

The holotypes of *Mesochorus* Gravenhorst at the Zoologische Staatssammlung München described by W. Schwenke

(Hymenoptera, Ichneumonidae, Mesochorinae)

Matthias Riedel

Riedel, M. 2019. The holotypes of *Mesochorus* Gravenhorst at the Zoologische Staatssammlung München described by W. Schwenke (Hymenoptera, Ichneumonidae, Mesochorinae). *Spixiana* 42(1): 61–131.

In this study, 117 holotypes of the genus *Mesochorus* Gravenhorst (Hymenoptera, Ichneumonidae, Mesochorinae) described by W. Schwenke and kept in the Zoologische Staatssammlung München are re-described in detail and illustrated.

The following new synonyms are proposed: *Mesochorus columbinus* Schwenke, 1999 is a synonym of *Mesochorus cimbicis* Ratzeburg, 1844; *Mesochorus bipartitus* Schwenke, 1999 and *Mesochorus cinctus* Schwenke, 1999 are synonyms of *Mesochorus curvulus* Thomson, 1886; *Mesochorus turbidus* Schwenke, 1999 is a synonym of *Mesochorus* (*Stictopisthus*) *formosus* Bridgman, 1882; *Mesochorus dilleri* Schwenke, 1999 is a synonym of *Mesochorus marginatus* Thomson, 1886; *Mesochorus roccanus* Schwenke, 1999 is a synonym of *Mesochorus* (*Stictopisthus*) *nemoralis* (Schwenke, 1999); *Mesochorus rufopetiolatus* Schwenke, 1999 and *Mesochorus sardegnae* Schwenke, 1999 are synonyms of *Mesochorus oppacheus* Schwenke, 1999; *Mesochorus söderlundi* Schwenke, 1999 is a synonym of *Mesochorus plumosus* Dasch, 1971 and *Mesochorus religiosus* Schwenke, 1999 is a synonym of *Mesochorus tipularis* Gravenhorst, 1829.

For *Mesochorus inversus* Schwenke, 1999 a lectotype is designated. The synonymy of *Mesochorus orbis* Schwenke, 1999 and *Mesochorus mellis* Schwenke, 1999 is rejected (stat. rev.).

Matthias Riedel, SNSB – Zoologische Staatssammlung München, Münchhausenstr. 21, 81247 München, Germany; e-mail: mamaflo.riedel@t-online.de

Introduction

The genus *Mesochorus* Gravenhorst is a very large genus of the subfamily Mesochorinae containing more than 300 taxa in the West Palearctic region (Yu et al. 2016). Most species are hyperparasitoids, but some cases of primary parasitism have been described so far (Quicke 2015).

Due to the large size of the genus and a rather uniformity of structure and colour in many species groups, a correct determination of the Palearctic *Mesochorus* species was nearly impossible in the past.

After first descriptions of *Mesochorus* species in the 19th century by authors such as Gravenhorst,

Holmgren and Thomson, the taxonomy of the Mesochorinae has long been neglected. In the last decades of the 20th century, W. Schwenke was able to study and determine large collections of Mesochorinae resulting in the description of 206 new *Mesochorus* species from the West Palearctic region in his revision (Schwenke 1999) supplemented by some additions in the following years (Schwenke 2000, 2002, 2004). But as already been shown by the first subsequent studies (Horstmann 2002, 2003, 2006, Vikberg & Vårdal 2017), his work is not more than a first important step to a modern taxonomy of the Palearctic *Mesochorus* taxa.

Although Schwenke's studies were large improvements of our knowledge of this large genus, his revisions are difficult to use in practice due to very short descriptions and an almost complete lack of illustrations. The usefulness of his determination keys is even more complicated by the fact that Schwenke had estimated many important morphological features (such the relations of length of ovipositor sheaths to hind metatarsi, length of temples related to eyes, size of lateral ocelli etc.) by eye-ball guessing (K. Horstmann and K. Zwakhals, pers. comm.) but he did not measure these relations. As a result, some of these estimates are questionable or even incorrect leading to wrong paths in his short determination keys (Riedel 2018b).

Therefore, it seemed necessary to re-study his types in greater detail in order to stabilize the taxonomy of this difficult genus. Here, I present the first results of my revision dealing with the holotypes described by W. Schwenke that are kept in the Zoologische Staatssammlung München (ZSM).

Material and methods

For the descriptions and figures below, I used the holotypes, even if paratypes were present in the collection of the ZSM. Therefore, the variability of taxa is not addressed here. For all holotypes missing parts are mentioned. The data for missing parts were rarely supplemented by paratypical material or by the informations published by Schwenke, this is always mentioned in the text.

Length of flagellomeres was measured in lateral view (length of 1st flagellomeres without anelli) and width of flagellomeres in the distal 0.8 of flagella. Length of temples and width of eyes were measured in dorsal view, facial width and combined length of face and clypeus in frontal view, and length and width of femora, metatarsi and ovipositor sheaths in lateral view. A correct measurement of the pterostigma width is often hampered by a more or less strong fold of the frontal wing margin, so the relations could not always been estimated correctly. The pectination of claws is often difficult to see (especially in basal parts of the claws) and would usually require preparation and further analysis with a compound microscope (see Vikberg & Vårdal 2017). Here, I noted the visible pectination of the hind claws (usually the outer ones) of types seen in a stereo microscope at 70× magnification. For the description of the punctuation of body parts the following relations were used: scattered – distances larger than diameter of punctures; rather dense – diameter of punctures approximately as their distance; dense – punctures larger than their distances. The following indices were used in the descriptions: OOD – distance of lateral ocelli to eye in relation to their diameter; MI – length of malar spaces related to width of mandibular bases.

For the measurements below an Olympus® SZX 7 stereo microscope was used with a dividing eyepiece. The figures were taken with an Olympus® SC 30 CCD-camera using the AnalySIS getIT® and Helicon® Focus Pro softwares and processed with the Microsoft® Office Picture manager.

Descriptions of species

1. *Mesochorus agnellonis* Schwenke, 1999

Holotype (♀): Italia, Piemonte Pontechianale CN Colle Agnello m 2050 2.VIII.1986 Scaramozzino (Figs 1, 98).

Description

Missing: Left flagellomeres from 3rd on.

Body length 5 mm. Flagella with 37 flagellomeres, preapical ones c. 2× longer than wide; 1st flagellomeres length 7.5× width and 0.64× eye length; 2nd flagellomeres length 5.0× width. Temples strongly narrowed behind eyes, length 0.5× eye width. OOD 0.6. Face width 1.0× length of clypeus + face and 0.8× eye length, sides slightly convergent ventrally, punctate. Mandibles with two equal-sized teeth. MI 0.3. Malar spaces, ventral 0.4× of facial orbits and mandibular bases finely striate. Genal carinae joining hypostomal ones close to mandibular bases (distance 0.3× length of malar space). Mesopleura with rather coarse and dense punctures ventrally. Area basalis narrowly triangular, c. 2.3× longer than wide; area supermedia length 2.4× width and 1.25× length of area petiolaris, costulae in frontal 0.35; area petiolaris length 1.1× width. Hind femora length 5.2× width; hind metatarsi length 0.41× length of hind tibiae; apical tarsomeres slightly swollen; hind claws with short basal teeth. Areolets pointed, oblique, 2nd recurrent veins strongly proximal to their middle, nervuli interstitial; length of pterostigmata 3.6× width, radial veins in their distal 0.65. 1st tergite length 3.0× width; postpetiolus smooth; 2nd tergite length 0.95× width; thyridia large, roundish. Ovipositor sheaths densely pilose, slightly sabre-shaped, length 6.3× width and 0.9× length of hind metatarsi, narrowed in apical 0.4.

Colour: Flagella reddish, slightly darkened apically. Head reddish; malar spaces and ventral facial orbits cream-yellowish; ocellar field and occiput dorsally brownish. Mesosoma reddish-brown; mesoscutum with two lateral and one fronto-medial brownish longitudinal stripes. Metasoma reddish-brown. Legs reddish. Pterostigmata hyaline-yellow.

Remark: The species belongs to the *fulvus* group sensu Schwenke (1999: 68–71) and is characterized by the slightly swollen apical tarsomeres and genal carinae joining hypostomal ones close to mandibular bases.



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Figs 1–16. Ovipositor sheaths of the holotypes. 1. *Mesochorus agnellonis*; 2. *M. albarascae*; 3. *M. alternus*; 4. *M. amplitudinis*; 5. *M. argus*; 6. *M. arietinus*; 7. *M. baueri*; 8. *M. bavaricus*; 9. *M. betuletus*; 10. *M. bicolor*; 11. *M. bipartitus*; 12. *M. boreus*; 13. *M. bulgaricus*; 14. *M. cacuminis*; 15. *M. calidus* (paratype); 16. *M. caliginosus*.

2. *Mesochorus albarascae* Schwenke, 1999

Holotype (♀): Piemonte (Al) Albarasca m 519, Berlo legit (Fig. 2).

Description

Missing: Right fore leg.

Body length 4.5 mm. Flagella with 38 flagellomeres, preapical ones c. $2\times$ longer than wide; 1st flagellomeres length $5.5\times$ width and $0.62\times$ eye length; 2nd flagellomeres length $3.7\times$ width. Temples strongly and almost linearly narrowed, length $0.42\times$ eye width. OOD 0.95–1.0. Sides of frons with fine transversal aciculation. Face width $1.18\times$ length of clypeus + face and $0.9\times$ eye length, with parallel sides. Ventral 0.3 of facial orbits and malar spaces striate. MI 0.4. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis almost rectangular, c. $2\times$ longer than wide; area superomedia length $2.0\times$ width, costulae in frontal 0.4; area petiolaris as long as wide. Hind femora length $4.5\times$ width; hind metatarsi length $0.47\times$ length of hind tibiae; hind claws with 4–5 basal teeth. Areolets shortly stalked, 2nd recurrent veins in their middle; nervuli interstitial. Length of pterostigmata $2.8\times$ width, radial veins in their distal 0.65. 1st tergite length $2.7\times$ width; postpetiolus smooth; 2nd tergite length $0.92\times$ width. Thyridia transverse-oval. Ovipositor sheaths length $6.7\times$ width and $0.95\times$ length of hind metatarsi, pilose, narrowed in apical 0.4.

Colour: Flagella reddish. Face, clypeus, mandibles and outer orbits reddish; inner orbits, malar spaces and genae cream-yellow; frons medially, ocellar space and occiput partly brown. Mesosoma reddish; hind edges of pronotum, tegulae and wing bases cream-yellow. Mesoscutum brownish-red, with yellowish-red H-shaped central spot. 1st tergite black; 2nd tergite black, reddish in apical 0.3; following tergites reddish. Ovipositor sheaths brown. Legs reddish; hind tibiae slightly and narrowly darkened basally and apically. Pterostigmata dark brown, pale proximally.

Remark: The species is correctly placed in the key of the *orbitalis* group (Schwenke 1999: 62–63). It is characterized by the strong transverse striation of frontal orbits.

3. *Mesochorus alternus* Schwenke, 1999

Holotype (♀): Umgeb. Linz, O.Öst. 19.5.27 Dr. H. Priesner (Figs 3, 99).

Description

Missing: Left flagellomeres from 2nd on, right flagellomeres from 5th on.

Body length 7 mm. 1st flagellomeres length $7.3\times$ width and $0.7\times$ eye length; 2nd flagellomeres length $4.6\times$ width. Temples strongly narrowed behind eyes, length $0.4\times$ eye width. OOD 1.1. Face width $0.96\times$ length of clypeus + face and $0.87\times$ eye length, with parallel sides. Malar spaces and ventral third of facial orbits striate. MI 0.5. Mandibles with two equal-sized teeth. Mesopleura with scattered punctures ventrally. Area basalis narrowly trapezoid, c. $2\times$ longer than wide; area superomedia length $2.4\times$ width and $1.3\times$ length of area petiolaris, costulae in frontal 0.3; area petiolaris length $0.95\times$ width. Hind femora length $5.7\times$ width; hind metatarsi length $0.53\times$ length of hind tibiae; hind claws with 4 long teeth. Areolets pointed, 2nd recurrent veins slightly proximal to their middle; nervuli slightly postfurcal ($1\times$ width); length of pterostigmata $3.3\times$ width, radial veins in their distal 0.68. 1st tergite length $3.5\times$ width; postpetiolus smooth; 2nd tergite length $1.15\times$ width; thyridia roundish. Ovipositor sheaths pilose, length $6.8\times$ width and $0.75\times$ length of hind metatarsi, narrowed in apical 0.4.

Colour: Black. Bases of flagella yellowish. Face dark brownish; orbits, clypeus, malar spaces and genae yellow-red. Mesosoma black; mesopleura, mesoscutum and scutellum dark red-brown; mesosterna reddish; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma black; 2nd tergite yellow in apical 0.15; 3rd and 4th tergites (brownish)-red, with diffuse brownish suffusions; following tergites black. Legs reddish-yellow; hind tibiae cream-yellow, blackish in apical 0.2; hind tarsi yellowish. Pterostigmata pale ochreous, with darker margins.

Remark: Due to its short ovipositor sheaths, this taxon runs to *Mesochorus tarnabyanus* Schwenke (no. 36) in the key of the *pectoralis* group (Schwenke 1999: 95–98), but differs by its scattered punctures of mesopleura.

4. *Mesochorus amplitudinis* Schwenke, 1999

Holotype (♀): I, BZ, Feldthurns 1200 m, 11.9.1978 E. Haeselbarth (Figs 4, 100).

Description

Missing: Left flagellomeres from 16th on and right flagellomeres from 25th on.

Body length 3.9 mm. 1st flagellomeres length $5.2\times$ width and $0.57\times$ eye length; 2nd flagellomeres length $3.6\times$ width; preapical ones c. $1.5\times$ longer

than wide. Temples rather strongly but roundly narrowed behind eyes, length $0.95 \times$ eye width. OOD 1.8. Face width $1.1 \times$ length of clypeus + face and $1.05 \times$ eye length, strongly punctate, with parallel sides. Malar spaces striate. MI 0.5. Mandibles with two equal-sized teeth. Mesopleura with dense and coarse punctures ventrally. Area basalis triangular, about as long as wide; area superomedia length $2.4 \times$ width and $1.6 \times$ length of area petiolaris, costulae in frontal 0.35; area petiolaris length 1.0 width. Hind femora length $4.7 \times$ width; hind metatarsi length $0.48 \times$ length of hind tibiae; hind claws with c. 4 teeth in basal $\frac{2}{3}$. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $3.2 \times$ width, radial veins in their distal 0.64. 1st tergite length $2.9 \times$ width; postpetiolus with fine striae; 2nd tergite length $0.85 \times$ width; thyridia roundish. Ovipositor sheaths pilose, length $6.0 \times$ width and $1.0 \times$ length of hind metatarsi, slightly narrowed in apical 0.3.

Colour: Black. Flagella brown. Head including face black; clypeus reddish; narrow facial orbits and large spot opposite to lateral ocelli diffusely reddish; mandibles except teeth cream-yellow; malar spaces reddish-yellow. Mesosoma blackish; hind edges of pronotum, tegulae and wing bases cream-yellow. 1st and 2nd tergites black; 2nd tergite with apical reddish-yellow band in apical 0.25; 3rd tergite reddish-yellow, more greyish apically; following tergites brown. Ovipositor sheaths black. Legs reddish-yellow; hind coxae reddish-brown. Pterostigmata ochreous.

Valid name: *Mesochorus punctipleuris* Thomson, 1886; synonymized by Horstmann (2002: 87).

5. *Mesochorus argus* Schwenke, 1999

Holotype (♀): Piemonte (AI) Albarasca m 519, Berio legit (Figs 5, 101).

Description

Missing: Tip of right flagellum broken off, otherwise complete.

Body length 5.5 mm. Left flagellum with 35 flagellomeres, preapical ones $2 \times$ longer than wide; 1st flagellomeres length $6.5 \times$ width and $0.62 \times$ eye length; 2nd flagellomeres length $4.5 \times$ width. Temples strongly narrowed behind eyes, length $0.45 \times$ eye width. OOD 0.55. Face width $1.0 \times$ length of clypeus + face and $0.82 \times$ eye length, with parallel sides. Ventral 0.5 of facial orbits and malar spaces striate. MI 0.2. Mandibles with two equal-sized teeth. Mesopleura with rather dense but superficial punctures ventrally. Areae basalis and superomedia confluent; area superomedia length $2.3 \times$ width,

costulae in frontal 0.3; area petiolaris length $1.1 \times$ width. Hind femora length $4.6 \times$ width; hind metatarsi $0.46 \times$ as long as hind tibiae; hind claws with 4–5 teeth (2nd or 3rd tooth longest). Areolets oblique, sessile, 2nd recurrent veins proximal their middle; nervuli interstitial; length of pterostigmata $3.4 \times$ width, radial veins in their distal 0.65. 1st tergite length $2.6 \times$ width; postpetiolus with weak central impression; 2nd tergite length $1.1 \times$ width, thyridia transverse-oval. Ovipositor sheaths pilose, almost not narrowed apically, length $5.7 \times$ width and $0.82 \times$ length of hind metatarsi.

Colour: Black. Face blackish; clypeus reddish; facial orbits (ventrally widely, dorsally narrowly), ventral 0.5 of frontal orbits, mandibles except teeth, malar spaces and genae cream-yellow. Upper frontal orbits yellowish, outer orbits narrowly reddish. Mesosoma brownish-red; frontal margins and hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with indistinct H-shaped central yellow-red mark; scutellum reddish; propodeum and metapleura dark brown. Metasoma black; 1st sternite dark-reddish basally; 2nd and 3rd tergites with dark reddish-brown suffusion; 2nd tergite with yellowish hind margin. Legs reddish; fore and middle coxae and all trochanters yellowish; hind tibiae yellowish, brownish in apical 0.1 ($0.5 \times$ width). Pterostigmata hyaline.

Remark: The species runs correctly to no. 5 in the key of the *orbitalis* group (Schwenke 1999: 72–73), but the mesopleura are brownish-red, not black.

6. *Mesochorus arietinus* Schwenke, 1999

Holotype (♀): *Zygaena ephialtes*, Belá ... 70 (Figs 6, 102).

Description

Missing: Left flagellomeres from 17th on, right antenna.

Body length 3.5 mm. 1st flagellomeres length $6.5 \times$ width and $0.7 \times$ eye length; 2nd flagellomeres length $4.3 \times$ width. Temples strongly narrowed behind eyes, length $0.5 \times$ eye width. OOD 1.6. Face width $1.14 \times$ length of clypeus + face and $1.0 \times$ eye length, sides parallel. MI 0.4. Malar spaces and ventral 0.5 of facial orbits striate. Mandibles with two equal-sized teeth. Mesopleura with rather coarse scattered hair-punctures ventrally. Area basalis almost triangular, slightly longer than wide; area superomedia length $1.4 \times$ width and $0.8 \times$ length of area petiolaris, costulae in frontal 0.45; area petiolaris length $1.05 \times$ width. Hind femora length $4.2 \times$ width; hind metatarsi length $0.52 \times$ length of hind tibiae. Areolets sessile, 2nd recurrent veins slightly proximal to their mid-

dle; nervuli postfurcal by $1 \times$ their width; length of pterostigmata $3.5 \times$ width, radial veins in their distal 0.66. 1st tergite length $2.5 \times$ width, postpetiolus with some rugae; 2nd tergite length $0.9 \times$ width; thyridia transverse-oval. Ovipositor sheaths with sparse hairs, stab-shaped, length $11.1 \times$ width and $1.06 \times$ length of hind metatarsi, slightly bent upwards in apical half.

Colour: Reddish. Flagella ochreous. Head reddish; ocellar field brownish. Mesosoma reddish; propodeum brown; frontal and upper margins of pronotum yellowish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum reddish with two yellowish stripes. 1st tergite black, red basally; 2nd tergite with arched yellow band in apical 0.5; 3rd tergite yellowish in baso-medial 0.5, brown apically; following tergites brown. Legs yellow; hind tibiae yellow, basally and in apical 0.15 ($1 \times$ width) brownish. Pterostigmata hyaline.

Remark: This species is correctly placed in the *dispar* group (Schwenke 1999: 48-51), but the ovipositor sheaths are slightly longer than the hind metatarsi.

7. *Mesochorus baueri* Schwenke, 1999

Holotype (♀): 4 *Microgaster* 17 *Mesochorus* ex *Zygaena* Hartmann 7.88 (Figs 7, 103).

Description

Missing: Left flagellomeres from 7th on, right flagellomeres from 22nd on.

Body length 3.8 mm. 1st flagellomere length $6.6 \times$ width and $0.69 \times$ eye length; 2nd flagellomeres length $4.1 \times$ width. Temples roundly narrowed behind eyes, length $0.5 \times$ eye width. OOD 1.8. Face width $1.2 \times$ length of clypeus + face and $1.1 \times$ eye length, sides parallel. MI 0.9. Malar spaces and ventral 0.4 of facial orbits striate. Mandibles with two equal-sized teeth. Mesopleura rather densely punctate ventrally. Area basalis almost triangular, c. $1.5 \times$ longer than wide; area superomedia length $1.6 \times$ width and $1.0 \times$ length of area petiolaris, costulae in frontal 0.4; area petiolaris length $1.15 \times$ width. Hind femora length $4.2 \times$ height; hind metatarsi length $0.52 \times$ length of hind tibiae. Areolets pointed, 2nd recurrent veins proximal to their middle; nervuli slightly postfurcal ($1 \times$ width); length of pterostigmata $3.3 \times$ width (frontal margins more or less folded), radial veins in their distal 0.6. 1st tergite length $2.8 \times$ width, postpetiolus with central rim; 2nd tergite length $0.78 \times$ width; thyridia transverse-oval. Ovipositor sheaths stab-shaped, with sparse hairs, length $8.9 \times$ width and $1.05 \times$ length of hind metatarsi, slightly bent upwards apically.

Colour: Brown. Basal two flagellomeres yellowish, following ones brownish. Head yellow; frons medially brown; ocellar field and occiput dorsally blackish. Mesosoma brown; propodeum blackish, reddish-brown in caudal third; frontal and upper margins of pronotum yellowish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesopleura reddish-yellow in dorsal third; mesoscutum with H-shaped reddish-yellow central spot, scutellum with reddish-yellow sides. 1st tergite black, reddish basally; 2nd tergite with arched yellow band in apical 0.5; 3rd tergite yellowish in basal 0.7, brownish laterally and apically; following tergites brown, with greyish-yellow hind margins. Legs yellow; hind tibiae cream-yellow, brownish in apical 0.2 ($1.5 \times$ width). Pterostigmata yellow-hyaline.

Valid name: *Mesochorus discitergus* (Say, 1836); synonymized by Horstmann (2003: 31).

8. *Mesochorus bavaricus* Schwenke, 1999

Holotype (♀): Ober-Bayern, Ellmau, ca. 1050 m, 2.VIII. 1957, E. Bauer (Figs 8, 104).

Description

Missing: Left antenna, left fore leg except coxa, left 2nd–5th hind tarsomeres, right distal hind tarsomere.

Body length 9.0 mm. Flagella with 44 flagellomeres, preapical ones c. $2.5 \times$ longer than wide; 1st flagellomeres length $6.0 \times$ width and $0.64 \times$ eye length; 2nd flagellomeres length $4.3 \times$ width. Temples short and strongly narrowed behind eyes, length $0.3 \times$ eye width. OOD 0.5, ocellar field elevated. Face width $1.0 \times$ length of clypeus + face and $0.85 \times$ eye length, with parallel sides. Malar spaces striate. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with scattered punctures ventrally. Area basalis rectangular, c. $2 \times$ longer than wide; area superomedia length $2.1 \times$ width and $2.0 \times$ length of area petiolaris, costulae in frontal 0.35; area petiolaris length $1.0 \times$ width. Hind femora length $5.3 \times$ width; hind metatarsi length $0.48 \times$ length of hind tibiae; hind claws (in PT) with c. 5 basal teeth, basal one very small. Areolets shortly stalked, oblique, 2nd recurrent veins proximal to their middle; nervuli interstitial; length of pterostigmata $3.4 \times$ width, radial veins in their distal 0.67. 1st tergite length $2.9 \times$ width; postpetiolus length $1.5 \times$ width, smooth; 2nd tergite length $1.1 \times$ width; thyridia transverse-oval. Ovipositor sheaths densely pilose, length $7.7 \times$ width and $0.8 \times$ length of hind metatarsi, narrowed in apical 0.4.

Colour: Flagella ochreous. Head black; face reddish with paramedian brown stripes; mandibles except teeth, clypeus, inner orbits, malar spaces and

genae reddish-yellow. Mesosoma reddish; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma black; 1st tergite reddish basally; 2nd tergite with narrow ivory band in apical 0.1. Legs cream-yellow; hind tibiae brownish in apical 0.1 (0.5 × width). Pterostigmata ochreous.

Remark: This taxon is correctly placed in the key of the *angustatus* group (Schwenke 1999: 72–73).

9. *Mesochorus bellus* Schwenke, 1999

Holotype (♀): 8.71 Viechtach Bayer. W. Schw. (Fig. 53).

Description

Missing: Left flagellomeres from 14th on.

Body length 3.2 mm. Flagella with 27 flagellomeres, preapical ones c. 2 × longer than wide; 1st flagellomeres length 6.1 × width and 0.63 × eye length; 2nd flagellomeres length 4.3 × width. Temples moderately narrowed behind eyes, length 0.7 × eye width. OOD 1.65. Face with parallel sides, width 1.2 × length of clypeus + face and 0.95 × eye length. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura smooth ventrally. Area basalis trapezoid, as long as wide; area superomedia almost rhombic, length 1.5 × width and 1.0 × length of area petiolaris, costulae in frontal 0.45; area petiolaris length 1.2 × width. Hind femora length c. 4.5 × width; hind metatarsi length 0.44 × length of hind tibiae. Areolets pointed sessile, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata 3.1 × width, radial veins in their distal 0.62. 1st tergite length 2.7 × width; postpetiolus length 1.1 × width, rugose; 2nd tergite length 0.7 × width; thyridia small. Ovipositor sheaths slightly narrowed over the whole length, pilose, but apically almost bare, length 8.5 × width and 1.05 × length of hind metatarsi.

Colour: Flagella brownish. Head black; face reddish-yellow; clypeus and outer orbits yellow; mandibles except teeth, malar spaces, genae and inner orbits cream-yellow. Mesosoma brown; frontal margins of pronotum yellow-red; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma black; 2nd tergite black, with yellow band in apical 0.15; 3rd tergite black with triangular yellow spots in basal 0.3; following tergites brown, with greyish apical margins. Legs yellow; hind coxae brownish; hind tibiae narrowly brownish basally and brown in apical 0.15 (1 × width). Pterostigmata ochreous.

Remark: This species cannot be identified in the key of the *pectoralis* group (Schwenke 1999: 95–98). In this key it runs to couplet 66 (*Mesochorus pumilionis* Schwenke). It differs from that species by the nar-

rowly darkened apex of hind tibiae and the colour of metasoma.

Valid name: *Mesochorus nemus* Schwenke, 2002; syn. *M. bellus* Schwenke, 1999 (preoccupied by *M. bellus* Dasch, 1971).

10. *Mesochorus betuletus* Schwenke, 1999

Holotype (♀): Etzenricht 9/66 ex Bi Spa Par. (Fig. 9).

Description

Missing: Left flagellum, right antenna, left fore wing, left and right 2nd–5th hind tarsomeres. Metasoma partly covered with dirt.

Body length 4.7 mm. Temples strongly and almost linearly narrowed behind eyes, length 0.6 × eye width. OOD 1.6. Face width 1.0 × length of clypeus + face and 1.0 × eye length, with parallel sides. MI 1.0. Ventral 0.5 of facial orbits and malar spaces widely striate. Mandibles with two equal-sized teeth. Mesopleura smooth ventrally. Area basalis trapezoid, slightly longer than wide; area superomedia length 1.7 × width and 0.95 × length of area petiolaris, costulae in frontal 0.3; area petiolaris length 1.25 × width. Hind femora length 4.4 × height; hind metatarsi length 0.49 × length of hind tibiae. Areolets shortly sessile, 2nd recurrent veins proximal to their middle; nervuli strongly postfurcal (3 × width); length of pterostigmata 2.9 × width, radial veins in their distal 0.6. 1st tergite length 2.4 × width, postpetiolus smooth; 2nd tergite length 0.8 × width; thyridia very large, oval. Ovipositor sheaths partly retracted, length c. 5.7 × width and 0.75 × length of hind metatarsi, with sparse hairs, slightly narrowed in apical 0.5 and slightly bent upwards apically.

Colour: Black. Face and clypeus blackish; wide orbits, bases of mandibles, genae and malar spaces reddish-yellow. Mesosoma black; upper margins of pronotum reddish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with dark reddish H-shaped central spot. 1st tergite black, with yellowish-red spot apically; 2nd tergite black, with yellowish thyridia and arched yellow band in apical 0.25; 3rd tergite with yellowish, flap-shaped spot in basal 0.5; following tergites blackish, with brownish sides and narrow greyish apical margins. Legs reddish-yellow; hind coxae brown; hind femora reddish-brown dorsally; hind tibiae cream-yellow, widely basally and in apical 0.3 (3 × width) brownish. Pterostigmata brownish.

Remark: The taxon is correctly placed in the key of the *dispar* group (Schwenke 1999: 48–51). It is characterized by the very large, yellow thyridia.

11. *Mesochorus bicolor* Schwenke, 1999

Holotype (♀): Gröbenzell 27.6.–14.7.78 Schwenke; *Protomicroplitis connexus* ü. *P. similis* (Figs 10, 105).

Description

Complete.

Body length 4.8 mm. Flagella with 35 flagellomeres, preapical ones c. $1.8\times$ longer than wide; 1st flagellomeres length $6.0\times$ width and $0.65\times$ eye length; 2nd flagellomeres length $3.9\times$ width. Temples strongly narrowed behind eyes, length $0.4\times$ eye width. OOD 0.85. Face width $1.0\times$ length of clypeus + face, and $0.75\times$ eye length, with parallel sides, rather scattered punctures, shining; clypeus almost smooth. MI 0.2. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis trapezoid, slightly longer than wide; area superomedia length $2.5\times$ width and $2.1\times$ length of area petiolaris, costulae in frontal 0.4 ; area petiolaris length $0.86\times$ width. Hind femora length $5.3\times$ width; hind metatarsi length $0.47\times$ length of hind tibiae; hind claws with 4 widely spaced teeth. Areolets oblique, 2nd recurrent veins proximal their middle; nervuli interstitial; length of pterostigmata $3.0\times$ width, radial veins in their distal 0.67 . 1st tergite length $2.3\times$ width; postpetiolus with central rim; 2nd tergite length $1.0\times$ width; thyridia transverse-oval. Ovipositor sheaths length $5.7\times$ width and $1.0\times$ length of hind metatarsi, slightly sabre-shaped, narrowed in apical 0.4 .

Colour: Face dark brown; clypeus and inner orbits yellow; mandibles, malar spaces and genae cream-yellow. Pronotum and dorsal 0.3 of mesopleura yellowish-red; mesopleura otherwise and propodeum dark brown; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum yellowish-red, with 3 brown stripes; scutellum yellowish-red. Metasoma black; 1st tergite basally dark red-brown; 2nd tergite pale yellow in apical 0.15 ; 3rd tergite yellow, sides slightly darkened; following tergites brown, paler apically. Legs yellow; fore and middle coxae, all trochanters and hind tibiae cream-yellow; hind tibiae brownish in apical 0.1 ($1\times$ width). Pterostigmata hyaline, margins slightly darker.

Remark: The species is correctly placed in the key of the *pectoralis* group (Schwenke 1999: 95–98).

12. *Mesochorus bipartitus* Schwenke, 1999

Holotype (♀): Bramwald, Nd-sachsen C 30.7.67 Hbth (Figs 11, 106).

Description

Complete.

Body length 3.2 mm. Flagella with 29 flagellomeres, preapical ones c. $1.8\times$ longer than wide; 1st flagellomeres length $6.9\times$ width and $0.66\times$ eye length; 2nd flagellomeres length $4.0\times$ width. Temples roundly narrowed behind eyes, length $0.55\times$ eye width. OOD 1.35. Face width $1.10\times$ length of clypeus + face and $0.85\times$ eye length, sides parallel. MI 0.2. Malar spaces and whole facial orbits with coarse transverse rugae or striate. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis triangular, about as long as wide; area superomedia length $1.5\times$ width and $0.8\times$ length of area petiolaris, costulae in frontal 0.45 ; area petiolaris $1.35\times$ longer than wide. Hind femora length $4.7\times$ width; hind metatarsi length $0.4\times$ hind tibiae. Areolets pointed, oblique, 2nd recurrent veins proximal to their middle; nervuli interstitial; length of pterostigmata $2.8\times$ width, radial veins in their distal 0.55 , distal part of radial veins long, sinusoid. 1st tergite length $2.6\times$ width; postpetiolus with fine rugae and striae; 2nd tergite length $0.85\times$ width; thyridia transverse-oval. Ovipositor sheaths stab-shaped, slightly narrowed from bases to apex, scattered pilosity, length $7.0\times$ width and $1.2\times$ length of hind metatarsi.

Colour: Black. Flagella brown. Face, mandibles except teeth, genae and orbits reddish-yellow; facial orbits and malar spaces cream-yellow. Mesosoma blackish; pronotum reddish-yellow; hind edges of pronotum, tegulae and wing bases cream-yellow; scutellum dark reddish. 1st tergite black; 2nd tergite black, with yellow band in apical 0.2 ; 3rd tergite brown, yellow in basal 0.3 ; following tergites blackish, with narrow greyish hind margins. Legs reddish-yellow; hind coxae reddish; hind tibiae yellow, indistinctly darkened apically. Pterostigmata hyaline-ochreous, more brownish in caudal half.

Remark: The species is correctly placed in the key of the *curvulus* group (Schwenke 1999: 35–37).

13. *Mesochorus boreus* Schwenke, 1999

Holotype (♀): 11.VII.1964 Kvikkjokk/Sv (Figs 12, 107).

Description

Missing: Left flagellomeres from 13th on, right flagellomeres from 7th on.

Body length 4.8 mm. 1st flagellomeres length $7.1\times$ width and $0.7\times$ eye length; 2nd flagellomeres length $4.5\times$ width. Temples moderately narrowed behind eyes, length $0.7\times$ eye width. OOD 1.3. Face width

0.9× length of clypeus + face and 1.0× eye length, slightly divergent ventrally. Ventral third of facial orbits and malar spaces striate. Mandibles with two equal-sized teeth. Mesopleura densely punctate and granulate ventrally. Area basalis almost rectangular, c. 2× longer than wide; area superomedia length 2.5× width and 1.5× length of area petiolaris, costulae in frontal 0.3; area petiolaris length 0.95× width. Hind femora slender, length 5.9× width; hind metatarsi length 0.46× length of hind tibiae; hind claws with some basal teeth. Areolets pointed, 2nd recurrent veins slightly distal their middle; nervuli interstitial, length of pterostigmata 3.3× width, radial veins in their distal 0.7. 1st tergite slender, length 3.25× width; postpetiolus smooth; 2nd tergite length 1.05× width; thyridia roundish. Ovipositor sheaths length 8.5× width, and 1.0× length of hind metatarsi, narrowed in apical 0.25.

Colour: Black. Flagella ochreous. Face reddish-brown; mandibles except teeth, clypeus, and wide inner orbits yellowish; vertical and outer orbits reddish-yellow. Mesosoma black; frontal and upper margins of pronotum brownish-yellow; hind edges of pronotum, tegulae and wing bases cream-yellow; mesopleura with diffuse reddish-brown suffusion; mesoscutum reddish, with 3 dark brownish stripes; scutellum brownish-yellow. Metasoma black; 2nd tergite with yellow band in apical 0.2; 3rd tergite with tongue-shaped yellow stripe in basal 2/3; following tergites dark brown, with grey-yellowish apical bands. Legs yellowish; hind tibiae and hind tarsi cream-yellow, hind tibiae in apical 0.1 and tips of hind tarsomeres pale brownish. Pterostigmata hyaline.

Remark: This taxon runs to *Mesochorus bicolor* Schwenke (no. 23) in the key of the *pectoralis* group (Schwenke 1999: 95–98), because the mesopleura are reddish-brown not black in the holotype.

14. *Mesochorus bucculentus* Schwenke, 1999

Holotype (♀): I. To. Nichelino Stupinigi, 9/14.V.1988 Scaramozzino L. (Figs 54, 152).

