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Revision of the Palaearctic species of *Scopesis* FÖRSTER (Hymenoptera, Ichneumonidae, Ctenopelmatinae)

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A b s t r a c t : In this taxonomical survey, we revised the Palaearctic species of the genus *Scopesis* FÖRSTER. 18 species are proposed as valid, three species are transferred to other genera.

Three species are described as new: *Scopesis caucasica* RIEDEL nov.sp., *Scopesis minuta* RIEDEL nov.sp., and *Scopesis rugulosa* RIEDEL nov.sp.

Cuboscopesis HEINRICH, 1952 is re-established as a separate genus from *Scopesis*; *Scopesis longigena* (THOMSON, 1894) and *Scopesis rufolabris* (ZETTERSTEDT, 1838) are re-established as separate species, stat. rev.

Mesoleius (*Scopesus*) *depressus* THOMSON, 1894 is a new synonym of *Scopesis frontator* (THUNBERG, 1822); *Mesoleius rufonotatus* HOLMGREN, 1876 and *Scopesus thomsoni* HABERMEHL, 1925 are new synonyms of *Scopesis rufolabris* (ZETTERSTEDT, 1838); *Scopesis alpivagans* HEINRICH, 1949 is a new synonym of *Scopesis sachalinensis* (UCHIDA, 1930); and *Cuboscopesis epachthoides* HEINRICH, 1952 is a new synonym of *Cuboscopesis fraterna* (HOLMGREN, 1857).

Mesoleius styriacus HEINRICH, 1953 is transferred to *Scopesis* FÖRSTER nov.comb., and the unknown male is described here; *Mesoleptus flavopictus* GRAVENHORST, 1829 is transferred to *Alcochera* FÖRSTER nov.comb.; *Mesoleius obscurus* HOLMGREN, 1857 to *Campodorus* FÖRSTER nov.comb.; and *Mesoleius fraterna* HOLMGREN, 1857 to *Cuboscopesis* HEINRICH nov.comb.

K e y w o r d s : Ichneumonidae, *Scopesis*, Ctenopelmatinae, revision, new species, Palaearctic region.

Introduction

The genus *Scopesis* FÖRSTER, 1869 is a small genus of the Ichneumonidae, subfamily Ctenopelmatinae, tribe Mesoleiini with known 19 species and a Holarctic distribution (YU et al. 2016). As far as known, all *Scopesis* species are parasitoids of sawflies (Hymenoptera, Tenthredinidae).

A first review of the European species of *Scopesis* was published by SCHMIEDEKNECHT (1914: 2919-2933) who used mainly color patterns for a differentiation of the species, but did not study the type material. TEUNISSEN (1953: 34–38) presented a different approach based mainly on the structures of clypeus and mesopleuron. AUBERT (2000: 212–218) compiled the known taxonomical and distributional data of this genus. More recently, HORSTMANN (2006: 81-83) revised several *Scopesis* species by studying the available type material of some older authors, described a new species and gave additional information about the differentiation of the studied material.

Here, we present a revision of the Palaearctic species of *Scopesis* FÖRSTER based on the material from several European institutions.

Material and methods

Material of the following institutions was studied: Museum der Natur, Hamburg/Germany (Hamburg), National Museums of Scotland, Edinburgh/Scotland (EDI), Natural History Museum, London/UK (NHM), Naturkundemuseum Berlin/Germany (Berlin), Museum der Natur Hamburg/Germany, Naturhistorisches Museum Basel/Switzerland (Basel), Swedish Museum of Natural History, Stockholm/Sweden (Stockholm), Zoologische Staatssammlung, München/Germany (ZSM), and personal collection of M. Riedel.

For the descriptions, morphological terms follow BROAD et al. (2018). For the host and distributional data, we only used the material determined by the first author. New distributional records are indicated by an asterisk.

The following relations were used for the measurements: Length of flagellar segments (1st flagellomere without anellus) and length and width of hind femur were measured in lateral view.

Used abbreviations: OED – distance between lateral ocellus and compound eye; OOD – distance between lateral ocelli. MI – Malar index, e. g. relation between length of malar space and width of mandibular base. HT – holotype; PT – paratype.

For the measurements an Olympus SZX 7 stereo microscope with dividing eyepiece was used. The figures were taken with an Olympus SC 50 CCD camera using the cellSensImaging software and processed with Helicon Focus and Microsoft picture manager software.

Diagnosis of the genus *Scopesis* FÖRSTER, 1869

Type species: *Mesoleius guttiger* HOLMGREN, 1857

Diagnosis: Body length 6–11 mm. Clypeus moderately wide, weakly to moderately convex, sometimes \pm bulging medially; apical margin sharp, often with \pm lateral extensions and therefore \pm concave. 1st flagellar segment very long, at least 4 \times as long as wide and 1.7–2.1 \times as long as 2nd flagellomere. 2nd flagellomere 2.0–3.0 \times as long as wide in ♀♀, often longer in ♂♂. Malar space much shorter than width of mandibular base. Mandibular teeth of equal size, sometimes ventral tooth slightly longer than the dorsal tooth. Genal carina reaching hypostomal carina away from mandibular base, both carinae low. Mesoscutum granulate and sometimes punctate, usually dull. Mesopleuron granulate or \pm rugose, sometimes punctate, often with longitudinal striae at least dorsally. Propodeum incompletely carinate, sometimes lateral carinae of area superomedia present; carinae of area petiolaris \pm present laterally, often obsolete medially. Claws large, with short fine teeth basally. Vein 3rs-m of for wing absent, e. g. areolet open laterally (in rare aberrant cases, 3rs-m present as faint vein). Vein 1cu-a interstitial or \pm postfurcal. Nervellus of hind wing vertical or inclivous, intercepted below its middle. 1st tergite 1.3–2.2 \times as long as wide, without latero-median carinae but dorso-lateral carina complete. Glymma present. Setae of hypopygium short and dense, erected or slanted

forward. Ovipositor sheath short and stout, 2–3× as long as wide, usually not reaching behind metasomal apex.

Key for the Palearctic species of *Scopesis* FÖRSTER, 1869

Females (of *Sc. areolaris* unknown):

- 1 Hind femur red, sometimes black apically.2
- Hind femur brown or black.12
- 2 Basal half of 1st tergite with latero-median carina (fig. 101). Area superomedia with lateral carina. Hind tibia yellow, infuscate basally and in apical 0.2
..... *Campodorus obscurus* (HOLMGREN)
- 1st tergite without latero-median carina (fig. 100). Area superomedia sometimes with lateral carina. Hind tibia yellowish or red basally, usually not infuscate basally.3
- 3 Scutellum, postscutellum, clypeus and ventral scape usually red (fig. 104). Hind tibia reddish basally and medially. Basal flagellar segments short (2nd flagellomere 2.3–2.4× as long as wide) (as in fig. 98).....*Sc. rubrotincta* (SCHMIEDEKNECHT)
- Scutellum and postscutellum without red spots. Hind tibia yellowish or reddish-yellow basally and medially. Length of basal flagellar segments various.....4
- 4 Mesopleuron and often propodeum apically rugose (figs 70, 105). Flagellum, clypeus and mesosoma black (fig. 16). *Sc. ulbrichti* (TEUNISSEN)
- Mesopleuron granulate, punctate and/or ± striate (figs 54–69). Flagellum and clypeus mainly reddish or yellowish.5
- 5 Metasoma brownish or black, with some diffuse reddish shine. Flagellum with 33–40 segments.*Sc. polita* (HOLMGREN)
- At least 2nd and 3rd tergites red, rarely reddish-brown or with blackish marks. Flagellum with various numbers of segments.6
- 6 Flagellum stout; 2nd flagellar segment less than 2.5× as long as wide, 3rd segment usually less than 2.2× as long as wide (fig. 98).7
- Flagellum slenderer; 2nd flagellar segment 2.5–2.9× and 3rd segment 2.2–2.5× as long as wide (fig. 99).....10
- 7 Small, body length 5.2 mm. Flagellum with 28 segments. Hind femur slightly infuscate apically. Only 2nd and 3rd tergites ± reddish. Palps and tegula brown.
..... *Sc. minuta* RIEDEL nov.sp.
- Larger, body length 6–11 mm. Flagellum with at least 32 segments. Hind femur usually entirely red. Usually 1st to 4th tergites entirely red. Palps and tegula brown or yellow.....8
- 8 Mesopleuron completely rugose-striate, not punctate (fig. 65). Inner orbits ventrally narrowed (fig. 11). Malar space short, MI 0.3. 1st tergite 1.8× as long as wide. Palps, hind edge of pronotum and tegula yellow.*Sc. rugulosa* RIEDEL nov.sp.
- Mesopleuron different, usually granulate and ± punctate ventrally and finely striate dorsally (figs 54–64). 1st tergite not more than 1.7× as long as wide. Palps, hind edge of pronotum and tegula often brown.....9
- 9 Clypeus entirely reddish-yellow, often with two small paramedian yellowish facial spots above clypeal margin (fig. 80). Scape sometimes reddish ventrally (fig. 7). Tegula sometimes yellow.*Sc. macropus* (THOMSON)
- Clypeus reddish in apical 2/3 (fig. 76). Face and scape black (fig. 3). Tegula brown.
..... *Sc. frontator* (THUNBERG)
- 10 Palps, clypeus, tegula, often hind edge of pronotum and hind tibia except black apex yellow (fig. 97). Face sometimes with yellow paramedian spots or stripes ventrally (fig. 14). Mesopleuron partly and finely rugose or striae ventrally and distinctly striate dorsally (fig. 68).....*Sc. tarsatae* HORSTMANN

- Palps and hind edge of pronotum brownish or reddish, tegula often red or brown. Clypeus usually reddish-yellow (figs 74, 85). Face with or without yellow stripes. Mesopleuron granulate or \pm rugose ventrally. Hind tibia reddish, \pm infusate apically (fig. 96) 11
- 11 Tegula usually reddish or brownish. Hind tibia reddish-yellow, \pm infusate apically, with shorter and pale setae externally (fig. 96). Mesopleuron granulate ventrally and weakly striate dorsally (fig. 64). Clypeus usually yellowish or reddish-yellow in apical half (fig. 84) *Sc. rufolabris* (ZETTERSTEDT)
- Tegula black. Hind tibia red, infusate apically, with numerous strong blackish or brown setae externally (fig. 94). Mesopleuron finely rugose and punctate ventrally, striate dorsally (fig. 55). Clypeus reddish-brown in apical half (fig. 75) *Sc. caucasica* RIEDEL nov.sp.
- 12 Apical spurs of hind tibia short (0.3–0.4 \times as long as hind metatarsus) and of almost similar length (fig. 98). Clypeus bulging and usually coarsely rugose-punctate (fig. 93). Mesopleuron coarsely rugose (fig. 72). Flagellum, palps, hind edge of pronotum and tegula yellow. 1st flagellar segment very slender (c 6 \times as long as wide). Hind tibia and hind tarsus yellowish *Cuboscoptes fraterna* (HOLMGREN)
- Inner apical spur of hind tibia much longer than outer spur, at least 0.5 \times as long as hind metatarsus (as in fig. 97). Clypeus usually less bulging and with sparse finer punctures. Mesopleuron often granulate and/or partly striate. 1st flagellar segment shorter. 13
- 13 Face with yellow stripes (figs 4, 13). Hind tarsus yellowish. 14
- Face black (sometimes with narrow transverse yellow stripe above clypeus in *Sc. sachalinensis*). Hind tarsus blackish 15
- 14 Face with V-shaped yellow spot (fig. 13). 1st tergite black, c 2 \times as long as wide. Median tergites reddish. *Sc. styriaca* (HEINRICH)
- Face with two paramedian yellow stripes (fig. 4). 1st tergite yellowish, 1.4–1.6 \times as long as wide. Median tergites yellowish. *Sc. gesticator* (THUNBERG)
- 15 Tegula yellow. Mesopleuron with distinct striae dorsally (fig. 69). Palps yellowish or brownish. Clypeus usually reddish or reddish-yellow in apical 2/3 (fig. 89). 1st tergite red. *Sc. tegularis* (THOMSON)
- Tegula black or brown; if sometimes yellow (in *Sc. sachalinensis* (UCHIDA)), then clypeus yellow and 1st tergite mainly black. 16
- 16 Palps yellow (fig. 12). Clypeus and often narrow transverse stripe at ventral margin of face \pm yellow (fig. 86). Temple distinctly narrowed behind eye (fig. 45). Mid femur \pm black basally. Mesopleuron dorsally without or with few fine striae. 1st tergite usually black. *Sc. sachalinensis* (UCHIDA)
- Palps usually reddish or brown. Clypeus reddish or reddish-yellow. Face entirely black. Structure of mesopleuron and coloration of 1st tergite various 17
- 17 Mid femur red, basally \pm blackish. Flagellum slender. Mesopleuron dull, with weak striation dorsally (fig. 58). Area superomedia usually without or with weak incomplete lateral carina, area petiolaris often open medially (as in fig. 104) *Sc. guttiger* (HOLMGREN)
- Fore and mid femur entirely red. Area superomedia usually with \pm distinct lateral carina. Area petiolaris often closed medially (fig. 103) 18
- 18 Flagellum slenderer; 2nd flagellar segment at least 2.5 \times as long as wide (as fig. 99). Mesopleuron rugose or partly striate and dull ventrally and with \pm distinct striation dorsally (fig. 54) *Sc. bicolor* (GRAVENHORST)
- Flagellum stouter, 2nd flagellar segment at most 2.3 \times as long as wide (as fig. 98). Mesopleuron with fine granulation and distinct punctures, \pm shining ventrally, with weak striation dorsally (fig. 59) *Sc. longigena* (THOMSON)

Males (from *Sc. minuta* nov.sp. and *Sc. rugulosa* nov.sp. unknown):

1	Hind femur black.....	2
-	Hind femur red.	10
2	Hind tarsus yellow.....	3
-	Hind tarsus black or brown.	4
3	Apical spurs of hind tibia short (0.3–0.4× as long as hind metatarsus) and of almost similar length (fig. 98). Mesopleuron rugose. Median tergites red. Face yellow laterally, with black stripe medially (fig.35). Scape ventrally, hind edge of pronotum, and often spot on fore coxa yellow.	<i>Cuboscoptes fraterna</i> (HOLMGREN)
-	Apical spurs of hind tibia of different length, inner spur >0.5× as long as hind metatarsus (as in fig. 97). Mesopleuron granulate and ± punctate. Median tergites yellow. Area superomedia with ± distinct lateral carinae. Scape ventrally (fig. 23), hind edge of pronotum, sometimes anterolateral spots on mesoscutum yellow. Hind femur sometimes yellow basally.....	<i>Sc. gesticulator</i> (THUNBERG)
4	Mesoscutum with large antero-lateral yellow spots. Mid femur red, often infusate basally. Tegula reddish or brown. Coxae black, fore coxa sometimes with reddish or yellowish spot apically.	<i>Sc. guttiger</i> (HOLMGREN)
-	Mesoscutum usually entirely black. Mid femur usually entirely red. Tegula and coxae of various color.	5
5	Fore and mid coxae mainly or entirely yellow; hind coxa with yellow apical margin.	<i>Sc. tarsatae</i> HORSTMANN, partim
-	Fore and mid coxae black, ± yellow apically. Hind coxa entirely black.	6
6	Hind edge of pronotum and subtegular ridge widely yellow.	<i>Sc. tegularis</i> (THOMSON)
-	Hind edge of pronotum and subtegular ridge without or with small reddish or yellowish spots.	7
7	Mesopleuron granulate, without punctures and/or striae (fig. 66). Area superomedia not indicated by lateral carinae.....	<i>Sc. sachalinensis</i> (UCHIDA)
-	Mesopleuron granulate and with ± distinct punctures ventrally, finely striate dorsally (Fig. 54). Area superomedia often indicated by ± distinct lateral carinae.	8
8	Fore and mid trochantelli mainly black. Mid femur red, infusate in basal 1/3–1/2.	<i>Sc. longigena</i> (THOMSON)
-	Fore and mid trochantelli yellowish. Mid femur red, not or slightly infusate basally.....	9
9	Hind edge of pronotum blackish. Tegula usually yellowish, sometimes brownish.	<i>Sc. bicolor</i> (GRAVENHORST)
-	Hind edge of pronotum ± yellowish. Tegula yellow.	<i>Sc. tarsatae</i> HORSTMANN, partim
10	Tegula entirely yellow.....	11
-	Tegula black or red, at most with small yellow spot frontally.....	17
11	Metasoma mainly black. Mesopleuron granulate, sometimes smoothened. Yellow coloration of mesosoma very variable, at least wide hind edge of pronotum and tegula yellow; sometimes also antero-lateral spots on mesoscutum, scutellum and postscutellum yellow.....	<i>Sc. polita</i> (HOLMGREN)
-	Median tergites ± red. Yellow coloration of mesosoma usually less extended.....	12
12	Scutellum yellow. Mesopleuron with smoothened sculpture, strongly shining. Face, gena, frontal orbit ventrally, collar, hind edge of pronotum, tegula, apical spots on fore and mid coxae, anterolateral spot on mesoscutum and usually spot on mesosternum yellow. Postscutellum reddish.....	<i>Sc. rubrotincta</i> (SCHMIEDEKNECHT)
-	Scutellum usually black. Structure of mesosopleuron and color pattern partly or completely different.	13

- 13 Area superomedia with distinct lateral carina. Mesopleuron granulate, not striate dorsally (fig. 67). Hind femur slender, $5.3\times$ as long as wide. 1st tergite slender, $2.6\times$ as long as wide. Mesoscutum with large antero-lateral yellow spot. *Sc. styriaca* (HEINRICH)
- Area superomedia usually without or with weak lateral carina. Mesopleuron \pm shining, sometimes \pm striate dorsally. Hind femur and 1st tergite usually stouter. Mesoscutum without yellow spot. Hind edge of pronotum, tegula, and fore and mid coxae \pm yellow apically. 14
- 14 Hind tibia basally and apically infusate (fig. 97). Hind femur entirely red. *Campodorus obscurus* (HOLMGREN)
- Hind tibia not infusate basally, sometimes weakly infusate subbasally (fig. 95). Hind femur red, often slightly infusate apically. 15
- 15 Ventral third of frontal orbit yellow. Often antero-lateral spot on mesoscutum and sometimes spot on mesosternum yellow. Hind femur entirely red, not infusate apically. Ventral half of mesopleuron usually with smoothened structure. *Sc. macropus* (THOMSON)
- Ventral third of frontal orbit usually black. Mesoscutum and mesosternum black, without yellow spots. Hind femur red, slightly infusate apically. Ventral half of mesopleuron different. 16
- 16 Mesopleuron usually \pm striate dorsally (fig. 68). Inner orbit opposite of antenna groove usually yellow. Face entirely yellow (fig. 31). Hind tibia yellowish in basal 2/3 (fig. 96) *Sc. tarsatae* HORSTMANN, partim
- Mesopleuron usually without striation dorsally (fig. 64). Inner orbit opposite antennal groove usually black (fig. 28). Face sometimes with dorso-median black stripe. Hind tibia reddish in basal 2/3 (as in fig. 95). *Sc. rufolabris* (ZETTERSTEDT)
- 17 Clypeus and face blackish (fig. 33). Mesopleuron distinctly rugose-punctate (fig. 70)..... *Sc. ulbrichti* (TEUNISSEN)
- Clypeus and face \pm yellowish. Mesopleuron granulate and \pm striate dorsally. 18
- 18 Tergites mainly black; 2nd and 3rd tergites with diffuse reddish suffusion. Face laterally or mainly cream-yellow (fig. 21). Clypeus moderately convex, not bulging medially (fig. 75) *Sc. caucasica* RIEDEL nov.sp.
- At least 2nd and 3rd tergites entirely red. Face \pm yellow. Clypeus various 19
- 19 Clypeus and face entirely yellow (fig. 22). Clypeus moderately convex, not bulging medially, with sparse fine punctures (fig. 76). Hind femur entirely red. *Sc. frontator* (THUNBERG)
- Clypeus yellow, face with yellow orbits and yellow paramedian spots, otherwise black (fig. 19). Clypeus bulging medially, with coarse dense punctures (fig. 91). Hind femur red, infusate apically..... *Sc. areolaris* (PFANKUCH)

List of species

Scopesis areolaris (PFANKUCH, 1921) (figs 19, 91)

Holotype: (♂) Crefeld 14.6.10 Puhlmann; Type ♂; *Scopesis areolaris* PFANK. ♂ (Berlin), type examined.

