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Zweiflügler aus Bayern XXIII (Diptera: Lauxaniidae, Chamaemyiidae)

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Abstract

This paper deals with records of Lauxaniidae and Chamaemyiidae from Bavaria. Six species are new records for Germany. The necessary translation from Russian into English of SHATALKIN's (2000) keys to the Palearctic Lauxaniidae for this study is given including some corrections.

Zusammenfassung

Es werden Nachweise von Lauxaniidae und Chamaemyiidae aus Bayern präsentiert. Die für diese Arbeit notwendig gewordene Übersetzung der neuesten Bestimmungsschlüssel (SHATALKIN 2000) vom Russischen ins Englische wird einschliesslich einiger Verbesserungen abgedruckt.

Einleitung

In Fortsetzung der Reihe "Zweiflügler aus Bayern" (SCHACHT 1993b) gelangen nun die Lauxaniidae und Chamaemyiidae zur Veröffentlichung. Die Tiere wurden zum grössten Teil durch die jahrzehnte lange Sammelaktivität des Erstautors zusammengetragen. Die Vielfalt der Fundorte aus Bayern lässt, wie auch bei den meisten anderen Dipterenfamilien, zu wünschen übrig. 6 Arten erweisen sich nach OELERICH 1999 und SCHUMANN 2002 als Neufunde für Deutschland.

Das Material zur folgenden Auflistung befindet sich in der Zoologischen Staatssammlung München (ZSM), falls nicht anders angegeben. Einige Daten stammen aus dem Naturkundemuseum Augsburg. Diese werden mit der Abkürzung CFA (= Coll. FISCHER Augsburg) gekennzeichnet. Die Tiere wurden zunächst vom Erstautor bestimmt. Die

meisten Lauxaniidae wurden vom Drittautor nachbestimmt und revidiert. Die Weibchen der *Lyciella illota*-Gruppe sind derzeit nicht mit Sicherheit bestimmbar. Die *Leucopis*-Arten der Chamaemyiidae sind vom Viertautor determiniert worden. Von ein paar Ausnahmen abgesehen, werden nur aktuell bestimmte Tiere aufgelistet. Ältere Bestimmungen oder Literaturangaben sind derzeit revisionsbedürftig.

Zu Synonymie und Nomenklatur siehe MERZ 2003a, 2003b, 2004; PAPP 1978, 1984; TANASIJTSCHUK 1984; OELERICH 1999; SCHUMANN 1999; SHATALKIN 2000. Nomenklatur der Gattungen und Untergattungen bei den Lauxaniiden, mit Ausnahme der Gattung *Lyciella*, richten sich vorwiegend nach MERZ (2003a), der derzeit neuesten zusammenfassenden Arbeit für die Gattungen in Europa.

Abkürzungen: Ampm. = Ampermoching bei Dachau; Bbg. = Bamberg (meist Coll. FUNK in ZSM); Eisbg. = Eisenburg bei Memmingen; Karw. = Karwendelgebirge, Ferein-alm, 1200-1800m; MM = Murnauer Moos; Mü. = München; Mü.-ZSM = München-Obermenzing, ZSM-Gelände; Nbg. = Nürnberg; Schluif. = Schluifelder Moos bei Ettersschlag Krs. Starnberg; Schög. = Schöngesing bei Fürstenfeldbruck; Wett. = Wettersteingebirge, Kreuzeck bis Stuibensee 1500-1800m. Fundangaben ohne Jahreszahl sind älter als 60 Jahre. Festgestellte Flugzeiten sind in römischen Monatszahlen angegeben.

Zur Bestimmung werden folgende Werke empfohlen. **Lauxaniidae:** COLLIN 1948; CZERNY 1932; MERZ 2003a (Gattungen), 2003b, 2004; PAPP 1978, 1979a; PAPP & SHATALKIN 1998 (Gattungen); REMM & ELBERG 1979; SHATALKIN 2000. **Chamaemyiidae:** CZERNY 1936; MCLEAN 1998 (Gattungen); PAPP 1979b, 1998; TANASIJTSCHUK 1986.

Zur Bearbeitung des aufgelisteten Materials war es unumgänglich, die neuesten Bestimmungsschlüssel (SHATALKIN 2000) für die Lauxaniiden vom Russischen ins Englische zu übersetzen - eine mühevolle Arbeit, die vom Zweitautor durchgeführt wurde. Da die Schlüssel mit einigen Fehlern versehen sind, wurden vom Drittautor einige Korrekturen eingefügt. Bezüglich verwendeter Terminologie und Hinweisen auf Abbildungen ist die Übersetzung der Schlüssel nur nutzbar in Verbindung mit der Originalarbeit. Neue Taxa sind dort im Anhang in englischer Sprache wiedergegeben. Damit die langwierige Übersetzung und die gründliche Editierung in Englisch durch den Viertautor nicht verloren gehen, werden die Schlüssel in dieser Arbeit mit abgedruckt.

Artenliste

Lauxaniidae (51 Arten)

Homoneurinae

Homoneura biumbata (LOEW, 1847): Bbg.; Mü.; Schög. 1986. VII.

Homoneura lamellata (BECKER, 1895): Schluif. (SCHACHT 1993a) (1♂ 1♀ Nat. Mus. Genf).

Homoneura mediospinosa MERZ, 2003: Schluif. 1989-90. V.-VII.

Homoneura patelliformis (BECKER, 1895): Mü.-ZSM 1991. VII.

Lauxaniinae

Aulogastryia anisodactyla (LOEW, 1845): Bbg.

Calliopus aeneum (FALLEN, 1820): Bbg.; Schluif. 1989-90; Ampm. 1955-56; Schleissheim bei Mü. 1956, 1965; Dachau 1956; Mü.-Bot.Garten 1971 und -ZSM 1989-2000; Krottenmühl am Simssee 1965; Schög. 1985-91. V.-X.

- Calliopum elisae* (MEIGEN, 1826): Schög. 1989-94; Schluif. 1988-90; MM 1977-78; Hausen, Sandharlanden und Mühlhausen Krs. Kelheim 1970-75; Abensberg bei Neustadt/Donau 1974; Bachmühlal im Tal d. Schwarzen Laaber 1970; Krottenmühl am Simssee 1965. VI.-X.
- Calliopum simillimum* (COLLIN, 1933): Bbg.; Schög. 1989-96; Mü.-ZSM 1989; Mühlhausen, Sandharlanden, Dümbucher Forst und Ob.-Umelsdorf Krs. Kelheim 1965-75; Krottenmühl am Simssee 1965; Nöttinger Heide Krs. Pfaffenhofen 1974; Schluif. 1989-90; Bayreuth 1979. VI.-X.
- Cnemocantha muscaria* (FALLEN, 1823): Bbg.
- Eusapromyza multipunctata* (FALLEN, 1820): Bbg.; Nbg.; Ampm. 1956. VII.
- Lauxania (Czernushka) albomaculata* STROBL, 1909: MM 1975-78; Aufhof bei Augsburg 1935. V.-VI. **Neu für D!**
- Lauxania (Lauxania) cylindricornis* (FABRICIUS, 1794): Schluif. 1988-90; Bbg.; Nbg.; Schög. 1973-99; Eisbg. 1946; Oberpfalz, Falkenstein 1976; Schwaben, Siglohe 1948; Weichser Moos Krs. Dachau 1987; Siegenburg Krs. Kelheim 1971; Kammerweiher bei Roding 1998. V.-VII.
- Meiosimyza platycephala* (LOEW, 1847): Schög. 1985-92; Schluif. 1989-90; MM 1978; Wett. 1999; Hienheimer Forst Krs. Kelheim 1974; Mattinger Hänge Krs. Regensburg 1975; Mü.-Nymphenburg und -Bot. Garten 1969-74; Steinebach am Wörthsee Krs. Starnberg 1949; Abensberg bei Neustadt/Donau 1974. VI.-IX.
- Meiosimyza affinis* (ZETTERSTEDT, 1847): Schluif. 1988-90; Schög. 1985-92; MM 1975-79; Mü.-Nymphenburg 1974. V.-VIII.
- Meiosimyza decempunctata* (FALLEN, 1820): Bbg.; Mü.-Nymphenburg und -Bot. Garten 1968-74; MM 1978; Mattinger Hänge Krs. Regensburg 1975; Mühlhausen Krs. Kelheim 1966; Wartaweil bei Herrsching 1947; Gröbenzell bei Mü. 1971. VI.-VII., IX.
- Meiosimyza decipiens* (LOEW, 1847): Bbg.; Söchtenau Krs. Rosenheim 1965; Schög. 1987-92; Schluif. 1989-90; Weltenburg Krs. Kelheim 1966; Eisbg. 1946; Egern-dacher Filz am Chiemsee 1999; Ettersschlag Krs. Starnberg 2002. VI.-XI.
- Meiosimyza laeta* (ZETTERSTEDT, 1838): Wett. 1999; Karw. 1999-2000; Schlierseer Berge, Rotwand 1946. VI.-VIII.
- Meiosimyza mihalyii* (L.PAPP, 1978): Hammer bei Inzell, Rohrmoos, 1100m, 1996; Schög. 1989-90; Wett. 1999; Karw. 1999-2000; Bergen bei Traunstein 1994. VI.-VIII.
- Meiosimyza rorida* (FALLEN, 1820): Bbg.; Mü.-Bot. Garten & -Hellabrunn 1961-71 und Mü.-ZSM 1989-92; Schög. 1985-2000; MM 1977-78; Ampm. 1955; Eisbg. 1947; Schleissheim bei Mü. 1947; Krottenmühl am Simssee 1965; Miesbach 1948; Siegenburg, Mühlhausen u. Sandharlanden Krs. Kelheim 1970-75; Schluif. 1989-90. VI.-X.
- Meiosimyza subfasciata* (ZETTERSTEDT, 1838): Mü.-Bot. Garten 1966 und -ZSM 2000; MM 1977; Schög. 1985-94; Schluif. 1989-90. VI.-X.
- Poecilolycia vittata* (WALKER, 1849): Schluif. 1990; Schög. 1985-94; MM 1979. V., VII.
- Pseudolyciella pallidiventris* (FALLEN, 1820): Schluif. 1989; Mü.-Bot. Garten 1968-71 und -ZSM 1989; Schög. 1989-91; Wollbach b. Zusmarshausen 1975. VII.-X.
- Pseudolyciella stylata* L.PAPP, 1978: Mü.-ZSM 1989. VIII.
- Minettia (Frendelia) austriaca* HENNIG, 1951: Mü.-ZSM 2002. V. **Neu für D!**
- Minettia (Frendelia) longipennis* (FABRICIUS, 1794): Mü.-Bot. Garten & -Nymphenburg 1970-74 und -ZSM 1989-2000; Bbg.; Schög. 1985-94; Schluif. 1989-90; MM 1975-

- 78; Krottenmühl am Simssee 1965; Nötting Krs. Pfaffenhofen 1970; Siegenburg Krs. Kelheim 1971; Hagau bei Ingolstadt 1979; Oberes Isar-Tal, Wallgau bis Vorderriss 2002. V.-VIII.
- Minettia (Minettia) fasciata* (FALLEN, 1826) (= *Minettia rivosia* (MEIGEN, 1826) in SHATALKIN 2000): Bbg.; Schög. 1987-91; Mü.-ZSM 1989-2000; Seefelder Wald bei Ettersschlag Krs. Starnberg 1995; Stadtsteinach 1979. V.-IX. (Synonymie siehe MERZ 2004).
- Minettia (Minettia) lupulina* (FABRICIUS, 1787): Bbg.; Schög. 1989-90; Wartaweil bei Herrsching 1947; Schluif. 1990; Sandharlanden und Akenstal/ Siegenburg Krs. Kelheim 1970. V.-VIII.
- Minettia (Minettia) plumicornis* (FALLEN, 1820): Bbg.; Mü.
- Minettia (Minettia) tabidiventris* (RONDANI, 1877) (= *Minettia fasciata* (FALLEN, 1826) in SHATALKIN 2000): Schög. 1985-91; Mü.-Nymphenburg 1974 und -ZSM 2000; Bbg.; Erlau bei Passau 1947; Schluif. 1990. VI.-IX. (Synonymie siehe MERZ 2004).
- Minettia (Plesiomineettia) filia* (BECKER, 1895): Schög. 1991. VII. **Neu für D!**
- Minettia (Plesiomineettia) loewi* (SCHINER, 1864): Schög. 1986-94. V.-VII.
- Pachycerina pulchra* (LOEW, 1850): Schög. 1996. V. Die Art überwintert als Adulttier.
- Pachycerina seticornis* (FALLEN, 1820): Bbg.; Schög. 1974-2000; MM 1978; Anzing bei Mü. 1955; Karw. 2000. VIII.-V. Die Art überwintert als Imago, findet sich im Winter bei geringen Plustemperaturen auf der Schneedecke und ist im Frühjahr an der Blüte vom Seidelbast.
- Peplomyza discoidea* (MEIGEN, 1830): Bbg.
- Peplomyza litura* (MEIGEN, 1826): Mü.-Nymphenburg 1974 und -ZSM 1989-91; Schög. 1987-92; Schluif. 1989-90; Mühlhausen und Dürnbucher Forst Krs. Kelheim 1974-75; Egerndacher Filz am Chiemsee 1999. VI.-IX.
- Sapromyza (Nannomyza) basalis* ZETTERSTEDT, 1847: Schög. 1985-99; Schluif. 1989-90; MM 1978; Biberlmühle bei Bad Tölz 1974. VII.-X.
- Sapromyza (Sapromyza) albiceps* FALLEN, 1820: Schög. 1989-94. V., VII.-VIII.
- Sapromyza (Sapromyza) albuliceps* CZERNY, 1932: Wester Holz, Kleines Lechfeld 1936 (CFA, det. W. SCHACHT). VI. (Die Art wurde anhand eines schlecht erhaltenen Weibchens beschrieben und ist seither nicht wieder gefunden worden. Ihr Status ist derzeit revisionsbedürftig).
- Sapromyza (Sapromyza) apicalis* LOEW, 1847: Bbg.; Nbg. 1972; Nördlinger Ries, Möttlingen 1949 (CFA, det. W. SCHACHT). VIII.-IX.
- Sapromyza (Sapromyza) intonsa* LOEW, 1847: Mü.-ZSM 1989. VI.
- Sapromyza (Sapromyza) obscuripennis* LOEW, 1847: Bbg.; Schög. 1987-92; Steinebach am Wörthsee 1949; Dürnberger Forst Krs. Kelheim 1975. V.-VIII.
- Sapromyza (Sapromyza) obsoleta* FALLEN, 1820: Bbg.
- Sapromyza (Sapromyza) opaca* BECKER, 1895: Rappersdorf bei Berching/ Sulztal 1988; Schluif. 1989-90; Schög. 1986-95; Mü.-ZSM 1989; Deining bei Mü. 1959; Dachau 1956. VI.-VIII.
- Sapromyza (Sapromyza) schnabli* PAPP, 1987: Mü.-Nymphenburg 1974. VIII. **Neu für D!**
- Sapromyza (Sapromyza) sexpunctata* MEIGEN, 1826: Schög. 1985-91; Schluif. 1988-90; MM 1978; Diessen am Ammersee 1947; Biberlmühle bei Bad Tölz 1974; Dachau 1956; Ampm. 1956; Mü.; Eisbg. 1947; Egerndacher Filz am Chiemsee 1999; Etter-

schlag Krs. Starnberg 2002. V.-VIII.

Sapromyza (*Sapromyza*) *zetterstedti* HENDEL, 1908: Schög. 1985; Ettersschlag Krs. Starnberg 2002; Mü.-Bot.Garten 1970 und -ZSM 2000. VII-IX..

Sapromyza (*Schumannimyia*) *hyalinata* (MEIGEN, 1826): Bbg.; Schög. 1994; Schluif. 1990; MM 1979. V.-VII.

