# StN KEY FOR THE IDENTIFICATION OF THE GENERA OF EUROPEAN SYRPHIDAE 2014

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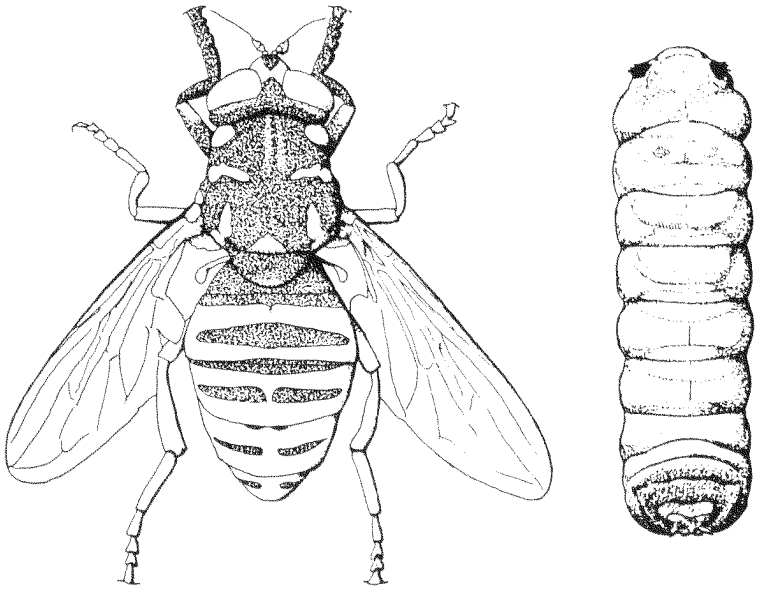

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# 1 INTRODUCTION

The identification key presented here is to the genera of European Syrphidae and Microdontidae. No grouping is made of genera in subfamilies or tribes. While every effort has been made to ensure that the key is as self-contained and accurate as possible it is not suggested that it be used in isolation from other literature on identification of European syrphid genera. That literature includes both alternative keys and sources of coloured photos of a wide range of European syrphid species – a coloured photo can be a great help in indicating whether a given genus contains species resembling a specimen one is trying to identify. A wide range of examples of coloured photos of different European syrphid genera can be found at:
http://cyrille.dussaix.pagesperso-orange.fr/

Various syrphid genera are represented in Europe by no more than one species. For these, the generic key provides a mechanism for identification to species level and the name of the European species is given in the generic key, following the name of the genus. A genus for which an StN key to the European species exists is indicated in the generic key following the name of the genus, by the phrase *"see StN key to European species".* Those keys can be found in the StN volume of Keys to Species (Speight and Sarthou, 2014). The StN Species Accounts volume (Speight, 2014) provides additional information on identification of each species, including sources of figures of the male terminalia, sources of coloured illustrations of the adult fly etc., and suggestions (where appropriate) of features to use in separating species .

There is unfortunately no standard set of English-language terms used for morphological features in taxonomic literature on Syrphidae. Contrasting accounts are provided by Thompson (1999) and Speight (1987). Section 3 of the present volume provides a Glossary of the terms used for morphological features in the StN keys, together with figures showing those features.

# 2 KEY TO THE GENERA OF SYRPHIDAE & MICRODONTIDAE KNOWN IN EUROPE

## 2.1 Introduction

The European syrphid genera keyed out as adults in recent major works are listed in Appendix 1. Among those works, the key to Palaearctic genera by Thompson and Rotheray (1998) is the most comprehensive, but omits the genera *Claussenia*, *Copestylum*, *Cryptopipiza*, *Melanogaster* and *Riponnensia*, that have been added to the European list of genera more recently. The key presented here is based on that of Thompson and Rotheray (1998) but includes those five genera, and has the non-European genera included in their key removed. Various other alterations have also been made, with the intention of making the key easier to use.

An alphabetical list of the morphological features used in the key is provided in Section 2.3, together with the abbreviations used for them in the figures which illustrate them in Section 3. The list of features also cites the number of each figure in which each feature is labelled. An alphabetical list of the abbreviations is given in Section 2.4, with the names of the features to which the abbreviations refer.

The figures used here are nearly all derived from those of Speight (1987), somewhat modified. A wider range of morphological features are labelled (by means of abbreviations) in the figures than are referred to in the key. For the names of the additional features Section 3.4 should be consulted.

## 2.2 Key November 2014

**1** Humeral callus (Figures 13, 14: hc) entirely, or almost entirely, concealed from view by the closely-apposed head capsule (Figure 43a), and without any hairs (patches of dusting may be present), as can be seen when the head is removed (Figures 43b, 45a: hc) or tipped forward (Figure 43c: hc); male: tergite 5 visible in dorsal view ..... **9**
----- humeral callus (Figures 12, 15: hc) mostly visible and with hairs, the hairs can be dense (Figure 44a: hc) or sparse (Figures 44c, 44d: hc), when dense they can largely obscure the callus, but parts of it remain hairless (Figures 44b, 45b: hc); the hairs can also be extremely short, but nonetheless remain distinct; male: tergite 5 not visible dorsally ..... **2**

**2** Antennae with terminal style or thick, apical arista (Figure 9) ..... **52**
----- antennae with dorsal arista, which is thin and usually basal, never apical (Figures 7, 8, 10) ..... **3**

**3** Vein R4+5 moderately to strongly sinuate (Figure 18) ..... **56**
----- vein R4+5 straight or nearly so, not sinuate (Figures 17, 20, 21) ..... **4**

**4** Arista plumose, with hairs (rays) at least *3* times as long as basal diameter of arista ..... **73**
----- arista bare or pubescent, with hairs never more than twice as long as basal diameter of arista ..... **5**

**5** Anteroventral extremity of the head distinctly dorsal to the ventral edge of the eye AND projecting forward for a distance equal to, or longer than, the maximum width of an eye (Figure 6a) (eyes bare; crossvein r-m before the middle of the discal cell, as in Figure 17; thorax with bristles) ..... ***Rhingia*** Scopoli *(see StN key to European species)*
----- anteroventral extremity of the head ventral to the ventral edge of the eye or slightly dorsal to the ventral edge of the eye AND projecting forward for a distance no greater than half the maximum width of an eye ..... **6**

**6** Eyes bare; crossvein r-m usually oblique, within apical half of discal cell, frequently strongly oblique and extending into outer third of discal cell (Figures 18u, 18v); if r-m located beyond middle fifth of discal cell (as in Figure 21), then thorax without bristles; metasternum often strongly developed ..... **100**
------ eyes bare or pilose; if eyes bare, then crossvein r-m usually perpendicular (i.e. at a right angle to the anterior margin of the wing, as in Figure 18b), usually before middle of discal cell, neither strongly oblique (except in *Ferdinandea, Lejota*: Figures 18n, 18r) nor extending to outer third or more of the anterior margin of the discal cell (Figures 18f, 18j, 18p); if r-m is located beyond middle fifth of discal cell, then thorax with distinct bristles; metasternum never strongly developed ..... **7**

**7** Antenna elongate, with first segment (scape) and usually also third segment (basoflagellomere) more than 2.5 times as long as wide (Figure 10); mesanepisternite 1 pilose; postmetacoxal bridge narrow but complete; vein R4+5 with an appendix (Figure 20) into cell po; eyes bare ..... ***Microdon*** Meigen *(see StN key to European species)*
----- antenna usually short; first segment usually at most twice as long as wide; third segment usually rounded or oval; if first segment more than twice as long as wide, postmetacoxal bridge absent; mesanepisternite 1 pilose or bare; postmetacoxal bridge usually absent or incomplete, but if present then broad; vein R4+5 never with an appendix into cell po ..... **8**

**8** Margin of oral cavity constricted anteriorly, to form an almost rectangular or digitate extension of variable length (Figure 3); facial groove, more-or-less parallel with the eye margin, extending dorsally from the small anterior tentorial pit (c.f. Figure 3); eyes and face pilose or bare; subscutellar fringe present or absent ..... **79**
----- oral margin evenly rounded, both anteriorly and posteriorly; anterior tentorial pit not accompanied by a facial groove; eyes and face densely pilose; subscutellar fringe present ..... **45**

**9** Antennae elongate, sometimes longer than head, segment 3 (basoflagellomere) at least three times as long as broad, first (scape) and second (pedicel) segments often longer than broad; abdomen strongly convex dorsally, strongly margined, usually with postero-lateral angles of tergites projecting ..... ***Chrysotoxum*** Meigen
----- antennae short, shorter than head, third segment at most twice as long as broad, first and second segments not longer than broad; abdomen variable but without postero-lateral angles of tergites projecting ..... **10**

**10** Calypterae (Figure 19) with lower lobe pilose on dorsal surface, especially on postero-medial portion ..... ***Syrphus*** Fabricius *(see StN key to European species)*
----- calypterae (Figure 19) bare (except for fringe of hairs on margin) ..... **11**

**11** Mesanepisternite 1 (Figure 14) without hairs (may have patches of micropile) ..... **14**
----- mesanepisternite 1 Figure 14) with hairs (the hairs as long as, or longer than, the third tarsomere of the fore leg), at least postero-dorsally ..... **12**

**12** Wing margin with a series of minute, closely spaced, black marks on posterior margin: hind coxa without an apical tuft of hairs at postero-medial angle; eyes bare; abdomen suboval to petiolate ..... **13**
----- wing margin without such spots; hind coxa with apical tuft of hairs at postero-medial angle; eyes bare or pilose; metasternum bare; abdomen oval ..... ***Parasyrphus*** Matsumura *(see StN key to European species)*

**13** Metasternum (Figure 16, mtb) hairy ..... ***Episyrphus*** Matsumura (1 European sp., *E.balteatus* (Degeer)
----- metasternum (Figure 16, mtb)bare ..... ***Meliscaeva*** Frey *(see StN key to European species)*

**14** Abdomen parallel-sided to oval, never distinctly petiolate ..... **17**
----- abdomen elongate, strongly petiolate; 2nd tergite narrower than 3rd tergite ..... **15**

**15** Abdomen greatly elongate, narrow; 2nd and 3rd tergites (Figures 29, 30: t2, t3) much narrower than scutellum ..... ***Baccha*** Fabricius
----- abdomen shorter, broader; 2nd tergite as broader or broader than scutellum; 3rd tergite always broader than scutellum ..... **16**

**16** Arista (Figures 7, 8: a) plumose, with hairs more than twice as long as aristal width; face black ..... ***Spazigaster*** Rondani (1 sp., *S.ambulans* (Fab.), part: the abdomen is petiolate in the female, which runs to this couplet; the male, with a more parallel-sided abdomen, can run to couplet 41)
----- arista (Figures 7, 8: a) bare; face yellow ..... ***Doros*** Meigen *(see StN key to European species)*

**17** Face and scutellum (Figures 13, 14, 15: msl) entirely black in background colour; abdomen without marginal groove; metasternum bare; eyes bare ..... **39**
------ face, OR scutellum, or both, at least partly yellow or yellowish brown in background colour, both never entirely black; in doubtful cases eyes pilose; abdomen, metasternum, and eyes variable ..... **18**

**18** Metapleural episternum (Figure 14: mts) bare ventral to spiracle; metasternum variable; vein R4+5 straight or sinuate; size and shape variable ..... **19**
----- metapleural episternum (Figure 14: mts) with a tuft of fine hairs ventral to spiracle; metasternum pilose; vein R4+5 sinuate; abdomen broad and flattened, with distinct marginal groove ..... ***Didea*** Macquart *(see StN key to European species)*

**19** Mesoscutum (Figures 12, 13, 14: ms) with at most a poorly defined, dull yellow, pollinose, lateral, longitudinal stripe ..... **25**
----- mesoscutum (Figures 12, 13, 14: ms) with a sharply defined, shining, yellow or whitish yellow, lateral or sublateral, longitudinal stripe, extending at least from humeral callus (postpronotum) to transverse suture of mesoscutum ..... **20**

**20** Abdominal tergites without longitudinal groove along their lateral margins ..... **24**
----- abdomen with at least a weakly marked, shallow, longitudinal groove along the lateral margins of tergites 4 and 5, often strong on tergites 3-5 ..... **21**

**21** Mesopleur (mesopleural anepisternite 2: Figure 14: ma2) black; scutellum unicolorous brown; abdomen strongly convex in cross section, distinctly petiolate ..... RETURN to couplet **16**
----- mesopleur yellow posteriorly; scutellum at least brightly yellow posteriorly; abdomen nearly flat ..... **22**

**22** Antennal segment 3 (basoflagellomere) elongate, from 1.6 to 2.0 times as long as broad; male hind trochanter with ventral spur (cf Figure 24); wing hyaline, extensively bare, bare on basal 2/3 and only sparsely microtrichose on apical 1/3; scutellum entirely yellow; eye bare ..... ***Simosyrphus*** Bigot *(see StN key to European species)*

----- antennal segment 3 oval, at most only 1.3 times as long as broad; male trochanter simple; wing usually infuscated anteriorly, extensively microtrichose, with moderately large bare areas on basal ⅓, densely microtrichose on apical ⅓; scutellum always broadly black basally; eye bare or pilose ..... **23**

**23** Mesoscutum and sternopleuron (mesopleural katepisternum: Figures 14, 15: mk) with sharply defined, bright yellow marks, not pollinose ..... ***Xanthogramma*** Schiner *(see StN key to European species)*
----- mesoscutum and sternopleuron with at most diffuse, pollinose yellow marks ..... ***Epistrophe*** Walker (part: see also couplets 34 and 38) *(see StN key to European species)*

**24** Subscutellar fringe absent or nearly so on at least median 1/3, present but sparse laterally; male terminalia extremely large, globose; tergite 9 as wide as abdomen ..... ***Sphaerophoria*** Lepeletier et Serville (part: see also couplet 37)
----- subscutellar fringe of hairs complete, well–developed, moderately dense; male terminalia small, inconspicuous; tergite 9 at most ⅓ as wide as abdomen ..... ***Meligramma*** Frey (part: see also couplet 35) *(see StN key to European species)*

**25** *Bombus*–like flies with tergites 1 to 3 black and with dense, bright red, orange, yellow or white hairs on apical tergites (face yellow; wing membrane almost entirely microtrichose; wing with distinct brown fascia extending from costa to at least across crossvein r-m) ..... ***Eriozona*** Schiner (1 sp., *E.syrphoides* (Fallen)).
----- flies not *Bombus*–like (wing without brown fascia except in some *Leucozona* species)..... **26**