Description: ♂. Body length 9 mm. Flagellum with 40 flagellomeres; 1st flagellar segment $6.0\times$ as long as wide and $1.8\times$ as long as 2nd segment; 2nd segment $3.3\times$ and 3rd segment $2.8\times$ as long as wide, preapical segment $c\ 2\times$ as long as wide. Temple moderately and roundly narrowed behind eye. OED $1.4\times$ ocellar diameter. Face granulated and with superficial punctures, dull. Clypeus distinctly convex, slightly bulging medially, with coarse dense punctures and some long setae; apical margin

slightly rounded, with very small flat extensions laterally. Mandibular teeth of equal size. Mesoscutum finely granulate, \pm shining. Notaulus impressed in frontal 0.3 of mesoscutum. Mesopleuron granulate and superficially punctate, with rather strong striae dorsally, dull. Speculum with microsculpture, \pm shining. Area superomedia with incomplete divergent lateral carinae. Area petiolaris with complete carina. Lateral longitudinal carina of propodeum weak and partly obsolete; pleural carina distinct and complete. Hind femur $4.7\times$ as long as wide. Inner apical spur of hind tibia $0.65\times$ as long as hind metatarsus. Vein 2rs-m $0.9\times$ as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a postfurcal by $2\times$ its width. Nervellus of hind wing inclivous, intercepted in its apical 0.7. 1st tergite $2.0\times$ as long as wide, without latero-median carina. 2nd tergite $1.2\times$ as wide as long.

Color: black. Scape ventrally and flagellum reddish, basal flagellomeres blackish dorsally. Palps partly, mandible except teeth, clypeus, facial orbit and two paramedian dorsal spots on face yellowish. Tegula reddish-brown, subtegular ridge reddish. Apical 0.2 of 1st tergite, 2nd to 4th tergites entirely and 5th tergite dorsally red, laterally black. Coxae and trochanters blackish. Trochantelli reddish; legs otherwise red; hind femur red, black in apical 0.1; hind tibia yellowish, black in apical 0.4; hind tarsus black. Pterostigma chestnut-brown.

♀ and hosts unknown.

D i s t r i b u t i o n : Only known from the German holotype.

T a x o n o m i c a l r e m a r k : This species belongs to *Scopesis* (e. g. typical length of 1st and 2nd flagellar segments, form of areolet and structure of 1st tergite) but is characterized by its unique facial color pattern and unusual structure of the clypeus which resembles *Cuboscopesis fraternus* (HOLMGREN). We did not find any ♀♀ with this form of clypeus in the studied *Scopesis* material, the ♀ of *Sc. areolaris* remains unknown.

***Scopesis bicolor* (GRAVENHORST, 1829) (figs 1, 20, 36, 54, 74, 103)**

Original: *Tryphon bicolor* GRAVENHORST, 1829 II: 326, ♀.

Holotype: (♀) (Wroclaw), type examined.

syn. *Mesoleius praecatorius* HOLMGREN, 1876: 48, ♀, synonymized by TEUNISSEN (1945: 220), type not examined.

D e s c r i p t i o n : ♀. Body length 8.0–10.0 mm. Flagellum with 41–42 segments; 1st flagellar segment $5.0\text{--}5.3\times$ as long as wide and $1.9\times$ as long as 2nd segment; 2nd segment $2.5\text{--}2.7\times$, 3rd segment $2.3\text{--}2.4\times$ and preapical segment $1.5\times$ as long as wide. Temple moderately and roundly narrowed behind eye. OED $1.3\times$ ocellar diameter. Face granulated, at most with some sparse fine and superficial punctures. Clypeus slightly convex, not bulging medially, with sparse rather coarse punctures, shining; apical margin almost straight, with small flat extensions laterally. Ventral mandibular tooth slightly larger than dorsal tooth.

Mesoscutum granulate, dull. Notaulus not distinctly impressed. Mesopleuron granulate or finely rugose or partly striate ventrally, with rather strong striae reaching frontal margin of mesopleuron dorsally. Speculum finely granulate, rather dull. Area superomedia sometimes with weak incomplete lateral carina. Area petiolaris usually with complete carina. Lateral longitudinal carina of propodeum sometimes weak or partly obsolete,

pleural carina distinct and complete. Hind femur $4.5\text{--}4.7\times$ as long as wide. Inner apical spur of hind tibia $0.62\times$ as long as hind metatarsus. Vein 2rs-m $0.65\text{--}0.85\times$ as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a interstitial or postfurcal by $1\text{--}2\times$ its width. Nervellus of hind wing slightly inclivous, intercepted in its apical $0.7\text{--}0.8$. 1st tergite $1.4\text{--}1.6\times$ as long as wide, without latero-median carina. 2nd tergite $1.2\text{--}1.4\times$ as wide as long.

Color: black. Flagellum reddish ventrally, brownish dorsally, black basally. Palps partly, spot on mandible, apical $2/3$ of clypeus reddish. Tegula black or yellow. 1st to 4th tergites red, sometimes 1st tergite \pm black. Coxae, trochanters and trochantelli black; legs red; hind femur entirely black; hind tibia black basally and in apical 0.25 ; hind tarsomeres black, with paler bases. Pterostigma ochreous.

The ♀♀ have two color patterns: a) tegula yellow: mid trochanter and mid and hind trochantelli with yellow spots; b) tegula black: all trochanters and trochantelli black.

♂. Body length 7.5–10.0 mm. Flagellum with 40–44 segments; 1st flagellar segment $5.2\text{--}5.7\times$ as long as wide and $1.9\text{--}2.0\times$ as long as 2nd segment; 2nd segment $2.5\text{--}2.9\times$ and 3rd segment $2.3\text{--}2.6\times$ as long as wide. Temple moderately and roundly narrowed behind eye. OED $1.4\times$ ocellar diameter. MI 0.3. Clypeus moderately convex, not bulging. Mesoscutum with fine granulation, often \pm shining. Mesopleuron granulate or finely rugose or partly striate ventrally, with rather strong striae dorsally. Speculum finely granulate, rather dull. Mesopleuron granulate or finely rugose or partly striate ventrally, with rather strong striae reaching frontal margin of mesopleuron dorsally. Speculum finely granulate, rather dull. Hind femur $4.5\times$ as long as wide. Inner apical spur of hind tibia $0.59\times$ as long as hind metatarsus. 1st tergite $1.8\text{--}2.2\times$ as long as wide. 2nd tergite $0.9\text{--}1.1\times$ as long as wide.

Color: black. Palps, mandible except teeth, clypeus, face, ventral spot at scape, often tegula tegula, subtegular ridge, sometimes apical spot of fore coxa, fore and mid trochanters partly and all trochantelli \pm yellow (hind trochantellus sometimes black). 1st tergite usually black. 2nd to 4th tergites red. Hind tibia yellowish, infuscate in apical 0.4 .

Host: *Tenthredopsis* spec. (Hym. Tenthredinidae) (ZSM).

Distribution: West Palaearctic, studied material from Bulgaria, Germany, Italy, Spain, Switzerland, and United Kingdom.

Taxonomical remark: We have seen a ♂ from Kamchatka determined as *bicolor* (ROMAN 1931). It belongs to *Scopesis sachalinensis* (UCHIDA). *Sc. bicolor* has not been found in the Eastern Palaearctic region so far.

***Scopesis caucasica* RIEDEL nov. sp. (figs 2, 21, 55, 75, 94)**

Holotype: (♀) SW Georgia, Kintrishi NP, 1634 m asl, $41.44535308^{\circ}\text{N}$ $41.05384144^{\circ}\text{E}$, MT 12, 10-24.VIII.2018, leg. G. Japoshvili (Tbilisi).

Paratypes: (♀) SW Georgia, Kintrishi NP, 1634 m asl, $41.44535308^{\circ}\text{N}$ $41.05384144^{\circ}\text{E}$, MT 12, 10-24.VIII.2018, leg. G. Japoshvili (coll. RIEDEL); (♀) SW Georgia, Kintrishi NP, 1264 m asl, $41.44388824^{\circ}\text{N}$ $41.0502904^{\circ}\text{E}$, MT 4, 13-27.VII.2018, leg. G. Japoshvili (Tbilisi); (♂) Georgien, Lagodekhi NP, H 4-5, 15-27.IX.2014; [green] BC-ZSM-HYM-27496-E01 (ZSM); (♂) Georgien, Lagodekhi NP, H 4-5, 15-27.IX.2014; [green] BC-ZSM-HYM-27496-E03 (ZSM); (♀♂) Georgien, Lagodekhi NP, H 4-5, 15-27.IX.2014; [green] BC-ZSM-HYM-27496-D08 (ZSM); (♂) Georgien, Lagodekhi NP, H 4-5, 15-25.VII.2014; [green] BC-ZSM-HYM-27496-D06 (ZSM).

Description: ♀. Body length 9.0–9.5 mm. Flagellum with 36–39 segments; 1st flagellar segment $4.8\text{--}5.5\times$ as long as wide and $1.8\text{--}1.9\times$ as long as 2nd segment; 2nd

segment 2.8–2.9 \times , 3rd segment 2.3–2.5 \times and preapical segment 1.6 \times as long as wide. Temple slightly and roundly narrowed behind eye. OED 1.5 \times ocellar diameter. Face granulated, with fine superficial punctures. Clypeus slightly convex, not bulging medially, with sparse punctures, shining; apical margin with small flat extensions laterally, slightly concave. Mandibular teeth of equal length. MI 0.4.

Mesoscutum granulate and superficially punctate, dull. Notaulus weakly impressed in frontal half of mesoscutum. Mesopleuron finely rugose and \pm punctate ventrally and usually with distinct striae dorsally. Speculum with microsculpture, strongly shining. Area superomedia sometimes with weak but incomplete lateral carina. Area petiolaris with complete carina. Lateral longitudinal carina and pleural carina of propodeum distinct and complete. Hind femur 4.3–4.9 \times as long as wide. Hind tibia with numerous dark setae externally. Inner apical spur of hind tibia 0.60 \times as long as hind metatarsus. Vein 2rs-m 0.75 \times as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a postfurcal by 1–2 \times its width. Nervellus of hind wing vertical or slightly inclivous, intercepted in its apical 0.7–0.8. 1st tergite 1.5–1.6 \times as long as wide, without latero-median carina. 2nd tergite 1.2–1.4 \times as wide as long

Color: black. Flagellum black, distal half \pm reddish ventrally. Mandible black or reddish-brown centrally. Apical $\frac{1}{2}$ – $\frac{3}{4}$ of clypeus reddish or chestnut-brown. Tegula black. 1st tergite \pm , 2nd to 4th or 5th tergites red, sometimes 6th tergite reddish laterally. Coxae, trochanters and trochantelli black; legs otherwise red; hind femur red, not distinctly infusate apically; hind tibia red, sometimes narrowly black basally, black in apical 0.2–0.3; apical spurs of hind tibia reddish or brown; hind tarsus black. Pterostigma dark ochreous or brown.

♂. Body length 6.5–8.5 mm. Flagellum with 34–37 segments; 1st flagellar segment 5.5–5.9 \times as long as wide and 1.9 \times as long as 2nd flagellomere; 2nd segment 2.9–3.1 \times , 3rd segment 2.6 \times and preapical segment 1.8 \times as long as wide. Temple parallel or slightly and roundly narrowed behind eye. OED 1.5 \times and OOD 1.0 \times ocellar diameter. Face granulated, without distinct punctures. Clypeus moderately and transversely convex, not bulging medially, with sparse punctures, shining; apical margin with small flat extensions laterally, slightly concave. Ventral mandibular tooth slightly larger than dorsal tooth. MI 0.5.

Mesopleuron finely rugose and sometimes finely striate ventrally, usually with distinct striae dorsally. Speculum smooth or with microsculpture, strongly shining. Area superomedia sometimes with weak but incomplete lateral rugae in basal half. Area petiolaris with complete carina. Lateral longitudinal carina and pleural carina of propodeum distinct and complete. Hind femur 4.6–4.9 \times as long as wide. Hind tibia with numerous setae externally. Inner apical spur of hind tibia 0.50 \times as long as hind metatarsus. Vein 2rs-m 0.7–0.8 \times as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a postfurcal by 1–2 \times its width. Nervellus of hind wing vertical or slightly inclivous, intercepted in its apical 0.7–0.8. 1st tergite 1.8–2.0 \times as long as wide, without latero-median carina. 2nd tergite about as long as wide

Color: black. Flagellum black, distal $\frac{2}{3}$ \pm reddish ventrally. Mandible except teeth reddish-yellowish. Clypeus and lateral spots or complete face cream-yellow. Mesosoma black. Tegula black. Tergites black, 2nd and 3rd tergites with \pm extended reddish suffusion. Coxae, trochanters and trochantelli black; legs otherwise red; hind femur red, sometimes slightly infusate apically; hind tibia red, sometimes narrowly black basally, black

in apical 0.2–0.3; hind tarsus black. Pterostigma ochreous, with darker margins.

D i s t r i b u t i o n : So far only known from Georgia.

Taxonomical remarks: The ♀ of this new species resembles *Scopesis rufolabris* (ZETTERSTEDT), but differs by the darker coloration of flagellum, tegula and hind tibia, and numerous dark and stronger setae of hind tibia. The ♂ differs by the reduced red coloration of median tergites and cream-yellow facial coloration.

***Scopesis frontator* (THUNBERG, 1822) (figs 3, 22, 37, 56, 76, 95, 99)**

Original: *Ichneumon frontator* THUNBERG, 1822: 266, ♂.

Lectotype: (♂) Uppsala Univ. Zool. Mus Thunbergsaml. nr. 25563 *Ichneumon frontator* Wg. By. Typ (Uppsala), examined and designated by HORSTMANN (2006: 81).

syn. nov. *Mesoleius (Scopesus) depressus* THOMSON, 1894: 2030, ♀.

Holotype: (♀) Col Ljgh; *depressus* (Lund), type examined by HORSTMANN.

Description: ♀. Body length (6.0)–8.5–11 mm. Flagellum with (32)–37–42 segments, stout; 1st flagellar segment 4.4–5.3× as long as wide and 1.9–2.3× as long as 2nd segment; 2nd segment 2.0–2.5×, 3rd segment 1.8–2.4× and preapical segment 1.2–1.6× as long as wide. Temple moderately and roundly narrowed. OED 1.2–1.5× ocellar diameter. Face granulated, with superficial punctures, dull. Clypeus slightly transversely convex, with sparse punctures and shining, not bulging medially; apical margin slightly concave, without or with short flat extensions laterally. Ventral mandibular tooth equal to or slightly larger than dorsal tooth. MI 0.5

Mesoscutum granulate. Notaulus not or weakly impressed. Mesopleuron granulate or finely rugose, with superficial punctures and some fine striation ventrally, usually distinctly striate dorsally. Speculum with microsculpture, shining. Area superomedia without or with weak lateral carina. Area petiolaris usually with complete carina, sometimes obsolete medially. Lateral longitudinal carina and pleural carina of propodeum usually distinct and complete, sometimes weak. Hind femur 3.8–4.7× as long as wide. Inner apical spur of hind tibia 0.62× as long as hind metatarsus. Vein 2rs-m 0.7–0.8× as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a interstitial or postfurcal by 1–2× its width. 1st tergite 1.3–1.6× as long as wide, without latero-median carina. 2nd tergite 1.2–1.4× as wide as long.

Color: black. Flagellum red or ochreous, black to brownish basally and dorsally. Palps brown. Mandible except teeth and apical 1/2–3/4 of clypeus reddish or yellowish. Hind edge of pronotum brown. Tegula brown, rarely yellow. 1st to 4th tergites entirely red, 1st tergite rarely ± black in basal 1/2–2/3. Coxae, trochanters and trochantelli black; legs otherwise red; hind femur entirely red; hind tibia reddish-yellow, sometimes narrowly infusate basally, infusate in apical 0.2–0.3; hind tarsus black. Pterostigma yellowish to ochreous.

Var. ♀. One specimen from Haag, Bavaria (Hamburg): Coxae, trochanters and trochantelli black. Legs otherwise red; hind tibia reddish, not distinctly infusate apically; hind tarsus reddish; distal tarsomeres of mid and hind tarsi brownish.

♂. Body length 8.0–11.5 mm. Flagellum with 36–41 segments; 1st flagellar segment 4.3–5.5× as long as wide and 1.9–2.1× as long as 2nd flagellomere; 2nd segment 2.2–2.5×, 3rd segment 2.0–2.3× and preapical segment 1.7× as long as wide. Clypeus slightly transversely convex; apical margin slightly concave and with short lateral extensions. Meso-

pleuron granulate and with superficial punctures ventrally, finely rugose medially, with fine striae dorsally, \pm shining. Speculum with microsculpture, shining. Area superomedia usually with weak lateral carina in basal half. Area petiolaris with complete carina. Lateral longitudinal carina and pleural carina of propodeum distinct and complete. Hind femur 4.5–4.6 \times as long as wide. 1st tergite 1.7–2.0 \times as long as wide, with latero-median carina in basal 0.2–0.4.

Color: black. Flagellum black, sometimes ochreous in apical 2/3. Palps, mandible except teeth, clypeus, face and sometimes scape ventrally reddish-yellow or yellow. Hind edge of pronotum brown or narrowly yellowish. Tegula brown, with yellow spot frontally. 1st tergite black, sometimes red apically, 2nd to 4th tergites entirely red. Coxae black, fore and mid coxae sometimes yellowish apically; fore and mid trochanters black dorsally, yellow ventrally; fore and mid trochantelli yellow; hind trochanter and trochantellus red or black; legs otherwise red; hind femur entirely red; hind tibia reddish-yellow, black in apical 0.4; hind tarsus black. Pterostigma ochreous centrally, margins darker.

Distribution: Western Palaearctic; studied material from Bulgaria, Germany, Sweden and Turkey*.