Sapromyza (*Sapromyzosoma*) *quadricincta* BECKER, 1895: Bbg.

Sapromyza (*Sapromyzosoma*) *quadripunctata* (LINNAEUS, 1767): Bbg.; Schög. 1991; Mü.-ZSM 1989-2000; Ettersschlag Krs. Starnberg 1995; Nöttinger Heide Krs. Kelheim 1974; Hutberg Krs. Schwandorf 1971; Kehrenberg in Mittelfranken 1984; Überacker Krs. Fürstenfeldbruck 1995; Stadtsteinach 1979. VI.-X.

Tricholauxania praeusta (FALLEN, 1820): Schluif. 1988-90; Bbg.; Schög. 1985-91; Biber-mühle bei Bad Tölz 1974; Ampm. 1956; Mü.-Hellabrunn, -Bot.Garten & -Nymphenburg 1961-74 und -ZSM 1989-2000; Mattinger Hänge Krs. Regensburg 1974. V.-IX.

Trigonometopus frontalis (MEIGEN, 1830): MM 1978; Schluif. 1989-90. VII., IX.-X.

Chamaemyiidae (11 Arten)

Chamaemyiinae

Acrometopia wahlbergi (ZETTERSTEDT, 1846): Schluif. 1988-90. VI.-VII.

Chamaemyia elegans (PANZER, 1809): Schög. 1973-90; Schluif. 1989-90; Freiham bei Mü. 1965. V.-VIII.

Chamaemyia flavicornis (STROBL, 1902): Schluif. 1989; Schög. 1989. VII.-IX.

Chamaemyia geniculata (ZETTERSTEDT, 1838): Schluif. 1989; Donauried bei Mertingen 1935-36 (CFA); Kematsriedmoos bei Hindelang/ Allgäu 1936 (CFA). V.-VIII.

Chamaemyia juncorum (FALLEN, 1823): Mü.; Schluif. 1988-90; Schög. 1986-90; Königs-dorfer Filz bei Wolfratshausen 1965. VI.-IX.

Chamaemyia polystigma (MEIGEN, 1830): MM 1978-79; Schög. 1984-87; Schluif. 1989; Mü.-ZSM 1989-90. V.-VIII.

Parochthiphila (*Parochthiphila*) *spectabilis* (LOEW, 1858): Schluif. 1988-90. VI.-VII.

Leucopinae

Leucopis (*Leucopis*) *annulipes* ZETTERSTEDT, 1848: Mü.-ZSM 1969. V.

Leucopis (*Leucopis*) *rufithorax* TANASIJTSCHUK, 1958: Mü.-ZSM 2000. IX. **Neu für D!**

Leucopis (*Leucopis*) *sorbi* TANASIJTSCHUK, 1986: Mü.-ZSM und -Nymphenburg 2000. VI., IX. **Neu für D!**

Leucopomyia silesiaca (EGGER, 1862): Mü.; Schög. 1989; Eschenlohe bei Murnau 1980. VIII.-IX.

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Translation of keys of SHATALKIN, A.I. 2000

(Keys to the Palaearctic Flies of the Family Lauxaniidae (Diptera) - Zoologicheskije Issledovania 5, 102 pp., 211 figs, terminology. Moscow)

The translation can be used only together with the original publication. Errors which were found during study including round brackets for species authors are revised. An electronic version is stored with the authors.

Terminology given on page 8
(Figs p. 11, 21, 37, 47, 49, 53, 58, 78)

Head chaetotaxy: *oc* = ocellar setae; *or* = orbital setae; *pvt* = postocellar setae; *vte* =

outer vertical setae; *vti* = inner vertical setae.

Thorax chaetotaxy: *ac* = acrostichal setae; *dc* = dorsocentral setae; *h* = humeral setae; *ia* = intraalar setae; *mspl* = mesopleural setae; *npl* = notopleural setae; *pa* = postalar setae; *ph* = posthumeral setae; *ppl* = propleural setae; *prsc* = prescutellar setae; *sa* = supraalar setae; *sc* = scutellar setae; *stpl* = sternopleural setae. Number before the abbreviation indicates pairs of setae. For example: 1+3 *dc* = four pairs of dorsocentral setae, one before suture and three behind.

Wing veins: *A* = anal vein; *M* (*M*₁₊₂ and *M*₃₊₄) = medial veins; *R* (*R*₁, *R*₂₊₃ and *R*₄₊₅) = radial veins; *Sc* = subcostal vein; *dm-cu* (*tp*) = discal medial-cubital vein [crossvein]; *r-m* (*ta*) = radial-medial vein [crossvein]. Wing cells: *an* = anal cell; *bp* = basal medial cell [*bm*]; *d* = discal medial cell [*dm*].

Postabdominal terminology: *a* = aedeagus; *ap* = aedeagal apodeme; *as* = surstylar apodeme; *c* = cerci; *ds* = dorsal sclerite; *ep* = epandrium; *epp* = epiproct; *g* = gonopods; *h* = hypandrium; *hyp* = hypoproct; *lh* = fore lobes of hypandrium; *p* = parameres; *pa* = protandrium (segments VII+VIII); *s* = surstyli.

Terms used but not figured or explained: *st* = *stpl* (not *st* I-VIII = Sterna I-VIII); *C* = costa or costal vein of wing.

Key to genera (pages 19-22)

- 1 Small black spinules on *C* produced to apex of *R*₄₊₅ (fig.5) 2
- Small black spinules on *C* produced to middle of distance between *R*₂₊₃ and *R*₄₊₅; *t*₂ usually with one spur 4
- 2 Mesopleuron with additional, posteriorly-directed setae on margin and with 1-2 ventrally-directed setae medially; *t*₂ with one spur; fore femur without anteroventral comb-like row of black spinules 3. *Trypaeoides* TONNOIR & MALLOCH
- Mesopleuron without extra setae; *t*₂ usually with two spurs; fore femur with anteroventral comb-like row of black spinules (with few exceptions) 3
- 3 Lower face protruding (fig.5) 1. *Prosopomyia* LOEW
- Face flat to slightly concave 2. *Homoneura* V.D.WULP
- 4 Head with vertex sharpened, and broadening ventrally resulting in triangular profile (fig.6); gena with wide blackish-brown stripe between mouthparts and eye, with paired strong median bristles; 1+3 *dc*, *ac* in two rows with 4 pairs of bristles; wing (fig.17) with numerous brownish markings 14. *Sciasminettia* SHEWELL
- Species with other characteristics 5
- 5 Posthumeral seta (*ph*) absent 6
- Posthumeral seta (*ph*) present 9
- 6 Head triangular in lateral view, with acute angle between frons and face (fig.7); ocellar bristles absent or undeveloped, rarely faintly developed 7
- Head not triangular in lateral view (fig.8), with angle between frons and face about 140°; ocellar bristles well developed 12. *Salebrifacies* SHATALKIN
- 7 Anterior *or* located forward on frons, subequal to anterior margin of eye; third antennal segment pointed at apex; halter yellow 9. *Trigonometopus* MACQUART
- Anterior *or* located at level of middle of eye; third antennal segment rounded at apex. 8
- 8 1 *stpl*; epandrium of male with more or less elongated dorsal corners; knob of halter

- black 8. *Luzonomyza* MALLOCH
- 2 *spl*; epandrium of male without elongated dorsal corners; bristle behind shoulder (*ph*) present but weak, sometimes only unilaterally; halter greyish-yellow. 10. *Trigonometopsis* MALLOCH
- 9 Face with large conical tubercle medially (fig.9) 5. *Itomyia* OKADOME
- Face without tubercle or slightly convex only (fig.10) 10
- 10 Anterior *or* inclinate (sometimes also proclinate) (exceptions: *Lauxania albomaculata* and *minor*); face with large tubercle medially (Pachycerini) or with slight convexity (*Xangelina*) (in latter case, body yellowish-brown, scutellum with paired black spots at bases of apical bristles, propleural bristle situated on a small tubercle) . 11
- Anterior *or* reclinate; face without medial tubercle; propleuron without tubercles at bases of bristles 13
- 11 R_{2+3} converging towards C in apical half (fig.18) 7. *Steganopsis* DE MEIJERE
- R_{2+3} not converging towards C in apical half 12
- 12 Face with one large median black spot or with laterally paired smaller black spots; first antennal segment long; wing lacking clear spot on Sc, or at most anterior part uniformly infusate 6. *Pachycerina* MACQUART
- Face without spots; first antennal segment short; wing with dull yellowish-brown spot at apex of Sc 15 *Xangelina* WALKER
- 13 *ia* present 14
- *ia* absent 17
- 14 Wing with dark brown longitudinal bands 17. *Peplominettia* SZILADY
- Wing hyaline or at most infuscated basally 15
- 15 Mesopleuron with posteriorly-directed marginal bristles in addition to strong bristle on lower part of anterior margin; dull yellowish-brown species. 19. *Melinomyia* KERTESZ
- Mesopleuron without additional strong bristle; if present (some species of *Minettiella*) then black species 16
- 16 Frons shining; 1 *st* 18. *Minettiella* MALLOCH
- Frons dull; 2 *st* 16. *Minettia* ROBINEAU-DESVOIDY
- 17 Face convex in upper part with transverse depression (figs 11-13); antenna elongated 18
- Face flat to slightly concave; antenna short 19
- 18 Arista dull yellowish-brown with dark rays; halter yellow; first antennal segment usually distinctly shorter than second 32. *Calliopum* STRAND
- Arista white, with white rays, seldom lacking rays; halter frequently with black knob (*L. flavohalterata*, *L. potanini* and *L. sonora* with yellow halter); third antennal segment elongated (except *L. albomaculata*); first antennal segment usually as long or longer than second 31. *Lauxania* LATREILLE
- 19 Arista swollen, with white rays; face polished 28. *Mycterella* KERTESZ
- Arista, if swollen then with black rays; face dull 20
- 20 0+3(2-4) *dc*, i.e. without presutural *dc* 21
- 1+3(2) *dc*, i.e. with a pair of presutural *dc* 24
- 21 Anterior *or* situated in front of anterior margin of eye; face with 2-4 black spots and large black spot between antenna and eye (fig.1). 11. *Protrigonometopus* HENDEL

- Anterior or situated even with eye margin; face without black spots 22
- 22 Head triangular in profile with acute angle between frons and face (as in *Trigonometopus*); ocellar bristles faint (see couplet 8) 10. *Trigonometopsis* MALLOCH
- Head not triangular in profile; angle between frons and face obtuse; ocellar bristles well developed 23
- 23 Arista swollen with thick black rays; third antennal segment yellow with black apex; mesonotum without dark brown pattern 29. *Paroecus* BECKER (part)
- Arista normal, if swollen and/or with thick black rays then mesonotum with black pattern (*S. clathrata* SHATALKIN) or third antennal segment entirely yellow (*S. bergi* SHATALKIN) 30. *Sapromyza* FALLEN
- 24 Arista, swollen at least in basal third, with thick black rays (see couplet 23). 29. *Paroecus* BECKER (part)
- Arista not swollen 25
- 25 Wing with narrow black perpendicular bands along margin and with large central black area (figs 70-72) 4. *Noetomima* ENDERLEIN
- Wing, if colored, then different 26
- 26 Wing with dark longitudinal bands (fig.19) 20. *Peplomyza* HALIDAY
- Wing hyaline, sometimes clouded in anterior half or with spots or darkening along veins 27
- 27 Face (fig.14) dull yellowish-brown with three convexities; middle convexity with greyish-brown band on upper half; body dull yellowish-brown (drab) with brown spots 13. *Sciasmomyia* HENDEL - 28
- Species with other characteristics 29
- 28 Wing with numerous brown spots covering wing membrane. *Sciasmomyia* s.str. (Oriental region)
- Wing with small spots at apices of *Sc*, *R* and *M*, and on crossveins. Subgenus *Shatalkinia* PAPP
- 29 Pteropleuron with some setulae (visible at high magnification); thorax and abdomen yellow; normally with two rows of relatively strong *ac* 30
- Pteropleuron without setulae; body yellowish-grey; thorax and sometimes abdomen partially black; 4-6 rows of *ac* 33
- 30 *R*₂₊₃ setose ventrally 22. *Tricholauxania* HENDEL
- *R*₂₊₃ lacking setae on ventral surface 31
- 31 External claw of hind tarsus of male elongated (spiral in one species) (figs 131-132); abdominal segment VII of female elongated and conical. 23. *Aulogastromyia* HENDEL
- Male hind tarsal claws and female abdominal segment VII normal 32
- 32 *R*₄₊₅ setose on both surfaces; wing with at least three variable brown spots along *R*₄₊₅ (figs 133-136) 24. *Eusapromyza* MALLOCH
- *R*₄₊₅ lacking setae or setose only on upper surface; wing hyaline or with spots on crossveins and at apices of *R*₂₊₃, *R*₄₊₅ and/or *M*₁₊₂; at least spots along *R*₄₊₅ absent (figs 116-117) 21. *Meiosimyza* HENDEL (*Lyciella* COLLIN)
- 33 Entirely black species; wing darkened at anterior margin; tibiae with two spurs; six rows of *ac* 27. *Cnemacantha* MACQUART
- Yellowish-grey or grey species, sometimes with thorax partially black; tibiae with one

- spur; four rows of *ac*, if six rows then thorax grey 34
- 34 Frons and usually mesonotum with brown longitudinal vittae. 25. *Poecilolycia* SHEWELL
- Frons and mesonotum lacking vittae 26. *Pseudolyciella* SHATALKIN

Keys to species

1. Genus *Prosopomyia* LOEW, 1856 (page 23)

- 1 Head yellow; mesonotum light yellow; abdomen grey with yellow posterior margins of segments; 4.0 - 4.5. Mediterranean *P. pallida* LOEW

2. Genus *Homoneura* VAN DER WULP, 1891 (pages 24-33)

- 1 Wing partially or entirely dull brownish or patterned 2
- Wing hyaline; rarely darkened around crossveins or clouded at apex. 44
- 2 Wing dull dark brownish with several clear spots (figs 15, 20); mesonotum grey or yellowish-grey with numerous dull brown spots 3
- Wing with other pattern 5
- 3 Arista with short rays, length not more than one-third width third antennal segment; at least mid and hind femora basally dull brown, and yellow only in apical third . 4
- Arista with long rays, length more than width of third antennal segment; femora yellow with narrow dull brown ring in apical third. 2.8 - 3.5. Widely distributed in Oriental region (Sri Lanka, India, Nepal, Taiwan, Indonesia), probably also in south and central parts of China *H. trypetoptera* (HENDEL)
- 4 Third antennal segment greyish-yellow with diffuse dark median area; arista with rays, length slightly more than width of swollen basal part of arista. Wing as in fig. 20. 3.5 - 4.0. South Primorye, Japan, Korea *H. euaresta* (COQUILLET)
- Third antennal segment dull dark brownish, yellow around aristal base; length of aristal rays = one-third width of third antennal segment; wing as in fig. 15. 3.2 - 3.7. China, Oriental region from India-Nepal to Taiwan-Indonesia. *H. picta* (DE MEIJERE)
- 5 Wing with brown band or with large darkened area at anterior margin (*H. canariensis* has darkened areas only at apices of *Sc* and *R*₁, in that case 1+2 *dc* and *ac* in two rows) 6
- Wing with other pattern 16
- 6 Mesonotum with two pairs of narrow brown vittae; brown stripe beginning from propleuron and extending to wing base, and one additional pale stripe on upper part of sternopleuron; 1+3 *dc*; wing darkened along costa and with spots on crossveins, on median part of *R*₂₊₃ and on apical parts of *R*₂₊₃ and *R*₄₊₅. Alps. *H. octostriata* CZERNY
- Species with other characteristics 7
- 7 Frons with lanceolate brown spot (*H. canariensis* could have a diffuse spot); gena with dark brown mask; 1+2 *dc* 8
- Species with other characteristics 9
- 8 Wing darkened around both crossveins; costally darkened only along anterior margin. 3.8 - 4.0. France, Morocco *H. licina* SEGUY
- Only *dm-cu* with darkened area; wing darkened around apical parts of *Sc* and *R*₁. Canary Islands *H. canariensis* (BECKER)