**26** Metasternum (Figure 16: mtb) pilose ..... **36**
----- metasternum (Figure 16: mtb) bare ..... **27**

**27** Eyes bare or very nearly so ..... **33**
----- eyes distinctly pilose ..... **28**

**28** Tergite 1 greatly reduced, frequently almost linear on disc and practically covered by scutellum; sublaterally at most ½ as long as tergite 2; tergites not punctate.; length 6.7 mm or more ..... **29**
----- tergite 1 well-developed, especially on disc where it is frequently ½ as long as tergite 2 and always extends well beyond scutellum; sublaterally about ¾ as long as tergite 2; tergites minutely punctate; length 7.5 mm or less ..... ***Paragus*** Latreille

**29** Wing with microtrichia very sparse and scattered, with extensive bare areas on apical ⅓; male eye dorsally with well–defined area of enlarged facets ..... ***Scaeva*** Fabricius *(see StN key to European species)*
----- wing with at least apical 1/3 densely and uniformly trichose, without bare areas along veins; male eye without well–defined area of enlarged facets ..... **30**

**30** Tergite 2 with a more-or-less uninterrupted, pale (whitish yellow, grey or blue-grey), transverse band across the entire width of the tergite and occupying at least three-quarters of the length of the tergite (postero-medially, this band may be partly interrupted by a narrow black stripe) or entirely pale grey and heavily dusted ..... ***Leucozona*** Schiner *(see StN key to European species)*
----- tergite 2 with a pair of widely separated whitish-yellow marks which rarely occupy more than half the length of the tergite, or tergite 2 entirely black ..... **31**

**31** Abdominal tergites without longitudinal, marginal groove; abdomen slender and parallel–sided or narrowly oval ..... **32**
----- abdominal tergites with weak but distinct, longitudinal, marginal groove; abdomen oval ..... ***Dasysyrphus*** Enderlein

**32** Face with a median, dorso-ventral, black stripe; hind coxa with an apical group of hairs at postero-median angle; sternites black-marked ..... ***Melangyna*** Verrall (part: see also couplet 35) *(see StN key to European species)*
----- face without median, dorso-ventral black stripe; hind coxa bare apically, at postero-median angle; sternites uniformly dusted grey, without black marks ..... ***Epistrophella coronata*** (Rondani)

**33** Vein R4+5 (Figure 18a) distinctly sinuate ..... ***Lapposyrphus*** Dusek et Laska (1 sp., *L. lapponicus* (Zett.))
----- vein R4+5 straight or nearly so ..... **34**

**34** Tergites without longitudinal, marginal groove; face often with distinct, dark, median, dorso-ventral stripe; slender species with abdomen parallel-sided ..... **35**

----- abdomen with at least a faint trace of a longitudinal, marginal groove on tergites 3, 4 or 5; face with at most an obscure, dark, median, dorso-ventral stripe; broader species with abdomen oval or suboval ..... ..... ***Epistrophe*** Walker (part: see also couplets 23 and 38) *(see StN key to European species)*

**35** Hind coxa with an apical group of hairs at postero-median angle; pale marks on tergites transverse, those on tgs. 2-4 always separated; face usually with black, median, dorso-ventral stripe, rarely entirely yellow ..... ***Melangyna*** Verrall (part: see couplet 32) *(see StN key to European species)*
----- hind coxa bare postero-medially; pale marks on tergites usually oblique, but less obviously so when confluent; face entirely yellow, except in *M.cingulata* (in which the face is almost entirely black, with a small yellowish mark on each side) ..... ***Meligramma*** Frey (part: see also couplet 24) *(see StN key to European species)*

**36** Eyes bare or very nearly so ..... **37**
----- eyes distinctly and densely pilose ..... ***Megasyrphus*** Dusek et Laska (1 sp. *M.erraticus* (L.))

**37** Face entirely black; abdomen elongate, slender; tergites without lateral, longitudinal, marginal groove; male terminalia greatly enlarged, globose, with epandrium (also known as the basale or tergite 9) almost as broad as the abdomen ..... ***Sphaerophoria*** Lepeletier et Serville (part: 1 sp. runs here, *S. nigra* Frey; see also couplet 24)
----- face partly or entirely yellow; male terminalia usually small and inconspicuous, if enlarged, then epandrium much narrower than the abdomen ..... **38**

**38** Margins of abdominal tergites with strong, distinct, longitudinal, groove extending clearly from middle of tergite 2 to apex of tergite 5; sternopleuron (mesopleural katepisternum) with dorsal and ventral patches of hairs very nearly confluent anteriorly, distinctly separated posteriorly ..... ***Eupeodes*** Osten Sacken *(see StN key to Atlantic zone species)*
----- margins of tergites with very weak, indistinct, longitudinal groove on tergites 3 and 4 or tergite 4 only; sternopleuron with dorsal and ventral patches of hairs broadly separated anteriorly, narrowly joined posteriorly ..... ..... ***Epistrophe*** Walker (part: see also couplets 23 and 34) *(see StN key to European species)*

**39** Sternopleuron (mesopleural katepisternum, Figures 14, 15: mk) with dorsal and ventral patches of hairs patches widely separated posteriorly, joined anteriorly; hind coxa with apical tuft of hairs at posteromedial angle ..... ..... ***Xanthandrus*** Verrall
----- sternopleural patches of hairs widely separated throughout; hind coxa without apical tuft of hairs ..... **40**

**40** Metasternum greatly reduced, so that sclerotised portion consists of a median, diamond-shaped area narrowing both anteriorly and posteriorly; face not produced below, with small tubercle; male legs slender, without bristles, tufts of hairs or modified hairs ..... ***Melanostoma*** Schiner
----- metasternum entire( cf Figure 16: mtb); face variable, almost straight with weak tubercle or moderately or strongly produced antero-ventrally; male usually with legs modified, either broadened, or with special bristles, tufts of hairs or modified hairs ..... **41**

**41** Arista plumose, with hairs more than twice as long as aristal width; abdomen slightly petiolate, with 2nd tergite narrower than 3rd; male hind tibia modified ..... ***Spazigaster*** Rondani (1 sp., *S.ambulans* (Fab.), part: in the male the abdomen is almost parallel-sided, so it can run to this couplet; the abdomen is distinctly petiolate in the female which thus runs to couplet 16)
----- arista bare or pubescent, with hairs less than twice as long as aristal width; abdomen parallel-sided or oval, with 2nd tergite as wide as, or wider than, 3rd (except for some males of *Platycheirus scutatus*, in which the abdomen can be slightly petiolate); male hind tibia simple ..... **42**

**42** Mesoscutum smooth or with punctures finer and more widely scattered, not distinctly rugose; legs partially pale ..... **43**
----- mesoscutum distinctly and finely rugose; rugosity due to large and closely set puncta, the puncta set in irregular rows; legs black ..... **44**

**43** Wing shorter than abdomen; abdomen broad and mostly red, or black with 2 yellowish marks on the 3rd. tergite ..... ***Pyrophaena*** Schiner *(see StN key to European species)*
----- wing longer than abdomen; abdomen narrow, not with such a pattern of abdominal markings ..... ..... ***Platycheirus*** Lepeletier and Serville and ***Meligramma cingulata*** (Egger) (part)

**44** Arista bare, inserted near middle of third antennal segment (basoflagellomere); face wider ventrally, with sides divergence ventrally; abdomen with pale maculae ..... ***Rohdendorfia*** Smirnov (1 sp. *R.alpina* Sack)
----- arista pubescent, with short, adpressed hairs and inserted basally; face not distinctly wider ventrally, with sides approximately parallel; abdomen entirely black ..... ***Syrphocheilosia*** Stackelberg (1 sp., *S.claviventris* (Strobl))

**45** Mesopleur with mesanepisternite 1 (Figure 14: ma1) bearing long, erect hairs ..... **51**
----- mesanepisternite 1 bare ..... **46**

**46** Barette (Figures 14, 15: br) bare; male with distinct, conically produced, frontal prominence; hind trochanter of male simple ..... ***Pipiza*** Fallén
----- barette with hairs, at least anteriorly; male with or without conically-produced frontal prominence; hind trochanter of male often with ventral spur (Figure 24) ..... **47**

**47** Vein Sc ending opposite or before crossvein r-m (Figures 18b, 18c) ..... **48**
----- vein Sc ending beyond crossvein r-m (Figure 18d); at the tip of M1 the angle between M1 and R4+5 is less than 90º (on the wing-base side of the junction) ..... **49**

**48** Apical portion of vein M1 curved strongly towards costal margin of wing (Figure 18b), so that, at its tip, the angle between M1 and R4+5 is 90º or more (on the wing-base side of the junction); median lobe of the lunule usually without long hairs (male trochanters without spurs) ..... ***Pipizella*** Rondani
----- at the tip of M1 the angle between M1 and R4+5 (Figure 18c) is less than 90º (on the wing-base side of the junction); ventral extremity of the median lobe of the lunule with long hairs (sometimes missing in the female) ..... ***Claussenia*** Vujić & Ståhls (1.sp., *hispanica* (Strobl))

**49** Median lobe of the lunule (Figure 1: l) without long hairs; male: frons conically produced **(**male antennal segment three no longer than deep; male coxae and trochanters without spurs); female: frons with distinct dust spots, ant.seg.3 no longer than deep, wing with distinct brown blotch ..... ***Cryptopipiz****a* Mutin (1 sp., *C.notabila* (Violovitsh))
----- ventral extremity of the median lobe of the lunule with long hairs; male: frons not produced (male antennal segment three often longer than deep; male hind trochanters often with spurs); female: frons with or without dust spots, ant.seg.3 variable, but when no longer than deep the wing is without a brown blotch ..... **50**

**50** Antennal segment 3 more than 1.5x as long as deep; male trochanters without spurs; female antennal segment 3 more than 2x as long as deep..... ***Heringia*** Rondani
----- antennal segment 3 less than 1.5x as long as deep; male hind trochanters with spurs (Figure 24) ..... ..... ***Neocnemodon*** Goffe

**51** Abdomen with tergites 2 and 3 well developed and subequal in length, 4th minute and barely visible dorsally ..... ***Triglyphus*** Loew *(see StN key to European species)*
----- tergites 2-4 well developed and subequal in length ..... ***Trichopsomyia*** Williston *(see StN key to European species)*

**52** Eyes and face hairy; crossvein r-m before middle of discal cell; (Figure 18e); subscutellar fringe present ..... ..... ***Callicera*** Panzer *(see StN key to European species)*
----- eyes bare and face usually bare; if face with hairs, then crossvein r-m beyond middle of discal cell; subscutellar fringe absent ..... **53**

**53** Crossvein r-m beyond middle of discal cell (Figure 21); antennae long, first segment (scape) three to four times as long as wide, third segment (basoflagellomere) shorter than segments one (scape) and two (pedicel) together ..... **55**
----- crossvein r-m before middle of discal cell (Figure 18f); antennae short, first segment (scape) about as long as wide, third segment (basoflagellomere) large and longer than segments one and two together ..... **54**

**54** Metasternum and first abdominal sternite bare; antennal segment 3 large, oval; arista bare; mesanepisternite 1 (Figure 14: ma1) with or without hairs (scutellum with distinct bristles; subscutellar fringe absent; upper and lower sternopleural hair patches separated)..... ***Pelecocera*** Meigen (part: see also couplet 86)
----- first abdominal sternite hairy; third antennal segment short, oval; arista c.2.5x as long as third antennal segment, densely hairy; mesanepisternite 1 bare ..... ***Ischyroptera*** Pokorny (1 sp., *I.bipilosa* Pokorny)

**55** Frontal prominence (Figure 4: frt) at least as long as 1st. antennal segment ..... ..... ***Ceriana*** Rafinesque *(see StN key to European species)*
------- frontal prominence absent or much shorter than antennal segment one ..... ..... ***Sphiximorpha*** Rondani *(see StN key to European species)*

**56** At its apex wing vein M1 usually meeting vein R4+5 at an acute angle (Figure 18i) , or arista plumose, or cell sm petiolate; mesopleur with mesanepisternite 1 (Figure 14: ma1) bare anteriorly ..... **59**
----- at its apex, vein MI meeting vein R4+5 at 90º or more (Figures 18g, 18h); hairs across entire width of antero-dorsal, flattened portion of mesanepisternite 1; arista bare; cell sm open at wing margin ..... **57**

**57** Eyes bare; antennae elongate, with segment 2 elongate, as long as or longer than third segment (basoflagellomere); arista elongate, with apex expanded in male; female face distinctly tuberculate; hind femur without triangular apico- ventral flange ..... ***Platynochaetus*** Wiedemann
----- eyes hairy or bare; if eyes bare, then antennal segment 2 shorter; arista never with flared apex; face never tuberculate ..... **58**

**58** Apical part of ventral surface of hind femur with two rows of stout spines, one row antero-lateral, the other row postero-lateral, located on the surface of the femur except in a small number of species, in which the antero-lateral row of spines is carried on a curved flange that is deepest at about the mid-point of its length (the postero-lateral row of spines is absent in *E.latitarsis*, in which the antero-lateral row is located on the surface of the femur) ..... ***Eumerus*** Meigen
----- apical part of the ventral surface of hind femur with one row of stout spines, carried on a triangular, antero-lateral flange that is deepest at its inner end (i.e. closest to the base of the femur), the spines often few in number or very short, in extreme cases represented by only a single, digitate spike carried on a rudimentary flange (e.g. *M.aeneus* group), or so reduced that the outer margin of the flange appears merely undulating ..... ..... ***Merodon*** Meigen

**59** Cell m open at wing margin (Figure 18j) ..... **60**
----- cell m petiolate, closed before reaching wing margin (Figure 18k) ..... **69**

**60** Arista plumose ..... **75**
----- arista bare ..... **61**

**61** Hind femur without distinct, anteroventral setulae, swollen, with a large, apicoventral, triangular flange; metasternum with a basal membranous seam; male holoptic; face carinate; female face concave ..... ..... ***Tropidia*** Meigen, non-European species
----- dense patch of short, black setulae anteroventrally, at extreme base of hind femur (can be difficult to see in cases where the surface of the femur is itself black); hind femur without apicoventral flange; metasternum without a seam; male holoptic or dichoptic, face tuberculate; female face tuberculate or flat ..... **62**

