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## Revision of the Western Palaearctic species of the genus *Casinaria* HOLMGREN (Hymenoptera, Ichneumonidae, Campopleginae)

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**A b s t r a c t :** In this study, the Western Palaearctic species of the genus *Casinaria* HOLMGREN (Hymenoptera, Ichneumonidae, Campopleginae) are revised. 27 taxa are accepted as valid. All these species are described in detail and a determination key is given for the Western Palaearctic taxa.

Eight taxa are described as new: *Casinaria compressiventris* nov.sp., *Casinaria flagellator* nov.sp., *Casinaria hinzi* nov.sp., *Casinaria horstmanni* nov.sp., *Casinaria lamellata* nov.sp., *Casinaria nigrotrochanterata* nov.sp., *Casinaria paramorionella* nov.sp.; and *Casinaria tegulata* nov.sp.

New synonyms are: *Casinaria affinis* TSCHEK, 1871 syn.nov. *Casinaria monticola* THOMSON, 1887 and *Casinariodes corsicator* AUBERT, 1961; *Casinaria albipalpis* (GRAVENHORST, 1829) syn.nov. *Casinaria excavator* AUBERT, 1963; *Casinaria petiolaris* (GRAVENHORST, 1829) syn.nov. *Casinaria varians* TSCHEK, 1871; *Casinaria pyreneator* AUBERT, 1960 stat.nov., syn.nov. *Casinaria flavicoxator* AUBERT, 1960; *Casinaria scabra* THOMSON, 1887 syn.nov. *Casinaria alpina* THOMSON, 1887.

**K e y w o r d s :** Hymenoptera, Ichneumonidae, Campopleginae, *Casinaria*, revision, new species, Palaearctic.

### Introduction

The genus *Casinaria* HOLMGREN, 1859 is a moderately large genus of subfamily Campopleginae (Hymenoptera, Ichneumonidae). Although studied by several European authors in the past (see references), a modern revision of the Western Palaearctic species is not available yet.

K. Horstmann had studied some *Casinaria* types of older authors, but did not publish his results before his decease. His collection and notes were transferred to the Zoologische Staatssammlung Munich/Germany (ZSM) where I was able to study his notes on the *Casinaria* types described bei Gravenhorst, Tschek, and Thomson. In addition, I revised the types described by Aubert (Mus. Lausanne/Switzerland) and could determine the extensive Palaearctic *Casinaria* material from the ZSM, the Biologiezentrum Linz/Austria (Linz), the National Museums of Scotland in Edinburgh/United Kingdom (EDI), the collection of M. Schwarz (coll. Schwarz) and my own material (coll. Riedel).

## Material and methods

For the distributional and host records I only mentioned the studied material, new country records are marked with asterisks. For the descriptions of body parts, I adopted the nomenclature used by Horstmann in his publications. For the nomenclature of the lepidopteran hosts, the checklist of KARSHOLT & RAZOWSKI (1966) was applied.

For the measurements below I used an Olympus SZX 7 stereo microscope with dividing eyepiece. The figures were taken with an Olympus SC 30 CCD-camera using the AnalySIS getIT and Helicon Focus Pro softwares.

## Description of the genus *Casinaria* HOLMGREN, 1859

Body length 5-12 mm, body moderately stout to very slender. Margins of eyes strongly indented opposite antennal toruli. Face narrower than frons. Malar spaces short, distinctly shorter than mandibular width. Temples moderately to very short and flat, head 2-2.5x wider than long. Prepectal carina narrow or  $\pm$  lamelliform elevated behind fore coxae, rarely present on transversal parts. Postpectal carinae complete. Mesopleural suture or at least its median 0.3 impressed as a sharp groove. Propodeum moderately to very long, its apex between basal 0.3 and apex of hind coxae, usually with  $\pm$  strong median longitudinal trough, usually not or only basally carinated, but sometimes with complete carination. Areolet present, usually stalked, outer angles of discoidal cells usually acute, but sometimes rectangular. Nervelli of hind wings usually not or indistinctly intercepted. Basal part of 1<sup>st</sup> metasomal segment cylindric or weakly depressed; this section long, the suture separating its sternite from tergite at or slightly above the midheight. Ovipositor sheaths short, rarely extending shortly the metasomal apex. Apex of male clasper rounded or somewhat elongate, without a subapical dorsal notch. No distinct sexual dimorphism in structure and coloration (sexes are sometimes difficult to identify unequivocally without preparation of genitalia).

Hosts: Usually Lepidoptera of the families Noctuidae, Geometridae, and rarely Arctiidae, Nymphalidae, Elachistidae, Psychidae, Lasiocampidae, and Erebidae.

## Key to the Western Palearctic species of *Casinaria* HOLMGREN

- 1 Metasoma slender, 2<sup>nd</sup> tergite more than 1.5x longer than wide, 3<sup>rd</sup> tergite usually longer than wide (figs 2, 3, 8) .....2
- Metasoma stouter, 2<sup>nd</sup> tergite at most 1.5x longer than wide; 3<sup>rd</sup> tergite usually wider than long (figs 1, 4-7) .....23
- 2 Metasoma very slender; apical tergites from the 3th on strongly compressed (figs 2, 8) ....3
- Metasoma stouter; apical tergites not strongly compressed (fig: 3) .....4
- 3 Mandibles yellowish (fig 42). Preapical flagellomeres transverse. Mesopleural discs granulate and superficially punctate, matte. Genal carinae  $\pm$  straight ventrally .....  
.....*C. compressiventris* nov.sp. ♀♂
- Mandibles blackish. Preapical flagellomeres slightly longer than wide. Mesopleura discs with fine granulation and distinct punctation,  $\pm$  shining. Genal carinae  $\pm$  bent outwards ventrally .....*C. cultellator* AUBERT, 1959 ♀♂
- 4 Hind femora red, sometimes apically  $\pm$  infusate .....5
- Hind femora black or chestnut-brown .....17

- 5 Mandibles black or reddish-brown (figs 38, 39, 43). Tegulae yellow or blackish. Hind tibiae ivory or pale yellow basally and (often) externo-medially .....6
- Mandibles yellow (figs 40, 41, 42). Tegulae yellow .....11
- 6 Mesosterna moderately bent forward behind fore coxae; prepectal carina slightly elevated ventrally. Discs of mesopleura coarsely punctate and granulate, but shining. Area petiolaris with a narrow and deep longitudinal trough (fig 15). Tegulae yellow .....*C. horstmanni* nov.sp. ♀♂
- Mesosterna not bent forward behind fore coxae; prepectal carina narrow or lamelliform elevated ventrally .....7
- 7 Prepectal carina strongly and lamelliform elevated behind fore coxae (fig 49).....8
- Prepectal carina narrow behind fore coxae.....9
- 8 Tegulae usually black, rarely yellowish. Hind tibiae yellow basally, pale reddish or brownish externo-medially. Area petiolaris slightly and widely impressed (as fig 17).....*C. trochanterator* AUBERT, 1960 ♀♂, in part
- Tegulae yellow. Hind tibiae ivory basally and externo-medially. Area petiolaris with strong and narrow central trough (as fig 11) .....*C. lamellata* nov.sp. ♀♂, in part
- 9 Hind tibiae dark brownish to blackish, ivory basally and ± externo-medially. Discs of mesopleura rugose and punctate, matte. Area petiolaris with rather deep and narrow longitudinal trough (fig 16).....*C. kriechebaumeri* (COSTA, 1884) ♀♂, part
- Hind tibiae reddish, ivory basally, brownish, reddish or yellowish-red externo-medially. Area petiolaris with slightly or moderately deep and wider longitudinal impression (fig 25) .....10
- 10 Tegulae yellow. Flagella with 29-33 flagellomeres. Propodeum usually with basal carinae present (fig. 25). Smaller, body length 6.5-7.5 mm .....*C. tenuiventris* (GRAVENHORST, 1829) ♀♂
- Tegulae black. Flagella with 35-37 flagellomeres. Propodeum usually without distinct carinae (fig. 27). Larger, body length, 7.5-10 mm.....*C. tegulata* nov.sp. ♀♂
- [here run some ♂♂ of *Casinaria scabra* with longer basal tergites, but then central tergites with characteristic reddish colour pattern (fig 6)]
- 11 Fore and middle coxae completely, hind coxae apically and all trochanters and trochantelli yellow; hind tibiae reddish, reddish or yellow external-medially, brown basally and apically. Tergites from 2<sup>nd</sup> on reddish laterally and apically .....*C. pyreneator* AUBERT, 1960 ♀♂, in part
- Coxae black or reddish .....12
- 12 Prepectal carina lamelliform elevated behind fore coxae (as fig 49). Hind tibiae reddish-brown to black, ivory basally and externo-medially. Area petiolaris with deep and narrow central trough (as fig 11) .....*C. lamellata* nov.sp. ♀♂, in part
- Prepectal carina narrow behind fore coxae.....13
- 13 Genal carinae not bent outwards and usually obsolete ventrally, reaching hypostomal carinae in an acute angle (fig 35). Metasoma completely black. Preapical flagellomeres usually wider than long .....14
- Genal carinae ± bent outwards, reaching mandibular bases (fig 36). Central metasomal tergites often ± red.....15
- 14 Hind tibiae ivory basally and externo-medially. Fore and middle trochanters and trochantelli yellow.....*C. albipalpis* (GRAVENHORST, 1829) ♀♂, in part
- Hind tibiae ivory basally and yellowish-red externo-medially. Trochanters and trochantelli mainly black .....*C. flagellator* nov.sp. ♀
- 15 Hind tibiae blackish, ivory basally and externo-medially. Fore and middle trochanters and all trochantelli ± blackish. Area petiolaris with a narrow deep median trough covered with strong transverse rugae .....*C. kriechebaumeri* (COSTA, 1884) ♀♂, in part
- Hind tibiae reddish, basally ivory, externo-medially ivory, yellowish or reddish. Fore and middle trochanters and trochantelli yellowish. Median trough of area petiolaris less distinct.....16

- 16 Hind tibiae red, ivory basally ivory, but reddish or yellowish-red externo-medially, infusate subbasally and apically ..... *C. mesozosta* (GRAVENHORST, 1829) ♀♂
- Hind tibiae red, ivory basally and externo-medially..... *C. ischnogaster* THOMSON, 1887 ♀♂
- 17 Prepectal carina with small lamella or ridge on transversal parts (fig 48). Large, body length usually 9-12 mm..... *C. nigripes* (GRAVENHORST, 1829) ♀♂
- Prepectal carina without lamella or ridge on transversal parts. Smaller, body length 6-8.5 mm .....18
- 18 Prepectal carina lamelliform elevated behind fore coxae ..... *C. meridionator* AUBERT, 1960 ♀♂
- Prepectal carina narrow behind fore coxae.....19
- 19 Clypeus apically elevated, in profile nose-like expanded (fig 37). Mandibles and tegulae brown to black. Areae superomedia and petiolaris with lateral carinae, area superomedia c.2x wider than long (fig 19). 2<sup>nd</sup> tergite length at most 1.8x width..... *C. moesta* (GRAVENHORST, 1829) ♀♂, in part
- Clypeus slightly convex, not raised apically. Mandibles and tegulae often yellow.....20
- 20 Genal carinae strongly bent outwards ventrally and reaching mandibular bases (fig 36) .....21
- Genal carinae not bent outwards and usually obsolete ventrally, reaching hypostomal carinae far from mandibular bases with an acute angle (fig 35). Metasoma usually completely black .....22
- 21 Flagella with 35 flagellomeres. Hind tibiae ivory basally and externo-medially. Distances of lateral ocelli to eyes about as long as their diameter (fig. 44)..... *C. hinzi* nov.sp. ♀
- Flagella with 31-32 flagellomeres. Hind tibiae ivory basally, reddish-yellow to blackish externo-medially. Lateral ocelli larger than their distance to eyes (fig 45) ..... *C. dubia* TSCHEK, 1871 ♀♂
- 22 Trochanters and trochantelli mainly blackish, sometimes with yellowish apical margins. Areae basalis and superomedia usually with lateral carinae; area superomedia longer than wide (fig 21)..... *C. nigrotrchanterata* nov.sp. ♀♂
- Fore and middle trochanters and trochantelli mainly yellowish. Area superomedia usually without distinct lateral carinae (fig 10) ..... *C. albipalpis* (GRAVENHORST, 1829) ♀♂, in part
- 23 Metasoma with ± reddish tergites centrally .....24
- Metasoma black .....29
- 24 Fore and middle coxae and trochanters yellow or red .....25
- Alle coxae and trochanters black.....26
- 25 Fore and middle coxae and trochanters pale yellow, hind coxae black, yellow apically. Flagella without ivory rings. Hind femora slenderer, length 4.5-4.8x height ..... *C. pyreneator* AUBERT, 1960 ♀♂, in part
- Fore and middle coxae and trochanters red, hind coxa red, brownish or black. Flagella of ♀ with ivory rings. Hind femora stouter, length 3.9-4.2x height ..... *C. affinis* TSCHEK, 1871 ♀♂
- 26 Hind tibiae with ivory basal spots. Propodeum with carinae, area superomedia c.2x wider than long (fig 19). Outer discoidal angles of fore wings acute (70-80°) (fig 47).....27
- Hind tibiae not ivory basally. Mandibles and tegulae dark. Outer discoidal angles of fore wings about rectangular (c.90°) (fig 46) .....28
- 27 Hind femora and hind tibiae red; hind tibiae infusate subbasally and apically. Seen in profile, clypeus rounded. .... *C. scabra* THOMSON, 1887 ♀♂
- Hind femora brownish or blackish; hind tibiae except pale basal spot blackish. Clypeus apically elevated, in profile nose-like expanded (fig 37)..... *C. moesta* (GRAVENHORST, 1829) ♀♂, in part
- 28 Hind femora brown to black..... *C. subglabra* THOMSON, 1887 ♀♂

- Hind femora red, sometimes infusate apically ..... *C. petiolaris* (GRAVENHORST, 1829) ♀♂
- 29 Hind femora red; hind tibiae reddish, with indistinct darker coloration .....30
- Hind femora black or brownish .....31
- 30 Flagella shorter, with 23-26 flagellomeres, preapical flagellomeres wider than long (fig 31). Hind tibiae reddish, basally and apically often slightly infusate .....  
..... *C. morionella* HOLMGREN, 1860 ♀♂
- Flagella longer, with 27-29 flagellomeres; preapical flagellomeres longer than wide or square (fig 33). Hind tibiae usually reddish-yellow or yellowish, without distinct dark color pattern ..... *C. paramorionella* nov.sp. ♀♂
- 31 Hind tibiae black, reddish or brownish basally and externo-medially. Preapical flagellomeres wider than long. Area superomedia less widened, c.1.5x wider than long (fig 23). In ♂ mesopleura finely granulate and ± shining .....  
..... *C. stygia* TSCHEK, 1871 ♀♂
- Hind tibiae yellowish or ivory basally and externo-medially, brownish-red subbasally and apically. Preapical flagellomeres longer than wide or square. Area superomedia very wide, c.2x wider than long. In ♂ mesopleura granulate and finely rugulose, matte .....  
..... *C. pallipes* BRISCHKE, 1880 ♀♂

## Description of taxa

### ***Casinaria affinis* TSCHEK, 1871 (figs 1, 9, 29)**

*Casinaria affinis* TSCHEK, 1871: 56 ♀♂

Lectotypus: (♀) Piesting TSCHEK, Type (Wien), studied by HORSTMANN, herewith designated.

syn. nov. *Casinaria monticola* THOMSON, 1887: 1100 ♂

Holotypus: (♂) Berck., Gall., monticola (Lund), studied by HORSTMANN.

syn. nov. *Casinariodes corsicator* AUBERT, 1961: 182 ♂

Holotypus: (♂) *Casinariodes* ♂; *monticola* Ths; *corsicator* Aub., J.F. AUBERT, 18.8.1959, Corte (Corse) (Lausanne), type not studied.

**Description:** ♀: Body length 5.5-6.5 mm. Flagella with 28 segments; 1<sup>st</sup> flagellomeres length c.3.1x width; preapical flagellomeres wider than long. Temples narrow, roundly narrowed behind eyes; head width 2.0-2.1x length. Ocelli large, distance of lateral ocelli to eyes 0.7x and between them 1.5x their diameter. Face slightly narrowed ventrally, finely rugose, minimal width 0.6x eye length and 1.0x frontal width. Malar space length 0.4x width of mandibular bases. Genal carinae not bent outwards and obsolete ventrally, reaching hypostomal carinae far from mandibular bases. Hypostomal carinae not elevated.

Mesopleural discs finely rugose or granulate and punctate; specula granulate; dorsal impressions finely striate. Prepectal carina not elevated and not developed on the transversal part. Metapleura rugose-punctate; coxal carinae not developed. Propodeum with complete but fine and apically indistinct carinae; area basalis almost triangular, longer than wide; area superomedia small, about as long as wide; area petiolaris not distinctly impressed, with coarse transversal rugae. Hind femora length 3.9-4.2x width; length of inner spurs of hind tibiae 0.67x hind metatarsus length. Hind claws pectinate. Areolets stalked, 2<sup>nd</sup> recurrent veins proximal to their middle; nervuli postfurcal; postnervuli intercepted behind middle; external angle of discoidal cells acute (70-80°); nervelli of hind wings intercepted in apical 0.7. 2<sup>nd</sup> tergite length 1.15-1.25x width, 3<sup>rd</sup> tergite length 0.6-0.75x width; distance of thyridiae from basal margin 1x their length.