Taxonomical remarks: TEUNISSEN (1953) synonymized *Scopesis bicolor* (GRAVENHORST) with *Scopesis frontator* (THUNBERG) as a color variant with black hind femur, but these species also differ by the length of basal flagellomeres.

The holotype of *Mesoleius (Scopesus) depressus* THOMSON was usually separated from *Sc. frontator* (THUNBERG) by the mainly black color of 1st tergite and very short basal flagellomeres (2nd flagellar segment 2.0 \times and 3rd segment 1.8 \times as long as wide), but the coloration of the 1st tergite and length of basal flagellar segments are variable in our material. We therefore synonymize *Mesoleius depressus* (THOMSON) with *Sc. frontator* (THUNBERG) here.

***Scopesis gesticulator* (THUNBERG, 1822) (figs 4, 23, 57, 77)**

Original: *Ichneumon gesticulator* THUNBERG, 1822: 266, ♂.

Holotype: (♂) (Uppsala), type not examined.

syn. *Tryphon nigricollis* GRAVENHORST, 1829, synonymized by ROMAN (1912: 258), type not examined.

syn. *Tryphon longipes* GRAVENHORST, 1829, synonymized by YU & HORSTMANN (1997: 437), type not examined.

Description: ♀. Body length 8–11 mm. Flagellum with 36–42 segments, slender; 1st flagellar segment 4.6–5.0 \times as long as wide and 1.8 \times as long as 2nd segment; 2nd segment 2.4–2.8 \times , 3rd segment 2.4–2.5 \times and preapical segment c 1.8 \times as long as wide. Temple distinctly and roundly narrowed. OED 1.4–1.5 \times ocellar diameter. Face granulated, with superficial punctures, dull. Clypeus transversely convex and slightly bulging medially, with fine sparse punctures and some erected long setae, shining, with weak flat lateral extensions, apical margin slightly concave. Lower mandibular tooth slightly larger than upper tooth. MI 0.4.

Mesoscutum finely granulate and superficially punctate, often \pm shining. Notaulus weakly impressed frontally. Mesopleuron granulate and dull ventrally, with superficial punctures and \pm shining dorsally, finely striate in dorsal 1/3, striae not reaching the frontal third of mesopleuron; speculum with microsculpture, shining. Area superomedia usually

with strong lateral carina, divergent apically. Area petiolaris with complete carinae. Lateral longitudinal and pleural carinae of propodeum distinct and complete. Hind femur $4.4\text{--}5.2\times$ as long as wide. Inner apical spur of hind tibia $0.59\times$ as long as hind metatarsus. Vein 2rs-m $0.8\text{--}0.9\times$ as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a postfurcal by $1\times$ its width. Nervellus of hind wing vertical, intercepted in its apical 0.7. 1st tergite $1.4\text{--}1.6\times$ as long as wide, without latero-median carina. 2nd tergite $1.1\text{--}1.4\times$ as wide as long.

Color: black. Flagellum red, black basally. Palps, mandible except teeth, clypeus, often paramedian spots or stripes on face, sometimes spot on tegula yellow. Hind edge of pronotum, tegula and subtegular ridge and postscutellum sometimes reddish. 1st to 4th tergites yellow, 5th tergite sometimes \pm yellow or reddish. 2nd to 4th sternites yellow, 5th sternite brown or black, hypopygium black. Coxae, trochanters and trochantelli black, trochanters and trochantelli often with yellow apical margins; fore and mid femora reddish, fore and mid tibiae and tarsi yellow; hind femur black, sometimes diffusely reddish-brown; hind tibia yellow, infusate in apical 0.3, hind tarsus reddish or yellowish, \pm brownish distally. Wings sometimes with yellowish tint. Pterostigma yellowish.

♂. Body length 9–10 mm. Flagellum with 35–40 segments; 1st flagellar segment $4.8\text{--}6.0\times$ as long as wide and $1.9\text{--}2.0\times$ as long as 2nd flagellomere; 2nd segment $2.5\text{--}3.0\times$ and 3rd segment $2.3\text{--}2.7\times$ longer than wide. OED $1.4\times$ ocellar diameter. Temple moderately and roundly narrowed behind eye. Mesopleuron granulate and superficially punctate, with few striae dorsally, \pm shining. Hind femur $4.4\text{--}4.7\times$ as long as wide. 1st tergite $1.7\text{--}2.0\times$ as long as wide, sometimes with weak latero-median carina in basal 0.4. 2nd tergite $1.0\text{--}1.1\times$ as wide as long.

Color: black. Flagellum ochreous or reddish, blackish basally. Palps, mandible except teeth, clypeus, face, ventral spot at scape, sometimes spot on pedicel, hind edge of pronotum and tegula, sometimes spot on subtegular ridge, anterolateral spots on mesoscutum and often spot on mesosternum yellow. 1st to 4th tergites usually yellowish or reddish-yellow, sometime 5th tergite basally yellow. All coxae and hind trochanter black, often fore and mid coxae \pm yellow; fore and mid trochanters and all trochantelli yellow. Legs yellowish, hind femur black, often narrowly yellow at base; hind tibia yellow, infusate in apical 0.3, hind tarsus yellow or red. Pterostigma ochreous or reddish.

Distribution: A Holarctic species; studied material from Austria, Bulgaria, France, Germany, Switzerland, and United Kingdom.

***Scopesis guttiger* (HOLMGREN, 1857) (figs 5, 24, 39, 58, 78)**

Original: *Mesoleius guttiger* HOLMGREN, 1857: 173, ♂.

Lectotype: (♂) Hlm/Bhn. (Stockholm), type examined by HORSTMANN.

Description: ♀. Body length 7.5–10.5 mm. Flagellum with 32–42 segments, slender; 1st flagellar segment $5.0\text{--}6.3\times$ as long as wide and $1.8\text{--}2.0\times$ as long as 2nd segment; 2nd segment $2.7\text{--}3.2\times$, 3rd segment $2.5\text{--}2.7\times$ and preapical segment $1.8\text{--}2.0\times$ as long as wide. Temple moderately and roundly narrowed. OED $1.5\times$ ocellar diameter. Face granulated and with superficial punctures. Clypeus slightly convex, not bulging medially, with sparse rather coarse punctures, with some erected setae, laterally with \pm distinct flat extensions; apical margin \pm concave. Mandibular teeth of equal length. MI 0.4–0.5.

Mesoscutum granulate, with fine superficial punctures, dull. Notaulus impressed in frontal 0.3 of mesoscutum. Mesopleuron granulate, without or with superficial punctures, and weak fine striation dorsally; speculum with microsculpture, shining. Area superomedial usually without lateral carina, rarely with incomplete carination. Area petiolaris usually with obsolete carina medially. Lateral longitudinal carina of propodeum often weak and partly obsolete, pleural carina usually complete. Hind femur $3.9\text{--}4.7\times$ as long as wide. Inner apical spur of hind tibia $0.56\times$ as long as hind metatarsus. Vein 2rs-m $0.7\text{--}1.0\times$ as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a postfurcal by $1\text{--}3\times$ its width. Nervellus of hind wing vertical or slightly inclivous, intercepted in its apical $0.6\text{--}0.7$. 1st tergite $1.5\text{--}1.6\times$ as long as wide, without latero-median carina. 2nd tergite $1.2\text{--}1.4\times$ as wide as long.

Color: black. Flagellum reddish or ochreous, black basally and/or dorsally. Palps, mandible except teeth and apical $1/2\text{--}3/4$ of clypeus reddish. Tegula brown. Often 1st tergite and usually 2nd to 3rd or 4th tergites red (sometimes dark reddish). Coxae, trochanters and trochantelli black; legs otherwise reddish; fore and mid femora usually blackish basally; hind femur black; hind tibia yellowish, infuscate in apical $0.2\text{--}0.3$; hind tarsus brown or black, hind metatarsus reddish basally. Pterostigma ochreous.

Var. ♀. 1 specimen from United Kingdom (EDI) with very slender 1st tergite, $1.9\times$ as long as wide.

♂. Body length 8–10 mm. Flagellum with 37–41 segments, slender; 1st flagellar segment $5.4\text{--}6.0\times$ as long as wide and $1.8\text{--}2.0\times$ as long as 2nd segment; 2nd segment $2.8\text{--}3.2\times$ and 3rd segment $2.3\text{--}2.9\times$ as long as wide. Temple distinctly roundly narrowed behind eye. OED $1.6\times$ ocellar diameter. MI $0.2\text{--}0.3$.

Mesopleuron granulate, with sparse punctures, dorsally usually with weak striae. Speculum with microsculpture, shining. Area superomedial usually without carina; area petiolaris sometimes closed medially. Hind femur $3.8\text{--}4.2\times$ as long as wide. Vein 2rs-m $0.8\text{--}1.0\times$ as long as vein M between 2rs-m and 2m-cu. 1st tergite $1.8\text{--}2.0\times$ as long as wide, without latero-median carina. 2nd tergite $1.0\text{--}1.2\times$ as wide as long.

Color: black. Flagellum yellow or reddish ventrally, \pm brown dorsally. Palps, mandible except teeth, clypeus, face and large anterolateral spot on mesoscutum yellow. Tegula reddish or brown. 2nd to 3rd or 4th tergites usually reddish. Coxae, trochanters and trochantelli black, sometimes fore coxa with reddish spot apically and/or fore and mid trochanters apically and trochantelli yellow. Legs otherwise red-yellow; mid femur basally and hind femur entirely black; hind tibia yellowish, infuscate in apical 0.3 ; hind tarsus blackish, metatarsus ochreous basally. Pterostigma yellow or ochreous.

Distribution: Western Palaearctic, studied material from Austria, Bulgaria, Germany, Italy, Switzerland*, United Kingdom*.

***Scopesis longigena* (THOMSON, 1894), stat. rev. (figs 6, 40, 59, 79)**

Original: *Mesoleius longigena* THOMSON, 1894: 2031, ♀♂, synonymized with *Sc. bicolor* by SCHMIEDEKNECHT (1914: 2930).

Lectotype: (♀) Ostricourt (Lund), designated and examined by HORSTMANN (2006: 81).

Description: ♀. Body length 9.0 mm. Flagellum with 38 segments; 1st flagellar segment $4.7\times$ as long as wide and $2.1\text{--}2.2\times$ as long as 2nd segment; 2nd segment $2.0\text{--}2.2\times$, 3rd segment $1.8\text{--}2.0\times$ and preapical segment $1.3\times$ as long as wide. Temple moderately

and roundly narrowed behind eye. OED $1.7\times$ ocellar diameter. Clypeus slightly convex, not bulging medially, with sparse punctures, laterally without apical extensions. Ventral mandibular tooth slightly larger than dorsal tooth. MI 0.5.

Mesopleuron granulate and \pm distinctly punctate ventrally, with fine striae dorsally. Speculum with microsculpture, shining. Area superomedia with weak lateral carina. Area petiolaris with complete carina. Hind femur $4.6\times$ as long as wide. 1st tergite $1.5\text{--}1.6\times$ as long as wide, without latero-median carina. 2nd tergite $1.4\text{--}1.5\times$ as wide as long.

Color: black. Flagellum reddish ventrally, blackish basally, brownish dorsally. Palps brownish, mandible brownish or reddish. Apical 1/2 of clypeus reddish. Tegula brown. 1st to 4th tergites red, sometimes 1st tergite \pm black. Coxae, trochanters and trochantelli black; legs red; hind femur entirely black; hind tibia reddish-yellow, infuscate in apical 0.4; hind tarsomeres black. Pterostigma ochreous or yellowish.

♂. Body length 7.5 mm. Flagellum with 37 segments; 1st flagellar segment $4.8\times$ as long as wide and $1.8\times$ as long as 2nd flagellomere; 2nd segment $2.6\times$ as long as wide. Temple distinctly roundly narrowed. OED $1.5\times$. Clypeus transversely convex and slightly bulging medially, with coarse punctures, granulate. Ventral mandibular tooth slightly larger than dorsal tooth. MI 0.5.

Mesopleuron distinctly striate dorsally, with very superficial punctures, granulate but rather distinctly shining; speculum with microsculpture, shining. Area superomedia with weak lateral carina, sides slightly divergent apically. Area petiolaris with incomplete carina medially. Hind femur $4.6\times$ as long as wide. 1st tergite $2.2\times$ as long as wide, without latero-median carina. 2nd tergite $1.1\times$ as wide as long.

Color: black. Flagellum ochreous ventrally, brown dorsally. Palps, mandible except teeth, clypeus, face and scape ventrally yellow. Tegula black. 1st tergite black, narrowly red apically; 2nd to 4th tergites red. Coxae, trochanters, trochantelli, mid femur basally and hind femur black. Hind tibia yellowish, infuscate in apical 0.4. Hind tarsus black. Pterostigma ochreous.

Host: *Tenthredo notha* KLUG, 1817 (Hym. Tenthredinidae) (ZSM).

Distribution: Western Palaearctic, studied material from Germany and Sweden.

Taxonomical remarks: This species is closely related to *Sc. bicolor* (GRAVENHORST) and was synonymized with *Sc. bicolor* by SCHMIEDEKNECHT (1914). As already mentioned by HORSTMANN (2006), it differs by its stouter flagellum and slightly weaker structure of mesopleuron. Due to its rather short basal flagellomeres, it is not impossible that this species represents a variety of *Sc. frontator* (THUNBERG) or *Sc. macropus* (THOMSON) with black hind femur, but further genomic studies are necessary to solve this question.

***Scopesis macropus* (THOMSON, 1894) (figs 7, 25, 41, 60, 80)**

Original: *Mesoleius (Scopesus) macropus* THOMSON, 1894: 2030, ♀♂.

Lectotype: (♂) green label [= Ringsjön/Scåne] (Lund), examined and designated by HORSTMANN (2006: 82).

Description: ♀. Body length 8.5–10 mm. Flagellum with 40–44 segments; 1st flagellar segment $4.2\text{--}4.3\times$ as long as wide and $2.0\times$ as long as 2nd segment; 2nd segment

2.1–2.3×, 3rd segment 1.8–2.0× and preapical segment 1.5× as long as wide. Temple strongly and roundly narrowed behind eye. OED 1.3× ocellar diameter. Face granulated and with superficial punctures. Clypeus slightly convex and slightly bulging medially, with sparse rather coarse punctures, shining; apical margin concave, with small flat extensions laterally. Mandibular teeth of equal length. MI 0.5.

Mesoscutum finely granulate, dull. Notaulus weakly impressed. Mesopleuron finely rugose and superficially punctate ventrally, with rather strong striae reaching frontal margin of mesopleuron dorsally. Speculum finely granulate, rather dull. Area superomedial without lateral carina. Area petiolaris with medially obsolete carina. Lateral longitudinal and pleural carinae of propodeum complete. Hind femur 4.3–4.5× as long as wide. Inner apical spur of hind tibia 0.58× as long as hind metatarsus. Vein 2rs-m 0.7× as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a postfurcal by 1× its width. Nervellus of hind wing slightly inclivous, intercepted in its apical 0.75. 1st tergite 1.5–1.7× as long as wide, without latero-median carina. 2nd tergite 1.2–1.4× as wide as long.

Color: black. Flagellum reddish, basal flagellomeres blackish. Palps brown or reddish-yellow. Mandible medially and apical 2/3 of clypeus reddish-yellow. Scape usually red ventrally. Tegula yellow or brown. Hind edge of pronotum and subtegular ridge reddish or brown. 1st to 4th tergites red. Coxae and trochanters black; trochantelli sometimes ± yellowish; legs otherwise red; tibia reddish-yellow; hind tibia black in apical 0.3; hind tarsus black. Pterostigma yellowish.

♂. Body length 8.5–11.0 mm. Flagellum with 38–41 segments; 1st flagellar segment 4.5–5.0× as long as wide and 1.7× as long as 2nd segment, 2nd segment 2.4–2.5×, 3rd segment 2.4× and preapical segment c 2× as long as wide. OED 1.3× ocellar diameter. Temple moderately and roundly narrowed behind eye. MI 0.3. Notaulus often ± distinct frontally. Mesopleuron punctate and granulate ventrally, partly and finely striate ventrally, ± shining; speculum almost smooth. Hind femur 4.5–4.6× as long as wide. Vein 2rs-m 0.6–0.9× as long as vein M between vein 2rs-m and vein 2m-cu. 1st tergite 1.9–2.2× as long as wide. 2nd tergite about as long as wide.

Color: black. Flagellum reddish-yellow, brownish basally and/or dorsally. Palps, mandible except teeth, clypeus, face, ventral 1/2 of frontal orbit, ventral spots on scape and pedicel, sometimes spot on collar, wide hind edge and sometimes ventral edge of pronotum, sometimes anterolateral spot on mesoscutum, tegula, subtegular ridge, sometimes spot on ventral epicnemium, often mesepisternum, fore and mid coxae, apical margin of hind coxa, all trochanters and trochantelli yellow. Postpetiolus apically and 2nd to 4th tergites red, sometimes basal tergites mainly blackish, with ± distinct dark reddish shine. Legs reddish-yellow; hind tibia yellow, infuscate in apical 0.2–0.3; hind tarsus brownish. Pterostigma yellow or ochreous.

Distribution: West Palaearctic, studied material from Bulgaria, Germany, Sweden, and Switzerland.

Taxonomical remarks: As stated by HORSTMANN (2006: 82), the ♀ in coll. Thomson ("Madsr. 23.8.91") which had been designated as "neotype" by AUBERT (1966: 127) belongs to a different species, most probably to *Sc. frontator*. The differences between *Sc. frontator* and *Sc. macropus* are small in ♀♀ and sometimes variable. An unequivocal determination of ♀♀ is sometimes not possible.

***Scopesis minuta* RIEDEL nov. sp. (figs 61, 81)**

Holotype: (♀) 31.VII.1960 zip. Brenner; [red] 1559 (ZSM).

Description: ♀. Body length 5.2 mm. Flagellum with 28 segments, stout; 1st flagellar segment 3.9× as long as wide and 1.9× as long as 2nd segment; 2nd segment 2.0×, 3rd segment 1.9× and preapical segment 1.3× as long as wide. Temple moderately and roundly narrowed behind eye. OED 1.5× ocellar diameter. Face granulated, dull; inner eye margins slightly convergent ventrally. Clypeus moderately and transversely convex, with sparse punctures, shining, moderately bulging medially, with distinct flat lateral extensions; apical margin slightly concave. Mandibular teeth of equal size. MI 0.65.

Mesoscutum granulate, without punctures, dull. Notaulus impressed in frontal 0.5 of mesoscutum. Mesopleuron granulate, dull, without punctures, with few irregular rugae dorsally; speculum with microsculpture, shining. Hind femur 4.4× as long as wide. Inner apical spur of hind tibia slightly longer than outer spur, 0.53× as long as hind metatarsus. Area superomedia with weak lateral carina and moderately widened apically; area petiolaris with complete carina. Lateral longitudinal and pleural carinae of propodeum complete. Vein 2rs-m 0.7× as long as vein M between veins 2rs-m and 2-mcu. Vein 2m-cu almost straight. Vein 1cu-a interstitial. Nervellus of hind wing inclivous, intercepted in its apical 0.8. Discoidella of hind wing vestigial. Metasoma stout; 1st tergite 1.3× as long as wide, without latero-median carina. 2nd tergite 1.6× and 3rd tergite 2.1× as wide as long.