**62** Eyes bare ..... **65**
----- eyes hairy; barette (mesopleural katepimeron) bare ..... **63**

**63** Wing partly bare on basal ⅓ ..... ***Mallota*** Meigen (part: see also couplet 69) *(see StN key to European species)*
----- wing entirely covered in microtrichia; mesoscutum usually with yellow or grey pollinose stripes or patches ..... **64**

**64** Male dichoptic (i.e. eyes separated on frons, cf Figure 2); 1st and 2nd sternites fused laterally; mesoscutum with obscure, grey, pollinose, longitudinal stripes ..... ***Parhelophilus*** Girschner (part: 1 sp., *P. sibirica* Stackelberg; see also couplet 67) *(see StN key to European species)*
----- male holoptic (i.e. eyes meeting on frons, cf Figure 1); 1st and 2nd sternites separate; mesoscutum usually with a distinct yellow to gray pollinose pattern ..... ***Myathropa*** Rondani

**65** Barette (Figures 14, 15: br) hairy; basitarsis (Figure 22: bt) of hind leg with globuliferous hairs basoventrally; male holoptic ..... ***Mesembrius*** Rondani (1 sp., *M.peregrinus* (Loew))
------ barette bare; hind basitarsis without such hairs; male dichoptic ..... **66**

**66** Face with a median, brightly-shining, dorso-ventral stripe, bare of dusting (this stripe is black except in *Helophilus trivittatus*, where it is yellow; it is confined to the lower part of the face in *Lejops*) ..... **68**

----- face uniformly pale (yellowish) and pollinose over the entire surface, though often only thinly dusted medially ..... **67**

**67** Tibia (Figure 22: ti) of hind leg with a postero-lateral black mark both at the tip and in the basal half ..... ***Anasimyia*** Schiner *(see StN key to European species)*
----- hind tibia with a postero-lateral black mark only in the apical half ..... ***Parhelophilus*** Girschner (part: see also couplet 64) *(see StN key to European species)*

**68** Pterostigma modified to take the form of a raised cross-vein (as in Figure 21), no wider than the adjacent wing veins ..... ***Lejops*** Rondani (1 sp., *L.vittatus* (Mg))
----- pterostigma in the form of a pigmented patch of wing membrane (as in Figures 17, 18), not raised above the general wing surface and both broader and less defined than the adjacent wing veins ..... **69**

**69** Face with a distinctly demarcated (though low) facial tubercle ..... ***Mallota*** Meigen (part: see also couplet 63) *(see StN key to European species)*
----- face without a distinct tubercle (cf Figure 44d) ..... **70**

**70** Tergites with large, pale (yellowish) marks on tergite 2 and spots or transverse bars of grey dusting (rarely much reduced or missing) on tergites 3 and 4 ..... ***Helophilus*** Meigen *(see StN key to European species)*
----- tergite 2 without pale marks; tergites 3 and 4 entirely black and shining, undusted ..... ***Arctosyrphus*** Frey (1 sp., *A.willingii* (Smith))

**71** Metasternum hairy ..... **72**
----- metasternum bare; hind femur without antero-basal patch of short, dense, black setulae (vein R4+5 with its last section longer than crossvein H; arista shorter than maximal facial width; face concave in both sexes; female frons entirely pollinose ..... ***Palumbia*** Rondani

**72** Eyes with dark marks or stripes ..... ***Eristalinus*** Rondani *(see StN key to European species)*
----- eyes unicolorous ..... ***Eristalis*** Latreille *(see StN key to European species)*

**73** Barette (Figures 14, 15: br) hairy ..... ***Volucella*** Geoffroy *(see StN key to European species*
----- barette bare ..... **74**

**74** Cell m petiolate; vein M1 strongly recessive ..... ***Copestylum*** Macquart (1 recently-established species known in Europe, *C.melleum* (Jaennicke), originating in N America)
----- cell m open, not petiolate; vein M1 perpendicular or slightly recessive ..... **75**

**75** Metasternum hairy; subscutellar fringe present ..... **77**
----- metasternum bare; subscutellar fringe absent ..... **76**

**76** Vein R4+5 with apical section longer than crossvein r-m; hind tibia with short strong black spines on anterior surface; mesopleural anepisternum, postalar callus, and scutellum with strong bristles; face of male with tubercle ..... ***Hammerschmidtia*** Schummel *(see StN key to European species)*
----- vein R4+5 with apical section shorter than crossvein r-m (Figure 18i); hind tibia without spines; thorax with at most very weak bristles; face of male without tubercle ..... ***Brachyopa*** Meigen (part: see also couplet 94) *(see StN key to European species)*

**77** Pteropleuron (Figures 14, 15: me) bare posteriorly ..... **78**
----- pteropleuron with a patch of hairs on its posterior half ..... ***Sericomyia*** Meigen, s.g. ***Arctophila*** Schiner *(see StN key to European species)*

**78** Face greatly produced ventrally, projecting more than 1/2 eye length below eye, yellow ..... ***Sericomyia*** Meigen s.g. ***Conosyrphus*** *(see StN key to European Sericomyia species)*
----- face not produced greatly, projecting less 1/2 eye length below eye, usually with black median stripe ..... ***Sericomyia*** Meigen s.g. ***Sericomyia*** *(see StN key to European species)*

**79** Vein M1 strongly biangulate, and with a short hang-vein at each angle (Figure 18h), or hind femora with apico-ventral flange (cross-vein r-m distal to middle of discal cell, or mesopleur hairy) ..... **57**
----- vein M1 not biangulate, hang-veins one or none and hind femora without apico-ventral flange ..... **80**

**80** Eyes bare ..... **83**
----- eyes hairy ..... **81**

**81** Mesanepisternite 1 (Figure 14: ma1) hairy; scutellum with distinct transverse groove apically; face without a tubercle, straight, with a projecting mouth edge (cross-vein r-m basal to middle of discal cell) ..... ..... *P**silota*** Meigen *(see StN key to European species)*
----- mesanepisternite 1 bare; scutellum evenly convex apically, without transverse apical groove; face usually tuberculate, without a projecting mouth edge ..... **82**

**82** Crossvein r-m at or beyond middle of discal cell (Figure 18n); antennal sockets confluent; face yellow with black median stripe; legs yellow ..... ***Ferdinandea*** Rondani *(see StN key to European species)*
----- crossvein r-m before middle of discal cell (Figure 18o); antennal sockets separated; face black; legs usually mostly black ..... ***Cheilosia*** Meigen (part: see also couplet 88) *(see StN key to males of European species of Nigrocheilosia)*

**83** Mesanepisternite 1 (Figure 14: ma1) hairy posterodorsally; femora usually with distinct ventro-apical spines; vein R4+5 either meeting vein M1 at the costa or with last section much less than half as long as crossvein h (Figure 18l); metasternum hairy or bare ..... ***Myolepta*** Newman, European species (see also couplet 89)
----- mesanepisternite 1 bare; anterior femora without distinct ventral spines; if hind femur with ventral spines, then R4+5 with last section longer than crossvein h (Figure 18m) and usually longer than crossvein r-m ..... **84**

**84** Subscutellar fringe absent or nearly so (a few distinct hairs may be present) ..... **90**
----- subscutellar fringe present ..... **85**

**85** Vein R4+5 with last section shorter than crossvein h and at most half as long as crossvein r-m (Figure 18l) ..... **89**
----- vein R4+5 with last section longer than crossvein h (Figure 18m) and usually longer than crossvein r-m ..... **86**

**86** Face yellow laterally; arista bare; male broadly dichoptic ..... ***Pelecocera*** (part: see also couplet 53)
----- face entirely black or partly yellow; if face partly yellow, arista hairy, the hairs (rays) distinctly longer than the basal diameter of the arista; male holoptic ..... **87**

**87** Face without orbital strip (face hairy; male with distinct facial tubercle and bare frons; female without facial tubercle) ..... ***Chrysosyrphus*** Sedman *(see StN key to European species)*
----- face with distinct orbital strip (Figure 6, os) ..... **88**

**88** Face with distinct tubercle; abdomen usually without spots of grey polinosity ..... ***Cheilosia*** Meigen ..... (part: see also couplet 82) *(see StN key to European Nigrocheilosia species)*
----- face without tubercle (cf Figure 44d); abdomen with large, distinct, rectangular patches of grey polinosity ..... ***Portevinia*** Goffe (1 European species, *P.maculata* (Fallén))

**89** Vein R4+5 with last section subequal to crossvein h; cell po of wing with distinct petiole; hind femur without ventroapical spines; metasternum bare ..... ***Lejota*** Rondani, non-Europen species (see also couplet 95)
----- vein R4+5 with last section absent or much less than half as long as crossvein h; cell po closed at wing margin, not petiolate; hind femur with distinct ventroapical spines; metasternum hairy ..... ..... ***Myolepta*** Newman, non-European species (see also couplet 83)

**90** Abdomen parallel-sided or oval; alula (Figures 18, 19: al) at least as wide as 2nd basal cell; face variable; post-metacoxal bridge absent ..... **93**
----- abdomen petiolate; alula narrower than width of 2nd basal cell (Figure 18p: al); face concave or nearly straight, not tuberculate or produced on ventral half; postmetacoxal bridge usually entire or nearly so ..... **91**

**91** Vein MI at its apex meeting vein R4+5 at an angle of 90º or more (Figure 18p); antennal segment 3 usually much longer than wide; face oblique, nearly straight; sternopleuron (Figures 14, 15: me) usually hairy; male broadly dichoptic ..... ***Neoascia*** Williston
----- vein M1 at its apex forming an acute angle with vein R4+5 (Figure 18q); third antennal segment oval, at most as long as wide; face convex; sternopleuron bare ..... **92**

**92** Postmetacoxal bridge absent; metasternum hairy; male holoptic ..... ***Chalcosyrphus*** Curran (part: 1 sp., *C. obscurus* (Szilady): the abdomen in this species is only weakly petiolate, so it may also run to couplet 106) *(see StN key to European species)*
----- postmetacoxal bridge entire; metasternum bare; male broadly dichoptic ..... ***Sphegina*** Meigen *(see StN key to males of European species)*

**93** Head with a distinct frontal tubercle (cf Figure 4, frt), longer than the ocellar triangle and longer than antennal segment 1 (antennae elongate, with the arista inserted on the apical half of the third segment; abdomnal tergites extensively orange) ..... ***Psarus*** Latreille (1 sp., *P. abdominalis* (Fabricius))
----- head without a frontal tubercle ..... **94**

**94** Parts of the head, thorax (at least part of the scutellum) and abdomen yellow-brown ..... ***Brachyopa*** Meigen ..... (part: see also couplet 76) *(see StN key to European species)*
----- head, thorax and abdomen without pale areas, black, brassy or dark brown ..... **95**

**95** Vein R4+5 with last section less than half as long as crossvein r-m (Figure 18r); male dichoptic; female face and frons smooth ..... ***Lejota*** Rondani (1sp., *L. ruficornis* (Zetterstedt) (see also couplet 89 and *StN key)*
----- vein R4+5 with last section subequal to or longer than crossvein r-m (Figures 18s, 18t); male usually holoptic; female face or frons, or sometimes both, rugose ..... **96**

**96** Basal section of radial vein with some long hairs on dorsal surface ..... **97**
----- basal section of radial vein bare ..... **98**
.
**97** Spines or spinose hairs present apico-ventrally on hind femora ..... ***Riponnensia*** Maibach, Goeldlin & Speight
----- hind femora without spines or spinose hairs apico-ventrally ..... ***Lejogaster*** Rondani *(seeStN key to European species)*

**98** Wing vein M1 recessive (recurrent); point of branching of M2 from M1 slightly distal to junction of M1 with R4+5 (Figure 18s); lateral margins of tergite 1 brightly shining; sternite 1 shining ..... ***Orthonevra*** Macquart
----- wing vein M1 meeting R4+ 5 in a right angle; point of branching of M2 from M1 basal to junction of M1 with R4+5 (Figure 18t); lateral margins of tergite 1 matt, for at least anterior ¼ of length of tergite; sternite 1 entirely matt ..... **99**

**99** Only short/very short hairs across the median ⅓ of the width of tergite 2; arista dark brown/black ..... ***Melanogaster*** Rondani
----- long, pale, recumbent hairs across the median ⅓ of the width of tergite 2; arista orange/red ..... ***Chrysogaster*** Meigen *(see StN key to European species)*

**100** Cell m petiolate, closed before reaching wing margin (Figure 18u) ..... ***Milesia*** Latreille *(see StN key to European species)*
----- cell m open to wing margin (Figure 18v) ..... **101**

**101** Mesanepisternite 1 (Figure 14: ma1) hairy; hind femora slender, anteroventrally with a slender, preapical spike; large robust flies, mimicking vespid wasps ..... ***Spilomyia*** Meigen
----- mesanepisternite 1 usually bare; if this sclerite is hairy the hind femora are without projections ..... **102**

**102** Sternopleuron (Figures 14, 15: mk) with separate dorsal and ventral hair patches; genae (Figures 5, 6: g) and ventral part of face usually bare; if face hairy, body entirely black; body variable in appearance ..... **103**
----- sternopleuron (mesopleural katepisternum) with the dorsal and ventral hair patches joined posteriorly; genae and ventral half of face hairy; body with bright yellow pollinose markings; flies mimicking vespid or crabronid wasps ..... ***Temnostoma*** Lepeletier et Serville *(see StN key to European species)*

**103** Thoracic metasternum bare ..... **108**
----- thoracic metasternum hairy, the hairs as long as, or longer than, those on the hind coxa ..... **104**

**104** Wing almost bare on basal 2/3, very sparsely microtrichose on apical 1/3; mesanepisternite 1 (Figure 14: ma1) with a patch of fine hairs postero-dorsally; hind femur greatly enlarged, with an anteroventral spinose ridge on its apical 1/3 ..... ***Syritta*** Lepeletier et Serville *(see StN key to European species)*
----- wing entirely covered in micortrichia or with just moderate bare areas on basal 1/3 or slightly more, densely and uniformly microtrichose on apical 1/3; mesanepisternite 1 hairy or bare; hind femur variable ..... **105**

