

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

# NEW SPECIES OF THE SUBFAMILY EUPHORINAE (HYMENOPTERA, BRACONIDAE) FROM EAST PALAEARCTIC. PART IV 

S. A. Belokobylskij<br>Zoological Institute, Russian Academy of Sciences, Universitetskaya nab. 1, St.Petersburg, 199034, Russia

Perilitus (Microctonus) sylvicola Belokobylskij, sp. n.
Figs 325-331
MATERIAL. Holotype: $\boldsymbol{o ̛}^{\text {, Russia: Primorskii krai, } 30 \text { km NW Spassk-Dal'niy, }}$ forest, 26.VIII 1981 (S.B.) [ZISP].

DESCRIPTION. MALE. Body length 2.9 mm ; fore wing length 2.3 mm . Width of head almost twice its median length, 1.1 times width of mesoscutum. Occiput weakly concave. Temples behind eyes strongly roundly narrowed, transverse diameter of eye 1.5 times length of temple. Ocelli medium size, in triangle with base 1.7 times its lateral sides; posterior margin of median ocellus placed on line between anterior margins of lateral ocelli. POL 1.7 times Od, 1.2 times OOL. Eye almost glabrous, 1.4 times as high as broad. Malar suture present. Malar space wide, its height equal to basal width of mandible, 0.3 times height of eye. Antennal tubercles indistinct. Width of face 1.5 times its median height, 1.1 times height of eye. Tentorial pits distinct, distance between pits twice distance from pit to eye. Clypeus with distinct ventral flange. Width of clypeus almost twice its median height, 0.8 times width of face. Head strongly and roundly narrowed below eyes. Occipital carina complete dorsally, but rather fine.

Antenna almost filiform, 27-segmented, 1.1 times as long as body. First flagellar segment 2.8 times as long as its apical width, 1.2 times as long as second segment. Length of penultimate segment 1.6 times its width, 0.4 times length of first and 0.7 times length of apical segments.


Figs 325-339. Perilitus (Microctonus) sylvicola sp. n. (325-331) and P. (M.) taegeri sp. n. (332-339). 325, 333) head, frontal view; 326, 334) head, dorsal view; 327, 335) basal and apical segments of antenna; 328, 331, 336, 339) first abdominal tergite (328, 336 - lateral view; 331, 339 - dorsal view); 329, 337) fore wing; 330, 338) hind wing; 332) hind femur.

Thorax. Length 1.4 times its maximum height. Notauli deep, wide, complete, sparsely crenulate. Prescutellar depression long, with distinct median carina, almost smooth, 0.4 times as long as scutellum. Scutellum with distinct short transverse
smooth depression posteriorly. Sternauli shallow, wide, rugulose-reticulate. Propodeum without lateral tubercles, almost vertically abrupted from anterior $1 / 3$ (lateral view), with very shallow median depression in posterior half (dorsal view).

Wings. Length of fore wing 2.4 times its width. Length of pterostigma almost 3 times its maximum width. Radial cell weakly shortened, pointed apically, 2.6 times as long as wide. Metacarpus 0.7 times as long as pterostigma, almost twice as long as width of pterostigma, 1.1 times as long as distance from apex of radial cell to apex of wing. Second abscissa of radial vein curved in basal half, almost straight in apical half; radial vein arising from middle of pterostigma. First radial abscissa 0.5 times as long as maximum width of pterostigma, 0.15 times as long as second abscissa. First abscissa of medial vein absent. Distance from nervulus to basal vein 0.5 times nervulus length. In hind wing, basal vein as long as third abscissa of costal vein.

Legs. Hind femur 4 times as long as wide. Hind tarsus 0.8 times as long as hind tibia, its second segment 0.4 times as long as first segment, as long as fifth segment (without pretarsus).

Abdomen. First tergite strongly widened toward apex, with large spiracular tubercles near middle, without laterope, with small dorsope. Apical width of first tergite 2.5 times its minimum width, length 1.6 times its apical width. Length of second and third tergites combined 1.6 times basal width of second tergite.

Sculpture and pubescence. Head smooth, frons laterally finely sculptured, face finely punctulate. Sides of pronotum rugulose-reticulate, finely rugulose upper at narrow part. Mesoscutum almost smooth, rugulose on rather large area medioposteriorly. Mesopleura smooth at rather narrow median area. Propodeum almost entirely rugulose-reticulate. Hind coxa smooth. First abdominal tergite striate, rugulose-striate medially. Median and lateral lobes of mesoscutum setose, glabrous in posterior $1 / 5$.

Colour. Head reddish brown, darker ventrally, face, clypeus, malar space and lower half of temple light reddish brown or yellowish brown. Thorax and abdomen dark reddish brown to black, propodeum yellowish brown; first abdominal tergite yellow basally. Antennae dark reddish brown, light reddish brown in basal 1/4. Palpi yellow. Legs light brown, hind tibia in apical third and hind tarsus darker. Wings hyaline. Pterostigma brown.

FEMALE unknown.
DISCUSSION. The new species is similar to $P$. (M.) simulans Chen et Achterberg, 1997 (Chen \& Achterberg, 1997) and differs in having the first abdominal tergite wide, thorax and abdomen dark, head transverse, temple short, propodeum strongly abrupted.

## Perilitus (Microctonus) taegeri Belokobylskij, sp. n.

Figs 332-339
MATERIAL. Holotype: + , Russia: Primorskii krai, 20 km SW Krounovka, dry slope, 3-5.VIII 1993 (S.B.) [ZISP]. Paratypes: Primorskii krai: 2 \& with same labels as holotype; 1 우, 5 km W Anisimovka, forest, glades, 6-9.VIII 1993 (S.B.); 1 우, 15 km SW Slavyanka, oak forest, glades, 16.VI 1993 (S.B.) [all in ZISP].

DESCRIPTION. FEMALE. Body length 2.4-2.6 mm; fore wing length 2.1-2.2 mm . Width of head 1.8-2 times its median length, 1.4 times width of mesoscutum. Occiput concave. Temples behind eyes distinctly roundly narrowed, transverse diameter of eye 1.5-1.7 times length of temple. Ocelli medium size, in triangle with base 1.5-1.6 times its lateral sides; posterior margin of median ocellus placed almost on one line between anterior margins of lateral ocelli. POL 2.3 times Od, equal to OOL. Eye with sparse and very short hairs, 1.3 times as high as broad. Malar suture present. Malar space narrow, its height 0.5-0.8 times basal width of mandible, 0.15-0.2 times height of eye. Antennal tubercles indistinct. Width of face equal to its median height, 0.7 times height of eye. Tentorial pits distinct, distance between pits 3-3.3 times distance from pit to eye. Clypeus with distinct ventral flange. Width of clypeus 1.8 times its median height, 0.8-0.9 times width of face. Head strongly and almost linearly narrowed below eyes. Occipital carina distinct dorsally.

Antenna filiform, 22-23-segmented, 0.7-0.8 times as long as body. First flagellar segment 3-3.5 times as long as its apical width, 1.1-1.2 times as long as second segment. Length of penultimate segment 1.1-1.3 times its width, 0.3-0.45 times length of first and 0.6 times length of apical segments.

Thorax. Length 1.4-1.5 times its maximum height. Notauli rather shallow, wide, complete, crenulate. Prescutellar depression long, with distinct median carina, distinctly sculptured, 0.3-0.4 times as long as scutellum. Scutellum with distinct transverse almost smooth depression posteriorly. Sternauli shallow, wide, rugulosereticulate. Propodeum without lateral tubercles, strongly and almost linearly abrupted in posterior half (lateral view), with shallow wide median depression in posterior half (dorsal view).

Wings. Length of fore wing 2.7 times its width. Length of pterostigma 3 times its maximum width. Radial cell shortened, pointed apically, 2.8-3 times as long as wide. Metacarpus 0.8 times as long as pterostigma, 1.4-1.5 times as long as distance from apex of radial cell to apex of wing. Second abscissa of radial vein curved in basal half and almost straight in apical half; radial vein arising behind middle of pterostigma. First radial abscissa 0.4 times as long as maximum width of pterostigma, 0.1 times as long as second abscissa. First abscissa of medial vein absent. Distance from nervulus to basal vein 0.8-1 times nervulus length. In hind wing, basal vein 1-1.4 times as long as third abscissa of costal vein.

Legs. Hind femur 5-5.5 times as long as wide. Hind tarsus 0.85-0.9 times as long as hind tibia, its second segment 0.4 times as long as first segment, 1.3 times as long as fifth segment (without pretarsus).

Abdomen. First tergite widened posteriorly, with small spiracular tubercles behind middle, without laterope and dorsope. Apical width of first tergite 3 times its minimum width, length about 2.5 times its apical width. Length of second and third tergites combined 1.7-1.8 times basal width of second tergite. Ovipositor compressed in apical $1 / 4$ only, weakly curved down. Ovipositor sheath narrow, 1.2 times as long as first tergite, 0.7-0.8 times as long as hind tibia, 0.3 times as long as fore wing.

Sculpture and pubescence. Head smooth, frons in anterior 1/2-1/3 finely striate, face densely transversely striate. Sides of pronotum rugulose-reticulate, smooth upper. Median lobe of mesoscutum densely punctulate, rugulose in rather large area medioposteriorly. Mesopleura almost smooth at narrow median area. Propodeum
coarsely reticulate-rugulose, with several carinae. Hind coxa smooth, punctulate laterally. First abdominal tergite striate, rugulose medially. Median lobe of mesoscutum entirely and lateral lobes mostly pubescence, lateral lobes in posteromedial 1/2-1/3 glabrous.

Colour. Head light reddish brown, vertex, frons medially, upper half of occiput and temple dark reddish brown, partly almost black. Thorax black, propleura and sides of pronotum ventrally light brown. Abdomen dark reddish brown. Antennae reddish brown, dark in apical half, 2 basal segments light brown. Palpi yellow. Legs light brown, hind tibia and tarsus darker. Wings faintly infuscate. Pterostigma brown.

MALE unknown.
DISCUSSION. The new species is similar to $P$. (M.) sylvicola sp. n. and differs in having the face and hind femur narrow, first abdominal tergite weakly widened toward apex and sternauli shallow.

ETYMOLOGY. This species is named after my friend Dr. A. Taeger, the wellknown German hymenopterist.

## Perilitus (Microctonus) tuvaensis Belokobylskij, sp. n.

Figs 340-346
MATERIAL. Holotype: ㅇ, Russia: Tuva, Ersin, 28.V 1975 (D.K.) [ZISP].
DESCRIPTION. FEMALE. Body length 2.2 mm ; fore wing length 1.9 mm . Width of head 1.8 times its median length, 1.3 times width of mesoscutum. Occiput weakly concave. Temples behind eyes almost parallel-sided in anterior half and strongly narrowed in posterior half, transverse diameter of eye almost equal to length of temple. Ocelli medium size, in triangle with base 1.5 times its lateral sides; posterior margin of median ocellus placed on one line between anterior margins of lateral ocelli. POL 3 times Od, equal to $O O L$. Eye with sparse and very short hairs, 1.3 times as high as broad. Malar suture present. Malar space narrow, its height 0.7 times basal width of mandible, 0.25 times height of eye. Antennal tubercles indistinct. Width of face 1.7 times its median height, 1.2 times height of eye. Tentorial pits distinct, distance between pits 2.2 times distance from pit to eye. Clypeus with narrow ventral flange. Width of clypeus almost twice its median height, 0.7 times width of face. Head strongly and roundly narrowed below eyes. Occipital carina widely interrupted dorsally. Palpi short (especially labial one), apical segment of maxillary palpi very short, narrow and pointed, shorter then previous segment.

