

# New and rare species of the subfamily Euphorinae (Hymenoptera, Braconidae) from the Russian Far East

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Key words: Hymenoptera; Braconidae; Euphorinae; *Syrrhizus*; *Centistes*, *Syntretus*; new species; new records.

Eight new species from the Russian Far East are described and figured: *Syrrhizus odarka* spec. nov., *Centistes* (*Centistes*) *dmitrii* spec. nov., *C.* (*Ancylocentrus*) *muraviewi* spec. nov., *Syntretus nevelskoi* spec. nov., *S. komarovi* spec. nov., *S. hirtus* spec. nov., *S. miscellus* spec. nov., *S. makarovi* spec. nov. Three genera and species are recorded for the Russian Far East for the first time: *Spathicopsis flavocephalus* van Achterberg, *Blacometeorus brevicauda* (Hellén), and *Falcosyntretus elabsus* Papp.

## Introduction

The Far Eastern fauna of the subfamily Euphorinae is the richest in Russia but is rather poorly studied. Eight new species of the genera *Syrrhizus* Foerster, *Centistes* Haliday and *Syntretus* Haliday are described from Russian Far East in this paper. In addition, three genera (*Spathicopsis* van Achterberg, *Blacometeorus* Tobias and *Falcosyntretus* Tobias) are recorded from this territory for the first time.

The morphological terms are used as defined by Tobias (1986). The following abbreviations are used in the text: POL = postocellar line, OOL = ocular-ocellar line, Od = maximum diameter of lateral ocellus. The types of the new species described are deposited in the Zoological Institute of Russian Academy of Sciences, St. Petersburg, Russia (ZIP), or the Nationaal Natuurhistorisch Museum, Leiden, The Netherlands (RMNH).

## Taxonomy

### *Syrrhizus* Foerster, 1862

The genus *Syrrhizus* is a small genus, comprising 5 Palearctic species. Two species of this genus (*S. delusorius* Foerster, 1862, and *S. ludius* Belokobylskij, 1992) were recorded for the Russian fauna, both known in the Russian Far East (Belokobylskij, 1992a). A new species described in this paper is characterized by very short segments of fore tarsi, weakly claviform antennae and tentorial pits situated significantly below lower level of eye.

### *Syrrhizus odarka* spec. nov. (figs 1-11)

Material.— Holotype, ♀ (ZIP), Primorsk Territory, 15 km NE Spassk-Dal'nij, Konstantinovka, forest, border of forest, 7.vii.1995 (S. Belokobylskij).

Description.— Female. Body length 2.1 mm; fore wing length 2 mm.

Head.— Width 1.7 times its medial length, 1.2 times width of mesoscutum (without tegulae). Temple strongly and uniformly roundly narrowed behind eye, its length 1.1 times transverse diameter of eye. Ocelli in triangle with base 1.4 times its sides; POL 1.8 times Od, nearly equal to OOL. Eye glabrous, 1.5 times as high as broad. Cheek height 0.4 times eye height, 1.4 times basal width of mandible. Face width 1.2 times its medial height, nearly 0.9 times eye height. Clypeal width 1.7 times its maximum height. Tentorial pits distinct, situated significantly lower than level of lower margin of eyes, distance between pits 1.5 times distance from pit to eye. Subocular suture distinct. Hypostomal flanges very small. Antennae thickened, weakly claviform, 19-segmented, first flagellar segment 3 times as long as its apical width, 1.2 times as long as second segment. Segments in apical third of antenna weakly transverse. Penultimate segment 0.9 times as long as wide, 0.4 times as long as first segment and 0.5 times apical segment of antenna. Penultimate segment 1.5 times as wide as apical width of first segment.

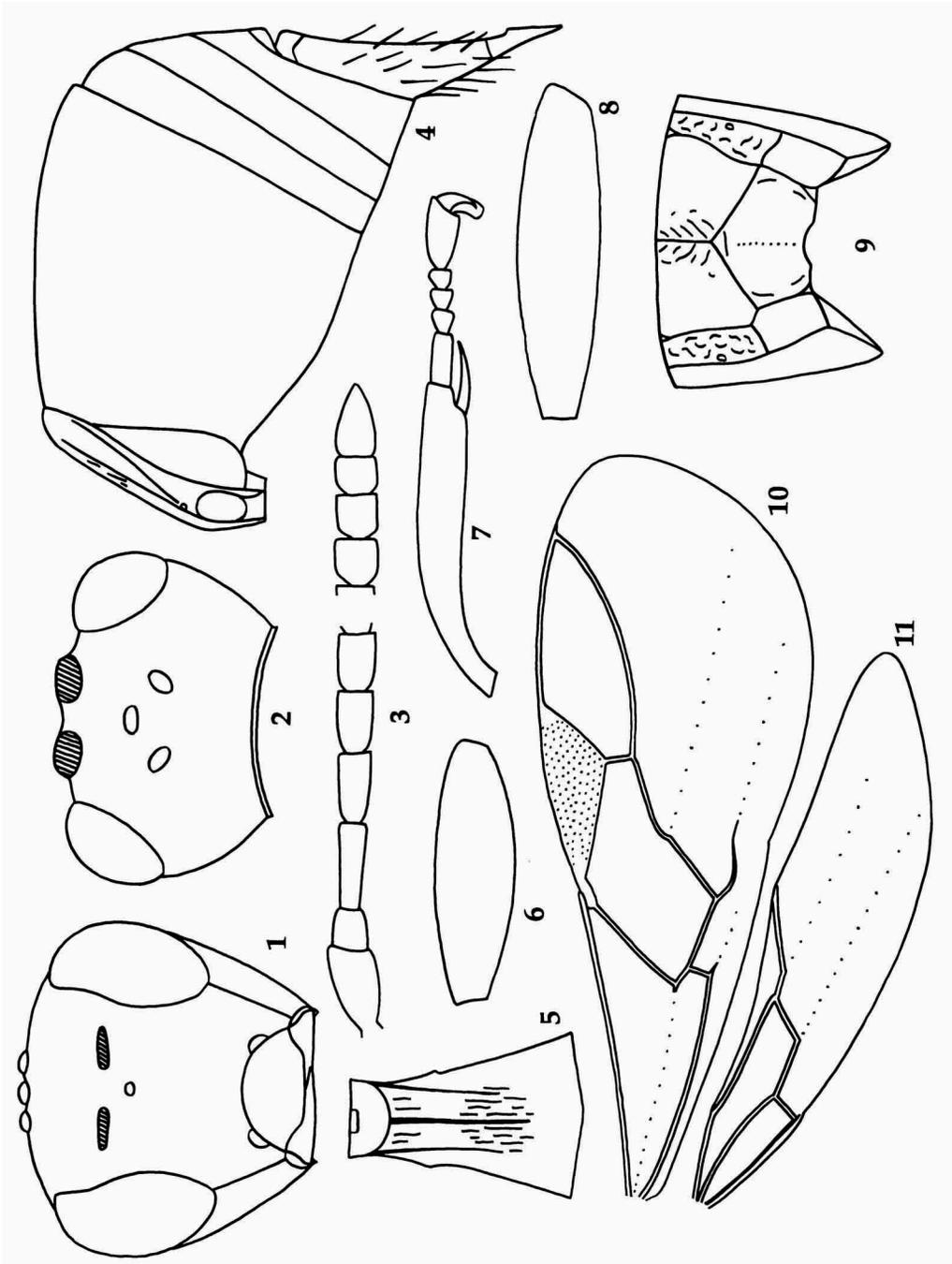
Thorax.— Length 1.2 times its height. Mesoscutum shortly and sparsely setose in anterior third, glabrous and shining in posterior two thirds. Notauli completely absent. Prescutellar depression deep, with medial carina, smooth, nearly 0.4 times as long as scutellum. Scutellum convex. Sternauli completely absent.

Wing.— Fore wing 2.5 times as long as wide. Radial cell distinctly shortened, metacarpus (within radial cell) 0.8 times as long as pterostigma, nearly twice distance from apex of radial cell to apex of wing. Radial vein arising behind middle of pterostigma. First radial abscissa 0.1 times second abscissa, which is uniformly curved. First radiomedial vein 2.5 times first radial abscissa. Distance from nervulus to basal vein nearly equal to nervulus length. Hind wing 4 times as long as wide, second abscissa of mediocubital vein 0.5 times first abscissa, 1.5 times nervellus, 1.4 times basal vein.

Legs.— All femora thickened. Fore tarsus very short, 0.7 times fore tibia, which is thickened and curved basally. Second to fourth tarsal segments subglobal or weakly transverse. Fore femur 3 times as long as wide. Hind femur 4 times as long as wide. Hind tarsus 0.8 times hind tibia, its second segment 0.5 times as long as first segment, 0.9 times as long as thickened fifth segment (without pretarsus).

Abdomen.— Distinctly compressed, slightly longer than thorax. First tergite almost uniformly and linearly widened from base to apex, with distinct spiracular tubercles nearly basal third. Apical width of first tergite 2.2 times its basal width; its length 1.4 times its apical width. Combined length of second and third tergites 1.5 times basal width of second tergite. Hypopygium glabrous. Ovipositor sheath rather short, strongly and linearly narrowed toward apex, flat, almost pointed apically, with sparse, short and semi-erect hairs. Length of sheath 3.8 times its maximum width, 0.8 times length of first tergite.

Sculpture.— Head smooth. Mesothorax smooth. Sides of pronotum smooth, sculptured medioanteriorly only. Metapleura smooth, its posterior quarter sparsely and coarsely striate. Propodeum almost smooth, rugulose near carinae, with distinct medial longitudinal carina in anterior half, and with very wide pentagonal area in its posterior half. Hind coxa smooth. First abdominal tergite with high medial carina in basal half, striate in basal two thirds and smooth in apical third.