**105** Hind femur with an apicoventral triangular process; metasternum large, with a basal membranous seam (mesanepisternite 1 bare) ..... ***Tropidia*** Meigen *(see StN key to European species)*
----- hind femur without an apicoventral process ..... **106**
.
**106** Face produced ventrally, usually tuberculate; genae (Figures 5, 6: g) broad; body either with long hairs or with bright yellow, pollinose markings ..... **107**
----- face concave, sometimes subcarinate, not tuberculate; genae narrow; body with short and sparse hairs, without bright yellow, pollinose markings ..... ***Chalcosyrphus*** Curran (part: see also couplet 92) *(see StN key to European species)*

**107** Antennae greatly elongate, much longer than face; thorax and abdomen with distinct, yellow, pollinose markings; body with short and sparse hairs; flies mimicking vespid wasps ..... ..... ***Sphecomyia*** Latreille (1 sp., *S. vespiformis* Gorski)
----- antennae short, shorter than face; thorax and abdomen without yellow pollinose markings; body with long hairs; flies mimicking *Bombus* or other bees ..... ***Criorhina*** Meigen *(see StN key to European species)*

**108** Face black in background colour, rarely slightly yellowish ventrally ..... **110**
----- face mostly or entirely bright to dull yellow, at most with dark median stripe (and genae partly black beneath the eyes) ..... **109**

**109** Abdomen black dorsally and at least partly black haired, or black with clear yellow markings on tergites 2-4, or red on tergites 4-5; tergites may be partly metallic black ..... ***Blera*** Billberg *(see StN key to European species)*
----- abdomen dorsally metallic, shining, with brassy yellow hairs, but without yellow or red markings ..... ..... ***Caliprobola*** Rondani (1 European sp., *C.speciosa* (Rossi))

**110** Head triangular in anterior view; antennal segment 3 kidney-shaped, deeper than long; hairs on general body surface very long, those on scutellar disc including many that are more than 2x as long as the median length of the scutellum (tergite 3 medially with either upstanding or more-or-less recumbent hairs that are longer than ½ the basal depth of the hind tibia in lateral view) ..... **112**
----- head elliptical in anterior view; third antennal segment longer than broad; hairs on general body surface of short to moderate length, those on scutellar disc no longer than 1.2x the median length of the scutellum ..... **111**

**111** Frontal prominence normal; tergite 3 medially with very short (shorter than ¼ the basal depth of the hind tibia, in lateral view), black, recumbent hairs along the entire length of the tergite; male: aedeagus with short ejaculatory process ..... ***Xylota*** Meigen *(see StN key to European species)*
----- frontal prominence greatly produced; tergite 3 entirely pale-haired; male: aedeagus with greatly elongate ejaculatory process ..... ***Brachypalpoides*** Hippa (1 sp. *B.lenta* (Meigen)) *(see StN Chalcosyrphus key for separation of B.lenta from Chalcosyrphus piger))*

**112** A *Bombus* mimic; thorax and abdomen with transverse bands of pale (white, yellow or orange) and black hair; abdomen broad; hind femora neither thickened nor arcuate; hind tibiae not keeled ventrally ..... ..... ***Pocota*** Lepeletier et Serville (1 sp**.** *P.personata* (Harris))
----- bee mimics; thorax and abdomen without transverse bands of pale (white, yellow or orange) hair; hind femora arcuate and thickened; hind tibiae keeled baso-ventrally ..... ..... ***Brachypalpus*** Macquart *(see StN key to European species)*

## 2.3 Morphological terms referred to in the key, together with the codes used for them in the figures.

1st basal cell (wing): **b1** (Fig.18)

2nd basal cell (wing): **b2** (Fig.18)

2nd costal cell (wing): **co2** (Fig.18)

1st subcostal cell (wing): **sc** (Fig.18, and identifiable, but not labelled, in Fig. 29, as the wing cell containing the stigma, **stg**)

2nd tarsal segment (leg): **ta2** (Fig. 22)

aedeagus (male terminalia: abdomen): **ae** (Fig.35)

alula (wing): **al** (Figs. 18, 18p, 19)

anal cell (wing): **an** (Fig.18)

anal lobe (wing): **anl** (Fig.18)

antennal segment 1 (antenna)/scape: **s** (Figs. 8, 10)

antennal segment two (antenna)/pedicel: **p** (Figs. 8, 10)

antennal segment 3 (antenna)/basoflagellomere: **gl** (Figs. 8, 10)

antennal socket(s) (head): **ai** (Fig. 2)

antennal tubercle (head): **frt** (Fig.4)

anterior ocellus (head): one of the three ocelli (or simple eyes), making, with the two posterior ocelli, the ocellar triangle on the vertex; not labelled, but identifiable in Fig.4, between the eyes, on the vertex, **v**

anterior tentorial pit (head): **att** (Fig.3), within the facial groove/facial sulcus, **fs**

arista (antenna): **a** (Figs. 7, 8)

aristal pile/rays (antenna): not figured; hairs on the arista

barette (thorax)/hypopleural ridge: **br** (Figs. 14, 15)

basitarsus (leg): **bt** (Figs. 22, 25)

calypterae (wing-base): **cal** (lower lobe)**, cau** (upper lobe) (Fig. 19)

cell m (wing)/marginal cell: **m** (Fig. 18, 18j, 18k, 18u, 18v)

cell po (wing): **po** (Figs. 18, 21) (posterior cell of wing)

cell sm (wing): **sm** (Fig. 18) (submarginal cell of wing)

cercus, cerci (terminalia: abdomen): **ce** (Figs. 33-36, 39, 40)

claw (leg): **cl** (Fig. 26)

clypeus (head):**ac** (Figs. 1, 11 )

compound eye (head): **e** (Figs. 1, 3)

costa (wing): **C** (Fig. 17)

costal margin (wing): not labelled; the anterior margin of the wing

coxa (leg): **cx** (Figs. 22, 24, 45a, 45b)

crossvein H (wing): not labelled, but identifiable in Fig. 18 as the cross-vein separating cell co1 from cell co2

crossvein r-m (wing): **r-m** (Figs. 17, 18b, 18c, 18d, 18e, 18f, 18h, 18i, 18n, 18o, 18r, 18s, 18t)

dichoptic eyes (head): compound eyes not meeting in mid-line, as in Figs. 2, 4, 5

discal cell (wing): **d** (Figs. 18, 18e, 18f, 18g, 18h, 18n, 18o)

dusting: area of usually pale, recumbent micro hairs, as in Fig. 42

dust spot: Fig. 42

epandrium (male terminalia: abdomen) **ba** (Figs. 32-36)

epistoma (head): upper mouth edge, not labelled, but identifiable in Figs. 1 and 2, as the part of the face immediately dorsal to the postclypeus, **pc**, and in Fig.3, as the lowest edge of the face medially, at the anterior extremity of the buccal cavity, **bc**

eye (head): **e** (Figs. 1,3)

face (head): **f** (Figs.1, 3)

facial groove (head): **fs** (Figs.2, 3)

facial prominence (head): **ft** (Figs.1, 6)

facial tubercle (head): **ft** (Figs.1, 6)

fascia (wing): not figured; dark (usually brownish) markings on the wing membrane

femur (leg): **fe** (Figs. 22, 23)

frons (head): **fr** (Figs.1, 2)

frontal dust spots (head): Fig. 42

frontal prominence (head): **frt** (Fig. 4)

gena/genae (head): **g** (Figs. 5, 6)

genital capsule (male terminalia: abdomen): hypopygium, Figs. 34-36

haltere (thorax): **ha** (Figs. 14, 15, 41)

haltere knob (thorax): expanded distal end of the haltere, not labelled, but visible in Figs. 14, 15

hang vein (wing): **hv** (Fig. 20)

holoptic eyes (head): compound eyes meeting in mid-line, as in Fig.1

humeral callus (thorax): **hc** (Figs. 12-14, 44b, 44c, 44d, 45a, 45b) (the humeral callus is comprised mostly of the postpronotal sclerite of the pronotum of the thorax, but posteriorly includes a small part of the mesonotum, a suture normally demarcating the junction between the pronotal and mesonotal elements)

humeral cross-vein (wing): **h** (Figs. 18l, 18m)

hypopleuron (thorax): **mr** (Figs. 14-16) (meropleurite)

hypopygium (male terminalia: abdomen): Figs. 34-36

laterotergite or lateral postnotal sclerite of mesonotum (thorax): **lt** (Fig. 14)

lower lobe of calypterae (wing): **cal** (Fig. 19)

lunule (head): **l** (Fig.1; also visible, but unlabelled, in Figs.2, 5, 6)

maculae: markings differing in colour from the background colour of a sclerite, e.g. pale marks on black abdominal tergites, black marks on a grey mesoscutum

male terminalia (abdomen): hypopygium (Figs. 34-36)

mediotergite (thorax): **mt** (Fig. 27)

mesanepisternite 1 (thorax): **ma1** (Fig. 14) (anterior mesanepisternum)

mesopleur/mesopleuron (thorax): **ma1** + **ma2** + **me** + **br** + **mk** + **mr** (Fig. 14)

mesopleural anepimeron (thorax): **me** + **br** (Fig. 14)

mesopleural anepisternum (thorax): **ma1** + **ma2** (Fig.14); **ma** (Fig.15)

mesoscutum (thorax): **ms** (Figs. 12-14, 45a, 45b)

mesothoracic spiracle (thorax): the spiracle between the mesopleura and the metapleura; **sp** in Fig. 14

metapleural episternum (thorax): **mts** (Fig. 14)

metasternum (thorax): **mtb** (Fig. 16)

metathoracic spiracle (thorax): the spiracle originating between the metapleura and the sclerites of the 1st abdominal segment; not labelled, but visible in Figs. 14 and 15, embedded in the metathoracic epimeron, **mte**

microtrichia (wing): the minute hairs present on most of the wing membrane, in many syrphids

notopleural area (thorax): **ca** (Fig. 13)

occiput (head): not labelled; the posterior surface of the head

ocellar triangle (head): **ot** (Fig. 1)

ocellus (head): not labelled; one of the three simple eyes found on the ocellar triangle, **ot** (Fig.1) of the vertex

ommatidium/ommatidia (head): not figured; individual lenses of the compound eyes

oral margin (head): rim of the buccal cavity, **bc** (Fig. 3)

orbital strip (head): **os** (Figs. 3, 5, 6)

pedicel (antenna): **p** (Figs. 8, 10)

plumule (thorax): **pl** (Fig. 41)

postalar callus/calli (thorax): **sca** (Figs. 13, 14)

posterior ocellus (head): not labelled; one of the two posterior ocelli, located on the ocellar triangle, **ot** (Fig. 1); also visible on Figs. 2, 5 and 6

postmetacoxal bridge (thorax): **pocb** (Fig. 15)

postocular orbits (head): **oo** (Figs. 4, )

postocular region (head): **oo** (Fig. 4) + **pt** (Fig. 6)

propleura (thorax): **pe** + **ps** (Figs. 12, 14)

postpronotum (thorax): **pn** (Figs. 12-15)

proepimeral area (thorax): **pe** (Figs. 12, 14, 15)

proepimeron (thorax): **pe** (Figs. 12, 14, 15

prothoracic spiracle (thorax): the spiracle originating between the propleura and the mesopleura; **sp** (Figs. 12, 45a, 45b)

pteropleur/pteropleuron (thorax): **me** (Fig. 14) (upper part of mesepimeron/anepimeron)

pterostigma (wing): **stg** (Fig. 17)

R4 +5 (wing): **R4 + 5** (Fig. 17). Commonly referred to as a combination of branches 4 and 5 of the Radial vein (R4+5), this wing vein is more correctly recognised as branches 3 and 4 of the Radial Sector vein, together with a branch of the Median vein, M1. Common usage is applied in the keys, as R4+5.

radial vein (wing): **R** (Fig. 17)

r-m cross-vein (wing): **rm** (Fig. 17)

scape (antenna): **s** (Figs. 8, 10)

scutellar disc (thorax): not labelled; the dorsal surface of the scutellum

scutellum (thorax): **msl** (Figs. 13-15, 27)

setulae: short, stout spines (not figured)

sternite (abdomen): **st1, st2** etc (Figs. 29, 31-33, 37, 38)

sternopleuron (mesokatepisternum) (thorax): **mk** (Figs. 12, 14, 15, 16)

style (antenna): **cs** (Fig. 9)

subscutellar fringe (thorax): not figured; a fringe of hairs occurring on the ventral surface of the scutellum, close to its posterior margin

supra-alar bristles (thorax): bristles (not figured) just above the wing-base, on the mesoscutum anterior to the post-alar callus

surstyli (male terminalia: abdomen): **sy** (Figs. 33-36)

tarsus/tarsi/tarsal segments (leg): **ta2- ta5** (Figs. 22, 25, 26)

tarsomere (leg): **ta2- ta5** (Figs. 22, 26)

tergite (abdomen): **t1, t2** etc (Figs. 27, 29, 30, 37-40)

tibia/tibiae (leg): **ti** (Fig. 22)

transverse suture (thorax): **ts** (Figs. 13, 14)

trochanter (leg) : **tr** (Figs. 22-24)

upper mouth edge (head): not labelled; antero-dorsal edge of the buccal cavity, **bc** (Fig. 3)

vein M1 (wing): **M1** (Figs. 18b, 18c, 18h. 18i, 18p, 18q, 18s, 18t, 20)

vein M2 (wing): **M2** (Fig. 17, 18s, 18t)

vein R4+5 (wing): **R4+5** (Figs. 17, 18a, 18i, 18l, 18m, 18p, 18q, 18r, 18s, 18t). This wing cvein is more correctly referred to as **Rs3**+**Rs4**+**M1**

vein Sc (wing): **Sc** (Fig. 17, 18b, 18c, 18d)

vena spuria (wing): **vsp** (Fig. 17)

vertex (head): **v** (Fig. 4)

vertical region (head): **v** (Fig. 4)

vertical triangle (head): **ot** (Fig. 1)

## 2.4 Alphabetical list of the codes used to label morphological features figured, together with the names of those features

The list includes the features which are labelled in the figures but not referred to in the key.

