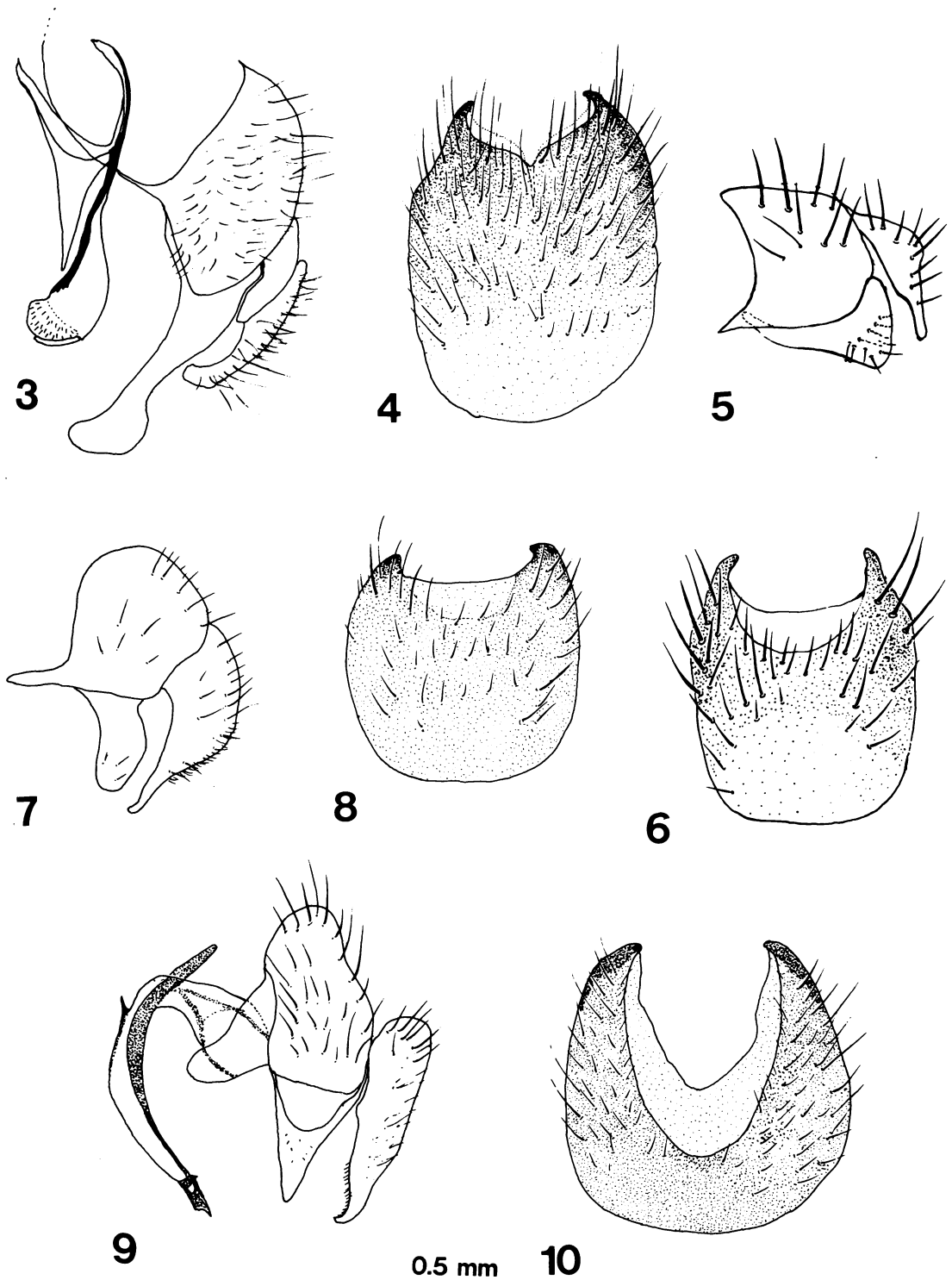
Description. Body length: male 6.0–8.0 mm, female 6.2–6.4 mm.