Figs 1-11, *Syrrhizus odarka* spec. nov. 1, head, frontal view; 2, head, dorsal view; 3, basal and apical segments of antenna; 4, abdomen, lateral view; 5, first abdominal tergite, dorsal view; 6, fore femur; 7, fore tibia and tarsus; 8, hind femur; 9, areolation of propodeum; 10, fore wing; 11, hind wing.

Colour.— Body black. Two basal segments of antenna light brown, remainder segments almost black. Palpi pale yellow. Legs light reddish brown, hind tibia in apical half and middle and hind tibiae darkened. Wings hyaline. Pterostigma dark brown, paler basally and apically.

Male.— Unknown.

Discussion.— This species is related to *Syrrhizus delusorius* Foerster, 1862 (Belokobylskij, 1992a), and differs in having the antenna weakly claviform, antennal segments in apical third weakly transverse, cheek longer, tentorial pits situated significantly lower than lower level of eye, fore tarsus very short with second-fourth tarsal segments subglobal or weakly transverse, first abdominal tergite with distinct medial carina in basal half.

#### *Centistes* Haliday, 1835

The species of *Centistes* Haliday are abundant in the Russian Far East, including morphologically very different forms. Twenty six species of *Centistes* from two subgenera (*Centistes* Haliday and *Ancylocentrus* Foerster) are known from this region and neighbouring territories (Watanabe, 1937; Belokobylskij, 1992b, 1993b, 1995; Papp, 1994). Additionally two new species from both subgenera are described below from Kuril Islands and Khabarovsk Territory.

#### *Centistes (Centistes) dmitrii* spec. nov. (figs 12-20)

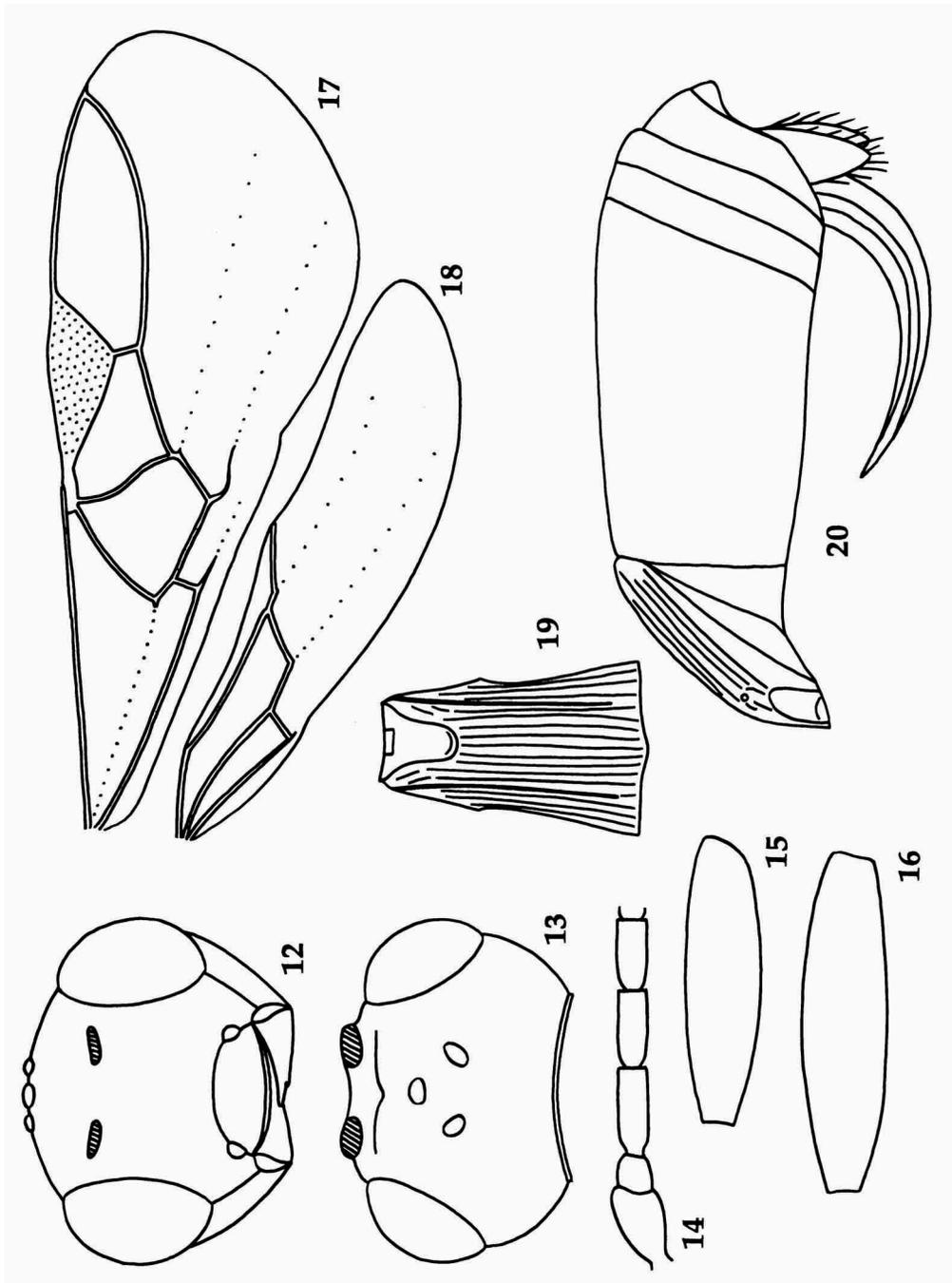
Material.— Holotype, ♀ (ZIP), Kuril Islands, Kunashir I., volcano Golovnina, 25.vii.1973 (D. Kasparyan).

Description.— Female. Body length 2.3 mm; fore wing length 2.3 mm.

Head.— Width 1.6 times its medial length, 1.3 times width of mesoscutum (without tegulae). Temple behind eye weakly anteriorly and strongly posteriorly roundly narrowed, its length 1.3 times transverse diameter of eye. Ocelli in triangle with base 1.2 times its sides; POL 1.5 times Od, 0.7 times OOL. Eye glabrous, 1.25 times as high as broad. Cheek height 0.35 times eye height, equal to basal width of mandible. Face width 1.5 times medial height, 1.1 times eye height. Clypeal width twice its maximum height, 0.7 times minimum width of face. Tentorial pits distinct, situated nearly level of lower margin of eyes, distance between pits 2.5 times distance from pit to eye. Subocular suture distinct. Hypostomal flanges narrow. Antennae thickened, filiform, 21-segmented. First flagellar segment 2.3 times as long as its apical width, 1.15 times as long as second segment. Penultimate segment 1.7 times as long as wide, 0.6 times first segment and 0.5 times apical segment.

Thorax.— Length 1.5 times its height. Mesoscutum sparsely setose in anterior quarter only, glabrous and shining on rest part. Notauli absent, with round depression basally only. Prescutellar depression deep, with high medial carina, smooth, nearly 0.5 times as long as scutellum. Scutellum convex. Sternauli lost.

Wing.— Fore wing 2.5 times as long as wide. Radial cell shortened, metacarpus (within radial cell) nearly as long as pterostigma, 2.8 times distance from apex of radial cell to apex of wing. Radial vein arising behind middle of pterostigma, first



Figs 12-20, *Centistes (Centistes) dmitrii* spec. nov. 12, head, frontal view; 13, head, dorsal view; 14, 5 basal segments of antenna; 15, fore femur; 16, hind femur; 17, fore wing; 18, hind wing; 19, first abdominal tergite, dorsal view; 20, abdomen, lateral view.

radial abscissa 0.1 times second abscissa, which is curved. First radiomedial vein 4.5 times first radial abscissa. Recurrent vein postfurcal. Discoidal cell sessile anteriorly, its length 1.1 times its width. Distance from nervulus to basal vein equal to nervulus length. Hind wing 4 times as long as wide. Second abscissa of mediocubital vein 0.33 times first abscissa, 1.4 times nervellus, as long a basal vein.

Legs.— All femora weakly thickened. Fore femur 3.8 times as long as wide. Hind femur 4 times as long as wide. Hind tarsus 0.9 times hind tibia, its second segment 0.5 times as long as first segment, 0.9 times as long as 5th segment (without pretarsus). Claws rather large.

Abdomen.— Elongate-oval, nearly as long as thorax. First tergite almost uniformly, linearly and weakly widened from base to apex, with spiracular tubercles in basal third. Apical width of first tergite nearly twice its basal width; its length 1.5 times its apical width. Combined length of second and third tergites 1.7 times basal width of second tergite, second suture absent. Hypopygium glabrous. Ovipositor sheath short, rather narrow, flat, roundly narrowed and shortly pointed apically; sheath entirely with rather short and dense hairs. Length of sheath 1.8 times its maximum width, 0.4 times length of first tergite.

Sculpture.— Head and mesothorax smooth. Sides of pronotum smooth, narrow rugulose in longitudinal medial furrow only. Metapleura smooth in anterior half, rugulose in posterior half. Propodeum with distinct medial arched transverse carina, with medial longitudinal carina in basal half, almost smooth, behind transverse carina with 4 longitudinal carinae, between its granulate-reticulate. Hind coxa smooth. First abdominal tergite with more or less distinct complete parallel dorsal carinae, entirely striate.