**a:** arista of antenna

**aa:** aedeagal apodeme of aedeagus of male genitalia

**ac:** anteclypeus

**ae:** aedeagus of *Microdon* male genitalia

**acs:** anterior cervical sclerite

**ai:** antennal socket/ antennal insertion

**al:** alula of wing

**am:** aristomere

**an:** anal cell of wing

**anl:** anal lobe

**ans:** anapleural suture of mesothoracic pleura

**att:** anterior tentorial pit (within the facial groove/facial sulcus, **fs**)

**au:** auxillia of pretarsus of leg

**ax1,** etc.: axillary sclerite 1, etc.

**b1, b2:** first and second basal cells of wings

**ba:** basale of hypopygium of male genitalia

**bat:** buccal arm of anterior tentorial sulcus

**bc:** buccal cavity

**br:** barrette/hypopleural ridge (probably the katepimeron of the mesothoracic pleura)

**bs:** prothoracic basisternum

**bt:** basitarsus of leg

**C:** costal vein of wing

**ca:** notopleural area/presutural callus of mesonotum of thorax

**cal:** lower lobe of calypterae of wing

**cau:** upper lobe of calypterae of wing

**ce:** cercus of terminal segment of abdomen

**cl:** claw of pretarsus of leg

**co1, co2:** first and second costal cells of wing

**cs:** style/ceratostyle of antenna

**CuA:** anterior cubitus vein of wing

**CuP:** posterior cubitus vein of wing

**cx:** coxa

**d:** discal cell of wing

**e:** compound eye

**em:** empodium of pretarsus of leg

**f:** face

**fe:** femur of leg

**fr:** frons

**frt:** frontal tubercle

**fs:** facial groove (facial sulcus)

**ft:** facial tubercle

**fu:** furca of labellum of labium

**g:** gena

**gl:** antennal segment three (first segment of flagellum of antenna)

**h:** humeral cross-vein

**ha:** haltere

**hc:** humeral callus (comprised mostly of the postpronotal sclerite of the pronotum of the thorax, but posteriorly including a small part of the mesonotum, a suture normally demarcating the junction between the pronotal and mesonotal elements)

**hp:** harpes of aedeagus of male genitalia

**hpx:** hypopharynx

**hup:** humeral plate of wing-base

**hv:** hang-vein

**l:** lunule

**lcs:** lateral cervical sclerite

**ll:** labellum

**ln:** lingula of theca of hypopygium of male genitalia

**lr:** labrum

**lt:** laterotergite/lateral postnotal sclerite of mesonotum

**M:** median vein of wing

**M1- 4:** branches of median vein of wing

**m:** marginal cell of wing/cell m

**ma1, ma2:** mesanepisternite 1 and mesanepisternite 2 of the mesothoracic pleura/mesanepisternite 1 and posterior mesanepisternite/anterior anepisternum and posterior anepisternum

**map;** mesofurcal pit

**mcu:** median-cubital cross-vein of wing

**me:** pteropleur/pteropleuron/mesepimeron (mesepimeral sclerite of mesothoracic pleura)

**mk:** sternopleuron (katepisternum of mesothoracic pleura)

**mlt:** mesonotal prescutum

**mn:** premental sclerite of the labium

**mp:** mesosternal presternum

**mr:** hypopleuron/meropleurite (of mesothoracic pleura)

**ms:** mesoscutum of mesonotum (often referred to incorrectly as the mesonotum)

**msl:** scutellum (scutellar lobe of mesonotum)

**mt:** mediotergite (median postnotal sclerite of mesonotum)

**mtb:** metasternum (basisternum of metathoracic sternum)

**mte:** epimeron of metathoracic pleura

**mtes:** epimeral spine of the metathoracic pleura

**mtn:** metathoracic notum/metanotum

**mtpc:** precoxale of metathoracic pleura

**mts:** metapleural episternum/episternum of metathoracic pleura

**mtu:** furcasternum of metathoracic ster num

**mua:** anterior mesosternal furcasternum

**mub:** posterior mesosternal furcasternum

**mvs:** mid-ventral thoracic suture

**mx:** maxillary stylet

**mxa:** maxillary palp

**oa:** ocular arm of anterior tentorial sulcus

**oo:** post-ocular orbits

**os:** orbital strip of face

**ot:** ocellar triangle

**p:** antennal segment one/pedicel of antenna

**pa:** antepronotum of pronotum of thorax

**pc:** clypeus (postclypeus)

**pcb:** premetaxocal bridge

**pcs:** posterior cervial sclerite

**pe:** proepimeron of propleura/proepimeral area of thorax

**pls:** pleural suture of mesopleura

**po:** posterior cell of wing/cell po

**pocb:** post-metaxocal bridge

**ps:** proepisternum of propleura

**pu:** prothoracic furcasternum

**R:** radial vein of wing

**rm:** cross-vein r-m/radial-median cross-vein of wing

**$R_{2+3}$; $R_{4+5}$:** branches of the radial-sector vein of the wing. Commonly referred to as branches of the Radial vein (R2+3 and R 4+5), these wing veins are more correctly recognised as branches 1 - 4 of the Radial Sector vein, together with a branch of the Median vein, M1.

**s:** antennal segment 1/scape of antenna

**sa:** subalare

**sap:** supra-anal plate

**Sc:** vein Sc/subcostal vein of wing

**sc:** subcostal cell of wing

**sca:** postalar callus of mesonotum of thorax

**se:** sella of cervical organ

**sep:** sensory pit of 3rd antennal segment

**sl:** superior lobe of theca of male genitalia

**sm:** cell sm/submarginal cell of wing

**sp:** spiracle

**ss:** secondary sclerite

**st1, st2, etc.:** sternum of first abdominal segment, second abdominal segment, etc.

**st2a:** anterior sclerite of abdominal sternite 2

**stg:** pterostigma of wing

**sy:** surstylus of basale of hypopygium of male genitalia

**t1, t2,** etc.: tergite of first abdominal segment, second abdominal segment, etc.

**ta2, ta5:** tarsal segments of leg

**tc:** callus of 2nd tergite of abdomen

**tg:** tegula

**th:** theca of hypopygium of male genitalia

**tho:** thorax

**ti:** tibia of leg

**tr:** trochanter of leg

**trc:** trochanteral process of posterior mesocoxite of middle leg

**ts:** transverse sulcus/suture

**tu:** tubus of aedeagus of male genitalia

**u:** pulvillus of pretarsus of leg

**v:** vertex of head capsule

**vg:** ventral egg-guide

**vs:** vena spuria of wing

# 3 FIGURES OF MORPHOLOGICAL FEATURES REFERRED TO IN THE KEY

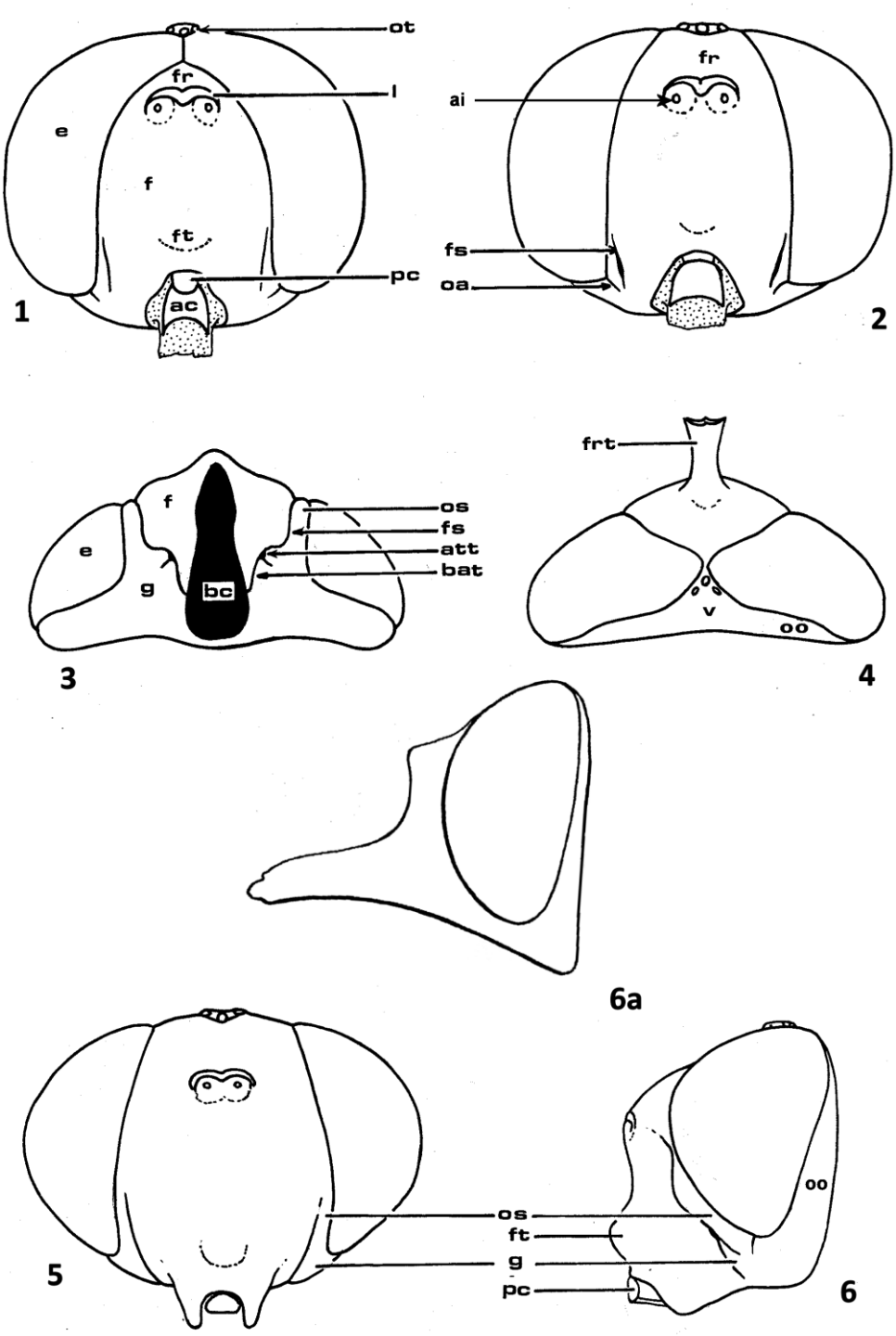



**Fig. 1**, *Syrphus ribesii*, male, head, anterior view. **Figs. 2, 3,** *S. ribesii*, female, head, anterior view (2) and ventral view (3). **Fig. 4,** *Ceriana* sp., male, head, dorsal view. **Fig. 5,** *Eristalis tenax*, female, head, anterior view. **Fig. 6,** *Cheilosia grossa*, male, head, lateral view; **Fig. 6a**, *Rhingia campestris*, head, lateral view.

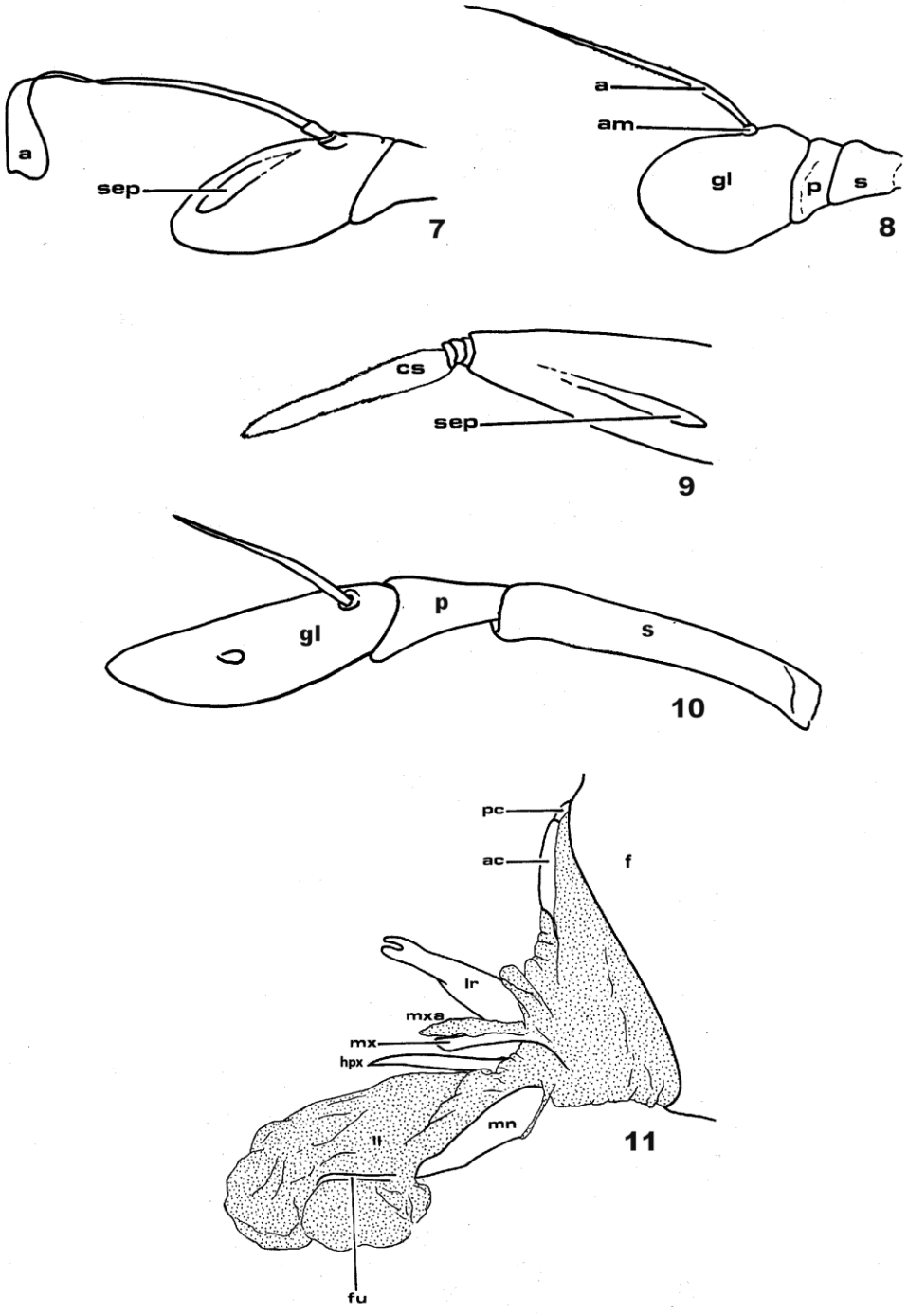
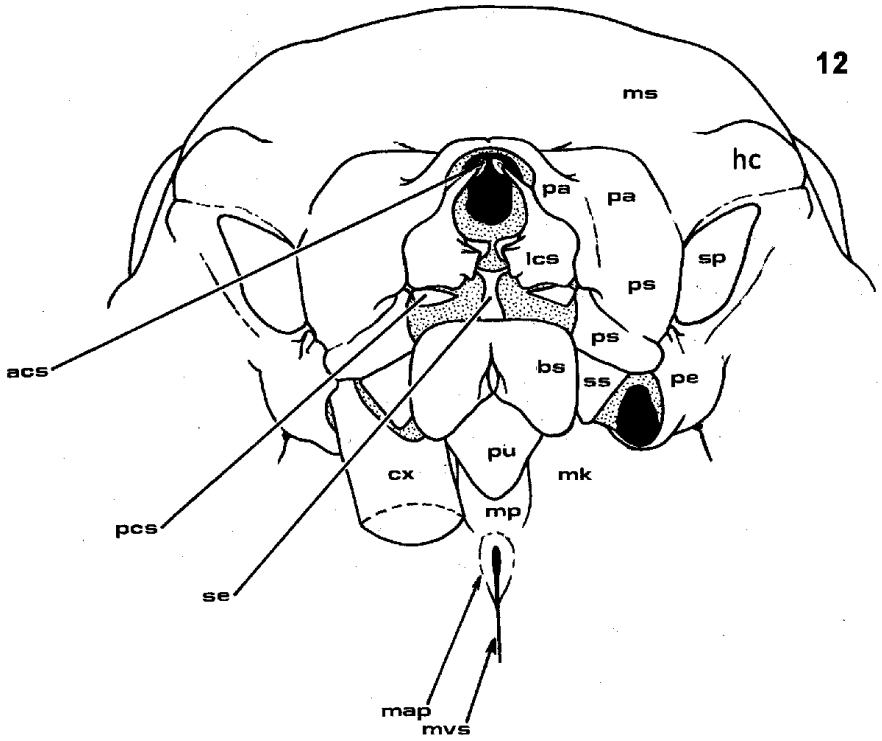