Colour: Black. Flagellomeres 9/10-12/15 with ivory rings. Palps, mandibles except teeth and tegulae yellow. Postpetiolus apically and subapical bands of 2<sup>nd</sup> to 4<sup>th</sup> tergites red.

Legs including coxae and trochanters red; hind coxae sometimes with brownish or blackish suffusion; hind trochanters brown; hind femora slightly darkened apically; middle tibiae subbasally and apically and hind tibiae basally and apically brown; hind tarsi except yellow bases of hind metatarsi brownish. Pterostigmata brown.

♂: Flagella long, filiform, with 32 flagellomeres; preapical flagellomeres longer than wide. Mesopleura granulate and distinctly punctate, specula shining, but finely granulate, impression with fine striae. Area basalis with distinct, the following areae with weak carinae; area superomedia narrow, area petiolaris slightly impressed, with coarse rugose-puncture. Hind femora length 3.9x height. 2<sup>nd</sup> tergite length 1.4x width; 3<sup>rd</sup> tergite length 0.8x width.

Colour: black. Scapes often reddish; flagella without ivory rings. Palps, mandibles, tegulae and wing bases yellow. Legs including coxae and trochanters reddish, hind coxae often ± brown. Tibiae yellowish-red externally; hind femora slightly darkened apically; hind tibiae usually with narrow yellowish basal spot, externo-medially ivory, subbasally and apically brown to black; hind tarsi brownish except pale basal third of hind metatarsi. Apex of postpetiolus and apical bands of 2<sup>nd</sup> to 4<sup>th</sup> tergites ± reddish.

**D i s t r i b u t i o n :** Austria, Bulgaria, France, Italy\*, Spain\*.

### ***Casinaria albipalpis* (GRAVENHORST, 1829) (fig. 10, 35)**

*Campoplex albipalpis* GRAVENHORST, 1829: 495 ♀♂

Lectotypus: (♂) f., AUBERT det. (Wroclaw), studied by HORSTMANN.

syn. nov. *Casinaria excavator* AUBERT, 1963: 871

Lectotypus: (♀) 29.8.1961, La Londe (Var) (Lausanne), studied and herewith designated.

Paralectotypus: (♂) 4.8.1949 Ascona Tessin (Lausanne), studied and herewith designated.

**R e m a r k :** This species is closely related to *Casinaria mesozosta* (GRAVENHORST) and *C. ischnogaster* THOMSON, but differs by the black metasoma, darker hind femora, interstitial nervelli and straight and ventrally obsolete genal carinae.

**D e s c r i p t i o n :** ♀: Body length 5.5-8.0 mm. Flagella with 26-29 segments; 1<sup>st</sup> flagellomere length 3.0x width; preapical flagellomeres slightly wider than long. Temples narrow, strongly narrowed behind eyes; head 2.2x wider than long. Ocelli large, distance of lateral ocelli to eyes 0.5-0.7x and between them 1.0x their diameter. Face moderately to strongly narrowed ventrally, finely rugose-punctate, minimal width 0.45-0.6x eye length and 0.8-0.9x width of frons. Malar space length 0.2-0.4x width of mandibular bases. Genal carinae not bent outwards, obsolete ventrally, reaching hypostomal carinae far from mandibular bases in acute angle. Hypostomal carinae not elevated.

Mesopleural discs granulate and with superficial puncture; specula largely shining, almost smooth; dorsal impressions strongly striate; metapleura granulate. Prepectal carina narrow, absent on transversal parts. Metapleura finely rugose; coxal carinae not developed. Propodeum with short basal carinae (usually area basalis+basal half of area superomedia); area petiolaris slightly impressed medially, finely rugose or granulate. Hind femora length 4.4-4.8x width; length of inner spurs of hind tibiae 0.73x hind metatarsus length. Areolets stalked, 2<sup>nd</sup> recurrent veins lateral of the middle; nervuli postfurcal; postnervuli intercepted below middle; external angles of discoidal cells acute (70-80°); nervelli of hind wing interstitial, not distinctly intercepted. 2<sup>nd</sup> tergite length 1.7-1.8x width; distance of thyridiae from basal margins 1x their length; 3<sup>rd</sup> tergite length 0.90-0.95x width.

Colour: Black. Palps, mandibles and tegulae reddish-yellow. Coxae black, sometimes fore and middle coxae  $\pm$  reddish; fore and middle trochanters and trochantelli yellow; hind trochanters blackish; legs otherwise reddish; fore and middle femora  $\pm$  darkened basally; hind femora red, often infuscate basally and/or apically, or completely brown to blackish; hind tibiae pale brown, ivory basally and externo-medially, brownish subbasally and apically; hind tarsi except ivory bases of metatarsi brownish-black. Pterostigmata brown.

♂: Flagella with 28-29 segments, preapical flagellomeres wider than long or almost square. Hind femora length 4.5x width. Metasoma rather stout; 2<sup>nd</sup> tergite length 1.5-1.9x width; 3<sup>rd</sup> tergite length 0.9-0.95x width. Fore and middle coxae sometimes  $\pm$  reddish. Hind femora reddish or  $\pm$  blackish. Fore and middle tibiae red, yellowish externally; hind tibiae red, yellow basally and externo-medially, black subbasally and apically.

H o s t s : *Agriopsis aurantiaria* (HÜBNER, 1799) (Lep. Geometridae) (ZSM), *Alcis repandata* (LINNAEUS, 1758) (Lep. Geometridae) (EDI, ZSM), *Crocallis elinguaris* (LINNAEUS, 1758) (Lep., Geometridae) (ZSM), *Eupithecia denotata* (HÜBNER, 1813) (Lep. Geometridae) (KS), *Hylaea fasciaria* (LINNAEUS, 1758) (Lep. Geometridae) (EDI, ZSM), *Limnitis camilla* (LINNAEUS, 1764) (Lep. Nymphalidae) (EDI), *Lycia isabellae* (HARRISON, 1914) (Lep. Geometridae) (ZSM), *Odontopera bidentata* (CLERCK, 1759) (Lep. Geometridae) (EDI), ?*Oporinia dilutata* SCHIFFERMÜLLER, 1775 (Lep. Geometridae) (EDI), *Orthosia cruda* DENIS & SCHIFFERMÜLLER, 1775 (Lep. Noctuidae) (EDI), *Scotopteryx luridata* (HUFNAGEL, 1767) (Lep. Geometridae) (EDI), *Thera juniperata* (LINNAEUS, 1758) (Lep. Geometridae) (EDI).

D i s t r i b u t i o n : Austria, Bulgaria\*, France, Germany, Italy, Norway, Switzerland\*, Turkey\*, United Kingdom.

### ***Casinaria albipalpis aegyptiator* AUBERT & SHAUMAR, 1978**

Type not studied, no material available for analysis.

### ***Casinaria albotibialis* KASPARYAN, 1976**

*Casinaria albotibialis* KASPARYAN, 1976: 74-75 ♀

I was not able to study the type material, but according to the original description this taxon could probably be a synonym of *Casinaria kriechebaumeri* (COSTA, 1884) which had also been found in Turkmenistan.

### ***Casinaria compressiventris* nov.sp. (figs 8, 20, 42)**

Holotypus: (♀) SP, Pipineos Contr. 23 km E Viella, Valencia d'Aneu 21.7.1990 Mart. Schwarz (coll. SCHWARZ).

Paratypus: (♂) same location and date (coll. SCHWARZ).

R e m a r k : This new species is closely related to *C. cultellator* AUBERT. It differs by transverse preapical flagellomeres, matte mesopleura with strong granulation and superficial punctures, and yellowish colour of the mandibles.

D e s c r i p t i o n : ♀: Body length 7.5 mm. Flagella with 29 segments; 1<sup>st</sup> flagellomeres length c.3.2x width; preapical flagellomeres wider than long. Head transverse, width 2.3x length. Temples narrow, strongly and roundly narrowed behind eyes.

Distance of lateral ocelli to eyes 0.9x and between them 1.2x their diameter. Face strongly narrowed ventrally, finely rugose-punctate, minimal width 0.55x eye length and 0.9x width of frons. Malar space length 0.25x width of mandibular bases. Genal carinae not bent outwards ventrally, reaching hypostomal carinae in an acute angle. Hypostomal carina not elevated.

Mesopleural discs granulate and superficially punctate, matte; specula granulate, matte; dorsal impressions with fine striae. Prepectal carina narrow, absent on transversal parts. Metapleura finely rugose; coxal carinae absent. Propodeum without distinct carinae, finely rugose-punctate; area petiolaris with moderately deep central impression, with fine transverse striation in apical third. Hind femora length 5.0x width, length of inner spurs of hind tibiae 0.7x hind metatarsi length. Areolets stalked, 2<sup>nd</sup> recurrent veins distal to their middle; nervuli postfurcal; postnervuli intercepted in their middle; external angles of discoidal cell acute (75-80°); nervelli of hind wings slightly reclivous, not distinctly intercepted. Metasoma very slender; 2<sup>nd</sup> tergite length 2.7x width; distance of thyridia from basal margins 1.5x their length; 3<sup>rd</sup> tergite length c.2.3x width; following tergites strongly compressed laterally.

Colour: Black. Palps yellow; mandibles except teeth and tegulae yellowish. Scapes reddish ventrally. Metasoma black, 2<sup>nd</sup> to 7<sup>th</sup> tergites with reddish suffusion laterally. Fore and middle coxae brownish; hind coxae and trochanters black; legs otherwise reddish; middle and hind trochantelli reddish-yellow; hind tibiae reddish, pale yellow basally, blackish subbasally and apically; hind tarsi except yellow base of metatarsi blackish. Pterostigmata dark brown.

♂: Body length 6.3 mm. Flagella with 30 segments, preapical flagellomeres about square. Impression of area petiolaris rather narrow and deep, transverse rugae stronger than in the ♀. 2<sup>nd</sup> tergite length 2.0x width; 3<sup>rd</sup> tergite length 1.7x width. Coxae black; hind femora narrowly infusate apically. Structure and coloration otherwise as described for the ♀.

H o s t s : unknown.

D i s t r i b u t i o n : Spain.

### ***Casinaria cultellator* AUBERT, 1959 (figs 2, 11)**

*Casinaria cultellator* AUBERT, 1959: 159 ♀♂

Lectotypus: (♀) 21.8.1953 Cap d'Ail (A.M.) (Lausanne), studied and herewith designated.

Paralectotypus: (♂) 31.7.1957, Castellar/Menton (A.M.) (Lausanne), studied and herewith designated.

D e s c r i p t i o n : ♀: Body length 8-10 mm. Flagella with 33 segments; 1<sup>st</sup> flagellomeres length c.2.3x width; preapical flagellomeres slightly longer than wide. Temples narrow, roundly narrowed behind eyes, length 0.7x eye width; head 2.2x wider than long. Ocelli large, distance of lateral ocelli to eyes 0.7-0.8x and between them 1.6x their diameter. Face slightly narrowed ventrally, coarsely rugose-punctate, minimal width 0.55x eye length and 0.95 minimal width of frons. Malar space length 0.2x width of mandibular bases. Genal carinae strongly bent outwards ventrally, reaching mandibular bases in an angle of 90°. Hypostomal carinae not elevated.

Mesopleural discs finely granulate and distinctly punctate, more or less shining; specula striate; dorsal impressions wide and deep, strongly striate. Prepectal carina not elevated.

Propodeum without distinct carinae, coarsely rugose; area petiolaris with rather deep and narrow impression, the impression with coarse transverse rugae. Hind femora rather stout, length 4.2x width; length of inner hind tibial spur 0.7x length of hind metatarsus. Areolets stalked, 2<sup>nd</sup> recurrent veins lateral of their middle; nervuli postfurcal; postnervuli intercepted in the middle; external angles of discoidal cells acute (70-80°); nervelli of hind wing slightly reclivous, not distinctly intercepted. Metasoma very slender, apical tergites strongly compressed. 2<sup>nd</sup> tergite length 2.3x width; distance of thyridia from basal margin 2x their length; 3<sup>rd</sup> tergite length 1.7x width.

Colour: Black. Palps and mandibles except teeth brown; scapes reddish internally. Tegulae cream-yellow. 2<sup>nd</sup> tergite with diffuse reddish-brown band subapically. All coxae and trochanters black; legs otherwise red; fore femora apically and fore tibiae externally yellow; middle tibiae yellow externally, slightly darkened apically; middle tarsi brownish; hind tibiae reddish, ivory basally, brown subbasally and apically; hind tarsi except basal ivory ring of hind metatarsi blackish. Pterostigmata brown.

♂: Body length 9 mm. Flagella with 34 segments, all flagellomeres longer than wide. Mesopleural discs granulate and strongly punctate; specula partly striate, partly smooth and shining. Hind femora length 4.7x height. Metasoma strongly compressed; 2<sup>nd</sup> tergite length 2.4x width; 3<sup>rd</sup> tergite length 1.8x width; thyridia roundish, distance from basal margin 1x their length. Metasoma black; hind tibiae yellowish externo-medially; fore tarsi infusate apically. Structure and coloration otherwise as in ♀.

D i s t r i b u t i o n : France.

### ***Casinaria dubia* TSCHKE, 1871 (fig. 12, 45, 47)**

*Casinaria dubia* TSCHKE, 1871: 57 ♀

Lectotypus: (♂) Piesting Tschek, 1/10 866, Lectotype, *Casinaria dubia* Tschek ♀ det. J.F. AUBERT (Wien), studied by HORSTMANN.

D e s c r i p t i o n : ♀: Body length 7.5-8.5 mm. Flagella with 31-32 segments; 1<sup>st</sup> flagellomeres length 3.2x width; preapical flagellomeres about square. Temples narrow, strongly and almost linearly narrowed behind eyes. Ocelli very large, distance of lateral ocelli to eyes 0.5-0.6x and between them 1.3x their diameter. Face strongly narrowed ventrally, rugose-punctate, minimal width 0.53x eye length and 0.85x width of frons. Malar space length 0.3x width of mandibular bases. Genal carinae strongly bent outwards ventrally, reaching mandibular bases in an angle of almost 90°. Hypostomal carinae not or slightly elevated.

Mesopleural discs finely rugose-punctate; specula partly almost smooth, shining; dorsal impressions strongly striate, the striae reaching the frontal parts of mesopleura. Prepectal carina narrow, absent on the transversal parts. Metapleura finely rugose; coxal carinae absent. Propodeum without carinae, finely rugose; area petiolaris with slight medial impression, without distinct transverse ridges. Hind femora length 4.6-5.0x width, length of inner spurs of hind tibiae 0.65x hind metatarsi length. Areolets stalked, 2<sup>nd</sup> recurrent veins lateral of their middle; nervuli interstitial or slightly postfurcal; postnervuli intercepted in their middle; external angles of discoidal cell acute (75-80°); nervelli of hind wings slightly reclivous, not distinctly intercepted. 2<sup>nd</sup> tergite length 1.8-1.9x width; distance of thyridia from basal margins 1-1.5x their length; 3<sup>rd</sup> tergite length 1.1x width.

Colour: Black. Palps yellow; mandibles and tegulae yellowish-red to reddish-brown.

Metasoma black, usually 2<sup>nd</sup> tergite subapically, 3<sup>rd</sup> tergite partly and following tergites laterally reddish. Coxae and trochanters black; fore and middle trochanters yellow apically; all trochantelli yellow (rarely  $\pm$  blackish); legs otherwise red; middle and hind femora reddish-brown to blackish; hind tibia reddish to brown, cream-yellow basally, yellow to reddish-brown externo-medially, brown subbasally and in apical third, sometimes hind tibiae except basal yellow spot completely blackish; hind tarsi except yellow bases of metatarsi brown. Pterostigmas brown.

♂: Flagella with 31-33 segments. Hind femora length 4.9x width. Area petiolaris sometimes strongly impressed centrally and with coarse transversal rugae.

H o s t s : *Apatura metis substituta* BUTLER, 1873 (Lep. Nymphalidae) (EDI), *?Eilema depressa* (ESPER, 1787) (Lep. Arctiidae) (EDI); *Lithosia quadra* (LINNAEUS, 1758) (Lep. Noctuidae) (EDI).

D i s t r i b u t i o n : Austria, Germany, France, Hungary\*, Japan\*, United Kingdom\*.

### ***Casinaria flagellator* nov.sp. (figs 13, 30)**

Holotypus: (♀) Seewinkel, Wien, 6.9.62 (ZSM).

Paratypes: (3♀♀) Seewinkel, Wien, 6.9.62 (ZSM and coll. RIEDEL); (♀) Retzbach, Ufr., Trockenrasen, 10.6.1989 (ZSM); (♀) YU, V.-Drvenik b. Split, Wegrand, 7.-16.9.1977 (ZSM); (♀) Georgien, Lagodehki NP, H 4, 5-15.V.2014 (coll. RIEDEL); (♀) Italia, Toscana, Upachhi, NE Arezzo, 43°30'N 11°59'E, 19.8.2013, M. & J. SCHWARZ (coll. SCHWARZ); (♀) Nürnberg 24.7.1989 (ZSM); (♀) Esp.-Alicante Moraira, 90 m, 29.ix.-1.x.1989 garrigue, réc. R. WAHIS, Mal.trap (ZSM); (♀) Norway, EIS 20, Ø: Tune, Rakil 22.VII.1994, leg. Thor J. OLSEN (coll. RIEDEL).