Male. Head with eyes sparsely covered with short and yellowish hairs; frons, parafacials, genae covered with golden pollen, 7–9 pairs of inclined frontal bristles on anterior half (*ori*), parafrontal bristle (*ors*) absent; frons slightly wider than anterior ocellus, interfrontalia narrow, disappearing at middle, black; parafrontalia with golden pollen, less than interfrontalia width; antenna black, 3rd segment about 2.5 times longer than 2nd; arista pubescent, longest hairs about equal to basal diameter of arista; palpi black and slender; gena about 1/5 of eye height; lunule brownish.

Thorax black, covered with golden pollen, prescutum with 2 brownish black lateral longitudinal vittae; hypopleura, pteropleura, and basisternum of prothorax bare; *ac* 2+4, *dc* 2+4, *ia* 1+3, *h* 2, *ph* 1, *prs* 1, *nt* 2, *pra* strong, longer than 2nd *nt*, notopleuron without hairs; *sa* 2, *pa* 2, *scut* 1 apical, 3 laterals, 1 *ds*; *st* 1+3; mesothoracic spiracle brown, and metathoracic spiracle browish black. Squamae yellow, with margins yellowish brown.

Wings hayline, bases yellow; r_{4+5} paralled with m_{1+2}, basal node bare; halteres orange, knob brownish red.

Legs with femora and tibiae brown except for basal 3/4 of f_1, tarsi black, pulvilli yellowish. f_1 with a complete row of *pd* and *pv*, t_1 with 2 median *pv*; f_2 with a row of *av* and *pv*, t_2 with 1–2 *ad*, 2–3 *pd*, 3 *pv*; f_3 with a complete



Figs. 3–10. Male genitalia and 5th sternites. 3, 4, *Phaonia kamchatkensis,* n. sp.; 5, 6, *Spilogona chishimensis,* n. sp.; 7, 8, *Pseudocoenosia nigra,* n. sp.; 9, 10, *Coenosia shumshuensis,* n. sp. (scale: 0.5 mm).

row of *av* and *pv*, t_3 with 2 *ad*, 1 *pd*, row of *av* on 2/3 apical part and row of slender *p*, 1 apical *ad* and 1 apical *d*.

Abdomen black, covered with golden pollen, with black median vitta on tergites. First sternite bare, 5th sternite and male genitalia as illustrated (Figs. 3, 4).

Female. Frons about 1/3 of head width; f_2 with a row of *pv* on basal half, t_2 with 2 *ad*, 3 *p*, 2 *pv*, apical: 1 *d*, 1 *pd*, 1 *p*, 1 *pv*, 1 *v*; f_3 with a row of *av*, longer in apical 1/3, shorter in basal half, without *pv*; t_3 with 2–3 *av*, 2 *ad*, 1 *pd*.

Type-series. Holotype. **KP-12:** male, 17. VII. 1996, RBK leg., IBP.

Paratypes. **KP-2:** 2 males, 5. VII. 1996, RBK leg., CBM-ZI 81908, 81909; **KP-12:** 10 males, 7 female, 17. VII. 1996, RBK leg., CBM-ZI 81899–81907, 82043–82047; **KP-18:** 2 females, 30. VII. 1997, AS leg., CBM-ZI 81893, 82048; **NKP-1:** 1 male, 1 female, 11, 14. VII. 1997, RBK leg., CBM-ZI 82052; **NKP-5:** 3 males, 2 females, 17. VII. 1997, AS leg., CBM-ZI 81898, 82049, 82050; **NKP-7:** 4 females, 24. VII. 1997, AS, leg., CBM-ZI 82039–82042; **NKS-1:** 2 males, 2 females, 21–22. VII. 1997, RBK leg., CBM-ZI 81894, 81895; 3 females, 21. VII. 1997, AS leg., CBM-ZI 81896, 81897, 82051.