Colour.— Head yellowish-brown, but its lower third pale yellow. Pronotum and mesosternum light brown. Remainder part of thorax and abdomen in basal half reddish-brown. Abdomen dark brown in apical half. Antennae light brown, darkened toward apex. Palpi pale yellow. Legs yellow, faintly darkened proximally. Ovipositor sheath light brown. Wings faintly infusate. Pterostigma light brown.

Male.— Unknown.

Discussion.— This species is related to Palaearctic *Centistes* (*Centistes*) *cuspidatus* (Haliday, 1833) (Belokobylskij, 1992b) and differs in having the sternauli entirely lost, lower part of mesopleurae, subalar depression and anterior half of metapleura smooth, ovipositor sheath short, weakly roundly narrowed apically, dorsal carinae of first tergite parallel-sided, fore femur slender, head yellowish-brown.

Etymology.— This species is named after Dr D.R. Kasparyan - the well-known Russian hymenopterologist and excellent collector of insects.

*Centistes* (*Ancylocentrus*) *muravievi* spec. nov.  
(figs 21-30)

Material.— Holotype, ♀ (ZIP), Khabarovsk Territory, EAO, Amurzet, meadow, 16.vi.1985 (S. Belokobylskij).

Description.— Female. Body length 2.4 mm; fore wing length 2.1 mm.

Head.— Width 1.7 times its medial length, 1.2 times width of mesoscutum (without tegulae). Temple behind eye almost parallel-sided anteriorly, strongly roundly

narrowed posteriorly, its length nearly equal to transverse diameter of eye. Ocelli in triangle with base 1.4 times its sides; POL twice Od, 1.25 times OOL. Eye glabrous, 1.7 times as high as broad. Cheek height 0.2 times eye height, 0.7 times basal width of mandible. Face densely and shortly setose, its width 1.6 times medial height, 0.9 times eye height. Clypeal width twice its maximum height. Tentorial pits distinct, situated at level of lower margin of eyes, distance between pits nearly 3 times distance from pit to eye. Subocular suture distinct. Hypostomal flanges distinct and pointed. Antennae rather thickened, filiform, 24-segmented. First flagellar segment almost 3 times as long as its apical width, slightly longer than second segment. Penultimate segment 1.7 times as long as wide, nearly 0.5 times first segment and 0.6 times apical segment.

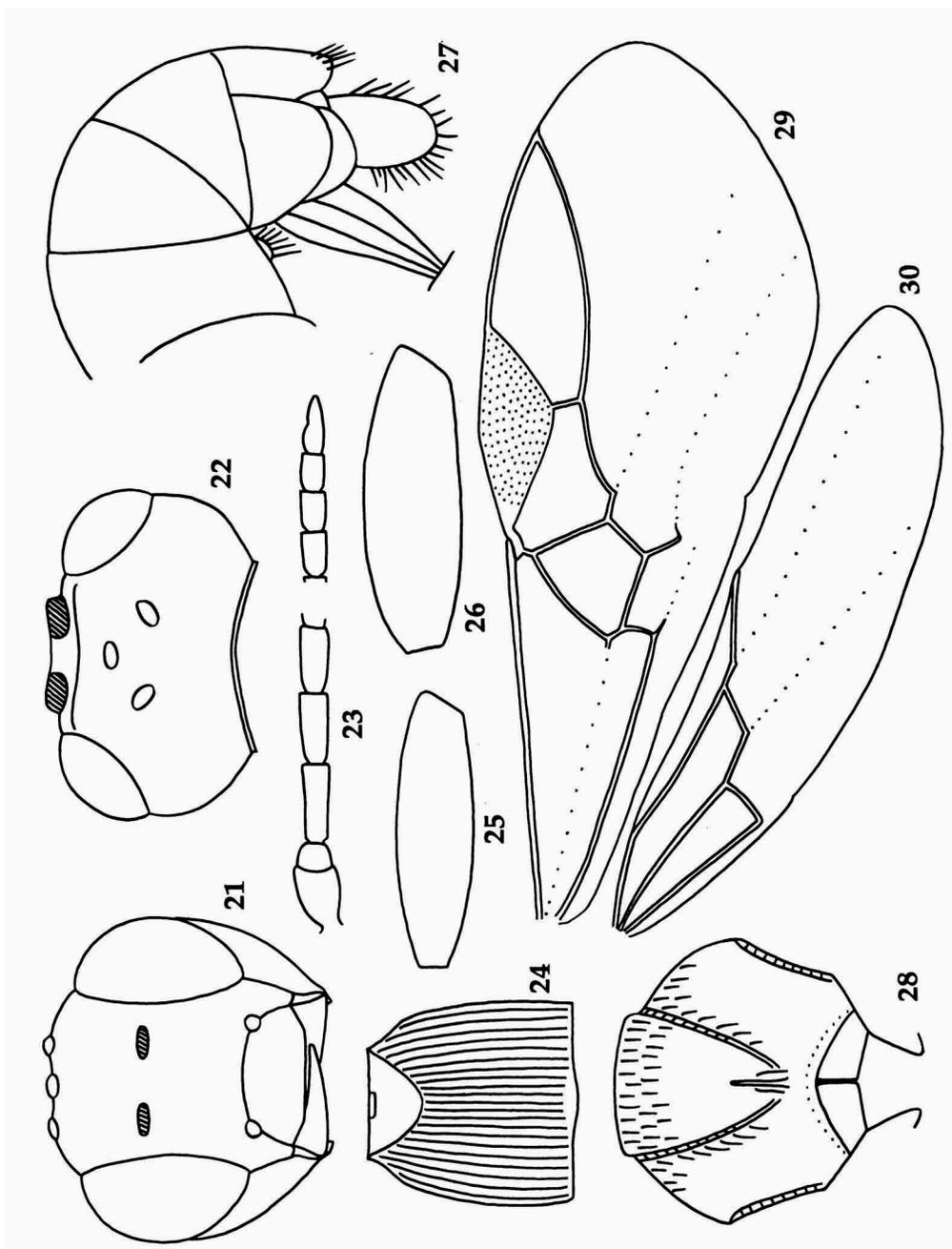
Thorax.— Length 1.5 times its height. Mesoscutum shortly setose in anterior third, glabrous and shining in posterior two thirds, but with 2 rows of sparse hairs along notauli. Notauli deep and coarsely crenulate anteriorly, rather shallow and finely crenulate posteriorly. Prescutellar depression deep, with high medial carina, smooth, 0.4 times as long as scutellum. Scutellum strongly convex. Sternauli rather wide, rather deep, S-curved, rather narrow rugulose.

Wing.— Fore wing 2.6 times as long as wide. Radial cell distinctly shortened, metacarpus (within radial cell) 0.9 times as long as pterostigma, 1.6 times distance from apex of radial cell to apex of wing. Radial vein arising slightly behind middle of pterostigma. First radial abscissa 0.1 times second abscissa, which is curved anteriorly and almost straight posteriorly. First radiomedial vein 3 times first radial abscissa. Recurrent vein antefurcal. Discoidal cell petiolate anteriorly, narrow, its length nearly equal to width. Distance from nervulus to basal vein 0.7 times nervulus length. Hind wing 3.8 times as long as wide. Second abscissa of mediocubital vein 0.3 times first abscissa, slightly longer than nervellus, 1.3 times basal vein.

Legs.— All femora thickened. Fore femur 3.4 times as long as wide. Hind femur 3 times as long as wide. Hind tarsus 0.8 times hind tibia, its second segment 0.6 times as long as first segment, 0.6 times as long as fifth segment (without pretarsus). Hind inner spur 0.75 times as long as basitarsus. Claws small.

Abdomen.— Elongate-oval and slightly depressed, nearly 1.5 times as long as thorax. First tergite almost uniformly and weakly roundly widened from base to apex, without spiracular tubercles and dorsal carinae. Apical width of first tergite 1.6 times its basal width; its length 1.1 times its apical width. Combined length of second and third tergites 1.2 times basal width of second tergite, second suture absent. Hypopygium with two lateral bundles of hairs. Ovipositor sheath rather short, rather wide, flat, roundly narrowed apically, its outer and inner margins almost parallel-sided; sheath with rather short and dense white hairs. Length of sheath 1.4 times its maximum width, 0.4 times length of first tergite.

Sculpture.— Head smooth, face densely punctulate. Mesothorax smooth, mesoscutum with short medial carina in posterior third. Sides of pronotum smooth, sculptured medioanteriorly only. Mesopleura smooth, densely punctulate lower sternauli. Metapleura entirely reticulate-rugulose. Propodeum with distinct medial arched transverse carina, reticulo-punctulate in anterior half, longitudinally and irregularly striate in posterior half. First abdominal tergite almost entirely finely and densely striate.



Figs 21-30, *Centistes (Ancylocentrus) muravievi* spec. nov. 21, head, frontal view; 22, head, dorsal view; 23, basal and apical segments of antenna; 24, first abdominal tergite, dorsal view; 25, fore femur; 26, hind femur; 27, apical part of abdomen and ovipositor, lateral view; 28, mesoscutum; 29, fore wing; 30, hind wing.

Colour.— Head, thorax and first abdominal tergite black. Rest part of abdomen light reddish brown. Antennae dark brown. Palpi yellow. Legs light brown, all coxae black. Wings faintly infuscate. Pterostigma brown, paler basally.

Male.— unknown.

Discussion.— This species is related to *Centistes (Ancylocentrus) planivalvis* Belokobylskij, 1992, from Primorsk Territory (Belokobylskij, 1992b) and differs in having the notauli sculptured, anterior part of head behind eye almost parallel-sided, sternauli long and coarsely sculptured, hind basitarsus shorter, first abdominal tergite wider and shorter, without dorsal carinae, sculptured apically, weakly and roundly widened toward apex, hypopygium with two lateral bundles of setae, shape of ovipositor sheath, discoidal cell petiolate anteriorly, face wider, abdomen behind first tergite and ovipositor sheath light reddish brown.