Description

Missing: Left flagellomeres from 3rd on, right flagellomeres from 5th on, both hind legs completely, 1st and 2nd tergites missing (rest of metasoma broken off and glued on card).

Body length 6.5 mm. 1st flagellomeres length 7.5× width and 0.78× eye length; 2nd flagellomeres length 4.5× width. Temples wide, slightly narrowed apically, length 0.9× eye width. Gena wide. OOD 1.6. Face very wide, width 1.35× length of

clypeus + face and 1.1× eye length, sides divergent ventrally. MI 0.35. Mandibles with two equal-sized teeth. Mesopleura densely and coarsely punctate ventrally. Areae basalis and superomedia confluent; area basalis rectangular, c. 2× longer than wide; area superomedia slender, length 3.9× width and 2.0× length of area petiolaris, costulae in frontal 0.4; area petiolaris length 0.88× width. Middle claws with 2–3 short basal teeth. Areolets pointed sessile, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata 3.0× width, with radial veins in their distal 0.7. Ovipositor sheath pilose, sabre-shaped, narrowed in apical 0.3, length 6.1× width and according to the original description (Schwenke 1999) longer than hind metatarsi.

Colour: Black. Basal flagella yellowish. Face, vertical and outer orbits reddish-yellow; mandibles, gena, clypeus and inner orbits cream-yellow. Mesosoma black; sides of pronotum and mesopleura ventrally with reddish stripes; frontal margin of pronotum yellowish; hind edges of pronotum, tegulae and wing bases cream-yellow. 3rd and 4th tergites reddish-brown, following tergites brownish, with narrow yellow hind margins. Legs yellowish. Pterostigmata hyaline-brownish.

According to the original description (Schwenke 1999): Hind coxae darkened, hind tibiae with indistinct apical darkenings. 1st tergite black, 2nd tergite with narrow ivory hind margin.

Remark: This species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95–98), except that the pterostigmata are not clearly hyaline, but have a brownish tint.

Valid name: *Mesochorus nichelinus* Schwenke, 2002; syn. *Mesochorus bucculentus* Schwenke, 1999 (preoccupied by Dasch 1971).

15. *Mesochorus bulgaricus* Schwenke, 1999

Holotype (♀): 2.VII.70 Batak/BG (Figs 13, 108).

Description

Missing: Left flagellomeres from 27th on.

Body length 4.2 mm. Flagella with 34 flagellomeres, preapical ones c. 2× longer than wide; 1st flagellomeres length 8.2× width and 0.8× eye length; 2nd flagellomeres length 5× width. Temples distinctly narrowed behind eyes, length 0.63× eye width. OOD 1.5. Face wide, width 1.15× length of clypeus + face and 1.08× eye length, sides slightly divergent ventrally. MI 0.9. Malar space and lower 0.5 of facial orbits widely striate. Mandibles with two equal-sized teeth. Mesopleura with coarse rather

dense punctures ventrally. Area basalis triangular, slightly longer than wide; area superomedia length $1.3 \times$ width; area petiolaris $1.4 \times$ longer than wide. Hind femora length $4.2 \times$ width; hind metatarsi length $0.52 \times$ length of hind tibiae; hind claws with one long basal tooth. Areolets sessile, 2nd recurrent veins in their middle; nervuli postfurcal by $2 \times$ their width; length of pterostigmata $3.2 \times$ width, radial veins in their distal 0.67 . 1st tergite length $2.6 \times$ width, postpetiolus with some rugae; 2nd tergite length $1.0 \times$ width; thyridia comma-shaped. Ovipositor sheaths stab-shaped, pilose, length $12.2 \times$ width and $1.05 \times$ length of hind metatarsi.

Colour: Black. Flagella yellow, slightly darkened apically. Face and clypeus chestnut-red; wide orbits yellow-red; mandibles, genae and facial orbits yellowish. Mesosoma black; hind edges of pronotum, tegulae and wing bases yellow; frontal and upper margins of pronotum yellowish-red; scutellum dark reddish, with black basal spot. 1st tergite black, basally as 1st sternite reddish; 2nd tergite with arched yellow band in apical 0.4 ; 3rd tergite yellow, apically darkened, following tergites brownish, with paler apical margins. Legs reddish; hind tibiae yellow, basally and in apical 0.15 ($1 \times$ width) black. Pterostigmata yellowish.

Remark: The species is correctly placed in the key of the *dispar* group (Schwenke 1999: 48–51).

16. *Mesochorus cacuminis* Schwenke, 1999

Holotype (♀): A, T, Brandberg, Mischwald, 20.6.84, 1200–1400 m, Haeselbarth (Figs 14, 109).

Description

Missing: Left flagellomeres from 15th on, right flagellomeres from 33rd on.

Body length 5.8 mm. 1st flagellomeres length $6.5 \times$ width and $0.57 \times$ eye length; 2nd flagellomeres length $3.9 \times$ width. Temples strongly narrowed behind eyes, length $0.7 \times$ eye width. OOD 1.5. Face with parallel sides, width $1.13 \times$ length of clypeus + face and $1.0 \times$ eye length, coarsely punctate, partly rugose. MI 0.25. Lower mandibular teeth slightly longer than upper ones. Malar spaces and ventral 0.2 of facial orbits finely striate. Mesopleura with coarse and rather dense punctures ventrally, densely punctate dorsally. Area basalis trapezoid, about as long as wide; area superomedia length $2.5 \times$ width and $1.6 \times$ length of area petiolaris, costulae in frontal 0.4 ; area petiolaris length $0.85 \times$ width. Hind femora length $4.7 \times$ width; hind metatarsi length $0.47 \times$ length of hind tibiae; hind claws with basal teeth. Areolets shortly stalked, oblique, 2nd recurrent veins slightly proximal

to their middle; nervuli slightly antefurcal ($1 \times$ their width); length of pterostigmata $3.4 \times$ width, radial veins in their distal 0.7 . 1st tergite length $3.4 \times$ width; postpetiolus length $1.9 \times$ width, smooth; 2nd tergite length $1.15 \times$ width; thyridia roundish. Ovipositor sheaths completely pilose, length $8.9 \times$ width and $0.95 \times$ length of hind metatarsi, narrowed in apical half and slightly bent upwards apically.

Colour: Flagella yellow-brown. Face reddish-yellow; orbits and clypeus reddish-yellow; frons medially, ocellar field and occiput black; palps, mandibles except teeth, malar spaces, genae and facial orbits yellowish. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with central dark reddish suffusion. 1st tergite black; 2nd tergite black, with reddish band in subapical 0.2 , apically yellowish; 3rd and 4th tergites yellowish medially, sides brown; following tergites brown to black, with paler hind margins (vespoid). Ovipositor sheaths blackish. Legs reddish-yellow; hind coxae and femora reddish, with indistinct brownish suffusion; hind tibiae cream-yellow, widely blackish at base and black in apical 0.25 ($3 \times$ width); hind tarsi except basal $\frac{3}{4}$ of metatarsi brownish. Pterostigmata brownish-hyaline.

Remark: This species runs to *Mesochorus martinus* Schwenke (no. 78) in the key of the *pectoralis* group (Schwenke 1999: 95–98), but the face is reddish-yellow, not brown. The ovipositor sheaths are slightly shorter than the hind metatarsi.

17. *Mesochorus calidus* Schwenke, 1999

Holotype (♀): Esp.-Alicante Moraira, 90 m, 14–22.v.1989 garrigue, réc. R. Wahis, Mal. trap (Figs 15, 110).

Description

Missing: Left middle leg (except coxa), left hind leg, ovipositor sheaths.

Body length 4 mm. Flagella with 27 flagellomeres, preapical ones length c. $1.7 \times$ width; 1st flagellomeres length $6.1 \times$ width and $0.68 \times$ eye length; 2nd flagellomeres length $4.1 \times$ width. Temples strongly and roundly narrowed, length $0.4 \times$ eye width. OOD 1.4. Face width $1.1 \times$ length of clypeus + face and $1.0 \times$ eye length, with parallel sides. Malar spaces and ventral 0.5 of facial orbits coarsely and widely striate. MI 0.9. Mandibles with two equal-sized teeth. Mesopleura with scattered punctures ventrally. Area basalis rectangular, longer than wide; area superomedia length c. $2.0 \times$ width, costulae in frontal 0.4 ; area petiolaris length $1.1 \times$ width. Hind femora length $4.3 \times$ width; hind metatarsus length $0.48 \times$ length of hind tibia; hind claws in the para-

type with 1 basal visible tooth. Nervuli interstitial; length of pterostigmata $2.7 \times$ width in the paratype, radial veins in their distal 0.66. 1st tergite length $2.8 \times$ width; postpetiolus smooth; 2nd tergite length $1.1 \times$ width; thyridia transverse, comma-shaped. Ovipositor sheaths (in PT) pilose, slender, $9.0 \times$ as long as wide and $1.15 \times$ as long as hind metatarsi, slightly narrowed apically.

Colour: Reddish. Flagella yellowish, slightly darkened apically. Face and clypeus (brownish) red, orbits red-yellowish; genae, malar spaces and facial and ventral half of frontal orbits cream-yellow. Mesosoma red; anterior margins and hind edges of pronotum, tegulae and wing bases cream-yellow; propleura and mesosterna blackish. Mesoscutum with two longitudinal blackish stripes laterally. Metasoma reddish; 1st and 2nd tergites partly with diffuse brownish suffusion. Legs reddish-yellow; fore and middle coxae apically and fore and middle trochanters completely cream-yellow; hind coxae reddish-brown; hind femora brownish externally; hind tibiae yellow, brown in apical 0.22. Pterostigmata brownish.

Remark: The species is correctly placed in the key of the *declinans* group (Schwenke 1999: 80–83).

18. *Mesochorus caliginosus* Schwenke, 1999

Holotype (♀): Mittenwald, Ferchensee 8.67 Schwenke (Figs 16, 111).

Description

Missing: Left flagellum, right flagellomeres from 11th on, left 2nd–5th middle tarsomeres, left hind tarsus, right 3rd–5th hind tarsomeres.

Body length 6.2 mm. 1st flagellomeres length $6.0 \times$ width and $0.63 \times$ eye length; 2nd flagellomeres length $3.6 \times$ width. Temples slightly and roundly narrowed behind eyes, length $0.8 \times$ eye width. OOD 1.2. Frons opposite to lateral ocelli punctate. Face wide, width $1.17 \times$ length of clypeus + face, and $1.0 \times$ eye length, sides parallel. Malar space striate. Lower mandibular teeth slightly longer than upper ones. MI 0.5. Mesopleura densely punctate ventrally. Area basalis trapezoid, c. $2 \times$ longer than wide; area superomedia length $2.0 \times$ width, costulae in frontal 0.4; area petiolaris length $1.1 \times$ width. Hind femora slender, length $5.3 \times$ width. Hind metatarsi length $0.45 \times$ length of hind tibiae; middle claws with c. 5 small dense basal teeth. Areolets shortly stalked, 2nd recurrent veins in their middle; nervuli interstitial; pterostigmata narrow, length $3.2 \times$ width, radial veins in their distal 0.75. 1st tergite length $2.8 \times$ width; postpetiolus with strong central rim; 2nd tergite length $1.0 \times$

width; thyridia transverse-oval. Ovipositor sheaths pilose, length $5.9 \times$ width and $0.85 \times$ length of hind metatarsi, slightly narrowed in apical 0.3.

Colour: Black. Flagella brownish. Face brown; facial orbits and triangular spots opposite to antennae yellow; malar space and mandibles except teeth cream-yellow; outer orbits and clypeus yellow-red. Anterior and upper margins of pronotum, fronto-dorsal spot on mesopleura and 4 narrow stripes on mesoscutum reddish; scutellum with dark reddish shine. Legs reddish; fore coxae and trochanters reddish-yellow; hind coxae chestnut-red; hind tibiae not distinctly darkened apically. Pterostigmata yellowish-hyaline.

Valid name: *Mesochorus jugicola* Strobl, 1904; synonymized by Horstmann (2001: 80).

19. *Mesochorus campestris* Schwenke, 1999

Holotype (♀): Poland, Niedzwiady at Miastiko, Bsw./PL, 31.3.–8.11.74 leg. Ekipo (Figs 17, 112).

Description

Complete, but partly covered with glue and dirt.

Body length 4.0 mm. Flagella with 30 flagellomeres, preapical ones c. $2 \times$ longer than wide; 1st flagellomeres length $5.3 \times$ width and $0.58 \times$ eye length; 2nd flagellomeres length $3.2 \times$ width. Temples roundly narrowed behind eye, length $0.6 \times$ eye width. OOD 1.1. Face width $0.9 \times$ length of clypeus + face and $0.8 \times$ eye length, sides slightly convergent ventrally. Entire facial orbits and malar spaces striate. MI 0.4. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis not visible; area superomedia length c. $2.0 \times$ width and $1.15 \times$ length of area petiolaris, costulae in frontal 0.3; area petiolaris length $0.9 \times$ width. Hind femora length $4.1 \times$ width; hind metatarsi length $0.41 \times$ length of hind tibiae. Areolets shortly sessile, oblique, 2nd recurrent far proximal to their middle; nervuli interstitial; length of pterostigmata $3.1 \times$ width, radial veins in their distal 0.62. 1st tergite length $2.8 \times$ width; postpetiolus smooth; 2nd tergite length $1.2 \times$ width; thyridia comma-shaped. Ovipositor sheaths completely pilose, length $3.1 \times$ width and $1.03 \times$ length of hind metatarsi, with slightly conical upper dorsal and ventral margins.

Colour: Black. Flagella brownish. Face brown; mandibles except teeth, clypeus, malar spaces, facial orbits and ventral half of frontal orbits cream-yellow. Mesosoma black; frontal margins of pronotum and mesopleura reddish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum brownish, with yellowish H-shaped central spot.

Metasoma blackish-brown; 2nd tergite with narrow yellow caudal margin. Ovipositor sheaths black. Legs yellowish; fore and middle coxae and trochanters cream-yellow; hind tibiae brownish basally and in apical 0.1 (0.5 × width). Pterostigmata ivory, with ochreous proximal and distal edges.

Remark: The species is correctly placed in the key of the *syllvarum* group (Schwenke 1999: 61).

20. *Mesochorus canaveseus* Schwenke, 1999

Holotype (♀): Italia – Piemonte, Bineca Canavese (TO), 20.IX.–19.X.1985 400 m, Leg. A. Casale (Figs 18, 113).

Description

Missing: Left flagellomeres from 15th on, right flagellomeres from 27th on.

Body length 5.7 mm. 1st flagellomeres length 5.5 × width and 0.63 × eye length; 2nd flagellomeres length 4.0 × width. Temples strongly narrowed behind eyes, length 0.65 × eye width. OOD 1.3. Face with parallel sides, width 1.1 × clypeus and face length and 0.95 × eye length, punctate. MI 0.4. Mandibles with two equal-sized teeth. Malar spaces, mandibular bases and ventral 0.3 of facial orbits finely striate. Genal carinae joining hypostomal ones far from mandibular bases. Mesopleura with fine scattered hair-punctures ventrally, metapleura with fine dense punctures. Area basalis trapezoid, about as long as wide; area superomedia length 2.1 × width and 1.5 × area petiolaris length, costula in frontal 0.35; area petiolaris length 1.05 × width. Hind femora length 4.9 × width; hind metatarsi length 0.46 × length of hind tibiae; distal fore tarsomeres slightly swollen, length 2.0 × width; fore claws with 3 long teeth, middle claws with 2 and hind claws with one large tooth. Areolets shortly stalked, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; pterostigmata narrow (but frontal margins strongly bent), radial veins in their distal 0.65. 1st tergite length 2.5 × width; postpetiolus with some longitudinal striae in caudal half; 2nd tergite length 1.2 × width; thyridia roundish. Ovipositor sheaths completely pilose, length 7.5 × width and 0.95 × length of hind metatarsi, slightly narrowed in apical 0.3.

Colour: Flagella ochreous. Face dark brownish; clypeus and orbits reddish-yellow; frons medially, ocellar space and occiput black; palps, mandibles except teeth, malar spaces and genae cream-yellow. Mesosoma black, frontal and wide upper margins of pronotum reddish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with H-sized reddish spot; scutellum reddish, with frontomedial black mark. 1st tergite black; 2nd tergite

black, with reddish-yellow band in apical 0.25; 3rd tergite yellow-red; 4th tergite yellow-red, with brownish suffusion; following tergites yellow-red basally and brown apically. Legs reddish-yellow; fore and middle coxae and all trochanters yellow; hind tibiae yellow, slightly darkened basally, brown in apical 0.2 (2.5 × width); hind tarsi yellowish-brown. Pterostigmata brownish, paler proximally and distally.

Remark: The species is correctly placed in the key of the *pectoralis* group (Schwenke 1999: 95–98), but the ovipositor sheaths are slightly shorter than the hind metatarsi. The postpetiolus is partly striated.

21. *Mesochorus chasseralis* Schwenke, 1999

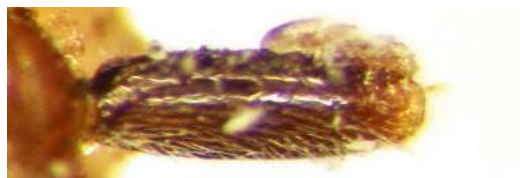
Holotype (♀): L. 18.VII.1991 Chasseral/CH, em. 9.III.1992; *Rhadinoceraea nodicornis* (Tenthred.) Konow (Figs 19, 114).

Description

Missing: Left flagellomeres from 5th on, both fore tarsi, both middle legs except coxae, right hind leg.

Body length 6.5 mm. Flagella with 39 flagellomeres, preapical ones c. 1.5 × longer than wide; 1st flagellomeres length 0.72 × width and 0.77 × eye length; 2nd flagellomeres length 4.1 × width. Temples slightly narrowed behind eyes, length 0.85 × eye width. OOD 1.5. Face with slightly divergent sides ventrally, facial width 1.2 × length of clypeus + face and 1.05 × eye length, punctate. MI 0.4. Mandibles with two equal-sized teeth. Malar spaces, mandibular bases and ventral third of facial orbits finely striate. Genal carinae joining hypostomal ones far from mandibular bases. Mesopleura with coarse rather dense punctures ventrally. Areae basalis and superomedia confluent; area basalis trapezoid, slightly wider than long; area superomedia length 2.2 × width and 1.8 × length of area petiolaris, costulae in frontal 0.4; area petiolaris very wide, length 0.6 × width. Hind femora length 4.9 × width; hind metatarsi length 0.5 × length of hind tibiae; distal fore tarsomeres slightly swollen, length 2.3 × width; hind claws with c. 2 short basal teeth. Areolets stalked, very oblique, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata 3.2 × width, radial veins in their distal 0.62. 1st tergite length 2.6 × width; postpetiolus length 1.26 × width, almost smooth; 2nd tergite length 0.95 × width; thyridia comma-shaped. Ovipositor sheaths completely pilose, stout, length 5.4 × width and 0.6 × length of hind metatarsi.

Colour: Flagella ochreous. Face dark brownish; mandibles except teeth, clypeus, malar spaces, genae and orbits widely reddish; frons medially, ocellar field and occiput black. Mesosoma black; hind edges



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Figs 17–30. Ovipositor sheaths of the holotypes. 17. *Mesochorus campestris*; 18. *M. canaveseus*; 19. *M. chasseralis*; 20. *M. cinctus*; 21. *M. coartatus*; 22. *M. cognatus*; 23. *M. columbinus*; 24. *M. compactus*; 25. *M. convallis*; 26. *M. dilobatus*; 27. *M. doleri*; 28. *M. extraordinarius*; 29. *M. eichhorni*; 30. *M. fennicus*.

of pronotum, tegulae and wing bases yellowish. 1st tergite black; 2nd tergite black, with cream-yellowish band in apical 0.1; 3rd tergite yellow, brownish laterally and apically; following tergites brown. Ovipositor sheaths blackish. Legs reddish-yellow; hind tibiae at base narrowly blackish, brown in apical 0.15–0.2 (1.5 × width). Pterostigmata ochreous-hyaline.

Remark: This taxon is correctly placed in the key of the *pectoralis* group (Schwenke 1999: 95–98), but seen from dorsal the wide temples are slightly shorter than eye width.

22. *Mesochorus cinctus* Schwenke, 1999

Holotype (♀): St. Peter/Ahrntal, Südtirol, 1300 m, Cc, 31.7.60 Haeselbarth (Figs 20, 115).

Description

Missing: Left flagellomeres from 2nd on, right flagellomeres from 15th on, right middle leg, right hind leg except coxa, left hind tibia and tarsus. Metasoma broken off, glued on card.

Body length 3.1 mm. 1st flagellomeres length 7.0 × width and 0.70 × eye length; 2nd flagellomeres length 3.9 × width. Temples wide, slightly and roundly narrowed behind eyes, length 0.9 × eye width. OOD 1.35. Face width 1.05 × length of clypeus + face and 0.95 × eye length, sides parallel. MI 0.25. Malar spaces and whole facial orbits coarsely striate. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis triangular, about as long as wide; area superomedia length 1.4 × width and 0.7 × length of area petiolaris, costulae in middle; area petiolaris 1.2 × longer than wide. Areolet pointed, oblique, 2nd recurrent veins proximal to their middle; nervuli interstitial; length of pterostigmata 3.1 × width, radial veins in their distal 0.55, distal part of radial veins long, sinusoid. 1st tergite length 2.9 × width, postpetiolus with few longitudinal rugae; 2nd tergite length 0.85 × width; thyridia comma-shaped. Ovipositor sheaths stab-shaped, slightly narrowed from base to apex, with sparse hairs, length 7.5 × width.

Colour: Black. Head reddish-yellow; mandibles except teeth, facial orbits and malar spaces cream-yellow; frons medially, ocellar field and occiput blackish. Mesosoma blackish; pronotum reddish-yellow; hind edges of pronotum, tegulae and wing bases cream-yellow; scutellum dark reddish. 1st tergite black; 2nd tergite black, with yellow band in apical 0.2; 3rd tergite brown, yellow in basal 0.3; following tergites blackish, with narrow grey hind margins. Legs reddish-yellow; hind coxae reddish. Pterostigmata hyaline-ochreous.

Remark: The temples are slightly longer and less narrowed than in *M. bipartitus*, the holotypes are otherwise similar. The synonymy proposed by Jussila (2011: 33) is confirmed here. As already suggested by Horstmann for *Mesochorus cinctus* (unpublished notes), both taxa are also synonyms of the variable *M. curvulus* Thomson, 1886.

Valid name: *Mesochorus curvulus* Thomson, 1886; syn. nov. *Mesochorus bipartitus* Schwenke, 1999 and *Mesochorus cinctus* Schwenke, 1999.

23. *Mesochorus cognatus* Schwenke, 1999

Holotype (♀): Gauting 20.7.88 ex *Apanteles* sp. Z 300 (Fig. 22).

Description

Complete.

Body length 2.6 mm. Flagella with 27 flagellomeres, preapical ones c. 2 × longer than wide; 1st flagellomeres length 8.4 × width and 0.88 × eye length; 2nd flagellomeres length 4.6 × width. Temples moderately narrowed behind eyes, length 0.75 × eye width. OOD 2.0. Face wide, width 1.0 × length of clypeus + face and 1.0 × eye length, sides slightly divergent ventrally. MI 0.8. Malar space and lower 0.5 of facial orbits widely striate. Mandibles with two equal-sized teeth. Mesopleura with coarse but scattered punctures ventrally. Area basalis triangular, about as long as wide; area superomedia length 1.4 × width, costulae in frontal 0.4; area petiolaris 1.1 × longer than wide. Hind femora length 5.1 × width; hind metatarsi length 0.48 × length of hind tibiae; hind claws with few basal teeth (basal tooth longest). Areolet sessile, 2nd recurrent veins in their middle; nervuli postfurcal by 1–2 × their width; length of pterostigmata 3.2 × width, radial veins in their distal 0.55. 1st tergite length 2.4 × width, postpetiolus with strong longitudinal rugae; 2nd tergite length 0.9 × width; thyridia comma-shaped. Ovipositor sheaths stab-shaped, pilose, length 11.6 × width and 1.1 × length of hind metatarsi.

Colour: Brown. Flagella yellow, slightly darkened apically. Head reddish-brown; ocellar field blackish; mandibles, genae and orbits yellowish. Mesosoma brown; hind edges of pronotum, tegulae and wing bases yellow; pronotum, mesopleura and metapleura yellowish; scutellum reddish-brown. 1st tergite black, red basally; 2nd tergite with arched yellow spot in apical 0.5; 3rd tergite yellow, laterally and apically darkened, following tergites brownish, 6th and 7th tergites cream-yellow. Legs yellow; hind tibiae cream-yellow, brownish in apical 0.1 (0.5 × width). Pterostigmata hyaline.

Remark: This taxon is correctly placed in the key of the *dispar* group (Schwenke 1999: 48–51).

24. *Mesochorus columbinus* Schwenke, 1999

Holotype (♀): Taubenbg. Obb. 7.77 Schwenke (Figs 23, 117).

Description

Missing: Right hind tarsus, left 2nd–5th hind tarsomeres.

Body length 7 mm. 1st flagellomeres length 7.5 × width and 0.74 × eye length; 2nd flagellomeres length 4.4 × width. Temples strongly narrowed, 0.4 × as long as eye width. OOD 0.7. Face width 1.0 × length of clypeus + face and 0.9 × eye length, with parallel sides. Ventral 1/3 of facial orbits and malar spaces striate. Mandibles with two equal-sized teeth. Mesopleura with rather dense punctures ventrally. Area basalis trapezoid, c. 2 × longer than wide; area superomedia length 1.9 × width, costulae in frontal 0.3; area petiolaris about as long as wide. Hind femora length 4.9 × width; hind metatarsi length 0.53 × length of hind tibiae. Hind claws missing, middle claws with some short teeth basally. Areolets sessile, 2nd recurrent veins in their middle; nervuli slightly antefurcal; length of pterostigmata 3.1 × width, radial veins in their distal 0.7. 1st tergite length 2.8 × width; postpetiolus with central rim; 2nd tergite length 0.9 × width; thyridia transverse-oval. Ovipositor sheath length 9.5 × width and 1.0 × length of hind metatarsi, distinctly narrowed in apical third.

Colour: Black. Orbits yellow, genae and facial orbits paler. Mesosoma reddish; mesoscutum with 3 brownish-red stripes, propodeum brownish-red frontally. 2nd tergite yellow-red in caudal 0.3, following tergites yellow-red. Legs yellowish; hind tibiae cream-yellow, darkened externally in apical 0.2. Pterostigmata brownish, paler proximally and distally.

Remark: This taxon differs from the holotype of *M. cimbicis* Ratzeburg by slightly larger ocelli and shorter apical infuscation of hind tibiae, but both features are variable in *M. cimbicis*.

Valid name: *Mesochorus cimbicis* Ratzeburg, 1844, syn. nov. *Mesochorus columbinus* Schwenke, 1999.

25. *Mesochorus compactus* Schwenke, 1999

Holotype (♀): A, T, Bichlbach, Bichlbächler A., 1650 m, 9.7.1976 E. Haeselbarth (Figs 24, 118).

Description

Missing: Right flagellomeres from 18th on, right fore leg except coxa and trochanter.

Body length 3.0 mm. Flagella with 26 flagellomeres, preapical ones c. 2 × longer than wide; 1st flagellomeres length 6.1 × width and 0.61 × eye length; 2nd flagellomeres length 3.7 × width. Temples roundly narrowed behind eyes, length 0.7 × eye width. OOD 1.5. Face width 1.2 × length of clypeus + face and 0.95 × eye length, punctate, with parallel sides. Malar spaces striate. MI 0.4. Mandibles with two equal-sized teeth. Mesosoma stout, length 1.42 × height. Mesopleura with dense and coarse punctures ventrally. Area basalis trapezoid, slightly wider than long; area superomedia length 1.9 × width and 1.2 × length of area petiolaris, costulae in frontal 0.45; area petiolaris length 1.1 × width. Hind femora length 4.8 × width; hind metatarsi length 0.41 × length of hind tibiae; hind claws with c. 4 teeth. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata 3.0 × width, radial veins in their distal 0.6. 1st tergite length 2.6 × width; postpetiolus with fine striae; 2nd tergite length 0.76 × width; thyridia roundish. Ovipositor sheaths pilose, length 7.0 × width and 1.25 × length of hind metatarsi, narrowed in apical 0.5 and slightly bent upwards apically.

Colour: Black. Flagella blackish. Head including face black; apical margin of clypeus, facial orbits and malar spaces and mandibles reddish; outer orbits diffusely reddish-brown. Mesosoma blackish; tegulae and wing bases yellow. 2nd tergite black, with yellow band in apical 0.15; 3rd tergite reddish-yellow, sides slightly darker; following tergites brown, with greyish apical margins. Ovipositor sheaths black. Legs reddish-yellow; all coxae brownish; hind femora reddish-brown; hind tibiae yellow, slightly darkened basally and in apical 0.25 (2 × width); hind tarsi slightly darkened. Pterostigmata hyaline-ochreous, margins darker.

Valid name: *Mesochorus alpigenuus* Strobl, 1902; synonymized by Horstmann (2001: 80).

26. *Mesochorus contractus* Schwenke, 1999

Holotype (♂): Italia Varese (ISPRA) VI.1975, leg. Dr. E. Ratti (Fig. 182).

Description

Missing: Tip of left flagellum.

Body length 3.7 mm. Flagella with 29 flagellomeres, preapical ones c. 1.5 × longer than wide; 1st flagellomeres length 5.2 × width and 0.51 × eye

length, 2nd flagellomeres length $3.6 \times$ width. Head lentiform, $2.3 \times$ wider than long. Temples strongly narrowed, length $0.4 \times$ eye width. OOD 1.3. Face wide, with convergent sides ventrally, width $1.1 \times$ length of clypeus + face and $0.8 \times$ eye length. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with coarse and dense but rather superficial punctures. Scutellum with central tubercle. Hind femora length $4.9 \times$ width; hind tarsi stout, metatarsi length $0.4 \times$ length of hind tibiae; middle claws with c. 5 long and dense basal teeth. Area superomedia small, length $1.3 \times$ width, costulae in frontal 0.7; area petiolaris very large ($0.5 \times$ propodeal length), length $1.2 \times$ width. Areolets shortly stalked, oblique, 2nd recurrent veins distinctly proximal of their middle; nervuli interstitial; pterostigmata wide, length $2.8 \times$ width, with radial vein in their distal 0.6. 1st tergite length $2.7 \times$ width, postpetiolus smooth; 2nd tergite length $0.9 \times$ width. Stylets stab-shaped, clubbed apically, length $1.7 \times$ length of 2nd hind tarsomeres.

Colour: Black. Antennae yellowish. Face yellow; facial orbits and triangular orbital spots above antennae cream-yellow; outer orbits widely reddish; ocellar field and occiput brownish. Mesosoma brown; pronotum yellowish frontally; hind edges of pronotum, tegulae and wing bases yellow. 1st tergite yellowish basally, 2nd tergite with cream-yellow band in apical 0.15; following tergites \pm brown/yellowish banded. Legs yellow; fore and middle coxae and trochanters cream-yellow; hind tibiae not distinctly darkened apically. Pterostigmata hyaline-ochreous, completely hyaline proximally and distally.

Remark: This species is correctly placed in the key for the *politus* group (Schwenke 1999: 46), but the stylets are distinctly longer than the 2nd hind tarsomeres. It differs from *Mesochorus sincerus* Schwenke by its paler face and stronger punctuation of the ventral mesopleura.

Valid name: *Mesochorus tachinidaeus* Schwenke, 2002; syn. *Mesochorus contractus* Schwenke, 1999 (preoccupied by *M. contractus* Ratzeburg, 1848).

27. *Mesochorus dilobatus* Schwenke, 1999

Holotype (♀): Krailing 1.6.52 e. *caeruleocephala* lg. Esch (Figs 26, 120).

Description

Missing: Left flagellomeres from 9th on, right flagellum.

Body length 3.4 mm. 1st flagellomeres length $6.3 \times$ width and $0.58 \times$ eye length; 2nd flagellomeres length $4.6 \times$ width. Temples strongly narrowed, length $0.4 \times$

eye width. Ocelli large, OOD 0.65. Face with slightly convergent sides, width $1.2 \times$ length of clypeus + face and $0.95 \times$ eye length, superficially punctate. Frons almost smooth. MI 0.3. Malar spaces and facial orbits finely striate. Mandibles with two equal-sized teeth. Pronotum and ventral part of mesopleura almost smooth. Areae basalis and superomedia confluent; area basalis trapezoid, about as long as wide; area superomedia short, length $1.6 \times$ width and $0.85 \times$ length of area petiolaris, costula in frontal 0.45; area petiolaris large (0.5 of propodeum), length $1.2 \times$ width. Hind femora length $4.1 \times$ width; hind metatarsi length $0.44 \times$ length of hind tibiae; hind claws short, with 4 rather long basal teeth. Areolets shortly stalked, oblique, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; length of pterostigmata $2.8 \times$ width, radial veins in their distal 0.6. 1st tergite length $2.7 \times$ width; postpetiolus smooth, with central rim; 2nd tergite length $0.94 \times$ width; thyridia transverse-oval. Ovipositor sheaths length $8.5 \times$ width and $1.15 \times$ length of hind metatarsi, slightly narrowed apical 0.3.

Colour: Reddish-brown. Face yellow; ocellar space brownish; palps, mandibles except teeth, clypeus, genae and wide orbits cream-yellow. Mesosoma reddish; hind edges of pronotum, tegulae and wing bases cream-yellowish; pronotum reddish-brown, upper margins yellowish; mesoscutum yellowish, with fronto-medial and lateral brownish longitudinal stripes; mesopleura and metapleura reddish-yellow; propodeum yellowish-brown. Metasoma brownish. 1st tergite yellow basally; 2nd tergite with triangular yellow spot in apical 0.35; 3rd tergite almost completely yellow; following tergites brown, with greyish-yellow hind bands. Legs yellow; hind coxae yellowish, hind tibiae infusate in the 0.25 ($2 \times$ width). Pterostigmata brown, cream-yellow proximally and distally.

Remark: This species is correctly placed in the key of the *pectoralis* group (Schwenke 1999: 95–98). It is characterized by its large ocelli and short, strongly narrowed temples.

28. *Mesochorus dilleri* Schwenke, 1999

Holotype (♂): *Mesochorus marginatus* Ths. ♂ J. F. Aubert det.; Korsika, Furiani-Tal, Kulturland, 250 m, leg. Diller, 4.V.1964.

Description

Missing: Left flagellomeres from 10th on, right flagellum, left middle 3rd–5th tarsomeres.

Body length 8 mm. Flagella (in paratype) with 39 flagellomeres; 1st flagellomeres length $7.6 \times$ width

and $0.67 \times$ eye length; 2nd flagellomeres length $4.8 \times$ width. Temples roundly narrowed behind eyes, length $0.75 \times$ eye width. OOD 1.0. Face wide, width $1.15 \times$ length of clypeus and face and $1.0 \times$ eye length, sides strongly divergent ventrally. MI 0.25. Malar spaces and mandibular bases with fine striation. Mandibles with equal-sized teeth. Mesoscutum and mesopleura with coarse, dense punctures. Area basalis trapezoid, slightly longer than wide; area superomedia length $2.4 \times$ width and $2.0 \times$ length of area petiolaris, costulae in frontal 0.3; area petiolaris length $1.0 \times$ width. Hind femora length $4.8 \times$ width; hind metatarsi length $0.44 \times$ length of hind tibiae; hind claws with fine, but long widely spaces teeth. Areolets pointed, strongly oblique, 2nd recurrent veins distinctly proximal to their middle; nervuli slightly antefurcal ($1 \times$ width), length of pterostigmata $3.4 \times$ width, radial veins in their distal 0.7. 1st tergite length $3.2 \times$ width; postpetiolus length $1.7 \times$ width, with coarse longitudinal rims; 2nd tergite length $1.05 \times$ width. Stylets stab-like, length c. $1.2 \times$ length of 2nd hind tarsomeres.