Remarks. This new species is close to *Phaonia subventa* (Harris, 1780), but it differs from the latter in having thorax and abdomen evenly covered with golden pollen.

10. *Phaonia morio* (Zetterstedt, 1845)

Aricia morio Zetterstedt, 1845: 1399.

Material examined. **KP-18:** 1 male, 30. VII. 1997, AS leg., CBM-ZI 81980; **NKS-1:** 2 males, 21–22. VII. 1997, RBK leg., CBM-ZI 81979.

Distribution. Europe, Russia, Kamchatka Peninsula, North Kuril Islands; Nearctic region.

11. *Phaonia basiseta* Malloch, 1920

Phaonia basiseta Malloch, 1920: 133.

Material examined. **KP-22:** 1 male, 11.VI. 1996, RBK leg., CBM-ZI 82352.

Distribution. Far East Russia, Mongolia, China, Kamchatka Peninsula, Japan; Nearctic region.

12. *Phaonia apicalis* Stein, 1914

Phaonia apicalis Stein, 1914: 46.

Material examined. **KP-1:** 1 male, 3. VII. 1996, RBK leg., CBM-ZI 81963; **KP-2:** 1 male, 2 females, 5. VII. 1996, RBK leg., CBM-ZI 81961, 81962.

Distribution. Europe, Russia, Kamchatka Peninsula; Nearctic region.

13. *Helina flavisquama* (Zetterstedt, 1849)

Aricia flavisquama Zetterstedt, 1849: 3287.

Material examined. **KP-2:** 1 male, 5. VII. 1996, RBK leg., CBM-ZI 81982; **KP-7:** 1 female, 9. VII. 1996, RBK leg., CBM-ZI 81984; **KP-12:** 1 female, 17. VII. 1996, RBK leg., CBM-ZI 81983; **KP-19:** 1 female, 3. VIII. 1997, AS leg; **NKP-5:** 2 males, 1 female, 17. VII. 1997, AS leg., CBM-ZI 81985; **NKS-1:** 3 males, 21–22. VII. 1997, RBK leg., CBM-ZI 81987, 81988; 2 females, 21. VII. 1997, AS leg., CBM-ZI 81986.

Distribution. Europe, Russia, Kamchatka Peninsula, North Kuril Islands.

14. *Helina spinicosta* (Zetterstedt, 1845)

Anthomyza spinicosta Zetterstedt, 1845: 1641.

Material examined. **KP-7:** 1 female, 9. VII. 1996, RBK leg., CBM-ZI 82035; **KP-18:** 1 female, 30. VII. 1997, AS leg., CBM-ZI 82038; **NKS-1:** 3 males, 1 female, 21. VII. 1997, RBK leg., CBM-ZI 82036, 82037.

Distribution. Europe, Russia, Kamchatka Peninsula, North Kuril Islands; western Nearctic region.

15. *Spilogona surda* (Zetterstedt, 1845)

Aricia surda Zetterstedt, 1845: 1476.

Material examined. **NKP-5:** 1 male, 17. VII. 1997, AS leg.; **NKS-1:** 10 males, 21–22. VII. 1997, RBK leg., CBM-ZI 81964-81971.

Distribution. Europe, Russia, North Kuril Islands; Nearctic region.

16. *Spilogona chishimensis* Shinonaga and Zhang, n. sp.

(Figs. 5, 6, 12)

Description. Body length of male 5.5–6.1

mm.

Male. Head with eyes bare; frons contiguous, about 1/10 of head width at narrowest point, equal to distance between external margins of posterior ocelli; 8–10 pairs of inclinate *ori* on entire length, reaching anterior ocellus; frontal vitta black, at narrowest part about equal to width of parafrontalia, parafacialia with silver white pollen, slightly wider than 3rd antennal segment; antennae black, 3rd segment about 2–2.5 times as long as wide; arista pubescent, length of longest hairs equal to diameter of aristal base. Gena with grey pollen, about 1/4 of genal height; palpi black, slender.