- 9 Length of arisal rays = width of third antennal segment; *r-m* without darkened area.
3.5 - 4.5. Japan *H. hymenophallus* SASAKAWA & IKEUCHI
- Arista with short rays 10
- 10 Third antennal segment black; wing sapromyziform: small black spinules on *C* only
short beyond R_{2+3} , not reaching middle between R_{2+3} and R_{4+5} ; yellow species, noto-
pleura with dull brownish margins. 2.1. Primorye region. *Sapromyza amphibola* SHATALKIN
- Antenna entirely yellow 11
- 11 Mesonotum in median part (delineated by posthumeral bristles) grey; sternopleuron
beneath sternopleural bristles grey; remaining parts of body yellow; arista with very
small rays (observable at high magnification). 2.8. China (Szechwan). *H. czernyi* SHATALKIN
- Body entirely yellow; length of arisal rays more than width of swollen basal part of
arista 12
- 12 *ac* in 2 rows. 3.5. Europe, North Africa *H. transversa* (WIEDEMANN)
- *ac* in 4-6 rows 13
- 13 *ac* in 4 rows. 3.0. South Kurils (Island Shikotan) *H. quadrifaria* SHATALKIN
- *ac* in 6 rows 14
- 14 Wing sapromyziform (see couplet 10). 2.5 - 3.0. Primorye region, Amur and Chitinsk
areas, Mongolia *H. kaszabi* SHEWELL (*Sapromyza abhorens* SHATALKIN)
- Wing homoneuriform: small black spinules on *C* produced to apex of R_{4+5} 15
- 15 *r-m* and *dm-cu* surrounded with dull brown area; area around *r-m* connected with
darkened costal area; palpus dull brown; abdominal segment VI of male with 12-13
spines along posterior margin (fig.54). 3.0 - 4.0. Japan. *H. lagena* SASAKAWA & IKEUCHI
- Only *dm-cu* surrounded with dull brown area; palpus yellow; abdominal segment VI
of male without spines on posterior margin. 3.0 - 3.5. China (Szechwan) *H. grahami* MALLOCH
- 16 Wing brownish between *R* and *M* and at level of *dm-cu*; cell r_1 , excluding apical part,
white (figs 21-22); apical parts of palpus black 17
- White band along costal margin absent; wing with series of spots: connected or
isolated 18
- 17 Wing as in fig.21. 2.5 - 3.0. Primorye region, Japan ... *H. albomarginata* CZERNY
- Wing as in fig.22. 2.6 - 3.3. Primorye region, Korea, China ... *H. kolthoffi* HENDEL
- 18 Apical parts of veins *Sc* and R_1 without brown spots (figs 23-25) 19
- Apical parts of veins *Sc* and R_1 with brown spots (figs 26-29) 35
- 19 R_{4+5} with only apical spot (fig.23) 20
- R_{4+5} with apical spot and 1-3 additional spots (figs 24-25) 26
- 20 Apical parts of palpus black 21
- Palpus entirely yellow; *ac* in 6 rows 22
- 21 *ac* in 4 rows; body dull brownish-yellow with greyish spots. 2.5 - 3.0. Japan, Korea,
China *H. brevicornis* KERTESZ
- *ac* in 6 rows; yellow species. 3.0 - 3.5. China (Mandzuria) *H. alini* HERING
- 22 Large species: 4.3 - 5.0. Length of arisal rays = width of third antennal segment.
North Korea *H. haejuana* SASAKAWA & KOZANEK

- Small species: 3.2 - 4.0. Length of arisal rays less than half width of third antennal segment 23
- 23 At least some *ac* in median rows equal in length with *prsc*; aedeagus sclerotized typically (fig.30). 3.3 - 3.9. Primorye region, Korea *H. stackelbergi* CZERNY
- If *ac* in median rows longer than those in lateral rows, then only slightly 24
- 24 Length of arisal rays = half width of third antennal segment; surstylus (see fig.4 s) with elongated slender dorsally-directed apex (fig.31). 3.7 - 5.0. Primorye region, Japan, Korea *H. spinicauda* SASAKAWA & IKEUCHI
- Length of arisal rays less than one-third width of third antennal segment; surstylus broad, without dorsal pointed apex 25
- 25 Length of arisal rays more than width of basal part of arista; *ac* in median rows longer than in lateral rows; genitalia fig.32. 3.0 - 3.7. Primorye region *H. cerina* SHATALKIN, 2000
- Length of arisal rays less than width of basal part of arista; *ac* subequal in length; wing fig.23; genitalia fig.33. Primorye region *H. autumnalis* SHATALKIN
- 26 *R*₄₊₅ with one spot (fig.24) 27
- *R*₄₊₅ with two or three spots 29
- 27 Fore coxa without subventral comb of spines; *ac* in four rows. 2.5 - 3.5. Forest zone of Palaearctic region *H. tenera* (LOEW)
- Fore coxa with subventral comb of spines; *ac* in 6-10 rows 28
- 28 Area around *r-m* not darkened; *ac* in 8-10 rows. 6.0 - 7.0. China (Szechwan). *H. chinensis* MALLOCH
- Area around *r-m* darkened; *ac* in 6 rows; wing pattern variable: spots along longitudinal veins imprint-like. 3.5 - 4.0. Japan, Taiwan *H. variinervis* (KERTESZ)
- 29 Arista with short rays 30
- Length of arisal rays = width of third antennal segment 31
- 30 Posterior part of frons black; face yellow; gena with black spot; thorax yellowish-grey; apical spot on *R*₂₊₃ fused with spot situated beneath *R*₄₊₅. 3.0. China (Mandzuria) *H. variipennis* CZERNY
- Body entirely yellow; apical spot on *R*₂₊₃ not fused with spot on *R*₄₊₅ (fig.25); fifth sternite of male with pair of large lamellae and with black spine-like marginal setae on them (fig.49). 3.0 - 3.8. Forest zone Palaearctic region . . *H. lamellata* (BECKER)
- 31 Small species: 3.0 - 3.8 mm; *ac* in four rows; pattern on wing similar to *H. lamellata* but subapical spot on *R*₄₊₅ located equally with spot on *R*₂₊₃ or even more apically; hind femur of male with posteroventral row of black spine-like bristles (fig.68) . . 32
- Large species: 5.0 - 6.0 mm. *ac* in 8-10 rows; wing with four spots on *R*₄₊₅; hind femur without spine-like bristles. Japan, Taiwan *H. latifrons* MALLOCH
- 32 Only male (female indistinguishable); hind trochanter with spine-like bristles. 3.1-3.2. Algeria, Tunisia *H. tunisica* PAPP
- Only male (female indistinguishable); hind trochanter with normal bristles 33
- 33 Spine-like bristles on hind femur short (less than diameter of tibia) and thick, forming normal long rows and absent only at apical quarter of hind femur. 3.5 - 3.8. Krasnodar region, West and Central Europe. *H. dilecta* (RONDANI) [= *H. notata* (FALLEN) sensu SHATALKIN (MERZ 2003)]
- Spine-like bristles long (more than diameter of tibia) absent at basal half of hind

femur	34
34 7-8 spine-like bristles on hind femur (fig.68) larger than those of <i>H. maghrebi</i> . 3.0-3.8. Crimea, Central Europe.	
... <i>H. notata</i> (FALLEN) [= <i>H. subnotata</i> PAPP sensu SHATALKIN 2000 (MERZ 2003)]	
- 4-5 spine-like bristles on hind femur smaller than those of <i>H. subnotata</i> . 3.2 - 3.3. Algeria, Tunisia	<i>H. maghrebi</i> PAPP
35 R_{4+5} with apical spot only	36
- R_{4+5} with one or two spots between <i>r-m</i> and apical spot	39
36 Mid tibia with one spur; abdominal sternite VI with three lobes and with four spines on intermediate lobe (fig.55). 2.6-3.2. Japan. ...	<i>H. triphylla</i> SASAKAWA & IKEUCHI
- Mid tibia with two spurs; abdominal sternite VI with other characteristics	37
37 Wing membrane with large brown spots: spot on R_{2+3} about 0.7 x 0.6 mm; arista with short rays; male epandrium with long and narrow surstylus (fig.34). 4.0 - 4.3. Korea.	<i>H. koreana</i> PAPP
- Spots on wing membrane smaller: spot on R_{2+3} about 0.4 x 0.3 mm; length of arista rays more than one-third width of third antennal segment	38
38 <i>ac</i> in 8 rows; male epandrium with large surstylus (fig.35). 4.0 - 4.5. Primorye region, Korea	<i>H. stigmata</i> PAPP
- <i>ac</i> in 6 rows; male epandrium with elongated, relatively narrow, dorsally-directed surstylus; rounded apex of surstylus with small tooth directed towards cercus. Japan.	<i>Homoneura</i> sp. (<i>H. stackelbergi</i> sensu SASAKAWA & IKEUCHI)
39 R_{4+5} with apical spot and one additional spot	40
- R_{4+5} with apical spot and two additional spots (fig.29)	42
40 Wing with basal spot between basal parts of veins <i>R</i> and <i>M</i> (fig.26); palpus black at apex. 2.7 - 3.5. Primorye region, China (Mandzuria)	<i>H. pictipennis</i> CZERNY (<i>H. enderleini</i> SHATALKIN, <i>H. signata</i> ENDERLEIN)
- Wing without basal spot	41
41 Length of arista rays = width of basal part of arista; <i>ac</i> in 6 rows; wing as in fig.27. 4.0 - 4.5. Primorye and Khabarovsk regions, Amur district, Japan, Korea, China. ...	<i>H. mayrhoferi</i> CZERNY
- Length of arista rays more than three quarter width of third antennal segment; <i>ac</i> in 8 rows; wing as in fig.28. 4.5 - 5.0. Japan	<i>H. hirayamae</i> (MATSUMURA)
42 Hind femur dark-grey, narrowly yellow at apex only; genitalia fig.36. 3.5 - 4.0. South Kuril Islands (Kunashir)	<i>H. insularis</i> SHATALKIN
- Hind femur yellow, sometimes with greyish spots or pattern	43
43 Surstylus of male (fig.37) large, with three teeth on apical margin; spermathecae of female rounded. 3.0 - 4.0. Primorye and Khabarovsk regions, Japan (?)	<i>H. shatalkini</i> PAPP
- Surstylus narrower, falcate, without teeth on apical margin (fig.38); spermathecae well elongated (fig.39). 3.5 - 4.5. Japan	<i>H. aulatheca</i> SASAKAWA & IKEUCHI
44 Black species	45
- Yellow or yellowish-brown species	47
45 Halter bicolored: knob black and stem yellowish; <i>ac</i> in 6 rows. 3.0 - 3.5. Japan	<i>H. pyriformis</i> SASAKAWA & IKEUCHI
- Halter entirely yellow; number of rows of <i>ac</i> different	46

- 46 Large species: 5.0 - 5.5 mm; face and frons black with grey dust; *ac* in 10 rows. Japan *H. trifurcata* SASAKAWA & IKEUCHI
- Small species: 2.6 - 2.7 mm; face and frons yellow; *ac* in 4 rows. Primorye region ..
..... *H. fulgida* SHATALKIN
- 47 Length of arisal rays more than half width of third antennal segment (chiefly for species with arisal length more than width of third antennal segment; if length of arisal rays equal to half width of third antennal segment then species distributed in Russian Far East: e.g. *H. yamagishii*) 48
- Length of arisal rays less than half width of third antennal segment (if length of arisal rays = half width of third antennal segment then West Palaearctic species: usually *H. christophi*, *H. dentiventris*) 60
- 48 Parafacial with silver lustre (from dorsal view) 49
- Parafacial without silver lustre 51
- 49 Upper part of frons, third antennal segment, palpus and at least apical half of hind femur dull brown. 2.5 - 3.5. Japan *H. repanda* SASAKAWA & IKEUCHI
- Frons, palpus and legs entirely yellow; third antennal segment with diffuse dark area on apical third 50
- 50 Large species: 3.1 - 3.4 mm; apical third of third antennal segment slightly darkened. Japan, Taiwan, China, Vietnam, Sri Lanka, USA (immigrant)
..... *H. unguiculata* (KERTESZ) (*H. japonica* CZERNY)
- Small species: 2.5 mm; apical third of third antennal segment black. Khabarovsk region (Khabarovsk), Philippine, Malaysia, Indonesia, India .. *H. affinis* MALLOCH
- 51 *ac* in 4 rows 52
- *ac* in 6 rows 55
- 52 1+2 *dc*; height of gena equal to one-third height of compound eye; pregenital sternite of male V-shaped, without spines on lateral appendages 53
- 0+3 *dc*; height of gena equal to one-ninth height of compound eye; pregenital sternite of male with spines on lateral appendages 54
- 53 Apices of longitudinal veins brownish; crossveins without dark areas; surstylus narrow; pregenital sternite large, V-shaped. 2.5-3.0. Europe .. *H. limnea* (BECKER)
- Wing apex hyaline; both crossveins with dark areas; surstylus large (fig.40), pregenital V-shaped sternite narrow. 2.8 - 3.3. Tunisia, Near East
..... *H. pseudolimnea* PAPP
- 54 Wing entirely hyaline, without spots or dark areas; third antennal segment with elongated apex; length of arisal rays more than width of third antennal segment. Genitalia fig.50. 2.8 - 3.2. Turkmenistan *H. turkmenica* SHATALKIN, 2000
- Both crossveins with brownish areas; third antennal segment rounded at apex; length of arisal rays less than width of third antennal segment; pregenital sternite of male as in fig.56. 2.8 - 3.3. Mountains of Middle Asia (Pamir) *H. lasdini* CZERNY
- 55 Mesonotum with anteromedial setae, located in 8 rows. 3.0 - 4.0. Japan.
..... *H. panniculata* SASAKAWA & IKEUCHI
- Mesonotum only with rows of *ac* 56
- 56 Third antennal segment black at apical third; arista with 2-3 rows of long black rays dorsally. 2.5. Primorye region *H. assidua* SHATALKIN
- Antenna entirely yellow; arista with dorsal rays located in one row 57