Etymology.— This species is named after N.N. Muraviev-Amursky, the first Governor-General of East Siberia and Russian Far East.

*Syntretus* Haliday, 1835

The tribe Syntretini comprises 7 genera mostly from the tropical and subtropical regions of the Old World (Shaw, 1985; Belokobylskij, 1993a). *Syntretus* Haliday is the largest genus of this tribe with nearly 20 species from Holarctic Region mostly (Shenefelt, 1969). The Palaearctic species of this genus are in need of a revision. Nine species of *Syntretus* were recorded in the Russian Far East (Belokobylskij, 1993b). Additionally, five new species are described below from this region.

*Syntretus nevelskoi* spec. nov.  
(figs 31-41)

Material.— Holotype, ♀ (ZIP), Primorsk Territory, Spassk-Dal'ny, forest, border of forest, shrubs, 10-12.vii.1993 (S. Belokobylskij). Paratypes: 1 ♀ (ZIP), Khabarovsk Territory, Khabarovsk, Khekhtzir, forest, 13.vi.1985 (S. Belokobylskij); 1 ♀ (RMNH), Primorsk Territory, 20 km SE Spassk-Dal'ny, forest, 19.vi.1980 (S. Belokobylskij); 1 ♀ (ZIP), 30 km E Spassk-Dal'ny, forest, 14.vi.1980 (S. Belokobylskij).

Description.— Female. Body length 1.6-1.8 mm; fore wing length 1.4-1.8 mm.

Head.— Width 1.6-1.7 times its medial length. Temple distinctly and roundly narrowed behind eye, its length (see dorsally) 1.2 times transverse diameter of eye. Ocellar triangle with base 1.1-1.2 times its sides, without furrow; POL 1.7 times Od, 0.6-0.7 times OOL. Eye convex, glabrous, 1.2-1.3 times as high as broad. Cheek height 0.3 times eye height, 0.7-0.8 times basal width of mandible. Face convex, without medial tubercle, width of face slightly greater than eye height and 1.4-1.5 times face height. Subocular suture distinct. Frons with fine longitudinal carina, shortly penetrating to upper part of face. Tentorial pits situated distinctly lower than lower level of eyes, distance between pits 2.5-3 times distance from pit to eye. Clypeal suture distinct dorsally. Clypeus weakly convex, weakly round ventrally and with lower narrow flange, its width 2-2.2 times medial height, slightly less than minimum width of face. Occipital carina complete dorsally and ventrally. Hypostomal flange small, but distinct. Antennae rather slender, filiform, 15-16-segmented, 0.7-0.8 times as long as body. First flagellar segment 3-3.5 times as long as apical width, as long as pedicel-

lum and 0.9 times as long as second flagellar segment. Penultimate segment 3-3.3 times as long as wide.

Thorax.— Length 1.3-1.4 times its height. Pronope absent. Mesoscutum without tracks of notauli. Prescutellar depression rather deep, almost smooth, with 2 carinae. Sternauli lost. Mesopleura with oblique medial rugulose furrow. Scutellum weakly convex. Propodeum without medial depression, strongly and almost linearly narrowed toward apex (lateral view).

Wings.— Fore wing 2.5 times as long as wide. Radial cell distinctly shortened. Metacarpus complete, 1.1-1.3 times as long as pterostigma. Length of pterostigma 2.6-3 times its maximum width. Radial vein arising behind middle of pterostigma. First radial abscissa perpendicular to pterostigma, 0.5-0.7 times as long as maximum width of pterostigma, second radial abscissa distinctly and almost uniformly curved, sometimes thickened apically, 6.5-7 times first abscissa. Distance from basal vein to nervulus nearly equal to nervulus length. Hind wing 5-5.5 times as long as wide. Nervellus strongly unsclerotized and almost interstitial. Submedial cell open. Second abscissa of costal vein absent in apical half; medial cell open.

Legs.— Rather short and slender. Hind femur 4.5-5 times as long as wide. Inner spur of hind tibia 0.4 times hind basitarsus. Hind tarsus nearly as long as hind tibia; basitarsus 0.45-0.5 times second to fifth segments combined, second segment 0.6 times basitarsus, 1.2-1.3 times fifth segment (without pretarsus). Claws short, strongly bent medially.

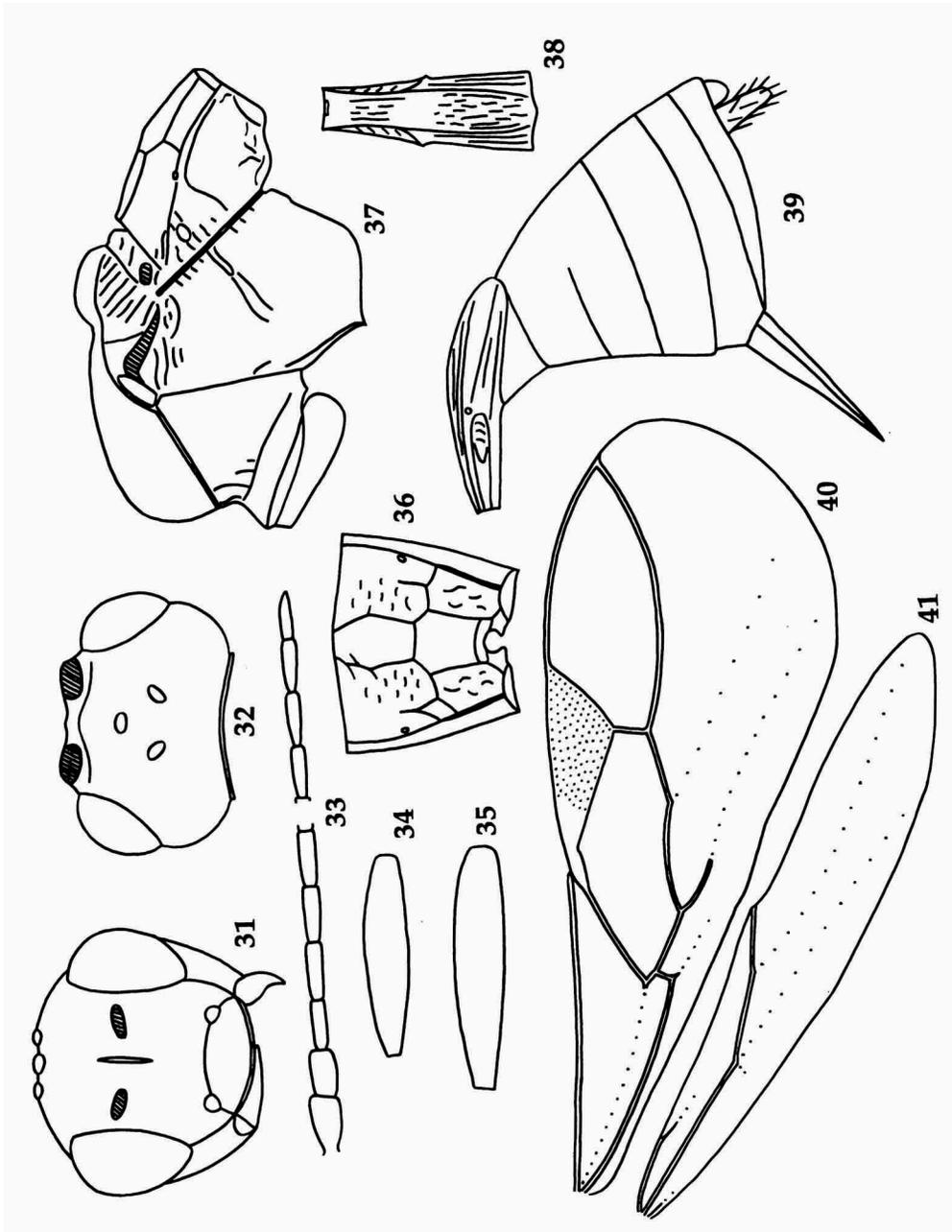
Abdomen.— Petiole nearly tubelike, convex dorsally, long, slender, widened linearly from middle to apex. Lower sides of petiole fused in basal 0.4-0.5; spiracular tubercles large and situated nearly middle; glymma distinct, deep posteriorly, crenulate. Apical width of petiole equal to or 1.2 times larger than width at level of spiracles, 1.7-1.8 times its minimum width; length 2.6-3 times its apical width, 1.3-1.4 times length of propodeum. Abdomen behind petiole weakly compressed. Second suture very fine. Length of second tergite 0.8-0.9 times its basal width, 0.9-1 times length of third tergite. Ovipositor short, straight, without dorsal subapical tooth, its sheath 0.3 times as long as petiole, equal to hind basitarsus, 0.06 times fore wing.

Sculpture and pubescence.— Head and mesothorax smooth. Metapleura sparsely rugulose. Propodeum with narrow and elongate medial area in basal half and wide almost rectangular or hexagonal area in apical half, surface of propodeum sparsely rugulose with large smooth parts. Hind coxa smooth. Petiole entirely rugulose striate, with complete distinct and parallel dorsal carinae. Face sparsely and longly setose, hairs on clypeus longer. Mesoscutum glabrous, with sparse hairs on vertical surface.

Colour.— Body light reddish brown or reddish brown, darker dorsally, abdomen in apical third dark brown. Four basal segments of antenna light brown, rest segments dark brown. Palpi yellow. Legs light brown, hind tibia in apical half and hind tarsus faintly darker. Ovipositor sheath black. Wings hyaline. Pterostigma brown, pale in basal quarter and apically.