Thorax dark black, with little grey pollen; *ac* 0+1, *prst ac* in 4 irregular rows; *dc* 2+4, *ia* 1+2, *h* 3(4), *np* 2, without hairs; *pra* absent; propleura, hypoplura, pteropleura, beret, prosternum, lower and lateral surfaces of scutellum bare; *st* 1+2, with few strong bristles around posterior lower bristle. Scutellum with pair of strong subapical and basal bristles respectively, pair of small marginal and prebasal bristles respectively, about 1/2 length of apical scutellar bristle. Mesothoracic and metathoracic spiracles black, small. Squamae brownish black.

Wings dark brown; r_{4+5} and m_{1+2} straight, parallel, based node bare; epaulet black. Haltere orange in apical half, brownish black at base.

Legs black; f_1 with a row of *pd* and *pv* bristles; t_1 without median bristle, with 1 *pv* and 1*d* at apex; f_2 with row of anterior and *pv* bristles on basal half; 2 *pd* bristles on preapical part; t_2 with 2 *p*; f_3 with a row of *ad*, a row of strong *av* on apical half, several *pv* bristles on apical 1/3; t_3 with 2–4 *av* on apical half, 2 *ad*, 2–4 *p*, 1 apical *ad* and 1 apical *av*.

Abdomen black, with greyish pollen, and with a greyish median vitta; 2nd abdominal tergite black, 3rd tergite with pair of rectangular shaped brownish black spots reaching anterior and lateral margins of tergite; 4th tergite with pair of triangular brownish black spots reaching anterior and lateral margins of tergite; 5th tergite with pair of indistinct brown triangular spots. First sternite bare; 5th sternite and male gentalia as illustrated (Figs. 5, 6).

Type-series. Holotype. **NKP-2:** Male, 11. VII. 1997, RBK leg., (IBP).

Paratypes. **NKP-2:** 17 males, 11–14. VII. 1997, RBK leg., CBM-ZI 82013–82027; **NKP-5:** 3 males, 17. VII. 1997, AS leg., CBM-ZI 82028–82030; **NKS-1:** 4 males, 21–22. VII. 1997, RBK leg., CBM-ZI 82031–82034.

Other material. **KP-19:** 1 male, 17. VII. 1996, RBK leg.; **NKP-2:** 20 males, 11–14. VII. 1997, RBK leg., CBM-ZI 81989–82007, 82009; **NKP-5:** 1 male, 17. VII. 1997, AS leg., CBM-ZI 82008; 1 male, 17. VII. 1997. RBK leg., CBM-ZI 82010; **NKS-1:** 2 males, 21–22. VII. 1997, RBK leg., CBM-ZI 82011, 82012.

Distribution. Kamchatka Peninsula, North Kuril Islands.

Remarks. This new species is similar to *Spilogona bruneisquama* (Zetterstedt) and *S. nitidicauda* (Schnabl) but differs from the former species in having a dark spot on the fifth tergite and from the latter in having dark brown squamae. The shape of the male genitalia are different from both species.

17. *Spilogona contractifrons* (Zetterstedt, 1838)

Anthomyza contractifrons Zetterstedt, 1838: 683.

Material exmined. **KP-13c:** 1 male, 3. VII. 1996, RBK leg., CBM-ZI 81977; **NKS-1:** 8 males, 21–22. VII. 1997, RBK leg., CBM-ZI 81972–81975; 1 male, 21. VII. 1997. AS leg., CBM-ZI 81976.

Distribution. Europe, Russia, Kamchatka Peninsula, North Kuril Islands; Nearctic region.

18. *Spilogona baltica* (Ringdahl, 1918)

Limnophora baltica Ringdahl, 1918: 165.