Color: black. Flagellum reddish-brown; 1st flagellar segment blackish. Palps brown. Median spot at mandible and clypeus reddish. Hind edge of pronotum and tegula brownish. 2nd to 3rd tergites reddish-brown, with diffuse brownish transverse bands medially. Coxae, trochanters and trochantelli black; legs otherwise reddish; hind femur weakly infusate apically; hind tibia narrowly infusate basally and apically; hind tarsomeres reddish, with brownish tips. Pterostigma brown, paler proximally.

♂ and hosts unknown.

Distribution: Only known from Austria.

Taxonomical remarks: This new species is characterized by its small size and low number of flagellar segments, stout flagellum, stout metasoma, granulate mesopleuron without distinct striation, bulging clypeus medially and dark color of palps and tegula. The form of clypeus resembles members of the genus *Campodorus*, but the 1st tergite of *Sc. minuta* has no latero-median carina.

***Scopesis polita* (HOLMGREN, 1857) (figs 8, 26, 42, 62, 82)**

Original: *Mesoleius politus* HOLMGREN, 1857: 141, ♀.

Lectotype: (♀) Lp. in; Bhn (Stockholm), designated by TOWNES et al. (1965: 259), type examined.

syn. *Mesoleius pallifrons* HOLMGREN, 1857: 149, ♀♂.

Lectotype: (♀) Lp. in; Bhn; *Mesoleius pallifrons* HLGR. ♀ Lectotypus R. Hinz 1962 (Stockholm), herewith designated, synonymized by SCHMIEDEKNECHT (1914: 2923), high resolution photos examined.

syn. *Mesoleius imitator* HOLMGREN, 1857: 148, ♀♂.

Lectotype: (♀) Lp. in; Bhn; *Mesoleius imitator* HLGR. ♀ Lectotypus R. Hinz 1962 (Stockholm), designated by TOWNES et al. (1965: 259), synonymized by ROMAN (1931: 24), high resolution photos examined.

Description: ♀. Body length (6.0)–8.5–10.5 mm. Flagellum with 33–40 segments; 1st flagellar segment 4.2–5.0× as long as wide and 1.7–2.0× as long as 2nd segment; 2nd segment 2.3–2.7×, 3rd segment 2.2–2.5× and preapical segment 1.4× as long as wide. Temple moderately to distinctly and roundly narrowed behind eye. OED 1.2–1.5× ocellar diameter. Face granulated, with superficial punctures, inner eye margins parallel. Clypeus moderately convex, not bulging medially, slightly extended laterally, with sparse setiferous punctures; apical margin almost straight. MI 0.4.

Mesoscutum granulate, dull. Notaulus not impressed. Mesopleuron granulate, sometimes finely rugose and with superficial punctures, with ± distinct striae in dorsal half; speculum with microsculpture, shining. Lateral carinae of area superomedia sometimes partly present. Area petiolaris with carina, obsolete or complete medially. Lateral longitudinal and pleural carinae of propodeum often ± obsolete, sometimes completely lacking. Hind femur 4.0–4.5× as long as wide. Inner apical spur of hind tibia 0.64× as long as hind metatarsus. Vein 2rs-m 0.6–0.9× as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a interstitial or postfurcal by 1× its width. Nervellus of hind wing vertical or slightly inclivous, intercepted in its apical 0.6–0.7. 1st tergite 1.4–1.6× as long as wide, without latero-median carina. 2nd tergite 1.2–1.5× as wide as long.

Color: black. Flagellum reddish or reddish-yellow, ± black basally. Palps brown or ochreous. Mandible partly yellow. Clypeus reddish-brown or yellow, sometimes with narrow yellowish facial transverse stripe above clypeus. Scape sometimes reddish ventrally. Tegula brown or yellowish. Coxae, trochanters and trochantelli black. Legs red; hind tibia reddish-yellow, infuscate in apical 0.3–0.4; hind tarsus black. Metasoma black or brown, 2nd and/or 3rd tergites often with some dark reddish shine. Pterostigma ochreous.

♂. Body length 8.0–11.0 mm. Flagellum with 32–41 segments; 1st flagellar segment 4.5–5.3× as long as wide and 1.8× as long as 2nd segment; 2nd segment 2.8–3.2× and 3rd segment 2.5–2.7× longer than wide. OED 1.1–1.5× ocellar diameter. MI 0.2–0.3. Mesopleuron granulate and with superficial punctures, ± striate dorsally. Area superomedia often with ± distinct lateral carina. Area petiolaris with complete carina medially. Hind femur 3.9–5.0× as long as wide. Inner apical spur of hind tibia 0.53× as long as hind metatarsus. 1st tergite 1.8–2.1× as long as wide, without latero-median carina. 2nd tergite 1.0× as long as wide.

Color: black. Flagellum ochreous, ± infuscate basally. Palps, mandible, clypeus, often ventral gena, face, ventral 1/3 of frontal orbit, ventral spots on scape and pedicel, sometimes collar, hind edge of pronotum, tegula, often subtegular ridge, often anterolateral spot on mesoscutum and often spot on scutellum and postscutellum yellow; sometimes mesosoma except yellow hind edge of pronotum and tegula entirely black. Coxae black, apical spots on fore and mid coxae, usually fore and mid trochanters and trochantelli and often hind trochantellus yellow. legs reddish; hind femur sometimes slightly infuscate apically; hind tibia reddish-yellow, infuscate in apical 0.4–0.5; hind tarsus black. Metasoma black; 2nd and 3rd tergites often with ± extended dark reddish shine. Pterostigma yellow or brownish.

Distribution: Transpalearctic, studied material from Austria, Georgia*, Germany, Sweden, Russia Far East (Kamchatka), United Kingdom*.

Taxonomical remarks: This species has a large range of body size and color patterns, especially in ♂♂. The lectotype of *Sc. polita* is an exceptionally small ♀ with a body length of 6.0 mm and 33 flagellar segments.

***Scopesis rubrotincta* (SCHMIEDEKNECHT, 1914) (figs 9, 27, 43, 63, 83, 104)**

Original: *Scopesus rubrotinctus* SCHMIEDEKNECHT, 1914: 2929, ♀.

Lectotype: (♀) ♀; det. Schmiedekn.; *Scopesis rubrotinctus* SCHMDKN. (Vienna), type not examined.

Description: ♀. Body length 7.0–9.0 mm. Flagellum with 33–35 segments; 1st flagellar segment 5.0× as long as wide and 1.8–1.9× as long as 2nd segment; 2nd segment 2.3–2.4×, 3rd segment 2.1–2.2× and preapical segment 1.8× longer than wide. Temple distinctly and roundly narrowed behind eye. OED 1.3–1.5× ocellar diameter. Face granulated, with fine superficial punctures. Clypeus moderately convex, not bulging medially, with fine sparse punctures and some long and erected setae, shining, with rather distinct flat extensions laterally; apical margin slightly concave. Mandibular teeth equal or lower tooth slightly larger than upper tooth. MI 0.3–0.4.

Mesoscutum granulate, with superficial punctures, dull. Notaulus impressed in frontal 0.3. Mesopleuron finely granulate, with superficial punctures, ± shining; dorsally sometimes with few superficial striae. Speculum with microsculpture, shining. Area supero-media without lateral carina. Area petiolaris with short lateral carina, widely open medially. Lateral longitudinal and pleural carinae of propodeum often ± obsolete. Hind femur 3.9–4.3× as long as wide. Inner apical spur of hind tibia 0.62× as long as hind metatarsus. Vein 2rs-m 0.5–0.7× as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a interstitial. Nervellus of hind wing vertical, intercepted in its apical 0.6. 1st tergite 1.5–1.7× as long as wide, without latero-median carina. 2nd tergite 1.3× as wide as long.

Color: black. Flagellum reddish, infusate basally. Palps, mandible except teeth, clypeus, often ventral spot at scape, spot on scutellum and postscutellum red. Tegula brown. 1st tergite except base and 2nd to 4th or 5th tergites entirely red. Coxae, trochanters and trochantelli black; legs red; hind tibia reddish, infusate in apical 0.3; hind tarsomeres black, with ± paler bases. Pterostigma ochreous.

♂. Body length 8.5–10.0 mm. Flagellum with 34–35 segments; 1st flagellar segment 5.0–5.2× as long as wide and 1.7–1.8× as long as 2nd segment; 2nd segment 2.7× and 3rd segment 2.4× as long as wide. OED 1.1–1.4× ocellar diameter. MI 0.2–0.3. Mesopleuron with smoothened superficial structure, superficially punctate and granulate, weakly striate dorsally, strongly shining. Area supero-media sometimes with incomplete weak lateral carina. Area petiolaris with short lateral carina, widely open medially. Hind femur 3.8–4.0× as long as wide. 1st tergite 1.9–2.0× as long as wide. 2nd tergite about as long as wide.

Color: black. Flagellum reddish or brown, ± infusate basally. Palps, mandible except teeth, clypeus, face, lower 1/2 of frontal orbit, ventral spots on scape and pedicel, collar, anterolateral spot on mesoscutum, hind edge of pronotum, tegula, subtegular ridge, spot on mesosternum, spot on scutellum and postscutellum, fore and mid coxae largely, fore and mid trochanters and trochantelli and spot on hind trochantellus yellow. Legs otherwise red; hind tibia reddish-yellow, infusate in apical 0.4; hind tarsus black. Sometimes

postpetiolus apically and 2nd to 4th tergites entirely red. Pterostigma ochreous or chestnut-brown.

Distribution: Transpalearctic, studied material from Bulgaria*, Germany, Norway*, Poland and East Siberia* (Irkutsk environment).

***Scopesis rufolabris* (ZETTERSTEDT, 1838), stat. nov. (figs 10, 28, 44, 64, 84, 100)**

Original: *Bassus rufolabris* ZETTERSTEDT, 1838: 380, ♀.

Lectotype: (♀) no label (Lund), synonymized with *Sc. frontator* by ROMAN (1912: 256), type examined by Horstmann.

syn. nov. *Mesoleius rufonotatus* HOLMGREN, 1876: 31, ♀♂.

Lectotype: (♀) sc./Bhn. (Stockholm), type examined.

syn. nov. *Scopesus thomsoni* HABERMEHL, 1925: 180. ♀♂, synonymized with *Sc. rufonotata* by TEUNISSEN (1953: 35), type not examined.

Description: ♀. Body length (6.0)–7.5–9.5 mm. Flagellum with 36–44 segments; 1st flagellar segment 5.0–6.3× as long as wide and 1.7–2.0× as long as 2nd segment; 2nd segment 2.5–3.0×, 3rd segment 2.2–2.8× and preapical segment 1.5–1.7× as long as wide. Temple moderately and roundly narrowed. OED 1.4–1.7× ocellar diameter. Face granulated and with fine superficial punctures, dull. Clypeus moderately convex, ± bulging medially, with sparse rather coarse punctures; apical margin slightly concave, with small flat extensions laterally. Mandibular teeth equal or ventral mandibular tooth slightly larger than dorsal tooth. MI 0.4–0.5.

Mesoscutum finely granulate, dull. Notaulus usually impressed in frontal 0.3 of mesoscutum. Mesopleuron granulate, without clear punctures ventrally and with ± distinct striae dorsally. Speculum with microsculpture, shining. Area superomedia sometimes with weak but incomplete lateral carina. Area petiolaris with complete carina, sometimes obsolete medially. Lateral longitudinal and pleural carinae of propodeum sometimes ± obsolete. Hind femur 4.5–5.3× as long as wide. Vein 2rs-m 0.6× as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a interstitial. Nervellus of hind wing inclivous, intercepted in its apical 0.7–0.8. 1st tergite 1.4–1.8× as long as wide, without lateromedian carina. 2nd tergite 1.3–1.6× as wide as long.

Color: black. Flagellum red or ochreous, ± black basally. Palps brown. Mandible centrally and apical ½–¾ of clypeus reddish-yellow. Hind edge of pronotum brown. Tegula brown or reddish, sometimes yellow. Often 1st tergite ±, 2nd and 3rd tergites mainly or entirely and sometimes 4th tergite red or reddish-brown. Coxae, trochanters and trochantelli black; legs otherwise red; hind femur often slightly infusate basally and/or apically; hind tibia red or reddish-yellow, rarely yellowish, sometimes narrowly infusate basally and usually infusate in apical 0.2–0.3; spurs of hind tibia ochreous or yellowish; hind tarsus black. Pterostigma yellowish to ochreous.

Var. ♀: 1 specimen from Mt. Canigou/France (ZSM): Flagellum very slender; 1st flagellar segment 6.0×, 2nd segment 2.9× and 3rd segment 2.8× as long as wide. Hind femur 5.3× as long as wide. Metasoma black, 2nd and 3rd tergites with dark reddish shine.

♂. Body length 8.0–8.5 mm. Flagellum with 35–37 segments; 1st flagellar segment 5.1–6.2× as long as wide and 1.7–1.8× as long as 2nd segment; 2nd segment 2.6–3.0× and 3rd segment 2.5× as long as wide. Temple distinctly and roundly narrowed. OED 1.5×. Clypeus distinctly convex and bulging forwards medially, with sparse punctures, lateral-

ly with flat extensions. Lower mandibular tooth slightly larger. MI 0.3. Mesopleuron granulate, without punctures and distinct striae; speculum almost smooth, shining. Area superomedia with \pm distinct lateral carina. Area petiolaris with complete carina. Hind femur 4.6–5.5 \times as long as wide. 1st tergite 1.8–2.0 \times as long as wide, without latero-median carina. 2nd tergite 1.1–1.2 \times as wide as long.

Color: black. Flagellum red, black basally. Palps, mandible, clypeus, face except brown median stripe, sometimes ventral half of frontal orbit and ventral spot at scape, sometimes spot on propleuron, hind edge of pronotum and tegula yellow. 2nd to 4th tergites red, rarely metasoma \pm infusate with dark reddish suffusion. Coxae black, apically yellow or fore and mid coxae entirely yellow; hind coxa sometimes yellow apically. Trochanters and trochantelli yellow, hind trochanter \pm black dorsally. Legs red; hind femur sometimes slightly infusate basally and usually apically; hind tibia reddish or reddish-yellow, infusate in apical 0.3, hind tarsomeres black, with pale bases. Pterostigma brownish.

Host: *Tenthredo ferruginea* SCHRANK, 1776 (Hym. Tenthredinidae) (ZSM).

Distribution: Probably Transpalearctic, but the report from Irkutsk environment (MOCSARY & SZÉPLIGETI 1901) is questionable and unconfirmed, studied material from Bulgaria*, Finland, France, Georgia*, Germany, Italy, Sweden, Switzerland, Turkey*, United Kingdom.

Taxonomical remarks: *Scopesis rufolabris* was usually regarded as a synonym of *Sc. frontator* since ROMAN (1912: 256) had synonymized both species (see HORSTMANN 2007: 81), but the comparison of the type material of both species shows some differences. The lectotype of *Sc. rufolabris* has longer basal flagellar segment (e. g. 3rd segment 2.5 \times as long as wide) than *Sc. frontator* (3rd flagellar segment 2.0 \times as long as wide). In *Sc. rufolabris*, the structure of mesopleuron is weaker and the red hind femur is slightly infusate apically, whereas the mesopleuron has a coarser structure and the hind femur is entirely red in *Sc. frontator*. Due to these differences, we separate both species here. *Sc. bicolor* differs from *Sc. rufolabris* mainly by its entirely black hind femur.

***Scopesis rugulosa* RIEDEL nov.sp. (figs 11, 65, 85)**

Holotype: (♀) 1.VII.74; L.X.1973 Alfeld; ex *Tenthredopsis annuligera* (Tenth.); *frontator* ♀ (ZSM).

Description: ♀. Body length 6.0 mm. Flagellum with 37 segments; 1st flagellar segment 4.4 \times as long as wide and 2.0 \times as long as 2nd segment; 2nd segment 2.3 \times , 3rd segment 2.1 \times and preapical segment 1.5 \times as long as wide. Temple distinctly and almost linearly narrowed behind eye; dorsally 0.7 \times as long as eye. OED 1.4 \times ocellar diameter. Face granulated; inner orbits slightly convergent ventrally. Clypeus weakly convex, not bulging medially, almost straight apically, without distinct extensions laterally. Lower mandibular tooth slightly longer than upper one. MI 0.3.

Mesoscutum granulate, dull. Notaulus impressed in frontal 0.3 of mesoscutum. Mesopleuron irregularly rugose-striate, without distinct punctures, dull. Speculum with microsculpture, slightly shining. Hind femur 4.5 \times as long as wide. Inner apical spur of hind tibia 0.67 \times as long as hind metatarsus. Area superomedia without lateral carina; area petiolaris widely interrupted medially. Lateral longitudinal and pleural carinae of propodeum weak but complete. Vein 2rs-m 0.6 \times as long as vein M between veins 2rs-m and 2-mcu. Vein 1cu-a postfurcal by 1 \times its width. Nervellus of hind wing vertical, inter-

cepted in its apical 0.7. 1st tergite 1.8× as long as wide, without dorsal carina. 2nd tergite 1.1× as wide as long.

Color: black. Flagellum ochreous, infusate basally. Palps, mandible except teeth, clypeus, hind edge of pronotum and tegula yellow. 1st tergite in apical 0.25 and 2nd to 4th tergites entirely red. Coxae, trochanters and trochantelli black; mid trochantellus ± yellowish; legs otherwise red; hind femur slightly infusate apically, hind tibia cream-yellow, black in apical 0.3; hind tarsomeres blackish. Pterostigma hyaline-yellow.

♂ unknown.

Host: *Tenthredopsis tischbeinii* (FRIVALDSKY, 1876) (Hym. Tenthredinidae) (ZSM).

D i s t r i b u t i o n : Only known from the German holotype.

Taxonomical remarks: This specimen was determined as *Sc. frontator* by HINZ, but seems to be closely related to *Sc. macropus* (THOMSON). Due its small size, characteristic structure of mesopleuron and long 1st tergite, it is described as a separate species here, but might represent a very small (host-dependent?) specimen of *Scopesis macropus* (THOMSON). For a definitive decision, more material, host records and genomic studies are necessary in the future.

***Scopesis sachalinensis* (UCHIDA 1930) (figs 12, 29, 45, 66, 86)**

Original: *Scopesus sachalinensis* UCHIDA, 1930: 294, ♀♂.

Lectotype: (♀) Saghalin, Adachi, Issiki (Sapporo), type examined.

syn. nov. *Scopesis alpivagans* HEINRICH, 1949: 89, ♀♂.

No syntypes but material determined by Heinrich examined.

D e s c r i p t i o n : ♀. Body length 7.5–10.0 mm. Flagellum with 36–40 segments; 1st flagellar segment 4.4–5.5× as long as wide and 1.8–2.2× as long as 2nd segment; 2nd segment 2.4–2.8×, 3rd segment 2.1–2.5× and preapical segment 1.3–1.5× as long as wide. Temple moderately and roundly narrowed behind eye. OED 1.5–1.6× ocellar diameter. Face wide, granulate, inner eye margins parallel or slightly convergent. Clypeus slightly convex, shining, not bulging medially, with fine sparse punctures, apical margin with small flat extensions laterally. Ventral mandibular tooth equal to or slightly larger than dorsal tooth. MI 0.2–0.4.