- 57 Mid tibia with one spur; genitalia slightly sclerotized, yellow; cercus black; aedeagus with pair of appendages sclerotized along ventroapical margin (fig.41). 2.3 - 2.8. Primorye and Khabarovsk regions, Amur district, Korea *H. filiola* CZERNY
- Mid tibia with two spurs 58
- 58 Arista with short rays: length of dorsal rays = half to three-fifths width of third antennal segment; genitalia similar to *H. filiola* but aedeagus without appendages (fig.42). 3.0 - 4.0. Japan (including Hokkaido) *H. yamagishii* SASAKAWA & IKEUCHI
- Arista with long rays: length of dorsal rays about width of third antennal segment; genital structure similar to *H. filiola* and *H. yamagishii*, but aedeagus with large lateral appendages with spines on apical part (figs 43-44) 59
- 59 Aedeagus with two pairs of ventral spines (fig.43). 1.8 - 2.4 (wing). North Korea *H. quadrispinosa* SASAKAWA & KOZANEK
- Aedeagus with pair of oval sclerites ventrally; sclerites connected with appendages, which have spines on apical part (fig.44). 2.5 - 3.3. Japan *H. spinosa* SASAKAWA & IKEUCHI
- 60 Both crossveins with dull brownish spots 61
- Both crossveins without spots 73
- 61 Wing apex or apical parts of R_{2+3} , R_{4+5} and M_{1+2} slightly brownish; *ac* large, in 4 rows, bristles in medial rows larger than in lateral rows; genitalia fig.45. 2.8 - 3.4. Europe *H. biumbata* (LOEW)
- Wing apex or apical parts of longitudinal veins without dark areas 62
- 62 Fifth abdominal tergite with pair of lateral black spots. 3.7 - 4.8. Japan *H. tridentata* SASAKAWA & IKEUCHI
- Abdomen without spots 63
- 63 1+3 *dc*; anteroventral comb of fore femur consists of setae (not of spines); male lateral appendages of fifth abdominal sternite with spines (fig.57). 2.8 - 3.2. Amur district *H. amurensis* SHATALKIN
- 0+3 *dc* 64
- 64 *ac* large, in 2 rows; *R* before dividing to R_{2+3} and R_{4+5} dark, in comparison with neighboring parts; fifth sternite of male with comb of 18-20 short spines (fig.58); female cercus with 3-5 spines (fig.52); length of arisal rays more than thickness of basal part of arista (difference from *H. sasakawai*). 3.3 - 3.8. Primorye and Khabarovsk regions, Amur and Chitinsk district, Japan (?), China (Manduria), Mongolia. *H. septentrionalis* (LOEW)
- *ac* in 4-6 rows 65
- 65 Medial *ac* much larger than laterals 66
- Medial *ac* subequal to laterals or slightly larger 70
- 66 At least one pair of medial *ac* equal in length to *prsc* 67
- Medial *ac* smaller than *prsc* 69
- 67 Length of arisal rays more than thickness of basal part of arista; sternite IV of male with elongated conical formation at middle of posterior margin (fig.51). 3.5 - 4.0. Europe, Siberia (Jakutia) *H. modesta* (LOEW)
- Length of arisal rays less than thickness of basal part of arista 68
- 68 Length of arisal rays equal to thickness of basal part of arista; third antennal segment with shelf-like groove along apical margin; female cercus without spines, only with

- black bristles; male unknown. 2.5 - 3.0. Primorye region *H. externa* CZERNY
- Length of arisal rays less than thickness of basal part of arista; third antennal segment without any formation; abdominal sternite V of male with short spines apically (fig.59); genitalia fig.46. Female cercus with 8-10 short spines dorsally (fig.53). 3.0-3.5. South Kuril Islands (Kunashir), Japan *H. sasakawai* SHATALKIN
- 69 Hind trochanter with short black spines; length of arisal rays less than thickness of basal part of arista; abdominal sternite VI of male with pair of appendages with four spines (fig.60). 3.0 - 3.3. Amur district *H. ozerovi* SHATALKIN
- Hind trochanter without spines; abdominal sternite VI of male with groove at posterior margin and with three pairs of spines located laterally and medially (fig.61). 3.0 - 4.0. Sakhalin, Japan *H. matsumurai* SASAKAWA & IKEUCHI
- 70 Length of arisal rays less than thickness of basal part of arista; sternite VI of male with 6-8 spines at posterior margin; small species: 2.3 - 2.8. Transpalearctic.
. . . *H. mediospinosa* MERZ, 2003b (= *H. interstincta* (FALLEN) in SHATALKIN 2000
- Length of arisal rays more than thickness of basal part of arista; large species . . . 71
- 71 *ac* in 6 rows; sternite VI of male with two pairs of appendages (anterior and posterior) (figs 64-65) 72
- *ac* in 4 rows; posterior appendages of male sternite VI somewhat regressed; spines on sternites V and VI well developed (fig.63). 3.8 - 3.5. Mountains of Middle Asia.
. *H. dentiventris* CZERNY
- 72 Length of arisal rays equal to one-third (or slightly more) width of third antennal segment; anterior appendages on sternite VI of male with 2-3 median spines (fig.64). 3.2 - 3.6. Europe *H. christophi* (BECKER)
- Length of arisal rays less than one-third width of third antennal segment; anterior appendages on sternite VI of male with lateral spines (fig.65). 3.0 - 3.6. Europe.
. *H. tesquae* (BECKER)
- 73 1+2 *dc* or 1+3 *dc* 74
- 0+3 *dc* 76
- 74 Arista with long rays; hind trochanter with triangular pointed formation ventrally; 1+2 *dc*. 3.3. Europe (Spain) *H. chelis* CARLES-TOLRA
- Arista with short rays; hind trochanter without any formation 75
- 75 1+2 *dc*; length of arisal rays less than thickness of basal part of arista. 2.3 - 2.6. Europe *H. consobrina* (ZETTERSTEDT)
- 1+3 *dc*; length of arisal rays more than thickness of basal part of arista. England.
. *H. hospes* ALLEN
- 76 *ac* in median rows equal, compared with those in lateral rows 77
- *ac* in median rows longer, compared with those in lateral rows 84
- 77 *ac* situated at least on anterior part of mesonotum in 8 rows; short bristles on mesonotum (including *ac*) seta-like; genitalia fig.47. 4.0 - 4.3. Tadzhikistan.
. *H. sychevskayae* SHATALKIN
- Number of *ac* rows different 78
- 78 *ac* in 6 rows 79
- *ac* in 4 rows 83
- 79 Length of arisal rays more than thickness of basal part of arista 80
- Length of arisal rays less than thickness of basal part of arista 81

- 80 Orange species; occiput with dull brown spot; hind trochanter of male with lobe-like formation ventrally (fig.69); cercus of male large with comb of long setae along margin. 3.0 - 3.3. Spain *H. ericpoli* CARLES-TOLRA
- Yellow species; hind trochanter without lobe; cercus of male normal sized without comb of setae. 2.6 - 3.4. Hungary, Romania, Spain *H. thalhammeri* PAPP
- 81 European species; gena relatively low, about 1/5 of height of compound eye. 2.8 - 3.5. Crimea, Caucasus. Central Europe *H. patelliformis* (BECKER)
- East Palaearctic species; height of gena about 2/5 height of compound eye 82
- 82 Genitalia similar to that of *H. sychevskayae*; surstylus narrowly triangular, almost straight ventrally. 2.7 - 3.0. Mongolia *H. patella* SHEWELL
- Genitalia with other characteristics (fig.48); surstylus large with dorsally irregularly formed apex and with several grooves ventrally. 3.2 - 4.0. Japan.
- *H. securigera* SASAKAWA & IKEUCHI
- 83 Short bristles on mesonotum seta-like; small species: 2.0 (wing). Mongolia.
- *H. spinidorsum* SHEWELL
- Short bristles on mesonotum weak; large species: 3.0. Greece, Turkmenistan (?).
- *H. kortzasi* TSACAS
- 84 Arista almost bare; abdominal sternite VI of male with comb of black spines, with gap medially along posterior margin (fig.62). 3.0 - 3.6. South Kuril Islands (Kunashir), Japan *H. crucifera* SASAKAWA & IKEUCHI
- Length of arisal rays more than thickness of basal part of arista 85
- 85 Arisal rays short; pregenital sternites of male without spines (fig.66). 2.5 - 3.1. Asian species: Siberia (Omsk), Mongolia *H. shewelliana* PAPP
- Arisal rays longer; pregenital sternites of male with spines; European species . . 86
- 86 Male only (female indistinguishable): anterior lobus of abdominal sternite VI apically beak-like with comb of spines; posterior lobus of abdominal sternite VI thin, apical parts medially curved (fig.67). 2.8 - 3.5. West Europe *H. remmi* PAPP
- Male only: anterior lobus of abdominal sternite VI vesicle-like, with spines laterally (as in *H. tesquae*); posterior lobus of abdominal sternite VI large and straight. 2.6 - 3.2. West and Central Europe. *H. minor* (BECKER)

3. Genus *Trypaneoides* TONNOIR & MALLOCH, 1926 (page 35)

- 1 Abdomen entirely black, without grey spots; mesopleuron with 1 bristle; wing fig.16; 2.6 - 2.7. Japan (Honshu) *T. japonicus* SHATALKIN
- Abdomen dark dull brown with grey spots; mesopleuron with 2 bristles situated one above the other. 2.5 - 2.8. Japan (Honshu) *T. poecilus* SHATALKIN

4. Genus *Noetomima* ENDERLEIN, 1937 (page 35)

- 1 Wing apex with fan of bands, pattern as in figs 71-72 2
- Wing apex without fan of bands, pattern as in fig.70; scutellum grey, with pair of large brownish spots sometimes apically fused. 2.5 - 3.1. South Kuril I. (Kunashir).
- *N. aberrans* SHATALKIN
- 2 Scutellum grey with dull brownish to brownish margins, slightly shining from posterior view; bands on apical third of wing short (fig.71); presutural *dc* situated anterior of *ac*. 1.9 - 2.0. South Kuril I. (Kunashir) *N. fulgens* SHATALKIN
- Scutellum black, shining; bands on apical third of wing longer (fig.72); presutural *dc*

situated evenly with *ac*; genitalia fig.73. 2.5 - 3.0. Khabarovsk and Primorye region, China *N. radiata* ENDERLEIN

5. Genus *Itomyia* OKADOME, 1998 (page 36)

- 1 Arista with short rays; thorax yellowish-brown, without longitudinal vittae. 4.0. Japan (Tsushima Island) *I. tsushimana* OKADOME
- Arista dull dark brown with dense rays; thorax reddish-brown with dark brown median and paired *dc* vittae. 4.5 - 5.5. Japan (Honshu and Kyushu). *I. atrifrons* OKADOME

6. Genus *Pachycerina* MACQUART, 1835 (pages 37-38)

- 1 Arista white; *ac* in four rows; face with large median spot 2
- Arista black 3
- 2 Body mostly black; hind trochanter of male, with flat lobe-like projection. 3.6 - 4.0. Khabarovsk region, European Russia, Europe, North Korea ... *P. pulchra* (LOEW)
- Body yellow; hind trochanter of male with low black ridge only. 3.3. Japan (Kyushu). *P. alutacea* SHATALKIN
- 3 Face with large medial spot; 0+3 *dc*; *ac* in two rows. 2.5 - 3.0. North Korea. *P. longistylata* SASAKAWA & KOZANEK
- Face with two spots; 1+3 *dc* 4
- 4 Arista with sparse rays. 4.0. Europe (Alps) *P. alpicola* CZERNY
- Arista with dense rays 5
- 5 Mesonotum yellow or dark yellow with four brown longitudinal vittae; medial spot on frons large; black spots present on basis of *or*; *ac* in two rows. 3.3 - 3.9. Amur district, European Russia, West Europe *P. seticornis* (FALLEN)
- Mesonotum, katapisternum and metanotum black; medial spot on frons small; *or* without black spots at basis; *ac* in 4 rows; genitalia fig.74. 3.2 - 3.8. South Kuril I. (Kunashir) *P. ninae* SHATALKIN

7. Genus *Steganopsis* DE MEIJERE, 1909 (page 38)

- 1 Thorax black; femora black 2
- Thorax yellow; legs mostly yellow, only hind femora darkened on basal half; genitalia fig.75. 3.0 - 3.3. Japan *S. vittipleura* SHATALKIN
- 2 Black spot on upper part of face separated from brown spot on lower part of face. 2.6 - 2.7. Japan (Ryukyu I.), North Vietnam (?) *S. japonica* SASAKAWA
- Black spot on face confluent with brown spot on lower part of face. 2.3 - 2.6. Japan (Kyushu) *S. dichroa* SHATALKIN

8. Genus *Luzonomyza* MALLOCH, 1929 (page 39)

- 1 Gena and parafacial with additional row of bristles parallel to bristles along margin of pitilinal fissure Subgenus *Luzonomyza* s.str - 2
- Gena and parafacial lacking row of additional bristles. Subgenus *Tetroxyrhina* Hendel - 3
- 2 Face entirely yellow; palpus yellow; legs yellow; apical part of fore tarsus black. 3.9. China (Gansu) *L. sinica* SHATALKIN
- Face yellow with brownish pattern; palpus black; femora mostly dark dull brown, almost black. 3.6 - 4.0. China, Thailand *L. nigripalpis* (SHATALKIN)

- 3 Black stripe present between antenna and compound eye. 4.0 - 4.5. China, Vietnam.
..... *L. (T.) cuneatus* (SHATALKIN)
- Black spot present between antenna and compound eye 4
- 4 Abdomen dark brownish, almost black with diffuse longitudinal yellow stripe; length
of dorsal appendages of epandrium equal to length of preabdomen (figs 76-77). 3.8 -
4.0. Japan *L. forficula* SHATALKIN
- Abdomen black with wide yellow bands along anterior margins of all tergites;
epandrium with papilla-like short triangular dorsal appendages; 3.8 - 4.3. China
(Gansu), Taiwan, Vietnam *L. submaculipennis* MALLOCH

9. Genus *Trigonometopus* MACQUART, 1835 (pages 39-40)

- 1 *r-m* and *dm-cu* without dark areas; face with yellowish-white longitudinal stripe;
compound eye rounded, its length 1.6 times longer than distance between eye and
anterior margin of frons; small brownish spot at anterior margin of compound eye.
3.0 - 3.1. Primorye region, China (Gansu) *T. eborifacies* SHATALKIN
- Posterior part of *r-m* and anterior part of *dm-cu* with brownish spots; face uniformly
greyish-yellow; compound eye elongated, its length 2.8 - 3.0 times longer than
distance between eye and anterior margin of frons; anterior margin of compound eye
without spot; apical part of M_{1+2} with small projection medially in European
specimens. 3.5 - 4.5. Primorye and Khabarovsk regions, Amur and Chitinsk districts,
Yakutiya, Sakhalin (I. Kunashir), European Russia, Japan, Korea, China, Mongolia,
West Europe *T. frontalis* (MEIGEN)

10. Genus *Trigonometopsis* MALLOCH, 1925 (page 40)

- 1 Apical part of M_{1+2} with small projection medially. 3.4. China (Gansu).
..... *T. abnormis* (SHATALKIN)

11. Genus *Protrigonometopus* HENDEL, 1938 (page 41)

- 1 Head in lateral view subtriangular; arista thickened with dense black rays; face with
pair of large spots medially. 3.5 - 4.0. Japan, North Korea, China.
..... *P. maculifrons* HENDEL
- Head normal, not triangular in lateral view; arista not thickened; face with pair of
spots medially and with additional pairs of spots beneath antenna and above mouth-
parts (fig.1). 3.0 - 3.5. Primorye region, Japan *P. sexlituris* (SHATALKIN)

12. Genus *Salebrifacies* SHATALKIN, 1992 (page 41)

- 1 Thorax grey, abdomen dark brownish with pair of lateral spots at anterior margins of
tergites II-V; mid femur and all tibiae yellowish-brown with pair of black rings. 3.0 -
3.5. South Kuril I. (Kunashir) *S. czurkini* SHATALKIN

13. Genus *Sciasmomyia* HENDEL, 1907 (page 42)

- 1 Scutellum grey with pair of black spots at apex; wing darkened along apical parts of
longitudinal veins, and with spots on apices of *Sc*, *R* and *M*. 3.8 - 4.0. Primorye
region, Japan (Kyushu) *S. supraorientalis* (PAPP)

14. Genus *Sciasminettia* SHEWELL, 1971 (page 42)

- 1 Large species: length of wing 4 mm; face yellow, lacking dull brown stripes or only
with hint of them; hypopleuron with black spot; in male, genitalia with aedeagus

boat-like (fig.79); in female, inner sclerite of genital chamber large (fig.81). Primorye and Khabarovsk regions, Amur district, Korea, China, Mongolia, Transcaucasia. . .