Antenna filiform, 17-segmented, 0.85 times as long as body. First flagellar segment 3 times as long as its apical width, 1.1 times as long as second segment. Length of penultimate segment 1.7 times its width, 0.6 times lengths of first and apical segments.

Thorax. Length 1.4 times its maximum height. Notauli rather shallow, wide, complete, crenulate. Prescutellar depression long, with distinct median carina, finely sculptured, 0.3 times as long as scutellum. Scutellum with distinct transverse sculptured depression posteriorly. Sternauli shallow, wide, rugulose-punctulate. Propodeum without lateral tubercles, strongly, roundly and regularly narrowed toward apex (lateral view), with very shallow depression in posterior 1/3 (dorsal view).

Wings. Length of fore wing 2.7 times its width. Length of pterostigma 3 times its maximum width. Radial cell strongly shortened, obtuse apically, 2.4 times as


Figs 340-346. Perilitus (Microctonus) tuvaensis sp. n. 340) head, frontal view; 341) head, dorsal view; 342) basal and apical segments of antenna; 343) first abdominal tergite, dorsal view; 344) fore wing; 345) hind wing; 346) abdomen, lateral view.
long as wide; metacarpus (inside cell) 0.45 times as long as pterostigma and as distance from apex of radial cell to apex of wing. Second abscissa of radial vein regularly curved, radial vein arising behind middle of pterostigma. First radial abscissa 0.3 times as long as maximum width of pterostigma, 0.1 times as long as second abscissa. First abscissa of medial vein absent. Recurrent vein placed almost on one line with first radiomedial vein. Distance from nervulus to basal vein 0.6 times nervulus length. In hind wing, basal vein 1.3 times as long as third abscissa of costal vein.

Legs. Hind femur 5.7 times as long as wide. Hind tarsus 0.8 times as long as hind tibia, its second segment 0.5 times as long as first segment, 1.1 times as long as fifth segment (without pretarsus).

Abdomen. First tergite distinctly widened posteriorly, with small spiracular tubercles near middle and small but distinct laterope. Apical width of first tergite
3.5 times its minimum width, length almost twice its apical width. Length of second and third tergites combined 1.4 times basal width of second tergite. Ovipositor compressed, strongly curved up. Ovipositor sheath widened in apical $2 / 3$ and pointed on apex, 0.75 times as long as first tergite, 0.4 times as long as hind tibia, 0.2 times as long as fore wing.

Sculpture and pubescence. Head smooth, face almost entirely and frons mostly densely granulate with rugae. Sides of pronotum rugulose, smooth upper at narrow part. Mesoscutum finely punctulate on median lobe, rugulose on small area medioposteriorly. Mesopleura smooth. Propodeum entirely and densely reticulaterugulose, without areas and carinae. Hind coxa smooth. First abdominal tergite rather finely striate. Median lobe of mesoscutum entirely and lateral lobes in basal half pubescence.

Colour. Head and propleura brownish yellow. Thorax dark reddish brown, lighter laterally. Abdomen reddish brown in basal half, light brownish yellow in apical half. 2 basal segments of antenna yellow, third segment light reddish brown, rest segments dark reddish brown. Palpi pale yellow; tegulae yellow. Legs brownish yellow, hind coxa darkened basally. Wings hyaline. Pterostigma brown.

MALE unknown.
DISCUSSION. The new species differs from all species of subgenus Microctonus with strongly shortened radial cell by curved up ovipositor, by widened in apical $2 / 3$ ovipositor sheath and by frons sculptured almost entirely.

## Perilitus (Perilitus) dauricus Belokobylskij, sp. n.

Figs 347-354
MATERIAL. Holotype: 9 , Russia: Chitinskaya oblast’, 12 km N Kurort Darasun, Tura River, 26.VI 1975 (D.K.) [ZISP].

DESCRIPTION. FEMALE. Body length 3.0 mm ; fore wing length 3.0 mm . Width of head 1.7 times its median length, 1.2 times width of mesoscutum. Occiput concave. Temples behind eyes distinctly roundly narrowed; transverse diameter of eye 1.3 times length of temple. Frons flat. Ocelli medium size, in triangle with base 1.5 times its lateral sides; posterior margin of median ocellus placed before line between anterior margins of lateral ocelli. POL 3 times Od, 1.3 times OOL. Eye with very sparse and short hairs, 1.3 times as high as broad. Malar suture present. Malar space rather short, its height 0.7 times basal width of mandible, 0.2 times height of eye. Antennal tubercles indistinct. Width of face 1.4 times its median height, equal to height of eye. Tentorial pits distinct, distance between pits 2.8 times distance from pit to eye. Clypeus with distinct ventral flange. Width of clypeus almost twice its median height, 0.8 times width of face. Head distinctly and roundly narrowed below eyes. Occipital carina complete dorsally.

Antenna filiform, 23-segmented, almost as long as body. First flagellar segment 3.5 times as long as its apical width, 0.9 times as long as second segment. Length of penultimate segment 1.5 times its width, 0.4 times length of first and 0.5 times length of apical segments.

Thorax. Length 1.3 times its maximum height. Notauli rather shallow, narrow, complete, crenulate. Median lobe of mesoscutum without median depression. Prescutellar depression long, with distinct median carina, finely rugulose, 0.3 times as long as scutellum. Scutellum with distinct transverse sculptured depression posteri-


Figs 347-354. Perilitus (Perilitus) dauricus sp. n. 347) head, frontal view; 348) head, dorsal view; 349) basal and apical segments of antenna; 350) first abdominal tergite, dorsal view; 351) abdomen, lateral view; 352) hind femur; 353) fore wing; 354) hind wing.
orly. Sternauli very shallow, wide, rugulose-reticulate. Propodeum without lateral tubercles, strongly and almost linearly abrupted from basal 1/3 (lateral view).

Wings. Length of fore wing 2.6 times its width. Length of pterostigma 3.2 times its maximum width. Radial cell strongly shortened, obtuse apically, twice as long as wide; metacarpus 0.7 times as long as pterostigma, almost twice as long as width of pterostigma, 0.7 times as long as distance from apex of radial cell to apex of wing. Second abscissa of radial vein regularly curved; radial vein arising behind middle of pterostigma. First radial abscissa 0.5 times as long as maximum width of pterostigma, 0.15 times as long as second abscissa. First abscissa of medial vein present. Recurrent vein distinctly antefurcal. Distance from nervulus to basal vein 0.8 times nervulus length. In hind wing, basal vein as long as third abscissa of costal vein.

Legs. Hind femur 5 times as long as wide. Hind tarsus 0.8 times as long as hind tibia, its second segment 0.5 times as long as first segment, equal to or 1.2 times as long as fifth segment (without pretarsus).

Abdomen. First tergite widened posteriorly, with distinct spiracular tubercles near middle and small dorsope, without laterope. Length of first tergite 2.4 times its apical width. Length of second and third tergites combined 1.5 times basal width of second tergite. Ovipositor rather weakly compressed, strongly curved down. Ovipositor sheath narrow, 0.8 times as long as first tergite, 0.5 times as long as hind tibia, 0.2 times as long as fore wing.

Sculpture and pubescence. Head smooth, frons striate laterally, face finely rugulose striate. Sides of pronotum rugose-reticulate, smooth upper at narrow part. Median lobe of mesoscutum finely punctulate, rugulose-reticulate on wide area medioposteriorly. Mesopleura smooth medially. Propodeum entirely reticulaterugulose, with several distinct longitudinal carinae. Hind coxa rugulose in basal half. First abdominal tergite striate. Median lobe of mesoscutum entirely and densely setose, lateral lobes glabrous at most part.

Colour. Body dark reddish brown, head lighter. Antennae dark reddish brown, lighter basally. Palpi light reddish brown. Legs light reddish brown, darker basally. Wings faintly infuscate. Pterostigma brown.

## MALE unknown.

DISCUSSION. The new species is similar to $P$. (P.) falciger Ruthe, 1856 (Haeselbarth, 1998) and differs in having the second radial abscissa regularly curved, radial cell short and first flagellar segment long.

## Perilitus (Perilitus) flavifacies Belokobylskij, sp. n.

Figs 355-363

MATERIAL. Holotype: ㅇ, Russia: Khabarovsk, Khekhtsir, forest, 13.VI 1985 (S.B.) [ZISP]. Paratypes: Primorskii krai: 2 ㅇ, 30 km E Spassk-Dal'niy, forest, glades, 26.VI 1985 (S.B.); 14 ㅇ, $60^{\star}$, Spassk-Dal'niy, forest, border of forest, glades, 27.V 1985, 19-25.VII 1991, 10-12.VII, 17.VIII 1993, 18.VII 1995, 16-17.VII 1998 (S.B.); 1 ơ $^{\prime} 20 \mathrm{~km}$ E Spassk-Dal'niy, forest, 23.VIII 1985 (S.B.); 1 ㅇ, 20 km SE Spassk-Dal'niy, forest, glades, 25.VIII 1985 (S.B.); 2 ㅇ, 20 km ESE Spassk-Dal'niy, Siniy Ridge, forest, 16. VII 1998 (S.B.); 1ㅇ, 20 km NW Spassk-Dal'niy, bank of Khanka Lake, meadow, sparse forest, 30.VIII 1998 (S.B.); 1 ㅇ, 15 km SW SpasskDal'niy, Knorring, forest, glades, 22.VII 1991 (S.B.); 2 \&, 7 o $^{\circ}$, Anisimovka, forest, meadow, 5-7.VI 1993 (S.B.); 1 ㅇ, $10^{\text {º }}$, nature reserve Ussuriyskiy, 23-29.VII 1973
 SE Ussuriysk, at light, 3.VIII 1991 (S.B.); 1 우, the same place, 31.VII 1962 (I. Kerzhner); $10^{\star}, 24 \mathrm{~km}$ N Vladivostok, 28.VII 1963 (I. Kerzhner); $10^{\text {o }}, 30 \mathrm{~km}$ S Slavyanka, oak forest, Corylus shrubs, 3.VIII 1985 (S.B.); 1 우, 20 km SW Krounovka, forest, glades, 2-5.VIII 1993 (S.B.); $10^{\star}$, Tarasovka, soya bean field, 18.VII 1973 (L. Kulikova). Evreiskaya AO: 1 ㅇ, 25 km NW Birobidzhan, SagdyBira River, 6.VIII 1982 (A. Zinoviev). Yamalo-Nenetskii AO: 1우, Krasnosel'kup, Taz River, 16-17.VIII 1992 (D.K.) [ZISP].