D e s c r i p t i o n : ♀: Body length 5-7 mm. Flagella with 29-33 segments; 1<sup>st</sup> flagellomeres length c.3.5x width; preapical flagellomeres square or wider than long. Temples narrow, strongly and roundly narrowed behind eyes. Distance of lateral ocelli to eyes 0.8-0.9x and between them 2.0x their diameter. Face moderately narrowed ventrally, finely rugose-punctate, minimal width 0.6x eye length and 0.9 width of frons. Malar space length 0.5x width of mandibular bases. Genal carinae not bent outwards and more or less obsolete ventrally, reaching hypostomal carinae far from mandibular bases in an angle of c.70°. Hypostomal carinae elevated.

Mesopleural discs granulate and superficially punctate; specula smooth, shining; dorsal impressions strongly striate. Prepectal carina narrow, absent on the transversal parts. Metapleura finely rugose; coxal carinae absent. Propodeum granulate or finely rugulose; Area basalis and frontal part of area superomedia with carinae; area petiolaris slightly impressed medially, granulate, with  $\pm$  distinct transverse rugae apically. Hind femora length 4.5x width, length of inner spurs of hind tibiae 0.62x hind metatarsus length. Areolets stalked, 2<sup>nd</sup> recurrent veins slightly basad or in their middle; nervuli interstitial or slightly postfurcal; postnervuli intercepted behind their middle; external angles of discoidal cell acute (c.80°); nervelli of hind wings slightly reclivous, not distinctly intercepted. 2<sup>nd</sup> tergite length 1.75-1.8x width; distance of thyridia from basal margins 1.5-2x their length; 3<sup>rd</sup> tergite length 0.9x width.

Colour: Black. Palps, mandibles and tegulae reddish-yellow. Tergites black, sometimes with diffuse dark reddish suffusion apically. Coxae and trochanters black; middle and hind trochantelli partly reddish; legs otherwise red; fore and middle tibiae yellowish externally; hind tibiae reddish, cream-yellow basally, yellowish-red externo-medially,

pale brownish subbasally and apically; fore and middle tarsi brown apically; hind tarsi except yellow bases of metatarsi blackish. Pterostigmata brown.

♂ unknown.

*Distribution*: Austria, Croatia, Georgia and Germany.

***Casinaria hinzi* nov.sp. (figs 14, 38, 44)**

*Holotypus*: (♀) 24.7.1959 Kaltern, legit. R. Hinz; [red] 1408 (ZSM).

*Remark*: This new species is closely related to *C. dubia* TSCHEK. It can be differentiated by higher number of flagellomeres, smaller ocelli, stouter metasoma, and completely dark trochanters and trochantelli.

*Description*: ♀: Body length 7.5 mm. Flagella with 35 segments; 1<sup>st</sup> flagellomeres length c.3x width; preapical flagellomeres longer than wide. Head transverse, width 2.4x length. Temples narrow, strongly and roundly narrowed behind eyes. Ocelli small, distance of lateral ocelli to eyes 1.0x and between them 1.6x their diameter. Face strongly narrowed ventrally, rugose-punctate, minimal width 0.6x eye length and 0.85x width of frons. Malar space length 0.4x width of mandibular bases. Genal carinae strongly bent outwards ventrally, reaching mandibular bases in an angle of almost 90°. Hypostomal carinae not or slightly elevated.

Mesopleural discs granulate and superficially punctate; specula granulate, matte; dorsal impressions with moderately strong striae. Prepectal carina narrow, absent on transversal parts. Metapleura finely rugose; coxal carinae absent. Propodeum without distinct carinae, finely rugose; area petiolaris with moderately deep central impression, in apical third with fine transverse striation. Hind femora length 5.0x width, length of inner spurs of hind tibiae 0.8x hind metatarsi length. Areolets stalked, 2<sup>nd</sup> recurrent veins distal to their middle; nervuli postfurcal; postnervuli intercepted in their middle; external angles of discoidal cell acute (75-80°); nervelli of hind wings strongly reclivous, not distinctly intercepted. 2<sup>nd</sup> tergite length 1.6x width; distance of thyridia from basal margins 1.5x their length; 3<sup>rd</sup> tergite length 0.95x width.

*Colour*: Black. Palps yellow; mandibles and tegulae blackish. Metasoma black. Coxae, trochanters and trochantelli black; fore and middle legs reddish; fore and middle tibiae and tarsi yellowish externally; middle femora chestnut-brown; hind femora dark brownish, with very narrow yellowish-red spot basally; hind tibiae brown, cream-yellow basally and externo-medially; hind tarsi except wide yellowish bases of metatarsi brown. Pterostigmata brown.

♂ unknown.

*Hosts*: unknown.

*Distribution*: Italy.

***Casinaria horstmanni* nov.sp. (figs 15, 39)**

*Holotypus*: (♀) Esp.-Alicante Moraira, 90m, 8-13.ix.1989 garrigue, réc. R. Wahis, Mal.trap (ZSM).

*Paratypes*: (♀) Esp.-Alicante Moraira, 90m, 5-7.x.1989 garrigue, réc. R. Wahis, Mal.trap (ZSM); (♀) Esp.-Alicante Moraira, 90m, 7.x.1989 garrigue, réc. R. Wahis, Mal.trap (ZSM); (♂) Esp.-Alicante Moraira, 90m, 2-13.iv.1990 garrigue, réc. R. Wahis, Mal.trap (ZSM); (♂) 14.VIII.1960 Hyères, Fr., legit R. Hinz, [red] 1567 (ZSM).

**Description:** ♀: Body length 9 mm. Flagella filiform, with 33 segments; 1<sup>st</sup> flagellomere length 2.4x width; preapical flagellomeres almost square. Temples narrow, roundly narrowed behind eyes. Ocelli large, distance of lateral ocelli to eyes 0.7-0.8x and between them 1.9x their diameter. Face strongly narrowed ventrally, finely rugose-punctate, minimal width 0.55x eye length and 0.9x width of frons. Clypeus ± convex. Malar space length 0.3x width of mandibular bases. Genal carinae bent moderately outwards ventrally, reaching the mandibular bases in an angle of c.80°. Hypostomal carinae not elevated.

Mesopleural discs distinctly and densely punctate, finely granulate, ± shining; specula granulate, matte; dorsal impressions strongly striate. Prepectal carina slightly bent forwards and elevated ventrally, absent on transversal parts. Propodeum rugose, with basal carinae (area basalis) and narrow but deep longitudinal impression centrally covered with coarse transversal rims. Hind femora length 4.3-4.7x width; inner spurs of hind tibiae 0.7x as long as hind metatarsi. Claws pectinate. Areolets stalked, 2<sup>nd</sup> recurrent veins distal of middle; nervuli slightly postfurcal; postnervuli intercepted in the middle; external angles of discoidal cells acute (c.80°); nervelli of hind wings interstitial, not intercepted. 2<sup>nd</sup> tergite length 2.2x width; thyridia long-oval, distance from basal margin 1-2x their length; 3<sup>rd</sup> tergite length 1.5x width. 7<sup>th</sup> tergite with a deep triangular apical excision; ovipositor sheaths shortly reaching behind metasomal apex.

**Colour:** Black. Palps and tegulae yellow; mandibles except reddish teeth black. All coxae, trochanters and trochantelli black; legs otherwise red; fore and middle tibiae pale yellow externally; fore and middle tarsi brownish; hind tibiae red to brown, ivory basally, brownish subbasally and apically; hind tarsi except ivory base of hind metatarsi dark brown. Pterostigmata brown.

♂: Body length 8 mm. Flagella with 33-34 segments, Hind femora length 4.6x width. 2<sup>nd</sup> tergite length 2.3x width; 3<sup>rd</sup> tergite length 1.6x width. Areolets with 2<sup>nd</sup> recurrent veins in the middle. Fore and middle tarsi apically ± brownish. Structure and colouration otherwise as in ♀.

**Hosts:** unknown.

**Distribution:** France, Italy, Spain.

### ***Casinaria ischnogaster* THOMSON, 1887 (figs 3, 36)**

*Casinaria ischnogaster* THOMSON, 1887: 1101 ♀♂

Lectotypus: (♀) Löp, ♀, *ischnogaster* (Lund), studied by HORSTMANN.

**Remark:** This taxon is closely related to *Casinaria mesozosta* (GRAVENHORST) and is characterized by the externo-medial ivory coloration of the hind tibiae only. The colour of hind tibiae is rather variable in *C. mesozosta* (GRAVENHORST). Therefore, both species are not always separable. It is not impossible that *C. ischnogaster* THOMSON represents a colour-form of *C. mesozosta* (GRAVENHORST) only.

**Description:** ♀: Body length 7-8 mm. Flagella with 34-38 segments; 1<sup>st</sup> flagellomeres length 3.1x width; preapical flagellomeres square or slightly longer than wide. Temples narrow, strongly narrowed behind eyes. Distance of lateral ocelli to eyes 0.9x and between them 1.3-1.4x their diameter. Face strongly narrowed ventrally, finely rugose-punctate, minimal width 0.54x eye length and 0.9x width of frons. Malar space length 0.2-0.3x width of mandibular bases. Genal carinae strongly bent outwards ventral-

ly, reaching hypostomal carinae near mandibular bases in an angle of  $90^\circ$ . Hypostomal carinae slightly elevated.

Mesopleural discs granulate, with superficial punctures; specula granulate, matte, sometimes partly almost smooth and more or less shining; dorsal impressions strongly striate. Prepectal carina narrow, absent on the transversal parts. Metapleura finely rugose; coxal carinae absent. Propodeum without distinct carinae, finely rugose; area petiolaris with moderately deep narrow medial impression, covered with some transverse ridges. Hind femora length 4.8-5.0x width; length of inner spurs of hind tibiae 0.7x hind metatarsus length. Areolets usually stalked (rarely sessile), 2<sup>nd</sup> recurrent veins in or distal to the middle; nervuli distinctly postfurcal; postnervuli intercepted in or before middle; external angles of discoidal cells acute ( $70-80^\circ$ ); nervelli of hind wing reclivous, usually not intercepted. 2<sup>nd</sup> tergite length 1.7-2.0x width, thyridia long oval to roundish, distance from basal margins c.1.5x their length; 3<sup>rd</sup> tergite length 1.0-1.05x width.

Colour: Black. Palps, mandibles except teeth and tegulae yellowish. Scapes and pedicels often  $\pm$  reddish, flagella black. Metasoma completely black or 2<sup>nd</sup> tergite apically, 3<sup>rd</sup> tergite  $\pm$  and 4<sup>th</sup> tergite laterally and/or apically reddish. All coxae black, sometimes fore and middle coxae reddish; fore and middle trochanters and all trochantelli yellowish, hind trochanters black; legs otherwise red; fore and middle tibiae yellowish on outer surface; hind tibiae red, ivory to yellow basally and externo-medially, sometimes reddish externo-medially, with brownish subbasal rings and infusate in apical 0.25-0.3. Hind tarsi except ivory bases of metatarsi brownish to blackish. Pterostigmata brown.

♂: Flagella with 29 segments, preapical flagellomeres slightly wider than long. Discs of mesopleura finely rugose-punctate. 2<sup>nd</sup> tergite length 1.7x width, 3<sup>rd</sup> tergite 1.0x. Metasoma completely blackish. Fore and middle coxae  $\pm$  red; fore and middle trochanters and all trochantelli yellowish; hind femora brownish apically; fore and middle tibiae and tarsi ivory externally. Otherwise as described for the ♀.

Hosts: *Alsophila aescularia* (DENIS & SCHIFFERMÜLLER, 1775) (Lep. Geometridae) (ZSM), *Abrostola tripartita* (HUFNAGEL, 1766) (Lep., Noctuidae) (ZSM), *Callistege mi* (CLERCK, 1759) (Lep. Noctuidae) (EDI), *Cucullia verbasci* (LINNAEUS, 1758) (Lep. Noctuidae) (EDI), *Hypena proboscidalis* (LINNAEUS, 1758) (Lep., Noctuidae),

D i s t r i b u t i o n : Austria\*, Croatia\*, Czechia (Bohemia), France, Norway, Poland, Russia Far East, United Kingdom.

### ***Casinaria krieckbaumeri* (COSTA, 1884) (fig. 16)**

*Campoplex krieckbaumeri* COSTA, 1884: 56-57 ♀

Lectotypus: (♀) Oristano 5, *Campoplex Krieckbaumeri* (Naples), studied by HORSTMANN.

D e s c r i p t i o n : ♀: Body length 7-8 mm. Flagella with 28-30 segments; 1<sup>st</sup> flagellomeres length 2.7x width; preapical flagellomeres longer than wide or almost square. Temples narrow, strongly narrowed behind eyes; head 2.2x wider than long. Ocelli large, distance of lateral ocelli to eyes 0.7x-0.8 and between them 1.8x their diameter. Face moderately narrowed ventrally, rugose-punctate, minimal width 0.6x eye length and 0.75x width of frons. Malar space length 0.4-0.5x width of mandibular bases. Genal carinae strongly bent outwards ventrally, reaching the mandibular bases in an angle of  $90^\circ$ . Hypostomal carinae not elevated.

Mesopleural discs finely rugose and distinctly punctate; specula granulate; dorsal im-

pressions strongly striate. Prepectal carina not elevated. Propodeum without or with short basal carinae, coarse rugose; area petiolaris with rather deep and narrow impression, the impression with transverse rugae. Hind femora length 5.3-5.4x width. Areolets stalked, 2<sup>nd</sup> recurrent veins lateral of middle; nervuli postfurcal; postnervuli intercepted behind middle; external angles of discoidal cells acute (70-80°); nervelli of hind wings  $\pm$  interstitial, not distinctly intercepted. 2<sup>nd</sup> tergite length 1.8-2.1x width; distance of thyridia from basal margin 1.5x their length; 3<sup>rd</sup> tergite length 0.85-1.1x width.

Colour: Black. Palps and tegulae yellow; mandibles except reddish teeth black. All coxae and trochanters black; hind trochantellus reddish; legs otherwise red; hind femora narrowly darkened apically; middle and hind tibiae blackish, ivory basally and externally (sometimes reduced); hind tarsi blackish except basal ivory ring of hind metatarsi. Pterostigmata brown.

♂: Body length 8-10 mm. Flagella with 31-35 segments. Hind femora length 4.6x width. 2<sup>nd</sup> tergite length c.2.3x width, 3<sup>rd</sup> tergite length c.1.3x width. Scapes usually blackish ventrally, rarely  $\pm$  reddish. Fore and middle trochanters and trochantelli reddish. Otherwise as described for the ♀.

H o s t s : *Epilobophora sabinata* (GEYER, 1831) (Lep., Geometridae) (ZSM).

D i s t r i b u t i o n : Austria\*, Bulgaria\*, Croatia\*, France\*, Greece\*, Jordania\*, Kazakhstan\*, Kirgistan\*, Malta\*, Slovakia\*, Spain\*, Tunesia\*, Turkey\*, Turkmenistan\*, Uzbekistan\*.

### ***Casinaria lamellata* nov.sp.**

Holotypus: (♀) Esp.-Alicante Moraira, 90 m, 14-20.x.1989 garrigue, réc. R. WAHIS, Mal.trap (ZSM).

Paratypes: Specimens from same location: (2♂♂) 6-14.iv.1989, (2♂♂) 6-13.v.1989, (♂) 2-8.viii.1989, (2♂♂) 23-24.ix.1989, (♂) 2-4.x.1989, (3♂♂) 14-20.x.1989, (♂) 21-27.x.1989, (♂) 28.x.-3.xi.1989, (2♂♂) 4-10.xi.1989, (2♂♂) 11-19.xi.1989, (♂) 20-27.xi.1989, (3♂♂) 12-18.ii.1990, (♂) 19-25.ii.1990, (♂) 26.ii.-5.iii.1990, (5♂♂) 6-11.iii.1990, (2♂♂) 12-20.iii.1990, (2♂♂) 2-13.iv.1990 (ZSM und coll. RIEDEL); (♂) Partsching, Süd-Tirol, 800 m, Fe, 31.8.1967, Hbth (ZSM); (♂) Algund, Südtirol, 1450 m, DI, 30.8.1967, HAESELBARTH (ZSM); (♂) Partschins, Südtirol, 1000 m, Fc, 20.7.1966, Hbth. (ZSM); (♀) Spain, Pirineos Orient., Ripoll, 27.7.1990, Mart. SCHWARZ (coll. SCHWARZ); (♀) SE Ukraine, Lugansk red., Provalie 7-9 VIII 2004, leg. OSIPOV (coll. RIEDEL); (♂) SE Ukraine, Lugansk red., Sverdlovsk distr., Provalie vill. 19-21 VII 04, leg. OSIPOV (coll. RIEDEL); (♂) SE Ukraine Lugansk reg./Provalie, 20-25 VIII 2004 leg. OSIPOV (coll. RIEDEL).

R e m a r k : The new taxon resembles *C. kriebbaumeri* (COSTA), but can be easily differentiated by the ventrally elevated prepectal carina in both sexes and the less rugose mesopleura in ♀. In ♂, scapes are usually yellowish ventrally.