Colour: Face yellowish-red centrally; mandibles except teeth, clypeus, genae, malar spaces, wide facial and narrower frontal orbits up to anterior ocellus cream-yellow; vertical and outer orbits more yellow-red; frons medially, ocellar field and occiput black. Mesosoma brownish-red; mesoscutum with 3 diffuse brownish stripes; hind edges of pronotum, tegulae, subtegular ridges and wing bases cream-yellow; scutellum yellowish-red. Metasoma black; 2nd tergite with narrow yellow apical margin; 3rd tergite reddish, with black band in apical 0.25; following tergites blackish. Legs reddish-yellow; hind tibiae narrowly infusate basally and in apical 0.05 ($0.25 \times$ width). Pterostigmata hyaline, with brownish margins.

Remark: This taxon is similar to the type of *Mesochorus marginatus* Thomson, 1886 which has recently been redescribed in detail by Vikberg & Vårdal (2017).

Valid name: *Mesochorus marginatus* Thomson, 1886; syn. nov. *Mesochorus dilleri* Schwenke, 1999.

29. *Mesochorus doleri* Schwenke, 1999

Holotype (♀): 25.VIII.1959 Einbeck (Figs 27, 121).

Description

Missing: Both antennae, left middle leg.

Body length 5.5 mm. In paratype flagella with 41 flagellomeres, preapical ones $1.5 \times$ longer than wide; 1st flagellomeres length $5.1 \times$ width and $0.7 \times$

eye length; 2nd flagellomeres length $3.7 \times$ width. Temples strongly narrowed behind eyes, length $0.5 \times$ eye width. OOD 1.1. Face width $1.1 \times$ length of clypeus + face and $1.0 \times$ eye length, with parallel sides. Malar spaces and ventral third of facial orbits striate. MI 0.5. Mandibles with two equal-sized teeth. Mesopleura with rather dense and coarse punctures ventrally. Area basalis narrowly trapezoid, c. $2 \times$ longer than wide; area superomedia length $1.8 \times$ width and $1.0 \times$ length of area petiolaris, costulae in frontal 0.3; area petiolaris large, length $1.1 \times$ width. Hind femora length $5.5 \times$ width; hind metatarsi length $0.5 \times$ length of hind tibiae; hind claws with 3-4 short basal teeth. Areolets pointed, 2nd recurrent veins slightly distal of their middle; nervuli interstitial; length of pterostigmata $3.3 \times$ width, radial veins in their distal 0.7. 1st tergite length $2.9 \times$ width; postpetiolus with some strong longitudinal striae; 2nd tergite length $1.05 \times$ width; thyridia roundish. Ovipositor sheaths pilose, length $7.9 \times$ width and $0.95 \times$ length of hind metatarsi, narrowed in apical 0.3.

Colour: Face dark brown; clypeus, genae and orbits reddish-yellow; malar space and mandibles except teeth more yellowish. Pronotum reddish, with blackish ventral spots; hind edges of pronotum, tegulae and wing bases yellow; mesopleura black, reddish in dorsal 0.2; mesoscutum red, with 3 long black stripes; scutellum reddish. Metasoma black; 2nd tergite reddish-yellow in apical 0.25; following tergites reddish-yellow, slightly darker laterally. Legs reddish-yellow; hind tibiae yellow, slightly darkened in apical 0.1 ($0.5 \times$ width). Pterostigmata pale ochreous, with darker margins.

Remark: This species is correctly placed in the key of the *declinans* group (Schwenke 1999: 80-83), but the ovipositor sheaths are almost as long as the hind metatarsi.

30. *Mesochorus eichhorni* Schwenke, 1999

Holotype (♀): Woringen, Allgäu, Bayern/D, 7.68 leg. W. Schwenke ex *Cephalcia abietis* (Tenth.) (Figs 29, 122).

Description

Complete.

Body length 7.7 mm. Flagella with 46 flagellomeres, preapical ones c. $1.8 \times$ longer than wide; 1st flagellomeres length $5.0 \times$ width and $0.67 \times$ eye length; 2nd flagellomeres length $2.8 \times$ width. Temples roundly narrowed behind eye, length $0.75 \times$ eye width. OOD 1.0. Face width $1.1 \times$ length of clypeus + face and $1.05 \times$ eye length, sides parallel, coarsely punctate, partly rugose. Ventral 0.3 of facial orbits and malar spaces striate. MI 0.5. Mandibles

with two equal-sized teeth. Mesopleura with scattered hair-punctures ventrally. Area basalis narrowly trapezoid, c. $2 \times$ longer than wide; area superomedia length c. $2.0 \times$ width and $1.4 \times$ length of area petiolaris, costulae in frontal 0.4 ; area petiolaris length $0.87 \times$ width. Hind femora length $3.7 \times$ width; hind metatarsus length $0.49 \times$ length of hind tibiae; hind claws with c. 5 teeth, two basal ones very small, 3rd tooth longest. Areolets pointed, 2nd recurrent veins in their middle; nervuli slightly postfurcal ($1.5 \times$ width); length of pterostigmata $3.5 \times$ width, radial veins in their distal 0.65 . 1st tergite length $2.3 \times$ width; postpetiolus smooth; 2nd tergite length $1.2 \times$ width; thyridia transverse-oval. Ovipositor sheaths completely pilose, length $3.1 \times$ width and $0.83 \times$ length of hind metatarsi, with slightly conical ventral and dorsal sides.

Colour: Black. Flagella reddish-brown. Face brown; clypeus reddish; mandibles except teeth, malar spaces, genae, facial orbits and ventral half of frontal orbits cream-yellow; outer orbits reddish. Mesosoma blackish; hind upper margins of pronotum and subtegular ridges reddish-yellow; hind edges of pronotum, tegulae and wing bases cream-yellow; mesopleura ventrally and mesosterna with reddish-brown suffusion; mesoscutum brownish-yellow, with brown lateral and fronto-medial stripes; scutellum with reddish sides. 1st tergite black; 2nd tergite black, with narrow yellow caudal margin; following tergites blackish-brown. Ovipositor blackish. Legs reddish-yellow; fore coxae and trochanters yellow; hind tibiae cream-yellow, brownish basally and in apical 0.15 ($1 \times$ width). Pterostigmata hyaline centrally, with brownish margins.

Remark: This species is correctly placed in the key of the *syloarum* group (Schwenke 1999: 60).

31. *Mesochorus extraordinarius* Schwenke, 1999

Holotype (♀): Harz, Harzburg Radautal, 9.IX.1956 E. Bauer (Figs 28, 123).

Description

Missing: Left flagellomeres from 29th on, right flagellomeres from 31st on, left 4th and 5th hind tarsomeres.

Body length 6.8 mm. Flagella long, preapical flagellomeres c. $2 \times$ long than wide; 1st flagellomeres length $6.5 \times$ width and $0.68 \times$ eye length; 2nd flagellomeres length $4.4 \times$ width. Temples roundly narrowed, $0.85 \times$ as long as eyes. OOD 1.7. Face very wide, coarsely punctate, somewhat swollen, width $1.15 \times$ length of clypeus + face and $1.1 \times$ eye length. MI 0.7. Mandibles with two equal-sized teeth. Mesopleura coarsely and densely punctate ventrally.

Propodeum with coarse but scattered punctures. Area basalis trapezoid, about as long as wide; area superomedia wide, length $1.75 \times$ width, costulae in frontal 0.4 ; area petiolaris short, $1.4 \times$ wider than long. Hind femora stout, length $3.9 \times$ width; hind metatarsi length $0.56 \times$ length of hind tibiae; hind claws with c. 6 dense teeth in basal $\frac{2}{3}$. Areolets sessile, 2nd recurrent veins in their middle; nervuli slightly postfurcal ($2 \times$ diameter); length of pterostigmata $3.2 \times$ width, radial veins in their distal 0.63 . 1st tergite length $2.6 \times$ width; postpetiolus with fine rugae; 2nd tergite length $0.7 \times$ width, thyridia transverse, comma-shaped. Ovipositor sheaths pilose, length $7.2 \times$ width and $0.95 \times$ length of hind metatarsi, not narrowed apically, slightly bent upwards apically.

Colour: Flagella reddish-brown. Mandibles except teeth, clypeus, malar spaces, wide genae and face yellow; wide orbits reddish-yellow. Mesosoma black; propleura, pronotum, tegulae and wing bases yellow; side of pronotum centrally and mesopleura reddish, mesopleura blackish in dorsal half. 1st tergite black, sternite basally reddish; 2nd tergite black, apical half reddish-yellow; 3rd tergite red-yellow, brownish in apical 0.4 ; 4th tergite yellowish, partly brownish apically. Legs yellowish; hind femora brown in apical 0.15 ; hind tibiae rather brown basally and in apical 0.25 ($2.5 \times$ width). Pterostigmata pale brownish.

Remark: This species is correctly placed in the key of the *declinans* group (Schwenke 1999: 80–83), but the temples are slightly shorter than eye width.

32. *Mesochorus fennicus* Schwenke, 1999

Holotype (♀): Fennia: InL: Utsjoki, Kevo, Jesualvaria Foot E. L. 1986, K. Rinokomäki leg; parasitoid: *Dineura virididorsata* n:o 1990 (Figs 30, 124).

Description

Missing: Right flagellomeres from 11th on, left 3rd–5th fore tarsomeres, left 5th hind tarsomere.

Body length 5.6 mm. Flagella with 33 flagellomeres; preapical ones c. $2 \times$ longer than wide; 1st flagellomeres length $6.7 \times$ width; 2nd flagellomeres length $4.1 \times$ width. Temples roundly narrowed behind eyes, length $0.6 \times$ eye width. OOD 1.0. Face width $1.0 \times$ length of clypeus + face and $0.88 \times$ eye length, with parallel sides. MI 0.5. Malar spaces and ventral 0.5 of facial orbits widely striate. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis trapezoid, c. $1.5 \times$ longer than wide; area superomedia length $2.7 \times$ width and $1.6 \times$ length of area petiolaris, costulae in frontal 0.4 ; area petiolaris length $1.0 \times$ width. Hind femora length $5.0 \times$ width; hind metatarsi length $0.48 \times$ length

of hind tibiae; hind claws with 2 long basal teeth. Areolets shortly sessile, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; length of pterostigmata $2.9 \times$ width, radial veins in their distal 0.7. 1st tergite length $3.2 \times$ width; petiolus and postpetiolus with strong central rim; 2nd tergite length $1.0 \times$ width; thyridia transverse, comma-shaped. Ovipositor sheaths covered with dirt, length c. $6.7 \times$ width and $0.85 \times$ length of hind metatarsi.

Colour: Head except brown ocellar field and occiput yellow; clypeus and inner orbits paler. Mesosoma yellow-red; frontal margins and hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with 3 brown stripes; metapleura and propodeum brown. 1st tergite basally and apically dark reddish; 2nd tergite yellow in apical 0.3 and central 0.7; following tergites yellow, sides slightly darker. Legs yellow; hind tibiae and tarsi cream-yellow; hind tibiae brownish in apical 0.15 ($1 \times$ width); tips of hind tarsomeres pale brownish. Pterostigmata pale brownish.

Remark: This species is correctly placed in the key of the *declinans* group (Schwenke 1999: 80-83).

33. *Mesochorus flaemingus* Schwenke, 1999

Holotype (♀): Wiesenburg Fläming/OD 6.85 Schwenke (Figs 31, 125).

Description

Missing: Left flagellomeres from 16th on, right flagellomeres from 12th on, left fore leg except coxa, right hind leg except coxa, left hind tarsus.

Body length 5.1 mm. 1st flagellomeres length $6.5 \times$ width and $0.62 \times$ length of eye length; 2nd flagellomeres length $4.8 \times$ width. Temples strongly and roundly narrowed behind eyes, $0.5 \times$ as wide as eye length. OOD 1.1. Face width $1.05 \times$ length of clypeus + face and $0.9 \times$ eye length, with parallel sides. Sides of frons with fine transversal striation. Malar spaces and ventral 0.2 of facial orbits weakly striate, MI 0.25. Mandibles with two equal-sized teeth. Mesopleura with fine and scattered hair-punctures ventrally. Area basalis almost rectangular, $2.5 \times$ longer than wide; area superomedia length $2.1 \times$ width, costulae in frontal 0.35; area petiolaris about as long as wide. Hind femora length $4.7 \times$ width; middle claws with basal teeth. Areolets shortly sessile, 2nd recurrent veins in their middle; nervuli interstitial. pterostigmata wide, length $2.6 \times$ width, radial veins in their distal 0.65. 1st tergite stout, length $2.3 \times$ width; postpetiolus smooth; 2nd tergite length 0.87 width. Thyridia large, transverse-oval. Ovipositor sheaths length $6.3 \times$ width, pilose, moderately narrowed in apical 0.5.

Colour: Flagella reddish. Face blackish, clypeus reddish. Wide inner orbits, mandibles except teeth, clypeus, malar spaces and genae cream yellow; outer orbits reddish; ocellar space and occiput black. Mesosoma blackish; hind edges of pronotum, tegulae and wing bases cream-yellow; frontal and wide upper margins of pronotum, four stripes on mesoscutum and sides of scutellum reddish. 1st tergite black; 2nd tergite black, yellowish-red in apical 0.2; 3rd tergite yellowish-red, with brownish sides; following tergites reddish-yellow; ovipositor sheaths blackish. Legs reddish-yellow; hind coxae reddish; hind tibiae yellowish, brownish basally and in apical 0.15 ($1 \times$ width). Pterostigmata mainly hyaline, with brownish caudal margins.

Remark: This taxon is correctly placed in the key of the *orbitalis* group by Schwenke (1999: 62-63).

34. *Mesochorus fluvialis* Schwenke, 2002

Holotype (♀): Obbayern, Umg. Gauting, 22.6.1977, leg Haeselbarth (Figs 32, 126).

Description

Complete.

Body length 4.8 mm. Flagella with 30 flagellomeres, preapical ones c. $1.5 \times$ longer than wide; 1st flagellomeres length $6.9 \times$ width and $0.7 \times$ eye length; 2nd flagellomeres length $3.5 \times$ width. Temples strongly narrowed behind eyes, length $0.6 \times$ eye width. OOD 1.2. Face width $1.05 \times$ length of clypeus + face and $0.9 \times$ eye length, with parallel sides. Ventral 0.3 of facial orbits and malar spaces striate. MI 0.35. Mandibles with two equal-sized teeth. Mesopleura with very scattered, superficial punctures ventrally. Area basalis triangular, slightly longer than wide, stalked apically; area superomedia length $2.0 \times$ width and $1.1 \times$ length of area petiolaris, costulae in frontal 0.3. Hind femora length $4.5 \times$ width; hind metatarsi length $0.45 \times$ length of hind tibiae; hind claws with 2 basal teeth. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $2.9 \times$ width, radial veins in their distal 0.7. 1st tergite length $2.8 \times$ width; postpetiolus length $1.3 \times$ width, with small central rim; 2nd tergite length $1.0 \times$ width; thyridia transverse-oval. Ovipositor sheaths pilose, length $6.3 \times$ width and $1.0 \times$ length of hind metatarsi, moderately narrowed in apical half.

Colour: Flagella brown. Face, frons medially, ocellar field, temples caudally and occiput black; clypeus reddish; mandibles except teeth, malar spaces, genae, facial orbits and large triangular spots opposite to antennae cream-yellow; vertical and outer orbits reddish-yellow. Mesosoma black; hind edges

of pronotum, tegulae and wing bases cream-yellow; scutellum partly dark reddish. 1st tergite black; 2nd tergite black, with pale yellow band in apical 0.2; 3rd tergite yellow-red, slightly darkened laterally; following tergites brown, with narrow yellowish hind margins. Legs reddish-yellow; fore coxae and all trochanters cream-yellow; hind coxae reddish; hind tibiae yellowish, brownish basally and in apical 0.1–0.15 (1 × width); hind tarsi brown, hind metatarsi yellow in basal 2/3. Pterostigmata brownish, paler proximally.

Remark: This species belongs to the *pectoralis* group (Schwenke 1999: 95–98) and runs to *Mesochorus pulvis* Schwenke (no. 96). It differs by its larger size, wider temples, smooth postpetiolus and stalked area basalis.

35. *Mesochorus frigidus* Schwenke, 1999

Holotype (♀): 22.VII.1964 Kiruna/Sv. (Figs 33, 127).

Description

Missing: Both antennae, right fore and middle tibiae and tarsi.

Body length 5.2 mm. Temples roundly narrowed behind eyes, length 0.75 × eye width. OOD 1.3. Face width 1.15 × length of clypeus + face and 1.0 × eye length, strongly punctate, partly rugose, with parallel sides. Ventral 0.2 of facial orbits and malar spaces striate. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with dense and coarse punctures ventrally. Area basalis rectangular, c. 2 × longer than wide; area superomedia length 2.1 × width and 1.6 × length of area petiolaris, costulae in frontal 0.35. Hind femora length 5.2 × width; hind metatarsi length 0.45 × length of hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; pterostigmata with bent frontal margins, radial veins in their distal 0.7. 1st tergite length 2.9 × width; postpetiolus smooth; 2nd tergite length 1.0 × width; thyridia transverse-oval. Ovipositor sheaths pilose, length 6.6 × width and 0.95 × length of hind metatarsi, slightly narrowed in apical 0.3.

Colour: Black. Flagella brown (in paratype). Head including face black; clypeus and orbits reddish-yellow; malar spaces and bases of mandibles cream-yellow. Mesosoma blackish; hind edges of pronotum, tegulae and wing bases cream-yellow. 1st and 2nd tergites black; 2nd tergite with yellow band in apical 0.1; following tergites black with some reddish-brown suffusion, with narrow cream-yellow bands apically. Legs reddish; fore and middle coxae reddish-brown; hind coxae brownish; hind femora

with reddish-brown suffusion; hind tibiae yellow, very narrowly darkened basally and apically. Pterostigmata hyaline.

Remark: This taxon is correctly placed in the key of the *nigripes* group (Schwenke 1999: 42–43).

36. *Mesochorus fulvipes* Schwenke, 1999

Holotype (♀): L. 25.7.1952 Hildesheim; (?) ex *Stiphrosomus antilope* Grv. (Ichn.); ex *Pachyprotasis* (?) *rapae* L. (Tenth.) (Figs 34, 128).

Description

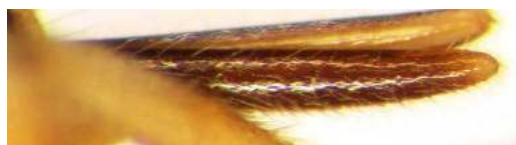
Missing: Left flagellomeres from 18th on, right flagellomeres from 19th on, left 4th and 5th fore tarsomeres, right 3rd–5th middle tarsomeres, left hind tibia and tarsus, right hind tarsus.

Body length 5.6 mm. 1st flagellomeres length 7.0 × width and 0.67 × eye length; 2nd flagellomeres length 4.4 × width. Temples moderately narrowed behind eyes, length 0.85 × eye width. OOD 1.2. Face width 1.1 × length of clypeus + face and 0.85 × eye length, sides slightly divergent ventrally. MI 0.3. Malar spaces striate. Mandibles with two equal-sized teeth. Mesopleura with rather dense and coarse punctures ventrally. Area basalis slightly trapezoid, c. 1.5 × longer than wide; area superomedia length 1.9 × width and 1.6 × length of area petiolaris, costulae in frontal 0.4; area petiolaris length 1.0 × width. Hind femora length 4.5 × width; middle claws with few small basal teeth. Areolets pointed, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; length of pterostigmata 3.4 × width, radial veins in their distal 0.7. 1st tergite length 2.8 × width; postpetiolus with some rugae; 2nd tergite length 0.95 × width; thyridia transverse-oval. Ovipositor sheaths densely pilose, slightly sabre-shaped, length 7.7 × width and (according to original description) shorter than hind metatarsi, narrowed in apical 0.3.

Colour: Black. Flagella ochreous. Face reddish; clypeus, mandibles except teeth, malar spaces, genae, wide facial orbits and ventral 0.5 of frontal orbits cream-yellow; outer orbits reddish-yellow. Mesosoma brown; mesoscutum blackish; frontal margins of pronotum, scutellum and mesopleura caudal-dorsally reddish; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma blackish-brown; 2nd tergite with narrow yellowish caudal margin. Legs yellow, fore and middle coxae and trochanters cream-yellow; hind tibiae cream-yellow externally, not distinctly darkened apically. Pterostigmata ochreous, paler proximally and distally.



31



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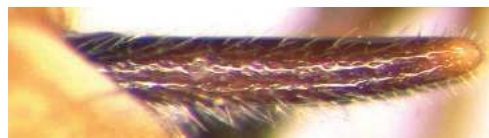
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Figs 31–46. Ovipositor sheaths of the holotypes. 31. *Mesochorus flaemingus*; 32. *M. fluvialis*; 33. *M. frigidus*; 34. *M. fulvipes*; 35. *M. georgievi*; 36. *M. gladiator*; 37. *M. haeselbarthi*; 38. *M. halticae*; 39. *M. hinzi*; 40. *M. horstmanni*; 41. *M. ibericus*; 42. *M. inclusus*; 43. *M. iniquus*; 44. *M. jacobus*; 45. *M. juranus*; 46. *M. lacassus*.

Remark: This taxon is correctly placed in the key of the *angustatus* group (Schwenke 1999: 72–73), but the face is reddish, not brown.

37. *Mesochorus gardanus* Schwenke, 1999

Holotype (♂): I, VR, Garda Rocca 100–250 m, 20.5.83 Haeselb. (Fig. 129).

Description

Complete.

Body length 3.1 mm. Flagella with 30 flagellomeres, preapical ones c. $2.5\times$ longer than wide; 1st flagellomeres length $5.6\times$ width and $0.63\times$ eye length; 2nd flagellomeres length $4.1\times$ width. Temples moderately narrowed behind eyes, length $0.65\times$ eye width. OOD 1.3. Face width $1\times$ length of clypeus + face and $0.95\times$ eye length, sides slightly divergent ventrally. MI 0.2. Malar spaces indistinctly striate. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Propodeum partly covered with glue; area petiolaris c. $1.15\times$ longer than wide. Hind femora length $4.2\times$ width; hind metatarsi length $0.41\times$ length of hind tibiae; hind claws with large basal tooth. Areolets sessile, 2nd recurrent veins slightly proximal to their middle; nervuli slightly postfurcal ($1\times$ width); pterostigmata large and wide, length $2.4\times$ width, radial veins in their distal 0.55 . 1st tergite length $2.6\times$ width; postpetiolus length $1.25\times$ width, smooth; 2nd tergite length $0.9\times$ width; thyridia comma-shaped. Stylets stab-shaped, length $1.35\times$ length of 2nd hind tarsomeres.

Colour: Head blackish; mandibles except teeth, clypeus, face, malar spaces, lower outer orbits and frontal orbits yellow. Mesosoma brown; propleura and pronotum yellowish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with 2 yellowish stripes; scutellum reddish-yellow; mesopleura and metapleura yellow-red. 1st sternite and 1st tergite reddish basally; 2nd tergite brown, with cream-yellow band in apical 0.25 ; 3rd tergite cream-yellow, sides brownish; following tergites brown basally, yellow in apical half (strongly vespoid). Legs yellow; hind tibiae narrowly brownish apically; hind tarsi brownish apically. Pterostigmata pale brownish.

Remark: This taxon belongs to the *pectoralis* group and is correctly placed in the key of the males (Schwenke 1999: 115–118). It is characterized by the strongly vespoid colour of the apical metasomal tergites.

38. *Mesochorus georgievi* Schwenke, 2004

Holotype (♀): BG, Stara Planina Mts., Gintsi vill., 1.200 mt; in *Saperda populnea* galls on *Populus tremula*, 17.3.2002, G. Georgiev (Figs 35, 130).

Description

Missing: Left flagellomeres from 18th on, left middle leg except coxa, left hind leg.

Body length 7.5 mm. Flagella with 40 flagellomeres, preapical ones c. $2.5\times$ longer than wide; 1st flagellomeres length $7.3\times$ width and $0.72\times$ eye length; 2nd flagellomeres length $4.5\times$ width. Temples very short and strongly narrowed behind eyes, length $0.2\times$ eye width. OOD 0.33. Face width $1.0\times$ length of clypeus + face and $0.72\times$ eye length, sides slightly convergent ventrally. Malar spaces and ventral 0.3 of facial orbits striate. MI 0.2. Mandibles with two equal-sized teeth. Genal carinae joining hypostomal ones far from mandibular bases. Mesopleura with rather dense punctures ventrally. Area basalis rectangular, c. $1.5\times$ longer than wide; area superomedia length $2.4\times$ width and $1.7\times$ length of area petiolaris, costulae in frontal 0.4 ; area petiolaris as long as wide. Hind femora length $5.2\times$ width; hind metatarsi length $0.52\times$ length of hind tibiae; hind claws with c. 4 basal teeth. Areolets pointed, oblique, 2nd recurrent veins strongly proximal to their middle; nervuli interstitial; length of pterostigmata $3.5\times$ width, radial veins in their distal 0.7 . 1st tergite length $2.9\times$ width; postpetiolus with central rim; 2nd tergite length $1.05\times$ width; thyridia indistinct. Ovipositor sheaths completely pilose, sabre-shaped, length $5.8\times$ width and $0.72\times$ length of hind metatarsi.

Colour: Reddish. Flagella reddish. Palps, mandibles except teeth, genae, malar spaces, narrow facial orbits and ventral 0.5 of frontal orbits yellowish. Mesosoma reddish; frontal margins of pronotum yellow-red; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with 3 indistinct brownish-red stripes; scutellum yellow-red. Metasoma including ovipositor sheaths reddish; 4th–7th tergites with weak brownish suffusion. Legs reddish-yellow; fore coxae and trochanters yellowish; hind tibiae not darkened apically. Pterostigmata hyaline.

Remark: The body is reddish; the metasoma is red, with slightly darker apical tergites, the colour differences are small. In my opinion, it is a slightly aberrant member of the *fuscus* group and in structure and colour similar to *Mesochorus laricis* Hartig.

Valid name: *Mesochorus laricis* Hartig, 1838; synonymized by Riedel (2018a).

39. *Mesochorus giaglioneus* Schwenke, 1999

Holotype (♂): I, TO, Giaglione m 630 T.M., VIII–IX.1988, R. Bassi legit (Fig. 131).

Description

Complete.

Body length 3.5 mm. Flagella with 27 flagellomeres, preapical ones c. 2 × longer than wide; 1st flagellomeres length 7.5 × width and 0.82 × eye length; 2nd flagellomeres length 4.4 × width. Temples slightly narrowed behind eyes, length 0.8 × eye width. Face width 1.1 × length of clypeus + face and 0.95 × eye length, slightly convergent ventrally. OOD 1.3. Ventral 0.3 of facial orbits, malar spaces, and bases of mandibles striate. MI 0.6. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis rectangular, slightly longer than wide; area superomedia length c. 3.0 × width ad 1.5 × length of area petiolaris, costulae in frontal 0.3; area petiolaris length 1.2 × width. Hind femora length 5.4 × width; hind metatarsi length 0.49 × length of hind tibiae; hind claws with some short basal teeth. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial, pterostigmata folded frontally. 1st tergite length 2.6 × width; postpetiole length 1.3 × width, with central rim and some longitudinal striae; 2nd tergite length 1.05 × width; thyridia large, roundish. Stylets stab-shaped, slightly clubbed apically, length 1.1 × length of 2nd hind tarsomeres.

Colour: Flagella brown. Head with face brownish; mandibles except teeth and malar spaces cream-yellow; clypeus, genae and orbits yellowish. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma black; 2nd tergite with narrow cream-yellow apical margin; 3rd tergite cream-yellow, with brown sides; following tergites brown. Fore and middle legs yellowish, hind legs more reddish-yellow; hind coxae brownish; hind tibiae cream-yellow, brownish basally and in apical 0.2 (2 × width); hind tarsi brownish. Pterostigmata pale brown.

Remark: This taxon belongs to the *pectoralis* group and is correctly placed in the key of the males (Schwenke 1999: 115–118).

40. *Mesochorus gladiator* Schwenke, 1999

Holotype (♀): Sonthofen Obb. 7.9.85 Schwenke (Figs 36, 132).

Description

Missing: Both flagella, right legs except coxae, right fore wing.

Body length 6.1 mm. Temples strongly narrowed behind eyes, length 0.7 × eye width. OOD 1.1. Face coarsely punctate and partly rugose, matte, sides strongly divergent ventrally, width 1.15 × length of clypeus + face and 1.05 × eye length. Mandibles with two equal-sized teeth. Malar spaces and ventral 0.3 of facial orbits striate. Genal carinae joining hypostomal ones far from mandibular bases. Mesopleura with scattered punctures ventrally, metapleura almost smooth. Area basalis narrowly trapezoid, c. 2 × longer than wide; area superomedia slender, length 2.8 × width and 1.3 × length of area petiolaris, costulae in frontal 0.45; area petiolaris length 1.25 × width. Hind femora length 4.5 × width; hind metatarsi length 0.43 × length of hind tibiae; hind claws with c. 6 strong narrowly spaced teeth. Areolets pointed sessile, oblique; 2nd recurrent veins proximal to their middle; nervuli interstitial; length of pterostigmata 2.8 × width, radial veins in their distal 0.65. 1st tergite length 3.3 × width; postpetiolus length 1.4 × width, smooth; 2nd tergite length 1.05 × width; thyridia comma-shaped. Ovipositor sheaths completely pilose, slightly sabre-shaped, length 7.8 × width and 1.15 × length of hind metatarsi, slightly narrowed in apical 0.2.

Colour: Face, frons medially, ocellar field and occiput dark brown; clypeus and orbits yellow-red; palps, mandibles except teeth, malar spaces, genae, and facial orbits cream-yellow. Mesosoma black; hind edges of pronotum, tegulae and wing bases yellow; mesoscutum with H-sized reddish central spot; scutellum with dark reddish suffusion. 1st tergite black; 2nd tergite black, reddish in apical 0.2; 3rd and 4th tergites reddish, diffusely yellow-red apically; following tergites brown to black, with paler hind margins (vespoid). Ovipositor sheaths blackish. Legs reddish-yellow; middle coxae reddish; hind coxae brown; hind tibiae yellow, narrowly blackish at base, indistinctly darkened apically. Pterostigmata ochreous, pale hyaline proximally and distally.

Remark: This taxon belongs to the *pectoralis* group and is correctly placed in the key (Schwenke 1999: 95–98).

41. *Mesochorus haeselbarthi* Schwenke, 1999

Holotype (♀): A, T, Lechtaler A., Bleispitze, 2200 m, 14.8.74 E. Haeselbarth (Figs 37, 133).

Description

Missing: Left flagellomeres from 17th on; right flagellomeres from 24th on, right 4th and 5th hind tarsomeres.

Body length 5.5 mm. 1st flagellomeres length 6.5 × width and 0.7 eye length; 2nd flagellomeres length

4.5 × width. Temples rather strongly but roundly narrowed behind eyes, length 0.85 × eye width. OOD 1.3. Face width 1.15 × length of clypeus + face and 0.95 × eye length, strongly punctate, partly rugose, with parallel sides. Malar spaces striate. MI 0.35. Mandibles with two equal-sized teeth. Mesopleura with very dense and coarse punctures ventrally, partly rugose. Area basalis rectangular, 1.5 × longer than wide; area superomedia length 2.2 × width and 1.4 × length of area petiolaris, costulae in frontal 0.3; area petiolaris length 1.0 width. Hind femora slender, length 6.4 × width; hind metatarsi length 0.45 × length of hind tibiae; hind claws with c. 3 basal teeth. Areolets shortly stalked to pointed, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; length of pterostigmata 3.6 × width, radial veins in their distal 0.66. 1st tergite length 3.2 × width; postpetiolus smooth; 2nd tergite length 1.0 × width; thyridia transverse-oval. Ovipositor sheaths pilose, length 5.4 × width and 0.8 × length of hind metatarsi, sabre-shaped, narrowed in apical 0.4.

Colour: Black. Flagella brown. Head including face black; clypeus, ventral 2/3 of facial orbits, large spot opposite to lateral ocelli, malar spaces, mandibles except teeth and genae reddish-yellow. Mesosoma blackish; hind edges of pronotum reddish-yellow; tegulae and wing bases cream-yellow. 1st and 2nd tergites black; 2nd tergite with apical yellow band in apical 0.15, subapical reddish; 3rd tergite reddish-brown, with triangular yellow spot in apical 0.6; following tergites reddish-brown basally and yellow apically (strongly vespoid). Legs reddish-yellow; fore coxae and trochanters yellow; hind coxae reddish-brown; hind tibiae externally brownish in apical 0.15 (1 × width). Pterostigmata ochreous.

Remark: The species is correctly placed in the key of the *nigripes* group (Schwenke 1999: 42–43), but the temples are slightly smaller than eye width.

42. *Mesochorus halticae* Schwenke, 1999

Holotype (♀): ex *Altica carduorum* adult 3.11.77; coll. 20.9.77 Siou/Wallis (Fig. 38).

Description

Complete.

Body length 2.6 mm. Flagella with 27 flagellomeres, preapical ones length c. 2.5 × width; 1st flagellomeres length 6.9 × width and 0.65 × eye length; 2nd flagellomeres length 4.6 × width. Temples roundly narrowed behind eyes, length 0.55 × eye width. OOD 1.6. Face width 1.1 × length of clypeus + face and 0.93 × eye length, with parallel sides. MI 0.4. Malar spaces and ventral 0.5 of facial orbits striate. Mandi-

bles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis trapezoid, wider than long; area superomedia length c. 1.6 × width and 0.9 × length of area petiolaris, costulae in frontal 0.45; area petiolaris length 1.1 × width. Hind femora length 4.6 × width; hind metatarsi length 0.38 × hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; Length of pterostigmata 2.5 × width, radial veins in their distal 0.57, distal part of radial veins long, sinusoid. 1st tergite length 2.5 × width, postpetiolus with some superficial rugae; 2nd tergite length 0.65 × width; thyridia comma-shaped. Ovipositor sheaths stab-shaped, with short hairs, length 8.3 × width and 1.7 × length of hind metatarsi.

Colour: Flagella yellowish. Head brown; face, clypeus, genae and wide orbits yellow; malar spaces cream-yellow. Mesosoma brownish; pronotum yellowish; tegulae and wing bases cream-yellow; mesopleura yellow-red; mesoscutum with H-shaped yellow-red stripes; scutellum yellow-red. 1st tergite brown, reddish basally; 2nd tergite brown, with triangular yellow spot in apical 0.5; 3rd tergite yellow; following tergites brown. Legs yellowish; hind tibiae narrowly brownish apically. Pterostigmata cream-yellow.

Remark: This taxon is correctly placed in the key of the *curvulus* group (Schwenke 1999: 35–37).

43. *Mesochorus hamatus* Schwenke, 1999

Holotype (♂): I, TN, Riva Rocchetta, 400–800 m, 20.5.1982 Haeselb.

Description

Missing: Left flagellomeres from 18th on, right flagellomeres from 25th on.

Body length 7.5 mm. 1st flagellomeres length 7.0 × width and 0.61 × eye length; 2nd flagellomeres length 4.8 × width. Temples moderately and roundly narrowed behind eyes, length 0.66 × eye width. Ocelli large, OOD 0.7. Face densely punctate, with parallel sides, width 1.05 × length of clypeus + face and 0.85 × eye length. MI 0.3. Mandibles with two equal-sized teeth. Malar spaces finely striate. Genal carinae reaching hypostomal ones far from mandibular bases. Mesopleura with fine scattered punctures ventrally. Area basalis trapezoid, c. 1.5 × longer than wide; area superomedia length 1.9 × width and 1.05 × longer than area petiolaris, costulae in frontal 0.4; area petiolaris length 0.95 × width. Hind femora length 5.3 × width; hind metatarsi length 0.55 × length of hind tibiae; hind claws with two basal teeth, strongly falcate apically. Areolets shortly sessile, oblique; 2nd recurrent veins distinctly proximal to their middle;

nervuli slightly postfurcal ($0.5 \times$ width); pterostigmata slender, length $4.5 \times$ width, radial veins in their distal 0.6 ; distal part of radial veins slightly sinusoid. 1st tergite length $2.8 \times$ width; postpetiole length $1.5 \times$ width, smooth; 2nd tergite length $1.25 \times$ width; thyridia large, transverse-oval. Stylets stab-shaped, not clubbed apically, length $1.28 \times$ length of 2nd hind tarsomeres.

Colour: Yellowish-red. Mandibles except teeth, malar space and inner orbits yellowish. Pterostigmata hyaline.

Remark: This species is correctly placed in the key for the *fulvus* group (Schwenke 1999: 69). It is characterized by its falcate claws.