Figs 355-363. Perilitus (Perilitus) flavifacies sp. n. 355) head, frontal view; 356) head, dorsal view; 357) basal and apical segments of antenna; 358-360) first abdominal tergite (358 - lateral view; 359 - dorsal view; 360 - ventral view); 361) propodeum, lateral view; 362) fore wing; 363) hind wing.

DESCRIPTION. FEMALE. Body length 3.1-4.5 mm; fore wing length 2.7-3.4 mm . Width of head twice its median length, 1.2-1.3 times width of mesoscutum. Occiput weakly concave. Temples behind eyes strongly roundly narrowed, transverse diameter of eye 1.5-1.7 times length of temple. Ocelli medium size, in triangle with base 1.3-1.4 times its lateral sides; posterior margin of median ocellus placed distinctly before line between anterior margins of lateral ocelli. POL 1.7-2 times Od, 0.8-0.9 times OOL. Eye with sparse and short hairs, 1.3-1.4 times as high as broad. Malar suture present. Malar space narrow, its height almost 0.4 times basal width of mandible, 0.1 times height of eye. Antennal tubercles small. Width of face almost equal to its median height, 0.6 times height of eye. Tentorial pits distinct, distance between pits 6-7 times distance from pit to eye. Clypeus with ventral flange. Width of clypeus 1.7-2 times its median height, almost equal to width of face. Head strongly and almost linearly narrowed below eyes. Occipital carina complete dorsally.

Antenna thickened, filiform, 23-24-segmented, 0.6 times as long as body. First flagellar segment 2.8-3 times as long as its apical width, 1.1-1.2 times as long as second segment. Length of penultimate segment 1-1.2 times its width, $0.3-0.4$ times length of first and 0.5-0.6 times length of apical segments.

Thorax. Length 1.5-1.6 times its maximum height. Pronotum with shallow dorsope. Notauli rather deep, narrow, complete, crenulate. Prescutellar depression rather long, with median carina, sparsely crenulate, 0.25-0.3 times as long as scutellum. Scutellum with distinct transverse and almost smooth depression posteriorly. Sternauli shallow, wide, rugulose reticulate. Propodeum without lateral tubercles, roundly and rather regularly abrupted (lateral view).

Wings. Length of fore wing 2.8-2.9 times its width. Length of pterostigma 2.62.8 times its maximum width. Radial cell long, pointed apically, 3.4-3.6 times as long as wide. Metacarpus 1-1.1 times as long as pterostigma, 2.6-3 times as long as distance from apex of radial cell to apex of wing. Second abscissa of radial vein weakly curved in basal half and almost straight in apical half; radial vein arising slightly behind middle of pterostigma. First radial abscissa 0.3-0.4 times as long as maximum width of pterostigma, about 0.1 times as long as second abscissa. First abscissa of medial vein present. Recurrent vein weakly antefurcal or interstitial. Distance from nervulus to basal vein 0.2-0.8 times nervulus length. In hind wing, basal vein 1.5-2 times as long as third abscissa of costal vein.

Legs. Hind femur 4.6-5.3 times as long as wide. Hind tarsus 0.8-0.9 times as long as hind tibia, its second segment 0.4-0.45 times as long as first segment, 1.51.6 times as long as fifth segment (without pretarsus).

Abdomen. First tergite rather weakly widened posteriorly, fused with long acrosternite ventrally, with spiracular tubercles near middle, without laterope and dorsope. Apical width of first tergite 2.7-3 times its minimum width, length 2.52.8 times its apical width. Length of second and third tergites combined 1.4-1.5 times basal width of second tergite. Second suture present, but very fine. Ovipositor strongly compressed in apical $3 / 5$, weakly curved down. Ovipositor sheath narrow, 1.4-1.5 times as long as first tergite, almost as long as hind tibia, 0.4-0.45 times as long as fore wing.

Sculpture and pubescence. Head smooth, frons striate in anterior 1/2-1/3, face densely punctulate-rugulose. Sides of pronotum coarsely reticulate-rugulose, smooth in upper $1 / 4$. Mesoscutum finely and densely punctulate, rugulose in rather small area medioposteriorly. Mesopleura smooth on median area. Propodeum coarsely and entirely reticulate-rugulose, with several high carinae. Hind coxa rugulose-striate or concentrically striate dorsally, densely punctulate laterally. First abdominal tergite almost entirely striate. Median and lateral lobes of mesoscutum almost entirely pubescence.

Colour. Body black. Head light brown or brownish yellow, frons medially, ocellar triangle, vertex and temples in posterior halves black or dark reddish brown. Abdomen dark reddish brown, lighter posteriorly or behind first tergite. Antennae brownish yellow, sometimes faintly darker apically. Palpi yellow. Legs yellow, hind coxa and femur light reddish brown. Wings faintly infuscate. Pterostigma brown, lighter basally.

MALE. Body length $3.6-4.2 \mathrm{~mm}$; fore wing length $2.7-3.6 \mathrm{~mm}$. Transverse diameter of eye 1.3 times length of temple. Antennae 25-26-segmented. Antennal segments longer; penultimate segment 1.8-2 times as long as width. Face and
antenna sometimes darker. Width of face 1.3-1.5 times its height. Otherwise similar to female.

DISCUSSION. The new species is similar to P. (P.) coxator Belokobylskij, 1995 (Belokobylskij, 1995) and differs in having the propodeum roundly and rather regularly abrupted (lateral view), antenna and face entirely yellow or light brown, first abdominal tergite distinctly and almost entirely striate and nervulus not postfurcal.

## Perilitus (Perilitus) pappi Belokobylskij, sp. n.

Figs 364-370
MATERIAL. Holotype: $\uparrow$, Russia: Primorskii krai, 15 km S Partizansk, Novitskoe, forest, 20.VI 1990 (S.B.) [ZISP].

DESCRIPTION. FEMALE. Body length 2.4 mm ; fore wing length 2.1 mm . Width of head 1.8 times its median length, 1.4 times width of mesoscutum. Occiput weakly concave. Temples behind eyes roundly narrowed, transverse diameter of eye 1.3 times length of temple. Ocelli medium size, in triangle with base 1.7 times its lateral sides; posterior margin of median ocellus placed on line between anterior margins of lateral ocelli. POL twice Od, equal to OOL. Eye sparsely and shortly setose, 1.4 times as high as broad. Malar suture present. Malar space narrow, its height 0.6 times basal width of mandible, 0.2 times height of eye. Antennal tubercles indistinct. Width of face 1.3 times its median height, 0.9 times height of eye. Tentorial pits distinct, distance between pits 3 times distance from pit to eye. Clypeus with narrow ventral flange. Width of clypeus 1.7 times its median height, 0.75 times width of face. Head strongly and roundly narrowed below eyes. Occipital carina complete dorsally, but fine.

Antenna weakly thickened, filiform, 22-segmented, 0.9 times as long as body. First flagellar segment 3 times as long as its apical width, 1.1 times as long as second segment. Length of penultimate segment 1.1 times its width, 0.45 times length of first and 0.4 times length of apical segments.

Thorax. Length 1.5 times its maximum height. Shallow pronope present. Median lobe of mesoscutum with distinct and wide longitudinal median depression. Notauli rather shallow, wide, complete, crenulate. Prescutellar depression long, with distinct median carina, sparsely rugulose, 0.4 times as long as scutellum. Scutellum with narrow transverse smooth depression posteriorly. Sternauli shallow, rather narrow, rugulose-reticulate. Propodeum without lateral tubercles, strongly and almost linearly abrupted toward apex (lateral view), with distinct wide median depression in posterior half (dorsal view).

Wings. Length of fore wing 2.8 times its width. Length of pterostigma 3 times its maximum width. Radial cell shortened, weakly pointed apically, 3 times as long as wide. Metacarpus 0.85 times as long as pterostigma, 1.5 times as long as distance from apex of radial cell to apex of wing. Second abscissa of radial vein rather regularly curved in basal half, almost straight in apical half; radial vein arising from middle of pterostigma. First radial abscissa 0.55 times as long as maximum width of pterostigma, 0.15 times as long as second abscissa. First abscissa of medial vein present. Recurrent vein almost interstitial. Distance from nervulus to basal vein 0.75 times nervulus length. In hind wing, basal vein 0.6 times as long as third abscissa of costal vein.


Figs 364-378. Perilitus (Perilitus) pappi sp. n. (364-370) and P. (Townesilitus) haeselbarthi sp. n. (371-378). 364, 373) head, frontal view; 365, 374) head, dorsal view; 366, 375) basal and apical segments of antenna; $367,371,372$ ) first abdominal tergite ( 367,372 dorsal view; 371 - ventral view); 368, 378) hind femur; 369, 376) fore wing; 370, 377) hind wing.

Legs. Hind femur 4.5 times as long as wide. Hind tarsus almost as long as hind tibia, its second segment 0.5 times as long as first segment, 1.4 times as long as fifth segment (without pretarsus).

Abdomen. First tergite widened posteriorly, without spiracular tubercles, without laterope and dorsope. Apical width of first tergite almost 3 times its minimum
width, length 2.2 times its apical width. Length of second and third tergites combined 1.5 times basal width of second tergite. Ovipositor compressed in apical 2/3, weakly curved down. Ovipositor sheath narrow, 1.7 times as long as first tergite, 1.1 times as long as hind tibia, 0.4 times as long as fore wing.

Sculpture and pubescence. Head smooth, frons densely striate almost entirely, face granulate-rugulose. Sides of pronotum coarsely rugulose-reticulate, almost smooth in upper $1 / 5$. Median lobe of mesoscutum densely punctulate, rugulose in small area medioposteriorly. Mesopleura sparsely punctulate in narrow median area. Propodeum entirely rugulose-reticulate, with high lateral carinae. Hind coxa almost entirely striate. First abdominal tergite entirely striate. Median and lateral lobes of mesoscutum entirely setose.

Colour. Body black; head brown, clypeus, malar space and mandibles yellow. Antennae dark reddish brown, 2 basal segments lighter. Palpi yellow. Legs light brown. Wings faintly infuscate. Pterostigma brown.

MALE unknown.
DISCUSSION. The new species is similar to Chinese $P$. (P.) aequorus Chen et Achterberg, 1997 and differs in having the ovipositor long, frons and hind coxae coarsely sculptured, by presence the median longitudinal depression on median lobe of mesoscutum, by mesopleura widely sculptured and by dark body. P. (P.) pappi sp. n. is similar to P. (P.) regius Haeselbarth, 1999 (Haeselbarth, 1999) and differs in having the less number of antennal segments, frons coarsely sculptured, clypeus and malar space yellowish brown, mesopleura widely sculptured, ovipositor sheath long and median lobe of mesoscutum with median longitudinal depression.