D e s c r i p t i o n : ♀: Body length 7-8 mm. Flagella with 31 segments; 1<sup>st</sup> flagellomeres length 2.7x width; preapical flagellomeres slightly longer than wide or square. Temples narrow, roundly narrowed behind eyes; head 2.2x wider than long. Ocelli large, distance of lateral ocelli to eyes 0.6x and between them 1.5x their diameter. Face strongly narrowed ventrally, finely rugose-punctate, minimal width 0.8x frontal width and 0.55x eye length. Malar space length 0.4x width of mandibular bases. Genal carinae strongly bent outwards ventrally, reaching mandibular bases in an angle of 90°; genae concave ventrally. Hypostomal carinae not elevated.

Sides of pronotum with strong striation, dorsally punctate. Mesopleural discs punctate

and granulatae or finely rugulose; specula granulate but shining; dorsal impressions strongly striate. Prepectal carina lamelliform elevated ventrally, narrow on mesopleural part, not developed on transversal parts. Propodeum rugose, without distinct carinae, with strong and narrow central longitudinal impression covered with some transversal rugae. Hind femora length 5.0x width; inner spurs of hind tibiae 0.8x as long as hind metatarsi. Hind claws pectinate. Areolets stalked, 2<sup>nd</sup> recurrent veins in the middle; nervuli postfurcal; postnervuli intercepted in the middle; external angles of discoidal cells acute (70-80°); nervelli of hind wings reclivous, not distinctly intercepted. 2<sup>nd</sup> tergite length c.2.2x width; thyridia roundish, distance to basal margins of tergite 2x their length; 3<sup>rd</sup> tergite length 1.1x width.

Colour: Black including flagella and mandibles. Palps and tegulae yellow. Scapes sometimes reddish or yellow ventrally. Metasoma blackish. Coxae, trochanters and trochantelli black; trochanters and trochantelli with narrow yellow stripes apically; legs otherwise reddish; fore and middle tibiae ivory externally; fore and middle tarsi ± brownish; hind femora narrowly infusate at apex; hind tibiae reddish-brown to blackish, ivory basally and externo-medially; hind tarsi except narrow ivory bases of metatarsi blackish. Pterostigmata brown.

♂: Body length 8 mm. Flagella with 30-32 segments; preapical flagellomeres longer than wide. Discs of mesopleura rugose-punctate, rugosity usually stronger than in females. Hind femora length 5.1-5.3x width. 2<sup>nd</sup> tergite length 2.1-2.3x width; 3<sup>rd</sup> tergite about as long as wide. Scapes usually with ventral reddish-yellow marks. Mandibles except teeth yellowish or blackish. Fore and middle tarsi reddish, ± brownish apically. Hind femora red, sometimes basally and apically infusate. Wings sometimes slightly brownish. Structure and coloration otherwise as in ♀.

H o s t s : unknown.

D i s t r i b u t i o n : Italy, Spain, and Ukraine.

### ***Casinaria meritionator* AUBERT, 1960 (fig. 17)**

*Casinaria meritionator* AUBERT, 1960: 660-661

Lectotypus: (♂) 13.8.1958 St. Aygulf (Var) (Lausanne), type studied and herewith designated.

D e s c r i p t i o n : ♀: Body length 8 mm. Flagella with 30-31 segments; 1<sup>st</sup> flagellomeres length 3.1x width; preapical flagellomeres square. Temples narrow, roundly narrowed behind eyes; head 2.25x wider than long. Distance of lateral ocelli to eyes 0.9x and between them 1.9x their diameter. Face slightly narrowed ventrally, finely rugose-punctate, minimal width 0.95x frontal width and 0.7x eye length. Malar space length 0.5x width of mandibular bases. Genal carinae strongly bent outwards ventrally, reaching mandibular bases in an angle of c.90°; genae concave ventrally. Hypostomal carinae slightly elevated.

Sides of pronotum with strong striation, dorsally granulate. Mesopleural discs ± rugulose-punctate; specula granulate; dorsal impressions strongly striate, striae reaching anterior margin of mesopleura. Prepectal carina lamelliform elevated ventrally, narrow on mesopleural parts, not developed on transversal parts. Propodeum rugose, without distinct carinae, with moderate central longitudinal impression covered with some transversal rugae. Hind femora length 4.7-5.0x width; inner spurs of hind tibiae 0.7x as long as hind metatarsi. Hind claws pectinate. Areolets stalked, 2<sup>nd</sup> recurrent veins in or

distal of middle; nervuli postfurcal; postnervuli intercepted before middle, external angles of discoidal cells acute (70-80°); nervelli of hind wings more or less interstitial, not distinctly intercepted. 2<sup>nd</sup> tergite length 1.8-2.8x width; thyridia roundish, distance to basal margins of tergite 1x their length; 3<sup>rd</sup> tergite length 1.1-1.5x width.

Colour: Black including flagella, tegulae and mandibles. Palps reddish-yellow. 2<sup>nd</sup> tergite subapically or apically, 3<sup>rd</sup> tergite except basal black spot, and following tergites completely reddish. Legs blackish; fore femora, tibiae and tarsi yellowish-red; middle and hind femora narrowly yellow at bases; all tibiae with basal ivory spots, middle tibiae ivory externo-medially; hind tarsi except ivory bases of metatarsi blackish. Pterostigmata brown.

♂: Body length 8.5 mm. Flagella with 31-32 segments; preapical flagellomeres slightly longer than wide. Temples narrow, roundly narrowed behind eyes. Distance of lateral ocelli to eyes 0.75x and between them 1.8x their diameter. Face slightly narrowed ventrally, finely rugose-punctate, minimal width 1.0x frontal width and 0.7x eye length. Malar space length 0.4x width of mandibular bases.

Mesopleural discs rugulose-punctate; specula granulate; dorsal impressions strongly striate, striae reaching anterior margin of mesopleura. Prepectal carina slightly elevated ventrally. Propodeum without distinct carinae; area petiolaris slightly impressed, rugose. Hind femora length 4.9-5.2x width. Areolets stalked, 2<sup>nd</sup> recurrent veins in its middle; nervuli postfurcal; postnervuli intercepted in the middle, external angle of discoidal cells acute (80°); nervelli of hind wing  $\pm$  interstitial, not intercepted. 2<sup>nd</sup> tergite length 1.75-1.9x width; thyridia longer than wide, distance to basal margins of tergite 0.5x their length; 3<sup>rd</sup> tergite length 1.05-1.2x width.

Colour: Black including flagella, tegulae and mandibles. Palps reddish-yellow. 2<sup>nd</sup> tergite laterally and apically, 3<sup>rd</sup> and 4<sup>th</sup> tergites mainly, following tergites laterally red. Legs blackish; fore femora, tibiae and tarsi yellowish-red; all tibiae with basal ivory spots; hind tarsi except ivory bases of metatarsi blackish. Pterostigmata brown.

H o s t s : *Nudaria mundana* (LINNAEUS, 1761) (Lep. Noctuidae) (EDI).

D i s t r i b u t i o n : Bulgaria\*, France, Spain\*, Turkey\*.

### ***Casinaria mesozosta* (GRAVENHORST, 1829)**

*Campoplex mesozostus* GRAVENHORST, 1829: 532 ♂

Lectotypus: (♂) 5219 (Torino), studied by HORSTMANN.

syn. *Casinaria compressa* SZEPLIGETI, 1916: 340, 344 ♀

Lectotypus: (♀) Oravicza FRIVALDSZKY 1875 (Budapest), synonymized by AUBERT (1963: 872).

syn. *Casinaria deubeli* KISS, 1924 ♀

Holotypus: (♀) Brasso Deubel (Budapest), synonymized by HORSTMANN (1978: 40).

syn. *Campoplex fallax* HOLMGREN, 1856: 10♂♂, name preoccupied by GRAVENHORST, 1829.

D e s c r i p t i o n : ♀: Body length 7-8 mm. Flagella with 36-39 segments; preapical flagellomeres slightly longer than wide. Temples narrow, strongly narrowed behind eyes; head 2.4x wider than long. Distance of lateral ocelli to eyes 0.65-0.85x and between them 1.2-1.4x their diameter. Face moderately narrowed ventrally, finely rugose-punctate, minimal width 0.60x eye length. Malar space length 0.5x width of mandibular bases. Genal carinae moderately bent outwards ventrally, reaching hypostomal carinae shortly before mandibular bases in an acute angle. Hypostomal carinae slightly elevated.

Mesopleural discs granulate, with superficial punctures; specula granulate, matte; dorsal impressions strongly striate. Prepectal carina not elevated and not developed on the transversal parts. Metapleura finely rugose; coxal carinae  $\pm$  distinct. Propodeum with short basal carinae (area basalis + basal half of area superomedia); area petiolaris moderately impressed medially, apically with transverse ridges. Hind femora length 4.6x width; length of inner spurs of hind tibiae 0.65x hind metatarsus length. Areolets sessile; nervuli postfurcal; postnervuli intercepted below middle; external angles of discoidal cells acute ( $80^\circ$ ); nervelli of hind wing interstitial, more or less intercepted. 2<sup>nd</sup> tergite length 1.7x width, 3<sup>rd</sup> tergite length 0.9x width.

Colour: Black. Palps, mandibles except teeth and tegulae yellowish. Scapes partly reddish; flagella black. Postpetiolus apically, 2<sup>nd</sup> tergite subapically, 3<sup>rd</sup> tergite in apical 1/3-3/4 and sometimes all following tergites reddish. All coxae and hind trochanters black; fore and middle trochanters and trochantelli yellowish, sometimes black, hind trochantellus red or black; legs otherwise reddish; hind tibiae yellow basally, slightly darkened subbasally and in apical 0.3; hind tarsi except pale bases of metatarsi dark brownish. Pterostigmata brown.

♂: Metasoma with less extended reddish coloration, 2<sup>nd</sup> tergite apically and 3<sup>rd</sup> to 4<sup>th</sup> tergites mainly reddish-brown. Structure and colour otherwise as in the ♀.

Hosts: ?*Cabera pusaria* (LINNAEUS, 1758) (Lep. Geometridae) (EDI), *Hypena proboscidalis* (LINNAEUS, 1758) (Lep. Noctuidae) (EDI), *Idaea litigiosaria* (BOISDUVAL, 1840) (Lep. Geometridae) (EDI), *Lithosia* sp. (Lep. Noctuidae) (Linz), *Nudaria mundana* (LINNAEUS, 1761) (Lep. Noctuidae) (EDI).

Distribution: Austria, Bulgaria, Czechia, Denmark\*, France, Italy, Kirgistan\*, Norway\*, Russia (Moscow reg. and Siberia)\*, Sardinia\*, Serbia\*, Turkey\*, United Kingdom.

### ***Casinaria moesta* (GRAVENHORST, 1829) (figs 19, 37)**

*Campoplex moestus* GRAVENHORST, 1829: 599 ♀

Type lost (HORSTMANN 2000: 1207), interpretation according to the original description.

Description: ♀: Body length 6-8.5 mm. Flagella with 29-32 segments; 1<sup>st</sup> flagellomeres length 2.3x width; preapical flagellomeres square or slightly longer than wide. Temples narrow, strongly narrowed behind eyes; head width 2.3x length. Ocelli large, distance of lateral ocelli to eyes 0.7x and between them 1.7-2.0x their diameter. Face moderately narrowed ventrally, finely rugose-punctate, minimal width 0.63x eye length and 0.95x frontal width. Clypeus raised apically, in profile nose-like expanded. Malar space length 0.5x width of mandibular bases. Genal carinae strongly bent outwards and reaching mandibular bases in an angle of  $90^\circ$ , genae concave ventrally. Hypostomal carinae moderately elevated.

Mesopleural discs rugose, with superficial punctures, dorsal impressions and specula partly with coarse striation. Prepectal carina not elevated and not developed on the transversal part. Metapleura rugose; coxal carinae not developed. Propodeum with complete but fine carinae; area superomedia very wide (2x length); area petiolaris distinctly and widely impressed, with coarse transversal rugae. Hind femora length 5.0-5.2x width, length of inner spurs of hind tibiae 0.65x hind metatarsi length. Hind claws pectinate. Areolets stalked, 2<sup>nd</sup> recurrent veins distal to the middle; nervuli postfurcal;

postnervuli intercepted in middle; external angles of discoidal cells acute (70-80°); nervelli of hind wing somewhat reclivous, often intercepted in apical 0.7. 2<sup>nd</sup> tergite length (1.25)-1.4-1.5x-(1.9x) width, 3<sup>rd</sup> tergite length 0.7-0.8x (-1.0x) width, distance of thyridia from basal margin 1.0-1.5x their length.

Colour: Black. Palps brownish-yellow. Mandibles except teeth and tegulae blackish, tegulae sometimes reddish-brown. Subapical band of 2<sup>nd</sup> tergite, 3<sup>rd</sup> tergite and usually 4<sup>th</sup> tergite completely and sometimes 5<sup>th</sup> tergite basally red. All coxae and trochanters black; femora blackish, fore femora apically reddish; fore tibiae and tarsi reddish, yellow externally; middle and hind tibiae brownish to blackish, with cream yellow basal rings; middle and hind tarsi except yellowish bases of metatarsi dark brown. Pterostigmata pale to dark brown.

♂: Body length 6.5-8 mm. Flagella with 29-31 segments. Structure and colour otherwise as in ♀.

H o s t s : *Agriopis aurantiaria* (HÜBNER, 1799) (Lep. Geometridae) (EDI), *Agriopis marginaria* (FABRICIUS, 1776) (Lep. Geometridae) (EDI), *Cyclophora ?linearia* (HÜBNER, 1799) (Lep. Geometridae) (EDI), *Erannis defoliaria* (CLERCK, 1759) (Lep. Geometridae) (EDI, ZSM), *Hypomecis punctinalis* (SCOPOLI, 1763) (Lep. Geometridae) (EDI), *Lycia hirtaria* (CLERCK, 1759) (Lep. Geometridae) (EDI), *Lycia isabellae* (HARRISON, 1914) (Lep. Geometridae) (ZSM), *Selenia dentaria* FABRICIUS, 1775 (Lep. Geometridae) (EDI).

D i s t r i b u t i o n : Austria, Bulgaria\*, Czechia, France, Germany, Italy\*, Kazakhstan\*, Poland, Spain\*, Switzerland, United Kingdom.

### ***Casinaria morionella* HOLMGREN, 1860 (figs 4, 18, 31)**

*Casinaria morionella* HOLMGREN, 1860: 48 ♀♂

Types lost, interpretation according to original description and former authors.

D e s c r i p t i o n : ♀: Body length 6 mm. Flagella stout, with 23-26 segments; 1<sup>st</sup> flagellomeres length 3.0x width; preapical flagellomeres slightly wider than long. Temples narrow, strongly but roundly narrowed behind eyes; head 2.2-2.4x wider than long. Distance of lateral ocelli to eyes 0.9x and between them 1.6x their diameter. Face slightly narrowed ventrally, finely granulate, minimal width 0.67x eye length. Malar space length 0.3-0.5x width of mandibular bases. Genal carinae not bent outwards, obsolete ventrally, reaching hypostomal carinae far from mandibular bases in an acute angle of 70°. Hypostomal carinae not elevated.

Mesopleural discs finely granulate, not distinctly punctate (rarely with superficial punctures); specula granulate; dorsal impressions slightly developed, only with fine rows of granulae. Prepectal carina not elevated and absent on the transversal parts. Metapleura finely granulate; coxal carinae absent or sometimes partly present. Propodeum with complete strong carinae; area superomedia about as long as wide; area petiolaris slightly but very widely impressed, with irregular transversal rugae. Hind femora stout, length 3.9-4.0x width; length of inner spurs of hind tibiae 0.8x hind metatarsus length. Areolets stalked, 2<sup>nd</sup> recurrent veins distal of the middle; nervuli distinctly postfurcal; postnervuli intercepted below middle; external angles of discoidal cells acute (70-75°); nervelli of hind wing not or weakly intercepted in apical 0.8. 2<sup>nd</sup> tergite length 1.1-1.2x width; thyridia transversely oval or roundish, distance to basal margins 0.5-1x their diameter; 3<sup>rd</sup> tergite length 0.75-0.85x width.

Colour: Black. Palps, mandibles except teeth, tegulae and fore and middle trochantelli yellowish. Scapes and pedicels partly reddish. Metasoma black. Fore and middle coxae brownish to blackish, sometimes reddish frontally; legs otherwise red; hind femora sometimes darkened basally; hind tibiae red, usually yellowish-red (rarely reddish-brown) basally, pale brownish subbasally and in apical 0.2; hind tarsi dark brown, hind metatarsi narrowly yellow at base. Pterostigmata brown.

♂: Flagella with 26 segments, preapical flagellomeres slightly longer than wide. Sometimes fore and middle coxae  $\pm$  reddish. Sometimes scapes and pedicels reddish-yellow ventrally. Structure and colour otherwise as described for the ♀.