Mesoscutum granulate, without distinct punctures, dull. Notaulus usually impressed in frontal 0.3 of mesoscutum. Mesopleuron finely granulate, dull, without or with very superficial punctures ventrally; without or with fine striae dorsally. Speculum with microsculpture, but ± shining. Propodeum granulated. Area superomedia without lateral carina; area petiolaris usually with obsolete carina medially. Lateral longitudinal and pleural carinae of propodeum usually complete. Hind femur 4.3–4.7× as long as wide. Inner apical spur of hind tibia 0.56× as long as hind metatarsus. Vein 2rs-m 0.8–0.9× as long as vein M between veins 2rs-m and 2-mcu. Vein 1cu-a postfurcal by 1–3× its width. Nervellus of hind wing vertical, intercepted in its apical 0.6. 1st tergite 1.5–1.9× as long as wide, without latero-median carina. 2nd tergite 1.0–1.4× as wide as long.

Color: black. Flagellum ochreous or red, ± brownish dorsally. Palps mainly, mandible except teeth, clypeus and sometimes ventral margin of face narrowly yellow. Tegula usually brown or black, rarely reddish or yellow. 1st tergite usually black, sometimes ± reddish, 2nd to 3rd tergites entirely and often 4th tergite basally red. Coxae, trochanters and

trochantelli black; legs otherwise red; fore and mid femora often basally black; hind femur entirely black; hind tibia reddish or yellowish, black at narrow base and in apical 0.2–0.4; sometimes distal mid tarsomere and hind tarsus except yellowish base of meta-tarsus black. Pterostigma yellow or ochreous.

♂. Body length 8.5 mm. Flagellum with 36–39 segments; 1st flagellar segment 5.3–5.9× as long as wide and 1.7–2.0× as long as 2nd segment; 2nd segment 2.8–2.9× and 3rd segment 2.5× as long as wide. Temple slightly or moderately and roundly narrowed behind eye. OED 1.6–1.7× ocellar diameter. MI 0.5. Mesopleuron granulate ventrally, with fine rugae in dorsal half. Speculum with microsculpture, shining. Area superomedia sometimes with lateral carina. Hind femur 4.4–4.8× as long as wide. 1st tergite 1.7–2.1× as long as wide, without latero-median carina. 2nd tergite 1.0–1.2× as wide as long.

Color: black. Palps, mandible, clypeus, face, ventral spot of scape and sometimes tegula yellow. Often apical margin of 1st tergite, 2nd tergite ±, 3rd tergite entirely and 4th tergite ± red. Coxae black, fore and mid coxae sometimes with apical yellow spots. Fore and mid trochanters and all trochantelli ± yellow. Legs otherwise red; fore and mid femora usually ± infusate basally; hind femur black; hind tibia yellowish, infusate in apical 0.3–0.4. Distal tarsomeres sometimes and hind tarsus brownish. Pterostigma ochreous.

Hosts: unknown.

Distribution: Transpalearctic, studied material from Austria, France*, Germany, Italy*, Siberia (Irkutsk region), Sakhalin, United Kingdom*.

Taxonomical remarks: The hind tibiae of European ♀♀ are mainly reddish, the Eastern Palearctic ♀♀ have yellowish hind tibiae, but we could not find other differences between the Western and Eastern Palearctic material and therefore synonymized *Scopesis alpivagans* HEINRICH with *Scopesis sachalinensis* (UCHIDA) here.

***Scopesis styriaca* (HEINRICH, 1953), stat.nov., new male (figs 13, 30, 46, 67, 87, 106)**

Original: *Mesoleius (Scopesis) styriacus* (lapsus for: *styriacus*) HEINRICH, 1953: 170, ♀.

Holotype: (♀) Steiermark, Admont, Kreuzkogel, 1700 m, 28.7.50 (ZSM), type examined.

Description: ♀. Body length 7.0–9.0 mm. Flagellum with 35–38 segments; 1st flagellar segment 5.0–5.6× as long as wide and 1.7–1.8× as long as 2nd segment; 2nd segment 2.9–3.3× and 3rd segment 2.7–3.0× as long as wide, preapical segment 1.7× as long as wide. Temple distinctly and roundly narrowed behind eye, dorsally 0.85× as long as eye. OED 1.4–1.5× ocellar diameter. Face granulated, dull. Clypeus moderately and transversely convex, smooth and shining, slightly bulging medially, with sparse fine punctures and with distinct flat lateral extensions; apical margin distinctly concave. Ventral mandibular tooth slightly larger than dorsal tooth. MI 0.3–0.4.

Mesoscutum granulate, without punctures, dull. Notaulus ± impressed in frontal 0.4 of mesoscutum. Mesopleuron granulate, dull, without distinct punctures or striae; speculum with microsculpture, shining. Hind femur 5.6–5.9× as long as wide. Inner apical tibial spur 0.56× as long as hind metatarsus. Area superomedia with ± complete lateral carina, slightly widened apically; area petiolaris with complete carina. Vein 2rs-m 0.8–0.9× as long as vein M between veins 2rs-m and 2-mcu. Vein 1cu-a interstitial. Nervellus of hind wing vertical or slightly inclivous, intercepted in its apical 0.7–0.8. 1st tergite slender, 2.1–2.2× as long as wide, without latero-median carina. 2nd tergite 1.0–1.1× as wide as long.

Color: black. Flagellum reddish-yellow, infusate basally. Palps, mandible except teeth, clypeus and V-shaped spot at face, often small anterolateral spot on mesoscutum, hind edge of pronotum, tegula and often small spot on subtegular ridge yellow. Scutellum sometimes with dark reddish shine. 2nd to 4th tergites reddish, often apical tergites laterally or diffusely reddish. 2nd and 3rd sternites yellow, 4th sternite red, 5th sternite and hypopygium brown. Coxae black, fore and mid coxae with apical yellow spots; all trochanters and trochantelli yellow; legs red; hind femur except narrow yellowish base black; hind tibia reddish or reddish-yellow, black in apical 0.2–0.3; hind tarsus yellowish. Pterostigma yellow.

♂. Body length 10 mm. Flagellum with 35 segments; 1st flagellar segment 5.8× as long as wide and 1.85× as long as 2nd segment; 2nd segment 3.1× and 3rd segment 3.0× as long as wide. OED 1.5× ocellar diameter. MI 0.3. Hind femur 5.3× as long as wide. 1st tergite 2.6× as long as wide; 2nd tergite about as long as wide. Structure otherwise as in ♀.

Color: black. Flagellum ochreous ventrally, brown dorsally. Palps, mandible except teeth, clypeus, face and orbit opposite antennal groove, ventral spot at scape, large anterolateral spot on mesoscutum, hind edge of pronotum, tegula and spot on subtegular ridge yellow. 2nd to 4th tergites red. Fore coxa entirely and mid coxa mainly yellow; hind coxa black; legs otherwise as in ♀. Pterostigma ochreous

Host: *Sciapteryx costalis* (FABRICIUS, 1775) (Hym. Tenthredinidae) (ZSM).

Distribution: Western Palaearctic, studied material from Austria, Germany*, and Switzerland*.

***Scopesis tarsatae* HORSTMANN, 2006 (figs 14, 31, 47, 68, 88, 96, 101)**

Original: *Scopesis tarsatae* HORSTMANN, 2006: 82, ♀♂.

Holotype: (♀) L.24.X.1962 Alfeld Han.; 1962/LXIX 11.6.63; ex *Tenthredopsis tarsata* F. (Tenthredinidae) (ZSM), type examined.

Description: ♀. Body length 8.0–9.0 mm. Flagellum with 39–42 segments; 1st flagellar segment 5.0–5.3× as long as wide and 1.9–2.0× as long as 2nd segment; 2nd segment 2.5–2.8×, 3rd segment 2.1–2.4× and preapical segment 1.4–1.5× as long as wide. Temple distinctly and roundly narrowed behind eye. OED 1.5–1.8× ocellar diameter. Face granulated, with ± distinct punctures dorsally. Clypeus moderately convex, not bulging, with sparse punctures, shining, with small flat extensions laterally; apical margin ± concave. Mandibular teeth equal or ventral tooth slightly larger than dorsal tooth. MI 0.4.

Mesoscutum granulate, dull. Notaulus impressed in frontal 0.3 of mesoscutum. Mesopleuron granulate, with rather distinct punctures and partly with rugae or striae ventrally, distinctly striate dorsally. Speculum with microsculpture, shining. Area superomedia without lateral carina; area petiolaris with complete or sometimes obsolete carina medially. Lateral longitudinal and pleura carinae of propodeum usually complete. Hind femur 4.4–4.5× as long as wide. Inner apical spur of hind tibia 0.62× as long as hind metatarsus. Vein 2rs-m 0.7–0.8× as long as vein M between veins 2rs-m and 2-mcu. Vein 1cu-a interstitial. Nervellus of hind wing ± inclivous, intercepted in its apical 0.6–0.7. 1st tergite 1.6–1.8× as long as wide, without latero-median carina. 2nd tergite 1.1–1.2× as wide as long.

Color: black. Flagellum reddish, infusate basally. Palps, mandible except teeth, clypeus (often with baso-median dark spot), sometimes ventral margin and/or oblique paramedian spots on face, often hind edge of pronotum and tegula yellow. Scape often reddish ventrally. 1st tergite except base and 2nd to 4th tergites entirely red. Coxae, trochanters and trochantelli black (mid trochantellus sometimes yellowish); legs red; fore and mid tibiae and tarsi \pm yellowish; hind femur red, slightly infusate apically, hind tibia yellow, black in apical 0.2; hind tarsus black. Pterostigma yellow.

♂. Body length 7.0–9.0 mm. Flagellum with 39–42 segments; 1st flagellar segment 5.2 \times as long as wide and 1.9 \times as long as 2nd segment; 2nd segment 2.8 \times , 3rd segment 2.5 \times and preapical segment c 2 \times as long as wide. Temple distinctly and roundly narrowed behind eye. OED 1.2–1.3 \times . Clypeus moderately convex, with small flat extension laterally. Lower mandibular tooth slightly larger than upper tooth. MI 0.25.

Mesopleuron granulate and with superficial punctures, \pm shining, with some fine striae dorsally. Speculum with microsculpture, shining. Hind femur 4.5–4.8 \times longer than wide. Area superomedia without lateral carina; area petiolaris with complete carina. 1st tergite 2.2–2.5 \times as long as wide, without latero-median carina. 2nd tergite 1.1–1.2 \times as long as wide.

Color: black. Flagellum ochreous, \pm infusate basally and dorsally. Palps, mandible except teeth, clypeus, malar space, face, scape and pedicel ventrally, rarely anterolateral spot of mesoscutum, wide hind edge of pronotum and tegula, usually fore and mid coxae entirely and all trochanters and trochantelli yellow. 2nd to 4th tergites red. Hind coxa black, rarely with reddish spot dorsally; femora, tibiae and tarsi reddish; hind femur usually red, slightly infusate apically or sometimes entirely black; hind tibia yellow or reddish-yellow (rarely reddish), infusate in apical 0.3; hind tarsus black. Pterostigma yellow.

Var. ♂: A few ♂♂ have black coxae and resemble the ♂♂ of *Scopesis bicolor*. They can be differentiated by the \pm yellow hind edge of pronotum.

Host: *Tenthredopsis tarsata* (FABRICIUS, 1804) (Hym., Tenthredinidae) (ZSM).

Distribution: Transpalearctic, studied material from Germany, Norway*, Siberia* (Irkutsk environment), Sweden*, United Kingdom*.

***Scopesis tegularis* (THOMSON, 1894) (figs 15, 32, 48, 69, 89)**

Original: *Mesoleius (Scopesus) tegularis* THOMSON, 1894: 2031, ♀♂.

Lectotype: (♀) Hlm; De V (Lund), type examined by Horstmann.

Description: ♀. Body length 8.5–9.5 mm. Flagellum with 40–44 segments; 1st flagellar segment 5.5–5.7 \times as long as wide and 1.9–2.0 \times as long as 2nd segment; 2nd segment 2.6–2.8 \times , 3rd segment 2.5 \times and preapical segment 1.5 \times as long as wide. Temple distinctly and roundly narrowed behind eye. OED 1.4–1.5 \times ocellar diameter. Face granulated, with fine superficial punctures. Clypeus slightly convex, not bulging medially, with sparse punctures and very small flat extension laterally; apical margin almost straight or slightly concave. Ventral mandibular tooth equal to or slightly larger than dorsal tooth. MI 0.4.

Mesoscutum granulate and with fine superficial punctures, dull. Notaulus impressed in frontal 0.25 of mesoscutum. Mesopleuron granulate and finely punctate, with some fine

striae ventrally, dorsally with strong striae. Speculum with microsculpture, rather dull. Area superomedia without distinct carina; area petiolaris with obsolete carina medially. Lateral longitudinal and pleural carinae of propodeum usually complete. Hind femur $4.5\text{--}4.6\times$ as long as wide. Inner apical spur of hind tibia $0.65\times$ as long as hind metatarsus. Vein 2rs-m $0.7\text{--}0.8\times$ as long as vein M between veins 2rs-m and 2-mcu. Vein 1cu-a slightly postfurcal by $1\times$ its width. Nervellus of hind wing \pm inclivous, intercepted in its apical 0.7. 1st tergite $1.6\text{--}1.7\times$ as long as wide, without latero-median carina. 2nd tergite $1.2\text{--}1.3\times$ as wide as long.

Color: Flagellum ochreous, black basally. Palps brown or yellow. Mandible except teeth, clypeus (sometimes reaching ventral margin of face) and tegula yellow. Hind edge of pronotum and spot on subtegular ridge reddish. 1st to 4th tergites red. Coxae, trochanters and trochantelli black; legs otherwise red; hind femur entirely brown or black; hind tibia reddish-yellow, infuscate in apical 0.2; hind tarsus black. Pterostigma yellow.

♂. Body length 9.0–10.0 mm. Flagellum with 40–43 segments; 1st flagellar segment $5.3\text{--}5.6\times$ as long as wide and $1.7\text{--}1.9\times$ as long as 2nd segment; 2nd segment $3.0\times$, 3rd segment $2.5\text{--}2.9\times$ and preapical segment c $2\times$ as long as wide. Temple moderately roundly narrowed. OED $1.3\times$ ocellar diameter. Clypeus transversely convex, not bulging medially, with sparse punctures. Ventral mandibular tooth about as long as dorsal tooth. MI 0.4–0.5.

Mesopleuron finely striate dorsally, granulate and with superficial punctures ventrally; speculum with microsculpture or almost smooth. Area superomedia sometimes with weak lateral carina. Area petiolaris with complete carina. Hind femur $4.4\text{--}5.2\times$ as long as wide. Vein 1cu-a postfurcal by $1\times$ its width. 1st tergite $(2.0)\text{--}2.3\text{--}2.6\times$ as long as wide, without latero-median carina. 2nd tergite $1.0\text{--}1.1\times$ as long as wide.

Color: black. Flagellum brownish, rarely ochreous. Palps, mandible except teeth, clypeus, face, often scape and pedicel ventrally, sometimes collar, wide hind edge of pronotum, tegula and sometimes subtegular ridge yellow. Postscutellum sometimes reddish. 1st tergite black; 2nd to 4th tergites red. Fore and mid coxae with apical yellow spots, fore and mid trochanters and trochantelli mainly yellow; hind trochanter black; legs red; hind femur black; hind tibia yellowish, infuscate in apical 0.3–0.4. Hind tarsus black. Pterostigma ochreous.

Hosts unknown.

Var. ♂: One specimen from Llangristiolus, Anglesey/United Kingdom (EDI): Flagellum with 40 segments; 1st flagellar segment $6.3\times$ as long as wide and $1.8\times$ as long as 2nd segment; 2nd segment $3.1\times$ and 3rd segment $2.8\times$ as long as wide. Hind femur $4.7\times$ as long as wide. 1st tergite $2.0\times$ and 2nd tergite $1.25\times$ as long as wide. Color: Fore and mid femora brown. Fore and mid tibiae and tarsi cream-yellow, with brown external stripes. Hind femur black; hind tibia brownish, with ivory internal stripe; hind tarsus black. Metasoma black; 2nd tergite with diffuse dark reddish shine apically. Palps except brown distal palpomeres, mandible, clypeus, face, scape ventrally, tegula, hind edge of pronotum, spot on subtegular ridge, apical marks on fore and mid coxae and fore and mid trochanters and trochantelli entirely yellow. This specimen probably represents a melanistic variant of *Sc. tegularis*.

Hosts unknown.

Distribution: Transpalearctic, studied material from France, Germany, Sweden, Russia Far East (Kamchatka) and United Kingdom.

***Scopesis ulbrichti* (TEUNISSEN, 1953) (figs 16, 33, 49, 70, 90, 105)**

Original: *Mesoleius ulbrichti* TEUNISSEN, 1953: 36, ♀, nom. nov. for *Mesoleius depressus* ULBRICHT nec THOMSON.

Holotype: (♀) Crefeld Hafen, leg. Ulbricht, 26.IX. (Krefeld), type not examined.

Description: ♀. Body length 9.0–9.5 mm. Flagellum with 37–39 segments; 1st flagellar segment 3.9–4.3× as long as wide and 1.8–1.9× as long as 2nd segment; 2nd segment 2.0–2.4×, 3rd segment 1.7–2.1× and preapical segment 1.5× as long as wide. Head covered with rather long erected brownish setae. Temple slightly and roundly narrowed behind eye. OED 1.8–1.9× ocellar diameter. Face granulated, with ± distinct punctuation. Clypeus slightly convex and slightly bulging medially, with sparse rather coarse punctures, shining; apical margin with short flat extensions laterally. Ventral mandibular tooth ± larger than dorsal tooth. MI 0.6–0.7.

Mesoscutum granulate and with fine punctures, structure ± smoothened on lateral lobe and ± shining. Notaulus weakly impressed frontally. Mesopleuron entirely and coarsely rugose, mesosternum ± punctate. Speculum smooth and shining. Metapleuron and propodeum often finely rugose. Area superomedia usually finely rugose, with indistinct lateral carina. Area petiolaris with complete carina and often with median longitudinal ridge. Lateral longitudinal and pleural carinae of propodeum complete. Hind femur 4.0–4.4× as long as wide. Inner apical spur of hind tibia rather short, 0.47–0.52× as long as hind metatarsus. Vein 2rs-m 0.9–1.0× as long as vein M between veins 2rs-m and 2-mcu. Vein 1cu-a postfurcal by 2–3× its width. Nervellus of hind ± inclivous, intercepted in its apical 0.7. 1st tergite 1.3–1.4× as long as wide, sometimes with weak latero-median carina in basal third. 2nd tergite 1.5–1.6× as wide as long.

Color: black. Flagellum black. Head and mesosoma entirely black, sometimes clypeus reddish-brown. 2nd to 3rd tergites entirely red. Coxae, trochanters and trochantelli black; legs otherwise red; hind tibia black in apical 0.3–0.4; hind tarsus blackish. Pterostigma ochreous.