ETYMOLOGY. This species is named after Dr. J. Papp, the well-known Hungarian taxonomist on Braconidae.

## Perilitus (Townesilitus) haeselbarthi Belokobylskij, sp. n.

Figs 371-378
MATERIAL. Holotype: 우, Russia: Primorskii krai, 10 km SE Chernigovka, forest, glades, 26-28.VIII 1998 (S.B.) [ZISP].

DESCRIPTION. FEMALE. Body length 2.2 mm ; fore wing length 1.9 mm . Width of head 1.9 times its median length, 1.4 times width of mesoscutum. Occiput weakly concave. Temples behind eyes roundly narrowed, transverse diameter of eye 1.15 times length of temple. Ocelli medium size, in triangle with base 1.4 times its lateral sides; posterior margin of median ocellus placed before line between anterior margins of lateral ocelli. POL 3 times Od, equal to OOL. Eye glabrous, 1.3 times as high as broad. Malar suture present. Malar space narrow, its height 0.9 times basal width of mandible, 0.3 times height of eye. Antennal tubercles indistinct. Width of face 1.6 times its median height, 1.1 times height of eye. Tentorial pits distinct, distance between pits 2.8 times distance from pit to eye. Width of clypeus 2.5 times its median height, 0.8 times width of face. Head strongly and roundly narrowed below eyes. Occipital carina complete dorsally.

Antenna filiform, 19-segmented, 0.8 times as long as body. First flagellar segment 3 times as long as its apical width, as long as second segment. Length of penultimate segment 1.7 times its width, 0.6 times length of first and 0.7 times length of apical segments.

Thorax. Length 1.5 times its maximum height. Median lobe of mesoscutum without median depression. Notauli rather deep, narrow, complete, crenulate. Pre-
scutellar depression short, with distinct median carina, finely crenulate, 0.3 times as long as scutellum. Scutellum with long transverse almost smooth depression posteriorly. Sternauli shallow, wide, longitudinally striate. Propodeum without lateral tubercles, strongly linearly and regularly abrupted from basal $1 / 4$ toward apex (lateral view).

Wings. Length of fore wing 2.5 times its width. Length of pterostigma 3 times its maximum width. Radial cell shortened, pointed apically, 2.8 times as long as wide. Metacarpus 0.65 times as long as pterostigma, almost twice as long as width of pterostigma, 0.8 times as long as distance from apex of radial cell to apex of wing. Second abscissa of radial vein regularly curved in basal half, almost straight in apical half; radial vein arising from middle of pterostigma. First radial abscissa 0.3 times as long as maximum width of pterostigma, 0.1 times as long as second abscissa. First abscissa of medial vein almost entirely absent. Recurrent vein weakly postfurcal. Distance from nervulus to basal vein 0.5 times nervulus length. In hind wing, basal vein 1.5 times as long as third abscissa of costal vein.

Legs. Hind femur 5 times as long as wide. Hind tarsus 0.9 times as long as hind tibia, its second segment 0.45 times as long as first segment, 1.1 times as long as fifth segment (without pretarsus).

Abdomen. First tergite distinctly widened posteriorly, with small spiracular tubercles near middle, with small dorsope, without laterope. Apical width of first tergite 3 times its minimum width, length almost 1.8 times its apical width. Length of second and third tergites combined 1.6 times basal width of second tergite. Ovipositor strongly compressed, almost straight. Ovipositor sheath narrow, 1.7 times as long as first tergite, as long as hind tibia, 0.4 times as long as fore wing.

Sculpture and pubescence. Head smooth, frons sculptured anteriorly, face finely punctulate-granulate. Sides of pronotum finely rugulose in lower half, almost smooth in upper half. Median lobe of mesoscutum finely punctulate, rugulose at small area medioposteriorly. Mesopleura smooth on wide median area. Propodeum very densely rugulose-granulate, almost smooth in anterior $1 / 4$, with short median carina. Hind coxa smooth. First abdominal tergite densely striate. Median lobe of mesoscutum entirely and sparsely setose, lateral lobes glabrous medially, setose on lateral parts.

Colour. Body black; face, lower half of temple, malar space and clypeus yellow, but partly slightly darker. Antennae black, scape light brown. Palpi light brown. Legs reddish brown, darker to black basally, lighter apically. Wings almost hyaline. Pterostigma brown.

MALE unknown.
DISCUSSION. The new species is similar to P. (T.) bicolor Wesmael, 1835 (Haeselbarth, 1988) and differs in having the ovipositor long, propodeum finely sculptured, clypeus short, legs dark and apical antennal segments not thickened.

ETYMOLOGY. This species is named after Dr. E. Haeselbarth, the well-known German taxonomist on Braconidae.

## Pygostolus minax Belokobylskij, sp. n.

Figs 379-387
MATERIAL. Holotype: ㅇ, Japan: Hokkaido, Shikotsu-ko, 30.VI 1966 (K. Kusigemati) [EIS].


Figs 379-387. Pygostolus minax sp. n. 379) head, frontal view; 380) apical part of abdomen and ovipositor, lateral view; 381) basal and apical segments of antenna; 382) head, dorsal view; 383) ovipositor, lateral view; 384) hind femur; 385) fore wing; 386) hind wing; 387) first abdominal tergite, dorsal view.

DESCRIPTION. FEMALE. Body length 6.2 mm ; fore wing length 6.8 mm . Head width 1.8 times its median length, 1.1 times width of mesoscutum (without tegulae). Occiput weakly concave. Temple strongly narrowed behind eyes; transverse diameter of eye 1.8 times length of temple ( 2.2 times on straight line). Frons flat. Ocelli large, in triangle with base 1.3 times its sides; POL 1.1 times Od, 1.7 times OOL; Od 1.6 times OOL. Eye with sparse and short hairs, 1.4 times as high as broad. Malar suture distinct. Malar space narrow, its height 0.6 basal width of mandible, 0.17 times height of eye. Antennal tubercles weak. Face width 0.8 times its median height, 0.5 times eye height. Tentorial pits large, oval, distance between
pits about 5 times distance from pit to eye. Clypeus strongly convex, its width about twice maximum height, almost equal to width of face. Head below eyes roundly narrowed. Occipital carina complete dorsally, fused ventrally.

Antennae almost filiform, 34-segmented. First flagellar segment 2.5 times as long as its apical width, 0.8 times as long as second segment. Penultimate segment 1.8 times as long as wide, 0.7 times as long as apical segment; the latter with long apical spine.

Thorax. Length 1.65 times its height. Notauli deep, rather narrow, densely crenulate. Prescutellar depression deep, with distinct median carina, smooth at most part and narrowly crenulate medially, 0.4 times as long as scutellum. Metanotum without median tooth. Sternauli shallow, rather narrow, rugulose. Propodeum without lateral tubercles, strongly roundly and regularly abrupted toward apex (lateral view).

Wing. Fore wing 2.7 times as long as wide. Radial cell not shortened, 4 times as long as wide; metacarpus (within radial cell) 1.4 times as long as pterostigma. Radial vein arising behind middle of pterostigma. First radial abscissa 0.55 times as long as maximum width of pterostigma, 0.1 times as long as almost straight second abscissa, 0.3 times as long as first radiomedial vein. Recurrent vein distinctly postfurcal. Distance from nervulus to basal vein 0.6 times nervulus length. In hind wing, spurious part of apex of costal vein weakly pigmented.

Legs. Hind femur 5 times as long as wide. Hind tarsus 0.7 times as long as hind tibia, its second segment 0.4 times as long as first segment, 1.1 times as long as fifth segment (without pretarsus). Hind basitarsus 0.7 times as long as second-fifth segments combined. Inner spur of hind tibia 0.3 times as long as basitarsus.

Abdomen. First tergite distinctly widened in basal $1 / 4$, then almost parallelsided, with distinct spiracular tubercles in basal $1 / 4$ and large oval dorsope. Apical width of first tergite 0.9 times its width at level of spiracular tubercles, 1.3 times its minimum width; length 1.6 times its apical width. Ovipositor wide (its maximum width 0.8 times maximum width of hind tibia), depressed, distinctly gradually curved down, apically gradually narrowed and with shallow subapical notch. Ovipositor sheath wide, 1.1 times as long as first abdominal tergite, 0.5 times as long as hind tibia, 0.17 times as long as fore wing, as long as apical width of abdomen.

Sculpture. Head smooth; face finely punctulate. Sides of pronotum smooth at most part, with wide longitudinal upper furrow and narrow vertical posterior furrow, which are sculptured. Mesoscutum smooth, finely rugulose in small medioposterior area and with very short median carina. Scutellum and mesopleura smooth. Propodeum coarsely and densely rugose-reticulate, with several irregular carinae, with small narrow areola medially, basal carina fine and short. Hind coxa smooth at most part. First abdominal tergite almost entirely and rather finely striate and with punctulation, its dorsal carinae almost fused in basal half. Rest tergites smooth.

Colour. Body reddish yellow, propodeum darker medially. Antennae reddish brown, 2 basal segments yellow. Palpi yellow. Legs light brown, faintly darkened toward apex. Ovipositor sheaths black. Wings subhyaline. Costal vein reddish brown, basal vein black. Pterostigma yellow, brown medially.

MALE unknown.
DISCUSSION. The new species is similar to $P$. tibetensis Chen et Achterberg, 1997 (Chen \& Achterberg, 1997) and differs in having the first flagellar segment shorter than second one, temple and malar space shorter, hind femur slender,
ovipositor shorter, wider and distinctly curved down, pterostigma brown medially, and basal vein black. The new species from Palaearctic $P$. multiarticulatus (Ratzeburg, 1852) in having the recurrent vein postfurcal, first flagellar segment shorter than second one, ovipositor shorter, wider and distinctly curved and basal carina of first tergite almost fused.

## Rilipertus dima Belokobylskij, sp. n.

Figs 388-395
MATERIAL. Holotype: ㅇ, Yamalo-Nenetskii AO, Krasnosel'kup, 17.VIII 1992 (D.K.) [ZISP].

DESCRIPTION. FEMALE. Body length 3.3 mm ; fore wing length 3.0 mm . Width of head twice its median length, 1.3 times width of mesoscutum. Occiput distinctly concave. Temples behind eyes almost parallel-sided in anterior half and strongly narrowed in posterior half, transverse diameter of eye 1.4 times length of temple. Frons flat. Ocelli medium size, in triangle with base 1.7 times its lateral sides; posterior margin of median ocellus placed slightly before line between anterior margins of lateral ocelli. POL 2.2 times Od, 1.2 times OOL. Eye almost glabrous, 1.4 times as high as broad. Malar suture present. Malar space narrow, its height 0.6 times basal width of mandible, 0.2 times height of eye. Antennal tubercles weak. Width of face 1.1 times its median height, 0.75 times height of eye. Tentorial pits distinct, distance between pits 4 times distance from pit to eye. Clypeus with distinct ventral flange. Width of clypeus twice its median height, 0.9 times width of face. Head strongly and roundly narrowed below eyes. Occipital carina complete dorsally.