Male.— Unknown.

Discussion.— This new species differs from all *Syntretus* species by the open medial cell of hind wing, short first antennal segments, sculptured petiole with distinct spiracular tubercles medially and parallel dorsal carinae, and aberrant areolation of propodeum.



Figs 31-41, *Syntretus nevelskoi* spec. nov. 31, head, frontal view; 32, head, dorsal view; 33, basal and apical segments of antenna; 34, fore femur; 35, hind femur; 36, areolation of propodeum; 37, thorax, lateral view; 38, petiole, dorsal view; 39, abdomen, lateral view; 40, fore wing; 41, hind wing.

**Etymology.**— This species is named after G.I. Nevelskoi, a Russian navigator and explorer of the Russian Far East.

*Syntretus komarovi* spec. nov.  
(figs 42-52)

**Material.**— Holotype, ♀ (ZIP), Primorsk Territory, 30 km SE Ussuriysk, Ussuriysk Nature Reserve, forest, glades, 13-14.vi.1993 (S. Belokobylskij). Paratype: 1 ♀ (ZIP), Primorsk Territory, 20 km SE Spassk-Dal'niy, forest, 28.vi.1985 (S. Belokobylskij).

**Description.**— Female. Body length 1.8-2.2 mm; fore wing length 1.7-1.9 mm.

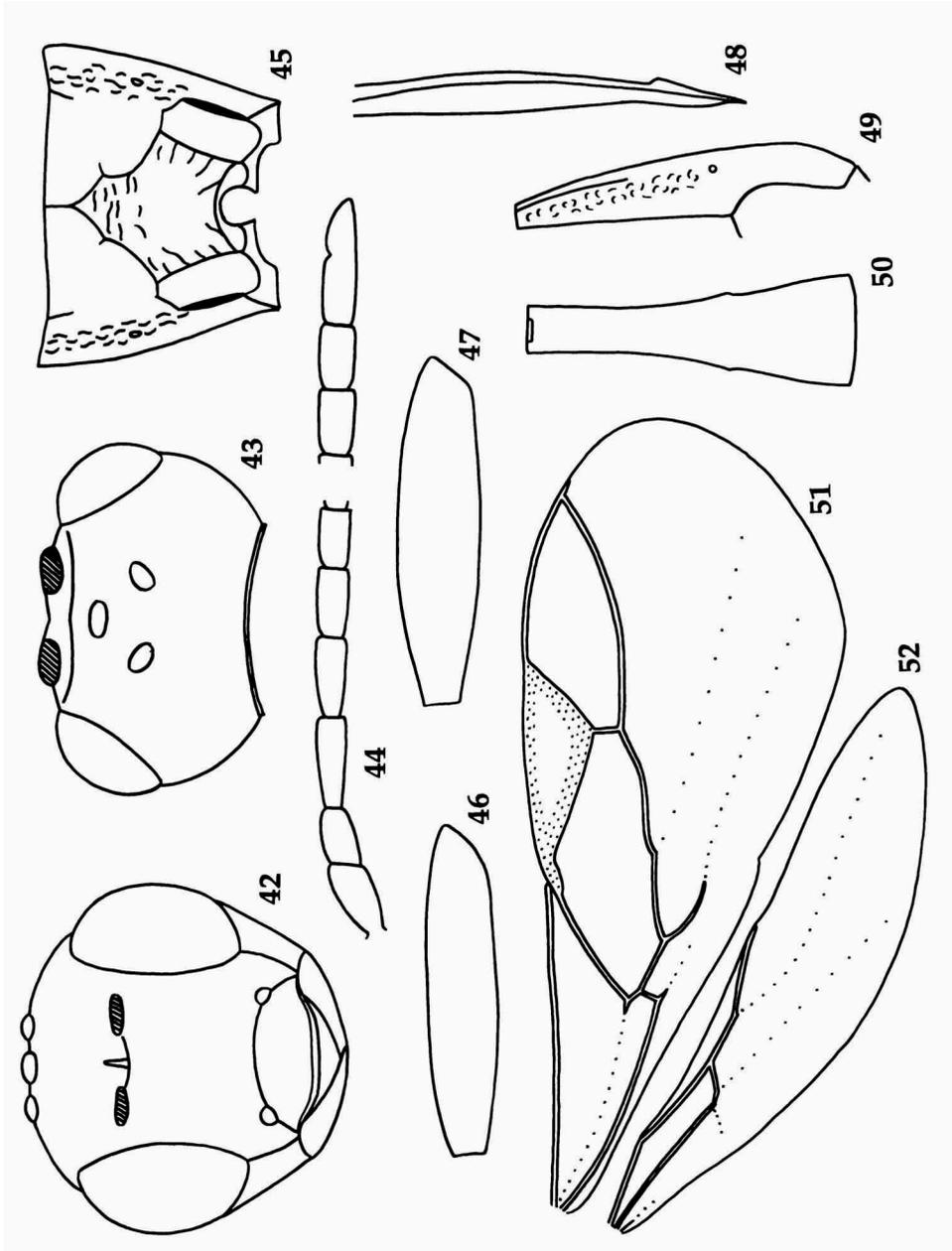
**Head.**— Width 1.5-1.6 times its medial length. Temple distinctly and roundly narrowed behind eye, its length (see dorsally) nearly equal to transverse diameter of eye. Ocellar triangle with base 1.2 times its sides, without furrow; POL 1.5-1.7 times Od, 0.6-0.75 times OOL. Eye convex, glabrous, 1.4-1.5 times as high as broad. Cheek height 0.2-0.3 times eye height, 0.7 times basal width of mandible. Face convex, without medial tubercle, width of face 0.9-1 times eye height and 1.3 times height of face. Subocular suture distinct. Frons with weak and short longitudinal carina. Tentorial pits situated distinctly lower than lower level of eyes, distance between pits 2.7 times distance from pit to eye. Clypeal suture distinct dorsally. Clypeus convex, almost straight ventrally and with lower narrow flange, its width 2.5 times medial height, 0.8-0.9 times minimum width of face. Occipital carina complete dorsally and ventrally. Hypostomal flange small. Antennae thickened, almost filiform, 15-segmented, 0.6-0.7 times as long as body. First flagellar segment 2.5-2.7 times as long as apical width, 1.3 times as long as pedicellum and as long as second flagellar segment. Penultimate segment 1.5-1.8 times as long as wide.

**Thorax.**— Length 1.4 times its height. Pronope distinct and elongate. Mesoscutum without tracks of notauli. Prescutellar depression deep, smooth, with medial carina. Sternauli lost. Mesopleura without oblique medial furrow. Scutellum convex. Propodeum without medial depression, strongly and almost linearly narrowed toward apex (lateral view).

**Wings.**— Fore wing 2.25 times as long as wide. Radial cell distinctly shortened. Metacarpus complete, 0.6-0.8 times as long as pterostigma. Length of pterostigma 2.8 times its maximum width. Radial vein arising from distal third of pterostigma. First radial abscissa perpendicular to pterostigma, 0.4 times as long as maximum width of pterostigma. Second radial abscissa distinctly and uniformly curved, 7.5-8 times first abscissa. Distance from basal vein to nervulus 0.6-0.7 times nervulus length. Hind wing 4.3 times as long as wide. Nervellus unsclerotized and interstitial to basal vein. Submedial cell open. Second abscissa of costal vein present; medial cell closed.

**Legs.**— Rather long and thickened. Hind femur 3.7-4.2 times as long as wide. Inner spur of hind tibia 0.45 times hind basitarsus. Hind tarsus 0.9 times as long as hind tibia; basitarsus 0.5 times second to fifth segments combined, second segment 0.6 times basitarsus, 1.2 times 5th segment (without pretarsus). Claws short, strongly bent medially.

**Abdomen.**— Petiole tubelike, convex dorsally, long, slender in basal two thirds, widened linearly in apical third. Lower sides of petiole fused in basal 0.6; spiracular tubercles small and situated in basal 0.6; glymma very shallow and narrow, almost



Figs 42-52, *Syntretus komarovi* spec. nov. 42, head, frontal view; 43, head, dorsal view; 44, basal and apical segments of antenna; 45, areolation of propodeum; 46, fore femur; 47, hind femur; 48, ovipositor; 49, petiole, lateral view; 50, petiole, dorsal view; 51, fore wing; 52, hind wing.

indistinct, sculptured. Apical width of petiole 2-2.2 times its minimum width; length 3 times its apical width, 1.4-1.5 times length of propodeum. Abdomen behind petiole compressed, second suture lost medially and very fine laterally. Length of second tergite 1.4 times its basal width, 1.2 times length of third tergite. Ovipositor short, straight, with dorsal subapical tooth, its sheath 0.5-0.6 times as long as petiole, 1.2-1.5 times hind basitarsus, 0.13-0.15 times fore wing.

Sculpture and pubescence.— Head and mesothorax smooth. Metapleura smooth almost entirely. Propodeum with wide and long pentagonal areola, sometimes (paratype) with additional anterior marginate area, medial carina short (sometimes very short) in basal quarter; sides of propodeum and areola finely rugulose, rest parts smooth. Hind coxa smooth. Petiole smooth, finely or very finely rugulose in basal half. Face rather shortly and densely setose, setae on clypeus longer. Mesoscutum glabrous, with some setae on vertical surface.