**H o s t s :** *Eupithecia abbreviata* STEPHENS, 1831 (Lep. Geometridae) (EDI), *Eupithecia absinthiata* (CLERCK, 1759) (Lep. Geometridae) (EDI), *Eupithecia dodoneata* GUENÉE, 1858 (Lep. Geometridae) (EDI), *Eupithecia insignata* (HÜBNER, 1790) (Lep. Geometridae) (EDI), *Eupithecia lanceata* (HÜBNER, 1825) (Lep. Geometridae) (EDI), *Eupithecia nanata* (HÜBNER, 1813) (Lep. Geometridae) (EDI), *Eupithecia subfuscata* (HAWORTH, 1809) (Lep. Geometridae) (EDI), ?*Lobophora halterata* HUFNAGEL, 1767 (Lep. Geometridae) (EDI), *Pterapherapteryx sexalata* (RETZIUS, 1783) (Lep. Geometridae) (EDI).

**D i s t r i b u t i o n :** Austria, Bulgaria, France, Germany, Greece\*, Netherlands\*, Norway, Italy\*, Sweden, United Kingdom.

### ***Casinaria nigripes* (GRAVENHORST, 1829) (fig. 48)**

*Campoplex nigripes* GRAVENHORST, 1829: 598 ♂

Types lost (HORSTMANN 2000: 1207), interpretation according to the original description.

syn. *Casinaria scutellaris* TSCHKE, 1871: 58 ♀

Holotypus: (♀) Type, 25.9.66, Piesting TSCHKE (Wien), studied by HORSTMANN.

syn. *Casinaria cingulata* Strobl, 1904: 68-69 ♀♂

Lectotypus: (♀) *C. cingulata*...Bruck ♂ Gesäuse...26/7 90 ♀ (Admont), studied by HORSTMANN.

**D e s c r i p t i o n :** ♀: Body length 9-12 mm. Flagella with 39-41 segments; 1<sup>st</sup> flagellomeres length 2.8x width; preapical flagellomeres length 1.2-1.5x width. Temples narrow, strongly narrowed behind eyes; head 2.3-2.4x wider than long. Distance of lateral ocelli to eyes 0.65-0.8x and between them 1.5x their diameter. Face moderately narrowed ventrally, finely rugose-punctate, minimal width 0.9x frontal width and 0.65x eye length. Malar space length 0.4x width of mandibular bases. Genal carinae strongly bent outwards ventrally, reaching mandibular bases in an angle of 90°; genae concave ventrally. Hypostomal carinae slightly elevated.

Mesopleural discs  $\pm$  rugulose-punctate; specula granulate; dorsal impressions strongly striate, striae sometimes reaching anterior margin of mesopleura. Prepectal carina not or slightly elevated, with a short but distinct dentiform or lamelliform elevation on transversal parts (similar to *Trychosis tristator* TSCHKE). Metapleura finely rugose or granulate, with some rugae ventrally; coxal carina indistinct. Propodeum with short basal carinae (area basalis); area petiolaris not strongly impressed, with fine irregular rugae. Hind femora slender, length 5.4-6.0x width; inner spurs of hind tibiae length 0.6x hind metatarsus length. Areolets with long stalk, 2<sup>nd</sup> recurrent veins in the middle; nervuli interstitial or slightly postfurcal; postnervuli intercepted in the middle, external angles of discoidal cells acute (80°); nervelli of hind wing strongly reclivous, not or weakly inter-

cepted. 2<sup>nd</sup> tergite length 2.0-2.3x width; thyridia roundish, distance to basal margins of tergite 1.5-2x their length; 3<sup>rd</sup> tergite length 1.1-1.2x width.

Colour: Black including flagella, tegulae and mandibles, tegulae sometimes reddish-yellow. 2<sup>nd</sup> tergite subapically or apically, and 3<sup>rd</sup> and 4<sup>th</sup> tergites, sometimes also 5<sup>th</sup> tergite  $\pm$  reddish. Coxae and trochanters black, sometimes fore trochanters yellowish; fore trochantelli, femora, tibiae and tarsi yellowish-red; middle femora brownish, apically as tibiae and tarsi yellow-red; hind femora blackish; hind tibiae yellowish basally, reddish-brown externo-medially, black subbasally and in apical 0.4, sometimes hind tibiae dark brown with cream-yellow bases.

♂: Flagella with 36-40 segments. Hind femora length 5.4x width. 2<sup>nd</sup> tergite length 2.0-2.1x width; 3<sup>rd</sup> tergite length 1.1x width. Structure and colour otherwise as in ♀.

Hosts: *Calliteara pudibunda* (LINNAEUS, 1758) (Lep. Noctuidae) (EDI, ZSM), *Lasiocampa quercus* (LINNAEUS, 1758) (Lep. Lasiocampidae) (EDI).

D i s t r i b u t i o n : Austria, Bulgaria\*, Czechia (Bohemia), France, Germany, Italy\*, Switzerland.

### ***Casinaria nigrotrochanterata* nov.sp. (figs 21, 40)**

Holotypus: (♀) Esp.-Alicante Moraira, 90 m, 6-13.v.1989 garrigue, réc. R. Wahis, Mal.trap (ZSM).

Paratypes: Specimens from same location: (4♂♂) 6-14.iv.1989, (♀ 2♂♂) 15-22.iv.1989, (♂) 6-13.v.1989, (♀) 14-22.v.1989, (♀♂) 29.ix.-1.x.1989, (3♂♂) 14-20.x.1989, (♂) 21-27.x.1989, (3♂♂) 28.x.-3.xi.1989, (♀ 2♂♂) 4-10.xi.1989, (♂) 20-27.xi.1989, (♂) 6-11.iii.1990, (♀ 2♂♂) 12-20.iii.1990, (5♂♂) 29.iii.-1.iv.1990, (♀ 2♂♂) 2-13.iv.1990 (ZSM and coll. RIEDEL); (♀) S Russia, Astrakhan red., Baskunshak lake, Bogdo Mt., 5-6 V 2002, leg. Osipov (coll. RIEDEL).

D e s c r i p t i o n : ♀: Body length 7-7.5 mm. Flagella with 30 segments; 1<sup>st</sup> flagellomeres length 3.3x width; preapical flagellomeres slightly longer than wide or square. Temples narrow, roundly narrowed behind eyes; head 2.1x wider than long. Distance of lateral ocelli to eyes 0.8-0.9x and between them 1.8-2.0x their diameter. Face slightly or moderately narrowed ventrally, finely rugose-punctate, minimal width 0.85-0.95x frontal width and 0.62x eye length. Malar space length 0.5x width of mandibular bases. Genal carinae not bent outwards ventrally, sometimes obsolete ventrally, reaching hypostomal carinae far from mandibular bases in an acute angle of c.70°. Hypostomal carinae not elevated.

Sides of pronotum with strong striation, punctate dorsally. Mesopleural discs coarsely punctate and granulate or finely rugulose, matte; specula finely granulate but shining; dorsal impressions strongly striate. Prepectal carina narrow behind fore coxae, absent on transversal parts. Propodeum rugose; area basalis carinate, slightly longer than wide; usually lateral carinae of area superomedia developed, area superomedia longer than wide. Area petiolaris moderately impressed, with transverse rugae centrally. Hind femora length 5.1x width; inner spurs of hind tibiae 0.7x as long as hind metatarsi. Hind claws pectinate. Areolets stalked, 2<sup>nd</sup> recurrent veins in the middle; radial cells very short, distal part of radial veins c.1.3x longer than the proximal one; nervuli slightly postfurcal; postnervuli intercepted in the middle; external angles of discoidal cells acute (75-80°); nervelli of hind wings slightly reclivous, not distinctly intercepted. 2<sup>nd</sup> tergite length c.2.5x width; thyridia roundish, distance to basal margins of tergite 2-2.5x their length; 3<sup>rd</sup> tergite length 1.2x width.

Colour: Black. Mandibles black, sometimes yellow. Palps and tegulae yellow. Metasoma blackish, tergites sometimes with narrow brownish hind margins. Coxae, trochanters and trochantelli black; trochanters and trochantelli with narrow yellow stripes apically; legs otherwise reddish; fore and middle tibiae ivory basally and externally; fore and middle tarsi  $\pm$  brownish; middle femora narrowly yellowish at base and  $\pm$  brownish caudally; hind femora chestnut-brown or blackish, narrowly yellowish at base; hind tibiae reddish or brown, blackish subbasally and apically, ivory basally, reddish-yellow or pale yellowish externo-medially; hind tarsi except narrow ivory bases of metatarsi blackish. Pterostigmata brown.

♂: Body length 5.5-7 mm. Flagella with 30-31 segments; all flagellomeres longer than wide. Malar spaces length 0.6x width of mandibular bases. Hind femora length 5.4x width. 2<sup>nd</sup> tergite length c.2.1x width; 3<sup>rd</sup> tergite length 1.2x width. Structure and colour otherwise as described for ♀.

H o s t s : unknown.

D i s t r i b u t i o n : Russia (Astrakhan region), Spain.

### ***Casinaria pallipes* BRISCHKE, 1880 (fig. 32)**

*Casinaria pallipes* BRISCHKE, 1880: 148 ♀♂

Types lost, interpretation according to the original description.

R e m a r k : This species resembles *C. stygia* TSCHKE but differs by the following features: metasoma stouter, preapical flagellomeres square or slightly longer than wide, sculpture of mesopleura slightly stronger, colour of hind tibiae paler, area superomedia wider, malar spaces longer.

D e s c r i p t i o n : ♀: Body length 5-6 mm. Flagella with 29 segments; 1<sup>st</sup> flagellomeres length 3.6x width; preapical flagellomeres slightly longer than wide or square. Temples narrow and strongly narrowed behind eyes; head 2.3-2.4x wider than long. Distance of lateral ocelli to eyes 0.6x and between them 1.3x their diameter. Face moderately narrowed ventrally, finely rugose-punctate, minimal width 0.72x eye length and 0.9x frons width. Malar space length 0.5x width of mandibular bases. Genal carinae not bent outwards and obsolete ventrally, reaching hypostomal carinae far from mandibular bases in an acute angle of 70°. Hypostomal carinae not elevated.

Mesopleural discs granulate and finely rugulose, superficially punctate; specula granulate, matte; dorsal impressions with fine striae. Prepectal carina narrow and absent on the transversal parts. Metapleura finely rugose; coxal carinae partly developed. Propodeum with complete carinae; area superomedia wider than long (2x), costulae usually absent; area petiolaris moderately impressed, with irregular rugae. Hind femora length 4.2-4.3x width; length of inner spurs of hind tibiae 0.67x hind metatarsus length. Areolets stalked, 2<sup>nd</sup> recurrent veins distal of middle; nervuli strongly postfurcal; postnervuli intercepted behind the middle; external angles of discoidal cells acute (70°); nervelli of hind wing intercepted in the apical 0.6-0.7. 2<sup>nd</sup> tergite length 1.0-1.1x width; thyridia usually transverse, distance to basal margins 0.5-1x their length; 3<sup>rd</sup> tergite length 0.65-0.75x width.

Colour: Black. Palps and mandibles yellow. Tegulae reddish-yellow. Scapes and pedicels often reddish or yellowish internally. All coxae black, fore and middle coxae sometimes reddish apically; trochanters and trochantelli reddish-yellow, hind trochantelli dark; fore

and middle legs reddish; fore and middle tibiae yellowish externally; hind femora reddish-brown or blackish; hind tibiae reddish, yellowish to ivory basally and externo-medially, brown subbasally and apically; hind tarsi except pale basal half of metatarsi brown. Pterostigmata brown.

♂: Flagella with 27-28 segments. Distance of lateral ocelli to eyes 0.6-0.9x and between them 1.4x their diameter. Hind femora length 4.1x width. 2<sup>nd</sup> tergite length 1.15x width; 3<sup>rd</sup> tergite length 0.70x width. Hind trochantelli yellow-red. Structure and colour otherwise as described for the ♀.

H o s t s : unknown.

D i s t r i b u t i o n : Austria\* and Germany.

### ***Casinaría paramorionella* nov.sp. (figs 22, 33, 41)**

Holotypus: (♀) L.15.IX.62 Kassel, [red] ex: *Tephroclystis actaeata* Wald. (Lep) (ZSM).

Paratypes: (20♀♀ 38♂♂) L. 15.IX.62 Kassel, [red] ex: *Tephroclystis actaeata* Wald. (Lep) (ZSM and coll. RIEDEL); (♀) L. 1.9.62 Kassel [red] ex: *Tephroclystis actaeata* Wald. (Lep) (ZSM); (4♀♀ 2♂♂) L. 23.VIII.1967 Göttingen, [red] ex: *Eupithecia actaeata* Wald. (Lep) (ZSM); (♀) L. 24.VIII.1967 Göttingen, [red] ex: *Eupithecia actaeata* Wald. (Lep) (ZSM); (♂) D. Obb Sachsenkam, Kirchseefilz, 19.7.1972 Haeselbarth (ZSM); (♂) Admont 1200 m Juni 1950 Heinrich leg. (ZSM); (♀) Suchsdorf, Kiel, Wald, 10.7.62 (ZSM).

Remark: This new species is closely related to *C. morionella* HOLMGREN, but was already separated by R. HINZ (unpublished). It differs slightly by the features mentioned in the key.

D e s c r i p t i o n : ♀: Body length 6-6.5 mm. Flagella stout, with 27 segments; 1<sup>st</sup> flagellomeres length 3.3x width; preapical flagellomeres slightly longer than wide or square. Temples narrow, strongly but roundly narrowed behind eyes; head 2.3x wider than long. Distance of lateral ocelli to eyes 0.8x and between them 1.5x their diameter. Face slightly narrowed ventrally, finely granulate, minimal width 0.6x eye length and 0.9x width of frons. Malar space length 0.3x width of mandibular bases. Genal carinae not bent outwards and obsolete ventrally, reaching hypostomal carinae far from mandibular bases in an acute angle of 70°. Hypostomal carinae not elevated.

Mesopleural discs finely granulate, without distinct punctures; specula granulate, matte; dorsal impressions slightly developed, only with fine rows of granulae. Prepectal carina narrow, absent on transversal parts. Metapleura finely granulate; coxal carinae absent. Propodeum with complete strong carinae; area superomedia as long as wide; area petiolaris slightly but widely impressed, with irregular transversal rugae. Hind femora length 4.3x width; length of inner spurs of hind tibiae 0.65x hind metatarsi length. Areolets usually sessile or shortly stalked, 2<sup>nd</sup> recurrent veins in the middle; nervuli postfurcal; postnervuli intercepted below the middle; external angles of discoidal cells acute (70-75°); nervelli of hind wing distinctly intercepted in apical 0.8. 2<sup>nd</sup> tergite length 1.05-1.1x width; distance of thyridia from basal margin 0.5-1x their length; 3<sup>rd</sup> tergite length 0.7x width.

Colour: Black. Palps, mandibles except teeth, and tegulae yellow. Scapes and pedicels partly reddish. Metasoma black. Legs reddish; fore and middle coxae and trochanters often reddish, rarely yellowish; hind coxae and trochanters black, rarely partly reddish; hind femora slightly darkened apically; hind tibiae reddish, yellowish externally, almost not darkened subbasally and apically; hind tarsi except yellow basal spots on hind metatarsi reddish. Pterostigmata yellowish-brown.

♂: Body length 6.5 mm. Flagella with 28-29 segments. Mesopleura granulate, with very fine superficial punctures; dorsal impressions with fine striation. Area superomedia slightly wider than long. Hind femora length 4.2x width. 2<sup>nd</sup> tergite length 1.2x width; 3<sup>rd</sup> tergite length 0.85x width. Scapes and pedicels yellow internally. Hind coxae and trochanters brownish. Structure and colour otherwise as described for the ♀.

H o s t : *Eupithecia actaeata* WALDERSDORFF, 1869 (Lep. Geometridae) (ZSM).

D i s t r i b u t i o n : Austria and Germany.

### ***Casinaria parvula* KRIECHBAUMER, 1894**

*Casinaria parvula* KRIECHBAUMER, 1894: 253 ♀

Types lost (HORSTMANN 1995: 54). The short original description is not sufficient for an unequivocal diagnosis, therefore this taxon remains uninterpreted so far.

### ***Casinaria petiolaris* (GRAVENHORST, 1829) (figs 5, 46)**

*Mesoleptus petiolaris* GRAVENHORST, 1829, II: 110 ♀

Type lost (AUBERT 1968: 186).

syn. *Casinaria claviventris* HOLMGREN, 1860: 49 ♀♂

Type lost (?), synonymized by PFANKUCH (1906: 83).

syn. nov. *Casinaria varians* TSCHEK, 1871: 55 ♀♂

Lectotypus: (♂) TSCHEK Piesting, 29/8 866 (Wien), studied by HORSTMANN.

**Description:** ♀: Body length 7-8 mm. Flagella with 33-34 segments; 1<sup>st</sup> flagellomere length 2.9-3.3x width; preapical flagellomeres slightly longer than wide. Temples narrow, moderately and roundly narrowed behind eyes; head 2.1-2.2x wider than long. Ocelli small, distance of lateral ocelli to eyes 1.1-1.3x and between them 1.7x their diameter. Face slightly narrowed ventrally, finely rugose-punctate, minimal width 0.68x eye length and 0.95 width of frons. Clypeus sometimes slightly protruding apically. Malar space length 0.4x width of mandibular bases. Genal carinae not bent outwards and obsolete ventrally, reaching hypostomal carinae near mandibular bases in an acute angle. Hypostomal carinae not elevated.