Material examined. **NKP-1:** 2 males, 11. VII. 1997, RBK leg.; **NKP-2:** 8 males, 14. VII. 1997, RBK leg.; **NKP-5:** 1 male, 17. VII. 1997, AS leg. NKP-7: 1 male, 24. VII. 1997, AS leg.; **NKS-1:** 8 males, 21–22. VII. 1997, RBK leg.

Distribution. Europe, western Russia, Kamchatka Peninsula, North Kuril Islands; Nearctic region.

19. *Spilogona setulosa* (Ringdahl, 1941)

Limnophora (*Spilogona*) *setulosa* Ringdahl, 1941: 220.

Material examined. **KP-18:** 1 male, 30. VII. 1997, AS leg; **NKP-2:** 1 male, 14. VII. 1997, RBK leg.; **NKS-1:** 1 male, 21. VII. 1997, AS leg.

Distribution. Northern Europe, Kamchatka Peninsula, North Kuril Islands. This is the first record of this species outside northern Europe.

20. *Graphomya maculata* (Scopoli, 1763)

Musca maculata Scopoli, 1763: 326.

Material examined. **NKS-1:** 1 male, 22. VII. 1997, RBK leg., CBM-ZI 81978.

Distribution. Europe, middle eastern and northern Africa, Russia, Mongolia, China, Korea, Japan; Oriental and Australasian regions.

21. *Lispe tentaculata* (De Geer, 1776)

Musca tentaculata De Geer, 1776: 86.

Material examined. **KP-12:** 1 male, 17. VII. 1996, RBK leg., CBM-ZI 81981.

Distribution. Europe, middle eastern and northern Africa, Russia, Mongolia, Korea, China, Japan; Nearctic, Neotropical and northern Oriental regions.

22. *Coenosia mollicula japonica* Hennig, 1961

Coenosia mollicula japonica Hennig, 1961: 527.

Material examined. **KP-18:** 1 female, 30. VII. 1997, AS leg., CBM-ZI 82090; **KP-20:** 1 female, 3. VIII. 1997, AS leg.; **NKP-2:** 2 males, 14. VII. 1997, RBK leg., CBM-ZI 82088, 82089; **NKP-3:** 1 male, 13. VII. 1997, RBK leg., CBM-ZI 82087; **NKS-1:** 1 male, 22. VII. 1997, RBK leg.

Distribution. Japan, Kamchatka Peninsula, North Kuril Islands.

23. *Coenosia shumshuensis* Shinonaga and Zhang, n. sp.
(Figs. 9, 10, 13)

Description. Body length. Male 4.3–5.4 mm, female 4.3–6.8 mm.

Male. Head with eyes almost bare; with few microscopic hairs; frons about 2/5 of head width, 4 pairs of inclinate *ori* and 1 pair of reclinate *ors* present; interfrontalia greyish black, about 2–2.5 times of width of parafrontalia, parafrontalia, parafacialia with silver grey pollen; ocellar bristle strong, longer than frontal bristle. Antennae black, situated at middle level of eye, length of 3rd antennal segment about 2 times longer than 2nd; arista pubescent, length of longest hairs approximately equal to diameter of aristal base; gena grey, about 3/10 of eye height; frontal angle in front of vibrissal angle in lateral view; palpi black and slender; proboscis small.

Thorax covered with greyish pollen, with two brown stripes along *dc* rows; *ac* 0+0, 2 rows of hair-like setulae; *dc* 2+3, anterior bristle about 1/3–1/2 length of 2nd *dc*; *ia* 1+2, *h* 2, *np* 2, without hairs, *pra* absent; *st* 1+1+1, arranged in an equilateral triangle; scutellum grey, pair of subapical and basal bristles, prebasal scutellar bristle small, about 1/5 of length of basal bristle; hypopleura, pteropleura, prosternum, beret, lower and lateral surfaces of scutellum bare; mesothoracic and metathoracic spracles brownish black, small; squamae small, upper and lower squama about same size, yellowish white.