Valid name: *Mesochorus pelvis* Schwenke, 2002; syn. *Mesochorus hamatus* Schwenke, 1999 (preoccupied by *M. hamatus* Townes, 1945).

44. *Mesochorus hinzi* Schwenke, 1999

Holotype (♀): 22.VII.1964 Kiruna/Sv. (Figs 39, 134).

Description

Missing: Left flagellomeres from 23rd on, right flagellomeres from 25th on, right fore leg, right hind tarsus.

Body length 4.5 mm. 1st flagellomeres length $5.5 \times$ width and $0.65 \times$ eye length; 2nd flagellomeres length $3.4 \times$ width. Temples roundly narrowed behind eyes, length $0.74 \times$ eye width. OOD 1.4. Face width $1.2 \times$ length of clypeus + face and $1.0 \times$ eye length, width parallel sides. Malar spaces striate. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with scattered punctures ventrally. Area basalis rectangular, wider than long; area superomedia length $1.65 \times$ width and $1.2 \times$ length of area petiolaris, costulae in apical 0.6 ; area petiolaris length $0.8 \times$ width. Hind femora length $4.4 \times$ width; hind metatarsi length $0.47 \times$ length of hind tibiae; distal fore tarsomeres slightly swollen, length $2.4 \times$ width; hind claws with c. 5 long teeth. Areolets shortly sessile, 2nd recurrent veins slightly proximal to their middle; length of pterostigmata $2.8 \times$ width, radial veins in their distal 0.62 . Metasoma stout; 1st tergite length $1.7 \times$ width; postpetiolus smooth; 2nd tergite length $0.62 \times$ width; thyridia comma-shaped. Ovipositor sheaths stab-shaped, pilose, length $5.3 \times$ width and $1.05 \times$ length of hind metatarsi.

Colour: Black. Antennae ochreous. Face blackish; mandibles except teeth, palps, clypeus, facial orbits and large triangular spots opposite to antennae cream-yellow; outer and vertical orbits reddish-yellow. Mesosoma black; hind edges of pronotum, tegulae and wing bases yellow. Metasoma black;

2nd tergite with narrow reddish band apically. Legs red; hind tibiae and tarsi yellowish, not distinctly darkened apically. Pterostigmata ochreous.

Valid name: *Mesochorus tuberculiger* Thomson, 1885; synonymized by Horstmann (2003: 33).

45. *Mesochorus horstmanni* Schwenke, 1999

Holotype (♀): Mellum FS 8/G 31.5.–7.6.1986; D, Ostfriesische Inseln, Mellum und Memmert, leg. V. Haeseler (Figs 40, 135).

Description

Missing: Right flagellomeres from 29th on.

Body length 6.5 mm. Flagella with 37 flagellomeres, preapical ones c. $1.5 \times$ longer than wide; 1st flagellomeres length $6.4 \times$ width and $0.65 \times$ eye length; 2nd flagellomeres length $4.1 \times$ width. Temples moderately narrowed behind eyes, length $0.6 \times$ eye width. OOD 1.2. MI 0.25. Lower mandibular teeth slightly larger than upper ones. Face very wide, width $1.25 \times$ length of clypeus + face and $1.0 \times$ eye length, sides slightly divergent ventrally. Malar spaces, ventral 0.3 of facial orbits and mandible bases striate. Mesopleura with fine but rather dense punctures ventrally, metapleura almost smooth. Area basalis trapezoid, c. $1.5 \times$ longer than wide; area superomedia length c. $2.9 \times$ width and $2.0 \times$ length of area petiolaris, costulae in frontal 0.4 ; area petiolaris length $1.0 \times$ width. Hind femora length $4.7 \times$ width; hind metatarsi $0.41 \times$ length of hind tibiae; hind claws with c. 6 large and narrowly spaced teeth. Areolets shortly stalked, oblique, 2nd recurrent veins proximal to their middle; nervuli interstitial; length of pterostigmata $3.0 \times$ width, with radial veins in their distal 0.67 . 1st tergite length $2.9 \times$ width; postpetiolus length $1.35 \times$ width, with central rim and longitudinal striae; 2nd tergite length $1.1 \times$ width; thyridia large, roundish. Ovipositor sheaths completely pilose (hairs as long as width of sheaths), length $8.5 \times$ width and $1.2 \times$ length of hind metatarsi, narrowed in apical 0.25 .

Colour: Flagella brownish. Face, clypeus, wide orbits, scapes and pedicles reddish; frons medially, ocellar field and occiput black; mandibles except teeth yellow. Mesosoma black; frontal and upper margins of pronotum, subtegular ridges, four stripes on mesoscutum and scutellum reddish; tegulae and wing bases cream-yellow. 1st tergite black; 2nd tergite black, with yellow-red band in apical 0.2 ; 3rd tergite yellowish, laterally brown; following tergites brown, with narrow apical yellow margins. Legs reddish; hind coxae brown; hind tibiae yellow-red, narrowly black basally, slightly and narrowly darkened api-

cally; hind tarsi yellow-brown. Pterostigmata brown, paler proximally and distally.

Remark: This taxon is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95-98).

46. *Mesochorus ibericus* Schwenke, 1999

Holotype: (♀) Esp.-Alicante, Moraira 90 m, 8-13.x.1989, garrigue, réc. R. Wahis, Mal. trap (Figs 41, 136).

Description

Complete.

Body length 4.7 mm. Flagella with 28 flagellomeres, preapical ones c. $1.5\times$ longer than wide; 1st flagellomeres length $6.1\times$ width and $0.65\times$ length eye length; 2nd flagellomeres length $4.2\times$ width. Temples strongly almost linearly narrowed, $0.6\times$ as wide as eye length. OOD 1.25. Face width $1.17\times$ length of clypeus + face and $0.95\times$ eye length, with parallel sides. Malar spaces striate. MI 0.4. Mandibles with two equal-sized teeth. Mesopleura with scattered punctures ventrally. Area superomedia normal, costulae in frontal 0.4; area petiolaris slightly longer than wide. Hind femora length $4.1\times$ width; hind metatarsi length $0.42\times$ length of hind tibiae; hind claws with few basal teeth. Areolets shortly stalked, 2nd recurrent veins in their middle; nervuli postfurcal; length of pterostigmata $2.8\times$ width, with radial veins in their distal 0.6. 1st tergite length $2.45\times$ width; postpetiolus smooth; 2nd tergite length 0.95 width. Thyridia large, kidney-shaped, transverse. Ovipositor sheaths length $6.3\times$ width and $1.0\times$ length of hind metatarsi, pilose, narrowed in apical 0.4.

Colour: Flagella brownish. Face reddish; wide inner orbits, mandibles except teeth, clypeus, malar spaces and genae cream-yellow; outer orbits reddish; ocellar space and occiput black. Mesosoma reddish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with lateral and antero-medial brownish stripes; mesosterna partly, propodeum basally and metapleura ventrally brownish. 1st tergite black; 2nd tergite black, with yellowish band in apical 0.2; 3rd tergite yellowish with brownish sides; following tergites pale brownish basally and more yellowish apically (slightly vespid). Fore and middle coxae, all trochanters and trochantelli and hind tibiae cream-yellow; hind tibiae blackish basally and in apical 0.15 ($1\times$ width); hind tarsi except basal 0.7 of metatarsi brown. Pterostigmata brownish, paler proximally and distally.

Remark: This taxon is correctly placed in the key of the *orbitalis* group (Schwenke 1999: 62-63), but the hind tibiae are darkened in the apical 0.15 only. It

differs from *Mesochorus albarascae* by smaller ocelli and darkened hind tarsi.

47. *Mesochorus inclusus* Schwenke, 2002

Holotype (♀): 22.VII.1964 Kiruna/Sv. (Figs 42, 137).

Description

Complete.

Body length 6.0 mm. Flagella with 39 flagellomeres, preapical ones c. $2\times$ longer than wide; 1st flagellomeres length $6.1\times$ width and $0.75\times$ eye length; 2nd flagellomeres length $4.0\times$ width. Temples moderately narrowed behind eyes, length $0.85\times$ eye width. OOD 1.1. Ocellar field elevated. Frons opposite to ocelli punctate. Face width $1.15\times$ length of clypeus + face and $1.0\times$ eye length, with parallel sides. MI 0.5. Malar spaces striate. Mandibles with two equal-sized teeth. Mesopleura strongly and densely punctate ventrally. Area basalis rectangular, c. $1.5\times$ longer than wide; area superomedia length $2.3\times$ width and $1.6\times$ length of area petiolaris, costulae in frontal 0.4; area petiolaris length $0.95\times$ width. Hind femora length $5.3\times$ width; hind metatarsi length $0.48\times$ length of hind tibiae; hind claws with c. 4 teeth. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $3.3\times$ width, with radial veins in their distal 0.67. 1st tergite length $3.1\times$ width; postpetiolus length $1.5\times$ width, with central rim; 2nd tergite length $1.1\times$ width; thyridia transverse-oval. Ovipositor sheaths pilose, slightly sabre-shaped, length $6.9\times$ width and $0.95\times$ length of hind metatarsi, slightly narrowed in apical 0.4.

Colour: Black. Flagella dark brown. Face reddish-brown; orbits reddish-yellow; mandibles except teeth, clypeus, malar spaces, genae and facial orbits widely cream-yellow; frons centrally, ocellar field, temples caudally and occiput black. Mesosoma black; hind edges of pronotum and subtegular ridges reddish-yellow; tegulae and wing bases cream-yellow. Metasoma black; 2nd tergite in apical third and 3rd tergite diffusely dark reddish-brown; tergites from 2nd on with narrow yellowish hind margins. Legs reddish-yellow; fore and middle coxae reddish-brown; hind coxae brown; hind femora reddish-brown; hind tibiae weakly infuscate basally and apically. Pterostigmata hyaline, with slightly darker margins.

Remark: This species belongs to the *angustatus* group (Schwenke 1999: 72-73) and runs to *Mesochorus jugicola* Strobl (no. 45). It differs from *M. jugicola* by the hyaline pterostigmata, yellow facial orbits and darkened fore and middle coxae.

48. *Mesochorus iniquus* Schwenke, 1999

Holotype (♀): Retzbach am Main, leg. 7.6.1995 Baumgarten; ex *Aleiodes bicolor* ex *Polyommatus coridon* Poda (Figs 43, 138).

Description

Missing: Left flagellomeres from 10th on, right flagellomeres from 20th on; left hind tarsus, right 2nd–5th hind tarsomeres.

Body length 4.9 mm. Flagella with 34 flagellomeres, preapical ones c. 2 × longer than wide (in paratype). 1st flagellomeres length 6.3 × width; 2nd flagellomeres length 4.3 × width. Temples strongly narrowed behind eyes, length 0.6 × eye width. OOD 1.3. Face slightly convergent ventrally, width 1.05 × length of clypeus + face and 0.93 × eye length. MI 0.6. Malar spaces, mandible bases and ventral 0.4 of facial orbits striate. Mandibles with two equal-sized teeth. Mesopleura with fine scattered hair-punctures ventrally. Area basalis narrowly trapezoid, c. 2 × longer than wide; area superomedia length 2.2 × width and 1.5 × length of area petiolaris, costulae in frontal 0.35; area petiolaris length 1.1 × width. Hind femora length 4.5 × width; hind metatarsi length 0.5 × length of hind tibiae; hind claws with 3–4 long teeth. Areolets pointed, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; length of pterostigmata 2.9 × width, radial veins in their distal 0.72. 1st tergite length 2.5 × width; postpetiolus with fine central rim and some longitudinal striae; 2nd tergite length 0.87 width; thyridia transverse-oval. Ovipositor sheaths completely pilose, length 6.1 × width and 0.9 × length of hind metatarsi.

Colour: Flagella ochreous. Palps, mandibles except teeth, malar spaces, inner orbits widely and outer orbits yellow-red; inner orbits opposite to antennae with triangular cream-yellow spot. Face brownish. Pronotum black, frontal and wide upper margins reddish; hind edges of pronotum, wing bases and tegulae cream-yellow; mesoscutum reddish, with two lateral and one fronto-medial black stripes; scutellum, meso- and metapleura and mesosterna black. Metasoma black; 2nd tergite yellow-red in apical 0.2; 3rd tergite reddish, sides brownish, with greyish apical band; following tergites brown, with greyish apical bands (vespoid). Legs yellow-red; hind femora with brownish suffusion; hind tibiae yellow, widely brown basally and in apical 0.25 (3 × width); hind tarsi except basal third of metatarsi brown. Pterostigmata brown, paler proximally and distally.

Remark: In the holotype the ovipositor sheaths are shorter than the hind metatarsi. It is therefore not correctly placed in the key of the *pectoralis* group (Schwenke 1999: 95–98). It runs to no. 124 (*Mesochorus*

olerum Curtis, syn. *M. pectoralis* Ratzeburg) and differs from *M. olerum* by its stouter 2nd tergite and shorter and stouter ovipositor sheaths.

49. *Mesochorus iugosus* Schwenke, 2002

Holotype (♂): W.Ger: Werneck July 9, 1968 K. Horstmann (Fig. 139).

Description

Complete.

Body length 2.9 mm. Flagella with 27 flagellomeres, preapical ones c. 2 × longer than wide; 1st flagellomeres length 6.8 × width and 0.63 × eye length; 2nd flagellomeres length 5.0 × width. Temples wide, moderately narrowed behind eyes, length 0.75 eye width. OOD 1.6. Face width 1.15 × length of face + clypeus and 0.9 × eye length. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura smooth ventrally. Area basalis trapezoid, slightly wider than long; area superomedia short, length 1.4 × width and 1.0 × length of area petiolaris, costulae in caudal 0.6; area petiolaris length 1.0 × width. Hind femora length 4.8 × width; hind metatarsi length 0.40 × length of hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli slightly antefurcal (0.5 × width); pterostigmata large, length 2.7 × width, radial veins in their distal 0.63. 1st tergite length 2.7 × width, postpetiolus length 1.25 × width, with some longitudinal striae; 2nd tergite length 0.75 × width; thyridia transverse-oval. Stylets stab-shaped, distinctly clubbed apically, length 1.3 × length of 2nd hind tarsomeres.

Colour: Brownish. Flagella ochreous. Face and orbits yellow; mandibles except teeth, clypeus, malar spaces and facial orbits cream-yellow. Mesosoma brownish; mesosternum and hind edges of pronotum yellowish-brown; tegulae cream-yellow. Metasoma brown; 2nd tergite cream-yellow in apical 0.15; 3rd tergite reddish-brown, yellow in basal 0.25; following tergites pale reddish-brown. Legs reddish-yellow; fore coxae and trochanters cream-yellow; hind tibiae yellow, pale brownish in apical 0.15–0.2 (2 ×). Pterostigmata yellowish.

Remark: The species belongs to the *pectoralis* group. In the key of males (Schwenke 1999: 115–118) it runs to no. 11 (*Mesochorus rapae* Schwenke). It differs by its wider temples and striated postpetiolus.

50. *Mesochorus inversus* Schwenke, 1999

Lectotype: (lower ♂ with complete flagella of two males glued on one card) Bi-Blätter 8/80 Gr. Moor (ZSM), herewith designated (Fig. 140).

Schwenke mentioned one male as holotype in his original description (Schwenke 1999: 59). The material labelled as holotype of *M. inversus* in the ZSM contains two males glued together on card. Therefore, I propose these males as syntypes and designate a lectotype here.

Description

Complete.

Body length 2.1 mm. Flagella with 25 flagellomeres, preapical ones c. $1.5 \times$ longer than wide; 1st flagellomeres length $6.5 \times$ width and $0.55 \times$ eye length, 2nd flagellomeres length $3.6 \times$ width. Temples moderately narrowed, length $0.75 \times$ eye width. OOD 1.5. Face minimal width $0.8 \times$ length of clypeus + face and $0.7 \times$ eye length, sides strongly convergent ventrally, granulate and matte, with superficial punctures. Facial orbits and malar spaces not striate. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura almost smooth. Area basalis trapezoid, wider than long; area superomedia length $1.8 \times$ width and $1.2 \times$ length of area petiolaris, costulae in the middle; area petiolaris length $0.9 \times$ width. Hind femora length $5.0 \times$ width; hind metatarsi length $0.47 \times$ length of hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli postfurcal ($1 \times$ width); length of pterostigmata $3.3 \times$ width, radial veins in their distal 0.62 . 1st tergite length $2.7 \times$ width; postpetiolus smooth; 2nd tergite length 1.0 width; thyridia transverse-oval. Stylets stab-shaped, length $1.5 \times$ length of 2nd hind tarsomeres.

Colour: Brown. Scapes, pedicels and basal three flagellomeres yellow, following flagellomeres ochreous. Head brown; face, clypeus, mandibles except teeth, malar spaces and genae yellow. Mesosoma brownish; pronotum and ventral part of mesopleura yellowish; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma blackish; 2nd tergite with yellow band in apical 0.2 ; 3rd tergite sandclock-shaped yellowish stripe medially. Legs cream-yellow; hind tibiae not distinctly darkened apically. Pterostigmata hyaline.

Remark: This taxon is correctly placed in the key of the *dispar* group (Schwenke 1999: 48–51).

51. *Mesochorus jacobus* Schwenke, 1999

Holotype: (♀) Salzburg, Vollererhof b. St. Jakob/Th., 26. 9.1986 Mart. Schwarz (Figs 44, 141).

Description

Missing: Left flagellomeres from 12th on, left hind leg except coxa and trochanter.

Body length 4.8 mm. Flagella with 30 flagellomeres; 1st flagellomeres length $6.5 \times$ width and $0.78 \times$

eye length; 2nd flagellomeres length $4.2 \times$ width. Temples roundly narrowed behind eyes, length $0.55 \times$ eye width. OOD 1.2. Face coarsely punctate, with central ridge, width $1.05 \times$ length of clypeus + face and $0.95 \times$ eye length, sides slightly convergent ventrally. MI 0.5. Malar spaces and ventral 0.5 of facial orbits widely striate. Mandibles with two equal-sized teeth. Mesopleura with scattered punctures ventrally. Area basalis almost rectangular, c. $2.5 \times$ longer than wide; area superomedia length $2.0 \times$ width, costulae in frontal 0.4 ; area petiolaris $1.3 \times$ longer than wide. Hind femora length $5.0 \times$ width; hind metatarsi length $0.45 \times$ hind tibiae. Areolets shortly stalked, 2nd recurrent veins in their middle; nervuli slightly postfurcal (by 0.5 their diameter). 1st tergite length $2.6 \times$ width; postpetiolus smooth with central impression; 2nd tergite length $0.9 \times$ width; thyridia transverse-oval. Ovipositor sheaths slightly sabre-shaped, pilose, length $6.0 \times$ width and $1.0 \times$ length of hind metatarsi.

Colour: Black. Face black; clypeus and outer orbits reddish; mandibles except teeth, genae, facial orbits and lower half of frontal orbits reddish-yellow, pale yellow opposite to antennae. Flagella blackish. Mesosoma blackish; mesoscutum with reddish H-shaped central spot; hind edges of pronotum, tegulae and wing bases pale yellow. 1st tergite black, 2nd tergite black, yellow in apical 0.15 ; 3rd tergite yellow with brown sides; following tergites blackish, with paler hind margins. Legs reddish; hind coxae dark brown; hind tibiae yellow, brown basally and in apical 0.25 ($3 \times$ width); hind tarsi except bases of metatarsi brown. Pterostigmata dark brownish.

Remark: Schwenke (1999: 54) has placed this species in his *dispar* group. Due to the venation of fore wing and structure of metasoma it is better included into the *pectoralis* group. Here, it runs to couplet 82 (*Mesochorus iniquus* Schwenke). It differs from *M. iniquus* by its (slightly) postfurcal nervuli, darker mesosoma, and brownish hind coxae.

52. *Mesochorus juranus* Schwenke, 1999

Holotype: (♀) Eichstätt 7.80 Schwenke (Figs 45, 142).

Description

Missing: Both antennae.

Body length 4.1 mm. Temples roundly narrowed, $0.6 \times$ as wide as eye length. OOD 1.15. Face width $1.1 \times$ length of clypeus + face and $0.85 \times$ eye length, with parallel sides. Ventral 0.2 of facial orbits and malar spaces striate, MI 0.35. Mandibles with two equal-sized teeth. Mesopleura with fine scattered punctures ventrally. Area basalis trapezoid, $1.5 \times$

longer than wide; area superomedia length $2.1 \times$ width, costulae in frontal 0.4 ; area petiolaris as long as wide. Hind femora length $4.6 \times$ width; hind metatarsi length $0.46 \times$ length of hind tibiae. Hind claws with c. 4 basal teeth; apical 2 teeth long. Areolets shortly sessile, oblique, 2nd recurrent veins proximal their middle; nervuli interstitial. Length of pterostigmata $3.0 \times$ width, radial veins in their distal 0.67 . 1st tergite length $2.6 \times$ width; postpetiolus smooth; 2nd tergite length 1.0 width. Thyridia transverse-oval. Ovipositor sheaths length $7.5 \times$ width and $1.0 \times$ length of hind metatarsi, pilose, narrowed in apical 0.4 .

Colour: Head blackish. Face and clypeus reddish, face with some brownish suffusion; wide inner orbits, mandibles except teeth, malar spaces and genae cream-yellow; outer orbits reddish-yellow. Mesosoma blackish; pronotum, mesopleura and mesoscutum yellow-red; mesopleura with brown colour pattern; mesoscutum with lateral and fronto-medial blackish stripes; scutellum yellow; propodeum and metapleura reddish in apical third; hind edges of pronotum, tegulae, and wing bases cream-yellow. 1st tergite black; 2nd tergite black, yellowish in apical 0.15 ; 3rd tergite yellowish with brownish sides; following tergites pale brownish basally and laterally, more yellowish apically (slightly vespoid). Fore and middle coxae, all trochanters and trochantelli and hind tibiae cream-yellow; hind tibiae blackish basally and brownish-red in apical 0.2 ($1.5 \times$ width); hind tarsi brownish-red. Pterostigmata ochreous, pale yellow proximally.

Remark: This taxon is correctly placed in the key of the *orbitalis* group (Schwenke 1999: 62–63).

53. *Mesochorus kirunae* Schwenke, 1999

Holotype: (♂) 2.VIII.1968 Kiruna/S.

Description

Missing: Left flagellomeres from 5th on, right flagellomeres from 16th on, right 2nd–5th middle tarsomeres.

Body length 4.5 mm. 1st flagellomeres length $6.8 \times$ width and $0.75 \times$ eye length; 2nd flagellomeres length $5.2 \times$ width. Temples roundly narrowed behind eyes, length c. $0.75 \times$ eye width. OOD 1.1 . Face with parallel sides, width $1.08 \times$ length of clypeus + face and $0.9 \times$ eye length. MI 0.35 . Mandibles with two equal-sized teeth. Mesopleura with very scattered, fine hair-punctures ventrally. Area basalis almost triangular, c. $2 \times$ longer than wide; area superomedia $2.3 \times$ longer than wide, costulae in frontal 0.3 ; area petiolaris small, about as long as wide. Hind femora length $5.2 \times$ width; hind metatarsi length

$0.47 \times$ length of hind tibiae; hind claws without visible teeth. Areolets shortly stalked, 2nd recurrent veins slightly proximal their middle; nervuli slightly antefurcal; length of pterostigmata $2.9 \times$ width, with radial veins in their distal 0.65 . 1st tergite length $2.9 \times$ width; postpetiolus with central rim; 2nd tergite length $1.1 \times$ width; thyridia large, roundish. Stylets stab-shaped, clubbed apically, length $1.2 \times$ length of 2nd hind tarsomeres.

Colour: Blackish. Face yellowish, partly slightly darker; mandibles except teeth, facial orbits, malar spaces and wide genae cream-yellow; orbits widely yellow-red. Frontal margins and hind edges of pronotum, tegulae and wing bases cream-yellow; sides of pronotum yellowish-red; mesopleura brownish, with reddish-yellow spots; scutellum yellow-red, with brown spot basally. Metasoma blackish; 2nd tergite apically and 3rd tergite basally with diffuse reddish suffusion. Legs yellowish; hind coxae and hind femora dorsally reddish-brown; hind tibiae cream-yellowish, brown basally and in apical 0.23 ($2.5 \times$ width). Pterostigmata ochreous.

Remark: This taxon belongs to the *angustatus* group. It is difficult to determine this species using the male key (Schwenke 1999: 115–118), because the temples are distinctly shorter than eye width. In the key, it runs to no. 114 (*Mesochorus ovimaculatus* Schwenke) and can be differentiated from *M. ovimaculatus* by the different colour of head and mesosoma.

54. *Mesochorus lacassus* Schwenke, 1999

Holotype (♀): Italia Piemonte La Cassa (Torino), VIII. 1982 Scaramozzino legit (Fig. 46).

Description

Complete.

Body length 2.0 mm. Flagella with 24 flagellomeres, preapical ones c. $2.0 \times$ longer than wide; 1st flagellomeres length $5.9 \times$ width and $0.55 \times$ eye length; 2nd flagellomeres length $4.1 \times$ width. Temples long, moderately and roundly narrowed behind eyes, length $0.8 \times$ eye width. Ocelli very small, OOD 2.6 . Occipital carina medially arched. Face width $1.1 \times$ length of clypeus + face and $1.0 \times$ eye length, sides slightly convergent ventrally. MI 0.7 . Malar spaces and whole facial orbits striate. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis triangular, as long as wide; area superomedia length c. $1.6 \times$ width and $1.0 \times$ length of area petiolaris, costulae in frontal 0.45 ; area petiolaris $1.1 \times$ longer than wide. Hind femora length $4.0 \times$ width; hind metatarsi length $0.42 \times$ hind tibiae. Areolets shortly sessile, 2nd recurrent veins in their

middle; nervuli slightly postfurcal ($1 \times$ width); frontal margins of pterostigmata folded, radial veins in their distal 0.6, distal part of radial veins long, slightly sinusoid. 1st tergite length $2.5 \times$ width; postpetiolus with some rugae; 2nd tergite length c. $0.85 \times$ width; thyridia comma-shaped. Ovipositor sheaths with long hairs (slightly longer than width of ovipositor sheaths), length $9.0 \times$ width and $1.1 \times$ length of hind metatarsi; strongly narrowed and bent upwards in apical half.

Colour: Brown. Head reddish-yellow; whole face, clypeus, mandibles except teeth and malar spaces cream-yellow; frons medially, ocellar field and dorsal part of occiput brownish. Mesosoma brown; mesoscutum with 2 reddish-yellow stripes; scutellum reddish-yellow; pronotum yellow; mesopleura brownish, with yellowish spot ventro-caudally; tegulae and wing bases yellow. 1st tergite yellow-red basally; 2nd tergite with narrow yellow band in apical 0.15; 3rd tergite with narrow yellow band in basal 0.15; following tergites brown. Legs yellow; hind tibiae weakly darkened in apical 0.1 ($0.5 \times$ width). Pterostigmata hyaline.

Remark: This taxon is correctly placed in the key of the *curvulus* group (Schwenke 1999: 35–37).

55. *Mesochorus larentiae* Schwenke, 1999

Holotype (♀): Austria, Raucheubühl o Salzburg 10.9.1988 Mart. Schwarz (Figs 47, 143).

Description

Missing: Right flagellomeres from 17th on, all left legs, right fore tarsus, left wing.

Body length 4 mm. Flagella with 28 flagellomeres, preapical ones c. $2 \times$ longer than wide; 1st flagellomeres length $6.7 \times$ width and $0.66 \times$ eye length; 2nd flagellomeres length $4.0 \times$ width. Temples roundly narrowed behind eyes, length $0.55 \times$ eye width. OOD 1.7. Face wide, width $1.05 \times$ length of clypeus + face and $0.95 \times$ eye length, sides slightly divergent ventrally. MI 0.8. Malar spaces and ventral 0.5 of facial orbits widely striate. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis triangular, $2 \times$ longer than wide; area superomedia wide, costulae in frontal 0.4; area petiolaris about as long as wide. Hind femora length $4.6 \times$ width; hind metatarsi length $0.58 \times$ length of hind tibiae; hind claws with small basal teeth. Areolets sessile; nervuli postfurcal by $2 \times$ their width; pterostigmata slender, length $4.6 \times$ width, radial veins in their distal 0.75. 1st tergite length $2.5 \times$ width, postpetiolus smooth; 2nd tergite length $0.9 \times$ width; thyridia comma-shaped. Oviposi-

tor sheaths moderately pilose, length $8.5 \times$ width and $0.95 \times$ length of hind metatarsi, narrowed in apical 0.5 and slightly bent upwards apically.

Colour: Black. Face and clypeus yellow-brownish; outer orbits yellow-red; mandibles, genae, malar spaces, and wide facial orbits cream-yellowish. Mesosoma black; hind edges of pronotum, tegulae and wing bases yellow. 1st tergite black, yellowish basally; 2nd tergite with yellow band in apical 0.4; 3rd tergite yellow basally or basally and centrally; following tergites brownish, 5th tergite apically and 6th and 7th tergites completely yellowish. Legs yellow; hind coxae with brownish spot dorsally; hind tibiae cream-yellow, brownish-yellow in apical 0.25 ($3 \times$ width). Pterostigmata hyaline.

Remark: This taxon is correctly placed in the key of the *dispar* group (Schwenke 1999: 48–51).

56. *Mesochorus longurius* Schwenke, 1999

Holotype (♀): D, BY, Kochel, 650–1150 m, 12.7.1985 Haeselbarth (Figs 48, 144).

Description

Missing: Left flagellomeres from 13th on, right flagellomeres from 37th on, left 2nd–5th fore tarsomeres, right fore tibia and tarsus, right middle leg, right hind leg except coxa, left 4th and 5th hind tarsomeres.

Body length 5.5 mm. Preapical flagellomeres c. $1.5 \times$ longer than wide; 1st flagellomeres length $6.5 \times$ width and $0.68 \times$ eye length; 2nd flagellomeres length $4.2 \times$ width. Temples roundly narrowed behind eyes, length $0.65 \times$ eye width. OOD 1.6. Face width $1.0 \times$ length of clypeus + face and $0.9 \times$ eye length, with parallel sides. Ventral 0.2 of facial orbits and malar spaces striate. MI 0.3. Lower mandibular teeth slightly longer than upper ones. Mesopleura with coarse rather dense punctures ventrally. Area basalis trapezoid, slightly longer than wide; area superomedia length c. $2.0 \times$ width, costulae in frontal 0.4; area petiolaris length $1.0 \times$ width. Hind femora length $4.5 \times$ width; length of hind metatarsi $0.54 \times$ length of hind tibiae. Areolets oblique, shortly stalked, 2nd recurrent veins in their middle; nervuli slightly antefurcal; length of pterostigmata $3.1 \times$ width, with radial veins in their distal 0.7. 1st tergite length $3.0 \times$ width; postpetiolus smooth; 2nd tergite length $1.0 \times$ width; thyridia comma-shaped. Ovipositor sheaths slender, pilose, length $10.5 \times$ width and $0.92 \times$ length of hind metatarsi, slightly narrowed apically.

Colour: Black. Flagella brownish-yellow. Face and orbits reddish, facial orbits yellowish, mandibles except teeth, malar spaces and genae cream-yellow. Mesosoma black; hind edges of pronotum, tegula



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Figs 47–60. Ovipositor sheaths of the holotypes. 47. *Mesochorus larentiae*; 48. *M. longurius*; 49. *M. macrophyae*; 50. *M. maximus*; 51. *M. monacensis*; 52. *M. myrtilli*; 53. *M. nemus*; 54. *M. nichelinus*; 55. *M. nitidus*; 56. *M. olitorius*; 57. *M. orbis*; 58. *M. palus*; 59. *M. parvioculatus*; 60. *M. pascuus*.

and wing bases yellow. 1st and 2nd tergites black; 2nd tergite cream-yellow in apical 0.25; following tergites reddish-yellow centrally, brown laterally, with pale apical margins. Legs reddish-yellow; hind tibiae narrowly black basally and widely blackish in apical 0.3 (3 × width). Pterostigmata pale hyaline-brown.

Remark: This species cannot be determined correctly in the key for the *declinans* group (Schwenke 1999: 80–83) because the temples are distinctly shorter than eye width. It runs to nos. 67/68, but differs from both alternatives by the wide cream-yellow hind band of the 2nd metasomal tergite.

57. *Mesochorus macrophyae* Schwenke, 1999

Holotype (♀): L. 30.8.1961 Alfeld Han.; ex *Macrophya punctum-album* L. (Tenth.). (Figs 49, 145).

Description

Missing: Right flagellum, right fore tarsus, left 4th and 5th fore tarsomeres, left 2nd–5th middle tarsomeres.

Body length 6.0 mm. Flagella with 36 flagellomeres; 1st flagellomeres length 6.7 × width and 0.65 × eye length; 2nd flagellomeres length 4.5 × width. Temples strongly and linearly narrowed behind eyes, length 0.4 × eye width. OOD 0.7, ocellar field elevated. Face with parallel sides, punctate, width 1.0 × length of clypeus + face and 0.8 × eye length. MI 0.2. Mandibles with two equal-sized teeth. Malar spaces and ventral 0.2 of facial orbits finely striate. Mesopleura almost smooth ventrally. Area basalis almost triangular, narrow, c. 1.5 × longer than wide; area superomedia length 2.7 × width, costulae in frontal 0.4; area petiolaris length 0.8 × width. Hind femora length 4.7 × width; hind metatarsi length 0.44 × length of hind tibiae; hind claws with 2–3 basal teeth. Areolets shortly stalked; 2nd recurrent vein reaching their middle; nervuli interstitial; length of pterostigmata 3.2 × width, radius in the distal 0.65. 1st tergite length 2.65 × width; postpetiolus smooth, with wide and slight central rim, length 1.3 × width; 2nd tergite length 1.0 × width; thyridia large, transverse-oval. Ovipositor sheaths densely pilose, length 7.0 × width and 0.85 × length of hind metatarsi, narrowed in apical 0.3.

Colour: Reddish. Flagella reddish, brownish in distal third. Head reddish; ocellar field partly brownish; palps, mandibles except teeth, genae and inner orbits cream-yellow. Mesosoma reddish; mesoscutum with fronto-medial brownish spot; frontal margins and hind edges of pronotum, tegulae and wing bases cream-yellowish. Metasoma including ovipositor sheaths brownish-red; 1st sternite yellowish at base; 2nd tergite with a large triangular yellow mark apically; 3rd tergite yellowish basally. Legs yellow; hind tibiae in apical 0.1 (0.5 × width) and tips of hind tarsomeres brownish. Pterostigmata hyaline.

lowish at base; 2nd tergite with a large triangular yellow mark apically; 3rd tergite yellowish basally. Legs yellow; hind tibiae in apical 0.1 (0.5 × width) and tips of hind tarsomeres brownish. Pterostigmata hyaline.

Remark: This species belongs to the *declinans* group where it runs to no. 30 (*Mesochorus pallipes* Brischke) in the key (Schwenke 1999: 80–83). *M. pallipes* differs from *M. macrophyae* by smaller ocelli and darker colour of head and mesosoma (description see Horstmann 2006: 1474–1475).

58. *Mesochorus maximus* Schwenke, 1999

Holotype (♀): 7.VII.1968 Einbeck (Figs 50, 146).

Description

Missing: Left flagellomeres from 18th on, right flagellomeres from 15th on.

Body length 5.5 mm. 1st flagellomeres length 6.5 × width and 0.67 × eye length; 2nd flagellomeres length 4.5 × width. Temples moderately but almost linearly narrowed behind eyes, length 0.65 × eye width. Face width 1.1 × length and 1.05 × eye length, sides divergent ventrally. Face and clypeus very coarsely punctate. Frons medially with fine oblique striation. Malar spaces striate. MI 0.5–0.6. Mandibles with two equal-sized teeth. Mesopleura with dense and coarse punctures ventrally. Area basalis trapezoid, slightly wider than long; area superomedia length 1.6 × width; area petiolaris 1.3 × wider than long. Hind femora length 4.2 × width; hind metatarsi length 0.53 × length of hind tibiae; hind claws with c. 4 basal teeth (2nd tooth longest). Areolets shortly sessile; nervuli postfurcal (by 2 × width), length of pterostigmata 3.6 × width, with radial veins in apical 0.67. Veins of wings ± thickened. 1st tergite length 2.5 × width; postpetiolus with strong longitudinal rugae; 2nd tergite length 0.75 × width; thyridia transverse-oval. Ovipositor sheaths pilose, stab-shaped, length 8.8 × width and 1.0 × length of hind metatarsi, slightly bent upwards apically.