♂. Body length 8.5–9.5 mm. Flagellum with 37–38 segments; 1st flagellar segment 4.5–4.8× as long as wide and 1.7–1.9× as long as 2nd segment; 2nd segment 2.5–2.8× and 3rd segment 2.3× as long as wide. Temple moderately and roundly narrowed behind eye. OED 1.6–1.8× ocellar diameter. Mesopleuron coarsely rugose, speculum shining. Propodeum granulate and ± finely rugose. Hind femur 4.5× as long as wide. 1st tergite 1.5–1.6× as long as wide, without latero-median carina. 2nd tergite 1.1–1.2× as wide as long.

Color: black. Flagellum black. Palps, mandible centrally and apical 1/2 of clypeus reddish-brown. 2nd and 3rd tergites entirely and sometimes 4th tergite ± red. Coxae, trochanters and trochantelli black; legs otherwise red; hind tibia reddish-yellow, black in apical 0.3; hind tarsus blackish. Pterostigma ochreous.

Hosts unknown.

Distribution: West Palearctic, studied material from Austria*, Germany, Italy* (ZSM) and United Kingdom* (EDI).

Doubtful species

Scopesis immatura (GRAVENHORST, 1829)

Original: *Tryphon immaturus* GRAVENHORST, 1829 (II): 200, ♂.

The type was studied and transferred to *Scopesus* [recte: *Scopesis*] by PFANKUCH (1906: 221), but is lost now (TOWNES 1959: 77).

Taxonomical remarks (by PFANKUCH 1906, translated): The type is not complete, head and several legs missing. Close to *nigricollis* [recte: *gesticulator*], but differs by: flagellum entirely reddish-yellow, scutellum and postscutellum red, hind coxa reddish-brown, hind femur reddish-yellow, propodeum with lateral red spots. Sculpture and coloration otherwise as in *nigricollis*. Body length 10 mm.

We have not seen any ♂ of *Scopesis* correlating with the description of *immatura*, the identity of this species remains doubtful.

Species excluded from *Scopesis*

Alcochera flavopicta (GRAVENHORST, 1829), nov.comb. (figs 52, 53, 73)

Original: *Mesoleptus flavopictus* GRAVENHORST, 1829, II: 33, ♂.

Type lost (PFANKUCH 1906: 21), transferred to *Scopesis* by HORSTMANN (2007: 319).

syn. *Scopesus Sziladyi* KISS, 1924

Holotype: (♀) Zengg 909.VII.13 (Budapest), examined and synonymized by HORSTMANN (2007: 319).

Description: ♀. Body length 8.5–9.0 mm. Flagellum with 40 segments, very slender; 1st flagellar segment 6.4× as long as wide and 1.6× as long as 2nd segment; 2nd segment 3.6×, 3rd segment 3.2× and preapical segment 1.8× as long as wide. Temple distinctly and roundly narrowed behind eye. Ocelli large, OED 1.0× ocellar diameter. Face granulated, dull. Clypeus moderately convex, not bulging medially, with sparse punctures; apical margin with short lateral extensions, almost straight. Mandibular teeth equally sized, sometimes ventral tooth slightly larger than dorsal tooth. MI 0.5.

Mesoscutum finely granulate, dull. Notaulus ± distinct in frontal 0.5 of mesoscutum. Mesopleuron granulate, without punctures, dull; with few fine striae below subtegular ridge. Speculum large, almost smooth and strongly shining. Propodeum granulated. Are superomedia without lateral carina. Area petiolaris with very short lateral carina, widely absent medially. Lateral longitudinal and pleural carinae of propodeum complete. Legs slender; hind femur 5.4× as long as wide. Inner apical spur of hind tibia 0.6× as long as hind metatarsus. Areolet in fore wing closed, e. g. vein 3rs-m present but usually unpigmented. Vein 2m-cu reaching areolet close to vein 3rs-m. Vein 1cu-a postfurcal by 2× its width. Nervellus of hind wing slightly inclivous, intercepted in its apical 0.7. 1st tergite slender, 2.2× as long as wide, without latero-median carina. 2nd tergite 1.1× as wide as long.

Color: black. Antenna yellowish. Palps, mandible except teeth, clypeus, face (except small dorso-median brown spot), large hook-shaped anterolateral spot on mesoscutum, hind edge of pronotum, tegula, subtegular ridge, mesepisternum, scutellum and postscutellum yellow. 1st tergite apically, 2nd tergite except two paramedian brown spots and 3rd to 4th tergites entirely red. Fore and mid coxae, all trochanters and trochantelli reddish-yellow; hind coxa red; legs otherwise red; hind tibia yellowish, reddish-brown in apical 0.1; hind tarsus ochreous. Pterostigma yellow.

♂. Body length 8.0–8.5 mm. Flagellum with 39–42 segments, slender; 1st flagellar segment 5.0–5.3× as long as wide and 1.5–1.6× as long as 2nd segment; 2nd segment 3.0–3.3×, 3rd segment 2.5–2.8× and preapical segment c 2.0× as long as wide. Temple moderately and roundly narrowed behind eye. Ocelli large, OED 1.1–1.2× ocellar diameter. Clypeus moderately convex, not bulging medially, with sparse punctures; apical margin with short lateral extensions. Mandibular teeth equally sized. MI 0.3.

Mesopleuron granulate, without punctures, dull; sometimes with few fine irregular striae dorsally. Speculum with microsculpture, shining. Legs slender; hind femur 4.9–5.3× as long as wide. Propodeum granulated. Area superomedia with fine almost parallel lateral carinae. Area petiolaris with complete carina. Areolet in fore wing closed, e. g. vein 3rs-m present but unpigmented. Vein 2m-cu reaching areolet close to vein 3rs-m. Vein 1cu-a postfurcal by 2× its width. 1st tergite 1.8–2.2× as long as wide, without latero-median carina. 2nd tergite 1.0–1.1× as wide as long.

Color: black. Antenna yellowish. Palps, mandible except teeth, clypeus, face, malar space, collar, large hook-shaped anterolateral spot on mesoscutum, ventral and hind edge of pronotum, tegula, subtegular ridge, mesepisternum, scutellum and postscutellum yellow. 1st tergite apically, 2nd tergite except large basal brown spot, 3rd tergite entirely and 4th to 5th tergites ± red. Fore and mid coxae, all trochanters and trochantelli yellowish; hind coxa red; legs otherwise red; hind tibia yellowish, infuscate in apical 0.2; hind tarsus brownish or ochreous. Pterostigma yellowish.

Host: *Aglaostigma aucupariae* (KLUG, 1817) (Hym., Tenthredinidae) (ZSM).

Distribution: West Palaearctic, studied material from Germany.

Taxonomical remarks: This species was transferred to the genus *Scopesis* by HORSTMANN (2007) with question mark. He noted that the equally sized teeth speak against an inclusion into the genus *Alcochera* FÖRSTER, but the relation of the basal two flagellomeres, presence of vein 3rs-m in fore wing and color pattern argue against the genus *Scopesis* and fit better with *Alcochera*. We transfer this species to *Alcochera* here.

***Campodorus obscurus* (HOLMGREN, 1857), nov.comb. (figs 17, 34, 50, 71, 92, 97, 102)**

Original: *Mesoleius obscurus* HOLMGREN, 1857: 173, ♀♂.

Lectotype: (♀) (Stockholm), type examined.

Description: ♀. Body length 7.0–7.5 mm. Flagellum with 35–38 segments, 1st flagellar segment 4.5–4.7× as long as wide and 1.5–1.6× as long as 2nd segment; 2nd segment 2.9× and 3rd segment 2.5× as long as wide. Temple short, dorsally 0.45–0.6× as long as eye, distinctly and roundly narrowed. OED 1.3–1.4× ocellar diameter. Face granulated, dull. Clypeus moderately convex, with sparse punctures, shining, moderately bulging medially, slightly and narrowly extended laterally. Mandibular teeth of equal size. MI 0.3–0.5.

Mesoscutum finely granulate, dull. Notaulus impressed in frontal 0.3–0.4 of mesoscutum. Mesopleuron granulate, sometimes slightly rugose ventrally, finely striate dorsally; speculum smooth and shining. Area superomedia with distinct lateral carina, ± widened apically. Area petiolaris large, with strong carina. Lateral longitudinal and pleural carinae of propodeum complete. Hind femur 4.5–5.3× as long as wide. Inner apical spur of hind tibia 0.58–0.67× as long as hind metatarsus. Vein 2rs-m 0.7–0.9× as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a postfurcal by 1–3× its width. Nervellus

subvertical, intercepted in its apical 0.6. 1st tergite 1.3–1.8× as long as wide, with latero-median carina in basal 0.5. 2nd tergite 1.2–1.5× as wide as long.

Color: black. Flagellum brown, ± ochreous ventrally. Palps, mandible, clypeus and hind edge of pronotum yellow. Tegula ivory. Coxae and trochanters black, trochanters apically and usually all trochantelli entirely yellow. Legs reddish-yellow; hind femur red, sometimes infusate apically; hind tibia yellow, basally and in apical 0.2–0.3 black; hind tarsus black. 2nd to 4th tergites red-yellow to reddish-brown. Pterostigma brown.

♂. Body length 6.5–7.0 mm. Flagellum with 35–37 segments; 1st flagellar segment 4.3–4.5× as long as wide and 1.5–1.7× as long as 2nd segment; 2nd segment 2.7–2.8× and 3rd segment 2.3–2.5× as long as wide. Temple distinctly roundly narrowed behind eye. OED 1.2× ocellar diameter. Face wide, inner eye margin slightly convergent ventrally. Clypeus moderately convex and bulging medially. MI 0.2–0.3. Mesopleuron finely rugose-striate ventrally and finely striate dorsally. Speculum with fine microsculpture, shining. Area superomedia with distinct lateral carina, moderately widened apically. Area petiolaris large, with strong carina. Hind femur 4.3–4.4× as long as wide. Vein 2rs-m 0.6× as long as vein M between 2rs-m and 2m-cu. Vein 1cu-a postfurcal by 3× its width.

Color: black. Flagellum brown. Palps, mandible except teeth, clypeus, face, hind edge of pronotum, tegula, apical spots on fore and mid coxae, fore and mid trochanters, hind trochanter apically and all trochantelli yellow. 2nd and 3rd tergites ± red. Femora, tibiae and tarsi red; hind tibia yellow, infusate basally and in apical 0.2; hind tarsus brown. Pterostigma brown.

Host: *Pachynematus clitellatus* (SERVILLE, 1823) (Hym. Tenthredinidae) (ZSM).

Distribution: West Palaearctic, studied material from Bulgaria*, Germany and Sweden.

Taxonomical remarks: This species was transferred to *Scopesus* (recte: *Scopesis*) by THOMSON (1894) and included in this genus by all following authors. It differs from *Scopesis* by a shorter 1st flagellar segment in relation to the 2nd segment and the presence of a latero-median carina in the basal half of 1st tergite. The clypeus is moderately convex and bulging medially. We transfer this species to the genus *Campodorus* here (nov.comb.)

***Cuboscoptes fraterna* (HOLMGREN, 1857), nov.comb., stat rev. (figs 18, 35, 51, 72, 93, 98)**

Original: *Mesoleius fraterna* HOLMGREN, 1857: 173, ♀♂.

Lectotype: (♀) Lp. m.; 14-8; Bhn. (Stockholm), type examined and herewith designated.

syn. nov. *Cuboscoptes epachthoides* HEINRICH, 1952: 1080, ♀♂.

Holotype: (♀) Allgäu, Osterachtal, 1700 m, 12.IX.1949 (ZSM), type examined.

Description: ♀. Body length 8.0–10.0 mm. Flagellum with 39–42 segments, slender; 1st flagellar segment 6.0–6.1× as long as wide and 1.6–1.7× as long as 2nd segment; 2nd segment 3.7–4.4×, 3rd segment 3.3× and preapical segment c 2× as long as wide. Temple in larger specimens slightly widened or parallel behind eye, in smaller ones slightly and roundly narrowed behind eye. Ocelli small, OED 1.7–2.2× ocellar diameter. Face wide, granulate and with superficial punctures, dull, inner eye margins parallel or slightly divergent. Clypeus strongly convex and bulging medially, coarsely

rugose-punctate, without or with very small flat extensions laterally; apical margin \pm convex. Mandibular teeth of equal size or ventral tooth slightly longer than dorsal tooth.

Mesoscutum finely granulate and with superficial punctures, often \pm shining. Notaulus usually distinctly impressed in frontal 0.5 of mesoscutum. Mesopleuron coarsely rugose, \pm rugose-striate in dorsal half. Speculum almost smooth, shining. Area superomedia with \pm complete lateral carina, \pm divergent apically. Area petiolaris large, with complete carina and often with median longitudinal keel. Lateral longitudinal and pleural carinae of propodeum complete. Hind femur 5.1–5.4 \times as long as wide. Apical spurs of hind tibia short and almost equally long, 0.3–0.4 \times as long as hind metatarsus. Vein 2rs-m 0.6–0.7 \times as long as vein M between veins 2rs-m and 2m-cu. Vein 2m-cu slightly zigzag-shaped. Vein 1cu-a interstitial or postfurcal by 2 \times its width. Nervellus of hind distinctly incливous, intercepted in its apical 0.7–0.8. 1st tergite 1.5–1.6 \times longer than wide, without or with weak latero-median carina in basal 0.4. 2nd tergite 1.2–1.4 \times wider than long.

Color: black. Flagellum yellow or reddish. Palps, mandible except teeth, clypeus and hind edge of pronotum reddish-yellow. Tegula cream-yellow. Ventral spot of scape often reddish. Sometimes apical margin on 1st tergite, usually 2nd to 4th tergites entirely and sometimes 5th tergite basally red. Coxae and hind trochanter black; spots on fore and mid trochanters and all trochantelli reddish or yellow. Legs otherwise reddish or yellow; mid femur sometimes basally and hind femur except narrow yellow base and apex black; hind tibia not infusate apically. Pterostigma yellow.

♂. Body length 7.5–10.0 mm. Flagellum with 36–42 segments; 1st flagellar segment 6.4–7.4 \times as long as wide and 1.7–1.8 \times as long as 2nd segment; 2nd segment 4.1–4.4 \times and 3rd segment 3.3–3.5 \times as long as wide. Temple \pm parallel behind eye, slightly narrowed apically. Hind femur 5.2–5.4 \times as long as wide. Apical spurs of hind tibia as in ♀. Vein 1cu-a interstitial. 1st tergite 1.7–2.0 \times as long as wide; 2nd tergite 1.1–1.3 \times as wide as long.

Color: black. Flagellum yellow or ochreous. Palps, mandible except teeth, clypeus, face except black median stripe, ventral spots on scape and often on pedicel, hind edge of pronotum and tegula yellowish. 2nd to 4th tergites red, sometimes 2nd tergite centrally and 4th tergite apically blackish. Coxae black, often fore coxa apically yellow; spots on fore and mid trochanters and all trochantelli yellow. Legs yellowish or reddish; hind femur except narrow yellow apex black; hind tibia yellowish, sometimes brownish in apical 0.2; hind tarsomeres yellowish, often with brownish tips. Pterostigma yellow.

Distribution: West Palearctic, studied material from Austria*, Germany, Italy* and Norway.

Taxonomical remarks: As already stated by HEINRICH (1952: 1080), this species shows several morphological features not found in other *Scopesis* species, but resembling *Azelus erythrophalpus* (GMELIN), e. g. large and long temple with small ocelli, swollen and coarsely punctate or rugose clypeus, coarsely rugose or rugose-punctate mesopleuron, and especially the short and almost equally sized apical spurs of hind tibia. Also, the 1st tergite has sometimes weak basal latero-median carinae. In contrast to *Cuboscoptes fraterna*, *A. erythrophalpus* has the areolet usually closed (though the vein 3rs-m is weak or absent in some specimens), the ventral mandibular tooth is much longer than the dorsal one, the propodeum has a different carination and the vein 2m-cu of fore wing is straight and not zigzag-shaped as in *C. fraterna*.

Cuboscoptes epachthoides HEINRICH was transferred to *Campodorus* by YU &

HORSTMANN (1997: 424) without any explanation for this transformation, but the special structure of the clypeus and almost equal length of tibial spurs clearly separate *C. fraterna* from the members of that genus.

We prefer to re-establish the genus *Cuboscopesis* described by HEINRICH (1952: 1080) because this species combines several morphological features which contradict the inclusion into the other known genera of Mesoleiini. It should be mentioned here that the actual generical concept of this tribe needs a modern revision including extensive genomical data.

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We thank all collectors and colleagues who was so kind to send material for our study or to give further informations, namely G. Broad (London/United Kingdom), M.R. Shaw and A. Whiffin (Edinburgh/Scotland), H. Vårdal (Stockholm/Sweden), M. Ohara (Sapporo/Japan), N. Meier (Basel/Switzerland), St. Krause (Berlin/Germany), M. Wanat (Wroclaw/Poland), and M. Husemann (Hamburg/Germany).

Zusammenfassung

In dieser taxonomischen Studie werden die paläarktischen Arten der Gattung *Scopesis* FÖRSTER revidiert. 18 Arten werden als valide betrachtet, drei Arten werden in andere Gattungen transferiert. Drei Arten werden neu beschrieben: *Scopesis caucasica* RIEDEL nov.sp., *Scopesis minuta* RIEDEL nov.sp. und *Scopesis rugulosa* RIEDEL nov.sp.

Cuboscopesis HEINRICH, 1952 wird als separate Gattung und *Scopesis longigena* (THOMSON, 1894) und *Scopesis rufolabris* (ZETTERSTEDT, 1838) werden als separate Arten betrachtet, stat. rev. *Mesoleius* (*Scopesus*) *depressus* THOMSON, 1894 ist ein neues Synonym von *Scopesis frontator* (THUNBERG, 1822); *Mesoleius rufonotatus* HOLMGREN, 1876 und *Scopesus thomsoni* HABERMEHL, 1925 sind neue Synonyme von *Scopesis rufolabris* (ZETTERSTEDT, 1838); *Scopesis alpivagans* HEINRICH, 1949 ist ein neues Synonym von *Scopesis sachalinensis* (UCHIDA 1930) und *Cuboscopesis epachthoides* HEINRICH, 1952 ist ein neues Synonym von *Cuboscopesis fraterna* (HOLMGREN, 1857).

Mesoleius styriacus HEINRICH, 1953 wird in die Gattung *Scopesis* gestellt (nov.comb.), und das bisher unbekannte Männchen beschrieben; *Mesoleptus flavopictus* GRAVENHORST, 1829 wird in die Gattung *Alcochera* FÖRSTER (nov.comb.), *Mesoleius obscurus* HOLMGREN, 1857 in die Gattung *Campodorus* FÖRSTER (nov.comb.) und *Mesoleius fraterna* HOLMGREN, 1857 in die Gattung *Cuboscopesis* HEINRICH (nov.comb.) gestellt.

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Figs 1-6: Face of ♀♀ from frontal: (1) *Scopesis bicolor* (GRAVENHORST), (2) *Sc. caucasica* nov.sp. HT, (3) *Sc. frontator* (THUNBERG), (4) *Sc. gesticulator* (THUNBERG), (5) *Sc. guttiger* (HOLMGREN), (6) *Sc. longigena* (THOMSON).