**Fig. 7**, *Platynochaetus setosus*, third antennal segment and arista, lateral view, outer side. **Fig. 8**, *Syrphus ribesii*, antenna, lateral view, outer side. **Fig. 9**, *Callicera aenea*, end of third antennal segment and arista, lateral view, inner side. **Fig. 10**, *Microdon mutabilis*, antenna, lateral view, outer side. **Fig. 11**, *Syrphus ribesii*, mouthparts, lateral view.



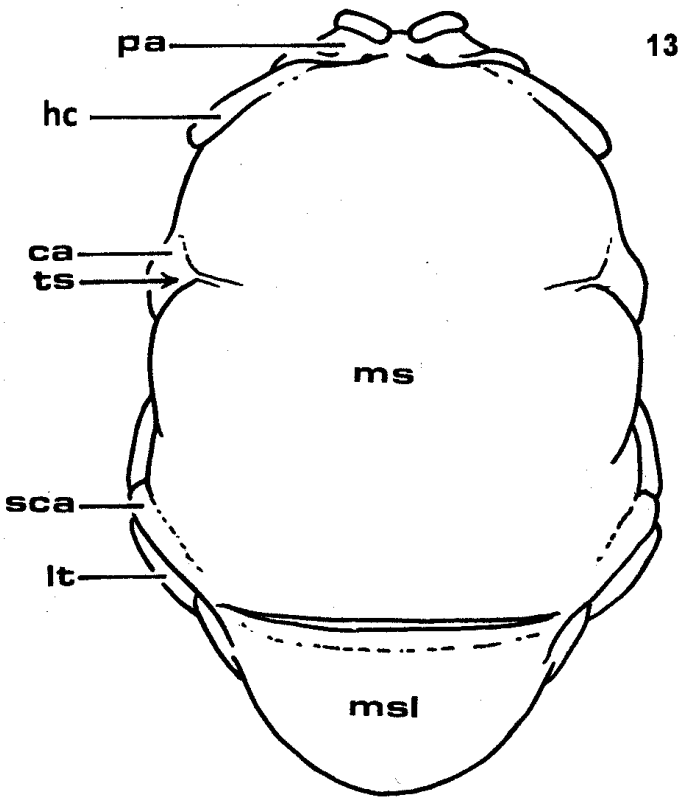
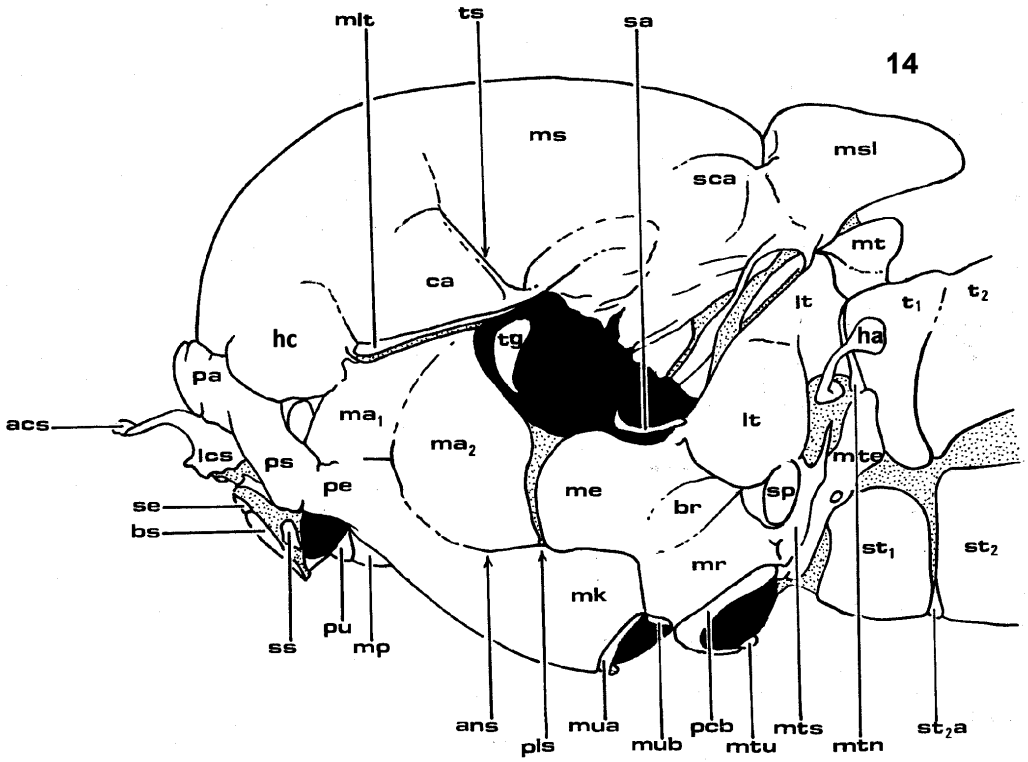




**Fig. 12**, *Eristalis tenax*, prothoracic region, anteroventral view. **Figs 13**, *Syrphus ribesii*, thorax, dorsal view.



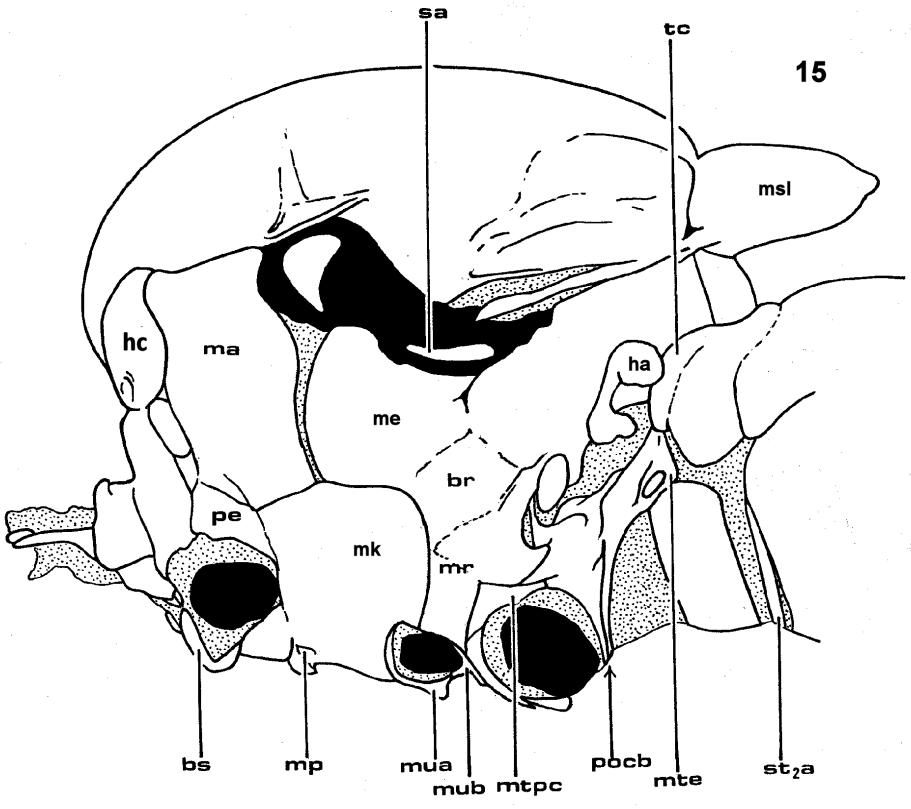




**Fig. 14**, *S. ribesii*, thorax, lateral view, left side. **Fig. 15**, *Microdon mutabilis*, thorax, lateral view, left side.

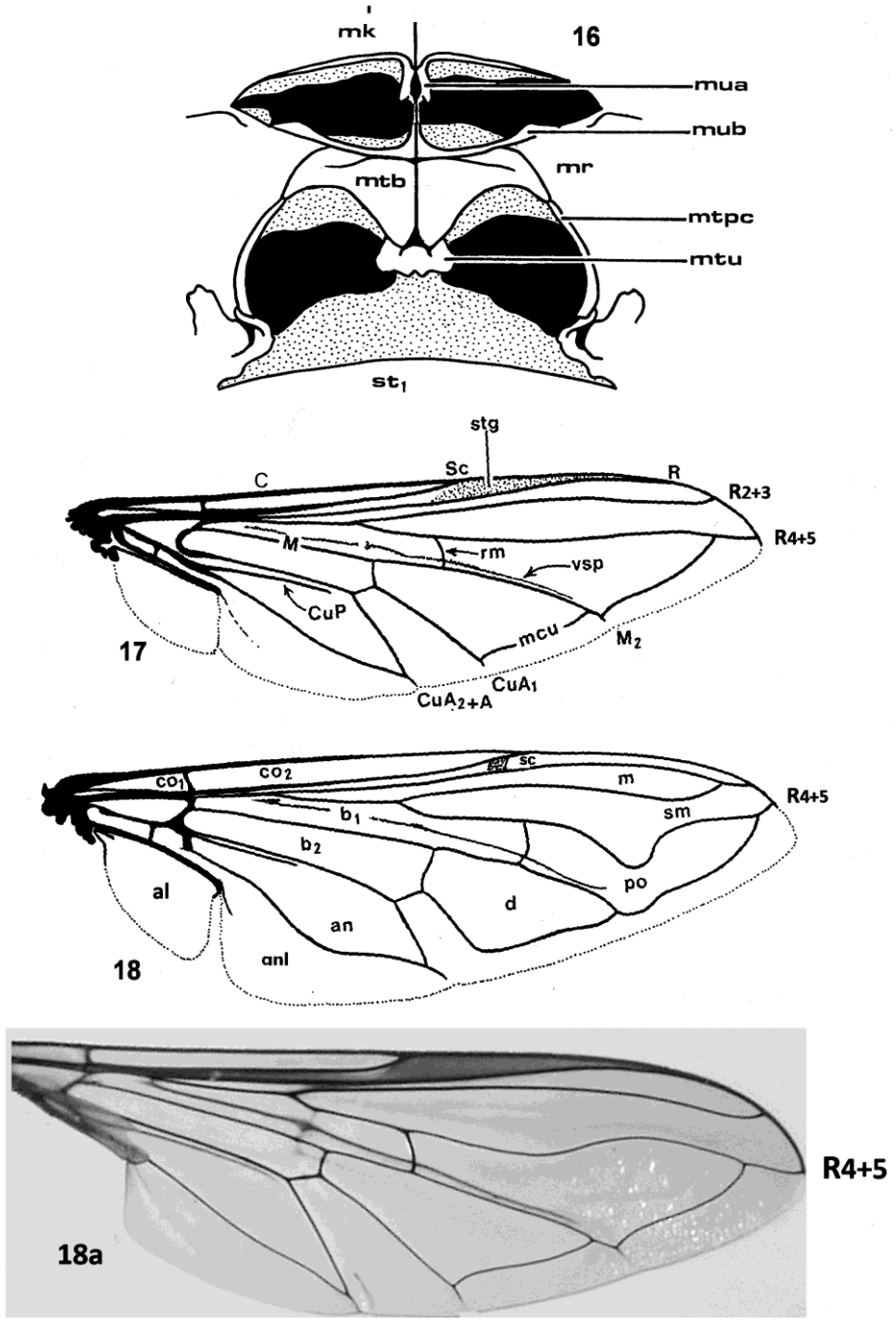
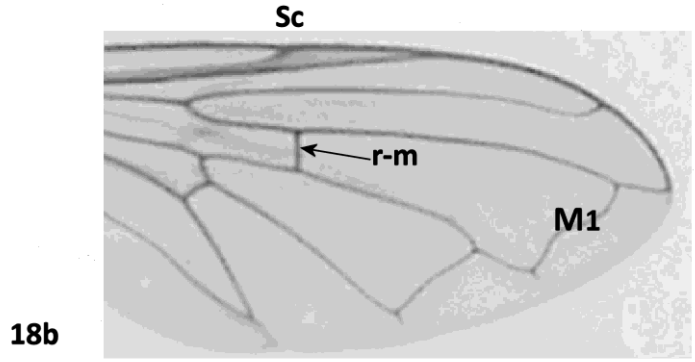
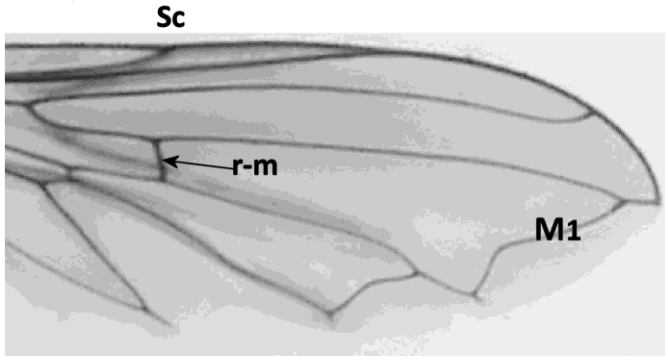



**Fig. 16**, *Eristalis tenax*, meso and meta thoracic sterna, ventral view. **Fig. 17**, *Syrphus ribesii*, right wing. **Fig. 18**, *Eristalis tenax*, right wing. **Fig.18a**, *Lapposyrphus lapponicus*, right wing.