Colour: Black. Head reddish-yellow; face more reddish; frons medially, ocellar field and occiput blackish. Mesosoma black; pronotum, mesopleura and metapleura reddish, mesopleura and sides of pronotum brownish in dorsal third. 1st sternite reddish; 1st tergite black; 2nd tergite black, with arched yellow band in apical 0.5; 3rd tergite reddish; following tergites more or less brownish or reddish-brown. Legs reddish; hind tibiae reddish-yellow, brown basally and in apical 0.15 (1.5 × width). Wing veins brownish; Pterostigmata ochreous.

Remark: This taxon is correctly placed in the key of the *dispar* group (Schwenke 1999: 48–51), except that the temples are distinctly shorter than eye width. It is characterized in the *dispar* group by its large size.

59. *Mesochorus mellumiensis* Schwenke, 1999

Holotype (♂): Mellum FS 15/w 17.–24.5.1986 (Fig. 147).

Description

Missing: Left flagellomeres from 22nd on, right flagellomeres from 2nd on, right fore and middle legs, left 2nd–5th middle tarsomeres.

Body length 2.4 mm. 1st flagellomeres length 6.8 × width and 0.54 eye length; 2nd flagellomeres length 4.1 × width. Temples roundly narrowed behind eyes, length 0.75 × eye width. OOD 1.6. Face width 1.1 × length of clypeus + face and 0.85 × eye length, superficially punctate and partly granulate, sides convergent ventrally. Ventral 0.2 of facial orbits and malar spaces striate. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with some scattered fine punctures ventrally. Area superomedia length c. 2.7 × width and 1.7 × length of area petiolaris, costulae in frontal 0.3; area petiolaris length 0.9 width. Hind femora length 4.7 × width; hind metatarsi length 0.44 × length of hind tibiae; hind claws without visible teeth. Areolets pointed, 2nd recurrent veins in their middle; nervuli slightly antefurcal (0.5 × width). 1st tergite length 2.5 × width; postpetiolus with some fine longitudinal rugae; 2nd tergite length 0.95 × width; thyridia transverse-oval. Stylets stab-shaped, length 1.7 × length 2nd hind tarsomeres.

Colour: Brownish. Flagella ochreous. Face brownish dorsally, yellowish ventrally; clypeus, wide facial orbits, malar spaces, mandibles except teeth yellow; outer orbits and spots opposite to lateral ocelli diffusely reddish-yellow. Mesosoma brown; hind edges of pronotum, tegulae and wing bases cream-yellow. 2nd tergite with narrow reddish-yellow apical margins; 3rd tergite yellowish, sides brownish; following tergites brown, with reddish apical margins. Legs yellow; fore coxae and all trochanters cream-yellow; middle and hind coxae brownish; hind tibiae cream-yellow, slightly darkened basally and in apical 0.2 (1.5 × width). Pterostigmata ochreous-hyaline.

Remark: This species is correctly placed in the key for the *nigripes* group (Schwenke 1999: 42–43).

60. *Mesochorus minutulus* Schwenke, 1999

Holotype (♂): W. Ger: Werneck Sept. 29, 1966 K. Horstmann (Fig. 148).

Description

Missing: Left middle and hind legs.

Body length 2.5 mm. Flagella with 28 flagellomeres, preapical ones c. 1.8 × longer than wide; 1st flagellomeres length 7.1 × width and 0.3 × eye length; 2nd flagellomeres length 4.5 × width. Temples roundly and moderately narrowed behind eyes, length 0.75 × eye width. OOD 1.3. Face width 1.1 × length of clypeus + face and 0.82 × eye length. Ventral half of facial orbits striate. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura smooth ventrally. Area basalis triangular (?); area superomedia short, length 1.5 × width and 0.77 × length of area petiolaris, costulae in 0.6; area petiolaris large (almost half of propodeum), length 1.1 × width. Hind femora length 4.5 × width; hind metatarsi length 0.45 × length of hind tibiae; hind claws without visible teeth. Areolets shortly stalked, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata 2.8 × width, with radial veins in their distal 0.6. 1st tergite length 2.5 × width; postpetiolus with some fine longitudinal rugae; 2nd tergite length 0.92 × width; thyridia transverse, comma-shaped. Stylets stab-shaped, clubbed apically, length 1.6 × length of 2nd hind tarsomeres.

Colour: Black. Flagella yellowish. Face reddish-yellow; wide facial orbits, clypeus, malar spaces and mandibles except teeth cream-yellow, frontal and outer orbits yellowish. Mesosoma dark brown; pronotum reddish; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma black; 2nd tergite pale yellow in apical 0.2; 3rd tergite brown, with triangular yellow spot in basal half; following tergites reddish-brown. Legs yellow; hind tibiae cream-yellow, only slightly and indistinctly darkened apically. Pterostigmata yellowish, margins slightly darker.

Remark: This taxon is correctly placed in the key for the males (Schwenke 1999: 115–118).

61. *Mesochorus monacensis* Schwenke, 1999

Holotype (♀): Leopold Palais München 6.6.41 (Figs 51, 149).

Description

Missing: Tips of both flagella.

Body length 7.0 mm. 1st flagellomeres length 6.8 × width and 0.76 eye length; 2nd flagellomeres length

4.4 × width. Temples wide, slightly and roundly narrowed behind eyes, length 1.0 × eye width. OOD 1.8. Face wide, sides divergent ventrally, width 1.15 × length of clypeus + face and 1.2 × eye length. Malar spaces striate, MI 0.4. Lower mandibular teeth larger than upper ones. Mesopleura with scattered punctures ventrally. Areae basalis and superomedia confluent; both length 2.2 × width, costulae in their middle; area petiolaris length 0.8 × width. Hind femora length 4.3 × width; hind metatarsi length 0.52 × length of hind tibiae; hind claws with 2 basal teeth. Areolets very oblique, 2nd recurrent veins strongly proximal to their middle; nervuli slightly postfurcal (0.5 × width); length of pterostigmata 3.0 × width; with radial veins in their distal 0.65. 1st tergite length 2.9 × width; postpetiolus smooth; 2nd tergite length 1.0 × width. Ovipositor sheaths pilose, length 6.9 × width and 0.7 × length of hind metatarsi.

Colour: Head reddish-yellow; orbits widely, malar spaces, mandibles except teeth and genae cream-yellow. Mesosoma reddish-yellow; mesoscutum with 4 yellow stripes, centrally H-shaped; pronotum and scutellum yellow. Metasoma reddish-yellow, 1st and 2nd tergites with some brownish spots centrally; following tergites apically paler; ovipositor sheaths yellow-brown. Legs yellowish; hind tibiae narrowly brownish at base and in apical 0.25 (3 × width). Pterostigmata brown, paler proximally.

Remark: The species is correctly placed in the key of the *orbitalis* group (Schwenke 1999: 62–63).

62. *Mesochorus montanus* Schwenke, 1999

Holotype (♀): Gampenjoch, Südtirol 1350 m A, 23.7.66 Hbth (Fig. 62).

Description

Missing: Head with antennae, left fore and middle legs, right fore tarsus, left fore and hind wings.

Body length 2.0 mm. Mesopleura smooth ventrally. Area basalis triangular, slightly longer than wide; area superomedia length c. 1.6 × width and 0.9 × length of area petiolaris, costulae in the middle; area petiolaris length 1.1 × width. Hind femora length 4.2 × width; hind metatarsi length 0.34 × length of hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata 3.0 width, with radial veins in their distal 0.69, apical part of radial veins slightly sinusoid. 1st tergite length 3.3 × width; postpetiolus with few longitudinal rugae; 2nd tergite length 0.9 × width; thyridia comma-shaped. Ovipositor sheaths stab-shaped, with long hairs (as long as sheath width)

length 6.9 × width and 1.4 × length of hind metatarsi, slightly bent upwards apically.

Colour: Brownish. (Face reddish according to Schwenke 1999). Mesosoma brown; pronotum reddish-yellow; mesopleura reddish-brown; tegulae and wing bases cream-yellow. 1st tergite yellowish-red basally; 2nd tergite apically and 3rd tergite basally with diffuse reddish suffusion. Legs yellow; hind coxae reddish-yellow. Pterostigmata hyaline-ochreous.

Remark: This species is correctly placed in the key for the *curvulus* group (Schwenke 1999: 35–37).

Valid name: *Mesochorus petiolus* Schwenke, 2002; syn. *Mesochorus montanus* Schwenke, 1999 (preoccupied by Dasch 1974).

63. *Mesochorus montis* Schwenke, 1999

Holotype (♂): A, T, Berwang, Bichlbächler J. 1900 m, 21. 7.1972 Haeselbarth (Fig. 150).

Description

Missing: Left flagellomeres from 30th on, right flagellomeres from 18th on, tips of both stylets.

Body length 5.5 mm. 1st flagellomeres length 6.7 × width and 0.74 × eye length; 2nd flagellomeres length 4.4 × width. Temples rather strongly narrowed behind eyes, length 0.8 × eye width. OOD 1.15. Face width 1.18 × length of clypeus + face and 0.95 × eye length, strongly punctate, partly rugose, with parallel sides. Ventral 0.2 of facial orbits and malar spaces striate. MI 0.4. Mandibles with two equal-sized teeth. Mesopleura with dense and coarse punctures ventrally. Area basalis rectangular, slightly longer than wide; area superomedia length 2.1 × width and 1.5 × length of area petiolaris, costulae in frontal 0.45; area petiolaris length 0.9 × width. Hind femora length 5.4 × width; hind metatarsi length 0.43 × length of hind tibiae; hind claws without visible teeth. Areolets pointed, 2nd recurrent veins in their middle; nervuli slightly antefurcal (0.5 × width); pterostigmata with folded frontal margins, with radial veins in their distal 0.6. 1st tergite length 3.3 × width; postpetiolus with shallow central rim; 2nd tergite length 1.2 × width; thyridia roundish. Tips of stylets broken off.

Colour: Black. Flagella dark brown. Head black; ventral margins of clypeus and face reddish; frontal spot opposite to lateral ocelli reddish-yellow; mandibles except teeth, malar spaces and ventral genae cream-yellow. Mesosoma blackish; hind edges of pronotum, tegulae and wing bases cream-yellow. 2nd tergite with cream-yellow band in apical 0.2; 3rd tergite yellow, sides brownish (spots almost confluent centrally); following tergites brown, with wide

yellow apical bands (vespoid). Legs reddish-yellow; fore and middle coxae mainly, hind coxae completely brown; all trochanters yellowish; hind tibiae yellow, basally darkened, not distinctly darkened apically. Pterostigmata ochreous-hyaline.

Remark: This species is correctly placed in the key for the *nigripes* group (Schwenke 1999: 42–43).

64. *Mesochorus myrtilli* Schwenke, 1999

Holotype (♀): Reither Alm 850 m Heidelb. Hbth; 26.5.71 (Figs 52, 151).

Description

Missing: Left flagellomeres from 29th on, right flagellomeres from 26th on.

Body length 4.0 mm. Tips of flagella broken off, preapical flagellomeres c. $1.5 \times$ longer than wide; basal flagellomeres rather short; 1st flagellomeres length $4.8 \times$ width and $0.51 \times$ eye length; 2nd flagellomeres length $2.9 \times$ width. Temples moderately narrowed behind eyes, length $0.7 \times$ eye width. OOD 1.7. Face width $1.05 \times$ length of clypeus + face and $0.9 \times$ eye length. Malar spaces and ventral third of facial orbits widely striate. Mandibles with two equal-sized teeth. Mesopleura with few rather coarse but superficial punctures ventrally. Area basalis trapezoid, slightly longer than wide; area superomedia length $2.0 \times$ width and $1.3 \times$ length of area petiolaris, costulae in frontal 0.4 ; area petiolaris length $1.0 \times$ width. Hind femora length $4.0 \times$ width; hind metatarsi length $0.45 \times$ length of hind tibiae; hind claws with 2 widely spaced teeth. Areolets pointed, 2nd recurrent veins in their middle, nervuli interstitial; pterostigmata narrow (with folded frontal margins), with radial veins in their distal 0.7 . 1st tergite length $2.3 \times$ width; postpetiolus smooth, rectangular; 2nd tergite length $0.9 \times$ width; thyridia transverse-oval. Ovipositor sheaths pilose, length $6.2 \times$ width and $0.95 \times$ length of hind metatarsi.

Colour: Flagella ochreous. Head black; face brown; mandibles, clypeus, narrow facial orbits up to antennal grooves and genae yellow; frontal orbits opposite to lateral ocelli with large yellowish-red spots. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma black; 2nd tergite black, with yellow band in apical 0.15 ; 3rd tergite pale yellow medially, sides brown; following tergites brown, with yellowish apical margins (vespoid). Legs yellow; hind coxae brownish dorsally; hind femora reddish; hind tibiae yellow, narrowly brown at base and in apical 0.2 ($2 \times$ width). Pterostigmata hyaline-grey/brownish.

Remark: This species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95–98), except that the temples are shorter than eye width. It differs from *Mesochorus tenuiscapus* Thomson sensu Schwenke by the colour pattern of the metasoma. However, the lectotype of *M. tenuiscapus* which I have studied belongs to the *declinans* group sensu Schwenke.

65. *Mesochorus nitidus* Schwenke, 1999

Holotype (♀): D, BY, Sonthofen, Grünten, 15.8.83 1450–1600 m, Haeselbarth (Figs 55, 153).

Description

Missing: Left antenna, right flagellomeres from 21st on.

Body length 4.1 mm. 1st flagellomeres length $4.9 \times$ width and $0.65 \times$ eye length; 2nd flagellomeres length $3.2 \times$ width. Temples strongly narrowed behind eyes, length $0.7 \times$ eye width. Face width $1.0 \times$ length of clypeus + face and $0.95 \times$ eye length, sides convergent ventrally. Malar spaces and ventral third of facial orbits striate, upper face with some longitudinal rugae. MI 0.35. Mandibles with two equal-sized teeth. Mesopleura with very scattered hair-punctures ventrally. Area basalis trapezoid, slightly longer than wide; area superomedia length c. $2.0 \times$ width and c. $1.3 \times$ length of area petiolaris, costulae in frontal 0.35 ; area petiolaris wider than long. Hind femora length $4.5 \times$ width; hind metatarsi length $0.47 \times$ length of hind tibiae; apical fore and middle tarsomeres slightly swollen; hind claws with 4 teeth, 2nd tooth longest. Areolets shortly sessile, 2nd recurrent veins in their middle; nervuli interstitial; pterostigmata narrow (but frontal margin folded), with radial veins in their distal 0.7 . 1st tergite length $2.5 \times$ width; postpetiolus smooth; 2nd tergite length $1.1 \times$ width; thyridia transverse-oval. Ovipositor sheaths length $5.4 \times$ width and $0.95 \times$ length of hind metatarsi.

Colour: Flagella yellow basally and ochreous apically. Head including face blackish; mandibles except teeth, clypeus, malar spaces and genae cream-yellow; inner orbits reddish-yellow. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma black; 2nd tergite yellow in apical 0.2 ; 3rd tergite yellow, sides brown, wide apical margin greyish-yellow; following tergite brownish, with greyish apical margins. Legs yellow; hind coxae ventrally and hind femora dorsally with brownish stripes; hind tibiae narrowly brownish basally and brown in apical 0.15 ($1 \times$ width). Pterostigmata hyaline-brownish.

Remark: This species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95–98), except that the pterostigmata are not clearly hyaline, but have a brownish tint.

66. *Mesochorus olitorius* Schwenke, 1999

Holotype (♀): Deutschland, Apfelbacher 25.8.1989 ex *Plutella xylostella* larvae, leg. G. Peters (Fig. 56).

Description

Missing: Left hind leg except coxa (Body partly covered with glue).

Body length 3.5 mm. Flagella with 28 flagellomeres, preapical ones length c. $1.8 \times$ width; 1st flagellomeres length $6.8 \times$ width and $0.65 \times$ eye length; 2nd flagellomeres length $4.5 \times$ width. Temples moderately narrowed behind eyes, length $0.65 \times$ eye width. OOD 1.6. Face width $1.0 \times$ length of clypeus + face and $0.9 \times$ eye length, sides slightly convergent ventrally, with superficial punctures, centrally almost smooth. Ventral 0.5 of facial orbits and malar spaces striate. MI 0.4. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis trapezoid, about as long as wide; area superomedia length $2.1 \times$ width and $1.4 \times$ length of area petiolaris, costulae in frontal 0.35; area petiolaris length $1.0 \times$ width. Hind femora length $4.4 \times$ width; hind metatarsi length $0.48 \times$ length of hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $3.2 \times$ width, with radial veins in their distal 0.68. 1st tergite length $2.6 \times$ width; postpetiolus striate; 2nd tergite as long as wide; thyridia roundish. Ovipositor sheaths with sparse hairs apically, length $8.8 \times$ width and $1.1 \times$ length of hind metatarsi, strongly narrowed in apical 0.4.

Colour: Flagella ochreous. Head with face dark brown; clypeus, genae and orbits reddish; mandibles except teeth and malar spaces yellowish. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with H-sized reddish spot. Metasoma black; 2nd tergite black, with yellowish band in apical 0.25; 3rd tergite yellowish in basal third, apically black. Legs yellow; hind tibiae cream-yellow, widely brownish at base and in apical 0.25 ($2 \times$ width); hind tarsi except base of metatarsi brownish. Pterostigmata hyaline-brownish.

Remark: This species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95–98), but the yellow apical band of 2nd tergite is wider than mentioned in no. 65 of this key.

67. *Mesochorus orbis* Schwenke, 1999

Holotype (♀): 15.VII.69 Kiruna/S.; Coll. R. Hinz (Figs 57, 154).

Description

Missing: Left flagellomeres from 25th on, right flagellomeres from 12th on.

Body length 4.8 mm. Flagella with 32 flagellomeres (in paratype), preapical ones c. $2 \times$ longer than wide; 1st flagellomeres length $7.1 \times$ width and $0.75 \times$ width; 2nd flagellomeres length $4.4 \times$ width. Temples roundly narrowed behind eyes, length $0.65 \times$ eye width. OOD 1.0. Face width $1.15 \times$ length of clypeus + face and $0.93 \times$ eye length, with parallel sides. Ventral 0.3 of facial orbits and malar spaces with coarse striae. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with scattered punctures ventrally. Area basalis almost rectangular, c. $2 \times$ longer than wide; area superomedia length $2.1 \times$ width and $1.3 \times$ length of area petiolaris, costulae in frontal 0.35; area petiolaris about as long as wide. Hind femora length $5.0 \times$ width; hind metatarsi length $0.49 \times$ length of hind tibiae; hind claws without visible teeth. Areolets shortly stalked, 2nd recurrent veins slightly proximal their middle; nervuli interstitial; length of pterostigmata $3.1 \times$ width, with radial veins in their distal 0.7. 1st tergite length $3.0 \times$ width; postpetiolus smooth; 2nd tergite length $0.9 \times$ width; thyridia roundish. Ovipositor sheaths pilose, length $5.7 \times$ width and $0.92 \times$ length of hind metatarsi, narrowed in apical 0.4 and slightly bent upwards apically.

Colour: Black. Face (brownish-) red; facial and frontal orbits, mandibles, clypeus and genae cream-yellow; wide vertical and outer orbits yellow-red. Pronotum yellow-red; hind edges of pronotum, tegulae and wing bases cream-yellow; mesopleura except dorsal brownish suffusion, metapleura and apical $\frac{1}{3}$ of propodeum reddish; mesoscutum blackish with reddish stripes and H-sized spot; sides of scutellum yellow-red. Metasoma black; 2nd tergite with a triangular yellow spot in apical 0.2; 3rd tergite and following ones yellow centrally, brownish laterally. Legs yellowish; hind coxae and femora more reddish; hind tibiae cream-yellow, brownish basally and in apical 0.2 ($2 \times$ width); hind tarsi except basal half of metatarsi pale brownish. Pterostigmata hyaline-brown.

Remark: Jussila (2011: 44) had synonymized *Mesochorus orbis* with *M. mellis* Schwenke. I compared both types, and they are closely related. However, *M. orbis* differs from *M. mellis* by a longer area superomedia, less extended apical darkening of hind tibiae, reddish

face without brownish stripes, triangular apical spot on 2nd tergite, and brownish sides of the following tergites. *M. orbis* is correctly placed in the key for the *declinans* group (Schwenke 1999: 80–83).

Valid name: *Mesochorus orbis* Schwenke, 1999, stat. rev.

68. *Mesochorus palus* Schwenke, 1999

Holotype (♀): YU Srbija Raska Bukovik, 20.IX.91 leg. Glavendekić (Fig. 58).

Description

Complete.

Body length 3.0 mm. Flagella with 27 flagellomeres, preapical ones length c. $2.5 \times$ width; 1st flagellomeres length $9.4 \times$ width and $0.66 \times$ eye length; 2nd flagellomeres length $5.8 \times$ width. Temples roundly narrowed behind eyes, length $0.55 \times$ eye width. OOD 1.25. Face width $0.93 \times$ length of clypeus + face and $0.9 \times$ eye length, sides slightly convergent ventrally. MI 0.6. Malar spaces and ventral 0.4 of facial orbits striate. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis trapezoid, wider than long; area superomedia length $1.6 \times$ width and $0.9 \times$ length of area petiolaris, costulae in frontal 0.45; area petiolaris length $1.1 \times$ width. Hind femora length $4.7 \times$ width; hind metatarsi length $0.4 \times$ length of hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $2.8 \times$ width, with radial veins in their distal 0.68, distal part of radial veins long, sinusoid. 1st tergite length $2.7 \times$ width; postpetiolus with longitudinal rugae; 2nd tergite length $0.85 \times$ width; thyridia comma-shaped. Ovipositor sheaths stab-shaped, with short hairs, length $10.0 \times$ width and $1.55 \times$ length of hind metatarsi.

Colour: Flagella yellowish basally, brownish apically. Head brown; face, clypeus, malar spaces, genae and wide orbits yellow-red. Mesosoma brownish; pronotum yellowish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesopleura pale brownish; mesoscutum with two yellow-red stripes. 1st tergite brown, yellowish basally; 2nd tergite brown, with arched yellow band in apical 0.4; 3rd tergite yellow in basal half, brown apically; following tergites blackish. Legs yellowish. Pterostigmata hyaline.

Remark: This species is correctly placed in the key for the *curvulus* group (Schwenke 1999: 35–37), but the mesopleura are brownish, not black.

69. *Mesochorus parilis* Schwenke, 1999

Holotype (♂): Erlangen, Mfr 15.8.72 Schwenke.

Description

Complete.

Body length 3.1 mm. Flagella with 24 flagellomeres, preapical ones length c. $2 \times$ width; 1st flagellomeres length $8.1 \times$ width and $0.71 \times$ eye length; 2nd flagellomeres length $4.5 \times$ width. Temples moderately and roundly narrowed behind eyes, length $0.66 \times$ eye width. OOD 1.5. MI 0.4. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis trapezoid, slightly wider than long; area superomedia length $1.7 \times$ width and $1.0 \times$ length of area petiolaris, costulae in frontal 0.4; area petiolaris $1.1 \times$ longer than wide. Hind femora length $5.0 \times$ width; hind metatarsi length $0.44 \times$ length of hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $2.5 \times$ width, radial veins in their distal 0.52, distal part of radial veins long, sinusoid. 1st tergite length $3.1 \times$ width; postpetiolus with coarse striae; 2nd tergite length $0.85 \times$ width; thyridia small, comma-shaped. Stylets stab-shaped, slightly clubbed apically, length $1.5 \times$ length of 2nd hind tarsomeres.

Colour: Flagella ochreous. Head brownish; whole face, clypeus and genae yellow; malar spaces and mandibles except teeth pale yellow. Mesosoma brownish; pronotum and mesopleura yellow-red; mesoscutum with yellowish H-shaped spot centrally. Metasoma brownish; 1st tergite yellow basally; 2nd tergite yellow, with anterolateral brownish spots; 3rd tergite yellow, with brownish sides; following tergites brown. Legs yellow; hind coxae somewhat paler; hind tibiae only slightly and narrowly darkened apically. Pterostigmata hyaline-ochreous.

Remark: This species is correctly placed in the key of the *curvulus* group (Schwenke 1999: 35–37), but the stylets are longer than 2nd hind tarsomeres as in *Mesochorus sedis* Schwenke. It differs from *M. sedis* by its smaller area petiolaris and slightly darkened apices of hind tibiae.

Valid name: *Mesochorus cyparissiae* Schwenke, 2002; syn. *Mesochorus parilis* Schwenke, 1999 (preoccupied by Kusigemati 1988).

70. *Mesochorus parvioculatus* Schwenke, 1999

Holotype (♀): Italia-Piemonte (TO), Pietrabianca di Bus-soleno, m. 900, VI-1981 leg. G. Boffa (Figs 59, 155).

Description

Missing: Left flagellomeres from 4th on; right flagellum.

Body length 3.3 mm. 1st flagellomeres length 7.4 × width and 0.75 × eye length; 2nd flagellomeres length 5.7 × width. Temples strongly narrowed behind eyes, length 0.45 × eye width. OOD 1.4. Face width 1.2 × length of clypeus + face and 0.9 × eye length. MI 0.4. Mandibles with two equal-sized teeth. Mesoscutum with scattered fine punctures. Mesopleura with some very scattered fine hair-punctures ventrally. Area basalis almost triangular; area superomedia length c. 2 × width, costulae in frontal 0.3; area petiolaris wider than long. Hind femora length 5.5 × width; hind metatarsi length 0.51 × length of hind tibiae; hind claws with one long basal tooth. Areolets shortly stalked, 2nd recurrent veins in their middle; nervuli interstitial; pterostigmata narrow, length 3.3 × width, with radial veins in their apical 0.75. 1st tergite length 2.6 width; postpetiolus smooth; 2nd tergite length 1.1 × width, thyridia roundish. Ovipositor sheaths densely pilose, length 9.0 × width and 1.0 × length of hind metatarsi, narrowed in apical 0.5 and slightly bent upwards apically.

Colour: Blackish. Bases of flagella ochreous. Face brown; clypeus, orbits, malar spaces and mandibles except teeth yellowish. Mesosoma blackish; hind edges of pronotum, tegulae and wing base cream-yellow. Metasoma brown, tergites with very narrow pale apical margins. Legs reddish-yellow; middle and hind coxae brown; hind femora reddish; hind tibiae yellowish, not darkened apically. Pterostigmata hyaline.

Remark: This species is correctly placed in the key for the *angustatus* group (Schwenke 1999: 72–73).

71. *Mesochorus pascuus* Schwenke, 1999

Holotype (♀): A, T, Imsterberg, Bergwiesen 24.6.83, 1250 m, Haeselbarth (Figs 60, 156).

Description

Missing: Right flagellomeres from 18th on.

Body length 4.5 mm. Flagella with 33 flagellomeres; preapical ones c. 1.5 × longer than wide; 1st flagellomeres length 4.9 × width and 0.6 × eye length; 2nd flagellomeres length 2.9 × width. Temples roundly narrowed, length 0.8 × eye width. OOD c. 1.5. Face with parallel sides, width 1.2 × length of clypeus + face and 1.0 × eye length, punctate. MI 0.7. Mandibles with two equal-sized teeth. Malar spaces finely striate. Mesopleura ventrally with scattered punctures. Scutellum almost smooth. Area basalis

almost triangular, slightly longer than wide; area superomedia length 2.0 × width and 1.2 × length of area petiolaris, costulae in frontal 0.35; area petiolaris length 1.1 × width. Hind femora length 3.6 × width; hind metatarsi length 0.48 × length of hind tibiae; distal fore tarsomeres length 2.3 width; hind claws with 3 stout teeth, second tooth longest. Areolets shortly stalked; 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata 2.9 × width, with radial veins in their distal 0.63. 1st tergite length 2.5 × width; postpetiolus length 1.35 × width, smooth; 2nd tergite length 0.95 × width; thyridia transverse-oval. Ovipositor sheaths densely pilose, length 6.1 × width and 0.88 length of hind metatarsi, slightly narrowed and slightly bent dorsally in apical 0.3.

Colour: Flagella brownish. Face reddish, with two sublateral blackish stripes; frons medially, ocellar field and occiput black; clypeus and orbits yellow-red; palps, mandibles except teeth, malar spaces, genae and facial orbits cream-yellow. Mesosoma black; scutellum reddish; hind edges of pronotum, tegulae and wing bases cream-yellow. 1st tergite black; 2nd tergite black, with yellow-red band in apical 0.2; 3rd tergite yellow, cream-yellow apically, sides with brown spots; following tergites brownish, with wide yellow apical margins (distinctly vespoid). Fore and middle legs yellow, hind legs more reddish-yellow; hind coxae reddish, with brownish suffusion dorsally; hind tibiae yellow, blackish at base (by 1 × width), brown in apical 0.2 (2 × width); hind tarsi brownish. Pterostigmata brownish, paler proximally and distally.

Remark: This taxon is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 72–73), but the temples are slightly shorter than eye width. It is characterized by the stout apical flagellomeres and hind femora.

72. *Mesochorus perugianus* Schwenke, 1999

Holotype (♀): Italia-Perugia M.te Peglia m 550; 1–9-XI-1978 T. M., leg. F. Bin (Figs 61, 157).

Description

Missing: Left flagellomeres from 11th on, otherwise complete.

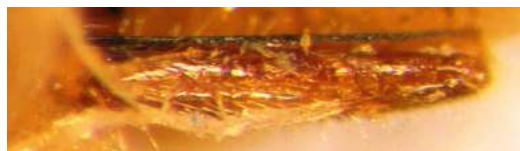
Body length 5.7 mm. Flagella with 35 flagellomeres, preapical ones short, 1.3 × longer than wide; 1st flagellomeres length 7.5 × width and 0.67 × eye length; 2nd flagellomeres length 4.1 × width. Temples strongly narrowed behind eyes, length 0.5 × eye width. OOD 1.2. Face width 1.15 × length of clypeus + face and 1.0 × eye length, with parallel sides. Ventral 0.5 of facial orbits and malar spaces



61



62



63



64



65



66



67



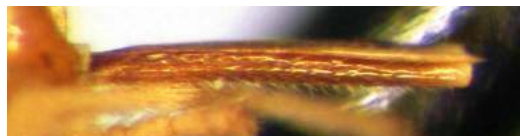
68



69



70



71



72



73



74



75



76

Figs 61–76. Ovipositor sheaths of the holotypes. 61. *Mesochorus perugianus*; 62. *M. petiolus*; 63. *M. pharaonis*; 64. *M. phyllodectae* (paratype); 65. *M. piceanus*; 66. *M. piemontensis*; 67. *M. pini*; 68. *M. plebejanus*; 69. *M. procerus*; 70. *M. pullus*; 71. *M. religiosus*; 72. *M. rilaensis*; 73. *M. rivanus*; 74. *M. rufopetiolatus*; 75. *M. sardegnae*; 76. *M. septentrionalis* (paratype).

striate. MI 0.6. Mandibles with two equal-sized teeth. Mesopleura densely punctate ventrally. Area basalis trapezoid, length $1.5 \times$ width; area superomedia length $2.2 \times$ width, costulae in frontal $0.4 \times$; area petiolaris length $1.1 \times$ width. Hind femora length $4.4 \times$ width; hind metatarsi $0.46 \times$ as long as hind tibiae; hind claws with 2 long and widely space teeth. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $3.0 \times$ width, with radial veins in their distal 0.67 . 1st tergite length $2.6 \times$ width; postpetiolus with weak central impression; 2nd tergite length $1.05 \times$ width, thyridia transverse-oval. Ovipositor sheaths pilose, narrowed in apical 0.3 , length $8.6 \times$ width and $0.95 \times$ length of hind metatarsi.

Colour: Black. Flagella ochreous. Face blackish with reddish margins; mandibles except teeth, malar spaces, genae, facial orbits and triangular spots opposite to antennae cream-yellow. Upper frontal orbits and outer orbits reddish-yellowish, widened opposite to lateral ocelli. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow; anterior and wide upper margins of pronotum, mesoscutum except 3 brownish stripes, dorsal half of mesopleura and scutellum reddish. 1st and 2nd tergites black, 2nd tergite with narrow ivory hind margin; following tergites with dark reddish suffusion. Legs reddish-yellow; hind coxae reddish-brown; hind tibiae pale yellowish, black basally and in apical 0.2 ($2 \times$ width). Pterostigmata dark brown, pale proximally and distally.

Remark: This species is correctly placed in the key for the *angustatus* group (Schwenke 1999: 72–73).

73. *Mesochorus pharaonis* Schwenke, 1999

Holotype (♀): Egypt, Niltal, Wadi Katara 10 km N Aswan 23.3.1988 Mart. Schwarz (Fig. 63).

Description

Missing: Left flagellomere from 11th on, right middle and hind legs; metasoma broken off, glued on card.

Body length 4.2 mm. 1st flagellomeres length $6.6 \times$ width and $0.59 \times$ eye length; 2nd flagellomeres length $4.3 \times$ width. Temples strongly narrowed behind eyes, length $0.4 \times$ eye width. Ocellar field elevated, OOD 0.45 . Face width $1.0 \times$ length and 0.75 eye length, with parallel sides. MI 0.2 . Mandibles with two equal-sized teeth. Mesopleura with fine superficial punctures ventrally. Area basalis triangular; area superomedia length $1.9 \times$ width, costulae in frontal 0.3 ; area petiolaris as long as wide. Hind femora length $4.8 \times$ width; hind metatarsi length $0.47 \times$ length of hind tibiae. Areolets stalked, 2nd recurrent veins

in their middle, nervuli slightly antefurcal; length of pterostigmata $2.6 \times$ width, with radial veins in their distal 0.66 . Ovipositor sheaths length $6.2 \times$ width and $0.95 \times$ length of hind metatarsi, slightly narrowed in apical 0.3 .

Colour: Head red; facial and frontal orbits widely, clypeus, mandibles except teeth and genae cream-yellow. Mesosoma reddish; frontal and upper margins of pronotum, tegulae, wing bases, four stripes on mesoscutum and stripe on ventral mesopleura cream-yellow; mesoscutum brownish; scutellum with basal brownish spot. Metasoma brownish; 1st tergite basally and apically, following tergites centrally and apically cream-yellow. Legs yellowish; hind coxae and femora reddish. Pterostigmata hyaline.

Remark: The holotype has an extensive cream-yellow colour of inner orbits and therefore belongs to the *orbitalis* group sensu Schwenke. In the key of the *orbitalis* group (Schwenke 1999: 62–63) it runs to no 18 (*Mesochorus jenesis* Schwenke, 2002; syn. *M. hyalinus* Schwenke, 1999 preocc.), but differs by the yellow stripes on mesoscutum and longer ovipositor sheaths.

74. *Mesochorus phyllodectae* Schwenke, 1999

Holotype: (♀) Novi Sad, Jug 1965, Jodal; ex *Phyllodecta vitellinae* an *Populus* (Figs 64 (paratype), 158).

Description

Missing: Left flagellomeres from 3rd on.

Body length 3.0 mm. Flagella with 25 flagellomeres, preapical ones $c. 2 \times$ longer than wide; 1st flagellomeres length $6.6 \times$ width and $0.53 \times$ eye length; 2nd flagellomeres length $4.3 \times$ width. Head and face strongly transverse. Temples strongly narrowed behind eyes, length $0.45 \times$ eye width. OOD 1.7 . Face width $1.3 \times$ length of clypeus + face and $0.95 \times$ eye length. MI 0.35 . Mandibles with two equal-sized teeth. Mesosoma short, length $1.35 \times$ height. Mesopleura with dense and coarse punctures ventrally, partly rugose. Area basalis trapezoid, slightly wider than long; area superomedia small, length $1.3 \times$ width and $0.6 \times$ length of area petiolaris, costulae indistinct; area petiolaris very large ($0.65 \times$ length of propodeum), length 0.95 width, with transverse rugae. Hind femora length $3.7 \times$ width; hind metatarsi length $0.4 \times$ length of hind tibiae; hind claws with long teeth. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $2.7 \times$ width, with radial veins in their distal 0.57 . 1st tergite length $1.9 \times$ width; postpetiolus with fine longitudinal striation; 2nd tergite length

0.55 × width; thyridia comma-shaped. Ovipositor sheaths pilose, length 8.8 × width and 1.35 × length of hind metatarsi, narrowed in apical 0.5, slightly bent upwards apically.