- *S. dictaetophora* (HENDEL)
- Smaller: length of wing 3 mm; face with three dull brown stripes; spot on hypopleuron diffuse and more grey than black; in male genitalia with elongated tube-like aedeagus (fig.80); in female, inner sclerite inside of genital chamber narrow (fig.82). Primorye and Khabarovsk regions, Amur district *S. similis* SHATALKIN, 2000

15. Genus *Xangelina* WALKER, 1856 (page 43)

- 1 Body dull yellowish-brown; scutellum with pair of dull brown apical spots. 6.3. Japan *X. japonica* SASAKAWA

16. Genus *Minettia* ROBINEAU-DESVOIDY, 1830 (pages 45-52)

- 1 1+3 *dc*, i.e. presutural dorsocentral bristle (*dc*) present 2
- 0+3 or 0+2 *dc*, i.e. presutural dorsocentral bristle absent 9
- 2 Anterior margin of wing darkened 3
- Wing without costal darkening 4
- 3 Length of arisal rays more than half width of third antennal segment; head and thorax yellow; wing with large darkening on *dm-cu*; large species: 4.3 - 5.3. Europe, Caucasus *M. inusta* (MEIGEN)
- Length of arisal rays less than width of basal part of arista; thorax dark grey; frons yellow with dark grey stripes along *or*; both crossveins without darkening; smaller species: 2.9 - 3.4. Europe (Austria) *M. styriaca* (STROBL)
- 4 Mesonotum yellow or at most with grey vittae 5
- Mesonotum grey 7
- 5 Yellow species 6
- Mesopleuron and sternopleuron grey; mesonotum with large grey vitta along *ac*. 4.0. Spain *M. andalusiaca* (STROBL)
- 6 Scutellum with pair of small black or dark dull brown spots laterally of apical bristles; mesonotum with prescutellar bristles in addition to two pairs of large acrostichal bristles. 4.0 - 4.6. South Kuril Islands (Kunashir), Japan. *M. ishidae* (SASAKAWA)
- Scutellum yellow, without black spots; only prescutellar bristles present. 4.0 - 4.5. Algeria, Israel *M. quadrisetosa* (BECKER)
- 7 *ac* in 4 rows 8
- *ac* in 6 rows; thorax grey, scutellum apically yellowish; abdomen yellow with dull brown bands on anterior margins of tergites; legs yellow, fore femur dorsally dark grey. 3.8 - 4.2. Europe, Israel, Crimea, Middle Asia (Turkmenistan). *M. tubifer* (MEIGEN)
- 8 Thorax light grey; abdomen yellow; antenna entirely yellow; halter yellow; legs yellow. 3.5 - 4.3. Europe, Ukraine, Caucasus *M. flaviventris* (COSTA)
- Lateral parts of thorax and abdomen black; mesonotum (except lateral parts) grey; scutellum grey; antenna dark, yellowish only around basal part of arista; legs black, tarsi yellowish; halter black with yellow stem. 3.5 - 4.2. Primorye and Khabarovsk regions, Japan *M. nigriventris* (CZERNY)

- 9 Postpronotum with two bristles; lateral part of thorax with two dull brown stripes; angle between frons and face almost straight. 4.2 - 4.9. Israel. *M. galil* FREIDBERG & YAROM
- Postpronotum with one bristle; lateral part of thorax without stripes; angle between frons and face about 135° 10
- 10 Body black; mesonotum, scutellum and metanotum yellow. 3.0 - 3.5. Transpalearctic species *M. loewi* (SCHINER)
- Otherwise colored 11
- 11 Scutellum grey with black or dull brown margins 12
- Otherwise colored 14
- 12 Black vitta on scutellum wide, extended over dorsal surface; hind legs yellow; abdomen mostly yellow. 3.0 - 3.5. West Palaearctic, North America. *M. lupulina* (FABRICIUS)
- Black vitta on scutellum narrow, as wide as distance between apical bristles; posterior abdominal tergites dark 13
- 13 Hind tibia partially black; *ac* in 6 rows. 3.2. West Caucasus. *M. caucasica* SHATALKIN
- Hind tibia yellow; *ac* in 4 rows. 3.4 - 3.7. Europe (Atlantic area of France, Netherlands and Great Britain) *M. desmometopa* (DE MEIJERE)
- 14 Halter bicolored: black or dull brown knob and yellow stem 15
- Halter yellow 25
- 15 Body ferruginous dull brown with bronzy gloss (as *M. helvola*); one pair of large acrostichal bristles (in addition to prescutellar *ac*); genitalia fig.97. 3.5 - 3.8. Japan. *M. fuscescens* SHATALKIN
- Body from dark grey to black; only prescutellar bristles present 16
- 16 Wing base distinctly darkened; lower part of face with 2 small protuberances .. 17
- Wing base hyaline; lower part of face without protuberances 21
- 17 Hind tibia without subapical bristles; surstylus with two lobes, ventral lobus well developed (fig.83). 3.0-4.5. Holarctic .. *M. longipennis* (FABRICIUS) (primal form)
- Hind tibia with subapical bristles 18
- 18 European species; *ac* in 8 rows; surstylus without ventral lobus (fig.84); ventral appendages of hypandrium subequal in length. 3.8 - 4.0. Romania, Transcaucasia (Kobuleti) *M. martineki* CEIANU
- Far East species 19
- 19 Fore tarsus yellowish; *ac* in 6 rows; surstylus with two lobes (both well developed) (fig.83). Primorye region, South Kuril Islands (Kunashir) (at the same time with primal forma, couplet 17) *M. longipennis* (FABRICIUS)
- not as above (missing in the original publication) 20
- 20 Mid and hind tarsi entirely yellow; tubercles on face well developed; *ac* in 6 rows; surstylus without ventral lobus (fig.85). 3.0 - 4.5. Primorye region. *M. nigratarsis* SHATALKIN
- Apical segments of mid and hind tarsi darkened; tubercles on face weakly developed; *ac* in 8 rows; surstylus with two lobes, dorsal lobus smaller than ventral one (fig.86). 3.8 - 4.0. South Kuril Islands (Kunashir) *M. kunashirica* SHATALKIN
- 21 Large species: 6.0 - 6.5 mm 22

-	Small species: 3.5 - 4.5 mm	23
22	<i>ac</i> in 6 rows; genitalia fig.90. 6.5 - 7.0. China (Szechwan).	<i>M. crassulata</i> SHATALKIN
-	<i>ac</i> in 4 rows; genitalia fig.91. 5.0 - 6.0. China (Szechwan)	<i>M. omei</i> SHATALKIN
23	<i>ac</i> in 6 rows; anterior part of frons dull brown	24
-	<i>ac</i> in 4 rows; frons entirely black; surstylus (fig.89) dorsoventrally elongated with concavity medially. 2.8 - 3.3. Primorye region	<i>M. eoa</i> SHATALKIN
24	Large species: 4 mm; frons with dull yellowish-brown anterior margin and T-like stripe; antenna black, third segment slightly lighter but not dull brownish-yellow; surstylus large, caudally elongated, distinct from lateral view (fig.87). Europe (Austria)	<i>M. austriaca</i> HENNIG (?= <i>Sapromyza multiseriata</i> CZERNY)
-	Small species: 3.0 - 3.2 mm; only anterior margin of frons narrowly dull brownish-yellow; surstylus smaller and elongated towards epandrium: so partially visible from lateral view (fig.88). Sakhalin, Japan	<i>M. acuminata</i> SASAKAWA
25	Arista with small rays or bare	26
-	Length of arisal rays more than width of third antennal segment	36
26	Face yellow with median black spot; arista bare; thorax dark grey; abdomen greyish-black, posterior margins of tergites with dull brownish-yellow bands; tergite VI yellow: with narrow greyish-black band (which is widely broken medially) along anterior margin, and dark dull brown patch medially. 3.0 - 3.2. Primorye region, North Korea	<i>M. gemmata</i> SHATALKIN (<i>kimi</i> SASAKAWA & KOZANEK)
-	Face without median black spot; arista with setae	27
27	Yellow species	28
-	Dull brown to black species	31
28	Scutellum between lateral bristles with pair of black spots	29
-	Scutellum without black spots	30
29	Scutellum with small spots, laterally of apical bristles; mesonotum with prescutellar bristles and in addition with two pairs of large acrostichal bristles. (Kuril I. see couplet 6)	<i>M. ishidai</i> (SASAKAWA)
-	Scutellum with large spots, covering almost entire area between basal and apical bristles; large acrostichal bristles (in addition to prescutellar) absent; genitalia fig.92. 4,8 - 5.0. South Kuril s (Kunashir I.), Japan	<i>M. punctata</i> SASAKAWA
30	Large species: 4.0 - 6.0 mm; length of arisal rays less than half width of third antennal segment; 0+2 <i>dc</i> ; two pairs of large <i>ac</i> before scutellum. Primorye and Khabarovsk region, Amur district	<i>M. helva</i> CZERNY
-	Small species: 3.0 - 3.5 mm; length of arisal rays equal to thickness of basal part of arista; 0+3 <i>dc</i> ; large acrostichal bristles (in addition to prescutellar) absent; genitalia fig.93. Amur district, Sakhalin, South Kuril (Kunashir I.), north and central areas of West Europe	<i>M. filia</i> (BECKER) (= ? <i>dissimilis</i> COLLIN)
31	Thorax dull dark-brown or dull brown	32
-	Thorax black or dark grey	35
32	With one pair of large acrostichal bristles (in addition to prescutellar)	33
-	Only prescutellar bristles present	34
33	Surstylus with two lobes, equal in length and visible in lateral view. 3.7 - 4.3. Japan.	<i>M. divaricata</i> SASAKAWA

- Only second lobus of surstylus tooth-like, invisible in lateral view (fig.94). 3.8 - 4.0. Primorye and Khabarovsk regions, Amur district. Europe . . . *M. helvola* (BECKER)
- 34 First segment of hind tarsus bow-shapely swollen along posterior margin; third abdominal tergite of female without long bristles on posterior margin; genitalia (fig.95) with unusual appearance: long tube-like aedeagus and reduced paramere. 3.8 - 4.2. Primorye region, North Korea. *M. gemina* SHATALKIN (*tarsata* SASAKAWA & KOZANEK)
- Tarsi not swollen; third abdominal tergite of female with long bristles on posterior margin; genitalia typical for *Minettia* s.str. with forked paramere, every lobus of those with pair of large bristles at apex. 3.0 - 3.5. North Korea. *M. linguifera* SASAKAWA ET KOZANEK
- 35 Arista with very short rays: length equal or slightly more than thickness of basal part of arista; thorax dark, almost black; structure of genitalia (fig.96) similar to that of *M. gemina*. 3.3 - 3.8. Primorye region *M. tenebrica* SHATALKIN
- Aristal rays longer; thorax with greyish dust. 4.0 - 4.2. Europe, Asia Minor. *M. pallida* (MEIGEN)
- 36 Thorax partially or entirely grey 36
- Thorax mostly yellow 41
- 37 *ac* in 4 rows; abdomen yellow without dull brown spots or bands; tergite III of female 2.7 - 2.9 times narrower than next and with two pairs of long marginal bristles, internal ones larger and 1.3 - 1.5 times as long as tergite IV. 3.3 - 4.0. Europe. *M. longiseta* (LOEW)
- *ac* in 6 rows; abdomen with more or less outlined dull brown spots or bands; abdominal tergite III of female with smaller marginal bristles 38
- 38 Palpus yellow, sometimes slightly darkened apically and along margin; mesonotum with yellowish vittae along *dc*; genitalia (fig.98) as in *M. fasciata* (FALLEN), but surstylus less elongated and more broadened. 4.0 - 4.8. Europe, Asia Minor, Palestine (= Near East) *M. subvittata* (LOEW)
- Palpus black; yellowish vittae along *dc* on mesonotum diffuse or absent 39
- 39 Mid tibia with two preapical bristles (specimens from Rhodes: couplet 7). *M. tubifer* (MEIGEN)
- Mid tibia with one preapical bristle 40
- 40 Fifth abdominal tergite with pairs of dull brown spots; surstylus dorsally narrow, beak-like curved at apex, with single or paired long bristles; dorsal sclerite along upper margin with shelf-like convexity sometimes with medial projection (fig. 99); bristles on last two sternites of female longer than on last tergite. 4.0 - 4.6. Europe, Caucasus, Asia Minor, Near East, North America. *M. fasciata* (FALLEN) [= *M. rivos*a (MEIGEN) sensu SHATALKIN 2000 (MERZ 2004)]
- Fifth abdominal tergite with dull brown lateral band; surstylus dorsally broad, without long bristles basally; dorsal sclerite with concavity along upper margin (fig.100); bristles on last tergite longer than on last 2 sternites. 4.0 - 5.0. Europe, Caucasus, Asia Minor. *M. tabidiventris* (RONDANI) [= *M. fasciata* (FALLEN) sensu SHATALKIN 2000 (MERZ 2004)]
- 41 Mesonotum yellow with grey longitudinal vitta between *dc* 42
- Mesonotum entirely yellow 43

- 42 Underside of scutellum with pair of elongated dull brown spots, situated laterally of apical bristles; palpus yellow. 3.8 - 4.5. Palestine ($\approx$ Near East) *M. czernyi* FREIDBERG & YAROM (*M. quadrisetosa* CZERNY)
 - Scutellum without spots; palpus black; genitalia as in *M. plumicornis*. 4.3 - 5.0. Morocco probably North African form of *M. plumicornis* (FALLEN)
- 43 Underside of scutellum with pair of elongated dull brown spots, situated laterally of apical bristles 44
 - Scutellum without spots 45
- 44 Spots on scutellum large, covering half or more of its lateral surface; surstylus broad, not elongated; left lobus of paramere with curved right margin; dorsal sclerite with medial tooth, located slightly right. Cyprus. probably color aberration of *M. czernyi*
 - Spots on scutellum small, covering only one-third of lateral surface of scutellum; surstylus elongated; left lobus of paramere smooth at right side; dorsal sclerite without medial tooth. 4.0 - 4.6. Israel, Cyprus *M. cypriota* PAPP
- 45 Palpus partially or entirely black 46
 - Palpus yellow 52
- 46 Abdomen yellow, without any spots 47
 - Abdomen with spots 48
- 47 *ac* in 6 rows; male paramere clearly longer than dorsal sclerite and with pointed formation basally on one lobus (fig.101); abdominal tergite II of female not shortened, abdominal tergites III and IV subequal in length; bristles on posterior margin of tergite III short and with same length. 4.2 - 4.8. Ukraine, Bulgaria, Near East *M. bulgarica* PAPP
 - *ac* in 4 rows; male parameres shorter than dorsal sclerite, lobus of paramere broad and with small tooth on apical half (fig.102); abdominal tergite II of female two times shorter than III, which is clearly longer than IV; tergite III with long marginal bristles, medial bristles longer than laterals but shorter than length of tergite. 4.0 - 4.5. Ukraine, Crimea, Caucasus, Moscow district, West Europe ... *M. plumicornis* (FALLEN)
- 48 Hind femur with small brown apical spots on both sides; abdominal tergite V of female with trapezium-like formation which has long marginal bristles (fig.108). 4.5 - 5.2. Europe (Greece, former Yugoslavia) *M. muricata* (BECKER)
 - Hind femur without spots; abdominal tergite V of female without trapezium-like formation 49
- 49 Male 50
 - Female; abdominal tergites V and VI with spots. *M. suillorum* (Rondani), *M. tinctiventris* (Rondani)
- 50 Abdominal tergites V and VI with pair of spots 51
 - Only abdominal tergite VI of male with spots. 4.5 - 5.0. Italy. *M. tinctiventris* (RONDANI)
- 51 Surstylus with three bristles basally; aedeagal apodeme short. 4.3 - 5.0. France. *M. suillorum* (ROBINEAU-DESVOIDY)
 - Surstylus with four bristles; aedeagal apodeme longer. 4.5 - 5.0. Tunisia. *M. subinfectiventris* PAPP
- 52 At least abdominal tergite V with pair of black spots 53