Figs 7-12: Face of ♀♀ from frontal: (7) *Scopesis macropus* (THOMSON), (8) *Sc. polita* (HOLMGREN), (9) *Sc. rubrotincta* (SCHMIEDEKNECHT), (10) *Sc. rufolabris* (ZETTERSTEDT), (11) *Sc. rugulosa* nov.sp. HT, (12) *Sc. sachalinensis* (UCHIDA).



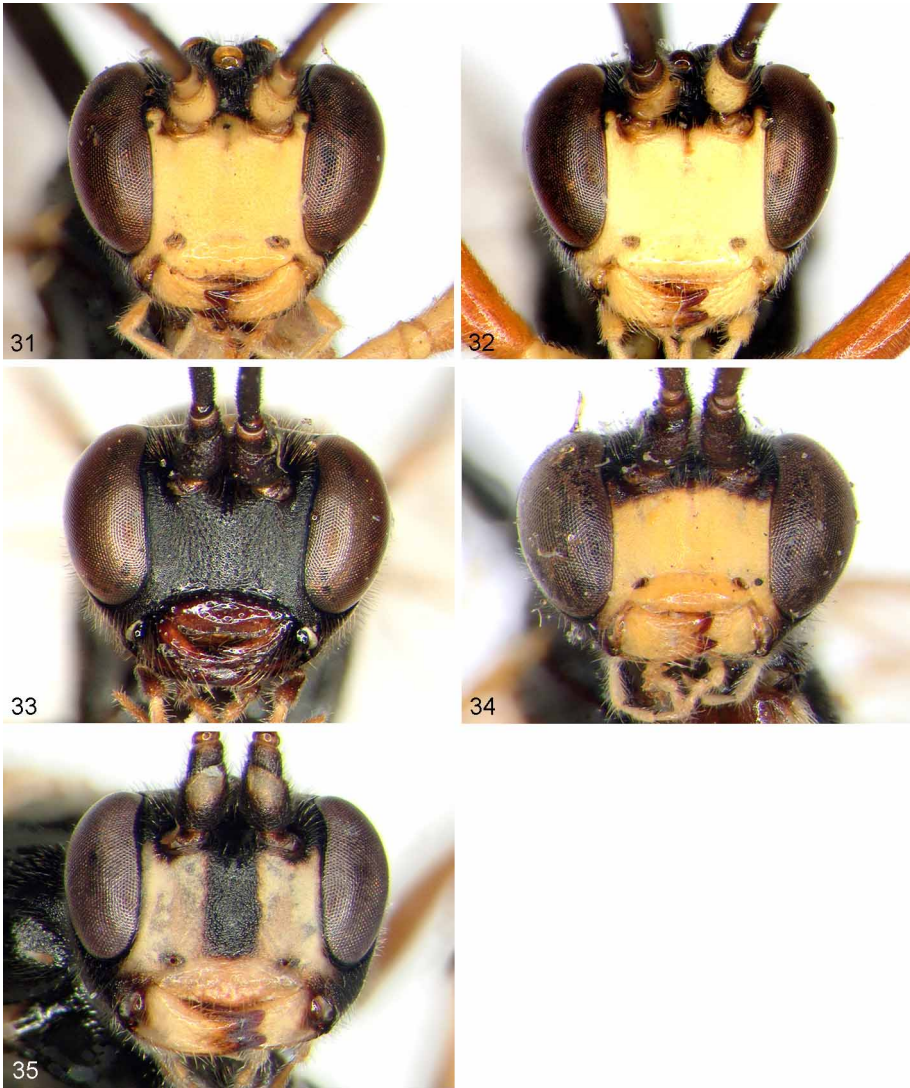
Figs 13-18: Face of ♀♀ from frontal: (13) *Scopesis styriacus* (HEINRICH), (14) *Scopesis tarsatae* HORSTMANN, (15) *Sc. tegularis* (THOMSON), (16) *Sc. ulbrichti* (TEUNISSEN), (17) *Campodorus obscurus* (HOLMGREN), (18) *Cuboscoptes fraterna* (HOLMGREN).



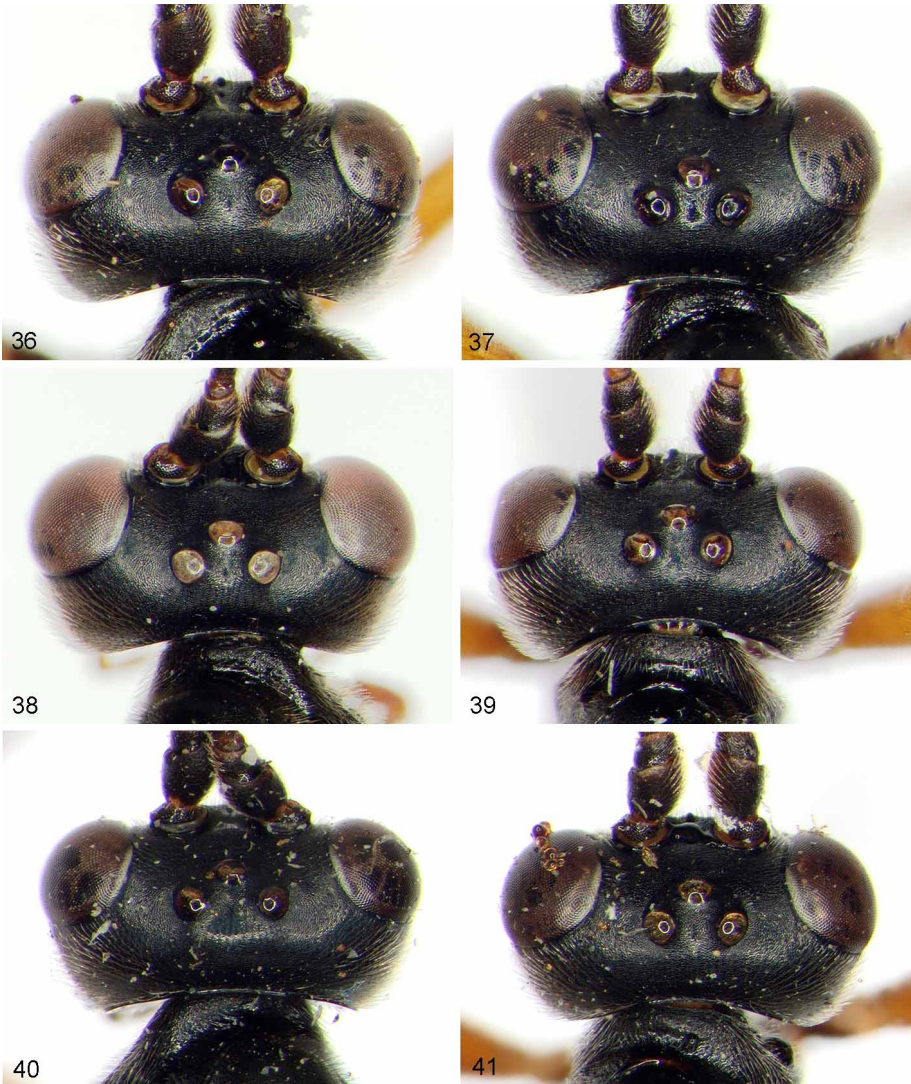
Figs 19-24: Face of ♂♂ from frontal: (19) *Scopesis areolaris* (PFANKUCH) HT, (20) *Sc. bicolor* (GRAVENHORST), (21) *Sc. caucasica* nov.sp. PT, (22) *Sc. frontator* (THUNBERG), (23) *Sc. gesticulator* (THUNBERG), (24) *Sc. guttiger* (HOLMGREN).



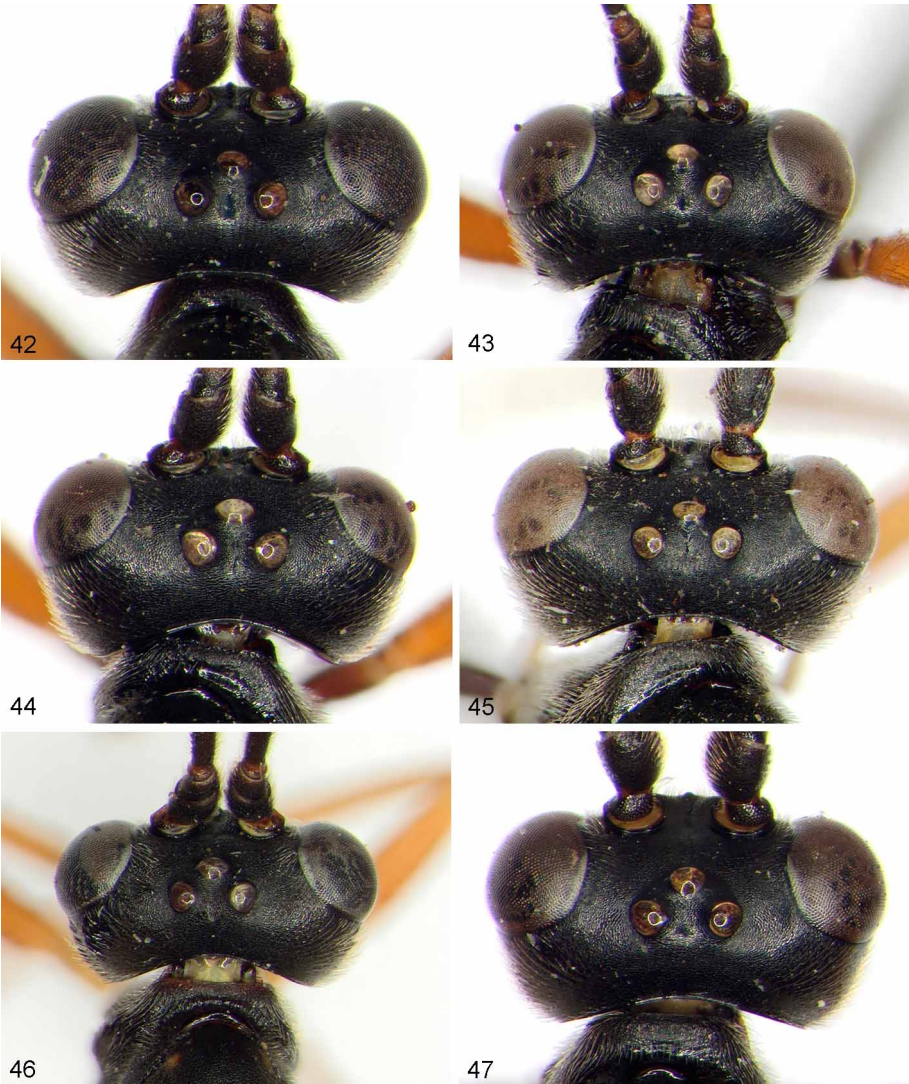
Figs 25-30: Face of ♂♂ from frontal: (25) *Scopesia macropus* (THOMSON), (26) *Sc. polita* (HOLMGREN), (27) *Sc. rubrotincta* (SCHMIEDEKNECHT), (28) *Sc. rufolabris* (ZETTERSTEDT), (29) *Sc. sachalinensis* (UCHIDA), (30) *Sc. styriacus* (HEINRICH).



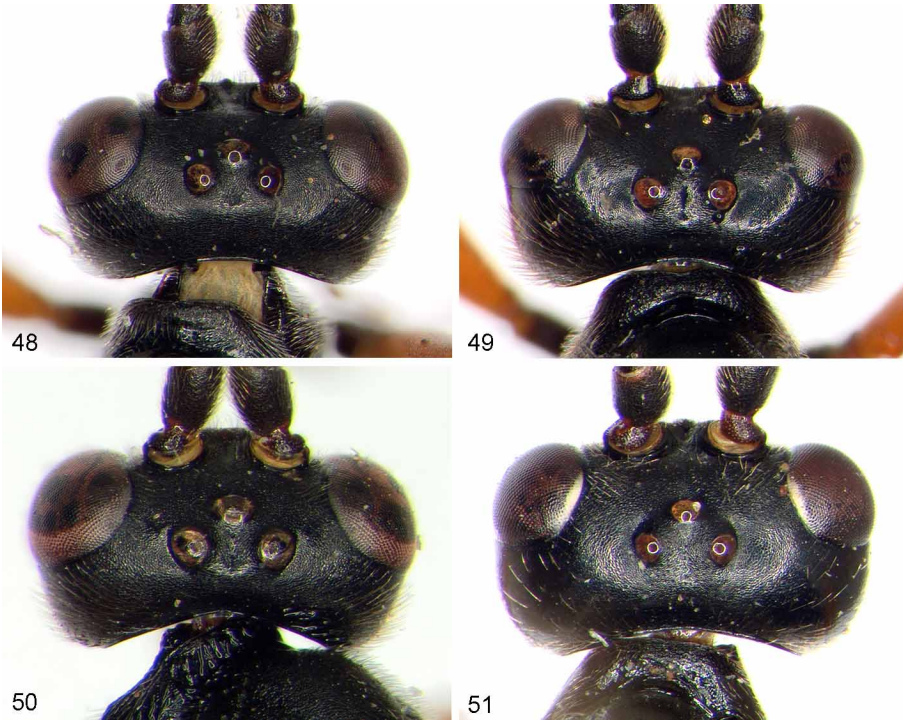
Figs 31-35: Face of ♂♂ from frontal: (31) *Scopesis tarsatae* HORSTMANN, (32) *Sc. tegularis* (THOMSON), (33) *Sc. ulbrichtii* (TEUNISSEN), (34) *Campodorus obscurus* (HOLMGREN), (35) *Cuboscoptes fraterna* (HOLMGREN).



Figs 36–41: Head of ♀♀ from dorsal: (36) *Scopesis bicolor* (GRAVENHORST), (37) *Sc. frontator* (THUNBERG), (38) *Sc. gesticulator* (THUNBERG), (39) *Sc. guttiger* (HOLMGREN), (40) *Sc. longigena* (THOMSON), (41) *Sc. macropus* (THOMSON).



Figs 42-47: Head of ♀♀ from dorsal: (42) *Scopesis polita* (HOLMGREN), (43) *Sc. rubrotincta* (SCHMIEDEKNECHT), (44) *Sc. rufolabris* (ZETTERSTEDT), (45) *Sc. sachalinensis* (UCHIDA), (46) *Sc. styriacus* (HEINRICH), (47) *Sc. tarsatae* HORSTMANN.



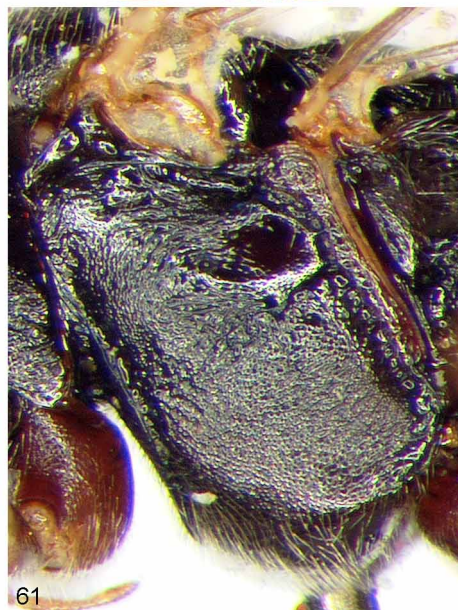
Figs 48-51: Head of ♀♀ from dorsal: (48) *Scopesis tegularis* (THOMSON), (49) *Sc. ulbrichti* (TEUNISSEN), (50) *Campodorus. obscurus* (HOLMGREN), (51) *Cuboscoptes fraterna* (HOLMGREN).



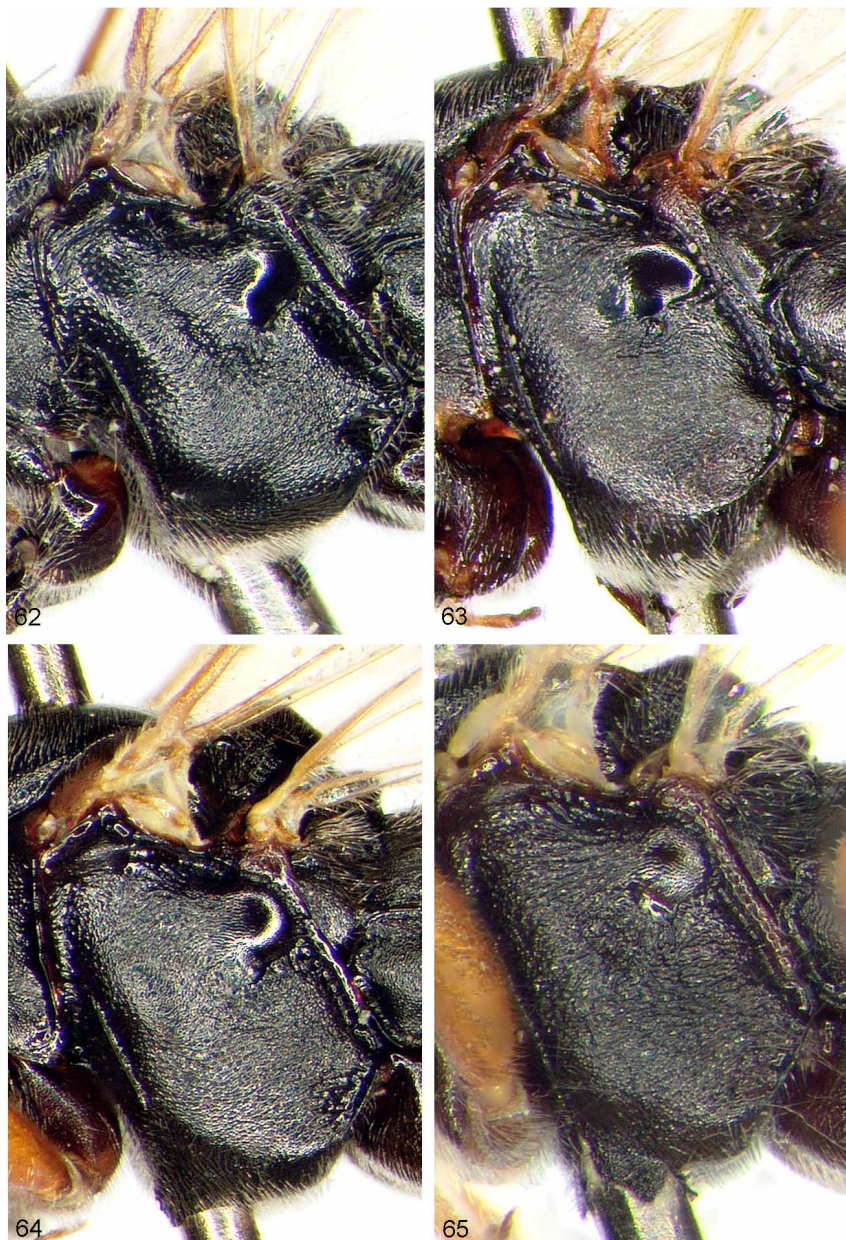
Figs 52-53: Face of *Alcochera flavopicta* (GRAVENHORST) from frontal: (52) ♂, (53) ♀.