Colour: Black. Flagella ochreous basally and brown apically. Face brown; clypeus, wide facial orbits, malar spaces, mandibles except teeth and genae widely cream-yellow; outer orbits narrowly reddish. Mesosoma blackish; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma black; 1st tergite reddish basally; 2nd tergite with narrow cream-yellow band in apical 0.1. Legs yellow; hind femora more reddish-yellow; hind tibiae not distinctly darkened apically. Pterostigmata hyaline-brownish.

Remark: This species is correctly placed in the key for the species groups of *Mesochorus* by Schwenke (1999: 34) and is characterized by the very large area petiolaris.

75. *Mesochorus piceanus* Schwenke, 1999

Holotype (♀): Zborov 4.III.1965 lgt. M. Capek; ex *A. piceana* (Figs 65, 159).

Description

Missing: Left flagellomeres from 27th on, right flagellomeres from 11th on, left 2nd-5th fore tarsomeres.

Body length 6.5 mm. 1st flagellomeres length 7.0 × width and 0.76 × eye length; 2nd flagellomeres length 4.0 × width. Temples strongly narrowed behind eyes, length 0.38 × eye width. OOD 1.0. Face width 1.1 × length of clypeus + face and 1.0 × eye length, with parallel sides. Ventral 0.5 of facial orbits, mandibles and malar spaces coarsely striate. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with dense and coarse punctures ventrally. Area basalis triangular, c. 1.5 × longer than wide, with long apical stalk; area superomedia length 1.7 × width and 1.05 × length of area petiolaris, costulae in frontal 0.3; area petiolaris length 1.05 × width. Hind femora length 4.7 × width; hind metatarsi length 0.44 × length of hind tibiae; hind claws with c. 4 very short basal teeth. Areolets pointed, oblique, 2nd recurrent veins proximal to their middle; nervuli slightly postfurcal (1 × width); length of pterostigmata 3.2 × width, radial veins in their distal 0.67. 1st tergite length 2.4 × width; postpetiolus smooth, not distinctly impressed centrally; 2nd tergite length 1.05 × width; thyridia transverse-oval. Ovipositor sheaths densely pilose, stab-shaped, length 7.5 × width and 1.2 × length of hind metatarsi.

Colour: Black. Flagella ochreous basally and dark brownish apically. Head black; face and clypeus

with mixed reddish, yellowish and blackish pattern; mandibles except teeth, malar spaces, facial orbits and genae cream-yellowish; outer orbits reddish. Mesosoma black; upper margins of pronotum reddish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesopleura reddish and brownish; mesoscutum reddish, with two lateral and one frontal-median black stripes; scutellum reddish. Metasoma black; 1st tergite in apical 0.3 and 2nd tergite diffusely dark reddish brown; 2nd tergite with narrow apical yellowish margin; following tergites with narrow yellowish hind margins. Legs reddish-yellow; hind tibiae yellow, brown basally and in apical 0.3; hind tarsi except base of metatarsi dark brownish. Pterostigmata brown, paler proximally and distally.

Remark: This species is correctly placed in the key for the *angustatus* group (Schwenke 1999: 72-73).

76. *Mesochorus piemontensis* Schwenke, 1999

Holotype (♀): Italia-Piemonte, Valdierei (Cn), m 980, 23.IX-6.XI.1986, G. Della Belfa I. (I.P.L.A.) (Figs 66, 160) The holotype is located in the ZSM (not in the American Entomological Institute as stated in Schwenke 1999: 109).

Description

Missing: Left fore wing.

Body length 4.2 mm. Flagella with 30 flagellomeres, preapical ones c. 1.8 × longer than wide; 1st flagellomeres length 7.2 × width and 0.7 × eye length; 2nd flagellomeres length 4.6 × width. Temples strongly narrowed behind eyes, length 0.6 × eye width. OOD 1.0. Face width 1.05 × length of clypeus + face and 0.9 × eye length, punctate, sides slightly convergent ventrally. Frons and vertices with fine transverse striation. MI 0.4. Mandibles with two equal-sized teeth. Malar spaces and ventral 0.3 of facial orbits finely striate. Genal carinae joining hypostomal ones far from mandibular bases. Mesopleura with fine scattered punctures ventrally. Area basalis trapezoid, about as long as wide; area superomedia length c. 2.2 × width and 1.4 × length of area petiolaris, costulae in frontal 0.4; area petiolaris length 1.3 × width. Hind femora length 4.9 × width; hind metatarsi length 0.47 × length of hind tibiae; distal fore tarsomeres length 2.2 × width; hind claws with about 2 basal short teeth. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata 2.8 × width, with radial veins in their distal 0.7. 1st tergite length 2.6 × width; postpetiolus length 1.25 × width, with some fine longitudinal rugae; 2nd tergite length 1.0 × width; thyridia transverse-oval. Ovipositor sheaths

completely pilose, sabre-shaped, length $6.5 \times$ width and $1.0 \times$ length of hind metatarsi.

Colour: Flagella ochreous, darkened apically. Face blackish; wide orbits and clypeus yellow; outer orbits more reddish-yellow; frons medially, ocellar field and occiput black; palps, mandibles except teeth, malar spaces and genae cream-yellow. Mesosoma black; pronotum, mesopleura fronto-dorsally and mesoscutum yellow-red; pronotum laterally and 3 stripes on mesoscutum blackish; hind edges of pronotum, tegulae and wing bases cream-yellow; scutellum yellow-red, with basal black spot. 1st tergite black; 2nd tergite black, with narrow cream-yellow band in apical 0.1; 3rd tergite yellow, brown laterally; following tergites pale brownish basally and yellow-brown apically, indistinctly vespoid. Legs reddish-yellow; trochanters yellow; hind coxae brownish; hind tibiae narrowly black basally, brownish in apical 0.2 ($2 \times$ width); hind tarsi yellow-brown. Pterostigmata brownish-hyaline, with somewhat darker caudal margins.

Remark: The species is wrongly placed in the key of the *pectoralis* group (Schwenke 1999: 95–98). It runs to no. 56 (*Mesochorus lunaris* Schwenke) and differs from *M. lunaris* by the scattered punctuation on mesopleura and blackish 1st tergite.

77. *Mesochorus pini* Schwenke, 1999

Holotype (♀): Heideck, N-Bayern/D., 5.72 leg. W. Schwenke (Figs 67, 161).

Description

Missing: Left flagellomeres from 4th on, right 4th and 5th hind tarsomeres. Metasoma broken off, glued on card.

Body length 8.5 mm. Flagella with 46 flagellomeres, preapical ones c. $1.8 \times$ longer than wide; 1st flagellomeres length $4.8 \times$ width and $0.63 \times$ eye length; 2nd flagellomeres length $3.1 \times$ width. Temples roundly narrowed behind eye, length $0.6 \times$ eye width. OOD 0.85. Face width $1.05 \times$ length of clypeus + face and $0.9 \times$ eye length, sides slightly divergent ventrally, coarsely punctate, partly rugose. Ventral 0.5 of facial orbits and malar spaces striate. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with scattered punctures ventrally. Area basalis rectangular, confluent with area superomedia, c. $2.5 \times$ longer than wide; area superomedia length c. $1.9 \times$ width and $1.2 \times$ length of area petiolaris, costulae in frontal 0.5; area petiolaris length $0.82 \times$ width. Hind femora length $3.9 \times$ width; hind metatarsi length $0.47 \times$ length of hind tibiae. Areolets pointed, oblique, 2nd recurrent veins proximal to their middle; nervuli interstitial;

length of pterostigmata $3.2 \times$ width, radial veins in their distal 0.67. 1st tergite length $2.6 \times$ width; postpetiolus smooth; 2nd tergite length $1.0 \times$ width; thyridia transverse-oval. Ovipositor sheaths completely pilose, length $3.3 \times$ width and $0.77 \times$ length of hind metatarsi, slightly conical ventral and dorsal sides.

Colour: Black. Flagella reddish-brown. Face and clypeus reddish-brown; mandibles except teeth, malar spaces, facial orbits and wide frontal orbits up to anterior ocellus cream-yellow; outer orbits reddish. Mesosoma reddish-brown; frontal and upper margins of pronotum yellowish; hind edges of pronotum, subtegular ridges, tegulae and wing bases cream-yellow; mesopleura brownish centrally; mesoscutum brownish-yellow, with brown lateral and fronto-medial stripes; scutellum yellow-brown; propodeum and metapleura, reddish-brown in caudal third. 1st tergite black; 2nd tergite black, with narrow yellow caudal margin; following tergites reddish-brown, with narrow yellow caudal margins. Ovipositor black. Legs yellowish; hind tibiae cream-yellow externally, brownish basally and in apical 0.1 ($0.5 \times$ width). Pterostigmata yellow-hyaline, with brownish margins.

Remark: The taxon is correctly placed in the key of the *sylvarum* group (Schwenke 1999: 60).

78. *Mesochorus plebejanus* Schwenke, 1999

Holotype (♀): Margetshöchheim bei Würzburg 19.7. 1992 e.p. 4.8.92; ex *Polyommatus icarus* leg. als L4 via *Campopleg.* leg. K. Fiedler (Figs 68, 162).

Description

Missing: Left flagellomeres from 22nd on, right flagellum.

Body length 5.0 mm. Flagella with 35 flagellomeres, preapical ones short, $1.6 \times$ longer than wide; 1st flagellomeres length $7.0 \times$ width and $0.7 \times$ eye length; 2nd flagellomeres length $4.1 \times$ width. Temples strongly narrowed behind eyes, length $0.45 \times$ eye width. OOD 1.2. Face width $1.1 \times$ length of clypeus + face and $1.0 \times$ eye length, with parallel sides. Ventral 0.5 of facial orbits and malar spaces striate. MI 0.5. Mandibles with two equal-sized teeth. Mesopleura densely punctate ventrally. Area basalis almost rectangular, length $1.5 \times$ width, confluent with area superomedia; area superomedia length $2.2 \times$ width, costulae in frontal 0.4; area petiolaris length $1.05 \times$ width. Hind femora length $4.2 \times$ width; hind metatarsi $0.5 \times$ as long as hind tibiae; hind claws with 4 teeth (two lateral teeth long). Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $3.1 \times$ width, with

radial veins in their distal 0.67. 1st tergite length 2.4 × width; postpetiolus smooth; 2nd tergite length 1.0 × width; thyridia transverse-oval. Ovipositor sheaths densely pilose, narrowed in apical 0.3, length 7.2 × width and 1.0 × length of hind metatarsi.

Colour: Black. Flagella ochreous. Face and clypeus blackish; mandibles except teeth, malar spaces, genae, facial orbits and triangular spots opposite to antennae cream-yellow; upper frontal orbits and outer orbits reddish-yellowish, widened opposite to lateral ocelli. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow; wide upper margins of pronotum, mesoscutum except 3 brownish stripes, fronto-dorsal edge of mesopleura and scutellum reddish. 1st and 2nd tergites black, 2nd tergite with narrow ivory hind margin; following tergites with brownish suffusion. Legs reddish-yellow; hind coxae reddish; hind tibiae pale yellowish, black in apical 0.2 (2 × width); hind tarsomeres with brownish tips. Pterostigmata dark brown, pale proximally and distally.

Remark: This species is correctly placed in the key for the *angustatus* group (Schwenke 1999: 72–73), but the mesoscutum is coloured as in *Mesochorus mirabilis* Schwenke. It can be differentiated from that species by the completely red hind coxae (without brownish spots) and slenderer ovipositor sheaths.

79. *Mesochorus procerus* Schwenke, 1999

Holotype (♀): I, IM-Realdo Colla Sanson, 26.VII.1986, Scaramozzino leg. (Figs 69, 163).

Description

Missing: Left flagellomeres from 5th on, right flagellomeres from 39th on.

Body length 9.2 mm. 1st flagellomeres length 6.9 × width and 0.65 × eye length; 2nd flagellomeres length 4.4 × width. Temples short and strongly narrowed behind eyes, length 0.3 × eye width. OOD 0.55, ocellar field elevated. Face width 1.0 × length of clypeus + face and 0.78 × eye length, with parallel sides. Ventral 0.3 of facial orbits and malar spaces striate. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with rather dense and coarse punctures ventrally. Area basalis rectangular, c. 2 × longer than wide; area superomedia length 2.3 × width and 1.6 × length of area petiolaris, costulae in frontal 0.35; area petiolaris length 0.85 × width. Hind femora very slender, length 5.9 × width; hind metatarsi length 0.51 × length of hind tibiae; hind claws with c. 5 basal teeth. Areolets pointed, oblique, 2nd recurrent veins proximal to their middle; nervuli interstitial; length of pterostigmata 3.2 × width, radial veins in their

distal 0.63. 1st tergite length 3.0 width; postpetiolus length 1.5 × width, smooth, with some superficial punctures; 2nd tergite length 1.15 × width; thyridia transverse-oval. Ovipositor sheaths densely pilose, length 7.1 × width and 0.8 × length of hind metatarsi, narrowed in apical 0.4.

Colour: Flagella brownish. Head black; Face blackish; mandibles except teeth, and malar space yellowish; clypeus, inner orbits, and genae reddish-yellow. Mesosoma reddish; hind edges of pronotum, tegulae and wing bases cream-yellow; propodeum diffusely brownish in basal half. Metasoma black; 1st tergite reddish basally; 2nd tergite with narrow yellow band in apical 0.1. Legs reddish-yellow; fore and middle coxae and all trochanters cream-yellow; hind tibiae yellow, brownish basally and in apical 0.15 (1.0 × width); tips of hind metatarsi narrowly brownish. Pterostigmata pale brownish.

Remark: This taxon is correctly placed in the key of the *angustatus* group (Schwenke 1999: 72–73). It resembles *Mesochorus bavaricus* Schwenke but differs by its slenderer hind femora and shorter area petiolaris.

Valid name: *Mesochorus cummingsae* Kittel, 2016; syn. *Mesochorus procerus* Schwenke, 1999 (preoccupied by Dasch 1974).

80. *Mesochorus pullus* Schwenke, 1999

Holotype (♀): Italia-Piemonte Bienza Canavese (TO) VII.1985 m. 4000, Leg A. Casale (Figs 70, 164).

Description

Missing: Left flagellomeres from 10th on.

Body length 4.2 mm. Flagella with 33 flagellomeres, preapical ones c. 1.8 × longer than wide; 1st flagellomeres length 6.2 × width and 0.7 × eye length; 2nd flagellomeres length 4.7 × width. Temples strongly narrowed behind eyes, length 0.5 × eye width. OOD 1.1. Face with parallel sides, width 1.0 × length of clypeus + face and 0.9 × eye length, punctate. MI 0.5. Mandibles with two equal-sized teeth. Malar spaces and ventral 0.3 of facial orbits widely striate. Genal carinae joining hypostomal ones far from mandibular bases. Mesopleura with coarse and rather dense punctures ventrally. Metapleura with fine punctures. Area basalis trapezoid, c. 1.5 × longer than wide; area superomedia length 2.2 × width and 1.2 × length of area petiolaris, costulae in frontal 0.35; area petiolaris length 1.25 × width. Hind femora length 4.6 × width; hind metatarsi length 0.48 × length of hind tibiae; hind claws with 2 widely spaced teeth. Areolets pointed sessile, 2nd recurrent veins in their middle; nervuli slightly

postfurcal ($1 \times$ width); length of pterostigmata $2.9 \times$ width, with radial veins in their distal 0.66. 1st tergite short, length $2.1 \times$ width; postpetiolus length $1.35 \times$ width, with some longitudinal striae; 2nd tergite length $1.0 \times$ width; thyridia roundish. Ovipositor sheaths completely pilose, with long hairs, length $8.0 \times$ width and $0.85 \times$ length of hind metatarsi, narrowed in apical half.

Colour: Black. Flagella brownish. Face reddish-brown; orbits and clypeus reddish; frons medially, ocellar field and occiput black; palps, mandibles except teeth, malar spaces and gena cream-yellow. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow; upper margins of pronotum widely reddish; mesoscutum with four reddish stripes, submedian stripes confluent caudally; scutellum with reddish sides. 1st sternite reddish; 1st tergite black; 2nd tergite black, with reddish band in apical 0.2; 3rd and 4th tergites reddish, with brownish sides; following tergites brown to black, with paler hind margins (vespoid). Legs reddish; hind femora with brownish suffusion; hind tibiae yellow, narrowly blackish basally, brownish in apical 0.25 ($2-3 \times$ width); hind tarsi ochreous. Pterostigmata brown, paler proximally and distally.

Remark: The species belongs to the *pectoralis* group (Schwenke 1999: 95–98) but is not correctly placed in the key because the ovipositor sheaths are shorter than the hind metatarsi. It runs to no. 125 (*M. diluvius* Schwenke) but differs from *M. diluvius* by the reddish-brown colouration of face, coarser punctuation of ventral mesopleura and shorter ovipositor sheaths.

81. *Mesochorus religiosus* Schwenke, 1999

Holotype (♀): IL, Kapernaum, Wiese am Seeufer, 13.2.80 M. Söderlund (Fig. 71).

Description

Complete.

Body length 2.5 mm. Flagella with 22 flagellomeres, preapical ones c. $2 \times$ longer than wide; 1st flagellomeres length $6.6 \times$ width and $0.75 \times$ eye length; 2nd flagellomeres length $3.8 \times$ width. Temples moderately narrowed behind eyes, length $0.75 \times$ eye width. OOD 1.75. Face width $1.2 \times$ length of clypeus + face and $0.92 \times$ eye length, with parallel sides. Ventral 0.5 of facial orbits and malar spaces striate. MI 0.6. Mandibles with two equal-sized teeth. Mesopleura smooth ventrally. Area superomedia length $2.0 \times$ width and $0.85 \times$ length of area petiolaris, costulae in frontal 0.4; area petiolaris length $1.3 \times$ width. Hind femora length $4.7 \times$ width; hind metatarsi length $0.42 \times$ length of hind tibiae. Areolets

pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $2.9 \times$ width, with radial veins in their distal 0.66. 1st tergite length $2.7 \times$ width; postpetiolus with some longitudinal rugae; 2nd tergite length $0.8 \times$ width; thyridia comma-shaped. Ovipositor sheaths pilose, slightly bent downwards, length $12.5 \times$ width and $1.7 \times$ length of hind metatarsi.

Colour: Brownish. Flagella yellowish, ochreous apically. Face brownish dorsally, yellowish ventrally; clypeus, facial orbits, malar spaces, genae and mandibles except teeth yellowish; frontal orbits opposite to lateral ocelli widely yellowish; outer orbits reddish. Mesosoma reddish-brown; pronotum reddish-yellow; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with H-shaped reddish-yellow spot, scutellum reddish-yellow. Metasoma brown; 2nd tergite with reddish-yellow band in apical 0.25; 3rd tergite yellowish, sides reddish; following tergites brownish. Legs yellow; hind tibiae brownish in apical 0.1 ($0.5 \times$ width). Pterostigmata hyaline, apical margins darker.

Remark: The synonymy was already suspected by K. Horstmann (unpublished notes).

Valid name: *Mesochorus tipularis* Gravenhorst, 1829; syn. nov. *Mesochorus religiosus* Schwenke, 1999.

82. *Mesochorus rilaensis* Schwenke, 2002

Holotype (♀): 12.VIII.1973 Rila-Kloster/ BG; coll. R. Hinz (Fig. 72).

Description

Missing: Both antennae, left fore leg, right middle tibia and tarsus, right hind leg except coxa.

Body length 4.5 mm. Temples strongly narrowed behind eyes, length $0.7 \times$ eye width. OOD 1.2. Face width $1.0 \times$ length of clypeus + face and $0.95 \times$ eye length, sides parallel. Ventral 0.3 of facial orbits and malar spaces striate. MI 0.4. Mandibles with two equal-sized teeth. Mesopleura with very scattered fine hair-punctures ventrally. Area basalis trapezoid, about as long as wide; area superomedia length $2.1 \times$ width and $1.4 \times$ length of area petiolaris, costulae in frontal 0.4; area petiolaris length $1.05 \times$ width. Hind femora length $4.4 \times$ width; hind metatarsi length $0.49 \times$ length of hind tibiae; hind claws with c. 3 basal teeth. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $2.7 \times$ width, with radial veins in their distal 0.72. 1st tergite length $2.7 \times$ width; postpetiolus length $1.3 \times$ width, smooth; 2nd tergite length $0.95 \times$ width; thyridia large, roundish. Ovipositor sheaths

densely pilose, length $6.6 \times$ width and $0.9 \times$ length of hind metatarsi, slightly narrowed in apical third.

Colour: Face and orbits narrowly reddish; malar spaces yellow; face with brownish suffusion; frons largely, ocellar field, temples caudally and occiput black. Mesosoma black; scutellum dark reddish; hind edges of pronotum and subtegular ridges reddish-yellow; tegulae and wing bases cream-yellow. 1st tergite black; 2nd tergite with yellow band in apical 0.2; 3rd tergite reddish-yellow with brownish sides and apical greyish band; following tergites pale brownish, with wide greyish hind bands. Legs reddish-yellow; hind femora reddish, with slightly brownish suffusion; hind tibiae brown basally and in apical 0.2 ($2 \times$ width). Pterostigmata ochreous.

Remark: This species belongs to the *pectoralis* group sensu Schwenke. In his key (Schwenke 1999: 95–98) it runs to no. 125 (*Mesochorus diluvius* Schwenke) but differs from that taxon by its paler face, the shorter pectination of hind claws and form of ovipositor sheaths.

83. *Mesochorus rivanus* Schwenke, 1999

Holotype (♀): Campi, Riva S. Garda, 1500 m, F/7.9.67 Hbth (Figs 73, 165).

Description

Missing: Both antennae, right fore leg except coxa and both middle legs except coxae.

Body length 3.0 mm. Temples roundly narrowed behind eyes, length $0.7 \times$ eye width. OOD 1.6. Face width $1.1 \times$ length of clypeus + face and $0.9 \times$ eye length, sides slightly convergent ventrally. Malar spaces and ventral 0.3 of facial orbits striate. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with scattered and fine hair-punctures ventrally. Area basalis triangular, c. $2 \times$ longer than wide; area superomedia length $2.4 \times$ width and $1.7 \times$ length of area petiolaris, costulae in frontal 0.3; area petiolaris length 1.0 width. Hind femora length $5.5 \times$ width; hind metatarsi length $0.42 \times$ length of hind tibiae; hind claws with few basal teeth. Areolets pointed, oblique, 2nd recurrent veins slightly proximal to their middle; nervuli slightly postfurcal ($0.5 \times$ width); length of pterostigmata $3.2 \times$ width, with radial veins in their distal 0.65. 1st tergite length $2.7 \times$ width; postpetiolus smooth; 2nd tergite length $1.1 \times$ width; thyridia roundish. Ovipositor sheaths densely pilose, length $8.0 \times$ width and $1.1 \times$ length of hind metatarsi, strongly narrowed in apical 0.5 and slightly bent upwards apically.

Colour: Brown. Flagella brown. Head including face black; clypeus, malar spaces and mandibles ex-

cept teeth reddish; frontal and outer orbits narrowly and diffusely reddish. Mesosoma blackish; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma blackish; 2nd tergite black, with narrow yellow band apically. Legs reddish-yellow; all coxae brownish; hind tibiae yellow, not distinctly darkened apically. Pterostigmata hyaline.

Remark: This species is correctly placed in the key for the *nigripes* group (Schwenke 1999: 42–43). It is characterized by the ovipositor sheaths which are strongly narrowed apically.

84. *Mesochorus robustus* Schwenke, 1999

Holotype (♀): 19.VII.1964 Kiruna/Sv. (Fig. 166).

Description

Missing: Tip of right flagellum, left 4th and 5th hind tarsomeres, right 3rd–5th hind tarsomeres; metasoma.

Body length 5.5 mm. Flagella with 38 flagellomeres, preapical ones c. $2 \times$ longer than wide; 1st flagellomeres length $7.0 \times$ width and $0.7 \times$ eye length; 2nd flagellomeres length $4.5 \times$ width. Temples slightly rounded behind eyes, length $0.9 \times$ eye width. OOD 1.45. Face very wide; width $1.4 \times$ length of clypeus + face and $1.15 \times$ eye length, coarsely punctate, with divergent sides. MI 0.4. Mandibles with two equal-sized teeth. Mesopleura with coarse, partly rugose punctures ventrally. Area basalis trapezoid, c. $2 \times$ longer than wide; area superomedia length $2.6 \times$ width, costulae in frontal 0.3; area petiolaris length $0.9 \times$ width. Hind femora length $4.0 \times$ width; hind metatarsi length $0.41 \times$ length of hind tibiae; hind tarsomeres with apical rings of stout bristles; middle claws with 2–3 short basal teeth. Areolets sessile, 2nd recurrent veins slightly proximal their middle; nervuli interstitial; length of pterostigmata $3.4 \times$ width, with radial veins in their distal 0.65. According to Schwenke (1999: 84) postpetiolus with central rim and ovipositor sheaths about as long as hind metatarsi.

Colour: Black. Face reddish with brownish sublateral stripes; clypeus, vertices and outer orbits reddish-yellow; malar spaces and genae cream-yellow. Mesosoma blackish; pronotum reddish-brown. Legs reddish, hind coxae brownish dorsally; hind tibiae yellowish; at bases and apices very narrowly brownish; hind tarsomeres brownish apically. Pterostigmata ochreous.

According to Schwenke (1999: 84) metasoma black; 2nd tergite in apical third diffusely reddish, with narrow ivory apical margin; 3rd tergite reddish, sides brownish; following tergites reddish.

Remark: The holotype is incomplete and the metasoma missing. The correct placement in the key of *declinans* group (Schwenke 1999: 80–83) remains questionable since the colouration of the pterostigmata is not clearly hyaline but ochreous. The species is characterized by its wide face with ventrally divergent sides and colour of the head.

85. *Mesochorus roccanus* Schwenke, 1999

Holotype (♂): I, VR, Garda Rocca, 100–250 m, 20.5.83 Haeselb. (Fig. 167).

Description

Missing: Left flagellomeres from 10th on.

Body length 3.6 mm. Flagella with 27 flagellomeres, preapical ones c. 1.8× longer than wide; 1st flagellomeres length 6.0× width and 0.61× eye length; 2nd flagellomeres length 4.3× width. Temples roundly and moderately narrowed behind eyes, length 0.75× eye width. OOD 1.5. Transversal carina below antennae not dipped medially. Face width 1.25× length of clypeus + face and 1.1× eye length, sides parallel, punctate. MI 0.3. Mandibles with two equal-sized teeth. Mesosoma length 1.9× height. Mesopleura with scattered rather coarse punctures ventrally. Areae basalis and superomedia confluent; are basalis rectangular, about as long as wide; area superomedia length c. 2.0× width and c. 1.4× length of area petiolaris; area petiolaris 0.9× longer than wide. Hind femora length 3.8× width; hind metatarsi length 0.51× length of hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli postfurcal by 2× their width; length of pterostigmata 2.4× width, radial veins in their distal 0.65. 1st tergite length 2.8× width; postpetiolus with two weak dorsal carinae and some longitudinal rugae; 2nd tergite length 1.0× width; thyridia comma-shaped. Stylets stab-shaped, not clubbed apically, length 1.8× length of 2nd hind tarsomeres.

Colour: Flagella ochreous. Head yellow; face and clypeus cream-yellow; occiput brownish dorsally. Mesosoma brown; frontal margins and subtegular ridges yellow; hind edges of pronotum, tegulae and wing bases cream-yellow; mesopleura yellow-red, with brownish stripes laterally and fronto-medially; scutellum yellowish. 1st tergite black; 2nd tergite black, with arched yellow band in apical 0.4; 3rd tergite with halfmoon-shaped yellow band in basal 0.7; following tergites brownish, with central yellowish stripes. Legs yellow; hind femora with brownish suffusion apically; hind tibiae brownish in apical 0.2 (1× width); hind tarsus pale brownish apically. Pterostigmata ochreous, paler proximally and distally.

Remark: Due to the straight transverse facial carina below antennae, the slit-like prescutellar groove and rugose-striate postpetiolus, this species clearly belongs to *Stictopisthus* Thomson.

Valid name: *Mesochorus* (*Stictopisthus*) *nemoralis* (Schwenke, 1999), syn. nov. *Mesochorus roccanus* Schwenke, 1999.

86. *Mesochorus rufopetiolatus* Schwenke, 1999

Holotype (♀): Arzberg/Ofr. 6.68 Kok. an Ki (Figs 74, 168).

Description

Missing: Left flagellomeres from 30th on, right flagellomeres from 33rd on.

Body length 4 mm. Preapical flagellomeres c. 2× longer than wide; 1st flagellomeres length 6.0× width and 0.67× eye length; 2nd flagellomeres length 4.4× width. Temples short, strongly narrowed behind eyes, length 0.3× eye width. Ocelli large, OOD 0.33. Face width 0.95× length of face + clypeus and 0.7× eye length, sides slightly convergent ventrally. Ventral 0.2 of facial orbits and malar spaces striate. MI 0.2. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis trapezoid; area superomedia length 2.3× width, costulae in frontal 0.3. Area petiolaris slightly wider than long. Hind femora length 4.4× width; hind metatarsi length 0.46× length of hind tibiae. Areolets shortly stalked, 2nd recurrent veins in their middle; nervuli interstitial; pterostigmata narrow, length 3.6× width, with radial veins in their distal 0.7. 1st tergite length 2.3× width; postpetiolus smooth; 2nd tergite length 1.2× width; thyridia large, roundish. Ovipositor sheaths length 5.7× width and 0.9× length of hind metatarsi, narrowed in apical 0.4.

Colour: Reddish-brown. Head blackish; palps, mandibles except teeth, malar spaces, clypeus and narrow facial orbits cream-yellow. Mesoscutum with fronto-medial and lateral brownish-red stripes. 1st–3rd tergites red, 3rd tergite apically and following tergites blackish. Legs yellowish; hind legs more reddish-yellow; hind tibiae pale yellow, reddish in apical 0.25 (3× width). Pterostigmata pale yellow-hyaline.

Remark: This species is characterized by the colour of the metasoma (basal tergites reddish, apical tergites blackish). It resembles *Mesochorus oppacheus* Schwenke which was included in the *angustatus* group by Schwenke (1999: 73). I have studied the holotype of *M. oppacheus*: the basal tergites (1st, 2nd and base of 3rd tergites) are dark reddish-brown, the following tergites are blackish. Structure and colour of both species are similar.

Valid name: *Mesochorus oppacheus* Schwenke, 1999; syn. nov. *Mesochorus rufopetiolatus* Schwenke, 1999.

87. *Mesochorus rufus* Schwenke, 1999

Holotype (♂): Italien, Kurtatsch, Oberfennberg, 1300 m, 1.6.1976 Diller leg. (Fig. 169).

Description

Missing: Right fore wing, both flagella.

Body length 5.5 mm. Temples roundly narrowed behind eyes, length $0.65 \times$ eye width. OOD 1.2. Face width $1.05 \times$ length of clypeus + face and $0.85 \times$ eye length, with parallel sides. Ventral 0.2 of facial orbits and malar spaces striate. Lower mandibular teeth slightly larger than upper ones. MI 0.25. Mesopleura with scattered fine hair-punctures ventrally. Area basalis rectangular, c. $2 \times$ longer than wide; area superomedia length $2.3 \times$ width, costulae in frontal 0.4; area petiolaris length $1.15 \times$ width. Hind femora length $5.2 \times$ width; hind metatarsi length $0.56 \times$ length of hind tibiae. Areolets shortly stalked, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $3.1 \times$ width, with radial veins in their distal 0.6. 1st tergite length $3.6 \times$ width; postpetiolus smooth; 2nd tergite length $1.5 \times$ width; thyridia comma-shaped. Stylets stab-shaped, slightly clubbed apically, length $1.1 \times$ length of 2nd hind tarsomeres.

Colour: Black. Face pale reddish-brown; mandibles except teeth, clypeus, facial orbits and gena cream-yellow; frontal orbits reddish-yellow, colour widened opposite of lateral ocelli. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma black; 2nd tergite yellowish in apical 0.1; 3rd tergite centrally reddish. Legs reddish-yellow; hind coxae with dorsal yellow-brown spots; hind tibiae cream-yellow, brownish in apical 0.3 ($4 \times$ width); hind tarsi brownish. Pterostigmata yellowish, brownish caudally.

Remark: This species belongs to the *angustatus* group and is correctly placed in the key of males (Schwenke 1999: 115–118).

88. *Mesochorus sardegnae* Schwenke, 1999

Holotype (♀): Sardegna, Rio Piscinas near Marina di Arbus (CA), 25.V.1982 Scaramozzino legit (Figs 75, 170).

Description

Missing: Left antenna except scape, right antenna, left fore leg except coxa.

Body length 4.5 mm. Temples narrow, very strongly narrowed behind eyes, length $0.35 \times$ eye

width. OOD 0.4. Face narrow, width $0.9 \times$ length of clypeus + face and $0.66 \times$ eye length, sides convergent ventrally. Ventral third of facial orbits and malar spaces striate. Mandibles with two equal-sized teeth. Mesopleura with fine and scattered hair-punctures ventrally. Area basalis triangular, slightly longer than wide, stalked apically; area superomedia length $2.2 \times$ width and $1.8 \times$ length of area petiolaris, costulae in frontal 0.3; area petiolaris length $0.8 \times$ width. Hind femora length $4.2 \times$ width; hind metatarsi length $0.47 \times$ length of hind tibiae; hind claws with teeth. Areolets sessile, 2nd recurrent veins in their middle; nervuli interstitial; pterostigmata narrow, with folded frontal margins, with radial veins in their distal 0.7. 1st tergite length $2.4 \times$ width; postpetiolus smooth; 2nd tergite length $1.0 \times$ width; thyridia roundish. Ovipositor sheaths length $5.3 \times$ width and $0.75 \times$ length of hind metatarsi, sabre-shaped, narrowed in apical 0.5.

Colour: Head with face blackish; frons opposite to lateral ocelli widely yellow-red; palps, mandibles, apical half of clypeus, narrow facial orbits, and genae cream-yellow. Mesosoma reddish; propleura, sides of pronotum and mesoscutum reddish-brown; hind edges of pronotum, tegulae and wing bases cream-yellow. 1st tergite brownish; 2nd and 3rd tergites reddish, following tergites brownish. Legs yellow-red; fore coxae and all trochanters cream-yellow; hind coxae and hind femora reddish; hind tibiae cream-yellow, narrowly brownish at base and brown in apical 0.25. Pterostigmata ochreous-hyaline.

Remark: This is another taxon resembling *Mesochorus oppacheus* Schwenke in the structure and colouration of the head, carination of propodeum and other features. The differences in the metasomal colour are individual variations in my opinion.

Valid name: *Mesochorus oppacheus* Schwenke, 1999; syn. nov. *Mesochorus sardegnae* Schwenke, 1999.

89. *Mesochorus schwarzi* Schwenke, 1999

Holotype (♂): Salzburg Zillreit bei Krispi 29.7.1988 Mart. Schwarz (Fig. 171).

Description

Missing: Both antennae except scapes, metasoma except 1st tergite, left fore tarsus, right fore tarsus except metatarsus, right middle tarsus except metatarsus, left middle and hind legs except coxae, and right hind leg except coxa.

Temples roundly and moderately narrowed, length $0.7 \times$ eye width. OOD 1.1. Face width $1.07 \times$ length of clypeus + face and $0.92 \times$ eye length,

punctate, centrally smoothened. Mandibles with two equal-sized teeth. Mesopleura with scattered and fine hair-punctures ventrally. Areolets shortly sessile, slightly oblique, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $3.4 \times$ width, with radial veins in their distal 0.65 . Propodeum not visible (covered by glue).

Colour: Face brownish-red; clypeus, facial orbits, narrow frontal orbits, outer orbits, malar spaces and genae yellow. Mesosoma brown; hind edges of pronotum, tegulae and wing bases cream-yellow. Legs yellow-red. Pterostigmata hyaline.

According to Schwenke (1999: 94) body length 4 mm. Stylets longer than 2nd hind tarsomeres. Hind tibiae slightly and indistinctly darkened apically. 1st tergite black; 2nd tergite black, with narrow whitish apical margin; 3rd tergite narrowly pale yellow, $\frac{5}{6}$ blackish, apical $\frac{1}{6}$ red; following tergites reddish, with darkenings.

Remark: Due to the missing parts, the holotype is difficult to interpret. The position in the key of males (Schwenke 1999: 115–118) seems to be correct.