Wings brownish, hayline, costa vein ending at top of m_{1+2}; r_{4+5} and m_{1+2} straight at tips, parallel; epaulet black. Halteres orange at base, yellowish at tip.

Legs greyish black, fore coxa and femur black, fore trochanter, apical part of femur, tibia, tarsi orange brown; mid and hind coxae, apical half of femora, tarsi black, mid and hind trochanters, basal half of femora, tibiae orange-brown. f_1 with a row of *av, pd* and *pv* bristles, t_1 with 1 median *p* bristle, 1 *ad,* 1*d,* 1 *p* at apex; f_2 with row of *av* and *pv* bristles, row of anterior bristles in basal half, 2 preapical *ad*; t_2 with 1 *ad*, 1 *pd* on middle, 1 *av*, 1 *ad*, 1 *d*, 1 *pd*, 1 *pv* at apex; f_3 with row of *av* and *pv* bristles respectively, *av* row sparse and strong; t_3 with 1 *av*, 1 *ad*, 1 *pd* on middle, 1 *av*, 1 *ad*, 1 *a*, 2 *d* (larger and smaller) at apex.

Abdomen covered with grey pollen, long and cylindrical; 2nd tergite grey; 3rd to 5th tergites each with pair of brown circular spots; 1st sternite bare. Fifth sternite and male gentalia as illustrated (Figs. 9, 10).

Type-series. Holotype. **NKS-1:** male, 22. VII. 1997, RBK leg., (IBP).

Paratypes. **KP-13c:** 1 female, 3. VII. 1996, RBK leg., CBM-ZI 81928; **NKP-2:** 5 males, 14.

VII. 1997, RBK leg., CBM-ZI 81940-81944; **NKP-4:** 1 female, 19. VII. 1997, RBK leg. CBM-ZI 81926; **NKP-5:** 1 male, 1 female, 17. VII. 1997, AS leg., CBM-ZI 81927; **NKP-7:** 1 male, 1 female, 24. VII. 1997, AS, leg., CBM-ZI 81925, 81945; **NKS-1:** 1 male, 21. VII. 1997, AS leg., CBM-ZI 81939; 7 males, 17 females, 21–22. VII. 1997, RBK leg. CBM-ZI 81910–81924, 81933-81938.

Other material examined. **NKP-2:** 8 males, 11 females, 14. VII. 1997, RBK leg., CBM-ZI 82053–82061, 82072–82081; **NKP-5:** 1 male, 1 female, 17. VII. 1997, AS leg., CBM-ZI 82063, 82064; **NKP-7:** 1 female, 24. VII. 1997, AS, leg., CBM-ZI 82082; **NKS-1:** 1 male, 21. VII. 1997, AS leg.; CBM-ZI 82071; 2 males, 5 males, 21–22. VII. 1997, RBK leg., CBM-ZI 82062, 82065–82070.

Distribution. Kamchatka Peninsula, North Kuril Islands.

Remarks. This new species is characterized by having equal sized upper and lower squamae, long and strong lateral and preapical scutellar bristles, black antennae, and reddish distal part of the mid and hind femora and tarsi. According to the key by Hennig (1964), this species will be identified as *Coenosia octopunctata* (Zetterstedt), but differs from the latter in the narrower parafacialia and the shape of the male genitalia.

24. *Pseudocoenosia nigra* Shinonaga and Zhang, n. sp.

(Figs. 7, 8, 14)

Description. Body length 4.5–5.4 mm.

Male. Head with eyes bare; frons about 2/5 of head width at narrowest point; *ori* 3–4, inclinate, *ors* 1, reclinate; frontal vitta brown black, about 4 times width of parafrontalia; ocellar triangle reaching half length of frons; ocellar and vertical bristles strong; parafrontalia brown, parafacialia and genae black, covered with grey pollen; antennae brown black, length of 3rd segment about 1.5 times as long as 2nd; arista pubescent, the longest hair about as long as basal diameter of arista; gena about 1/3 of eye height; palpi black, slender; vibrissal angle not protruding in front of frontal angle.