Antenna filiform, 23-segmented, 0.9 times as long as body. First flagellar segment 3.3 times as long as its apical width, 0.8 times as long as second segment. Length of penultimate segment 1.7 times its width, 0.4 times length of first segment and 0.6 times length of apical segment.

Thorax. Length 1.4 times its maximum height. Notauli rather shallow, narrow, complete, crenulate. Prescutellar depression rather short, with distinct median carina, finely reticulate, 0.35 times as long as scutellum. Scutellum with short transverse depression posteriorly. Metanotum without median tooth. Sternauli shallow, wide, rugulose-reticulate. Propodeum without lateral tubercles, strongly and almost linearly abrupted from basal $1 / 4$ toward apex (lateral view), with median depression in posterior 2/3 (dorsal view).

Wings. Length of fore wing 2.8 times its width. Length of pterostigma 3.8 times its maximum width. Radial cell distinctly shortened, pointed apically, 2.7 times as long as wide. Metacarpus 0.7 times as long as pterostigma, as long as distance from apex of radial cell to apex of wing. Second abscissa of radial vein weakly regularly curved. Radial vein arising from middle of pterostigma. First radial abscissa 0.6 times as long as maximum width of pterostigma, 0.13 times as long as second abscissa. First abscissa of medial vein present and distinctly convex. Recurrent vein antefurcal. Distance from nervulus to basal vein 0.5 times nervulus length. In hind wing, basal vein 1.3 times as long as third abscissa of costal vein.

Legs. Hind femur 5.8 times as long as wide. Hind tarsus 0.7 times as long as hind tibia, its second segment 0.5 times as long as first segment, 1.4 times as long as fifth segment (without pretarsus)


Figs 388-395. Rilipertus dima sp. n. 388) head, frontal view; 389) head, dorsal view; 390) first abdominal tergite, dorsal view; 391) apical part of abdomen and ovipositor, lateral view; 392) ovipositor sheath; 393) basal and apical segments of antenna; 394) fore wing; 395) hind wing.

Abdomen. First tergite weakly widened posteriorly, with small spiracular tubercles behind middle, without dorsope and laterope. Apical width of first tergite almost twice its minimum width, length 2.8 times its apical width. Length of second and third tergites combined almost twice basal width of second tergite. Ovipositor weakly compressed apically, strongly curved down. Ovipositor sheath widened in apical half, regularly round apically and without apical process, 0.75 times as long as first tergite, 0.4 times as long as hind tibia, 0.15 times as long as fore wing.

Sculpture and pubescence. Head smooth, face densely granulate-punctulate. Sides of pronotum finely rugulose-reticulate, smooth upper. Median lobe of mesoscutum densely punctulate, with wide rugulose area medioposteriorly. Mesopleura smooth on narrow median area. Propodeum entirely rugulose reticulate, with short median carina in basal $1 / 5$ and 2 divergent lateral long carinae. Hind coxa striate dorsally. First abdominal tergite striate in basal $1 / 3$ and posterior half, with double very close median carinae in median half. Median lobe of mesoscutum densely setose, lateral lobes glabrous at most part. Ovipositor sheath with sparse and long hairs.

Colour. Head reddish brown, face, lower parts of temple, malar space and clypeus brownish yellow. Thorax dark reddish brown with light spots. Abdomen reddish brown, first tergite darker. Antennae dark reddish brown, 2 basal segments yellowish. Palpi yellow. Legs light brown, hind coxa darker basally. Wings hyaline. Pterostigma light brown. MALE unknown.

DISCUSSION. The new species is similar to R. facialis (Thomson, 1892) (Haeselbarth, 1996) and differs by another shape of ovipositor sheath, by first median abscissa present and strongly convex and by long first abdominal tergite.

ETYMOLOGY. This species is dedicated to Dmitry (Dima) Kasparyan.

## Rilipertus gondattii Belokobylskij, sp. n.

Figs 396-402
MATERIAL. Holotype: ㅇ, Russia: Primorskii krai, 15 km NW Artyom, forest, 7.IX 1988 (S.B.) [ZISP].

DESCRIPTION. FEMALE. Body length 2.6 mm ; fore wing length 2.2 mm . Width of head twice its median length, 1.4 times width of mesoscutum. Occiput distinctly concave. Temples behind eyes strongly roundly narrowed, transverse diameter of eye 1.6 times length of temple. Frons almost flat. Ocelli medium size, in triangle with base 1.5 times its lateral sides; posterior margin of median ocellus placed before line between anterior margins of lateral ocelli. POL 2.5 times Od, 1.4 times OOL. Eye glabrous, 1.4 times as high as broad. Malar suture present. Malar space very narrow, its height 0.4 times basal width of mandible, 0.1 times height of eye. Antennal tubercles weak. Width of face almost equal to its median height, 0.6 times height of eye. Tentorial pits distinct, distance between pits 4.5 times distance from pit to eye. Clypeus with distinct ventral flange. Width of clypeus almost twice its median height, equal to width of face. Head very strongly and roundly narrowed below eyes. Occipital carina complete dorsally.

Antenna filiform, more than 18 -segmented (apical segments lost). First flagellar segment 3.5 times as long as its apical width, 1.1 times as long as second segment.

Thorax. Length 1.5 times its maximum height. Notauli rather deep, narrow, complete, crenulate. Prescutellar depression rather short, with distinct median carina, finely sculptured, 0.4 times as long as scutellum. Scutellum with very short transverse depression posteriorly. Metanotum without median tooth. Sternauli shallow, wide, rugulose reticulate. Propodeum without lateral tubercles, round in basal $1 / 3$, strongly and almost vertically abrupted in apical $2 / 3$ (lateral view), with distinct wide median depression in posterior half (dorsal view).

Wings. Length of fore wing 2.7 times its width. Length of pterostigma 3.8 times its maximum width. Radial cell strongly shortened, almost pointed apically, 3 times as long as wide. Metacarpus 0.8 times as long as pterostigma, as long as distance from apex of radial cell to apex of wing. Second abscissa of radial vein regularly curved. Radial vein arising from middle of pterostigma. First radial abscissa 0.5 times as long as maximum width of pterostigma, 0.1 times as long as second abscissa. First abscissa of medial vein present. Distance from nervulus to basal vein 0.45 times nervulus length. In hind wing, basal vein 0.8 times as long as third abscissa of costal vein.

Legs. Hind femur 5.3 times as long as wide. Hind tarsus 0.8 times as long as hind tibia, its second segment 0.4 times as long as first segment, 1.5 times as long as fifth segment (without pretarsus).


Figs 396-402. Rilipertus gondattii sp. n. 396) head, frontal view; 397) head, dorsal view; 398) apical part of abdomen and ovipositor, lateral view; 399) ovipositor sheath; 400) basal segments of antenna; 401) fore wing; 402) hind wing.

Abdomen. First tergite distinctly widened posteriorly, with spiracular tubercles near middle, without dorsope and laterope. Length of first tergite 3.3 times its apical width. Length of second and third tergites combined twice basal width of second tergite. Ovipositor compressed apically, distinctly curved down. Ovipositor sheath widened in apical half and with small narrow process apically, 0.9 times as long as first tergite, 0.7 times as long as hind tibia, 0.23 times as long as fore wing.

Sculpture and pubescence. Head smooth, frons aciculate laterally, face densely aciculate. Sides of pronotum finely rugulose-granulate, smooth at narrow line upper. Median lobe of mesoscutum punctulate, finely rugulose at small area medioposteriorly. Mesopleura smooth on narrow median area. Propodeum entirely rugulose-reticulate. Hind coxa rugulose laterally. First abdominal tergite striate, smooth in apical 1/3. Median lobe of mesoscutum shortly and densely setose, lateral lobes glabrous at most part.

Colour. Body dark reddish brown, face and most part of prothorax light reddish brown; clypeus yellow. Antennae dark reddish brown, 4-5 basal segments (light) reddish brown. Palpi yellow. Legs light reddish brown. Wings faintly infuscate. Pterostigma brown.

MALE unknown.

DISCUSSION. The new species is similar to R. brevicauda (Tobias, 1965) (Haeselbarth, 1996) and differs in having the ovipositor long, ovipositor sheath widened in apical half only, first flagellar segment longer, and propodeum strongly abrupted.

ETYMOLOGY. This species is named after N.L. Gondatti, who was the governor general of Amur Province in the beginning of XX century and specialist in ethnography.

## Syntretus (Syntretus) abbreviator Belokobylskij, sp. n.

Figs 403-411
MATERIAL. Holotype: ㅇ, Russia: Primorskii krai, Spassk-Dal'niy, border of forest, glades, 16-17.VII 1998 (S.B.) [ZISP].

DESCRIPTION. FEMALE. Body length 1.9 mm ; fore wing length 1.5 mm . Head width twice its median length. Temple distinctly and roundly narrowed behind eye, transverse diameter of eye 1.2 times length of temple (see dorsally). Ocelli largened, in almost equilateral triangle; POL 1.1 times Od, 0.65 times OOL. Eye convex, glabrous, 1.3 times as high as broad. Malar space height 0.3 times eye height, equal to basal width of mandible. Face weakly convex, with very small median tubercle, its width equal to eye height and 1.5 times face height. Malar suture distinct. Frons with very weak longitudinal carina. Distance between tentorial pits 2.5 times distance from pit to eye. Clypeal suture distinct dorsally. Clypeus convex, round ventrally, with ventral flange, its width 2.3 times median height. Occipital carina complete dorsally. Hypostomal flange distinct.

Antennae slender, almost moniliform, 13 -segmented, 0.5 times as long as body, slightly shorter than head and thorax combined. First flagellar segment 3.3 times as long as apical width, 1.3 times as long as pedicellus and 1.1 times - second flagellar segment. Penultimate segment twice as long as wide.

Thorax. Length 1.3 times its height. Pronope absent. Mesoscutum entirely smooth. Notauli absent. Prescutellar depression deep, with median carina, smooth. Sternauli absent. Scutellum weakly convex and smooth. Propodeum with wide shallow median longitudinal depression in distal 2/3 (dorsal view).

Wings. Fore wing about 2.8 times as long as wide. Radial cell weakly shortened. Metacarpus complete, as long as pterostigma. Length of pterostigma 2.2 times its maximum width. Radial vein arising behind middle of pterostigma. First radial abscissa 0.4 times as long as maximum width of pterostigma. Second radial abscissa almost straight, 6.5 times as long as first abscissa. Distance from basal vein to nervulus 0.7 times nervulus length. Hind wing. Nervellus unsclerotized and weakly antefurcal. Submedial cell open. Second abscissa of costal vein present; medial cell closed.

Legs rather short and weakly thickened. Hind femur 3.6 times as long as wide. Hind tarsus as long as hind tibia; basitarsus 0.6 times second-fifth segments combined, second segment 0.5 times as long as basitarsus, 1.2 times as long as fifth segment (without pretarsus). Claws short.