Colour.— Head dark reddish brown in dorsal half, light or yellowish brown in ventral half and posteriorly. Thorax dark reddish brown, pro- and mesothorax laterally and ventrally yellowish brown. Head and thorax of paratype light reddish brown, dark dorsally. Abdomen dark reddish brown, sometimes (paratype) almost black in posterior third; petiole in basal two thirds yellow. Antenna black, 3-4 basal segments light brown. Palpi yellow. Legs yellowish brown. Ovipositor sheath black. Wings faintly infusate. Pterostigma light brown, dark around its margins.

Male.— Unknown.

Discussion.— This species is related to *Syntretus niger* Tobias, 1976, and differs in having the metacarpus and second radial abscissa entirely sclerotized, temple uniformly roundly narrowed behind eye, upper tooth of mandible significantly longer than lower one, antenna 15-segmented, hind femur longer, coxae yellowish brown, pterostigma dark around its margins.

Etymology.— This species is named after V.L. Komarov, famous botanist and explorer of the Russian Far East.

*Syntretus hirtus* spec. nov.

(figs 53-64)

Material.— Holotype, ♀ (ZIP), Primorsk Territory, 10 km SW Sokol'chi, Lazovskiy Nature Reserve, rocks, mixed forest, 23.vii. 1993 (S. Belokobylskij).

Description.— Female. Body length 2.7 mm; fore wing length 1.9 mm.

Head.— Width 1.8 times its medial length. Temple distinctly and roundly narrowed behind eye, its length (see dorsally) 1.1 times transverse diameter of eye. Ocellar triangle with base 1.3 times its sides, with distinct furrow from anterior ocellus between lateral ocelli to occipital carina; POL 1.5 times Od, 0.75 times OOL. Eye convex, glabrous, 1.4 times as high as broad. Cheek height 0.3 times eye height, nearly equal to basal width of mandible. Face convex, with fine medial longitudinal tubercle, width of face nearly equal to eye height and 1.5 times face height. Subocular suture distinct. Frons with distinct longitudinal carina between antennal sockets. Tentorial pits situated slightly lower than lower level of eyes, distance between pits twice distance from pit to eye. Clypeal suture distinct dorsally, but shallow. Clypeus convex, round ventrally and with lower narrow flange, its width 2.3 times medial

height, equal to minimum width of face. Occipital carina complete dorsally and ventrally. Hypostomal flange distinct. Antennae rather slender, setiform, 22-segmented, 0.7 times as long as body. First flagellar segment 2.5 times as long as apical width, 1.2 times pedicellum and as long as second flagellar segment. Penultimate segment 2.7 times as long as wide.

Thorax.— Length 1.4 times its height. Pronope absent. Mesoscutum without tracks of notauli. Prescutellar depression deep, smooth, with medial carina. Sternauli lost. Scutellum weakly convex. Propodeum with rather wide shallow medial longitudinal depression in distal two thirds, strongly and almost linearly narrowed toward apex (lateral view).

Wings.— Fore wing 2.7 times as long as wide. Metacarpus complete, 1.1 times as long as pterostigma. Length of pterostigma 3.8 times its maximum width. Radial vein arising behind middle of pterostigma. First radial abscissa perpendicular to pterostigma, 0.6 times as long as maximum width of pterostigma, second radial abscissa entirely straight, 9 times first abscissa. Distance from basal vein to nervulus nearly 0.8 times nervulus length. Hind wing 4.3 times as long as wide. Nervellus unsclerotized and antefurcal. Submedial cell open. Second abscissa of costal vein present; medial cell closed.

Legs.— Long and rather slender. Hind femur 4.8 times as long as wide. Inner spur of hind tibia 0.4 times hind basitarsus. Hind tarsus slightly longer than hind tibia; basitarsus 0.6 times second-fifth segments combined, second segment 0.5 times basitarsus, 1.25 times fifth segment (without pretarsus). Claws short, strongly bent medially.

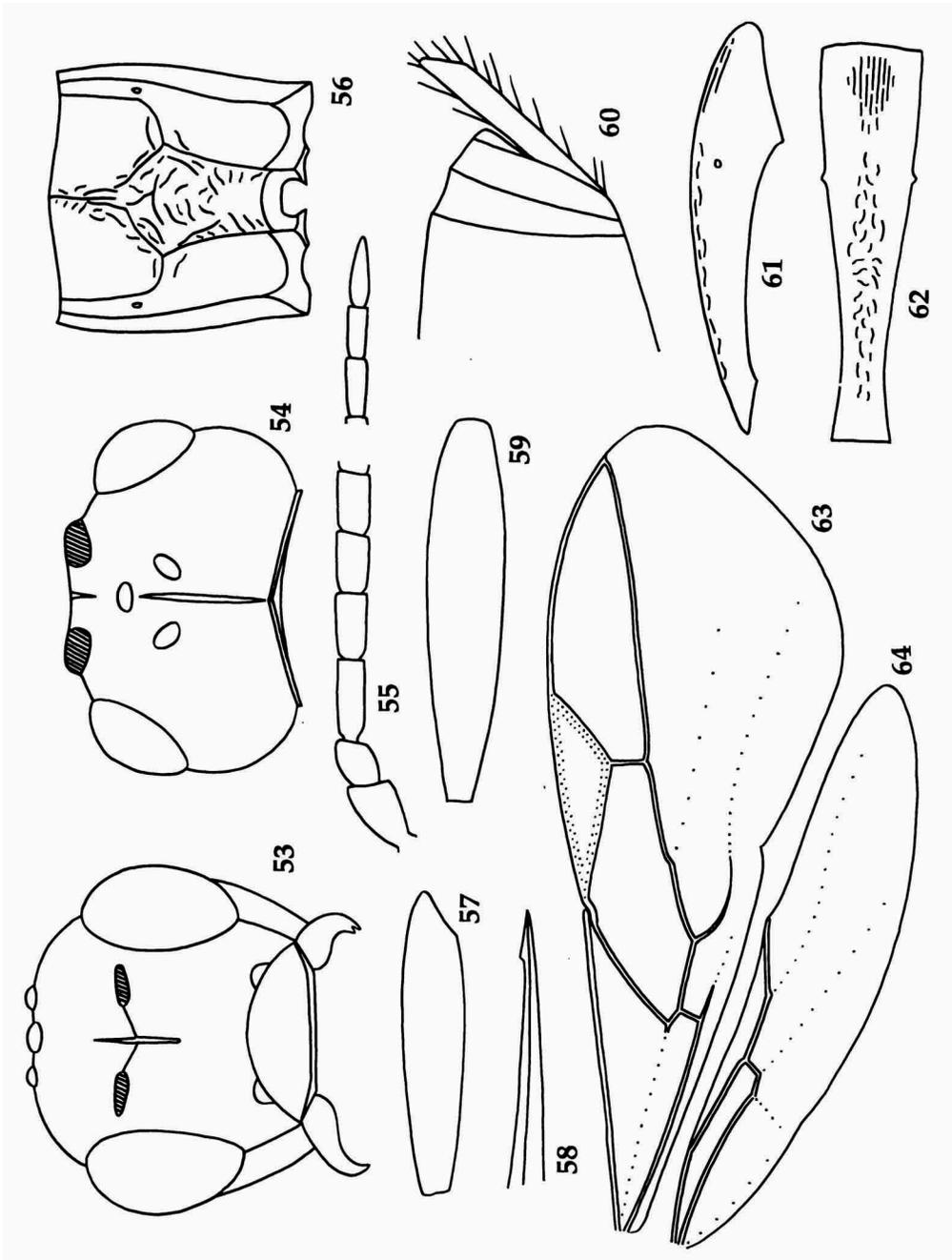
Abdomen.— Petiole tubelike, strongly convex dorsally, long, rather slender, widened linearly toward apex. Lower sides of petiole fused in basal 0.7; spiracles situated nearly apical third, glymma absent. Apical width of petiole 2.5 times its minimum width; length 4 times its apical width, 1.6 times length of propodeum. Abdomen behind petiole weakly compressed. Second suture very fine. Length of second tergite 1.4 times its basal width, 1.4 times length of third tergite. Ovipositor short, straight, with small dorsal subapical tooth, its sheath 0.5 times as long as petiole, equal to hind basitarsus, 0.15 times fore wing.

Sculpture and pubescence.— Head almost smooth, face finely striate upper. Mesothorax entirely smooth. Metapleura smooth, with sparse punctulation, rugulose posteriorly. Propodeum with large pentagonal areola in posterior fourth fifths, basal carina short, nearly as long as anterior sides of areola; propodeum rugulose along carinae, rest it part almost smooth. Hind coxa finely punctulate, almost smooth dorsally. Petiole very finely rugulose. All head (including face) shortly and densely setose, clypeus with long sparse light outstanding hairs, which directed lower. Mesoscutum and scutellum densely and shortly setose entirely.

Colour.— Head light brown, ocellar field and medial part of vertex dark brown. Thorax light brown ventrally and laterally, dark brown dorsally. Petiole dark reddish brown, rest abdomen light brown. Two basal segments of antenna light brown, rest segments dark brown to black. Palpi and legs yellow, all tarsi and hind tibia apically darker. Ovipositor sheath black. Wings faintly infusate. Pterostigma yellow, dark around margins.

Male.— Unknown.

Discussion.— This species is related to *Syntretus vernalis* Wesmael, 1835, and *S.*



Figs 53-64, *Syntretus hirtus* spec. nov. 53, head, frontal view; 54, head, dorsal view; 55, basal and apical segments of antenna; 56, areolation of propodeum; 57, fore femur; 58, ovipositor; 59, hind femur; 60, apical part of abdomen and ovipositor, lateral view; 61, petiole, lateral view; 62, petiole, dorsal view; 63, fore wing; 64, hind wing.