90. *Mesochorus scopulus* Schwenke, 1999

Holotype: (♂) CH, GR, Ramosch 1650 m, 4.8.73 Wiesen u. Wald mit Hochstauden Haeselb. (Fig. 172).

Description

Missing: Left flagellomeres from 26th on, right flagellomeres from 28th on.

Body length 7.3 mm. 1st flagellomeres length $7.5 \times$ width and 0.72 eye length; 2nd flagellomeres length $4.1 \times$ width. Temples narrow, strongly narrowed behind eyes, length $0.5 \times$ eye width. OOD 1.3 . Face width $1.0 \times$ length of clypeus + face and $1.0 \times$ eye length, with parallel sides. Ventral 0.2 of facial orbits and malar spaces finely striate, MI 0.5 . Mandibles with two equal-sized teeth. Mesopleura with dense and coarse punctures ventrally; metapleura with finer dense punctures. Areae basalis and superomedia confluent; area superomedia length c. $2.2 \times$ longer than wide, costulae in frontal 0.4 ; area petiolaris slightly wider than long. Hind femora length $5.3 \times$ width; hind claws without visible teeth. Areolets oblique, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; length of pterostigmata $3.2 \times$ width; with radial veins in their distal 0.67 . 1st tergite length $2.7 \times$ width; postpetiolus with central rim and longitudinal rugae; 2nd tergite length $1.4 \times$ width; thyridia large, almost roundish. Stylets stab-shaped, clubbed apically, sparsely pilose, length $1.2 \times$ length of 2nd hind tarsomeres.

Colour: Flagella yellowish basally and brownish apically. Head black; face cream-yellow, with short brownish central stripe; mandibles except teeth, clypeus, inner orbits, malar spaces and genae cream-yellow; outer orbits narrowly reddish. Hind edge of pronotum, tegulae and wing bases cream-yellow; pronotum yellowish, with partly reddish suffusion; mesopleura reddish and brownish; mesoscutum reddish-yellow, with two lateral and one medial black stripes; scutellum reddish, centrally brownish; propodeum and metapleura black. 1st tergite black; 2nd tergite black, reddish-yellow in apical 0.25 ; 3rd tergite reddish-yellow, sides reddish-brown; following tergites brownish in basal half and yellowish apically. Legs reddish-yellow; fore and middle coxae and trochanters cream-yellow; hind tibiae yellow, black basally and in apical 0.15 ($1.5 \times$ width); hind tarsi brown, metatarsi and 2nd tarsomeres only apically. Pterostigmata brownish, paler proximally and distally.

Remark: The taxon is correctly placed in the key of the *orbitalis* group (Schwenke 1999: 62–63).

91. *Mesochorus septentrionalis* Schwenke, 1999

Holotype (♀): 3.VIII.1968 Kiruna/Sv. (Figs 76, 173).

Description

Missing: Left flagellomeres from 21st on, right flagellomeres from 31st on, left fore leg except coxa, ovipositor sheaths (metasoma broken off, glued on card).

Body length 4.1 mm. Preapical flagellomeres c. $1.5 \times$ longer than wide; 1st flagellomeres length $6.7 \times$ width and $0.6 \times$ eye length; 2nd flagellomeres length $4.4 \times$ width. Tempels moderately narrowed, length $0.75 \times$ eye width. OOD 1.4 . Face wide, width $1.2 \times$ length of clypeus + face and $1.0 \times$ eye length, punctate. Malar spaces and ventral 0.5 of facial orbits widely striate. MI 0.5 . Mandibles with two equal-sized teeth. Mesopleura with scattered, rather coarse punctures ventrally. Area basalis triangular, longer than wide; area superomedia slender, length $3.1 \times$ width and $1.75 \times$ length of area petiolaris, costulae in frontal 0.35 . Hind femora length $4.6 \times$ width; hind metatarsi length $0.51 \times$ length of hind tibiae; hind claws with some basal teeth. Areolets shortly stalked, slightly oblique, 2nd recurrent veins in their middle; nervuli slightly antefurcal ($1 \times$ width); length of pterostigmata $2.9 \times$ width, with radial veins in their distal 0.7 . 1st tergite length $3.3 \times$ width; postpetiolus with few fine longitudinal rugae; 2nd tergite length $1.0 \times$ width; thyridia large, roundish. Ovipositor sheaths length $8.4 \times$ width and $0.95 \times$ length of hind meta-

tarsi, slightly bent upwards apically, not distinctly narrowed.

Colour: Black. Face, clypeus and wide orbits yellowish-red. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma black; tergites paler at apex; 2nd tergite yellow in apical 0.25; 3rd tergite and following tergites paler centrally, dark brownish laterally, with \pm distinct apical pale margins. Legs reddish-yellow; hind coxae slightly darker; hind tibiae cream-yellow, brown basally and in apical 0.2–0.25; hind tarsi pale brown, hind metatarsi largely yellow. Pterostigmata pale ochreous.

Remark: The species is correctly placed in the key of the *pectoralis* group (Schwenke 1999: 95–98), though the ovipositor sheaths are slightly shorter than the hind metatarsi in the holotype.

92. *Mesochorus slawicus* Schwenke, 1999

Holotype (♀): YU, Durmitor Zabljar, 16.6.88. LJ. M. (Figs 77, 174).

Description

Missing: Left flagellomeres from 11th on, right flagellomeres from 8th on.

Body length 6 mm. Flagella (in paratype) with 39 flagellomeres, preapical ones c. $1.8 \times$ longer than wide; 1st flagellomeres length $6.3 \times$ width and $0.77 \times$ eye length; 2nd flagellomeres length $4.0 \times$ width. Temples strongly and roundish narrowed, $0.75 \times$ as long as eyes. OOD 1.4. Face width $1.15 \times$ length of clypeus + face and $0.95 \times$ eye length, sides slightly divergent ventrally. Lower mandibular teeth slightly longer than upper ones. MI 0.35. Mesopleura with coarse, partly dense punctures ventrally. Area basalis stalked apically; area superomedia length $2.0 \times$ width, costulae in frontal 0.45 ; area petiolaris length $0.9 \times$ width. Hind femora length $4.6 \times$ width; hind metatarsi length $0.51 \times$ length of hind tibiae; hind claws with three long basal teeth (basal teeth longest). Areolets shortly sessile, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $3.1 \times$ width, with radial veins in their distal 0.65 . 1st tergite length $3.1 \times$ width; postpetiolus smooth; 2nd tergite length $1.05 \times$ width; thyridia transverse-oval. Ovipositor sheaths length $9.1 \times$ width and $1.0 \times$ length of hind metatarsi, densely pilose.

Colour: Black. Flagella yellowish-brown. Face and wide orbits yellowish-brown; facial orbits yellowish; malar spaces and mandibles except teeth cream-yellow. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow. 1st and

2nd tergites black, 2nd tergite yellow in apical 0.2, with cream-yellow hind margin; following tergites yellow medially, brown laterally, with cream-yellow apical margins. Legs yellowish-brown; hind femora with brownish suffusion apically; hind tibiae yellow, blackish basally and in apical 0.25. Pterostigmata pale brownish, paler proximally and distally.

Remark: The ovipositor sheaths are as long as the hind metatarsi, this species is therefore incorrectly placed in the key of the *declinans* group (Schwenke 1999: 80–83). It runs to no. 47 (*Mesochorus semirufus* Holmgren) but differs from *M. semirufus* by the cream-yellow hind margins of the apical tergites.

93. *Mesochorus söderlundi* Schwenke, 1999

Holotype (♀): S, Vg., Göteborg, Angered centrum, Laubgehölz, 9.9.1979 Söderlund (Fig. 78).

Description

Complete.

Body length 2.4 mm. Flagella with 23 flagellomeres, preapical ones c. $2 \times$ longer than wide; 1st flagellomeres length $6.6 \times$ width and $0.55 \times$ eye length; 2nd flagellomeres length $5.0 \times$ width. Temples moderately narrowed behind eyes, length $0.7 \times$ eye width. OOD 2.0. Face width $1.15 \times$ length of clypeus + face and $1.0 \times$ eye length, with parallel sides. Ventral 0.5 of facial orbits and malar spaces striate. MI 0.75. Mandibles with two equal-sized teeth. Mesopleura smooth ventrally. Area basalis trapezoid, slightly longer than wide; area superomedia length $1.9 \times$ width and $1.0 \times$ length of area petiolaris, costulae in frontal 0.4 ; area petiolaris length $1.1 \times$ width. Hind femora length $5.2 \times$ width; hind metatarsi length $0.39 \times$ length of hind tibiae. Areolets shortly sessile, 2nd recurrent veins in their middle; nervuli slightly postfurcal ($0.5 \times$ width); length of pterostigmata $3.3 \times$ width, with radial veins in their distal 0.6 . 1st tergite length $3.0 \times$ width; postpetiolus with longitudinal rugae; 2nd tergite length $0.8 \times$ width; thyridia transverse-oval. Ovipositor sheaths with very long hairs (c. $2 \times$ longer than width of sheaths), length $8.3 \times$ width and $1.8 \times$ length of hind metatarsi, narrowed in apical half and slightly bent downwards apically.

Colour: Brownish. Face and clypeus brownish; ventral half of facial orbits, malar spaces and mandibles except teeth yellowish. Mesosoma brown; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma brown; 2nd tergite with yellow band in apical 0.2. Legs yellow; hind coxae brownish-yellow; hind tibiae not distinctly darkened apically. Pterostigmata hyaline-ochreous.

Remark: This species has a Holarctic distribution and is mainly characterized by the long-haired ovipositor sheaths. It has already been found in Finland (Koponen et al. 2009 as *plumosus*).

Valid name: *Mesochorus plumosus* Dasch, 1971; syn. nov. *Mesochorus söderlundi* Schwenke, 1999.

94. *Mesochorus spessartaeus* Schwenke, 1999

Holotype (♂): Wiesen/Spessart, 1.6.1960 leg. Haeselbarth (Fig. 175).

Description

Missing: Left flagellum, right antenna.

Body length 3.5 mm. Temples long, slightly and roundly narrowed behind eyes, length $0.85 \times$ eye width. OOD 1.1. Face width $1.05 \times$ length of clypeus + face and $0.9 \times$ eye length, with parallel sides, punctate, punctures superficial centrally. MI 0.25. Malar spaces striate. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis triangular, about as long as wide; area superomedia length $1.6 \times$ width and $0.85 \times$ length of area petiolaris, costulae in the middle; area petiolaris $1.15 \times$ longer than wide. Hind femora length $5.0 \times$ width; hind metatarsi length $0.4 \times$ hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $2.9 \times$ width, with radial veins in their distal 0.58, distal part of radial veins long, sinusoid. 1st tergite length $3.0 \times$ width; postpetiolus with fine longitudinal striae; 2nd tergite length $0.86 \times$ width; thyridia transverse-oval. Stylets stab-shaped, slightly clubbed apically, length $1.1 \times$ length of 2nd hind tarsomeres.

Colour: Black. Face reddish-brown; facial orbits, clypeus, mandibles except teeth, malar spaces and genae yellow; wide orbits otherwise reddish-yellow. Mesosoma brown; hind edges of pronotum, tegulae and wing bases reddish-yellow. Metasoma blackish; 2nd tergite with narrow yellow band in apical 0.1; 3rd tergite brown, with narrow yellow band in basal 0.1; following tergites brown. Legs reddish-yellow; middle coxae reddish-brown; hind coxae brown; hind tibiae narrowly blackish basally, not distinctly darkened apically. Pterostigmata ochreous-hyaline.

Remark: Due to the wing venation with the long and sinusoid distal parts of radial veins, this species belongs to the *curvulus* group, not to the *nigripes* group as stated by Schwenke (1999: 45). In the key of the *curvulus* group, it runs to no. 3 (3rd tergite blackish, with narrow yellow basal band), but differs from all species with this colouration by its dark middle and hind coxae.

95. *Mesochorus sternalis* Schwenke, 1999

Holotype (♀): Zwiesel/B.W. 20.7.68 Schwenke (Figs 79, 176).

Description

Missing: Left flagellomeres from 30th on (left antenna broken off, glued on card), right flagellum, left fore leg, left middle tibia and tarsus.

Body length 6 mm. 1st flagellomeres length $6.6 \times$ width and $0.65 \times$ eye length; 2nd flagellomeres length $4.2 \times$ width. Temples strongly narrowed behind eyes, length $0.65 \times$ eye width. OOD 1.2. Face width $1.2 \times$ length of clypeus + face and $1.1 \times$ eye length, sides divergent ventrally, strongly punctate. Face slightly impressed below antenna. Lower mandibular teeth slightly larger than upper ones. Malar spaces and ventral third of facial orbits striate. MI 0.25. Mesopleura with fine dense punctures dorsally, with very scattered fine hair-punctures ventrally. Area basalis triangular, about as long as wide, stalked apically; area superomedia length $1.9 \times$ width and $1.4 \times$ length of area petiolaris, costulae in frontal 0.25; area petiolaris length $0.87 \times$ width. Hind femora length $4.4 \times$ width; hind metatarsi length $0.44 \times$ length of hind tibiae; hind claws with c. 8 densely spaced teeth in basal 0.5. Areolets shortly sessile, oblique, 2nd recurrent veins distinctly proximal to their middle; nervuli interstitial, length of pterostigmata $2.8 \times$ width, with radial veins in their distal 0.67. 1st tergite length $2.4 \times$ width; postpetiolus length $1.2 \times$ width, with central rim; 2nd tergite length $0.95 \times$ width; thyridia small, roundish. Ovipositor sheaths densely pilose, slightly sabre-shaped, slightly bent upwards apically, length $7.4 \times$ width and $1.05 \times$ length of hind metatarsi.

Colour: Head blackish; face and wide orbits reddish; clypeus, malar spaces and facial orbits widely yellow. Mesosoma black; frontal margins and hind edges of pronotum yellow; tegulae and wing bases cream-yellow; mesoscutum black, with H-shaped red spot; scutellum reddish; mesopleura black, with dark red-brown suffusion; mesosternum reddish. Metasoma black; 2nd tergite black, dark reddish in apical 0.2-0.3; 3rd tergite dark reddish, yellowish-brown in apical 0.25; following tergites blackish, with apical grayish bands (slightly vespoid). Legs reddish-yellow; hind femora slightly darkened; hind tibiae cream-yellow, widely blackish basally and in apical 0.25 ($2 \times$ width). Pterostigmata brown, paler proximally and distally.

Remark: This species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95-98) and characterized by the reddish colour pattern of the mesosoma.



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88



89



90



91



92

Figs 77–90. Ovipositor sheaths of the holotypes. 77. *Mesochorus slawicus*; 78. *M. söderlundi*; 79. *M. sternalis*; 80. *M. styriacus*; 81. *M. subfuscus*; 82. *M. sublimis*; 83. *M. sufflatus*; 84. *M. superbus*; 85. *M. tarnabyanus*; 86. *M. tenthredinidis*; 87. *M. tenuigenae*; 88. *M. terebratus*; 89. *M. tibialis*; 90. *M. turbidus*; 91. *M. valdierius*; 92. *M. varius*.

96. *Mesochorus styriacus* Schwenke, 2002

Holotype (♀): A, St, Haus, Kemeterhof, Waldwies, 1200 m, 10.6.72, Hbth (Figs 80, 177).

Description

Complete.

Body length 6.0 mm. Flagella with 47 flagellomeres, preapical ones c. $1.8\times$ longer than wide; 1st flagellomeres length $7.5\times$ width and $0.65\times$ eye length; 2nd flagellomeres length $3.6\times$ width. Temples moderately narrowed, length $0.75\times$ eye width. OOD 1.0. Face width $1.1\times$ length of clypeus + face and $1.0\times$ eye length, sides divergent ventrally. Ventral 0.3 of facial orbits and malar spaces striate. MI 0.25. Mandibles with two equal-sized teeth. Mesopleura with scattered but rather coarse punctures ventrally. Area basalis trapezoid, slightly longer than wide; area superomedia length $2.4\times$ width and $1.4\times$ length of area petiolaris, costulae in frontal 0.3; area petiolaris length $1.0\times$ width. Hind femora length $4.5\times$ width; hind metatarsi length $0.44\times$ length of hind tibiae; hind claws with c. 6 large teeth. Areolets shortly stalked, oblique, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; length of pterostigmata $3.1\times$ width, with radial veins in their distal 0.65. 1st tergite length $3.2\times$ width; postpetiolus length $1.5\times$ width, smooth; 2nd tergite as long as wide; thyridia large, roundish. Ovipositor sheaths pilose, length $8.5\times$ width and $1.0\times$ length of hind metatarsus, almost stab-shaped and slightly narrowed in apical 0.2.

Colour: Flagella reddish-brown. Face and orbits reddish-yellow, face with two brownish submedian stripes; mandibles except teeth, ventral 0.3 of facial orbits and malar spaces cream-yellow; frons laterally brownish, centrally as ocellar field, occiput and temples caudally black. Mesosoma black; mesoscutum with two reddish-yellow stripes at notauli; scutellum dark red-brown; hind edges of pronotum, tegulae and wing bases cream-yellow. 1st tergite black; 2nd tergite black, with cream-yellow band in apical 0.15; following tergites reddish basally and centrally, brownish laterally and with wide yellowish band apically (distinctly vespoid). Legs reddish; hind coxae brown; hind femora reddish with red-brownish suffusion; hind tibiae brownish basally and in apical 0.1 ($1.0\times$ width). Pterostigmata brownish, almost hyaline proximally and distally.

Remark: The taxon belongs to the *pectoralis* group and runs to no. 104 (*Mesochorus horstmanni* Schwenke) in the key (Schwenke 1999: 95–98). *M. horstmanni* can be distinguished by its longer ovipositor sheaths and colour of face without brownish stripes (see Fig. 134).

97. *Mesochorus subfuscus* Schwenke, 1999

Holotype (♀): Kelchsau, Tirol 1850 m, 22.7.71; ex *Rogas* 19.8.71 VII 22 (Figs 81, 178).

Description

Missing: Right flagellum, left 2nd–5th fore tarsomeres.

Body length 4.0 mm. Flagella with 33 flagellomeres, preapical ones c. $2\times$ longer than wide; 1st flagellomeres length $6.4\times$ width and 0.7 eye length; 2nd flagellomeres length $4.7\times$ width. Temples moderately narrowed behind eye, length $0.7\times$ eye width. OOD 1.1. Face width $1.1\times$ length of clypeus + face and $0.9\times$ eye length, sides parallel. MI 0.5. Malar spaces striate. Mandibles with two equal-sized teeth. Mesopleura with rather dense and coarse punctures ventrally. Area basalis narrowly trapezoid, c. $2\times$ longer than wide; area superomedia length $1.8\times$ width and $1.4\times$ length of area petiolaris, costulae in frontal 0.4; area petiolaris length $1.05\times$ width. Hind femora length $5.1\times$ width; hind metatarsi length $0.51\times$ length of hind tibiae; hind claws with 2–3 widely spaced basal teeth. Areolets shortly stalked, oblique, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; length of pterostigmata $3.2\times$ width, with radial veins 0.67. 1st tergite length $2.6\times$ width; postpetiolus length $1.2\times$ width, with some rugae; 2nd tergite length $1.15\times$ width; thyridia large, roundish. Ovipositor sheaths pilose, length $7.9\times$ width and $0.8\times$ length of hind metatarsi, slightly narrowed over main length, not distinctly bent.

Colour: Reddish. Flagella yellowish-red. Head with ocellar field reddish. Mesosoma reddish; hind edges of pronotum, tegulae and wing bases cream-yellow. Metasoma reddish, 2nd tergite in apical 0.2 and 3rd tergite in basal 0.7 diffusely yellow-red; following tergites brownish-red, with wide reddish-grey apical bands. Legs reddish. Pterostigmata hyaline-yellowish.

Remark: The species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95–98).

98. *Mesochorus sublimis* Schwenke, 1999

Holotype (♀): CH, GR, Sent Surains u. Val Gronda 1500 m, 30.7.73 Haeslb. (Figs 82, 179).

Description

Complete.

Body length 5.1 mm. Flagella with 33 flagellomeres, preapical ones c. $2\times$ longer than wide; 1st flagellomeres length $6.8\times$ width and $0.72\times$ eye length; 2nd flagellomeres length $4.3\times$ width. Temples strongly

narrowed behind eyes, length $0.6 \times$ eye width. OOD 1.5. Face width $1.1 \times$ length of clypeus + face and $0.95 \times$ eye length, with parallel sides. MI 0.7. Ventral 0.2 of facial orbits and malar spaces coarsely striate. Mandibles with two equal-sized teeth. Mesopleura strongly and densely punctate ventrally. Area basalis almost triangular, c. $2 \times$ longer than wide; area superomedia length $2.2 \times$ width and $1.3 \times$ length of area petiolaris, costulae weak, in frontal 0.3; area petiolaris length $1.1 \times$ width. Hind femora length $4.8 \times$ width; hind metatarsi length $0.52 \times$ length of hind tibiae; hind claws with c. 4 basal teeth, apical three long and curved. Areolets shortly stalked, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $2.6 \times$ width, radial veins in their distal 0.64. 1st tergite length $2.3 \times$ width; postpetiolus with slightly impressed central rim; 2nd tergite length $0.9 \times$ width; thyridia transverse-oval. Ovipositor sheaths pilose, length $7.5 \times$ width and $0.9 \times$ length of hind metatarsi, slightly narrowed in apical 0.3.

Colour: Black. Flagella ochreous basally, dark brownish apically. Head with face and clypeus blackish; mandibles except teeth, malar spaces and large triangular spot opposite to antennae cream-yellow; inner orbits more yellowish, outer orbits reddish-yellow. Mesosoma black; upper margins of pronotum and subtegular ridges reddish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesosutum reddish with two lateral and one fronto-medial black stripes; scutellum reddish, with brown fronto-medial spot. Metasoma black; 2nd tergite with narrow yellow band in apical 0.1; following tergites with narrow yellow hind margins. Legs reddish-yellow; fore and middle trochanters yellow, hind coxae red; hind tibiae yellow externally, blackish basally and in apical 0.2 (c. $1.5 \times$ width); hind tarsus darkened in apical half. Pterostigmata brown, yellow in proximal 0.4 and distally.

Remark: This species is correctly placed in the key for the *angustatus* group (Schwenke 1999: 72–73).

99. *Mesochorus subniger* Schwenke, 1999

Holotype (♀): I, BZ, Feldthurns 1200 m, 11.9.1978 E. Haeselbarth (Figs 25, 119).

Description

Complete.

Body length 3.8 mm. Flagella with 32 flagellomeres, preapical ones length c. $2.5 \times$ width; 1st flagellomeres length $6.3 \times$ width and $0.7 \times$ eye length; 2nd flagellomeres length $5.0 \times$ width. Temples roundly narrowed behind eyes, length $0.55 \times$ eye width. OOD 1.15. Face width $1.15 \times$ length of clypeus + face and

$0.95 \times$ eye length, sides parallel. MI 0.6. Mandibles with two equal-sized teeth. Mesopleura with fine scattered hair-punctures ventrally. Area superomedia length $2.4 \times$ width and $1.7 \times$ length of area petiolaris, costulae in frontal 0.3; area petiolaris $1.0 \times$ longer than wide. Hind femora length $5.0 \times$ width; hind metatarsi length $0.51 \times$ hind tibiae; hind claws with two long and widely spaces teeth. Areolets pointed, oblique, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; length of pterostigmata $3.5 \times$ width, radial veins in their distal 0.6, distal part of radial veins long, sinusoid. 1st tergite length $3.0 \times$ width, postpetiolus smooth, with short central rim; 2nd tergite length $1.25 \times$ width; thyridia roundish. Ovipositor sheaths pilose, length $8.0 \times$ width and $1.0 \times$ length of hind metatarsi, narrowed in apical 0.4 and slightly bent upwards apically.

Colour: Brown. Flagella ochreous basally, brownish apically. Face blackish; clypeus partly, frontal and outer orbits yellow; malar spaces and mandibles except teeth cream-yellow. Mesosoma blackish; hind edges of pronotum, tegulae and wing bases cream-yellow. 1st tergite brown; 2nd tergite reddish-brown; 3rd tergite reddish-brown, apical brown; following tergites dark brownish. Legs reddish-yellow; middle coxae reddish; hind coxae brownish. Pterostigmata hyaline.

Remark: This species is correctly placed in the key of the *curvulus* group (Schwenke 1999: 35–37).

Valid name: *Mesochorus convallis* Schwenke, 2002; syn. *Mesochorus subniger* Schwenke, 1999 (preoccupied by *M. subniger* Wilkinson, 1927).

100. *Mesochorus sufflatus* Schwenke, 1999

Holotype (♀): Griesenau Tirol 700 M, 4.6.68 Hbth (Figs 83, 180).

Description

Missing: Right flagellomeres from 16th on.

Body length 5.5 mm. Flagella with 38 flagellomeres; preapical ones c. $1.8 \times$ longer than wide; 1st flagellomeres length $7.1 \times$ width and $0.73 \times$ eye length; 2nd flagellomeres length $4.7 \times$ width. Temples wide, slightly narrowed behind eyes, length $0.85 \times$ eye width. OOD 2.1. Face very wide, width $1.2 \times$ length of clypeus + face and $1.3 \times$ eye length, sides of face slightly divergent ventrally, face coarsely punctate, partly rugose, with sublateral impressions below antennae. MI 0.6. Mandibles with two equal-sized teeth. Mesopleura densely and coarsely punctate ventrally. Area basalis almost rectangular, c. $1.5 \times$ longer than wide; area superomedia length

2.1 × width and 1.1 × length of area petiolaris, costulae in frontal 0.3. Hind femora length 4.1 × width; hind metatarsi length 0.48 × length of hind tibiae; hind claws with some short basal teeth. Areolets shortly stalked, oblique, 2nd recurrent veins slightly distal their middle; length of pterostigmata 2.8 × width, with radial veins in their distal 0.6. 1st tergite length 3.2 × width; postpetiolus with central rim; 2nd tergite length 0.85 × width; thyridia transverse-oval. Ovipositor sheaths pilose, stab-like, length 9.8 × width and 1.05 × length of hind metatarsi, slightly narrowed apically.

Colour: Black. Flagella ochreous basally and brownish apically. Head with face black. Bases of mandibles, clypeus, malar spaces, genae and wide orbits yellowish-red. Mesosoma black; frontal and upper margins of pronotum and upper margin of mesopleura reddish; tegulae and wing bases yellow; mesoscutum with H-shaped reddish spot; scutellum reddish, with baso-medial black spot. Metasoma black; 2nd tergite black, with yellow band in apical 0.25; 3rd tergite yellowish, with darker sides; following tergites black. Legs reddish; hind coxae reddish-brown; hind tibiae narrowly blackish at base and blackish in apical 0.17 (1.5 × width); apical tarsomeres of all legs brownish. Pterostigmata pale brownish, paler proximally and distally.

Remark: The species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95–98), but the temples are only slightly narrowed behind eye and slightly shorter than eye width.

101. *Mesochorus superbus* Schwenke, 1999

Holotype (♀): Regen, Bay. W. 7.70 (Figs 84, 181), in Schwenke (1999: 104) wrong designation of holotype.

Description

Missing: Left flagellomeres from 4th on; right flagellum, left fore tibia and tarsus.

Body length 5.4 mm. 1st flagellomeres length 6.5 × width and 0.75 × eye length; 2nd flagellomeres length 4.3 × width. Temples wide, moderately narrowed behind eyes, length 1.0 × eye width. OOD 2.0. Face wide, width 1.15 × length of clypeus + face and 1.3 × eye length, with parallel sides and coarse punctures, partly rugose. MI 0.8. Genae, malar spaces and wide ventral third of facial orbits striate. Mandibles with two equal-sized teeth. Mesopleura with dense and coarse punctures ventrally. Area basalis trapezoid, c. 1.5 × longer than wide; area superomedia length 2.0 × width and 1.2 × length of area petiolaris, costulae in frontal 0.4; area petiolaris length 0.8 × width. Hind femora length 4.5 × width; hind metatarsi length

0.49 × length of hind tibiae; hind claws with 3 teeth (second tooth longest). Areolets shortly stalked, oblique, 2nd recurrent veins in their middle; length of pterostigmata 3.4 × width, with radial veins in their distal 0.7. 1st tergite length 2.8 × width; postpetiolus length 1.4 × width, smooth, with central rim; 2nd tergite length 1.05 × width; thyridia transverse-oval. Ovipositor sheaths pilose, length 8.5 × width and 0.95 × length of hind metatarsi.

Colour: Head with face blackish; mandibles except teeth, clypeus and wide orbits reddish-yellow; malar space yellow. Tegulae and wing bases cream-yellow; hind edges of pronotum and subtegular ridges reddish; mesoscutum with H-shaped reddish spot; scutellum reddish, with basal blackish spot. 1st tergite black; 2nd tergite black, yellow in apical 0.25; 3rd tergite yellow-red, black laterally and apically; following tergites black with pale hind margins (vespoid). Legs reddish; hind coxae brown; hind tibiae narrowly blackish basally and black in apical 0.2–0.25 (2.5 × width). Pterostigmata pale brown.

Remark: The species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95–98), but the ovipositor sheaths are slightly shorter than the hind metatarsi.

102. *Mesochorus tarnabyanus* Schwenke, 1999

Holotype (♀): 21.VII.69 Tarnaby/S; coll. R. Hinz (Figs 85, 183).

Description

Missing: Left flagellomeres from 11th on, right flagellum, left fore leg except coxa.

Body length 4.1 mm. 1st flagellomeres length 7.5 × length and 0.73 × eye length; 2nd flagellomeres length 4.8 × width. Temples moderately narrowed, length 0.67 × eye width. OOD 1.1. Frons opposite to lateral ocelli with fine transverse striation. Face wide, width 1.2 × length of clypeus + face and 1.0 × eye length, with parallel sides. MI 0.6. Malar spaces and ventral third of facial orbits widely striate. Mandibles with two equal-sized teeth. Mesopleura rather densely and coarsely punctate ventrally. Area basalis trapezoid, c. 1.7 × longer than wide; area superomedia length 2.3 × width and 1.2 × length of area petiolaris, costulae in frontal 0.35; area petiolaris length 1.0 × width. Hind femora length 5.0 × width; hind metatarsi length 0.48 × length of hind tibiae; hind claws with c. 3 short basal teeth. Areolets shortly stalked, oblique, 2nd recurrent veins proximal to their middle; nervuli slightly antefurcal (1 × width); pterostigmata narrow, length 3.6 × width, with radial veins in their distal 0.65. 1st tergite length 2.6 × width; postpetiolus

with some fine longitudinal rugae; 2nd tergite length $0.9 \times$ width; thyridia roundish. Ovipositor sheaths pilose, length $7.4 \times$ width and $0.85 \times$ length of hind metatarsi, slightly narrowed in apical $\frac{1}{3}$.

Colour: Flagella ochreous. Face reddish; orbits yellowish-red; ventral facial orbits, spots opposite to antennae and genae yellow. Pronotum reddish-brown, frontal and upper margins yellowish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesopleura dark reddish-brown, frontal and dorsal margins reddish; mesoscutum with diffuse H-shaped red spot; sides of scutellum reddish. Metasoma black; 2nd tergite yellow in apical 0.25; 3rd tergite yellow, sides partly brownish; following tergites dark brown. Legs reddish-yellow; fore coxae and trochanters cream-yellow; hind tibiae and tarsi cream-yellow, hind tibiae narrowly pale brown at base and in apical 0.15 ($1 \times$ width). Pterostigmata hyaline.

Remark: The species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95–98), but the apical colour of the 2nd tergite is yellow, not red, and the hind tibiae are darkened in the apical 0.15 only.

103. *Mesochorus tenebricosus* Schwenke, 1999

Holotype (♀): 30.VII.1975 Col d'Ornon/F; E 055900 N 450200 (Figs 21, 116).

Description

Missing: Left flagellomeres from 23rd on, right flagellomeres from 14th on, left hind leg.

Body length 4.8 mm. Flagella (of PT) with 32 flagellomeres, preapical ones c. $2 \times$ longer than wide; 1st flagellomeres length $7.3 \times$ width and $0.75 \times$ eye length; 2nd flagellomeres length $4.7 \times$ width. Temples moderately narrowed, length $0.7 \times$ eye width. OOD 1.6. Face wide, width $1.2 \times$ length of clypeus + face and $1.0 \times$ eye length, with parallel sides. Malar spaces and ventral half of facial orbits widely striate. Mandibles with two equal-sized teeth. Mesopleura with scattered but coarse punctures ventrally. Area basalis trapezoid, slightly longer than wide; area superomedia length $2.6 \times$ width and $2.1 \times$ length of area petiolaris, costulae in frontal 0.35; area petiolaris length $0.7 \times$ width. Hind femora length $4.8 \times$ width; hind metatarsi length $0.5 \times$ length of hind tibiae; hind claws with two basal teeth. Areolets pointed, distinctly oblique, 2nd recurrent veins proximal to their middle; nervuli antefurcal ($2 \times$ width); length of pterostigmata $3.3 \times$ width, radial veins in their distal 0.6. 1st tergite length $2.7 \times$ width; postpetiolus smooth; 2nd tergite length $0.95 \times$ width; thyridia large, roundish. Ovipositor sheaths length $6.8 \times$ width and

$0.8 \times$ length of hind metatarsi, slightly narrowed in apical 0.25 and slightly bent dorsally.

Colour: Black. Flagella yellowish-brown. Face, vertical and outer orbits reddish-yellow; mandibles, genae, clypeus and inner orbits more yellow. Mesosoma black; pronotum and mesopleura with some reddish suffusion; hind edges of pronotum, tegulae and wing bases cream-yellow; scutellum reddish, brown centrally. Metasoma black; 2nd tergite diffusely yellow-brown in apical 0.2; 3rd tergite yellow-brownish, partly brown laterally and apically; following tergites blackish. Legs reddish-yellow; fore and middle coxae and all trochanters yellow; hind tibiae cream-yellow, brownish basally and in apical 0.1 ($1 \times$ width); tips of hind tarsomeres brownish. Pterostigmata yellow-hyaline.

Remark: This taxon is correctly placed in the key of the *pectoralis* group (Schwenke 1999: 95–98).

Valid name: *Mesochorus coartatus* Schwenke, 2002; syn. *Mesochorus tenebricosus* Schwenke, 1999 (preoccupied by *M. tenebricosus* Dasch, 1974).

104. *Mesochorus tenthredinidis* Schwenke, 1999

Holotype (♀): Oberbayern, Garmisch, 700 m, 20.VIII.1950, E. Bauer (Figs 86, 184).

Description

Missing: Left flagellomeres from 6th on, right flagellomeres from 24th on, right 4th and 5th middle tarsomeres, left 3rd–5th hind tarsomeres.

Body length 5–6 mm. Flagella with 39 flagellomeres (in paratype); preapical ones $2 \times$ longer than wide; 1st flagellomeres length $7.5 \times$ width and $0.77 \times$ eye length; 2nd flagellomeres length $4.5 \times$ width. Temples distinctly and roundly narrowed, length $0.7 \times$ eye width. OOD 1.3. Face width $1.1 \times$ length of clypeus + face and $1.05 \times$ eye length, sides slightly divergent ventrally. MI 0.5. Mandibles with two equal-sized teeth. Malar spaces and ventral 0.2 of facial orbits distinctly striate. Mesopleura with coarse but scattered punctures ventrally. Area basalis trapezoid, length $1.5 \times$ width, confluent or indistinctly separated from area superomedia; area superomedia length $2.2 \times$ width and $1.5 \times$ length of area petiolaris, costulae slightly frontal to its middle; area petiolaris length $0.9 \times$ width. Hind femora length $4.5 \times$ width; hind metatarsi length $0.5 \times$ length of hind tibiae; hind claws with 4 small basal teeth; apical fore tarsomeres length $2.8 \times$ width. Areolets pointed sessile, oblique, 2nd recurrent veins slightly distal their middle; nervuli interstitial; length of pterostigmata $3.4 \times$ width, with radial veins in their

distal 0.67. 1st tergite length $3.3 \times$ width, postpetiolus smooth; 2nd tergite length $1.2 \times$ width. Ovipositor sheaths completely pilose, length $6.7 \times$ width and $0.78 \times$ length of hind metatarsi.