Abdomen. Petiole slender in basal half, distinctly widened from middle to apex; spiracles placed in apical $1 / 3$ of petiole, glymma absent. Apical width of petiole 3 times its minimum width; length 2.3 times its apical width, 1.4 times length of propodeum. Second suture fine. Length of second tergite 0.8 times its basal width, almost equal to length of third tergite. Ovipositor rather short, straight, its sheath 0.6 times as long as petiole, 0.5 times as long as hind tibia, 0.2 times as long as fore wing.


Figs 403-411. Syntretus abbreviator sp. n. 403) head, frontal view; 404) head, dorsal view; 405) head, lateral view; 406) basal and apical segments of antenna; 407) fore wing; 408) hind femur; 409) propodeum; 410, 411) first abdominal tergite: 410) dorsal view; 411) lateral view.

Sculpture and pubescence. Head smooth, frons shortly striate in anterior 1/4; face and clypeus smooth. Mesothorax smooth. Metapleura entirely smooth. Propodeum with large pentagonal median marginate areola, median carina short in basal $1 / 8$, in areola and around carina finely and densely granulate. Hind coxa almost entirely smooth. Petiole densely rugulose-punctulate in basal $2 / 3$, smooth in apical $1 / 3$. Face shortly and rather sparsely setose, clypeus with long and sparse hairs. Mesoscutum almost entirely glabrous.

Colour. Body light reddish brown. Antenna dark reddish brown, yellowish brown in basal $1 / 3$. Palpi yellow. Legs pale brown. Ovipositor sheath black. Wings hyaline. Pterostigma light brown.

MALE unknown.
DISCUSSION. The new species is similar to S. testaceus (Capron, 1887) and S. conterminus (Nees, 1834) and differs in having very short 13-segmented antennae and sculptured basal 2/3 of petiole.

## Syntretus (Syntretus) areolatus Belokobylskij, sp. n.

Figs 412-421
MATERIAL. Holotype: $\uparrow$, Russia: Primorskii krai, 10 km SW Sokol'chi, nature reserve Lazovskiy, forest, glades, 22-24.VII 1993 (S.B.) [ZISP]. Paratypes: Primorskii krai: 1 ㅇ, 20 km SE Ussuriysk, flood lands of Komarovka River, 13.VII 1981 (D.K.); 1 ㅇ, 30 km E Spassk-Dal'niy, forest, 15.VI 1980 (S.B.) [ZISP].


Figs 412-421. Syntretus areolatus sp. n. 412) head, frontal view; 413) head, dorsal view; 414) mandible; 415) basal and apical segments of antenna; 416, 417) first abdominal tergite (416 - dorsal view; 417 - lateral view); 418) hind femur; 419) fore wing; 420) hind wing; 421) apical part of abdomen and ovipositor.

DESCRIPTION. FEMALE. Body length 2.1-2.6 mm; fore wing length 1.8-1.9 mm . Head width 1.7-1.8 times its median length. Temple roundly narrowed behind eye, transverse diameter of eye 1.4-1.5 times length of temple (see dorsally). Ocelli almost in equilateral triangle; $P O L$ 1.3-1.4 times Od, $0.4-0.6$ times OOL. Eye convex, glabrous, 1.2-1.3 times as high as broad. Malar space height 0.2-0.25 times eye height, 0.6-0.7 times basal width of mandible. Face distinctly convex, its width equal to eye height and 1.4-1.5 times face height. Malar suture distinct. Frons with longitudinal carina. Distance between tentorial pits 2.5-3 times distance from pit to eye. Clypeal suture distinct dorsally. Clypeus convex, round ventrally, with narrow ventral flange, its width 2.5-3 times median height. Occipital carina complete, but fine dorsally. Hypostomal flange distinct. Mandible with long pointed teeth.

Antennae thickened medially, weakly narrowed basally and apically, 18-19-segmented, 0.6 times as long as body. First flagellar segment 2.5-3 times as long as apical width, 1.3-1.6 times as long as pedicellus and 1.1-1.15 times - second flagellar segment. Penultimate segment 1.8-2 times as long as wide.

Thorax. Length 1.4-1.45 times its height. Pronope distinct. Mesoscutum entirely smooth, notauli indistinct. Prescutellar depression rather deep, with median carina, smooth. Sternauli very shallow. Scutellum convex and smooth. Propodeum with wide and deep median longitudinal depression in distal 2/3 (dorsal view).

Wings. Fore wing 2.3-2.4 times as long as wide. Metacarpus complete, 1-1.2 times as long as pterostigma. Length of pterostigma 2.7-2.8 times its maximum width. Radial vein arising behind middle of pterostigma. First radial abscissa 0.5 times as long as maximum width of pterostigma. Second radial abscissa weakly curved basally, straight in apical 2/3, 8.2-8.8 times as long as first abscissa. Distance from basal vein to nervulus 0.5-0.7 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. Hind femur 4.5-4.6 times as long as wide. Hind tarsus almost as long as hind tibia; basitarsus 0.65 times second-fifth segments combined, second segment almost 0.5 times as long as basitarsus, 1.4 times as long as fifth segment (without pretarsus). Claws short.

Abdomen. Petiole uniformly widened towards apex, spiracles placed in apical $1 / 3$, glymma absent. Apical width of petiole 2.5-2.8 times its minimum width; length 3.4-3.7 times its apical width, 1.6-1.7 times length of propodeum. Second suture absent. Length of second and third tergites combined 2.5-2.8 times basal width of second tergite. Ovipositor rather short, straight, its sheath 0.8-0.9 times as long as petiole, 0.6-0.7 times as long as hind tibia, 0.22-0.24 times as long as fore wing.

Sculpture and pubescence. Head smooth, clypeus punctulate. Mesothorax smooth. Metapleura smooth medially, rugulose laterally. Propodeum with large median marginate areola beginning almost from base of propodeum, mostly smooth, narrowly sculptured along carinae and in basal $1 / 4$ of areola. Hind coxa smooth. Petiole smooth. Face shortly and sparsely setose, clypeus with long and sparse hairs. Mesoscutum with several hairs anterolaterally.

Colour. Body light reddish brown, metanotum, propodeum and abdomen dorsally darker. Antenna reddish brown, 4-5 basal segments brownish yellow. Palpi yellow. Legs light brown. Ovipositor sheath dark brown. Wings faintly infuscate. Pterostigma brown, yellow basally.

MALE unknown.
DISCUSSION. The new species is closely similar to $S$. signatus sp. n. and differs by the presents of pronope and by long and pointed mandibular teeth.

## Syntretus (Syntretus) combinator Belokobylskij, sp. n.

Figs 422-431
MATERIAL. Holotype: ㅇ, Russia: Primorskii krai, 30 km SE Ussuriysk, nature reserve Ussuriyskiy, forest, 10-11.VI 1993 (S.B.) [ZISP].

DESCRIPTION. FEMALE. Body length 2.7 mm ; fore wing length 2.7 mm . Head width 1.9 times its median length. Temple strongly and roundly narrowed behind eye, transverse diameter of eye 1.5 times length of temple (see dorsally). Ocelli in triangle with base 1.1-1.2 times its sides; $P O L$ almost equal to $O d, 0.6$ times OOL. Eye distinctly convex, sparsely setose, 1.3 times as high as broad. Malar space height 0.2 times eye height, 0.8 times basal width of mandible. Face convex, its width 0.8 times eye height and 1.3 times face height. Malar suture distinct. Frons without longitudinal carina. Distance between tentorial pits 4.3 times distance from pit to eye. Clypeal suture distinct dorsally. Clypeus convex, almost straight ventrally, with distinct ventral flange, its width twice median height. Occipital carina complete dorsally. Hypostomal flange very small.


Figs 422-431. Syntretus combinator sp. n. 422) head, frontal view; 423) head, dorsal view; 424) hind femur; 425, 429) first abdominal tergite (425-dorsal view; 429-lateral view); 426) basal and apical segments of antenna; 427) propodeum; 428) apical part of abdomen and ovipositor; 430) fore wing; 431) hind wing.

Antennae weakly thickened, weakly flagelliform, 23-segmented, 0.7 times as long as body. First flagellar segment 3 times as long as apical width, 1.7 times as long as pedicellus and 1.1 times - second flagellar segment. Penultimate segment 2.2 times as long as wide.

Thorax. Length 1.4 times its height. Pronope absent. Mesoscutum entirely smooth. Notauli absent. Prescutellar depression deep, with median carina, smooth. Sternauli absent. Scutellum weakly convex and smooth. Propodeum with wide and very shallow median longitudinal depression in distal half (dorsal view).

Wings. Fore wing 2.8 times as long as wide. Radial cell not shortened. Metacarpus complete, 1.1 times as long as pterostigma. Length of pterostigma 3 times its maximum width. Radial vein arising behind middle of pterostigma. First radial abscissa 0.3 times as long as maximum width of pterostigma. Second radial abscissa almost straight, 13.5 times as long as first abscissa. Distance from basal vein to nervulus 0.5 times nervulus length. Hind wing 3.8 times as long as wide. Nervellus unsclerotized and weakly antefurcal. Submedial cell open. Second abscissa of costal vein present; medial cell closed.

Legs long and slender. Hind femur 5.9 times as long as wide. Hind tarsus slightly shorter than hind tibia; basitarsus 0.6 times second-fifth segments combined, second segment 0.5 times as long as basitarsus, 1.3 times as long as fifth segment (without pretarsus). Claws short.

Abdomen. Petiole slender in basal 2/3, distinctly widened in apical $1 / 3$; spiracles placed in apical $1 / 3$ of petiole, glymma deep and distinct. Apical width of petiole 3.5 times its minimum width; length 3 times its apical width, 1.5 times length of propodeum. Second suture fine. Length of second tergite 1.5 times its basal width, 1.3 times length of third tergite. Ovipositor rather short, straight, its sheath 0.8 times as long as petiole, 0.5 times as long as hind tibia, 0.15 times as long as fore wing.

Sculpture and pubescence. Head smooth, frons and face finely punctulate, clypeus distinctly punctulate. Mesothorax smooth. Metapleura smooth, rugulosepunctulate in apical $1 / 4$. Propodeum with large median marginate areola beginning almost from base of propodeum, reticulate in apical $1 / 3$, sparsely rugulose on rest part of areola and in posterolateral areas; basolateral areas smooth. Hind coxa smooth. Petiole smooth. Face shortly and densely setose, clypeus with long and sparse hairs. Mesoscutum rather densely setose in anterior vertical part, glabrous on rest part.

Colour. Body light reddish brown, head yellowish, axillae, metanotum, propodeum, apical half of petiole and abdomen in posterior $1 / 3$ darker. Antenna yellowish brown in basal 1/4, dark reddish brown to dark brown on rest part. Palpi pale yellow. Legs yellow or pale yellow. Ovipositor sheath dark reddish brown. Wings hyaline. Pterostigma yellow.

MALE unknown.
DISCUSSION. The new species is similar to S. conterminus (Nees, 1834) and differs in having the distinct laterope of petiole. $S$. combinator sp . n. is similar to $S$. lyctiae Cole, 1959 and differs in having the complete large areola of propodeum.