18b

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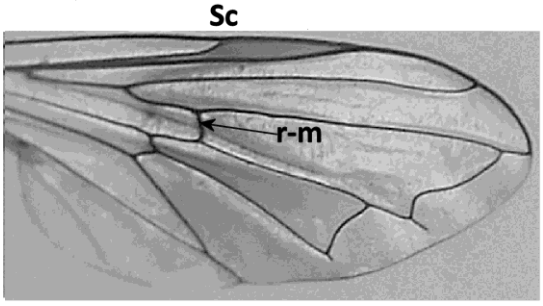


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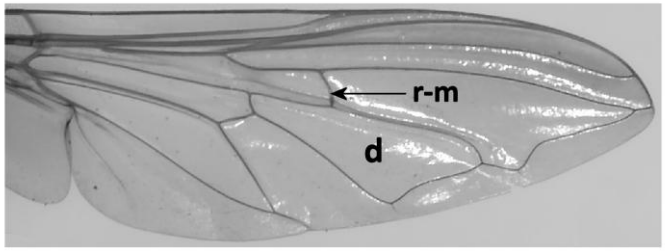
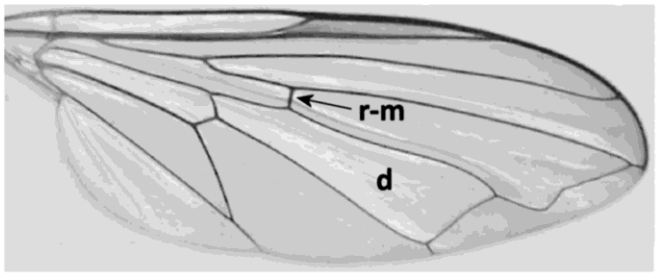



18e

**Fig. 18b**, *Pipizella viduata*, right wing; **Fig. 18c,** *Claussenia hispanica*, right wing; **Fig. 18d**, *Heringia heringi*, right wing; **Fig. 18e,** *Callicera spinolae*, right wing.

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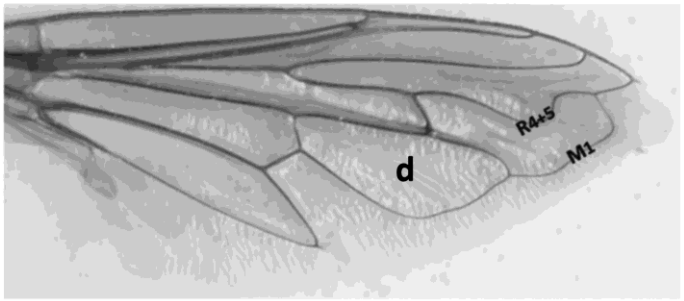


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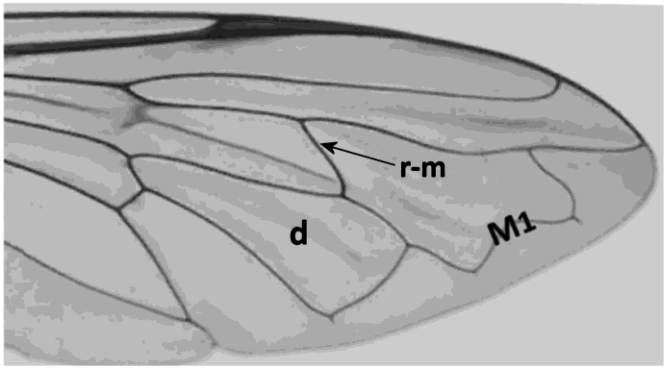


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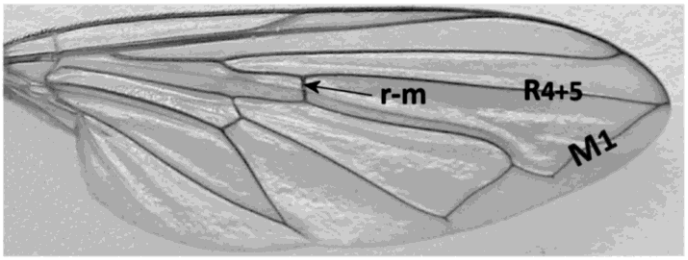
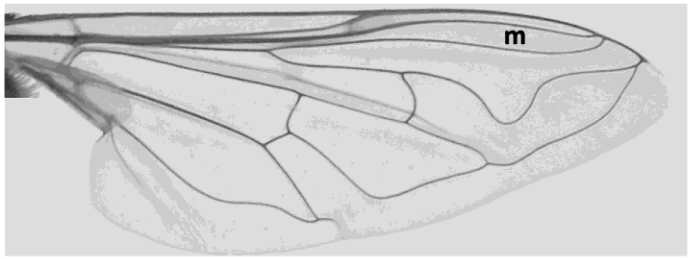



18i

**Fig. 18f**, *Pelecocera caledonica*, right wing; **Fig. 18g**, *Merodon luteihumerus*, right wing; **Fig.18h**, *Eumerus nudus*, right wing; **Fig. 18i**, *Brachyopa vittata*, right wing.

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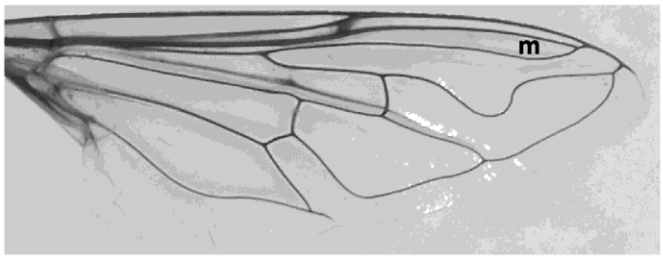
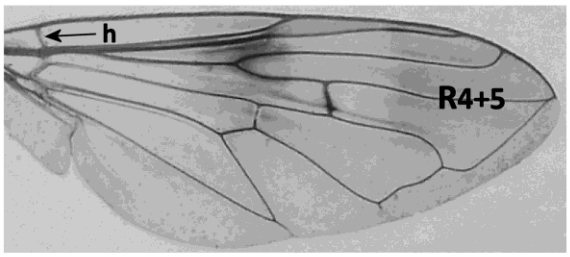



18k

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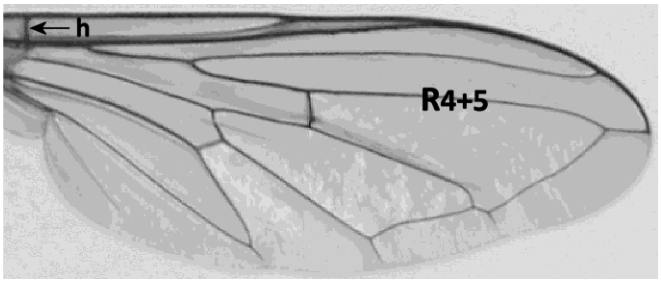
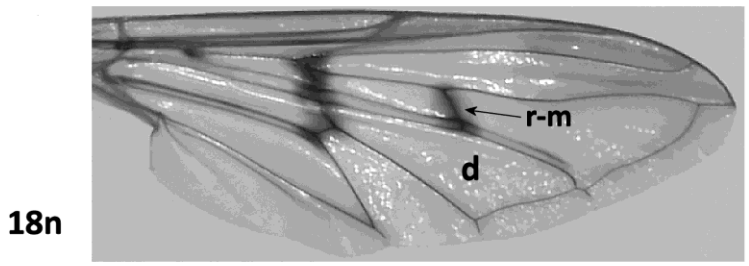
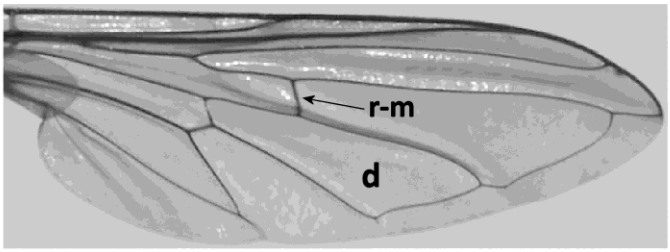



18m

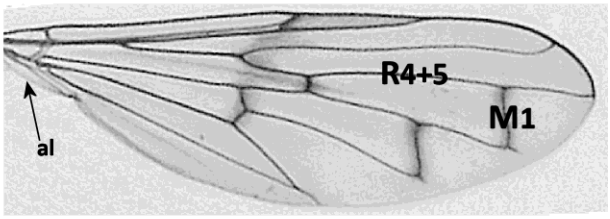
**Fig. 18j**, *Helophilus trivittatus*, right wing; **Fig. 18k**, *Eristalis nemorum*, right wing; **Fig. 18l**, *Myolepta vara*, right wing; **Fig. 18m**, *Portevinia maculata*, right wing.



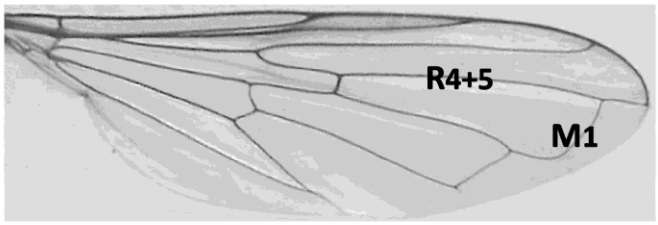

18n




18o




18p

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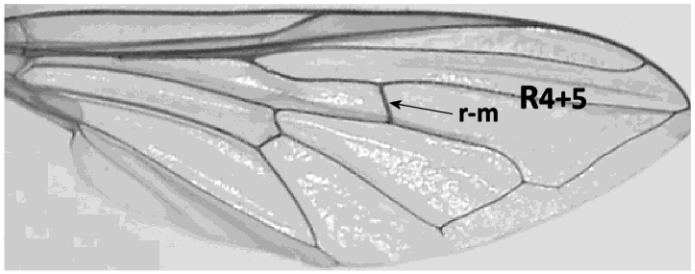
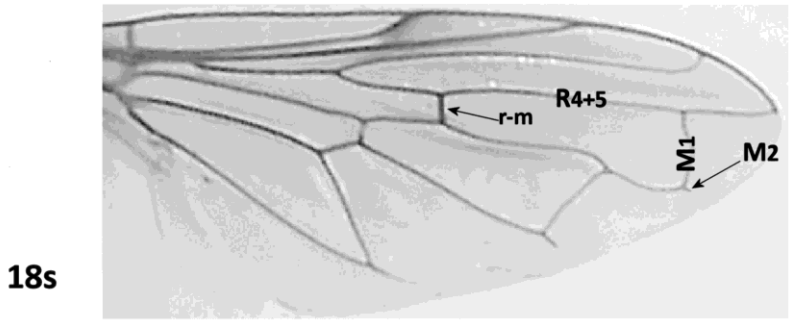
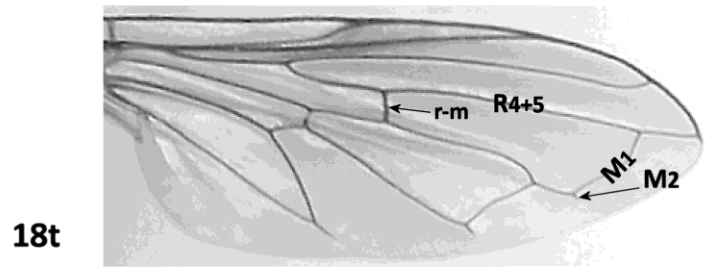
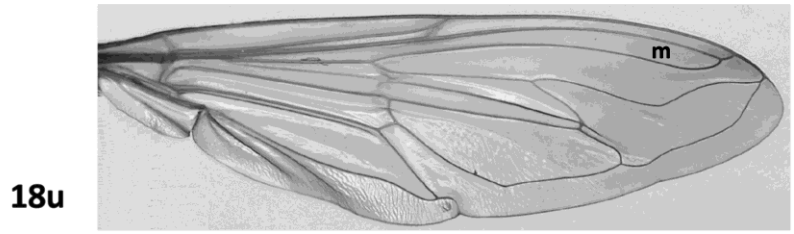



18r

**Fig. 18n**, *Ferdinandea aurea*, right wing; **Fig. 18o**, *Cheilosia variabilis*, right wing; **Fig. 18p**, *Neoascia unifasciata*, right wing; **Fig. 18q**, *Sphegina varifacies*, right wing; **Fig. 18r**, *Lejota ruficornis*, right wing.



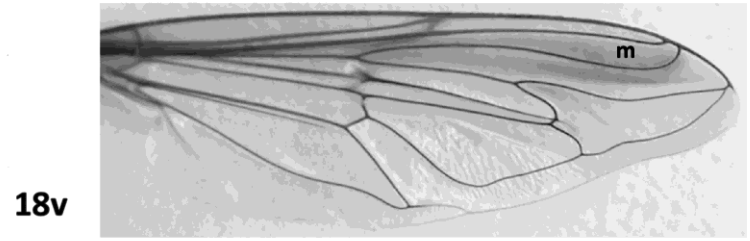




**Fig. 18s**, *Orthonevra brevicornis*, right wing; **Fig. 18t**, *Melanogaster hirtella*, right wing; **Fig. 18u**, *Milesia crabroniformis*, right wing; **Fig. 81v**, *Spilomyia graciosa*, right wing.