*splendidus* Marshall, 1887, and differs in having the head (including vertex) and mesonotum densely and entirely setose and mat, the vertex with distinct furrow from anterior ocellus toward occipital carina.

*Syntretus miscellus* spec. nov.  
(figs 65-74)

Material.— Holotype, ♀ (ZIP), Primorsk Territory, Ussuriysk District, 20 km SW Krounovka, forest, glades, 2-5.viii.1993 (S. Belokobylskij). Paratype: 1 ♀ (ZIP), Primorsk Territory, Anisimovka, meadow, 11.vii.1984 (S. Belokobylskij).

Description.— Female. Body length 3.2-3.4 mm; fore wing length 2.9-3.3 mm.

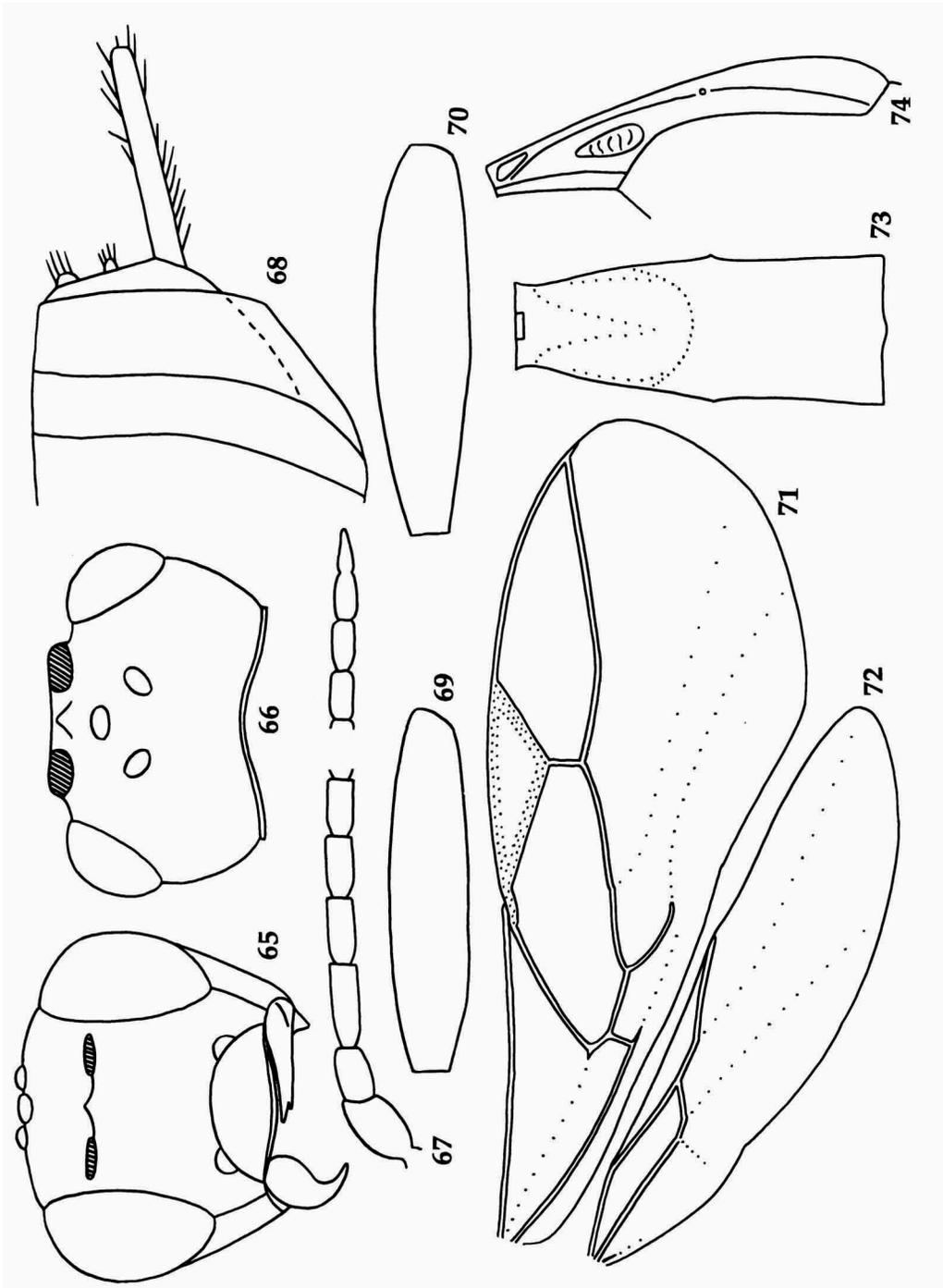
Head.— Width 1.6-1.7 times its medial length. Temple weakly and roundly narrowed behind eye, its length (see dorsally) nearly equal to transverse diameter of eye. Ocellar triangle with base 1.4 times its sides; POL 1.3-1.5 times Od, 0.8-1 times OOL. Eye strongly convex, sparsely and shortly setose, 1.5-1.6 times as high as broad. Cheek height 0.3 times eye height, nearly equal to basal width of mandible. Face weakly convex, with small medial tubercle, its width 0.8-0.9 times eye height and 1.3 times face height. Subocular suture distinct. Frons without carina. Tentorial pits situated slightly lower than lower level of eyes, distance between pits 3-3.5 times distance from pit to eye. Clypeal suture distinct dorsally. Clypeus strongly convex, slightly round or almost straight ventrally and with lower narrow flange, its width 2.3-2.5 times medial height, slightly shorter than minimum width of face. Occipital carina complete dorsally and ventrally. Hypostomal flange small, but distinct. Antennae rather thickened, setiform, 26-segmented, 0.8 times as long as body. First flagellar segment 3 times as long as apical width, 1.6-1.8 times pedicellum and 1.4 times second flagellar segment. Penultimate segment twice as long as wide.

Thorax.— Length 1.3-1.4 times its height. Pronope absent. Mesoscutum without tracks of notauli. Prescutellar depression deep, smooth, with medial carina. Sternauli lost. Scutellum convex. Propodeum without medial depression, weakly and almost roundly narrowed to apex (lateral view).

Wings.— Fore wing 2.6-3 times as long as wide. Metacarpus complete, 1.1 times as long as pterostigma. Length of pterostigma 3.3-3.5 times its maximum width. Radial vein arising distinctly behind middle of pterostigma. First radial abscissa perpendicular to pterostigma, 0.5 times as long as maximum width of pterostigma. Second radial abscissa weakly curved in basal half, straight in apical half, 10-11 times first abscissa. Distance from basal vein to nervulus 0.6-0.7 times nervulus length. Hind wing 4 times as long as wide. Nervellus unsclerotized, slightly antefurcal or almost interstitial to basal vein. Submedial cell open. Second abscissa of costal vein present; medial cell closed.

Legs.— Long and rather slender. Hind femur 4 times as long as wide. Inner spur of hind tibia 0.45-0.5 times hind basitarsus. Hind tarsus 1-1.1 times hind tibia; basitarsus 0.6 times second-fifth segments combined, second segment 0.5 times basitarsus, 1.5 times fifth segment (without pretarsus). Claws short, strongly bent medially.

Abdomen.— Petiole not cylindrical, flattened, weakly convex dorsally, short, rather wide, weakly widened in basal fifth, then almost parallel-sided toward apex. Lower sides of petiole fused in basal 0.25; spiracles situated slightly behind middle



Figs 65-74, *Syntretus miscellus* spec. nov. 65, head, frontal view; 66, head, dorsal view; 67, basal and apical segments of antenna; 68, apical part of abdomen and ovipositor, lateral view; 69, fore femur; 70, hind femur; 71, fore wing; 72, hind wing; 73, petiole, dorsal view; 74, petiole, lateral view.

of petiole; glymma distinct and deep posteriorly. Apical width of petiole 1.8-2 times its minimum width; length 2.2-2.4 times its apical width, 1.2-1.3 times length of propodeum. Abdomen behind petiole compressed. Second suture very fine. Length of second tergite 1-1.2 times its basal width, nearly equal to length of third tergite. Ovipositor short, straight, with small dorsal subapical tooth, its sheath 0.8-0.9 times as long as petiole, 1-1.1 times hind basitarsus, 0.15 times fore wing.

Sculpture and pubescence.— Head, mesothorax entirely and mesopleura smooth. Propodeum without areas, entirely smooth, with 2 short and divergent carinae apically. Hind coxa smooth. Petiole entirely smooth. Face rather shortly and densely setose, clypeus with long and directed lower hairs. Mesoscutum glabrous dorsally, rather densely setose at vertical surface.

Colour.— Head pale yellow or light reddish brown, darker dorsally, ocellar field black. Thorax and abdomen dorsally dark reddish brown or almost black, yellow or light reddish brown laterally and ventrally. Two-three basal segments of antenna yellowish brown, rest segments black. Palpi yellow. Legs light brown, hind tibia in apical third and hind tarsi darker. Ovipositor sheath black. Wings hyaline. Pterostigma yellow, dark around margins.

Male.— Unknown.

Discussion.— This species is related to *Syntretus lyctaeae* Cole, 1959, and differs in having the first abdominal tergite wide, short, flattened, almost parallel-sided at greater apical part and without visible dorsally laterope.