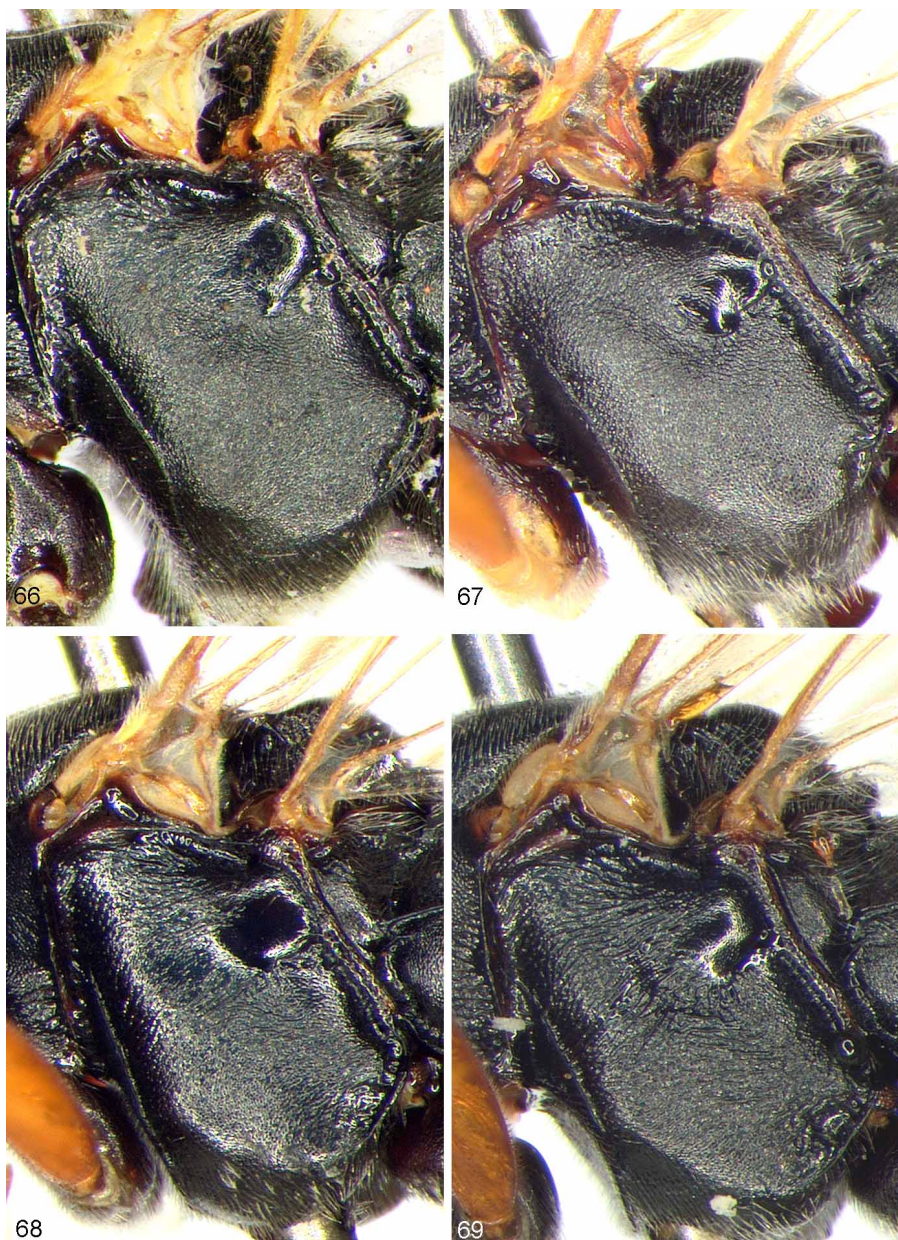
Figs 54-57: Mesopleuron of ♀♀ from lateral: (54) *Scopesis bicolor* (GRAVENHORST), (55) *Sc. caucasica* nov.sp. PT, (56) *Sc. frontator* (THUNBERG), (57) *Sc. gesticulator* (THUNBERG).



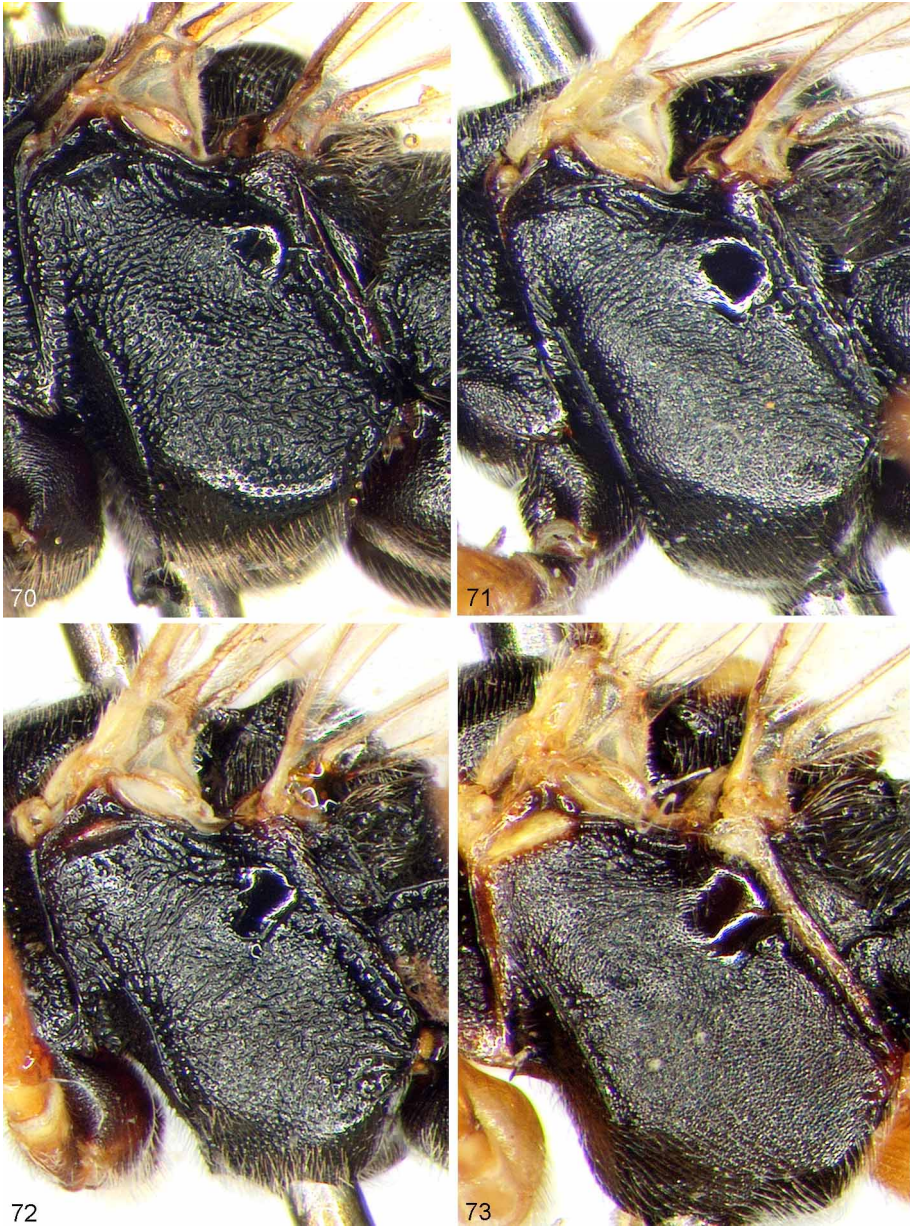
Figs 58-61: Mesopleuron of ♀♀ from lateral: (58) *Sc. guttiger* (HOLMGREN), (59) *Sc. longigena* (THOMSON), (60) *Scopesis macropus* (THOMSON), (61) *Sc. minuta* nov.sp. HT.



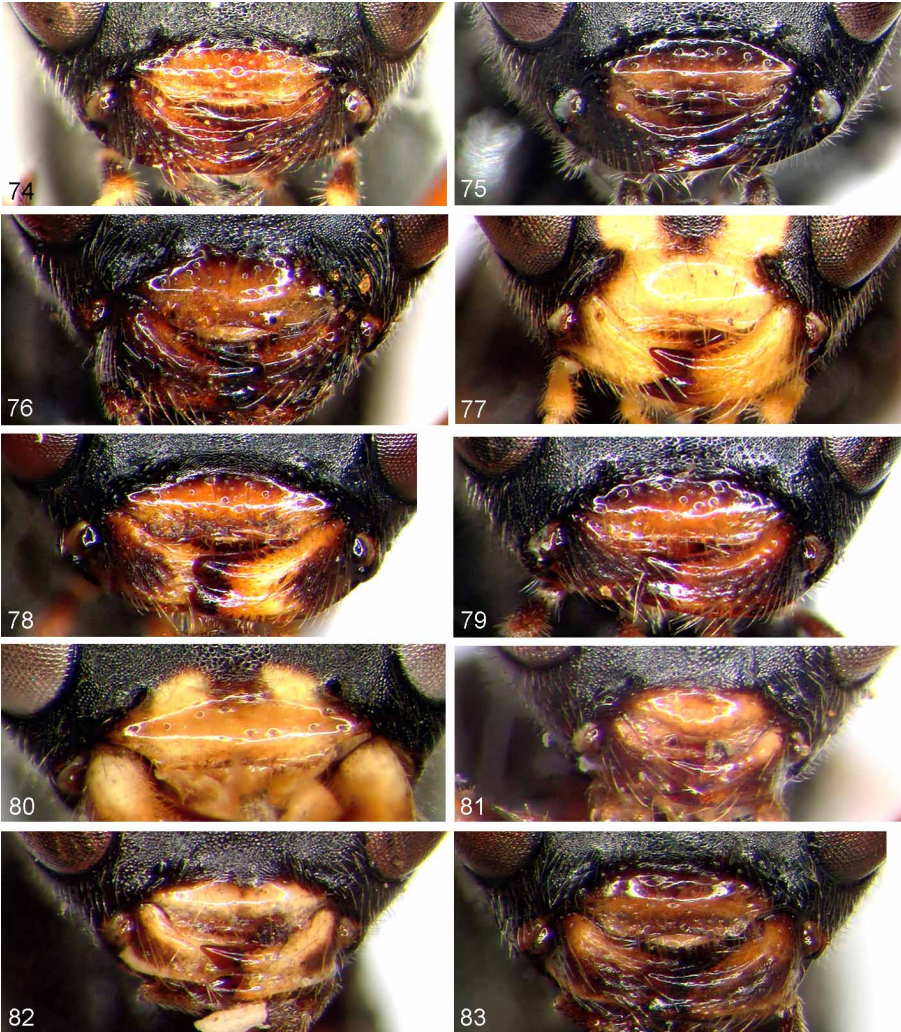
Figs 62-65: Mesopleuron of ♀♀ from lateral: (62) *Sc. polita* (HOLMGREN), (63) *Sc. rubrotincta* (SCHMIEDEKNECHT), (64) *Sc. rufolabris* (ZETTERSTEDT), (65) *Sc. rugulosa* nov.sp. HT.



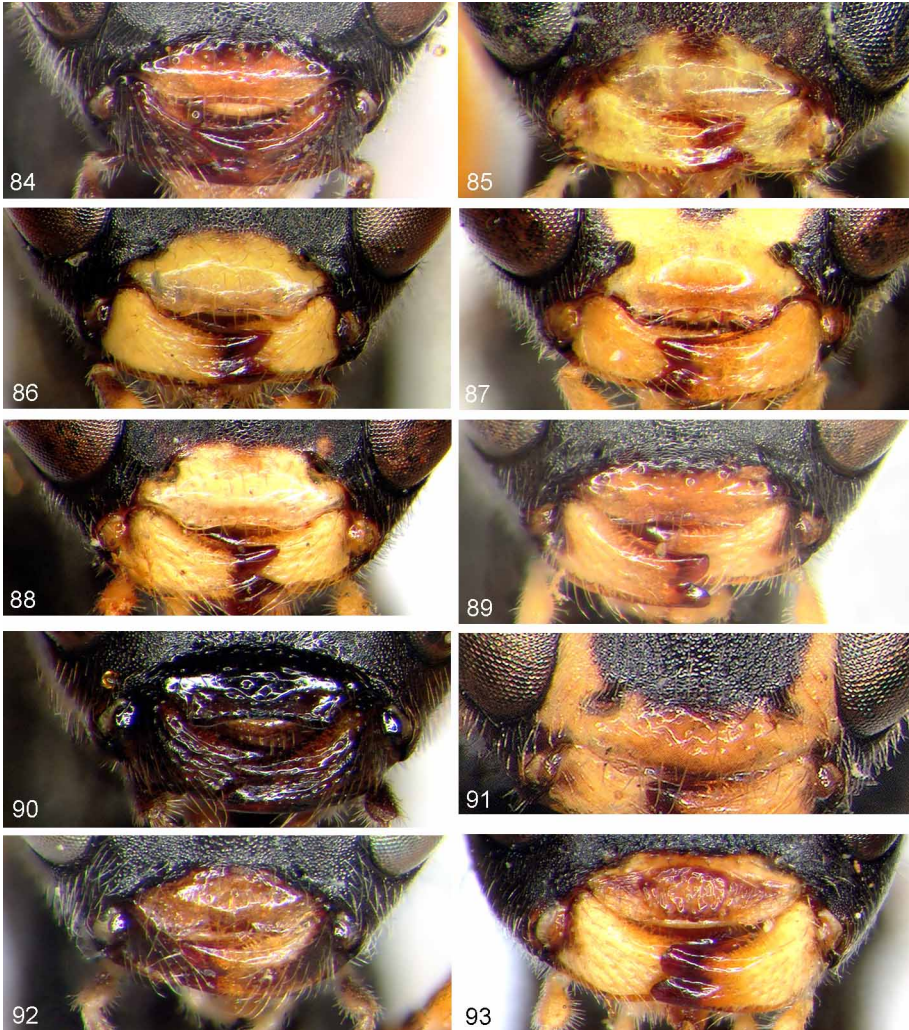
Figs 66-69: Mesopleuron of ♀♀ from lateral: (66) *Sc. sachalinensis* (UCHIDA), (67) *Scopesis styriacus* (HEINRICH), (68) *Scopesis tarsatae* HORSTMANN, (69) *Sc. tegularis* (THOMSON).



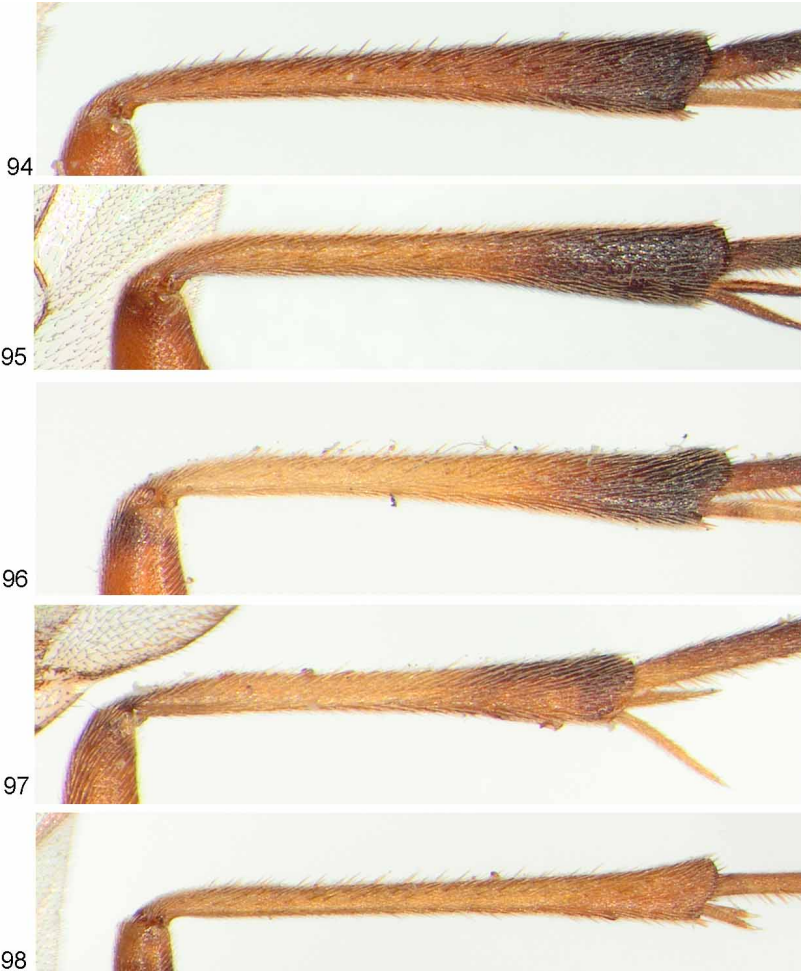
Figs 70-73: Mesopleuron of ♀♀ from lateral: (70) *Sc. ulbrichti* (TEUNISSEN), (71) *Campodorus obscurus* (HOLMGREN), (72) *Cuboscoptes fraterna* (HOLMGREN), (73) *Alcochera flavopicta* (GRAVENHORST).



Figs 74-83: Clypeus of ♀♀ from frontal: (74) *Scopesis bicolor* (GRAVENHORST), (75) *Sc. caucasica* nov.sp. PT, (76) *Sc. frontator* (THUNBERG), (77) *Sc. gesticulator* (THUNBERG), (78) *Sc. guttiger* (HOLMGREN), (79) *Sc. longigena* (THOMSON), (80) *Sc. macropus* (THOMSON), (81) *Sc. minuta* nov.sp. HT, (82) *Sc. polita* (HOLMGREN), (83) *Sc. rubrotincta* (SCHMIEDEKNECHT),



Figs 84-93: Clypeus of ♀♀ from frontal: (84) *Scopesis rufolabris* (ZETTERSTEDT), (85) *Sc. rugulosa* nov.sp. HT, (86) *Sc. sachalinensis* (UCHIDA), (87) *Sc. styriacus* (HEINRICH), (88) *Sc. tarsatae* HORSTMANN, (89) *Sc. tegularis* (THOMSON), (90) *Sc. ulbrichtii* (TEUNISSEN), (91) *Sc. areolaris* (PFANKUCH) ♂ HT, (92) *Campodorus obscurus* (HOLMGREN), (93) *Cubosopesis fraterna* (HOLMGREN).



Figs 94-98: Hind femur of ♀♀ from lateral: (94) *Sc. caucasica* nov.sp. PT, (95) *Sc. frontator* (THUNBERG), (96) *Sc. tarsatae* HORSTMANN, (97) *Campodorus obscurus* (HOLMGREN) with longer and unequal tibial spurs, (98) *Cuboscoptes fraterna* (HOLMGREN) with short tibial spurs.



99

100



101



102

Figs 99-100: Basal flagellar segments of ♀♀ from lateral: (99) *Scopesis frontator* (THUNBERG), (100) *Sc. rufolabris* (ZETTERSTEDT). **Figs 101-102:** 1st tergite of ♀♀ from dorsal: (101) *Scopesis tarsatae* HORSTMANN without latero-median carina, (102) *Campodorus obscurus* (HOLMGREN) with basal latero-median carina.



Figs 103-106: Propodeum of ♀♀ from dorsal: **(103)** *Sc. bicolor* (GRAVENHORST), **(104)** *Sc. rubrotincta* (SCHMIEDEKNECHT), **(105)** *Sc. ulbrichti* (TEUNISSEN), **(106)** *Sc. styriaca* (HEINRICH).