## Syntretus (Syntretus) excavatus Belokobylskij, sp. n.

Figs 432-441
MATERIAL. Holotype: 오, Russia: Primorskii krai, 20 km SW Krounovka, dry slopes, 3-5.VIII 1993 (S.B.) [ZISP].

DESCRIPTION. FEMALE. Body length 2.4 mm ; fore wing length 1.9 mm . Head width 1.7 times its median length. Temple roundly narrowed behind eye, transverse diameter of eye almost equal to length of temple (see dorsally). Ocellar triangle with base 1.3 times its sides; POL 1.8 times Od, 1.1 times OOL. Eye convex, glabrous, 1.3 times as high as broad. Malar space height 0.2 times eye height, 0.6 times basal width of mandible. Face weakly convex, its width 0.85 times eye height and 1.4 times face height. Malar suture distinct. Frons with distinct longitudinal carina.


Figs 432-441. Syntretus excavatus sp. n. 432) head, frontal view; 433) head, dorsal view; 434) hind femur; 435) basal and apical segments of antenna; 436, 437) first abdominal tergite (436-dorsal view; 437 - lateral view); 438) abdomen, lateral view; 439) ventral part of thorax, posterior view; 440) fore wing; 441) hind wing.

Distance between tentorial pits 5 times distance from pit to eye. Clypeal suture distinct dorsally. Clypeus convex, almost straight ventrally, its width 2.2 times median height. Occipital carina complete. Hypostomal flange distinct.

Antennae weakly thickened, filiform, 14-segmented, 0.5 times as long as body, slightly longer than head and thorax combined. First flagellar segment twice as long as apical width, almost equal to pedicellus and second flagellar segment. Penultimate segment 1.7 times as long as wide.

Thorax. Length 1.3 times its height. Mesoscutum entirely smooth, glabrous, with very shallow and almost complete notauli. Prescutellar depression rather short, deep, with median carina, smooth. Sternauli absent. Scutellum almost plane and smooth. Propodeum with wide and long median longitudinal depression in distal 5/6 (dorsal view). Ventral part of mesothorax with deep and wide mesopleural longitudinal depression.

Wings. Fore wing 2.5 times as long as wide. Metacarpus complete, 0.9 times as long as pterostigma. Length of pterostigma 3.3 times its maximum width. Radial vein arising behind middle of pterostigma. First radial abscissa 0.6 times as long as maximum width of pterostigma. Second radial abscissa straight, 7.5 times as long as first abscissa. Maximum width of discoidal cell 2.5 times it minimum width. Distance from basal vein to nervulus 0.4 times nervulus length. Hind wing 4.5 times as long as wide. Nervellus unsclerotized and antefurcal. Submedial cell open. Second abscissa of costal vein present; medial cell closed.

Legs long. Hind femur 4 times as long as wide. Hind tarsus almost as long as hind tibia; basitarsus 0.8 times second-fifth segments combined, second segment about 0.33 times as long as basitarsus, almost as long as fifth segment (without pretarsus). Claws short.

Abdomen. Petiole weakly and uniformly widened towards apex, spiracles placed behind middle of petiole, glymma absent. Apical width of petiole about 3 times its minimum width; length 3.3 times its apical width, twice length of propodeum. Second suture absent. Length of second and third tergites twice basal width of second tergite. Ovipositor long, weakly curved up, its sheath 1.3 times as long as petiole, almost as long as hind tibia, 0.4 times as long as fore wing.

Sculpture and pubescence. Head smooth, face finely punctulate, frons punctulate-granulate. Mesothorax smooth. Metapleura smooth, rugulose ventrally. Propodeum with wide long marginate areola and with short anterior median carina; areola sparsely transversely striate. Hind coxa smooth. Petiole finely rugulosereticulate in basal $2 / 3$ and laterally, smooth apically. Face shortly setose, clypeus with long and sparse hairs. Mesoscutum entirely glabrous.

Colour. Body light reddish brown, propodeum and abdomen dark. Antenna dark reddish brown, 5 basal segments light brown. Palpi yellow. Legs light brown. Ovipositor sheath black. Wings very faintly infuscate. Pterostigma light brown.

MALE unknown.
DISCUSSION. The new species is similar to S. testaceus (Capron, 1887) and differs in having the antenna 14 -segmented, mesothorax ventrally with deep and wide longitudinal depression along sternal suture and ovipositor sheath long.

## Syntretus (Syntretus) grodekovi Belokobylskij, sp. n.

Figs 442-451
MATERIAL. Holotype: ํ, Russia: Primorskii krai, 15 km SSW Nezhino, 1618.VII 1993 (S.B.) [ZISP].

DESCRIPTION. FEMALE. Body length 2.9 mm ; fore wing length 2.4 mm . Head width 1.6 times its median length. Temple roundly narrowed behind eye, transverse diameter of eye 1.7 times length of temple (see dorsally). Ocelli almost in equilateral triangle; $P O L 1.25$ times Od, 0.4 times $O O L$. Eye distinctly convex, maximum widened in anterior $1 / 3$, placed almost perpendicularly to vertical line of head (lateral view), sparsely setose, its maximum diameter 1.2 times minimum diameter. Malar space height 0.3 times maximum diameter of eye, almost equal to basal width of mandible. Face convex, with small median tubercle in upper $1 / 3$, its width 1.1 times maximum diameter of eye and 1.5 times face height. Malar suture distinct. Frons with distinct longitudinal carina. Distance between tentorial pits almost equal to distance from pit to eye. Clypeal suture distinct dorsally. Clypeus


Figs 442-451. Syntretus grodekovi sp. n. 442) head, frontal view; 443) head, dorsal view; 444, 449) first abdominal tergite (444-dorsal view; 449 - lateral view); 445) head, lateral view; 446) basal and apical segments of antenna; 447) hind femur; 448) apical part of abdomen and ovipositor, lateral view; 450) fore wing; 451) hind wing.
convex, almost straight ventrally, with distinct ventral flange, its width twice median height. Occipital carina complete dorsally. Hypostomal flange small.

Antennae thickened basally, narrowed in apical 1/3, 24-segmented, 0.75 times as long as body. First flagellar segment 2.7 times as long as apical width, 1.4 times as long as pedicellus and 1.2 times - second flagellar segment. Penultimate segment twice as long as wide.

Thorax. Length 1.4 times its height. Mesoscutum entirely smooth. Notauli very shallow in anterior $1 / 3$. Prescutellar depression rather deep, with median carina, smooth. Sternauli absent. Scutellum weakly convex and smooth. Propodeum with wide and shallow median longitudinal depression in distal 2/3 (dorsal view).

Wings. Fore wing 2.7 times as long as wide. Radial cell weakly shortened. Metacarpus complete, 1.1 times as long as pterostigma. Length of pterostigma 3 times its maximum width. Radial vein arising distinctly behind middle of pterostigma. First radial abscissa 0.5 times as long as maximum width of pterostigma. Second radial abscissa almost straight, 9.5 times as long as first abscissa. Distance
from basal vein to nervulus 0.4 times nervulus length. Hind wing 4.2 times as long as wide. Nervellus unsclerotized and weakly antefurcal. Submedial cell open. Second abscissa of costal vein present; medial cell closed.

Legs long. Hind femur 5.6 times as long as wide. Hind tarsus almost as long as hind tibia; basitarsus 0.6 times second-fifth segments combined, second segment 0.5 times as long as basitarsus, 1.3 times as long as fifth segment (without pretarsus). Claws short.

Abdomen. Petiole linearly and regularly widened from base to apex; spiracles placed in apical $1 / 3$ of petiole, glymma absent. Apical width of petiole 3.5 times its minimum width; length 3.2 times its apical width, twice length of propodeum. Second suture distinct. Length of second tergite 1.2 times its basal width, 1.2 times length of third tergite. Ovipositor rather long, straight, its sheath as long as petiole, 0.7 times as long as hind tibia, 0.25 times as long as fore wing.

Sculpture and pubescence. Head smooth, face finely punctulate, clypeus distinctly punctulate. Mesothorax smooth. Metapleura smooth medially, rugulosepunctulate laterally. Propodeum with large median marginate areola, anterior median carina very short; areola sparsely and finely granulate between striae, rest part of propodeum smooth. Hind coxa smooth. Petiole smooth, with dense punctulation laterally. Face shortly and densely setose, clypeus with long and rather sparse hairs. Mesoscutum densely setose in anterior $1 / 3$, rest part glabrous.

Colour. Body yellow; petiole reddish brown in basal 2/3. Antenna yellow, darkened toward apex. Palpi pale yellow. Legs yellow. Ovipositor sheath black. Wings hyaline. Pterostigma pale yellow.

MALE unknown.
DISCUSSION. The new species is similar to Chinese S. bulbus Chen et Achterberg, 1997 (Chen \& Achterberg, 1997) and differs by almost transverse position of eye, in having the eye widened anteriorly, antennae thickened basally, notauli present in anterior $1 / 3$ only, frons with median carina, face wide and distance between tentorial pits shorter.

ETYMOLOGY. This species is named after N.I. Grodekov, who was the governor general of Amur Province.

## Syntretus (Syntretus) kui Belokobylskij, sp. n.

Figs 452-461
MATERIAL. Holotype: ㅇ, Korea: Kangwon, Kosong, Kansong, Konbongsa, 26.V 1993 (Deok-Seo Ku) [NIAST].

DESCRIPTION. FEMALE. Body length 3.1 mm ; fore wing length 2.3 mm . Head width almost twice its median length. Temple roundly narrowed behind eye, transverse diameter of eye 1.3 times length of temple (see dorsally). Ocelli in triangle with base 1.3 times its sides; POL 1.6 times Od, 0.6 times OOL. Eye weakly convex, very sparsely setose, 1.5 times as high as broad. Malar space height 0.2 times eye height, 0.8 times basal width of mandible. Face convex, its width almost equal to eye height and 1.75 times face height. Malar suture distinct. Frons without carina, but with distinct convex place. Distance between tentorial pits almost twice distance from pit to eye. Clypeal suture distinct dorsally. Clypeus convex, weakly round ventrally, with distinct ventral flange, its width 3.3 times median height. Occipital carina complete dorsally. Hypostomal flange distinct.


Figs 452-461. Syntretus kui sp. n. 452) head, frontal view; 453) head, dorsal view; 454) basal and apical segments of antenna; 455) hind femur; 456, 459) first abdominal tergite (456 - dorsal view; 459 - lateral view); 457) apical part of abdomen and ovipositor, lateral view; 458 ) propodeum; 460) fore wing; 461) hind wing.

Antennae weakly thickened, weakly flagelliform, 25-segmented, 0.6 times as long as body. First flagellar segment twice as long as apical width, 1.5 times as long as pedicellus and 1.5 times - second flagellar segment. Penultimate segment 1.7 times as long as wide.