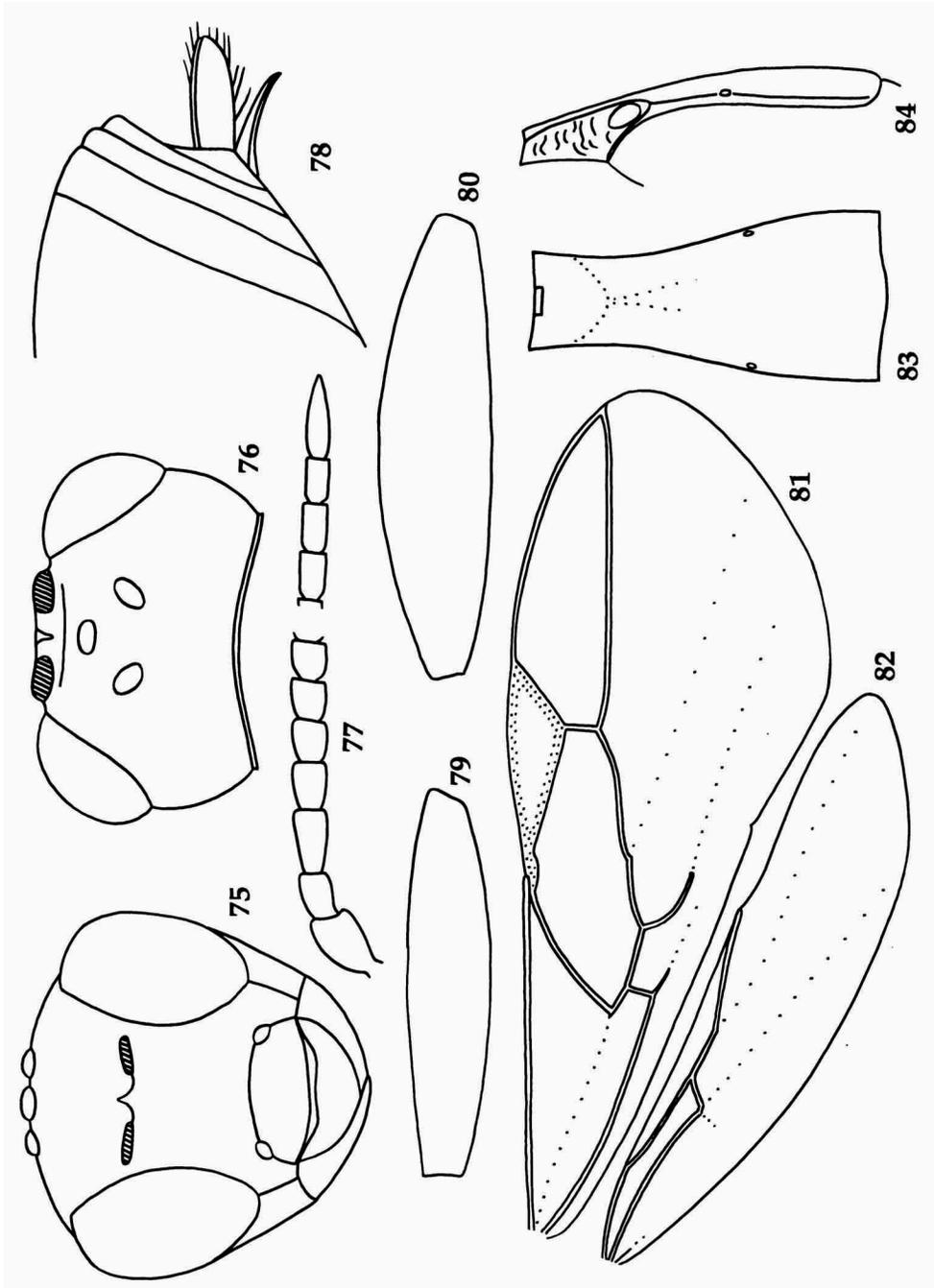
*Syntretus makarovi* spec. nov.  
(figs 75-84)

Material.— Holotype, ♀ (ZIP), Primorsk Territory, 5 km W Anisimovka, forest, glades, 6-9.viii.1993 (S. Belokobylskij).

Description.— Female. Body length 3.4 mm; fore wing length 3 mm.

Head.— Width 1.7 times its medial length. Temple weakly and roundly narrowed behind eye, its length (see dorsally) 1.3 times transverse diameter of eye. Ocellar triangle with base 1.5 times its sides; POL 1.5 times Od, 0.9 times OOL. Eye convex, almost glabrous, 1.4 times as high as broad. Cheek height 0.2 times eye height, 0.7 times basal width of mandible. Face weakly convex, with very small medial tubercle, its width 0.7 times eye height and 1.1 times face height. Subocular suture distinct. Frons with very fine longitudinal carina between antennal sockets. Tentorial pits situated at level of lower margin of eyes, distance between pits 5 times distance from pit to eye. Clypeal suture fine dorsally. Clypeus convex, almost straight ventrally and with lower narrow flange, its width nearly twice medial height, equal to minimum width of face. Occipital carina complete dorsally and ventrally. Hypostomal flange very small. Antennae rather thickened, setiform, 29-segmented, 0.8 times as long as body. First flagellar segment 1.7 times as long as apical width, 1.3 times pedicellum and 1.4 times second flagellar segment. Penultimate segment twice as long as wide.

Thorax.— Length 1.5 times its height. Pronope absent. Mesoscutum without tracks of notauli. Prescutellar depression deep, smooth, with medial carina. Sternauli lost. Scutellum convex. Propodeum without medial depression, convex in basal quarter, then strongly and almost linearly narrowed to apex (lateral view).



Figs 75-84, *Syntretus makarovi* spec. nov. 75, head, frontal view; 76, head, dorsal view; 77, basal and apical segments of antenna; 78, apical part of abdomen and ovipositor, lateral view; 79, fore femur; 80, hind femur; 81, fore wing; 82, hind wing; 83, petiole, dorsal view; 84, petiole, lateral view.

Wings.— Fore wing 2.6 times as long as wide. Metacarpus complete, 1.2 times as long as pterostigma. Length of pterostigma 3.6 times its maximum width. Radial vein arising behind middle of pterostigma. First radial abscissa perpendicular to pterostigma, 0.6 times as long as maximum width of pterostigma. Second radial abscissa entirely straight, 9.5 times first abscissa. Distance from basal vein to nervulus equal to nervulus length. Hind wing 4 times as long as wide. Nervellus unsclerotized and slightly antefurcal. Submedial cell open. Second abscissa of costal vein present; medial cell closed.

Legs.— Long and rather thick. Hind femur 4 times as long as wide. Inner spur of hind tibia 0.6 times hind basitarsus. Hind tarsus 1.2 times hind tibia; basitarsus 0.75 times second-fifth segments combined, second segment 0.4 times basitarsus, as long as fifth segment (without pretarsus). Claws short, strongly bent medially.

Abdomen.— Petiole not cylindrical, flattened, weakly convex dorsally, rather short, rather narrow, almost parallel-sided in basal half, distinctly widened from middle toward apex. Lower sides of petiole fused in basal 0.2; spiracles situated nearly apical third, glymma distinct, deep and sculptured. Apical width of petiole twice its minimum width; length twice its apical width, 1.2 times length of propodeum. Abdomen behind petiole more or less compressed. Second suture fine. Length of second tergite 0.7 times its basal width, 0.8 times length of third tergite. Ovipositor very short, straight, without dorsal subapical tooth, its sheath 0.4 times as long as petiole, 0.5 times hind basitarsus, 0.1 times fore wing.

Sculpture and pubescence.— Head, mesothorax entirely and mesopleura smooth, face punctulate. Propodeum without areas, smooth, but finely punctulate laterally and apically, with 2 distinct parallel carinae in apical third. Hind coxa smooth. Petiole entirely smooth. Face rather shortly and densely setose, clypeus with long and directed lower and forward hairs. Mesoscutum glabrous dorsally, sparsely and shortly setose at part of vertical surface.

Colour.— Head light brown, yellow ventrally. Thorax yellow, mesoscutum with 3 dark elongate spots, scutellum, metanotum and propodeum reddish brown. Abdomen dorsally almost black, light brown laterally and ventrally. Four basal segments of antenna yellow, rest segments black. Palpi pale yellow. Legs yellow, all tarsi darker. Ovipositor sheath black. Wings faintly infusate. Pterostigma yellow, dark around margins.

Male.— Unknown.

Discussion.— This species is related to *Syntretus miscellus* spec. nov. and differs in having the temple shorter, face narrow, antennal segments shorter and thicker, second radial abscissa straight, other shape of petiole, short ovipositor and absence of its subapical dorsal tooth, other shape of propodeum.

Etymology.— This species is named after S.O. Makarov, a Russian navigator and explorer of the Russian Far East.

*Spathicopsis flavocephalus* van Achterberg, 1977

*Spathicopsis flavocephalus* van Achterberg, 1977: 27

Material.— 1 ♀ (ZIP), Kuril Islands, Kunashir I., Sernovodsk, 15.vii.1973 (D. Kasparyan); 6 ♀♀ (ZIP, RMNH), Primorsk Territory, Spassk-Dal'niiy, forest, glades, 14.ix.1985 (S. Belokobylskij).

Distribution.— Belarus, Netherlands, Russia (new record), USA (Alaska).

*Blacometeorus brevicauda* (Hellén, 1958)

*Blacometeorus brevicauda*; Tobias, 1982: 618; van Achterberg, 1988: 47.

Material.— 1 ♀ (ZIP), Primorsk Territory, Vladivostok, Sadgorod, forest, 13.ix.1982 (S. Belokobylskij).

Distribution.— Finland, Russia (new record).

*Falcosyntretus elabsus* Papp, 1992

*Falcosyntretus elabsus* Papp, 1992: 69.

Material.— 1 ♀ (ZIP), Primorsk Territory, 15 km SW Spassk-Dal'niy, forest, glades, 14.vii.1995 (S. Belokobylskij).

Distribution.— Korea, Russia (new record).

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