Thorax black, covered with dark grey pollen; *ac* 0+1, prescutural setulae in 2 rows; *dc* (2–4)+3, anterior 2 presutural *dc* small; *ia* 1+2, *h* 3; *ph* 1, *n* 2, *pra* absent or hair-like, *sa* 2; *ds* 1, *as* 1, *spl* 1+2, auxiliary prostigmal bristle pointing upwards; prosternum, notopleura, hypopleura, and pteropleura bare; mesothoracic and metothoracic spiracles small, brown black. Squamae small, yellowish, margins with hairs, upper and lower squamae of almost same size.

Wings brownish, hyaline; costa ending at tip of $m!_{1+2}$ vein; r_{4+5} and m_{1+2} parallel; *r-m* and *m-m* straight; node of *r* vein bare; haltere brown in basal half, orange in distal half.

Legs black, pulvilli brownish, not large. f_1 with row of *pd* and strong *pv* bristles, t_1 with 1 median *p* bristle, and 1 *p*, 1 *pd*, 1 *pv* at apex; f_2 with row of anterior bristles and 3 strong *pv* bristles on basal half, 2 *pd* on preapical part; t_2 with 2 *av*, 1 *ad*, 2 *p*, 1 *pv* bristles on middle part, and 1 *v*, 1 *av*, 1 *a*, 1 *p* bristles at apex; f_3 with a row of *av* and *ad* bristles, *av* of basal half smaller; t_3 with 2 *av*, 2 *ad*, 1 *pd* on middle part, 1 *av*, 1 *ad*, 1 *d*, 1 *pd* at apex.

Abdomen long cylindrical, covered with dark grey pollen, tergites without spots or stripes; posterior marginal bristles of 4th to 6 th tergites strong; 1st sternite bare; 5th sternite and male genitalia as illustrated (Figs. 7, 8).

Female. Frons about 2/5 of head width, *ori* 3, *ors* 1; 2 rows of presutural *ac*, hair-like. Hind femur with 2 or 3 *av* in apical 1/3. Other characters as in male.

Type-series. Holotype. **NKS-1:** male, 21. VII. 1997, RBK leg, (IBP).

Paratypes. **NKS-1:** 3 males, 1 female, CBM-ZI 81929-91932.

Distribution. North Kuril Islands.

Remarks. The genus *Pseudocoenosia* is small genus and only three species are known from Palaearctic region. This new species is different from *P. abnormis* Stein in having three pairs of dorsocentral bristles behind the suture (four pairs in *P. abnormis*) and from *P. uralica* Stein in having two rows of acrostichal bristles (more than two rows in *P. uralica*). It is easily differentiated from *P. solotaria* Zetterstedt known from the Kamchatka by structure of the male genitalia.

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1996–1997年に採集されたカムチャツカ半島と北千島のイエバエ科昆虫