Colour: Flagella yellow-brown. Head yellow-red. Palps, mandibles and gena yellow; frons medially brown; ocellar field and occiput blackish. Hind edges of pronotum, tegulae and wing bases yellow; mesoscutum blackish, with 4 reddish longitudinal stripes; scutellum yellow-red to reddish, at base brownish; pronotum laterally, mesopleura and metapleura reddish-yellow with brownish marks. Legs yellow; hind femora yellow-red, with brownish suffusion apically; hind tibiae cream-yellow, brown basally and in apical 0.2. 1st tergite black; 2nd tergite with cream-yellow margin in apical 0.2; 3rd tergite yellow-red, with brown spots laterally; following tergites without brown spots or slightly vespid. Pterostigmata brown, slightly paler proximally and distally.

Remark: This species has its temples distinctly shorter than eyes width, it is therefore difficult to identify it in the key of *declinans* group (Schwenke 1999: 80–83). It runs to no. 75 (*Mesochorus mellis* Schwenke), but differs by wider temples and the colour of mesopleura.

105. *Mesochorus tenuigenae* Schwenke, 1999

Holotype (♀): VII.1982 Sirnitz/A.; E 135730 N 465100; Coll. R. Hinz (Figs 87, 185).

Description

Missing: Left antenna, right flagellomeres from 17th on, left middle and hind legs.

Body length 6.1 mm. 1st flagellomeres length $7.7 \times$ width and $0.72 \times$ eye length; 2nd flagellomeres length $4.5 \times$ width. Temples very strongly narrowed behind eyes, length $0.35 \times$ eye width. Ocelli large, OOD 0.55–0.6. Face with parallel sides, width $1.0 \times$ length of clypeus + face and $0.8 \times$ eye length, punctate. MI 0.2. Mandibles with two equal-sized teeth. Malar spaces and ventral third of facial orbits finely striate. Genal carinae joining hypostomal ones far from mandibular bases. Meso- and metapleura almost smooth. Area basalis trapezoid, $2 \times$ longer than wide; area superomedia length $2.2 \times$ width and $1.5 \times$ length of area petiolaris, costula in frontal 0.35; area petiolaris length $1.1 \times$ width. Hind femora length $5.4 \times$ width; hind metatarsi length $0.46 \times$ length of hind tibiae; distal fore tarsomeres slender, length $3.2 \times$ width; hind claws without visible basal teeth. Areolets pointed; 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata

$3.2 \times$ width, with radial veins in their distal 0.75. 1st tergite slender, length $4.0 \times$ width; postpetiolus length $2.0 \times$ width, smooth; 2nd tergite length $1.2 \times$ width; thyridia roundish. Ovipositor sheaths completely pilose, length $7.0 \times$ width and $0.75 \times$ length of hind metatarsi, slightly narrowed in apical third and slightly bent upwards.

Colour: Flagella dark ochreous. Head yellow-brown; palps, mandibles except teeth, malar spaces and genae cream-yellow; frons medially, ocellar field and occiput. Mesosoma black; pronotum and mesopleura reddish, with some brownish suffusion; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with H-sized yellowish mark; scutellum yellow-red. 1st tergite black; 2nd tergite black, diffusely reddish in apical 0.2; 3rd tergite reddish-yellow, brownish laterally and apically; following tergites brown. Ovipositor sheaths blackish. Fore and middle legs, hind trochanters and hind trochantelli yellow; hind coxae and femora reddish, with brownish suffusions dorsally; hind tibiae cream-yellow, narrowly blackish basally, brown in apical 0.2 ($2 \times$ width); hind tarsi yellow-brown. Pterostigmata pale brownish, paler proximally and distally.

Remark: The species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95–98).

106. *Mesochorus terebratus* Schwenke, 1999

Holotype (♀): 24.VII.1973 Zigana-Paß/TR; E 393100 N 404100; Coll. R. Hinz (Fig. 88).

Description

Missing: Right flagellomeres from 20th on, left middle tarsus, right apical middle tarsomere, left 2nd–5th hind tarsomeres.

Body length 5.8 mm. Flagella with 36 flagellomeres, preapical ones c. $2 \times$ longer than wide; 1st flagellomeres length $6.8 \times$ width and $0.71 \times$ eye length; 2nd flagellomeres length $4.5 \times$ width. Temples moderately narrowed behind eyes, length $0.7 \times$ eye width. OOD 1.4. Face with parallel sides, width $1.3 \times$ length of clypeus + face and $1.1 \times$ eye length, punctate. MI 0.5. Mandibles with two equal-sized teeth. Malar spaces, mandible bases and ventral 0.2 of facial orbits finely striate. Genal carinae joining hypostomal ones far from mandibular bases. Mesopleura with scattered and fine punctures ventrally. Area basalis almost rectangular, slightly longer than wide; area superomedia short, length $1.5 \times$ width and $0.9 \times$ length of area petiolaris, costulae in frontal 0.45; area petiolaris large ($0.5 \times$ length of propodeum), length $1.1 \times$ width. Hind femora length $4.4 \times$ width; hind metatarsi length $0.46 \times$ length of hind tibiae; 5th

fore tarsomeres length $2.8 \times$ width; hind claws with 2 short basal teeth. Areoletts shortly stalked, oblique, 2nd recurrent veins proximal to their middle; nervuli interstitial; pterostigmata wide, length $2.4 \times$ width, with radial veins in their distal 0.72. 1st tergite length $2.7 \times$ width; postpetiolus smooth; 2nd tergite length $0.7 \times$ width; thyridia transverse-oval. Ovipositor sheaths completely pilose, length $10.0 \times$ width and $1.3 \times$ length of hind metatarsi, slightly bent downwards.

Colour: Flagella ochreous, slightly darkened apically. Head with face blackish; orbits and clypeus reddish; palps, mandibles except teeth, malar spaces and genae yellow. Mesosoma black; hind edges of pronotum, tegulae and wing bases yellow; subtegular ridges reddish; mesoscutum and scutellum with diffuse dark reddish suffusion. 1st tergite black; 2nd tergite black, with yellowish-red band in apical 0.2; 3rd tergite brown, basally with reddish-yellow rectangular central mark and greyish band apically; following tergites brown to black, with wide greyish apical bands (slightly vespoid). Ovipositor sheaths blackish. Legs reddish-yellow; hind coxae reddish-brown; hind tibiae cream-yellow, indistinctly darkened basally, brown in apical 0.15–0.2 ($1 \times$ width); hind tarsi yellow-brown. Pterostigmata brownish, pale proximally and distally.

Remark: The species is correctly placed in the key for the *pectoralis* group (Schwenke 1999: 95–98), but the hind tibiae are rather widely darkened at apex. It is characterized by its long and slightly bent ovipositor sheaths.

107. *Mesochorus tibialis* Schwenke, 2002

Holotype (♀): Rosslau, E. 15.8.88 W. Schwenke (Fig. 89).

Description

Missing: Both flagella, right fore and middle legs, left hind leg, right hind tarsus.

Body length 6.3 mm. Temples strongly narrowed behind eye, length $0.6 \times$ eye width. OOD 1.1. Face width $1.1 \times$ length of clypeus + face and $0.9 \times$ eye length, with parallel sides. Lower mandibular teeth slightly larger than upper ones. Ventral 0.4 of facial orbits, mandibles basally and malar spaces striate. MI 0.4. Mesoscutum with coarse punctures, mesopleura with moderately dense punctures ventrally. Area basalis trapezoid, c. $1.6 \times$ longer than wide; area superomedia length $1.9 \times$ width and $1.3 \times$ length of area petiolaris, costulae in frontal 0.35; area petiolaris length $1.05 \times$ width. Hind femora length $4.6 \times$ width; middle claws with c. 3 basal teeth. Areoletts pointed, oblique, 2nd recurrent veins proximal to their middle; nervuli slightly antefurcal ($0.5 \times$ width); length of

pterostigmata $3.3 \times$ width, with radial veins in their distal 0.65. 1st tergite length $3.2 \times$ width; postpetiolus length $1.6 \times$ width, smooth; 2nd tergite length $1.25 \times$ width; thyridia large, roundish. Ovipositor sheaths, slender, length $9.0 \times$ width and shorter than hind metatarsi (according to Schwenke, 2002: 88), narrowed in apical 0.35, densely pilose.

Colour: Face reddish-yellow; mandibles except teeth, malar spaces, genae and facial and ventral 0.3 of frontal orbits cream-yellow; outer orbits widely reddish-yellow; ocellar field and upper half of occiput black. Mesosoma reddish; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum except H-sized central spot and propodeum except area petiolaris black; scutellum pale reddish, centrally darker. 1st sternite reddish; 1st tergite black; 2nd tergite black; with reddish band in apical 0.25; 2nd tergite reddish, sides brownish; following tergites reddish. Legs yellowish; hind tibiae rather widely black ($2 \times$ width) at base and in apical 0.25. Pterostigmata brown.

Remark: The species belongs to the *declinans* group and runs to no. 83 (*Mesochorus anglicus* Schwenke). The differences of both species were already discussed by Schwenke (2002: 88).

108. *Mesochorus trentinus* Schwenke, 1999

Holotype (♂): Tiarno d. Scopra, Trentino, 850 m, 28.4.66 Hbth.

Description

Missing: Both flagella, left hind tarsus, right hind leg except coxa.

Body length 4 mm. Temples moderately narrowed behind eyes, length c. $0.5 \times$ eye width. OOD 1.0. Face with strongly convergent sides, width 0.9 length of clypeus + face and $0.78 \times$ eye length. MI 0.3. Mandibles with two equal-sized teeth. Mesopleura with scattered, rather coarse punctures ventrally. Area basalis trapezoid, longer than wide; area superomedia slender, c. $3 \times$ longer than wide, costulae in frontal 0.3; area petiolaris c. $1.5 \times$ longer than wide. Hind femora length $5.4 \times$ width. Areoletts shortly stalked, 2nd recurrent veins in their middle; nervuli slightly antefurcal; pterostigmata narrow, length $3.2 \times$ width, with radial veins in their distal 0.65. 1st tergite length $3.2 \times$ width; postpetiolus smooth; 2nd tergite length $1.15 \times$ width; thyridia large, roundish. Stylets long, pointed apically.

Colour: Blackish. Face reddish-brown; orbits yellow-red. Pronotum yellowish; mesopleura reddish; mesoscutum black, with four yellow-red stripes; scutellum yellow-red, with brown spot

basally; propodeum blackish, reddish in apical $\frac{1}{3}$. Metasoma blackish; 1st tergite dark reddish basally; 3rd tergite greyish centrally. Legs reddish-brown; tibiae yellowish; hind tibiae brownish in apical 0.2 (1.5 \times width). Pterostigmata hyaline.

Remark: The species is correctly placed in the key of the *angustatus* group (Schwenke 1999: 72–73).

109. *Mesochorus turbidus* Schwenke, 1999

Holotype (♀): I, BZ, Villanders 1000 m, 21.9.1978, E. Haeselbarth (Fig. 90).

Description

Missing: Left flagellum.

Body length 2.7 mm. Flagella with 22 flagellomeres, preapical ones c. 2 \times longer than wide; 1st flagellomeres length 7.0 \times width and 0.65 \times eye length; 2nd flagellomeres length 4.5 \times width. Temples wide, slightly widened behind eyes, narrowed apically, length 0.8 \times eye width. OOD 1.8. Transversal carina of face below antennae not dipped medially. Face and clypeus convex; face width 1.1 \times length of clypeus + face and 1.05 \times eye length, sides parallel. MI 0.25. Malar spaces striate. Mandibles with two equal-sized teeth. Mesosoma not distinctly depressed, length 1.8 \times height. Mesopleura with scattered but coarse punctures ventrally. Prescutellar groove slit-shaped. Areae basalis and superomedia confluent; area superomedia length 1.8 \times width and 1.0 \times length of area petiolaris, costulae in middle; area petiolaris length 0.9 \times width. Hind femora length 3.6 \times width; hind metatarsi length 0.48 \times hind tibiae. Areolets pointed, 2nd recurrent veins in their middle; nervuli strongly postfurcal (by 0.6 \times length); length of pterostigmata 3.3 \times width, with radial veins in their distal 0.55, distal part of radial veins not sinusoid; distal part of metacarp long. 1st tergite length 3.1 \times width, postpetiolus striate; 2nd tergite length 0.88 \times width; thyridia comma-shaped. Ovipositor sheaths stab-shaped, length 5.6 \times width and 0.8 \times length of hind metatarsi, bent upwards apically.

Colour: Brown. Face and clypeus brown; orbits, malar spaces, genae and mandibles except teeth yellow. Mesosoma blackish; tegulae and wing bases yellow. 1st tergite black; 2nd tergite black, with yellow band in apical 0.2; 3rd tergite yellow basally and centrally, brown laterally and apically; following tergites brown, with greyish hind margins. Legs cream-yellow; hind coxae brownish; hind femora reddish-yellow; hind tibiae brownish in apical 0.2 (1 \times width). Pterostigmata hyaline.

Remark: This taxon belongs to *Stictopisthus* Thomson: transversal carina below antennae not dipped medially, prescutellar groove slit-shaped, nervuli strongly postfurcal and postpetiolus strongly striate.

Valid name: *Mesochorus* (*Stictopisthus*) *formosus* Bridgman, 1882; syn. nov. *Mesochorus turbidus* Schwenke, 1999.

110. *Mesochorus tyroliensis* Schwenke, 1999

Holotype (♂): Walchsee, Tirol, 800 m, 4.6.1968, Haeselbarth (Fig. 186).

Description

Missing: Both antennae.

Body length 4.0 mm. Temples moderately narrowed behind eyes, length 0.5 \times eye width. OOD 1.4. Face width 1.05 \times length of clypeus + face and 1.0 \times eye length, sides slightly divergent ventrally. MI 0.8. Ventral 0.5 of facial orbits and malar spaces widely striate. Mandibles with two equal-sized teeth. Mesopleura densely and coarsely punctate ventrally. Area basalis trapezoid, slightly longer than wide; area superomedia length 1.8 \times width and 1.2 \times length of area petiolaris, costulae in frontal 0.4; area petiolaris length 1.15 \times width. Hind femora length 4.6 \times width; hind metatarsi length 0.5 \times length of hind tibiae. Areolets shortly sessile, 2nd recurrent veins slightly proximal to their middle; nervuli postfurcal (1 \times width); length of pterostigmata 3.2 \times width, radial veins in their distal 0.62. 1st tergite length 2.8 \times width, postpetiolus with central rim and lateral rugae; 2nd tergite length 0.85 \times width; thyridia roundish. Stylets stab-shaped, length 1.2 \times length of 2nd hind tarsomeres.

Colour: Black. Head yellow-red; frons brownish medially; ocellar field blackish; malar spaces, mandibles except teeth, clypeus, facial and ventral half of frontal orbits yellowish. Mesosoma black; pronotum and mesopleura yellow-red; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with H-shaped reddish central spot, sides of scutellum reddish; propodeum reddish-brown in caudal third. Metasoma black; 1st sternite reddish; 1st tergite black; 2nd tergite with red-yellow band in apical 0.25; 3rd tergite with reddish-yellow flap-shaped spot in basal 0.5, blackish laterally and apically. Legs reddish-yellow; hind coxae more reddish; hind tibiae yellow, brownish in apical 0.1 (0.5 \times width); hind tarsi brownish, metatarsi only apically. Pterostigmata hyaline.

Remark: This species is correctly placed in the key of the *dispar* group (Schwenke 1999: 48–51).

111. *Mesochorus valdierius* Schwenke, 1999

Holotype (♀): Italia-Piemonte, Valdieri (Cn) m 980, 8.VIII/23.IX.1986 G. Della Beffa I (I.P.L.A.) (ZSM).

Description

Missing: Right hind leg, right flagellomeres from 23rd on.

Body length 4.8 mm. Flagella with 30 flagellomeres, preapical ones c. $1.5\times$ longer than wide; 1st flagellomeres length $7.3\times$ width and $0.67\times$ eye length; 2nd flagellomeres length $4.4\times$ width. Temples strongly narrowed behind eyes, length $0.5\times$ eye width. OOD 1.3. Face width $1.1\times$ length of clypeus + face and $1.0\times$ eye length, sides slightly convergent ventrally. Malar spaces and ventral 0.2 of facial orbits striate. MI 0.8. Mandibles with two equal-sized teeth. Mesopleura with scattered punctures ventrally. Area basalis triangular, stalked apically; area superomedia length $2.0\times$ width, costulae in frontal 0.4; area petiolaris large, length $1.05\times$ width. Hind femora length $4.4\times$ width; hind metatarsi length $0.48\times$ length of hind tibiae; hind claws with 3 small teeth. Areolets pointed, 2nd recurrent veins slightly proximal their middle; nervuli interstitial; length of pterostigma $2.5\times$ width, with radial veins in their distal 0.8. 1st tergite length $2.6\times$ width; postpetiolus smooth; 2nd tergite length $0.92\times$ width; thyridiae transverse, comma-shaped. Ovipositor sheaths slender, densely pilose, length $8.7\times$ width and $1.1\times$ length of hind metatarsi.

Colour: Reddish. Flagella reddish. Head reddish with face, mandibles, genae and facial orbits cream-yellow, occiput blackish. Mesosoma red; hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with two blackish stripes laterally; propleura and mesosternum brownish. 1st tergite brown, its sternite more reddish basally; following tergites reddish, with chestnut-red sides and narrow yellowish hind margins. Legs reddish-yellow; hind femora brownish apically; hind tibiae cream-yellow, narrowly black basally and blackish in apical 0.25; hind tarsi except yellow basal half of metatarsi brown. Pterostigmata dark brownish, pale proximally.

Remark: This species resembles *Mesochorus calidus* Schwenke. Due to its reddish face it runs to that species in the key for the *declinans* group (Schwenke 1999: 80-83), but differs from *M. calidus* Schwenke by the triangular and stalked area basalis (rectangular in *M. calidus*).

112. *Mesochorus varius* Schwenke, 1999

Holotype (♀) Italia, Piemont F-T, Conove-m4Co trap, 18/28.VIII.1979, P. Scaramozzino leg. (Figs 92, 187).

Description

Complete.

Body length 5.2 mm. Flagella with 32 flagellomeres, preapical ones c. $1.5\times$ longer than wide; 1st flagellomeres length $7.0\times$ width and $0.75\times$ eye length; 2nd flagellomeres length $4.5\times$ width. Temples strongly narrowed behind eyes, $0.7\times$ eye length. OOD 1.5. Face width $1.1\times$ length of clypeus + face and $1.05\times$ eye length. MI 0.4. Mandibles with two equal-sized teeth. Mesopleura almost smooth ventrally. Area basalis trapezoid; area superomedia short, length $1.7\times$ width, costulae in the middle; area petiolaris large, wider than long. Hind femora length $4.1\times$ width; hind metatarsi length $0.47\times$ length of hind tibiae; hind claws with 3 widely spaced large teeth. Areolets shortly sessile, slightly oblique, 2nd recurrent veins shortly proximal their middle; nervuli slightly postfurcal. 1st tergite stout, length $1.9\times$ width; 2nd tergite length $0.9\times$ width; thyridia comma-shaped. Ovipositor sheaths length $7.8\times$ width and $1.1\times$ length of hind metatarsi, pilose, slightly narrowed in apical 0.2.

Colour: Face reddish-brown, with w-shaped brown spot. Clypeus, wide orbits up to ocelli, malar space and genae ivory; frontal orbits with interruption of pale colour, spots on vertices triangular. Mesoscutum, scutellum and mesopleura red; sides of pronotum yellowish frontally, black ventrally, hind edges reddish; metathorax black. 2nd-4th tergites diffusely dark reddish. Legs cream-yellow; hind tibiae black in apical 0.15 ($1\times$ width) hind tarsomeres darkened apically.

Remark: The species is correctly placed in the key of the *orbitalis* group (Schwenke 1999: 62-63), but the mesopleura are almost smooth ventrally and the lateral ocelli are distinctly smaller than their distance to eyes.

113. *Mesochorus venerandus* Schwenke, 1999

Holotype (♀): Ochrid S.H.S. Macedon. VI.1835 R. Wolf-schläger (Fig. 93).

Description

Missing: Left antenna, right antenna except scapus, left wings, left 3rd-5th fore tarsomeres, left middle and hind legs except coxae. Metasoma broken off, glued on card.

Body length 7.5 mm. Temples wide, slightly widened behind eyes and narrowed apically, length $0.9 \times$ eye width. OOD 1.2. Face wide, width $1.2 \times$ length of clypeus + face and $1.0 \times$ eye length, sides divergent ventrally. Lower mandibular teeth slightly larger than upper ones. MI 0.2. Mesopleura with scattered but rather coarse punctures ventrally. Area basalis almost triangular, $1.6 \times$ longer than wide; area superomedia length $1.8 \times$ width and $1.5 \times$ length of area petiolaris, costulae in frontal 0.4 ; area petiolaris length $0.85 \times$ width. Hind femora length $4.2 \times$ width; hind metatarsi length $0.49 \times$ length of hind tibiae; hind claws with 3–4 widely spaced teeth. Areolets pointed, oblique, 2nd recurrent veins slightly proximal their middle, nervuli interstitial; length of pterostigmata $3.0 \times$ width, with radial veins in their distal 0.62 . 1st tergite length $2.5 \times$ width; postpetiolus length $1.4 \times$ width, with central rim; 2nd tergite length $1.0 \times$ width; thyridia comma-shaped. Ovipositor sheaths pilose, stab-shaped, length $8.8 \times$ width and $1.0 \times$ length of hind metatarsi, slightly narrowed at apex.

Colour: Head reddish, facial orbits narrowly cream-yellowish; frons medially, ocellar field and occiput dorsally blackish. Mesosoma reddish; frontal margins and hind edges of pronotum, tegulae and wing bases cream-yellow; mesoscutum with 3 reddish-brown stripes; scutellum with brown basal spot; frontal $\frac{2}{3}$ of propodeum blackish. 1st tergite black, reddish in apical 0.15 ; 2nd tergite black, with reddish-yellow band in apical 0.3 ; following tergites yellow-red, with slight and indistinct darkenings. Legs reddish-yellow; hind tibiae narrowly black basally and in apical 0.2 ; hind tarsomeres with brownish tips. Pterostigmata dark brown, narrowly pale proximally.

Remark: This taxon belongs to the *declinans* group and resembles *Mesochorus caligator* Schwenke. It is possible that both species are synonyms, but I was not able to study the type of *M. caligator* so far.

114. *Mesochorus versuranus* Schwenke, 1999

Holotype (♀): Partschins, Südtirol, 1000 m, Fc, 31.8.1967 Hbth. (Figs 94, 188).

Description

Missing: Right flagellum, left hind 3rd–5th tarsomeres.

Body length 4.8 mm. Flagella with 31 flagellomeres; preapical ones c. $1.5 \times$ longer than wide; 1st flagellomeres length $5.1 \times$ width and $0.6 \times$ eye length; 2nd flagellomeres length $3.4 \times$ width. Temples moderately narrowed behind eyes, length $0.9 \times$ eye width. OOD 1.5. Face with parallel sides, width $1.3 \times$ clypeus and face length and $1.0 \times$ eye length,

punctate, partly rugose. Ventral 0.2 of facial orbits and malar spaces striate. MI 0.5 . Mandibles with two equal-sized teeth. Sides of frons with fine transversal striae. Genal carinae joining hypostomal ones far from mandibular bases. Mesopleura with rather coarse and dense punctures ventrally. Area basalis about square; area superomedia length $1.9 \times$ width and $1.5 \times$ area petiolaris length, costula in frontal 0.4 ; area petiolaris length $1.1 \times$ width. Hind femora length $4.3 \times$ width; hind metatarsi length $0.44 \times$ length of hind tibiae; hind claws with some basal teeth. Areolets pointed, oblique, 2nd recurrent veins slightly proximal to their middle; nervuli interstitial; length of pterostigmata $2.9 \times$ width, with radial veins in their distal 0.63 . 1st tergite length $2.4 \times$ width; postpetiolus with regular longitudinal striae; 2nd tergite wide, length $0.75 \times$ width; thyridia comma-shaped. Ovipositor sheaths completely pilose, length $6.1 \times$ width and $0.95 \times$ length of hind metatarsi, narrowed in apical half.

Colour: Black. Flagella dark brown. Face black; narrow orbits and clypeus reddish; frons medially, ocellar field and occiput black; palps, mandibles except teeth and malar space cream-yellow. Mesosoma black; hind edges of pronotum, tegulae and wing bases cream-yellow. 1st tergite black; 2nd tergite black, with reddish-yellow band in apical 0.25 ; 3rd tergite yellow-red in basal half, brown apically, but with wide grey-ochreous apical margin; following tergites brown with wide grey-ochreous hind margins (vespoid). Ovipositor sheaths blackish. Legs reddish; hind coxae chestnut-brown; hind tibiae yellowish, not distinctly darkened apically. Pterostigmata pale ochreous, darkened caudally.

Remark: This species is misplaced in the key of the *pectoralis* group (Schwenke 1999: 95–98) since the mesosoma including the mesopleura is black. It runs to no. 96 (*Mesochorus pullus* Schwenke), but differs by its smaller ocelli, wider temples and blackish face.

115. *Mesochorus zwettileus* Schwenke, 1999

Holotype (♀): Oberösterreich, Langzwettl bei Zwettl/R. 24.6.1988 Mart. Schwarz (Figs 95, 189).

Description

Missing: Left flagellomeres from 14th on, right flagellomeres from 22nd on.

Body length 4.2 mm. 1st flagellomeres length $4.8 \times$ width and $0.68 \times$ eye length; 2nd flagellomeres length $3.0 \times$ width. Temples moderately narrowed behind eyes, length $0.7 \times$ eye width. OOD 1.6. Face width $1.3 \times$ length of clypeus + face and $1.0 \times$ eye length, punctate, with parallel sides. MI 0.7 . Man-



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Figs 93–97. Ovipositor sheaths of the holotypes. 93. *Mesochorus venerandus*; 94. *M. versuranus*; 95. *M. zwettileus*; 96. *M. zygaenae*; 97. *M. zygaenae*.

dibles with two equal-sized teeth. Malar spaces and ventral 0.2 of facial orbits finely striate. Genal carinae joining hypostomal ones far from mandibular bases. Mesopleura ventrally and metapleura with very fine scattered and superficial punctures. Area basalis triangular, slightly longer than wide, stalked apically; area superomedia length $2.4 \times$ width and $1.5 \times$ length of area petiolaris, costula in frontal 0.3; area petiolaris length $0.95 \times$ width. Hind femora length $4.3 \times$ width; hind metatarsi length $0.49 \times$ length of hind tibiae; distal fore tarsomeres slightly swollen, length $2.3 \times$ width; hind claws with c. 4 spaced teeth (2nd tooth longest). Areolets shortly sessile, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $2.8 \times$ width, with radial veins in their distal 0.67. 1st tergite length $2.8 \times$ width; postpetiolus smooth; 2nd tergite length $1.05 \times$ width; thyridia large, roundish. Ovipositor sheaths completely pilose, stout, length $6.2 \times$ width and $0.93 \times$ length of hind metatarsi.

Colour: Flagella ochreous. Face blackish; mandibles except teeth, clypeus, and orbits reddish; frons medially, ocellar field and occiput black; malar spaces cream-yellow. Mesosoma black; hind edges of pronotum, tegulae and wing bases yellow. 1st tergite black; 2nd tergite black, with reddish band in apical 0.25; 3rd tergite yellow-red, brownish laterally; following tergites blackish, apically paler (vespoid). Ovipositor sheaths blackish. Legs reddish-yellow; hind femora with slightly brownish suffusion apico-dorsally; hind tibiae cream-yellow, narrowly blackish basally and brown in apical 0.2–0.25 ($2.5 \times$ width). Pterostigmata brownish-hyaline.

Remark: The taxon is correctly placed in the key of the *pectoralis* group (Schwenke 1999: 95–98).

116. *Mesochorus zygaenae* Schwenke, 1999

Holotype (♀): Zuer (?) 14.7.04 O Pfk.; *Mesochorus vittator* Zett ♀; Umg. v. Bremen (Fig. 96).

Description

Missing: Left flagellomeres from 16th on, right flagellomeres from 13th on, wings (right wing glued on card), left 2nd–5th middle tarsomeres.

Body length 5.3 mm (6.4 mm in paratype). 1st flagellomeres length 6.5 width and 0.63 length eye length; 2nd flagellomeres length $4.5 \times$ width. Temples roundly narrowed behind eyes, $0.7 \times$ as wide as eye length. OOD 1.0. Face width $1.1 \times$ length of clypeus + face and $0.10 \times$ eye length, with parallel sides. Malar spaces weakly striate. MI 0.5. Mandibles with two equal-sized teeth. Mesopleura with scattered but rather coarse punctures ventrally. Area basalis almost rectangular, $2 \times$ longer than wide; area superomedia length $1.9 \times$ ($2.1 \times$ in paratype) width, costulae in frontal 0.4; area petiolaris slightly longer than wide. Hind femora length $4.6 \times$ width; hind metatarsi length $0.5 \times$ length of hind tibiae; hind claws with c. 4 teeth (apical ones longest). Areolets shortly sessile, 2nd recurrent veins slightly proximal their middle; nervuli interstitial; length of pterostigmata $3.0 \times$ width, with radial veins in their distal 0.65. 1st tergite length $2.7 \times$ width; postpetiolus with central rim and some fine longitudinal rugae; 2nd tergite length $0.9 \times$ width; thyridia large, trans-

verse-oval. Ovipositor sheaths partly retracted into the metasoma, length c. $7 \times$ width and $0.8 \times$ length of hind metatarsi, densely pilose, slightly narrowed in apical 0.4.

Colour: Flagella reddish. Face and clypeus reddish; very wide orbits, mandibles except teeth, clypeus, malar spaces and genae cream-yellow; frons medially, ocellar space and occiput black. Mesosoma blackish; frontal margins of pronotum, hind edges of pronotum, tegulae and wing bases cream-yellow; four stripes on mesoscutum and sides of scutellum yellow; pronotum and mesopleura reddish and brownish; apical $\frac{1}{3}$ of propodeum and metapleura reddish. 1st tergite black; 2nd tergite black, yellowish-red in apical 0.3; 3rd tergite yellowish, with reddish sides; following tergites reddish-yellow with yellow hind margins; ovipositor sheaths blackish. Legs reddish-yellow; fore and middle coxae and all trochanters cream-yellow; hind tibiae reddish in apical 0.1 ($0.5 \times$ width). Pterostigmata mainly hyaline, with pale brownish caudal margin.

Remark: The species is correctly placed in the key of the *orbitalis* group (Schwenke 1999: 62–62), but the face is reddish, not brown.

117. *Mesochorus zygaus* Schwenke, 1999

Holotype (♀): 36.VII.1973 Zigana-Paß/TR; E 393100 N 404100 (Figs 97, 190).

Description

Missing: Hind legs except coxae, right flagellomeres from 14th on.

Body length 6.2 mm. Flagella with 41 flagellomeres; preapical ones c. $2 \times$ longer than wide; 1st flagellomeres length $6.9 \times$ width and $0.77 \times$ eye length; 2nd flagellomeres length $4.3 \times$ width. Temples moderately narrowed behind eyes, length $0.65 \times$ eye width. OOD 1.3. Face width $1.1 \times$ length of clypeus + face and $1.1 \times$ eye length, with parallel

sides. MI 0.5. Malar spaces and bases of mandibles striate. Mandibles with two equal-sized teeth. Mesopleura with fine scattered hair-punctures ventrally. Area basalis almost rectangular, c. $1.5 \times$ longer than wide; area superomedia length $2.1 \times$ width and $1.3 \times$ length of area petiolaris, costulae in frontal 0.4; area petiolaris length $0.95 \times$ width. Middle claws with 2–3 basal teeth. Areolets pointed, slightly oblique, 2nd recurrent veins in their middle; nervuli interstitial; length of pterostigmata $3.3 \times$ width, with radial veins in their distal 0.62. 1st tergite length $3.4 \times$ width; postpetiolus smooth; 2nd tergite length $1.0 \times$ width; thyridia transverse-oval. Ovipositor sheaths pilose, length $7.7 \times$ width, narrowed in apical 0.25.

Colour: Black. Face reddish-yellow; facial and wide frontal orbits, genae, mandibles except teeth and clypeus cream-yellow; wide outer orbits reddish-yellow. Mesosoma blackish; frontal margins of pronotum yellowish; hind edges, tegulae and wing bases cream-yellow; mesoscutum with diffuse H-shaped yellowish spot, sides of scutellum yellowish; mesopleura dark reddish in ventral parts, with small yellowish spot ventro-caudal. Legs reddish; hind coxae brownish dorsally. Metasoma blackish; 2nd tergite with yellow band in apical 0.2–0.25, 3rd tergite yellow centrally, with darkened sides and greyish apical band; following tergites brownish, with wide greyish apical bands (vespoid). Pterostigmata brownish.

Remark: Due to the cream-yellow frontal orbits, this species belongs to the *orbitalis* group (Schwenke 1999: 62–63) where it runs to no. 14 (*Mesochorus callis* Schwenke). It can be distinguished from *M. callis* by the paler face and different colour of the metasoma.

Acknowledgement

I thank Stefan Schmidt, the curator of the Hymenoptera collection of the Zoologische Staatssammlung München, for his help and kind allowance to work with the Schwenke collection.



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Figs 98–109. Faces of the holotypes. 98. *Mesochorus agnellonis*; 99. *M. alternus*; 100. *M. amplitudinis*; 101. *M. argus*; 102. *M. arientus*; 103. *M. baueri*; 104. *M. bavaricus*; 105. *M. bicolor*; 106. *M. bipartitus*; 107. *M. boreus*; 108. *M. bulgaricus*; 109. *M. cacuminis*.



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Figs 110–121. Faces of the holotypes. 110. *Mesochorus calidus*; 111. *M. caliginosus*; 112. *M. campestris*; 113. *M. canaveseus*; 114. *M. chasseralis*; 115. *M. cinctus*; 116. *M. coartatus*; 117. *M. columbinus*; 118. *M. compactus*; 119. *M. convallis*; 120. *M. dilobatus*; 121. *M. doleri*.



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Figs 122–133. Faces of the holotypes. 122. *Mesochorus eichhorni*; 123. *M. extraordinarius*; 124. *M. fennicus*; 125. *M. flae-mingus*; 126. *M. fluvialis*; 127. *M. frigidus*; 128. *M. fulvipes*; 129. *M. gardanus*; 130. *M. georgievi*; 131. *M. giaglioneus*; 132. *M. gladiator*; 133. *M. haeselbarthi*.



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Figs 134–145. Faces of the holotypes. 134. *Mesochorus hinzi*; 135. *M. horstmanni*; 136. *M. ibericus*; 137. *M. inclusus*; 138. *M. iniquus*; 139. *M. iugosus*; 140. *M. inversus* (lectotype); 141. *M. jacobus*; 142. *M. juranus*; 143. *M. larentiae*; 144. *M. longurius*; 145. *M. macrophyae*.



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Figs 146–157. Faces of the holotypes. 146. *Mesochorus maximus*; 147. *M. mellumiensis*; 148. *M. minutulus*; 149. *M. monacensis*; 150. *M. montis*; 151. *M. myrtilli*; 152. *M. nichelinus*; 153. *M. nitidus*; 154. *M. orbis*; 155. *M. parvioculatus*; 156. *M. pascuus*; 157. *M. perugianus*.



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Figs 158–169. Faces of the holotypes. 158. *Mesochorus phyllodectae*; 159. *M. piceanus*; 160. *M. piemontensis*; 161. *M. pini*; 162. *M. plebejanus*; 163. *M. procerus*; 164. *M. pullus*; 165. *M. rivanus*; 166. *M. robustus*; 167. *M. roccanus*; 168. *M. rufopetiolatus*; 169. *M. rufus*.



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Figs 170–181. Faces of the holotypes. 170. *Mesochorus sardegnae*; 171. *M. schwarzi*; 172. *M. scopulus*; 173. *M. septentrionalis*; 174. *M. slawicus*; 175. *M. spessartaeus*; 176. *M. sternalis*; 177. *M. styriacus*; 178. *M. subfuscus*; 179. *M. sublimis*; 180. *M. sufflatus*; 181. *M. superbus*.



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Figs 182-190. Faces of the holotypes. **182.** *Mesochorus tachinidaeus*; **183.** *M. tarnabyanus*; **184.** *M. tenthredinidis*; **185.** *M. tenuigenae*; **186.** *M. tyroliensis*; **187.** *M. varius*; **188.** *M. versuranus*; **189.** *M. zwettleus*; **190.** *M. zygaus*.

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