- Abdomen without spots	54
53 Abdominal tergite V and VI with spots. 5.0-5.7. Italy . . . <i>M. punctiventris</i> (RONDANI)	
- Only abdominal tergite V with spots; genitalia fig.103. 4.8 - 5.2. Iran <i>M. hyrcanica</i> SHATALKIN	
54 Dorsal surface of scutellum with 6-10 short bristles. 4.0 - 5.0. Spain, Algeria, Tunisia <i>M. tunisica</i> PAPP	
- Scutellum bare	55
55 Both crossveins darkened; abdominal tergite III of female two times shorter than next and with two pairs of long marginal bristles (according to this character close to <i>M. tetrachaeta</i> (LOEW), which has much longer bristles on posterior margin of tergite III); genitalia with large paramere, longer than length of dorsal sclerite. 3.5 - 4.3. Europe <i>M. dedecor</i> (LOEW)	
- Crossveins without darkening	56
56 <i>ac</i> in 6 rows; lateral margins of dorsal sclerite smoothly rounded, without posteriorly-directed elongated corners	57
- <i>ac</i> in 4 rows, sometimes with additional bristles outside of rows; apical corners of dorsal sclerite elongated and directed posteriorly, sometimes sclerotized (black colored)	58
57 Prescutellar <i>ac</i> shorter than anterior acrostichal bristles; dorsal sclerite without posteriorly-directed tooth-like formations (fig.106). 3.9. Crimea. <i>M. filippovi</i> SHATALKIN	
- Prescutellar <i>ac</i> normal; dorsal sclerite with posteriorly-directed tooth-like formations. 4.0 - 4.3. Spain <i>M. cantolraensis</i> CARLES-TOLRA	
58 Female	59
- Male	62
59 Abdominal tergite III more than two times shorter than next and with two pairs of long marginal bristles (fig.107). 3.2 - 3.8. Europe, Middle Asia (Turkmenistan). <i>M. tetrachaeta</i> (LOEW)	
- Abdominal tergite III only slightly shorter than IV	60
60 Abdominal tergite III with long bristles compared with those on other tergites. 4.0 - 4.5. South Europe <i>M. flavipalpis</i> (LOEW)	
- At least tergites III and IV with long bristles	61
61 Abdominal tergites III and IV with 12-14 long marginal bristles, both series discontinued medially. 3.5 - 4.2. Turkey <i>M. biseriata</i> (LOEW)	
- Abdominal tergites III, IV and V with 12-14 long marginal bristles, all series discontinued medially; bristles on tergite III longer than those on other tergites. 4.5 - 5.0. Italy <i>M. plumicheta</i> (RONDANI)	
62 Basal part of paramere and lobes of paramere broad, length of lobes less than height of basal part <i>M. biseriata</i> (LOEW)	
- Length of lobes of paramere more than height of basal part (figs 104-105)	63
63 Aedeagel apodeme short (fig.104), shorter than lobes of paramere; highest lobus of paramere with groove on top. 4.5 - 4.8. Greece, Palestine (= Near East) <i>M. palaestinensis</i> PAPP	
- Aedeagel apodeme longer than at least one lobe of paramere; lobes of paramere without groove	64

- 64 Lobes of paramere long, basally straight and curved at apical third; shortest lobus of paramere rectangularly curved *M. plumicheta* (RONDANI)
 - Lobes of paramere shorter and smoothly curved *M. flavipalpis* (LOEW)

17. Genus *Peplominettia* SZILADY, 1943 (pages 53-54)

- 1 Costal cell of wing not entirely brownish; thorax without lateral stripe; with two preapical bristles on mid tibia. 5.0 - 5.7. Algeria *P. milleri* PAPP
 - Costal cell of wing entirely brownish; thorax with dull brown lateral stripe; with one preapical bristle on mid tibia 2
 2 Second radial cell of wing uniformly brownish; acrostichal area of mesonotum without greyish vittae. 4.7 - 5.1. Andorra, Spain, Portugal *P. codinai* (HENNIG)
 - Second radial cell of wing brownish along upper part of apical two-thirds of cell length; acrostichal area of mesonotum with pair of greyish vittae. 4.5. Tunisia. *P. striata* SZILADY

18. Genus *Minettiella* MALLOCH, 1929 (page 54)

- 1 Large species: 3.9 - 4.5 mm; *ac* in two rows. Primorye region, Japan, Korea.
 *M. coracina* SHATALKIN (? *Calliopum acrostichalis* SASAKAWA & KOZANEK)
 - Small species: 2.5 - 3.5 mm; *ac* in four rows. Primorye region. *M. dolabriformis* (SASAKAWA & KOZANEK) (? *elbergi* SHATALKIN, ?*Minettia japonica* SASAKAWA)

19. Genus *Melinomyia* KERTESZ, 1915 (page 54)

- 1 Large species with pale yellow body. 6.0 - 6.5. Japan, Taiwan .. *M. flava* KERTESZ

20. Genus *Peplomyza* HALIDAY, 1837 (page 55)

- 1 R_{4+5} with setae basally; epandrium (fig.111) didymous ventrally. 3.5 - 4.0. European Russia, Caucasus, West Europe *P. litura* (MEIGEN)
 - R_{4+5} without setae basally; epandrium more or less undivided 2
 2 Mesonotum between shoulders dull brownish-grey, without vittae; in male, genitalia (fig.112) with very long and well sclerotized aedeagus and with two pairs of hypandrial lobes, one long (as long as aedeagus) and slender, and the other shorter. 4.0. Corsica *P. dejongi* SHATALKIN, 2000
 - Mesonotum with four dull brownish-grey vittae; hypandrial lobes not longer than epandrium 3
 3 Face with pair of black spots well above oral margin; black spot between antennae absent; epandrium large, longer than hypandrium, and nearly surrounding aedeagus (fig.113); in female, tergite VIII with well sclerotized ventral part, and lacking bristles on anterior margin of sternite VIII. 4.0. European Russia, Ukraine, West Europe *P. discoidea* (MEIGEN)
 - Face with pair of black spots along oral margin; large black spot present between antennae (as in *P. litura*); epandrium shorter than hypandrium (fig.114); in female, sternite VIII with bristles (5-6 per side) along anterior margin (fig.115). 4.0. Crimea, Armenia, West Europe (Hungary, Czechia, Austria) *P. intermedia* E.REMM

21. Genus *Meiosimyza* HENDEL, 1925 (*Lyciella* COLLIN, 1948) (pages 57-59)

- 1 Fore femur with anteroventral comb-like row of black spinules 2
 - Fore femur without anteroventral comb-like row of black spinules 6
 2 Abdominal tergites (except basal one) with medially faded black bands; wing with

- brownish spots on *dm-cu* and apical parts of R_{2+3} , R_{4+5} and M_{1+2} . 5.0. China (Szechwan) *M. omei* (MALLOCH) (*M. ocellaris* (CZERNY))
- Abdomen yellow 3
- 3 Antenna yellow or slightly darkened at apical margin of third segment; palpus yellow; genitalia fig.119. 3.5 - 4.0. Europe, North America (? immigrant). *M. rorida* (FALLEN)
- Third antennal segment black, at least on apical half 4
- 4 Palpus black; third antennal segment well darkened (not black), basal part and basal segments of antennae brownish; genitalia fig.118. 4.0. Caucasus. *M. nigripalpis* (CZERNY)
- Palpus yellow; third segment of antenna black, basal part and basal segments of antenna yellow 5
- 5 *ac* in two rows; wing greyish on *dm-cu* and apical parts of R_{2+3} , R_{4+5} and M_{1+2} . 3.0. Europe *M. compsella* (HENDEL)
- *ac* in four rows; wing hyaline; genitalia fig.120. 3.5 - 4.3 (spring-summer form), 4.5 - 5.2 (summer-autumn form). Caucasus *M. pectinifera* (SHATALKIN)
- 6 Wing with dull brownish spots on apical parts of R_{2+3} , R_{4+5} and M_{1+2} , and sometimes also on crossveins (figs 116-117) 7
- Wing hyaline, sometimes slightly darkened at crossveins 9
- 7 Palpus black; hind basitarsus with posteroventral comb of spinules; wing fig.116. 4.0 - 4.5. Europe *M. decempunctata* (FALLEN)
- Palpus yellow; hind basitarsus without comb 8
- 8 Antenna entirely yellow; both crossveins with broad markings; two pairs of large prescutellar acrostichal bristles. 4.8 - 6.0. Mountains in Middle Asia (Pamir). *M. bifaria* (SHATALKIN)
- Third antennal segment black in apical third; crossveins with narrow dark areas; only one pair of large prescutellar acrostichal bristles; wing fig. 117; genitalia fig.121. 3.5 - 4.2. Mountains in Middle Asia (Pamir) *M. oreophila* (SHATALKIN)
- 9 Antenna entirely yellow 10
- Apical third of third antennal segment black 14
- 10 Palpus entirely yellow or slightly darkened on lower margin 11
- Palpus black or with black apex 13
- 11 Large species: 3.5 - 4.0 mm; 1 *stpl*; genitalia fig.122. Europe, Caucasus. *M. platycephala* (LOEW)
- Small species: 2.5 - 3.5 mm; 2 *stpl* 12
- 12 Palpus, and fore and mid tarsi yellow, without darkened areas; genitalia fig.123. 2.5 - 2.8. Europe *M. laeta* (ZETTERSTEDT)
- Palpus of male and female slightly darkened ventrally; fore and mid tarsi darkened; genitalia fig.124. 3.0 - 3.5. Caucasus *M. homeotica* SHATALKIN, 2000
- 13 Mesonotum dull with (sometimes sparse) greyish vittae; male tarsi black; female tarsi darkened apically. 3.0 - 4.0. Europe (with Caucasus) *M. conjugata* (BECKER)
- Mesonotum shining, without vittae; tarsi yellow; genitalia fig.125. 3.0 - 4.0. Europa, Caucasus *M. decipiens* (LOEW)
- 14 Palpus entirely yellow; apical part of wing darkened along *C*; *ac* in two rows; genitalia fig.126. 3.5 - 4.0. Europe (with Caucasus) *M. affinis* (ZETTERSTEDT)

- Palpus black or with black apex 15
- 15 Tarsi darkened, with fore and hind tarsi nearly black; apex of wing with weak dark costal area; palpus with narrow apical dark area *M. affinis* (ZETTERSTEDT)
- Tarsi yellow or brownish (if dark, then palpus mostly black) 16
- 16 Wing apex with dark costal area. 3.5 - 4.0. Europe (with Caucasus) *M. illota* (LOEW)
- Wing apex lacking dark costal area 17
- 17 Apical third of third antennal segment black; genitalia fig.127. 3.0 - 3.5. Europe. *M. subfasciata* (ZETTERSTEDT)
- Apical half of third antennal segment black; genitalia different (figs 128-129) . . 18
- 18 Fore tarsus darkened; basal third of male hind basitarsus with ventral spinules; genitalia fig.128. 3.2 - 3.8. Caucasus *M. brachychaeta* (SHATALKIN)
- Fore tarsus without darkened area; basal third of male hind basitarsus without spinules ventrally; genitalia fig.129. Europe *M. mihalyii* (PAPP)

22. Genus *Tricholauxania* HENDEL, 1925 (page 61)

- 1 Wing with dull brown areas along *dm-cu* and with darkening along longitudinal veins apically; in male, hind tibia with ventral comb of black spinules; in female, tergite VII without rounded membrane at posterior margin. 3.6 - 4.0. Europe. *T. praeusta* (FALLEN)
- Wing with dull brown areas only along *dm-cu*, without apical dark area; in male, hind tibia with ventroapical groove with thick spinules along margin, surface of tibia surrounding-groove with goldish-yellow setae (fig. 130); in female, tergite VII with rounded membrane at posterior margin. 3.5 - 4.0. Caucasus *T. claripennis* E.REMM

23. Genus *Aulogastromyia* HENDEL, 1925 (page 61)

- 1 Third antennal segment black (except basal part); in male, claw of hind tarsus long and hook-like (fig.131). 3.5-4.0. Europe *A. anisodactyla* (LOEW)
- Antenna entirely yellow; in male, claw of hind tarsus shorter and spiral-like (fig. 132). 3.4. Turkmenistan *A. rohndendorfi* SHATALKIN

24. Genus *Eusapromyza* MALLOCH, 1923 (pages 62-63)

- 1 Wing with anterior margin brownish; thorax yellow, mesonotum slightly greyish with four dull brown vittae. 5.0. Caucasus, Southwest Asia *E. beraudi* (BEZZI)
- Wing with anterior margin not brownish 2
- 2 Wing with five dull brown spots in first radial cell and with numerous spots in other cells (fig.133). 4.0. Bashkir, Ukraine, West Europe *E. poeciloptera* (LOEW)
- Wing without dull brown spots in first radial cell 3
- 3 Wing with three diffuse spots on R_{1+2} and with darkened areas on crossveins, otherwise lacking spots (fig.134). Iran *E. martineki* SHATALKIN
- Wing, in addition to pattern above, with spots on apical parts of R_{2+3} and R_{4+5} , and between R_1 and Sc 4
- 4 R_{1+2} before $r-m$ with 3-4 setae; wing with three nearly rounded dark spots on R_{1+2} , medial one located beyond level of $r-m$ (fig.135); genitalia (fig.137) with narrow surstylus. 4.0 - 4.5. European Russia, Ukraine, Moldavia. West Europe, Turkey. *E. multipunctata* (FALLEN)
- Setae on R_{1+2} more numerous and situated more apically, but distally of level *dm-cu*;

wing with three nearly square spots, the medial one located beyond level of *r-m* (fig.136); genitalia with broad surstylus. 5.0. Europe *E. balioptera* CZERNY

25. Genus *Poecilolycia* SHEWELL, 1986 (page 63)

- 1 Face grey, frequently with small yellowish-grey areas on lower part; dull brown spot between compound eye and oral margin 2
- Face black; lacking dull brown spot between compound eye and oral margin 4
- 2 Mid and hind legs yellow; hind tibia with indistinct dull brown band basally; surstylus with broadly rounded apex (fig.138). 2.7 - 3.2. Transpalearctic species.
. *P. vittata* (WALKER) (*quadrivittata* (LOEW))
- Mid and hind femora mostly dark dull-brown or black; mid and hind tibiae yellow, darkened in apical third and each with dull brown band on basal half (situated near middle of tibia) 3
- 3 Fore tibia dull dark brown; surstylus apically M-shaped. 3:3 - 3.5. China (Szechwan).
. *P. szechuana* SHATALKIN, 2000
- Color pattern of fore tibia not differing from others, i.e. yellow with darkened apical quarter and with dull brown band on basal half; genitalia as in *P. vittata*, but surstylus with pointed apex (fig.139). 2.6 - 2.8. Primorye. *P. tibialis* SHATALKIN, 2000
- 4 Thorax black with greyish dust; scutellum (and also postpronotum and anepimeron in female) yellow; abdomen mostly grey in male and yellow in female; *ac* in four rows. 3.1 - 3.6. Sakhalin, South Kuril I. (Kunashir).
. *P. atrifacies* (SHATALKIN) (*Lyciella leucophaeata* ELBERG)
- Thorax (including postpronotum and scutellum) grey; mesonotum with four narrow dull brown vittae; abdomen black with diffuse yellowish median vitta; *ac* in six rows. 2.8. Primorye area *P. zherichini* SHATALKIN, 2000

26. Genus *Pseudolyciella* SHATALKIN (page 66)

- 1 Thorax mostly yellow; mesonotum with one or three grey vittae 2
- Thorax mostly grey; mesonotum grey, postpronotum and scutellum yellow 3
- 2 Mesonotum with one grey median vitta between dorsocentral bristles. 4.2. Tunisia, Italy *P. brevimana* (PAPP)
- Mesonotum with three grey vittae between dorsocentral bristles. 4.2. Tunisia.
. *P. emarginata* (BECKER)
- 3 Paramere asymmetrical: one lobe short, the other very long (fig.140). 3.7 - 4.6. Europe. *P. stylata* (PAPP)
- Lobes of paramere subequal in length 4
- 4 Lobes of paramere pointed and curved apically (fig.141). 4.0 - 5.0. Europe.
. *P. pallidiventris* (FALLEN)
- Lobes of paramere with beak-like apices. 3.6 - 4.5. Europe.
. *P. subpallidiventris* (PAPP)