Mesopleural discs granulate and distinctly punctate, somewhat shining; specula granulate, matte; dorsal impressions with rows of granulae or fine striae. Prepectal carina not elevated and absent on the transversal parts. Metapleura finely rugose; coxal carinae not developed. Propodeum with basal carinae (area basalis+ basal part of area superomedia); area superomedia slightly longer than wide; area petiolaris slightly impressed, with fine irregular rugae. Hind femora length 4.5-5.4x width; length of inner spurs of hind tibiae 0.7x hind metatarsus length. Areolets stalked, 2<sup>nd</sup> recurrent veins proximal or distal of the middle; nervuli postfurcal; postnervuli intercepted below its middle; external angle of discoidal cells 90°; nervelli of hind wing reclivous, intercepted in apical 0.4-0.6. 2<sup>nd</sup> tergite length 1.2-1.5x width; thyridia roundish, distance to basal margins 0.5-1.0x their length; 3<sup>rd</sup> tergite length 0.65-0.85x width.

Colour: Black. Palps yellow-red to brownish. Mandibles except reddish teeth and tegulae brown to blackish. Postpetiolus usually red apically, 2<sup>nd</sup> tergite red in the apical 0.5-0.7, 3<sup>rd</sup> tergite completely red, 4<sup>th</sup> tergite completely red or with black apical margin, sometimes 5<sup>th</sup> tergite red basally. All coxae and trochanters black; trochantelli reddish; legs otherwise red, (middle) and hind femora narrowly infusate at apex; hind tibiae ± infusate basally and/or apically; hind tarsi except narrow yellow basal spots of metatarsi brown to black. Pterostigmata brown.

♂: Flagella with 33-35 segments, all flagellomeres longer than wide. Temples moderately narrowed behind eyes. Hind femora length 4.6-5.3x width. 2<sup>nd</sup> tergite length 1.05-1.3x width, 3<sup>rd</sup> tergite length 0.6-0.8x width. Hind femora completely red or infusate apically.

**Hosts:** *Coenonympha tullia* (MÜLLER, 1764) (Lep. Nymphalidae) (EDI), *Coenonympha pamphilus* (LINNAEUS, 1758) (Lep. Nymphalidae) (EDI), *Rebelia plumella* (OCHSENHEIMER, 1810) (Lep. Psychidae) (Linz).

**Distribution:** Austria, Bulgaria, Czechia (Moravia), Finland, France, Germany, Hungary, Italy, Norway, Russia (Caucasus and Tver reg.), Slovakia\*, United Kingdom.

***Casinaria pyreneator* AUBERT, 1960 nov.stat. (fig. 28)**

*Casinaria mesozosta* ssp. *pyreneator* AUBERT, 1960: 487-488 ♀♂

**Lectotypus:** (♀) 25.8.1958 Ville Amont (P.O.) (Lausanne), type studied and herewith designated.

**Paralectotypus:** (♂) 27.8.1958, Usines Paulilles (P.O.) (Lausanne), type studied and herewith designated.

syn. nov. *Casinaria flavicoxator* AUBERT, 1960: 488 ♀♂

**Lectotypus:** (♀) 25.8.1958 Ville Amont (P.O.) (Lausanne), studied and herewith designated.

**Paralectotypus:** (♂) 4.7.1933, Col de Pouade (P.O.) (Lausanne), studied and herewith designated.

**Description:** ♀: Body length 6-7 mm. Flagella with 31-34 segments; 1<sup>st</sup> flagellomeres length c.3.5x width; preapical flagellomeres about square. Temples narrow, moderately narrowed behind eyes; head 2.3x wider than long. Distance of lateral ocelli to eyes 0.7-0.8x and between them 1.6x their diameter. Face strongly narrowed ventrally, finely rugose-punctate, minimal width 0.6x eye length and 0.9x width of frons. Malar spaces length 0.4x width of mandibular bases. Genal carinae slightly bent outwards, weak ventrally, reaching mandibular bases in an acute angle. Hypostomal carinae not elevated.

Mesopleural discs granulate, with superficial punctures; specula granulate, matte; dorsal impressions with fine striae. Prepectal carina narrow, absent on transversal parts. Metapleura finely rugose; coxal carinae not developed. Propodeum with short basal carinae (usually area basalis+area superomedia), sometimes indistinct; area superomedia about as long as wide; area petiolaris slightly impressed medially, rugose. Hind femora length 4.5-5.1x width; length of inner spurs of hind tibiae 0.67x hind metatarsus length. Hind claws pectinate. Areolets stalked, 2<sup>nd</sup> recurrent veins slightly proximal or distal to middle; nervuli strongly postfurcal; postnervuli intercepted in or below its middle; external angles of discoidal cells acute (70-80°); nervelli of hind wing interstitial or slightly anteclivous, intercepted in the apical 0.7. 2<sup>nd</sup> tergite length 1.7-2.0x width; thyridia roundish, distance to basal margins almost 1.9-2x their length; 3<sup>rd</sup> tergite length 0.95-1.05x width.

**Colour:** Black. Palps, mandibles, usually scapes and pedicels ventrally, tegulae, fore and middle coxae, all trochanters and trochantelli yellow. Hind coxae black, yellowish apically, legs otherwise red; fore and middle tibiae and tarsi yellow externally; hind femora sometimes ± brownish; hind tibiae reddish, yellow externo-medially, and brown basally and apically; hind tarsi except ivory bases of metatarsi brownish. 2<sup>nd</sup> to 6<sup>th</sup> tergites reddish laterally and apically. Pterostigmata brownish.

♂: Body length 6-8 mm. Flagella with 30-34 segments, preapical flagellomeres longer than wide. 2<sup>nd</sup> tergite length 1.4-1.8x width; 3<sup>rd</sup> tergite length 1.0x width. 2<sup>nd</sup> to 3<sup>rd</sup> or 4<sup>th</sup> tergites reddish apically and laterally. Structure and colour otherwise as described for the ♀.

H o s t s : unknown.

D i s t r i b u t i o n : Austria\*, Bulgaria\*, Corsica, Denmark\*, Germany\*, France, Poland\*, United Kingdom\*.

### ***Casinaria scabra* THOMSON, 1887 (fig. 6)**

*Casinaria scabra* THOMSON, 1887: 1099 ♀

Lectotypus: (♀) Berck, Gall., *scabra* (Lund), type studied.

syn. *Casinaria sobrina* PFANKUCH, 1923: 87 ♀

Lectotypus: (♀) Triest 11.5.71 Krchb, 127, THOMSON i m. *rufimanus* THMS ♀ O.E. 1101, 10 (ZSM), actually not found in ZSM, synonymized by HORSTMANN (1986: 258).

syn. nov. *Casinaria alpina* THOMSON, 1887: 1100 ♂

Holotypus: (♂) 86/273, 42 (Lund), type studied.

D e s c r i p t i o n : ♀: Body length 6-7 mm. Flagella with 30-33 segments; 1<sup>st</sup> flagellomeres length 2.6x width; preapical flagellomeres slightly longer than wide. Temples narrow, strongly narrowed behind eyes. Ocelli small, distance of lateral ocelli to eyes 1.0-1.1x and between them 1.8-2.4x their diameter. Face moderately narrowed ventrally, finely rugose-punctate, minimal width 0.67x eye length. Malar space length 0.4-0.5x width of mandibular bases. Genal carinae not bent outwards and obsolete ventrally, reaching hypostomal carinae far from mandibular bases in acute angle of 70°. Hypostomal carinae ± elevated.

Mesopleural discs granulate or finely rugose, with ± distinct punctures; specula granulate, matte; dorsal impressions with moderately dense striae. Prepectal carina not elevated and absent on the transversal parts. Metapleura finely rugose; coxal carinae partly developed. Scutellum wider than long, with lateral carinae in basal 0.3. Propodeum with complete but fine carinae; area superomedia very wide (2x); area petiolaris moderately but very widely impressed, with irregular transversal rugae. Hind femora length 4.7x width; length of inner spurs of hind tibiae 0.7x hind metatarsus length. Areolets pointed or stalked, 2<sup>nd</sup> recurrent veins distal of middle; nervuli postfurcal; postnervuli intercepted behind the middle; external angles of discoidal cells c.90°; nervelli of hind wing not intercepted. 2<sup>nd</sup> tergite length 1.3-1.45x width, 3<sup>rd</sup> tergite length 0.8-0.95x width.

Colour: Black. Palps and tegulae yellowish. Mandibles black. 2<sup>nd</sup> tergite subapically, 3<sup>rd</sup> tergite completely and 4<sup>th</sup> tergite in basal 2/3 reddish. All coxae and trochanters black; legs otherwise reddish; hind femora sometimes infusate apically; hind tibiae reddish, with basal ivory ring, infusate subbasally and in apical 0.1-0.2; hind tarsi except basal ivory spots on metatarsi blackish. Pterostigmata brown.

♂: Flagella with 30-33 segments, preapical flagellomeres slightly longer than wide. Hypostomal carinae sometimes elevated. Area petiolaris centrally rather distinctly impressed. 2<sup>nd</sup> tergite length 1.2-1.8x width; 3<sup>rd</sup> tergite length 0.75-0.95x width. 2<sup>nd</sup> and 3<sup>rd</sup> tergites with apical red bands or 2<sup>nd</sup> tergite subapically and 3<sup>rd</sup> and 4<sup>th</sup> tergites completely reddish.

H o s t s : *Anarta myrtilli* (LINNAEUS, 1761) (Lep. Noctuidae) (EDI), *Ematurga*

*atomaria* (LINNAEUS, 1758) (Lep. Geometridae) (EDI), *Isturgia limbaria* (FABRICIUS, 1775) (Lep. Geometridae) (ZSM).

**Distribution:** Austria\*, Bulgaria, Czechia (Moravia), Germany, Hungary\*, Italy, Norway, Slovakia\*, United Kingdom\*.

***Casinaria stygia* TSCHEK, 1871 (figs 23, 34)**

*Casinaria stygia* TSCHEK, 1871: 54 ♀

Lectotypus: (♀) Type, 5.9.69, Piesting TSCHEK (Wien), studied by HORSTMANN.

**Description:** ♀: Body length 5-6 mm. Flagella with 24-29 segments; 1<sup>st</sup> flagellomeres length 2.7-3.1x width; preapical flagellomeres slightly wider than long or square. Temples moderately wide and narrowed behind eyes; head 2.1-2.2x wider than long. Distance of lateral ocelli to eyes 0.9-1.0x and between them 1.5-1.7x their diameter. Face moderately narrowed ventrally, finely rugose-punctate, minimal width 0.6x eye length and 0.8x frons width. Malar space length 0.3-0.4x width of mandibular bases. Genal carinae not bent outwards and obsolete ventrally, reaching hypostomal carinae far from mandibular bases in an acute angle of 70°. Hypostomal carinae slightly elevated.

Mesopleural discs granulate, with superficial punctures, sometimes ± shining; specula granulate, matte; dorsal impressions with moderately dense fine striae. Prepectal carina not elevated and absent on the transversal parts. Metapleura finely rugose or granulate; coxal carinae partly developed. Propodeum with complete carinae; area superomedia wider than long (c.1.4x), costulae partly distinct; area petiolaris not impressed, with irregular transversal rugae. Hind femora length 4.0-4.4x width; length of inner spurs of hind tibiae 0.63x hind metatarsus length. Areolets stalked, 2<sup>nd</sup> recurrent veins in the middle; nervuli strongly postfurcal; postnervuli intercepted in or behind the middle; external angles of discoidal cells acute (70°); nervelli of hind wing intercepted in apical 0.7. 2<sup>nd</sup> tergite length 1.0-1.25x width; distance of thyrida to basal margins 0.5-1x their length; 3<sup>rd</sup> tergite length 0.65-0.85x width.

Colour: Black. Palps and mandibles reddish-yellow. Tegulae yellow or ± blackish. Scapes and pedicels sometimes reddish internally. All coxae and trochanters black, except reddish-yellow hind trochantelli; sometimes fore and middle trochantelli ± yellowish; fore and middle legs otherwise reddish or blackish; fore and middle femora apically and fore and middle tibiae externally yellowish; hind femora blackish, sometimes with reddish-brown suffusion; hind tibiae reddish or brown, infusate subbasally and in apical 0.1-0.2, sometimes completely brown; hind tarsi except pale basal spot of metatarsi blackish. Pterostigmata brown.

♂: Flagella with 25-28 segments, preapical flagellomeres slightly longer than wide. Mesopleura finely granulate and ± shining, dorsal impression usually granulate, without distinct striae. 2<sup>nd</sup> tergite length 1.2x width, 3<sup>rd</sup> tergite length 0.75-0.8x width. Trochanters ± reddish.

**Hosts:** *Blastodacna hellerella* (DUPONCHEL, 1838) (Lep. Elachistidae) (EDI), *Holoterpna pruinosa* (STAUDINGER, 1897) (Lep. Geometridae) (ZSM), *Pseudoterpna pruinata* (HUFNAGEL, 1766) (Lep. Geometridae) (EDI).

**Distribution:** Austria, Germany, United Kingdom\*.

***Casinaria subglabra* THOMSON, 1887 (figs 7, 24)***Casinaria subglabra* THOMSON, 1887: 1101 ♀Lectotypus: (♀) Triest 22.5.71 Krchb., *rufimanus* Gr. ♀ *subglabra* Thms O.E. 1101,9 (ZSM), actually not found in ZSM.

**Description:** ♀: Body length 8 mm. Flagella with 34-35 segments; 1<sup>st</sup> flagellomeres length 2.5-2.9x width; preapical flagellomeres slightly longer than wide. Temples rather wide, slightly or moderately narrowed behind eyes; head 2.0x wider than long. Distance of lateral ocelli to eyes 1.0-1.1x and between them 1.8x their diameter. Face slightly narrowed ventrally, finely rugose-punctate, minimal width 0.7x eye length and 0.95x width of frons. Malar space length 0.3x width of mandibular bases. Genal carinae not bent outwards, obsolete ventrally, reaching hypostomal ones close to mandibular bases in acute angle of about 70°. Hypostomal carinae not elevated.

Mesopleural discs granulate, distinctly punctate; specula granulate, matte; dorsal impressions finely striate. Prepectal carina not or slightly elevated ventrally, absent on the transversal parts. Metapleura finely granulate and punctate; coxal carinae absent. Propodeum rugose, with basal carinae including area basalis and basal half of area superomedia; area superomedia c.1.5x longer than wide; area petiolaris slightly and widely impressed. Hind femora length 4.7x width; length of inner spurs of hind tibiae 0.6x hind metatarsus length. Areolets stalked, 2<sup>nd</sup> recurrent veins distal of middle; nervuli slightly postfurcal; postnervuli intercepted behind middle; external angles of discoidal cells c.90°; nervelli of hind wing intercepted in apical 0.6, sometimes not intercepted. 2<sup>nd</sup> tergite length 1.0-1.2x width, 3<sup>rd</sup> tergite length 0.6-0.7x width; distance of thyridia from tergite bases 0.5-1.0x its length.

Colour: Black. Palps, mandibles and tegulae brownish or blackish. 2<sup>nd</sup> tergite apically (with arched base), 3<sup>rd</sup> and 4<sup>th</sup> tergites completely reddish. All coxae and trochanters black; legs otherwise red; fore and middle femora red or fore femora basally and middle femora mainly black; hind femora completely black; hind tibiae red, widely infusate basally and apically; hind tarsi except yellowish bases of metatarsi blackish. Pterostigmata brownish.

♂: Flagella with 30-33 segments, preapical flagellomeres slightly longer than wide. Head 2.1x wider than long. Malar space length 0.5-0.7x width of mandibular bases. Area superomedia about as long as wide. Hind femora length 4.7x width. 2<sup>nd</sup> recurrent veins reaching areolets in the middle. Nervuli interstitial (rarely antefurcal); nervelli of hind wing interstitial, intercepted in apical 0.7. 2<sup>nd</sup> tergite length 1.1x width; 3<sup>rd</sup> tergite length 0.65x width. 3<sup>rd</sup> tergite red, with blackish base; hind tibiae blackish, with pale yellow stripe externo-medially. Otherwise as described for the ♀.

**Hosts:** unknown.

**Distribution:** Austria\*, Germany\*, Italy, Norway\*, and Sweden\*.

***Casinaria tegulata* nov.sp. (figs 27, 43)**

**Holotypus:** (♀) [red]118; Nürnberg 16.5.1952 (ZSM).

**Paratypes:** (♀) Schwäb.Alb/Heuberg, Stetten a.k.M., Schulfenster 1.10.1971, I.Wall (coll. RIEDEL); (♀♂♂) Traunstein 29.9.1961; 118 (ZSM); (♂) 28.9.1962 Traunstein (coll. RIEDEL); (♂) 13.9.1962 Traunstein (ZSM); (♂) 30.9.1961 Traunstein; 118 (ZSM); (♂) Traunstein, 1.10.1962; 118 (ZSM); (♂) 8.7.43 Orel (ZSM); (♂) 20.9.1961 Traunstein (ZSM); (♂♂) Mai '48 Haag; HEINRICH lg. (ZSM)

**Remark:** This new species is closely related to *C. tenuiventris* (GRAVENHORST), but was already separated by R. HINZ (unpublished, his spec. 118). It differs by the features given in the key.