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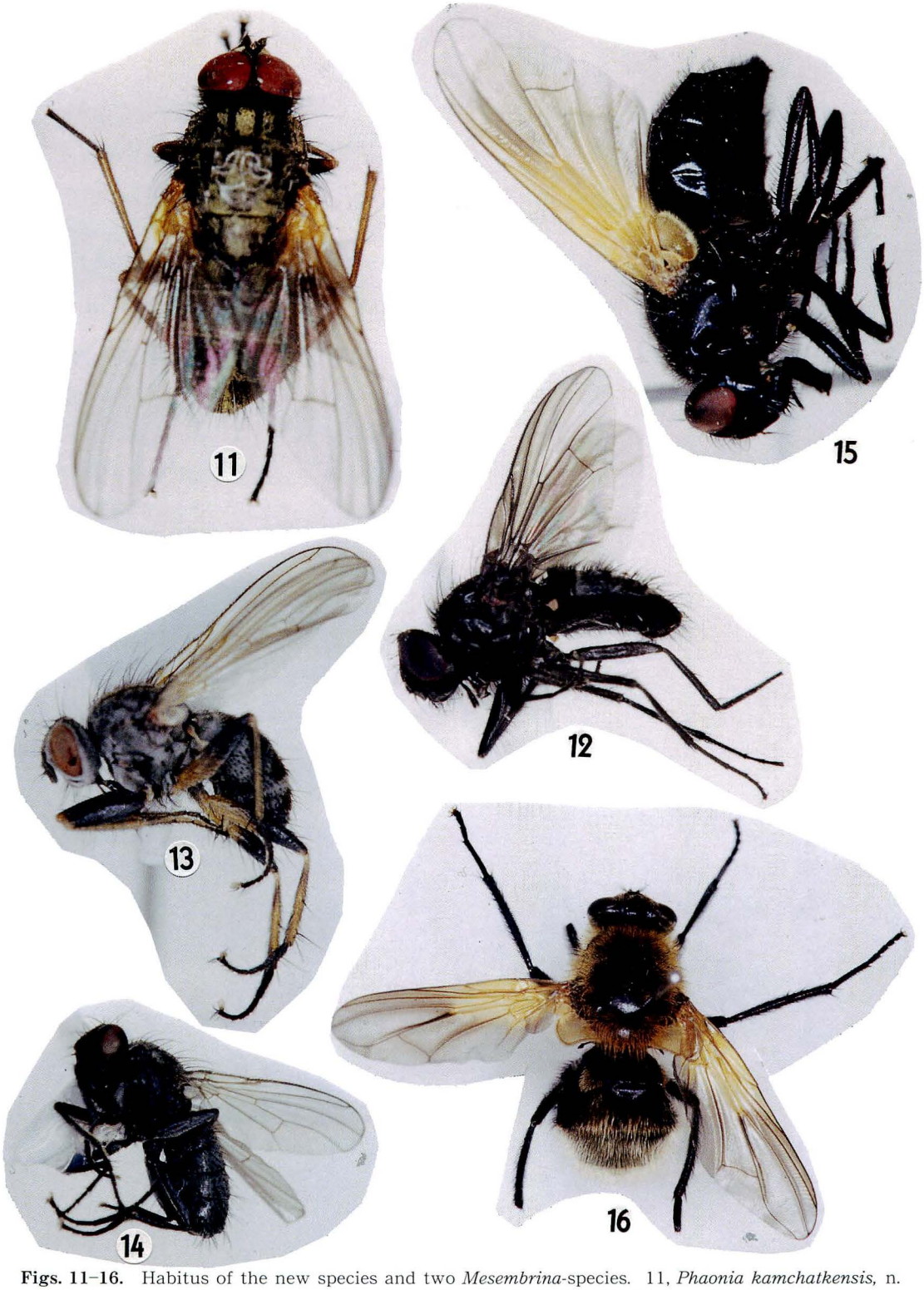
1996年と1997年に，カムチャツカ半島と北千島で千葉県立中央博物館とロシア科学アカデミーの生物学共同調査が行われた．この調査で，草地・湿地・渓畔林などでスイーピング採集を行い，イエバエ科ハエ類を採集した．本論文では，4新種を含む4亜科，10属，24種を記録した．これらの殆どは，旧北区亜区北部に分布する種であった．このほか，日本の高山帯に分布する *Thricops* 属の2種や北海道や本州の山岳地帯でヒグマやツキノワグマの糞から発生するキバネクロバエ (*Mesembrina resplendens* Wahlberg) など，日本との共通種も含まれていた．



Figs. 11–16. Habitus of the new species and two *Mesembrina*-species. 11, *Phaonia kamchatkensis,* n. sp.; 12, *Spilogona chishimensis,* n. sp.; 13, *Coenosia shumshuensis,* n. sp.; 14, *Pseudocoenosia nigra,* n. sp.; 15, *Mesembrins resplendens wahlberg i*; 16, *Mesembrins decipiens* loew.