27. Genus *Cnemacantha* MACQUART, 1835 (page 67)

- 1 Body and legs black (tibiae dull brown); wing blackish. 2.0 - 3.0. European Russia, West Europe *C. muscaria* (FALLEN)

28. Genus *Mycterella* KERTESZ, 1912 (page 67)

- 1 Head, mesonotum and scutellum shining, brownish or dull yellowish-brown. 4.0 -

- 4.5. Crete *M. jovis* KERTESZ
 - Head bicolored, with combination of yellow and black; mesonotum partially or entirely black; scutellum black 2
 2 Face yellow, parafacial black; mesonotum broadly black with yellow median vittae; 1+3 *dc.* 3.8 - 4.2. Israel *M. luteifasciata* YAROM, FREIDBERG & PAPP
 - Face black, parafacial yellow; mesonotum entirely black; 0+3 *dc.* 4.5. Israel.
 *M. nigra* YAROM, FREIDBERG & PAPP

29. Genus *Paroecus* BECKER, 1895 (pages 68-69)

- 1 Third antennal segment yellow, not elongated and not narrowing conically; male legs without combs of setae on tibiae and tarsi; genitalia fig.143. 4.0 - 4.8. Hungary, Ukraine, Kazakhstan *P. simplicipes* YAROM
 - Third antennal segment black in apical half; frequently elongated and conical to narrowly pointed 2
 2 1+3 *dc.*; frons with dark spot at base of anterior *or*; *ac* in four rows; legs yellow; with comb of spinules on inner side of apical part of male hind tibia and hind basitarsus; genitalia fig.144. 4.3 - 4.8. Europe *P. signatipes* (LOEW)
 - 0+3 *dc.*; frons entirely yellow, without spots; fore femur on anterior side with large dull brown oval spot; at least apical part of fore tibia and fore tarsus dull dark-brown; if comb of spinules present, then only on hind tibia 3
 3 Arista somewhat swollen; third antennal segment short, not narrowing conically; epandrium without ventral projection 4
 - Arista distinctly swollen; third antennal segment long, narrowing conically; epandrium with ventral projections, which are covered with spinules (fig.145). 3.8 - 4.5. Palestine (≈ Near East) *P. tibialis* YAROM
 4 Apical half of third antennal segment black; in male, hind tibia with comb of black spinules; genitalia with broad surstylus and asymmetrical paramere (fig.146). 3.3 - 3.7. Middle Asia *P. gorodkovi* (SHATALKIN)
 - Third antennal segment narrowly black at apex; hind tibia without comb of black spinules; genitalia with narrow surstylus and symmetrical paramere (fig.147). 3.3 - 3.8. Middle Asia *P. sapromyzina* SHATALKIN

30. Genus *Sapromyza* FALLEN, 1810 (pages 70-80).

- 1 0+2 *dc.*; antenna yellow, but the second segment dark dull brown: 1 *stpl*. Subgenus *Nannomyza* FREY 2
 - 0+3(4) *dc.*; antenna otherwise; usually 2 *stpl* 3
 2 Mesonotum light bluish grey. 2.5 - 2.8. Kuril Islands, Japan *S. takagii* ELBERG
 - Mesonotum yellow with greyish tinge. 2.2 - 2.8. Transpalearctic species.
 *S. basalis* ZETTERSTEDT
 3 Wing darkened along anterior margin 4
 - Wing without costal dark area 6
 4 Black species; face and parafacial yellow. 2.3 - 2.5. Amur district.
 *S. carinatula* SHATALKIN
 - Yellow species 5
 5 Smaller: 2.1 mm; third antennal segment black; fore femur on apical half with antero-ventral row of short setae. 2.1. Primorye region *S. amphibola* SHATALKIN

- Larger: 3.5 mm; third antennal segment yellow; fore femur without anteroventral row of short setae. 4.0. Europe *S. obscuripennis* LOEW
- 6 Head, thorax and abdomen black or dark grey (in *S. viciespunctata* CZERNY abdomen frequently dull yellowish-brown with black spots) 87
- Head yellow, dull yellowish-brown or dull brown 7
- 7 Species in Madeira and Canary Islands; dull brownish spot (sometimes unnoticeable) between antennae 8
- Species in other parts of Palaearctic region; dull brownish spot between antennae absent (except *S. unizona* from Southern Spain) 17
- 8 Thorax widely black 9
- Thorax yellow, at most with black median vitta on mesonotum 12
- 9 Antenna entirely black. Madeira *S. madeirensis* FREY
- Antenna yellow or brownish-yellow, third segment more or less darkened apically. 10
- 10 Gena relatively high. 3.0. Canary Islands *S. infumata* BECKER
- Gena low 11
- 11 Frons yellow; mesonotum dark grey; lobes of hypandrium with large spine-like formations (fig.148). 3.0 - 3.5. Canary Islands *S. teneriffensis* FREY
- Frons, especially posteriorly, dark; mesonotum dull brown; lobes of hypandrium normal, triangular (fig.149). 3.3 - 3.6. Madeira *S. hirtiloba* FREY
- 12 Palpus yellow. 3.5 - 4.0. Madeira *S. indigena* BECKER
- Palpus apically black; species from Canary Islands 13
- 13 Abdominal tergites with dark posterior margins and with broad black median bands (sometimes only on last segments) 3.5. Tenerife *S. tinguarrae* FREY
- Abdomen entirely yellow 14
- 14 R_{1+2} and M_{1+2} slightly convergent at apex. 3.6 - 4.2. Gomera *S. columbi* FREY
- These veins not convergent 15
- 15 Mesonotum and scutellum entirely yellow. 3.3 - 3.8. Tenerife. "S. beckeriana BAEZ" (*insularis* BECKER)
- Mesonotum with dark spot or with dark longitudinal vitta 16
- 16 Mesonotum with diffuse dark spot on posterior part and with analogous spot on scutellum. 3.5. La Palma *S. bentejui* FREY
- Mesonotum with black longitudinal vitta, scutellum with black spot. 3.5. La Palma. *S. transformata* BECKER
- 17 Frons with dull brown or black arrow-like spot medially 18
- Frons otherwise 21
- 18 Mesonotum grey; postpronotum and scutellum yellow. 4.5. Middle Asia (Pamir). *S. romanovi* SHATALKIN
- Mesonotum entirely yellow 19
- 19 Arista almost bare; spot on frons distinct 20
- Arista clearly with rays; spot on frons pale; genitalia figs 4, 150. 3.0 - 3.6. Iran, Armenia *S. ravida* SHATALKIN
- 20 Third antennal segment with acute angle at apex; genitalia fig.151. Middle Asia, Afghanistan *S. kabuli* PAPP
- Third antennal segment without acute apical angle; genitalia fig.152. 4.0 - 5.0.

	European parts of Russia, Altai, Taimyr, Kasakhstan, Europe.	
	 <i>S. simplicior</i> HENDEL (<i>simplex</i> LOEW)	
21	Frons with pair of black spots at bases of anterior <i>or</i>	22
-	Frons without spots	24
22	Arista thickened with dense black rays; <i>ac</i> in two rows; third antennal segment elongated; male hind tibia on apical part of inner side, and basal segment of hind tarsus without comb of spinules; mesonotum with black vittae; genitalia fig.153. 3.7 - 4.1. Middle Asia (Turkmenistan)	<i>S. clathrata</i> SHATALKIN
-	Arista not thickened	23
23	Mesonotum with hints of vittae, analogous to those of <i>S. clathrata</i> ; <i>ac</i> in 2 rows; paramere clearly longer than aedeagus; genitalia fig.154. 3.7 - 4.3. Middle Asia (Turkmenistan)	<i>S. pistaciophila</i> SHATALKIN
-	Mesonotum without vittae; <i>ac</i> usually in 2 rows but sometimes additional bristles form additional pair of rows; paramere and aedeagus equal in length; genitalia fig. 155. 3.8 - 4.0. Caucasus, Palestine (≈ Near East)	<i>S. hermonensis</i> YAROM (<i>S. alazonica</i> SHATALKIN)
24	Abdomen yellow with black spots and bands	25
-	Abdomen otherwise; if yellow then without black spots and bands ...	46 (not 39)
25	At least one abdominal tergite with black posterior margin	26
-	Abdominal tergites without black margins	29
26	Second abdominal tergite with black posterior margin. 4.0. Japan.	<i>S. cinctiventris</i> CZERNY
-	Two or more abdominal tergites with black bands	27
27	Mesonotum with black vittae; scutellum broadly black laterally. 3.1 - 3.6. Primorye region, Japan	<i>S. laticincta</i> SHATALKIN
-	Mesonotum and scutellum without black vittae	28
28	Wing hyaline; black bands on tergites II-VI broad (fig.190); hind femora with apical dull brown spots on both sides. 2.5 - 4.0. Palestine (≈ Near East)	<i>S. multimaculata</i> YAROM
-	Wing greyish; <i>ta</i> with dark area; black bands very narrow and usually present on tergites IV-VI. 3.5. Kuril Islands	<i>S. fuscidula</i> SHATALKIN
29	Tergites V and VI each with two pairs of spots, one pair is located medially, the other laterally; only female, male otherwise (couplet 46). Europe, Primorye region.	<i>S. albiceps</i> FALLEN
-	At most with one pair of black spots on last 1-3 tergites	30
30	Three tergites (IV-VI) with black spots	31
-	Only one or two abdominal tergites with black spots	33
31	Mesonotum shining. 3.5 - 4.0. Transpalearctic species ...	<i>S. sexpunctata</i> MEIGEN
-	Mesonotum dull	32
32	Mesonotum with pair of brownish vittae; genitalia fig.157. 3.5. Primorye region. ...	<i>S. pseudopaca</i> SHATALKIN
-	Mesonotum without vittae; genitalia fig.158. 3.5 - 4.0. Transpalearctic species. ...	<i>S. opaca</i> BECKER
33	Ocellar bristles located outside ocellar triangle.	Subgenus <i>Sapromyzosoma</i> LIOY - 34

-	Ocellar bristles located inside ocellar triangle	43
34	Only abdominal tergite VI with pair of black spots	35
-	Tergites V-VI with black spots	39
35	Male genitalia: left paramere with caudally curved narrow lobus (figs 159-160).	36
-	Left paramere with short lobes (figs 161-162)	37
36	Genitalia fig.159. 4.8. Spain	<i>S. parallela</i> CARLES-TOLRA
-	Genitalia fig.160. 4.7 - 5.3. Azerbaijan	<i>S. talyshensis</i> SHATALKIN
37	Right paramere with two narrow long lobes (fig. 161); mid tibia with three spurs. 4.5 - 5.0. Europe	<i>S. quadricincta</i> BECKER
-	Right paramere without lobes, at most with short formations; mid tibia with two spurs	38
38	Tooth-like formations on left paramere parallel (fig.162). 4.4 - 5.3. Spain.	<i>S. laevatrispina</i> CARLES-TOLRA
-	Tooth-like formations on left paramere oriented in opposite directions (fig.163). 4.5 - 5.0. Spain	<i>S. cabrilsensis</i> CARLES-TOLRA
39	<i>ac</i> in 4 rows	40
-	<i>ac</i> in 2 rows	41
40	Genitalia fig.191. 4.3 - 4.6. Tunisia	<i>S. maghrebi</i> PAPP
-	Genitalia otherwise (according to YAROM 1990: 291, SHATALKIN has not seen this species). Europe (Germany)	<i>S. senilis</i> MEIGEN
41	Apical part of male hind femur with row of short setae anteroventrally; hind tibia with comb of short setae apically	42
-	Male hind femur and tibia otherwise. North Africa (Tunisia).	<i>S. drahamensis</i> VILLENEUVE
42	Left paramere broad with rounded apex (fig.164). 3.5 - 4.5. Europe.	<i>S. quadripunctata</i> (LINNAEUS)
-	Left paramere narrow, with pointed apex (fig.165). 3.5 - 4.0. Israel.	<i>S. israelis</i> YAROM
43	Only tergite VI with pair of lateral spots; palpus black in apical half; third antennal segment sometimes apically darkened; surstylus broad, leaf-like (fig.156). 3.0 - 3.5. Italy, former Yugoslavia, Israel	<i>S. bisigillata</i> RONDANI
-	Tergites V-VI with pair of lateral spots; surstylus narrow, stick-like (figs 157-158).	44
44	Palpus apically black. 2.5. North Europe	<i>S. nitida</i> CZERNY
-	Palpus yellow	45
45	Large species: 4.4 mm; genitalia fig.192. Kuril Islands	<i>S. paramerata</i> SHATALKIN
-	Small species: 2.3 - 3.0 mm. Transpalaeartic species	<i>S. zetterstedti</i> HENDEL
46	Frons and face white; 1 <i>or</i> ; transpalaeartic species; only male (female otherwise - couplet 29). 2.5 - 3.0. Primorye region, Europe	<i>S. albiceps</i> FALLEN
-	Frons and face yellow; 2 <i>or</i>	47
47	Abdomen black (male) or dull dark brown (female); first antennal segment black or dull dark brown, second antennal segment black (male) or yellow (female), third antennal segment darkened (basally yellow). 4.0 - 4.5. Austria (Styria).	<i>S. mikii</i> STROBL
-	Abdomen yellow; basal segments of antenna yellow	48

- 48 Third antennal segment black or darkened apically or along apical margin 49
- Third antennal segment yellow 75
- 49 Mesonotum with pair of black vittae (between *dc* and medial rows of *ac*), which are beginning from anterior margin and ending at second *dc*; additional pair of lateral vittae on mesonotum present (divided into two parts by suture); genitalia fig.166. 3.8. Magadan district *S. arctophila* SHATALKIN
- Mesonotum without black vittae 50
- 50 *ac* at least on anterior part of mesonotum in 2 rows 51
- *ac* in 4 rows 54
- 51 Preapical bristle on hind femur short (less than half thickness of femur); arista bare; genitalia fig.167. 3.4 - 3.8. Mountains in Middle Asia *S. nudiseta* SHATALKIN
- Preapical bristle on hind femur long (more than femur thickness); arista with rays (sometimes very short) 52
- 52 Gena high, compound eye only two times as high as gena; apical segments of fore tarsus more or less darkened; genitalia fig.168; ventral membrane of female sternite VIII broad, not triangular. 4.0 - 4.4. Iran *S. transcaspica* SHATALKIN, 2000
- Gena lower, compound eye about three times as high as gena; fore tarsus yellow; genitalia otherwise; ventral membrane of female sternite VIII triangular (fig.196) . . 53
- 53 Male: aedeagus (fig.169) large, not sclerotized, clearly longer than paramere; female: tergite III on lateral parts of posterior margin with long bristles (longer than following tergites together) (fig.194). 4.5 - 5.0. Middle Asia *S. macrochaeta* SHATALKIN
- Male: aedeagus small, not longer than paramere; female: tergite III on lateral parts of posterior margin with much shorter bristles (longer than following tergite only), terminalia fig.195. 3.9 - 4.2. Middle Asia *S. biordinata* CZERNY
- 54 Hind tibia without preapical bristles 55
- Hind tibia with preapical bristles 59
- 55 Mesonotum yellowish-grey; genitalia fig.170. 4.3 Middle Asia (Fergana). *S. ferganica* SHATALKIN
- Mesonotum entirely yellow 56
- 56 Arista clearly with rays: length more than thickness of basal part of arista. Male: apical part of hind tibia and first segment of fore tarsus with comb of dense setae; hind tibia with thick crescent-shaped spur; mid and hind tarsi darkened. 3.7 - 4.4. Europe, Turkey *S. obsoleta* FALLEN
- Arista almost bare; male hind tibia and tarsus otherwise; mid and hind tarsi less darkened, frequently yellow 57
- 57 *ac* in 4 rows; hypandrium with four lobes, more or less equal in length, apical parts of posterior lobes curved (fig.172). 3.8 - 4.3. Middle Asia . . *S. simplicipes* CZERNY
- *ac* at least on posterior part of mesonotum in 6 rows; hypandrium with two parameres. 58
- 58 Left paramere without pointed projection (fig.171). 3.7 - 4.5. Middle Asia (Hissaric Mountain Ridge) *S. hissarica* SHATALKIN
- Left paramere with dorsal pointed projection (couplet 55) . . *S. ferganica* SHATALKIN
- 59 Palpus black 60
- Palpus yellow 73
- 60 Apical margin of third antennal segment darkened; frons with brownish spot between