**Description:** ♀: Body length (7.5) 8-10 mm. Flagella with 35-37 segments; 1<sup>st</sup> flagellomeres length 3.5x width; preapical flagellomeres square or slightly longer than wide. Temples narrow, roundly narrowed behind eyes, width c.0.6x eye width; head 2.4x wider than long. Distance of lateral ocelli to eyes c.1.0x and between them 1.6x their diameter. Face narrowed ventrally, rugose-punctate, minimal width 0.66x eye length and 0.9x width of frons. Malar space length 0.5x width of mandibular bases. Genal carinae strongly bent outwards ventrally, reaching at mandibular bases in an angle of c.90°. Hypostomal carinae not elevated.

Mesopleural discs granulate and ± punctate; specula granulate, matte; dorsal impressions finely striate; metapleura rugulose-punctate, in the ventral parts with some rugae; coxal carinae absent. Prepectal carina narrow, absent on transversal parts. Propodeum usually without carinae; area petiolaris slightly impressed, finely rugulose and with some transverse rugae apically. Hind femora length c.5.0x width; length of inner spurs of hind tibiae 0.8x hind metatarsus length. Hind claws pectinate. Areolet stalked, 2<sup>nd</sup> recurrent veins slightly basal of or in the middle; nervuli postfurcal; postnervuli intercepted in or behind its middle; external angles of discoidal cells acute (75-80°); nervelli of hind wing, reclivous, not intercepted. 2<sup>nd</sup> tergite length 1.6-1.8x width; distance of thyridia from basal margin 1.5-2x their length; 3<sup>rd</sup> tergite length 0.9-1.0x width.

Colour: Black. Palps reddish-yellow, often partly infusate; mandibles except reddish teeth and tegulae black. All coxae and trochanters black; legs otherwise red; hind tibiae ivory basally, red or reddish-yellow externo-medially, pale brownish subbasally and apically; fore and middle tarsi often partly infusate; hind tarsi except ivory base of hind metatarsi dark brown. Pterostigmata brown.

♂: Body length 7.5-9.5 mm. Flagella with 35-36 segments; 2<sup>nd</sup> tergite length c. 1.7-2.0x width; 3<sup>rd</sup> tergite length c.1.0x width. Structure and colour otherwise as described for the ♀.

**Hosts:** unknown.

**Distribution:** Germany, Russia.

### ***Casinaria tenuiventris* (GRAVENHORST, 1829) (fig. 25)**

*Campoplex tenuiventris* GRAVENHORST, 1829: 482 ♀♂

Lectotypus: (♂) Townes det. (Wroclaw), type studied by HORSTMANN.

syn. *Campoplex conicus* RATZBURG, 1844: 95 ♂

Types lost, synonymized by THOMSON (1887).

syn. *Casinaria latifrons* HOLMGREN, 1860: 50 ♀♂

Types lost, synonymized by THOMSON (1887).

syn. *Casinaria protensa* THOMSON, 1887: 1102 ♀♂

Lectotypus: (♂) *protensa* (Lund), synonymized by AUBERT (1964: 158), type studied by HORSTMANN.

**Description:** ♀: Body length 6.5-7.5 mm. Flagella with 29-32 segments; 1<sup>st</sup> flagellomeres length 3.6-4.0x width; preapical flagellomeres slightly longer than wide. Temples narrow, roundly narrowed behind eyes, width 0.5x eye width; head 2.2x wider than long. Ocelli small, distance of lateral ocelli to eyes 1.0x and between them 1.6-1.9x

their diameter. Face strongly narrowed ventrally, finely rugose-punctate, minimal width 0.57x eye length and 0.85x width of frons. Malar space length 0.3x width of mandibular bases. Genal carinae  $\pm$  bent outwards ventrally, reaching at mandibular bases in an angle of 80-90°. Hypostomal carinae not elevated.

Mesopleural discs granulate and  $\pm$  punctate (sometimes superficially); specula granulate, matte; dorsal impressions finely striate; metapleura rugulose-punctate, in the ventral parts with some rugae; coxal carinae absent. Prepectal carina narrow, absent on transversal parts. Propodeum with basal carinae (area basalis and 1/3 of area superomedia); area petiolaris not distinctly impressed, rugulose and with some transverse rugae apically. Hind femora length 4.5-4.8x width. Hind claws pectinate. Areolets stalked, 2<sup>nd</sup> recurrent veins distal of middle; nervuli postfurcal; postnervuli intercepted behind its middle; external angles of discoidal cells acute (80°); nervelli of hind wing reclivous, not intercepted. 2<sup>nd</sup> tergite length 1.8-2.2x width; distance of thyridia from basal margin 0.5-1x their length; 3<sup>rd</sup> tergite length 0.9-1.15x width.

Colour: Black. Palps reddish-yellow; mandibles except reddish teeth black, rarely yellow; tegulae yellow. All coxae and trochanters black; legs otherwise red; hind tibiae ivory basally, red or reddish-yellow externo-medially, pale brownish subbasally and apically; hind tarsi except ivory base of hind metatarsi dark brown. Pterostigmata brown.

♂: Body length 7-8 mm. Flagella with 29-35 segments; 1<sup>st</sup> flagellomere length 2.5x width; preapical flagellomeres about square. Distance of lateral ocelli to eyes 0.7x their diameter. Face slightly narrowed ventrally, finely rugose-punctate, minimal width 0.63x eye length and 0.95x width of frons. Malar space length 0.3x width of mandibular bases.

Mesopleural discs granulate and distinctly punctate; specula granulate, matte; dorsal impressions strongly striate. Prepectal carina not elevated and absent on transversal parts. Propodeum with basal carinae (area basalis and 1/3 of area superomedia); area petiolaris usually with rather deep and narrow central impression, the impression with transverse rugae. Hind femora length 4.5x width. Areolets stalked, 2<sup>nd</sup> recurrent veins in their middle; nervuli distinctly postfurcal; postnervuli intercepted behind its middle; external angles of discoidal cells acute (80°). 2<sup>nd</sup> tergite length 2.4x width; distance of thyridia from basal margin 2x their length; 3<sup>rd</sup> tergite length 1.05x width.

Colour: Black. Palps reddish-yellow; mandibles except reddish teeth black; tegulae yellow; scapes and pedicels sometimes reddish ventrally. All coxae and trochanters black; legs otherwise red; hind tibiae ivory basally and externo-medially, brownish subbasally and apically. Pterostigmata brown.

**H o s t s :** *Idaea serpentata* (SCHRANK, 1802) (Lep. Geometridae) (EDI), *Phibalapteryx virgata* HUFNAGEL, 1767 (Lep. Geometridae) (EDI).

**D i s t r i b u t i o n :** Austria, Bulgaria, Czechia (Bohemia, Moravia), France, Italy, Norway\*, Russia (Caucasus), United Kingdom.

### ***Casinaria trochanterator* AUBERT, 1960 (fig. 49)**

*Casinaria trochanterator* AUBERT, 1960b: 661 ♀♂

Lectotypus: (♀) Menton St.M. 9.9.1952 (Lausanne), type not studied, herewith designated.

Paralectotypus: (♂) 27.8.1954 Mt des Oiseaux (Var) (Lausanne), type studied, herewith designated.

**D e s c r i p t i o n :** ♀: Body length 6.5-7 mm. Flagella with 30-34 segments; 1<sup>st</sup>

flagellomere length 3.6-4.0x width; preapical flagellomeres slightly longer than wide or square. Temples narrow, strongly narrowed behind eyes; head 2.4x wider than long. Ocelli small, distance of lateral ocelli to eyes 1.1x and between them 1.7-1.8x their diameter. Face moderately narrowed ventrally, finely rugose-punctate, minimal width 0.55x eye length and 0.85x width of frons. Malar space length 0.3x width of mandibular bases. Genal carinae moderately bent outwards ventrally, reaching mandibular bases in an angle of almost 90°. Hypostomal carinae not elevated.

Mesopleural discs granulate and distinctly punctate; specula granulate, matte; dorsal impressions strongly striate. Prepectal carina strongly and lamelliform elevated ventrally, not notched medially, pleural parts narrow, absent on transversal parts. Metapleura rugose-punctate, ventrally with some rugae. Propodeum with basal carinae (area basalis and 1/3-1/2 of area superomedia); area superomedia wider than long; area petiolaris widely but slightly, sometimes stronger impressed, with rugae, with  $\pm$  transverse rugae or ridges in apical parts. Hind femora length 4.7-5.6x width; length of inner spurs of hind tibiae 0.65x hind metatarsus length. Areolets stalked, 2<sup>nd</sup> recurrent veins in or slightly distal to the middle; nervuli distinctly postfurcal; postnervuli intercepted behind middle; external angles of discoidal cells acute (80°); nervelli of hind wing reclinuous, not or weakly intercepted. 2<sup>nd</sup> tergite length 1.8-2.1x width; thyridia longer than wide or roundish, distance from basal margins 1.5x their length; 3<sup>rd</sup> tergite length 0.9-1.0x width.

Colour: Black. Palps reddish-yellow; scapes sometimes reddish ventrally; mandibles except reddish teeth and tegulae black, rarely tegulae reddish or yellow. Metasoma black, sometimes 3<sup>rd</sup> and 4<sup>th</sup> tergites with narrow reddish apical margins. All coxae and trochanters black; legs otherwise red; hind femora sometimes narrowly infusate at apex; hind tibiae yellowish basally, pale brownish subbasally and apically; middle tarsi apically and hind tarsi except pale bases of metatarsi blackish. Pterostigmata brown.

♂: Body length 7-7.5 mm. Flagella with 30-31 segments; preapical flagellomeres almost square. Head 2.1x wider than long. Malar spaces length 0.4x width of mandibular bases. Specula granulate, sometimes  $\pm$  shining. Hind femora length 4.7x width. 2<sup>nd</sup> tergite length 1.5-1.6x width; 3<sup>rd</sup> tergite length 0.85x width. Tegulae yellow or brownish. Hind femora narrowly infusate apically.

**Hosts:** *Camptogramma bilineata* (LINNAEUS, 1758) (Lep. Geometridae) (EDI), *Eupithecia* sp. (Lep. Geometridae) (EDI), *Lymantria dispar* (LINNAEUS, 1758) (Lep. Erebidae) (EDI), *Ortholitha plumbaria* FABRICIUS, 1775 (Lep. Geometridae) (EDI).

**Distribution:** Austria\*, Bulgaria\*, Czechia (Moravia)\*, Egypt\*, France, Germany\*, Hungary\*, Iran\*, Italy\*, Norway\*, Serbia\*, Slovakia\*, Spain\*, United Kingdom\*.

### Acknowledgment

This study had not been possible without the unpublished notes and reference collection of Klaus Horstmann. His notes and collection deposited in the ZSM were extensively used for this revision.

I would like to thank Stefan Schmidt (Munich/Germany) for the allowance to work in the large collection of ZSM. Also, I thank Mark Shaw (Edinburgh/Scotland) for the generous loan of the *Casinaria* material from the National Museums of Edinburgh with many reared specimens and Martin Schwarz (Linz/Austria) for his help during my visit in the Biozentrum Linz and loan of his

*Casinaria* material. For their loan of type material I thank Anne Freitag (Lausanne/Switzerland) and Christer Hansson (Lund/Sweden).

### Zusammenfassung

In der vorliegenden Arbeit werden die westpaläarktischen Arten der Gattung *Casinaria* HOLMGREN (Hymenoptera, Ichneumonidae, Campopleginae) revidiert.

27 Taxa werden als valide gewertet, diese Arten werden ausführlich beschrieben und illustriert und ein Bestimmungsschlüssel für die westpaläarktischen Taxa gegeben.

Acht Arten werden neu beschrieben: *Casinaria compressiventris* nov.sp., *Casinaria flagellator* nov.sp., *Casinaria hinzi* nov.sp., *Casinaria horstmanni* nov.sp., *Casinaria lamellata* nov.sp., *Casinaria nigrotrochanterata* nov.sp., *Casinaria paramorionella* nov.sp. und *Casinaria tegulata* nov.sp.

Neue Synonyme sind: *Casinaria affinis* TSCHEK, 1871, syn. nov. *Casinaria monticola* THOMSON, 1887 and *Casinariodes corsicator* AUBERT, 1961; *Casinaria albipalpis* (GRAVENHORST, 1829), syn. nov. *Casinaria excavator* AUBERT, 1963; *Casinaria petiolaris* (GRAVENHORST, 1829), syn. nov. *Casinaria varians* TSCHEK, 1871; *Casinaria pyreneator* AUBERT, 1960 stat.nov., syn. nov. *Casinaria flavicoxator* AUBERT, 1960; *Casinaria scabra* THOMSON, 1887, syn. nov. *Casinaria alpina* THOMSON, 1887.

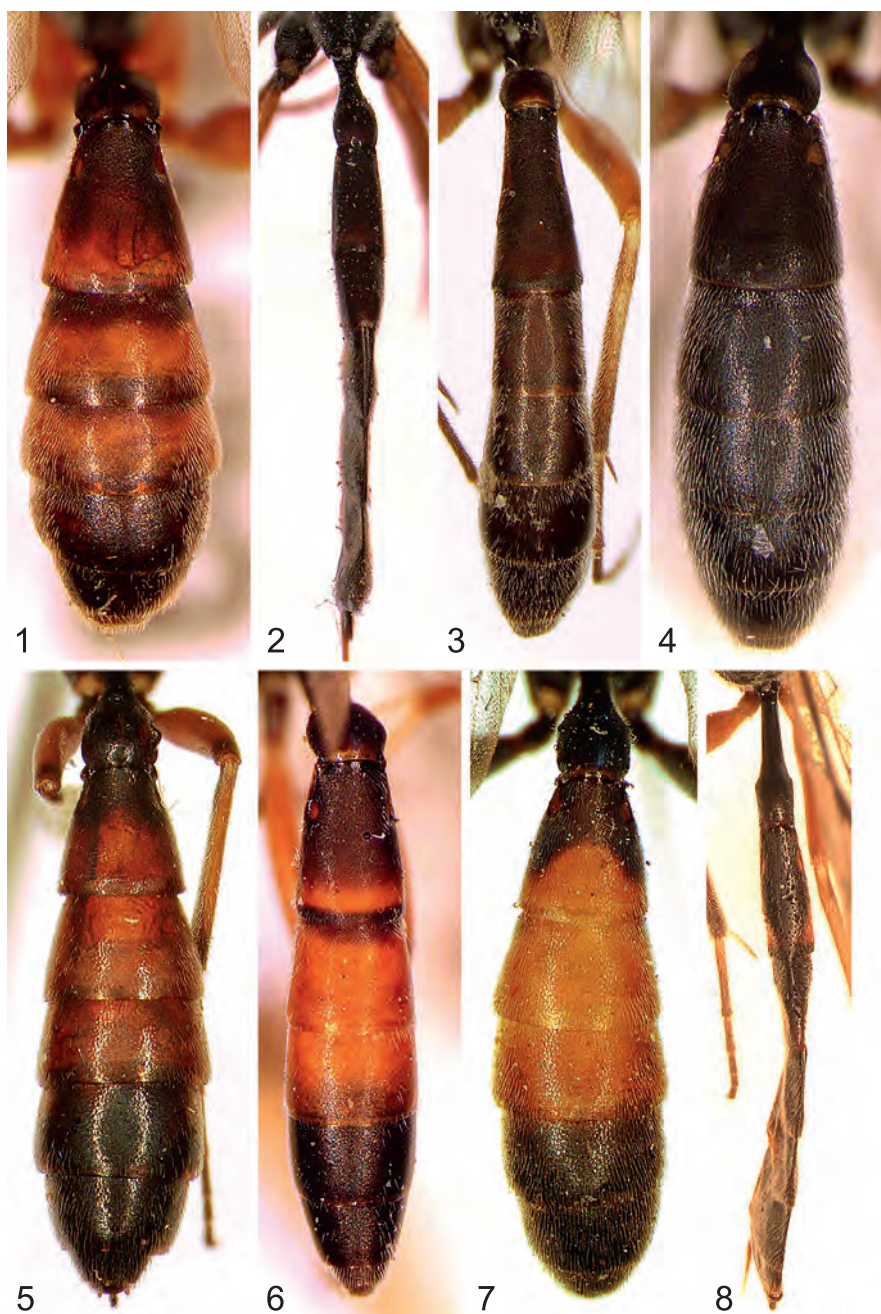
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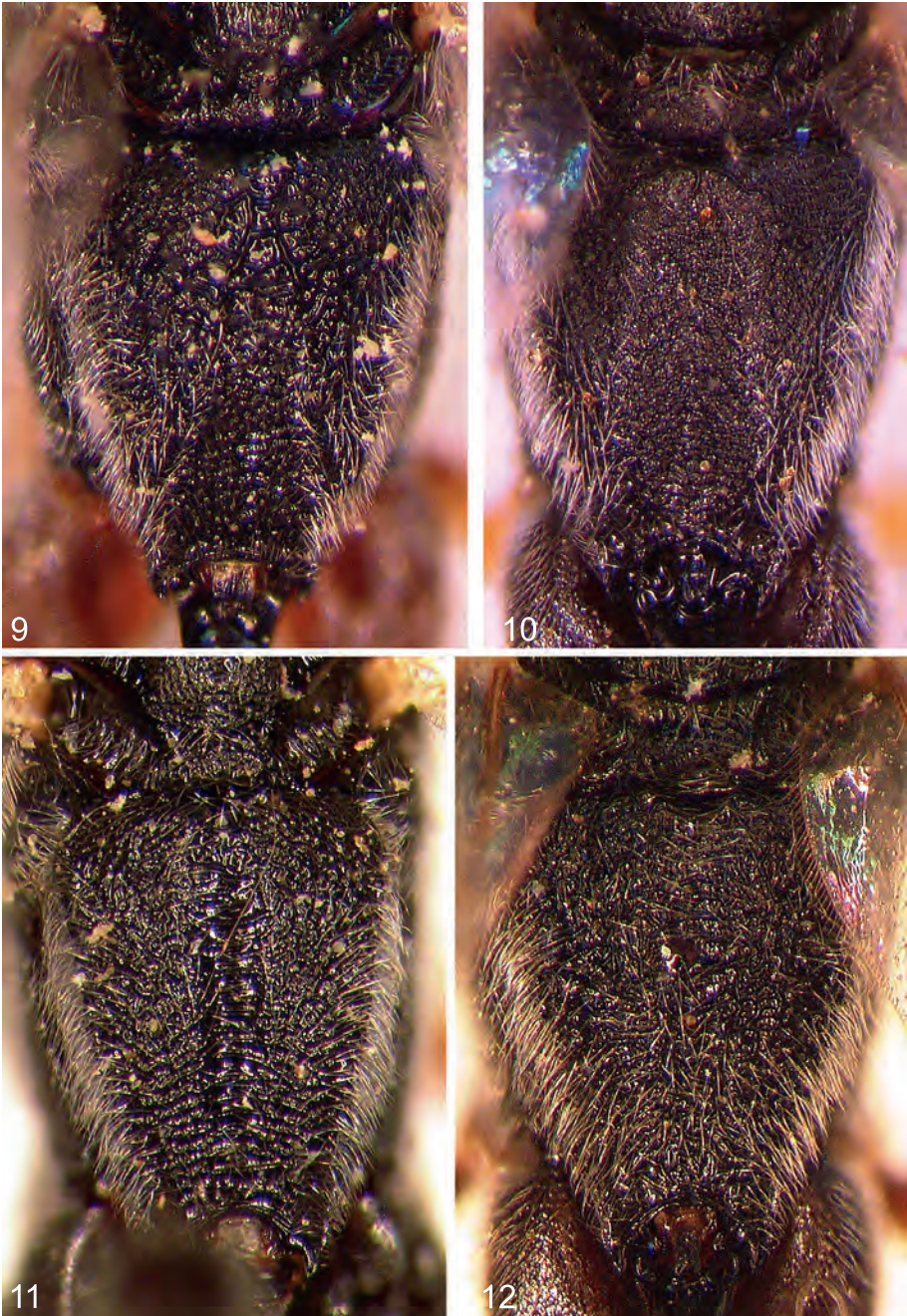
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**Figs 1-8:** Metasomas of ♀♀ of: (1) *Casinaria affinis* TSCHEK; (2) *C. cultellator* AUBERT; (3) *C. ischnogaster* THOMSON; (4) *C. morionella* HOLMGREN; (5) *C. petiolaris* (GRAVENHORST); (6) *C. scabra* THOMSON; (7) *C. subglabra* THOMSON; (8) *C. compressiventris* nov.sp. HT.