Thorax. Length 1.4 times its height. Pronope absent. Mesoscutum entirely smooth. Notauli absent. Prescutellar depression deep, densely crenulate. Sternauli absent. Scutellum convex and smooth. Propodeum with wide and distinct median longitudinal depression in distal 5/6 (dorsal view).

Wings. Fore wing 2.6 times as long as wide. Radial cell weakly shortened. Metacarpus complete, almost as long as pterostigma. Length of pterostigma 2.6 times its maximum width. Radial vein arising behind middle of pterostigma. First radial
abscissa 0.4 times as long as maximum width of pterostigma. Second radial abscissa weakly curved in basal half, and straight in apical half, 8 times as long as first abscissa. Distance from basal vein to nervulus 0.8 times nervulus length. Hind wing 4 times as long as wide. Nervellus unsclerotized and weakly antefurcal. Submedial cell open. Second abscissa of costal vein present; medial cell closed.

Legs long and rather slender. Hind femur 4.4 times as long as wide. Hind tarsus almost as long as hind tibia; basitarsus 0.6 times second-fifth segments combined, second segment 0.5 times as long as basitarsus, 1.2 times as long as fifth segment (without pretarsus). Claws short.

Abdomen. Petiole slender in basal half, distinctly widened in apical half; spiracles placed in apical $1 / 3$ of petiole, glymma deep and distinct. Apical width of petiole 3 times its minimum width; length 3 times its apical width, 1.8 times length of propodeum. Second suture absent. Length of second and third tergites combined 2.3 times basal width of second tergite. Ovipositor rather short, straight, its sheath 0.7 times as long as petiole, 0.6 times as long as hind tibia, 0.2 times as long as fore wing.

Sculpture and pubescence. Head smooth, face finely and densely punctulate. Mesothorax smooth. Metapleura smooth, finely rugulose-punctulate laterally. Propodeum with large marginate areola, with very short anterior carina; basolateral areas smooth, finely rugulose in areola and laterally. Hind coxa punctulate laterally, smooth dorsally. Petiole smooth. Face shortly setose, clypeus with long and sparse hairs. Mesoscutum densely setose in anterior $1 / 5$, glabrous on rest part.

Colour. Body brownish yellow, dorsally faintly darker. Antenna yellow, faintly darkened toward apex. Palpi and legs yellow. Ovipositor sheath black. Wings hyaline. Pterostigma yellow.

MALE unknown.
DISCUSSION. The new species is similar to S. combinator sp. n. and differs in having the face transverse, clypeus strongly transverse, antennal segments wide and short, prescutellar depression densely crenulate and hind femur thicker.

ETYMOLOGY. This species is named after Mr. D.-S. Ku, the Korean taxonomist on Braconidae, who collected the holotype.

## Syntretus (Syntretus) signatus Belokobylskij, sp. n.

Figs 462-471
MATERIAL. Holotype: ㅇ, Russia: Primorskii krai, Spassk-Dal'niy, forest, shrubs, 17-21.VI 1996 (S.B.) [ZISP].

DESCRIPTION. FEMALE. Body length 2.0 mm ; fore wing length 1.7 mm . Head width 1.7 times its median length. Temple roundly narrowed behind eye, transverse diameter of eye 1.4 times length of temple (see dorsally). Ocelli almost in equilateral triangle; POL 1.2 times Od, 0.6 times OOL. Eye convex, glabrous, 1.3 times as high as broad. Malar space height 0.3 times eye height, 0.8 times basal width of mandible. Face convex, its width 0.9 times eye height and 1.3 times face height. Malar suture distinct. Frons with distinct longitudinal carina. Distance between tentorial pits 2.3 times distance from pit to eye. Clypeal suture distinct dorsally. Clypeus convex, almost straight ventrally, with narrow ventral flange, its width 2.5 times median height. Occipital carina complete, but fine dorsally. Hypostomal flange small. Mandible with obtuse small teeth.


Figs 462-471. Syntretus signatus sp. n. 462) head, frontal view; 463) head, dorsal view; 464) mandible; 465) basal and apical segments of antenna; 466) propodeum; 467) hind femur; 468) first abdominal tergite, lateral view; 469) apical part of abdomen and ovipositor, lateral view; 470) fore wing; 471) hind wing.

Antennae thickened medially, weakly narrowed basally and apically, 18-segmented, 0.7 times as long as body. First flagellar segment 2.3 times as long as apical width, 1.2 times as long as pedicellus and as long as second flagellar segment. Penultimate segment twice as long as wide.

Thorax. Length 1.4 times its height. Pronope absent. Mesoscutum entirely smooth, notauli indistinct. Prescutellar depression rather deep, with median carina, smooth. Sternauli absent. Scutellum convex and smooth. Propodeum with wide and shallow median longitudinal depression along all length (dorsal view).

Wings. Fore wing 2.5 times as long as wide. Metacarpus complete, as long as pterostigma. Length of pterostigma 3 times its maximum width. Radial vein arising behind middle of pterostigma. First radial abscissa 0.5 times as long as maximum width of pterostigma. Second radial abscissa weakly curved, 8 times as long as first abscissa. Distance from basal vein to nervulus 0.5 times nervulus length. Hind wing 4.7 times as long as wide. Nervellus unsclerotized and antefurcal. Submedial cell open. Second abscissa of costal vein present; medial cell closed.

Legs long. Hind femur 4.8 times as long as wide. Hind tarsus 0.9 times as long as hind tibia; basitarsus 0.6 times second-fifth segments combined, second segment almost 0.5 times as long as basitarsus, 1.2 times as long as fifth segment (without pretarsus). Claws short.

Abdomen. Petiole slender in basal half, distinctly widened from middle to apex; spiracles placed in apical $1 / 3$ of petiole, glymma absent. Apical width of petiole 3 times its minimum width; length 2.6 times its apical width, 1.5 times length of propodeum. Second suture absent. Length of second and third tergites combined 2.3 times basal width of second tergite. Ovipositor rather short, straight, its sheath as long as petiole, 0.6 times as long as hind tibia, 0.25 times as long as fore wing.

Sculpture and pubescence. Head smooth, clypeus punctulate. Mesothorax smooth. Metapleura smooth medially, rugulose-punctulate laterally. Propodeum with large median marginate areola beginning from base of propodeum, mostly smooth, narrowly rugulose along carinae. Hind coxa smooth. Petiole smooth. Face shortly and sparsely setose, clypeus with long and sparse hairs. Mesoscutum almost antirely glabrous.

Colour. Body light reddish brown, most part of abdomen (including petiole) reddish brown. Antenna dark reddish brown, 5 basal segments yellowish brown. Palpi yellow. Legs light brown. Ovipositor sheath black. Wings almost hyaline. Pterostigma brown, yellow basally.

MALE unknown.
DISCUSSION. The new species is closely similar to S. testaceus (Capron, 1887) and differs in having the pterostigma brown and mandibular teeth short and obtuse.

## ACKNOWLEDGEMENTS

I wish to express my sincere thanks to Dr. T. Matsumura and Dr. K. Konishi (Tsukuba, Japan) for the kind possibility to study of the Japanese material in National Institute of Agro-Environmental Sciences and to collect Braconidae in Japan.

## REFERENCES

Achterberg, C. van. 1988. Revision of the subfamily Blacinae Foerster (Hymenoptera, Braconidae). - Zool. Verhand. Leiden 249: 3-324;
Belokobylskij, S.A. 1992. Revision of the genus Centistes Haliday (Hymenoptera: Braconidae: Euphorinae) of the USSR Far East and neighbouring territories. - Zool. Meded. Leiden 66(11): 199-237.
Belokobylskij, S.A. 1993. The braconid wasps of the genus Leiophron (Leiophron) Nees (Hymenoptera, Braconidae, Euphorinae) of the fauna of the Russian Far East. - In: New data on the systematics of insects. St. Petersburg: 61-100. (In Russian).
Belokobylskij, S.A. 1995. A new genus and ten new species of the subfamily Euphorinae (Hymenoptera, Braconidae) from the Russian Far East. - Zoosystematica rossica 3(2): 293-312.
Belokobylskij, S.A. \& Tobias V.I. 1998. Fam. Braconidae. Introduction. - In: Opredelitel’ nasekomykh Dal'nego Vostoka Rossii. 4(3). [Key to the Insects of Russian Far East 4(3).]. Vladivostok: 8-26. (In Russian).

Chen, X. \& Achterberg, C. van. 1997. Revision of the subfamily Euphorinae (excluding the tribe Meteorini Cresson) (Hymenoptera: Braconidae) from China. - Zool. Verhandl. Leiden 313: 1-217.
Haeselbarth, E. 1973. Die Blacus-Arten Europas und Zentral-Asiens (Hymenoptera, Braconidae). - Veroff. Zool. Staatssamml. Munchen 16: 69-170.
Haeselbarth, E. 1988. Zur Braconidengattung Townesilitus Haeselbarth \& Loan, 1983. Entomofauna 9(23): 429-460
Haeselbarth, E. 1996. Rilipertus gen. nov., eine neue Gattung der Euphorinae (Hymenoptera, Braconidae). - Entomofauna 17(26): 397-412.
Haeselbarth, E. 1998. Zur Braconiden-Gattung Perilitus Nees, 1818. 1. Beitrag: Die Perilitus falciger-Gruppe (Hymenoptera, Braconidae). - Entomofauna 19(11): 197-208.
Haeselbarth, E. 1999. Zur Braconiden-Gattung Perilitus Nees, 1818. 2. Beitrag: Die Arten mit ausgebildeten ersten Cubitus-Abschnitt (Hymenoptera, Braconidae). - Mitt. Munch. Ent. Ges. 89: 11-46.
Huddleston, T. 1980. A revision of the western Palaearctic species of the genus Meteorus (Hymenoptera: Braconidae). - Bull. Brit. Mus. (Nat. Hist.) 41(1): 1-58
Maeto, K. 1986. Systematic studies on the tribe Meteorini from Japan (Hymenoptera, Braconidae). II. The corax group of the genus Meteorus Haliday. - Kontyu 54(3): 405-413
Tobias, V.I. 1982. On species of braconids of the subgenus Taphaeus Wesmael (Hymenoptera, Braconidae) described by W. Hellen. - Entomologicheskoe Obozrenie 61(3): 614619. (In Russian).

Tobias, V.I., 1986. Subfam. Euphorinae. In: Medvedev G.S. (ed.). Opredelitel' nasekomykh evropeyskoy chasti SSSR. Pereponchatokrylye [Keys to the insects of the European part of the USSR. Hymenoptera. Braconidae]. Leningrad: Nauka. 3(4): 181-250. (In Russian).

[^0]
[^0]:    (C) Far Eastern entomologist (Far East. entomol.)

    Editor-in-Chief: S.Yu. Storozhenko
    Editorial Board: A.S. Lelej, Yu.A. Tshistjakov, N.V. Kurzenko
    Address: Institute of Biology and Soil Sciences, Far East Branch of Russian Academy of Sciences, 690022, Vladivostok-22, Russia.
    FAX: (4232) 310193 E-mail: entomol@online.marine.su