- antenna and compound eye. 4.0. South Spain *S. unizona* HENDEL
- Apical third or half of third antennal segment black; frons without brownish spot between antenna and compound eye 61
 - 61 Male hind tibia with comb of short black setae 62
 - Hind tibia without comb of setae 67
 - 62 First segment of mid and hind tarsi with comb of black setae (group *S. afghanica*) 63
 - Tarsi otherwise 66
 - 63 Arista with longer and darker rays than other species from *S. afghanica* group; length of arisal rays more than thickness of basal part of arista = about one-quarter width of third antennal segment; teeth on surstylus large and located subapically (fig.173); segment VIII of female terminalia with long bristles along posterior margin. 3.3 - 3.6. Tadzhikistan *S. krivosheinae* SHATALKIN
 - Arisal rays shorter and paler; length of arisal rays less than thickness of basal part of arista 64
 - 64 Comb on hind tibia is ending with 2-3 thick, slightly curved spinules (fig.174). 3.5. Kyrgyzstan (Chatcal Mountain Ridge) *S. arkitana* SHATALKIN
 - Comb on hind tibia without such spinules 65
 - 65 Apical part of right paramere straight and triangular; right surstylus with large tooth-like formation (fig.175). 3.8. Caucasus (Nakhichevan) *S. ziminae* SHATALKIN
 - Apical part of right paramere curved, frequently right angled; right surstylus with relatively small tooth-like formation. 3.5 - 4.0. Afghanistan, Iran, Turkmenistan. *S. afghanica* PAPP
 - 66 Small species: 3.0 mm; third antennal segment slightly concave along apical margin and somewhat angular dorsally; arista with microscopic rays, almost bare; genitalia fig.176. West Kazakhstan *S. zlobini* SHATALKIN
 - Large species: 4.0 mm; third antennal segment with apical margin straight or slightly convex and somewhat rounded dorsally; arista with short rays; length of arisal rays more than thickness of basal part of arista; genitalia fig.177. Amur district, Primorye region. *S. strigillifera* SHATALKIN
 - 67 Hind tibia with 3-4 strong curved bristles apically; genitalia fig.178. 3.5 - 3.8. Mongolia *S. speciosa* REMM & ELBERG
 - Hind tibia without such bristles 68
 - 68 Line between black and yellow color on third segment diffuse; genitalia fig.193. 3.5 - 4.0. Taiga in Eurasia, Mongolia *S. amabilis* FREY
 - Line between black and yellow color on third antennal segment sharp; genitalia otherwise 69
 - 69 Length of arisal rays more than thickness of basal part of arista; relatively large species: 4.5 - 5.6 mm; third antennal segment long, about twice as long as wide and with clear dorsal groove; female terminalia: with triangular ventral membrane on sternite VIII as in *S. biordinata* (fig.195). Europe, North Africa (Morocco), Turkey, Iran, Middle Asia, East Kazakhstan *S. apicalis* LOEW
 - Arista with very small rays, length of arisal rays less than thickness of basal part of arista; relatively small species: 3.0 - 3.5 mm 70
 - 70 Apical part of male hind tibia, in addition to marginal setae, with comb of short,

- dense, black setae; lateral row of *ac* usually (especially in female) close to *dc* (not to medial row of *ac*); fore tarsus yellow; genitalia with pair of relatively large parameres (fig.180); female terminalia with broad ventral membrane on sternite VIII. Caucasus, Iran, Turkey *S. cerata* SHATALKIN
- Male hind tibia with only marginal setae apically; lateral row of *ac* close to medial row of *ac* (not to *dc*); fore tarsus darkened or light yellow but appears dark due to presence of black setae 71
- 71 Parameres large and asymmetrical: one twice as long as the other (fig.179); surstylus without tooth-like projections. Mongolia *S. mongolorum* REMM & ELBERG
- Parameres: if large then symmetrical or only slightly differing in length; surstylus with large conical tooth (fig.181). West Palaearctic 72
- 72 Genitalia (fig.181): surstylus with tooth on posterior margin and pair of large parameres similar to those of *S. cerata* but more curved apically. 3.0 - 3.5. Caucasus, Iran, Turkey *S. transcaucasica* CZERNY
- Tooth on internal edge of surstylus subapical; paramere small. 3.0. Byelorussia, Hungary *S. schnabli* PAPP
- 73 Third abdominal tergite with 5-6 long bristles laterally, in female length of these bristles slightly less than length of tergites IV and V; third antennal segment with slight apical groove (without apical angle as in *S. apicalis*); fore tarsus darkened. 4.0. Europe *S. setiventris* ZETTERSTEDT
- Third abdominal tergite without long bristles; fore tarsus yellow or with yellow apical segment 74
- 74 Only apical segment of fore tarsus yellow; genitalia small. 3.4. Kazakhstan, Kyrgyzstan, Mongolia *S. remmae* SHATALKIN (*micropyga* REMM & ELBERG)
- Fore tarsus entirely yellow; genitalia of normal size. - Central Asian species (couplet 19) *S. ravida* SHATALKIN
- 75 Palpus black 76
- Palpus yellow 83
- 76 Arista swollen, with dense black rays; third antennal segment elongated and conically narrowed at apex; abdomen with long marginal bristles. 3.4 - 4.1. Kazakhstan, Middle Asia *S. bergi* SHATALKIN
- Arista otherwise 77
- 77 *ac* in 6 rows 78
- *ac* in 4 rows 82
- 78 Male surstylus long. 3.5 - 4.0. Europe *S. palpella* RONDANI
- Male surstylus short 79
- 79 Usually 0+3 *dc*; surstylus with 2-3 long bristles (fig.182). 3.2 - 3.8. Near East, North Africa (Tunisia) *S. gozmanyi* PAPP
- Usually 1(2 small) + 3(4) *dc* 80
- 80 Surstylus with one long apical bristle. 2.8 - 3.5. Europe, Near East *S. intonsa* LOEW
- Surstylus otherwise 81
- 81 Paramere short and thick (fig.183). 3.0 - 4.0. Middle Asia (Turkmenistan), Near East (Israel) *S. intonsina* YAROM
- Genitalia with long and slender paramere (fig.184). 3.5. Near East (Israel). *S. freidbergi* YAROM

- 82 Arista clearly with rays. 4.0. Europe *S. albifacies* CZERNY
 - Arista with very short rays, not longer than thickness of basal part of arista; *ac* in median rows longer than *ac* in lateral rows; genitalia similar to *S. gozmanyi*, but surstylus without long apical bristles and without apical groove (fig.185). 4.0. Iran. *S. persica* SHATALKIN
- 83 Three pairs of long *ac* in 2 rows. 2.5 - 3.0. Primorye region.
 *S. citrinella* SHATALKIN (*citrina* SHATALKIN)
 - 4-6 rows of *ac* without particularly long ones 84
- 84 Only one posterior *stpl* present, if anterior *stpl* present then very short and weak. 4.0. Tibet *S. rubricornis* BECKER
 - Two *stpl* present 85
- 85 *ac* in 6 rows 86
 - *ac* large, in 4 rows; abdomen with long bristles. 3.5. North Europe.
 *S. obesa* ZETTERSTEDT
- 86 Apical parts of fore femur with brownish oval patch anteroventrally; mesonotum shining; head without white dust. 4.0 - 4.5. Europe, North Africa.
 *S. halidayi* SHATALKIN (*sordida* HALIDAY; ? *tuberculosa* BECKER)
 - Fore femur without apical patch; mesonotum dull; head with white dust. 3.0. Europe *S. albuliceps* CZERNY
- 87 Abdomen partially dull yellowish-brown with pair of black patches on tergites II-VI; head grey with dull dark brown spot between antenna and compound eye; mesonotum grey with dull brown median vitta. 2.5. Primorye region, Europe.
 *S. viciispunctata* CZERNY
 - Abdomen entirely black, sometimes with grey dust, without patches.
 Subgenus *Schumannimyia* - 88
- 88 *ac* in 2 rows 89
 - *ac* in 4 rows 90
- 89 Body ash-grey; anterior part of frons yellow; parafacial dull brown or dull brownish-yellow. 2.8 - 3.3. Amur and Chitinsk regions *S. ardesiaca* SHATALKIN
 - Body black or with sparse grey dust; frons and parafacial black; genitalia fig.186; female terminalia fig.196. 3.0 - 3.3. Amur district, Kamchatka, Mongolia.
 *S. atrivena* SHEWELL
- 90 Arista almost bare; genitalia fig.187; abdominal segment VIII of female (on both sides of tergo-sternal suture) with perpendicularly curved black formation (fig.197). 2.7 - 3.5. Transpalearctic species *S. atripes* (MEIGEN)
 - Arista with rays, sometimes very short 91
- 91 Body grey dusted; frons with copper tinge. 3.5. Mongolia.
 *S. pseudovirilis* SHEWELL
 - Body black 92
- 92 Male 93
 - Female 94
- 93 Hind tibia with comb of dense, short setae apically; bristles of lateral rows of *ac* usually irregular and smaller than those in medial rows; genitalia fig.188. 3.0 - 3.5 Transpalearctic species *S. hyalinata* (MEIGEN)
 - Apical comb on hind tibia almost absent; bristles of lateral and medial *ac* rows

- subequal in length; genitalia fig.189. 2.8 - 3.1. Kuril Islands, Kamchatka. *S. picea* SHATALKIN
- 94 Hind tarsus yellowish; sternite VIII (fig.198) with median lobe: narrowing caudally, divided apically and observable in dry material *S. hyalinata* (MEIGEN)
- Hind tarsus more darkened; sternite VIII with broad median lobe: triangular apical groove, deeply divided anteriorly *S. picea* SHATALKIN
- 31. Genus *Lauxania* LATREILLE, 1804 (page 82)**
- 1 Frontofacial angle protruding; upper part of face without convexity; arista white, somewhat swollen and without rays (arista similar to that in *Lauxania albomaculata* (subgenus *Czernushka*), differing by relatively short antenna, absence of protruding frontofacial angle and well outlined convexity on face). Subgenus *Callixania* PAPP - 2
- Head without protruding frontofacial angle; upper part of face with convexity; arista white, with white rays or bare 3
- 2 Anterior *or* reclinate; genitalia fig.202; in female, anal plates fused, tergite VIII present, sternite VIII large, without lobes. 2.6 - 3.3. Primorye region. *L. martineki* SHATALKIN
- Anterior *or* proclinate and inclinate; genitalia fig.203; in female, sternite VIII with bifurcate papilla along posterior margin. 2.5 - 3.0. Ukraine (Sarepta), Mongolia (?), Czechia *L. minor* MARTINEK
- 3 Arista without distinct rays, nearly bare; third antennal segment oval, somewhat elongated, approximately 2.5 times longer than wide; parafacial silvery between antenna and oral margin. 2.3 - 3.0. Primorye region, Sakhalin, Austria. Subgenus *Czernushka* SHATALKIN, 2000, *L. albomaculata* STROBL
- Arista with distinct white rays; third antennal segment not oval, more than three times longer than wide *Lauxania* (s.str.) LATREILLE - 4
- 4 Basal part of wing darkened; in female, with distinct anal plates, sternite VIII with single median and paired lateral lobes. 2.7 - 3.0. Transpalearctic species. *L. cylindricornis* (FABRICIUS)
- Wing base not darkened 5
- 5 *ac* in two rows; femora yellow. 4.0 - 4.5. Mongolia *L. kerzhneri* REMM & ELBERG
- *ac* in 4-6 rows; femora black 6
- 6 Large species: 4.7 - 5.7 mm; apical part of hind tibia of both sexes with comb of short black spinules ventrally. Primorye region. *L. sonora* SHATALKIN (zinovjevi ELBERG)
- Small species: 2.2 - 4.2 mm; hind tibia of females without comb of spinules; only males of *L. potanini* with small comb of spinules 7
- 7 Halter with black knob. 3.1. South Kuril I. (Kunashir). *L. kunashirica* SHATALKIN (*vitripennis* SHATALKIN)
- Halter entirely yellow 8
- 8 Third antennal segment entirely black and relatively long, 4-5 times longer than wide. 3.8. China (Szechwan) *L. potanini* (CZERNY)
- Third antennal segment no more than 3.5 times longer than wide, and yellow on lower half; head as in fig.13. 3.5. Amur district *L. flavohalterata* SHATALKIN

32. Genus *Calliopum* STRAND, 1928 (pages 84-85)

- 1 Entirely yellow species; face with large central black spot. 4.0. Europe. *C. hispanicum* (MIK)
- Face entirely black, sometimes dull brown without black spot 2
- 2 Thorax dull yellowish-brown to bronze 3
- Entirely black species 4
- 3 Mid and hind femora mostly black. 4.3. Tunisia *C. tunisicum* PAPP
- Mid and hind femora yellow. 3.5 - 4.0. Algeria *C. annulatum* (BECKER)
- 4 Legs yellow (except fore tibia and tarsus). 3.0. Yemen *C. rufipes* (CZERNY)
- Differently colored species 5
- 5 At least hind tibia mostly black or dull dark brown 6
- Hind tibia yellow 9
- 6 Mid and hind tarsi yellow 7
- At least mid tarsus black. 3.5 - 4.0. Europe *C. geniculatum* (FABRICIUS)
- 7 Hind tibia entirely black, making ventral comb of spinules poorly distinguishable in male; paramere (fig.204) pointed. 3.5. Asian species (Far East). *C. sakhalinicum* SHATALKIN
- Apical part of hind tibia yellow, making ventral comb of spinules easily distinguishable in male; paramere with T-shaped apex (fig.205). European species 8
- 8 *ac* in 4 rows; first segment of mid tarsus with comb of spinules; genitalia small. 3.5 - 4.0. West Europe *C. splendidum* PAPP
- *ac* in 6 rows; first segment of mid tarsus otherwise; genitalia fig.205. 3.6. Rhodes. *C. ellisiorum* SHATALKIN, 2000
- 9 1+3 *dc*. Spain probably aberrant female of *C. oosterbroeki* SHATALKIN
- 0+3 *dc* 10
- 10 *ac* in 4 rows 11
- *ac* in 6 rows 12
- 11 Apical part of paramere with deep groove, resulting in two pointed apices (fig.206); in female, terminalia fig.199. 3.5 - 4.5. European Russia, Caucasus, West Europe. *C. elisae* (MEIGEN)
- Paramere with one pointed apex only (fig.207). 3.7 - 4.7. Europe *C. ceianui* PAPP
- 12 Apical part of male hind tibia with comb of black spinules ventrally; first segment of mid tarsus without comb 13
- Male legs with combs of black spinules on hind tibia and on first segment of mid tarsus 14
- 13 Arista with long rays; length of arista rays more than thickness of basal part of arista; genitalia fig.208; female terminalia fig.201. 3.5 - 4.5. European Russia, Caucasus, West Europe *C. simillimum* (COLLIN)
- Arista with short rays; length of arista rays less than thickness of basal part of arista; genitalia fig.209. 3.5. Italy *C. oosterbroeki* SHATALKIN, 2000
- 14 In male, genitalia (fig.210) with relatively short surstylus, about half as long as paramere length; female terminalia fig.200. 4.0 - 4.5. European Russia, Caucasus, West Europe *C. aeneum* (FALLEN)
- In male, genitalia (fig.211) with relatively long surstylus, about two-third or more as long as paramere length. 3.4 - 4.0. Caucasus *C. caucasicum* SHATALKIN

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