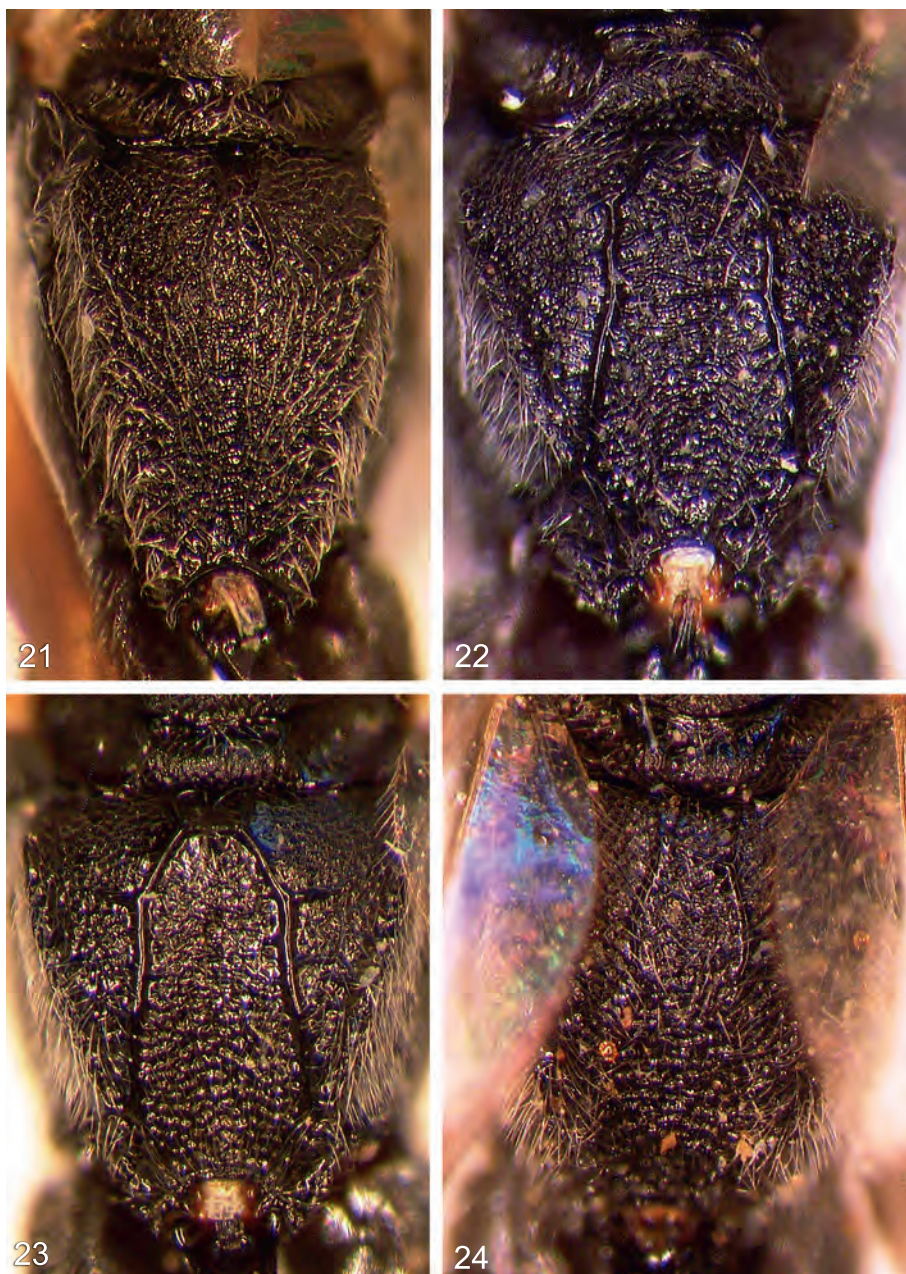
**Figs 9-12:** Propodea of ♀♀ of: (9) *Casinaria affinis* TSCHEK; (10) *C. albipalpis* (GRAVENHORST); (11) *C. cultellator* AUBERT; (12) *C. dubia* TSCHEK.



**Figs 13-16:** Propodea of ♀♀ of: (13) *Casinaria flagellator* nov.sp. HT; (14) *C. hinzi* nov.sp. HT; (15) *C. horstmanni* nov.sp. PT; (16) *C. krieckbaumeri* (COSTA).



**Figs 17-20:** Propodea of ♀♀ of: (17) *Casinaria meridionator* AUBERT; (18) *C. morionella* HOLMGREN; (19) *C. moesta* (GRAVENHORST); (20) *C. compressiventris* nov.sp. HT.



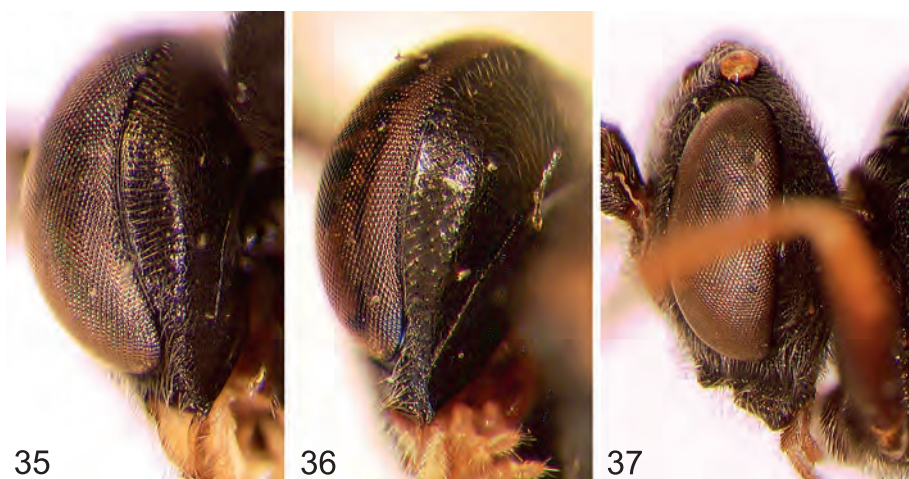
**Figs 21-24:** Propodea of ♀♀ of: (21) *Casinaria nigrotrochanterata* nov.sp. HT; (22) *C. paramorionella* nov.sp. PT; (23) *C. stygia* TSCHEK; (24) *C. subglabra* THOMSON.



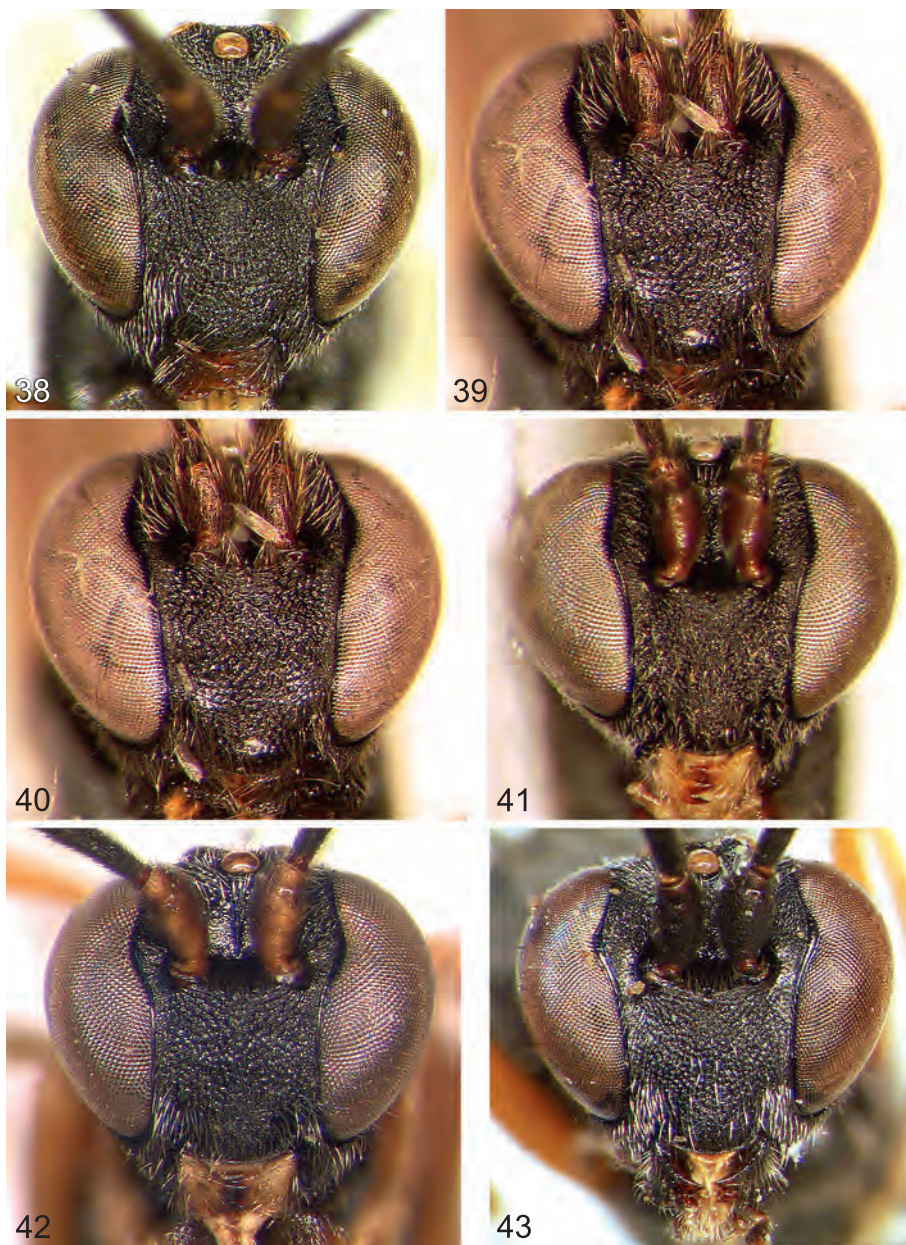
**Figs 25-28:** Propodea of ♀♀ of: (25) *Casinaria tenuiventris* (GRAVENHORST); (26) *C. petiolaris* (GRAVENHORST); (27) *C. tegulata* nov.sp. HT, (28) *C. pyreneator* AUBERT.



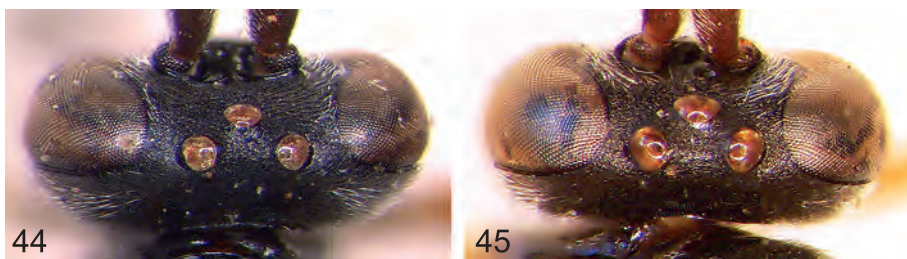
**Figs 29-34:** Tips of flagella of ♀♀: (29) *Casinaria affinis* TSCHEK; (30) *C. flagellator* nov.sp. HT; (31) *C. morionella* HOLMGREN; (32) *C. pallipes* BRISCHKE; (33) *C. paramorionella* nov.sp. HT; (34) *C. stygia* TSCHEK.



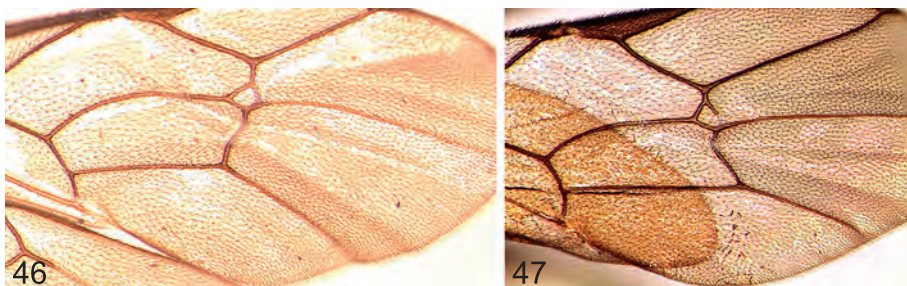
**Figs 35-37:** Heads from lateral of: (35) *Casinaria albipalpis* (GRAVENHORST); (36) *C. ischnogaster* THOMSON; (37) *C. moesta* (GRAVENHORST).



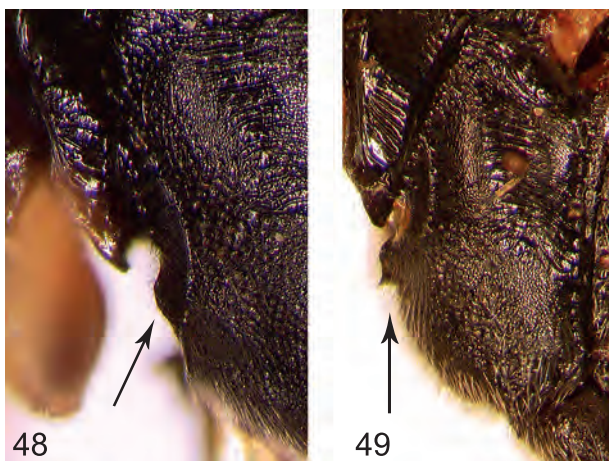
**Figs 38–43:** Faces of: (38) *Casinarina hinzi* nov.sp. HT; (39) *C. horstmanni* nov.sp. PT; (40) *C. nigrotrochanterata* nov.sp. HT; (41) *C. paramorionella* nov.sp. PT.; (42) *C. compressiventris* nov.sp. HT; (43) *C. tegulata* nov.sp. HT.



**Figs 44-45:** Head from dorsal of: (44) *Casinaria hinzi* nov.sp. HT; (45) *C. dubia* TSCHEK ♀.



**Figs 46-47:** Fore wings of: (46) *Casinaria petiolaris* (GRAVENHORST); (47) *C. dubia* TSCHEK ♀.



**Figs 48-49:** Prepectal carinae: (48) *Casinaria nigripes* (GRAVENHORST) ♀ with lamella on transversal part (arrow); (49) *C. trochanterator* AUBERT ♀ with elevated carina behind fore coxae (arrow).

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