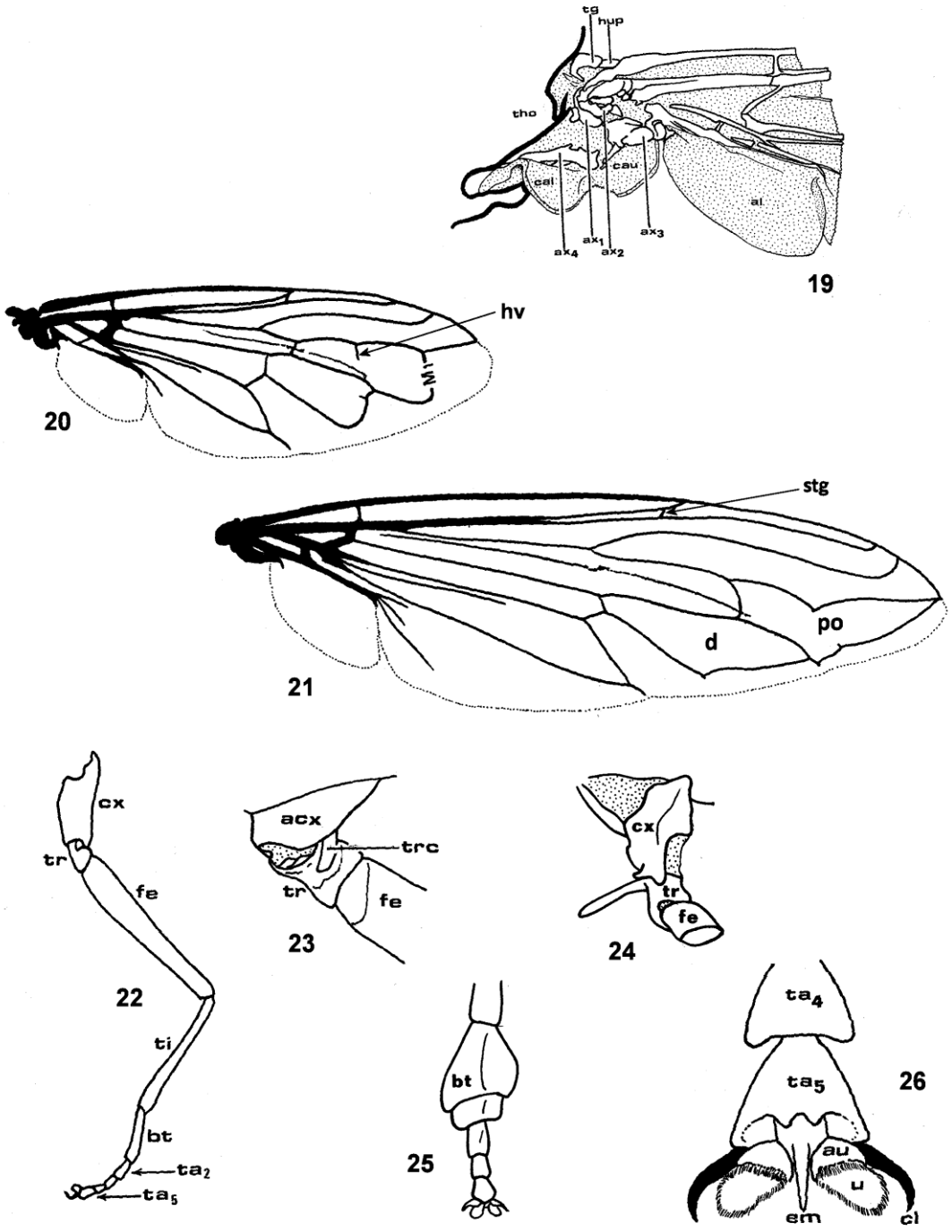



**Fig. 19**, *Syrphus ribesii*, axillary region of right wing. **Fig. 20**, *Microdon mutabilis*, right wing. **Fig. 21** *Ceriana* sp., right wing. **Figs. 22—23**, *Syrphus ribesii*, left fore leg, anterior view (22); male, base of left mid leg, antero-lateral view (23). **Fig. 24**, *Neocnemodon latitarsis*, male, base of left hind leg, lateral view of outer side. **Fig. 25**, *Platycheirus manicatus*, male, tarsomeres of left fore leg, dorsal view. **Fig. 26**, *Microdon mutabilis*, pretarsus and last two tarsomeres of left hind leg, ventral view.

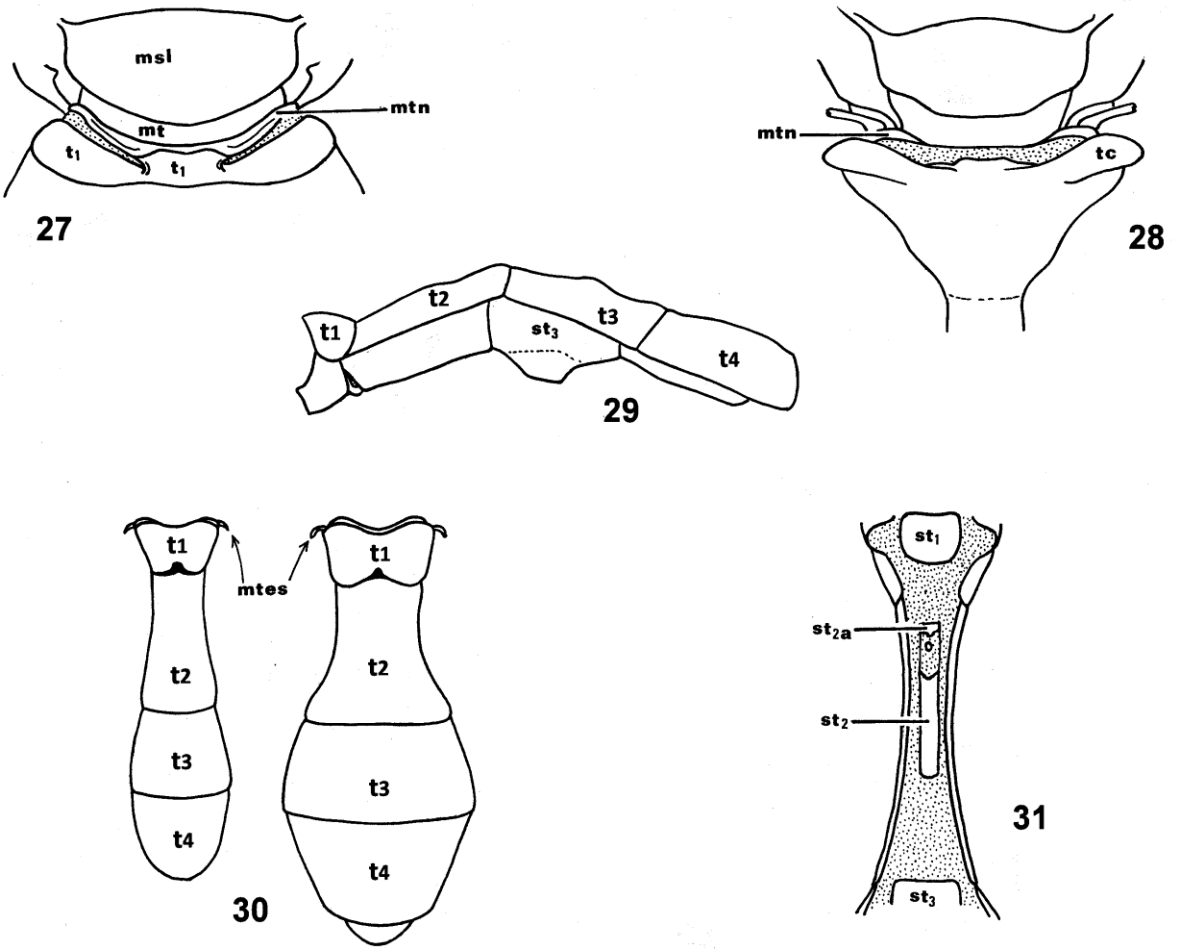



**Fig. 27**, *Syrphus ribesii*, junction between thorax and abdomen, dorsal view. **Fig. 28**, *Ceriana* sp., junction between thorax and abdomen, dorsal view. **Fig. 29**, *Heringia latitarsis*, male, basal abdominal segments, lateral view, left side. **Fig. 30**, *Neoascia podagrica*, male (left) and female (right), abdomen, dorsal view. **Fig. 31**, *Sphegina clunipes*, female, base of abdomen, ventral view.

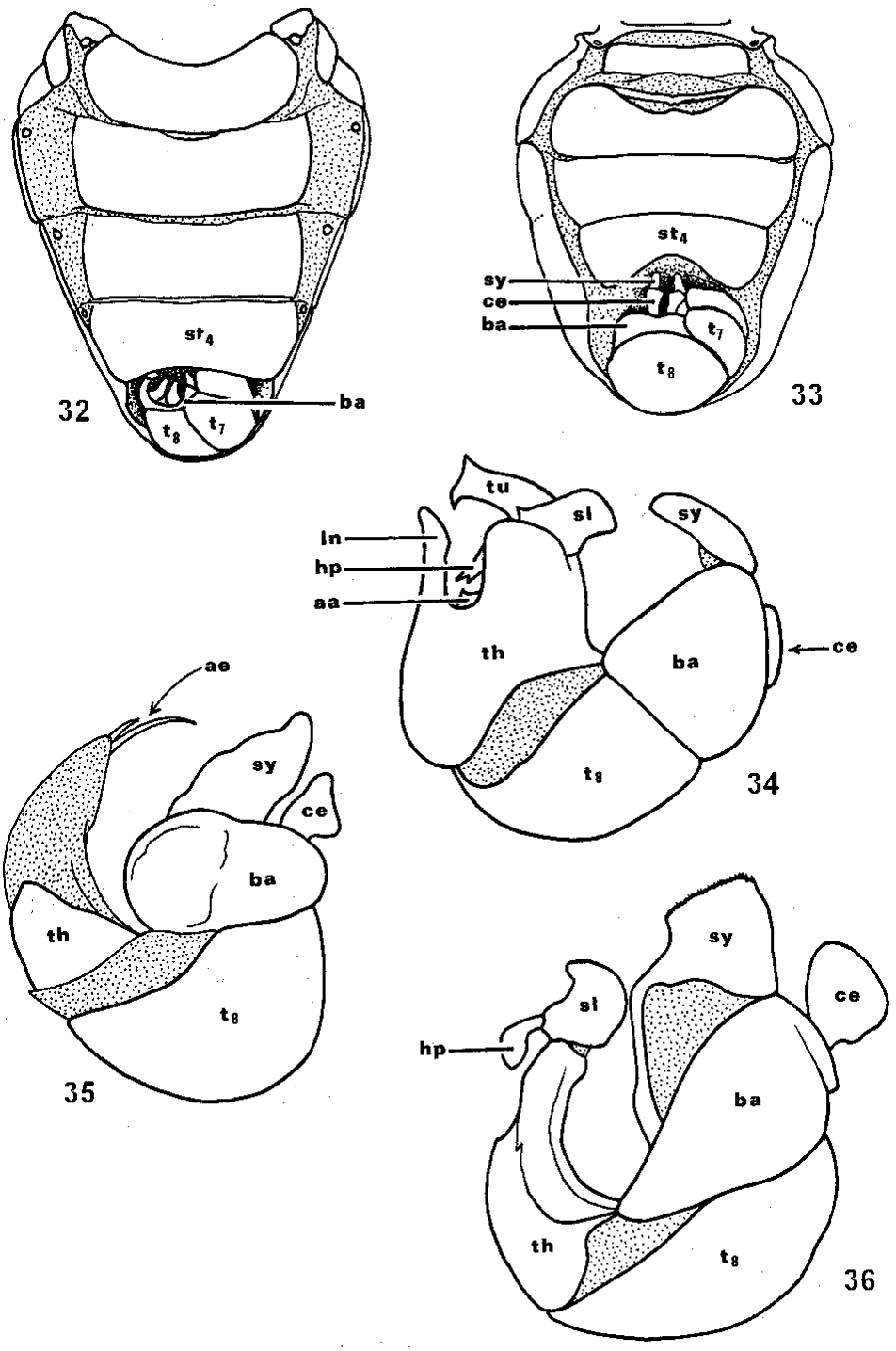
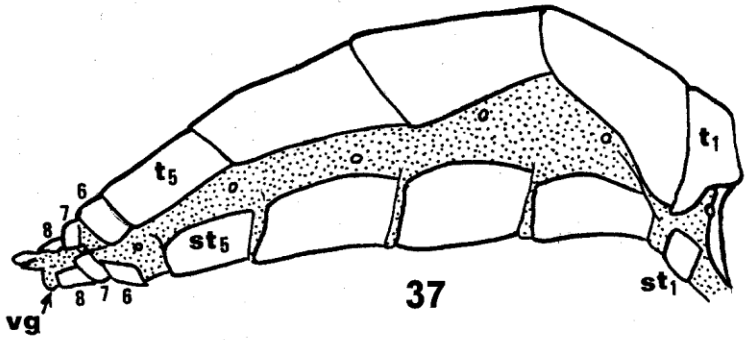



**Fig. 32**, *Eristalis tenax*, male abdomen, ventral view. **Fig. 33**, *Microdon mutabilis*, male abdomen, ventral view. **Fig. 34**, *Syrphus ribesii*, male, hypopygium, lateral view. **Fig. 35**, *Microdon mutabilis*, male, hypopygium, lateral view. **Fig. 36**, *Eristalis tenax*, male hypopygium, lateral view.

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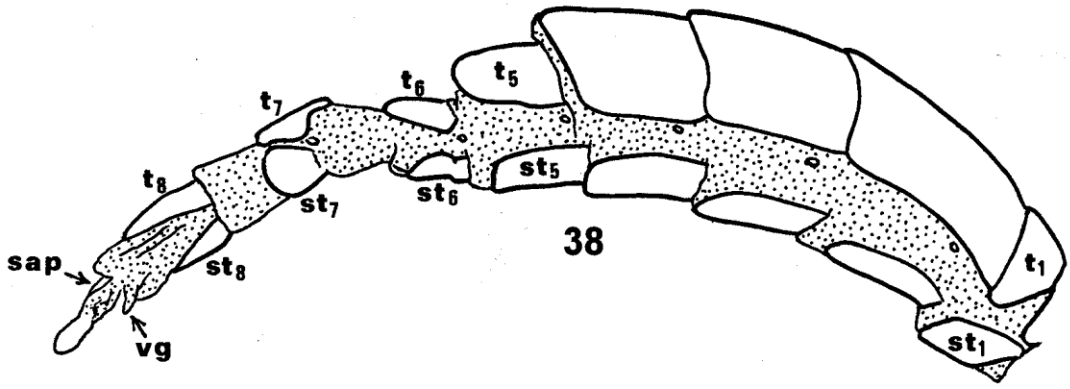


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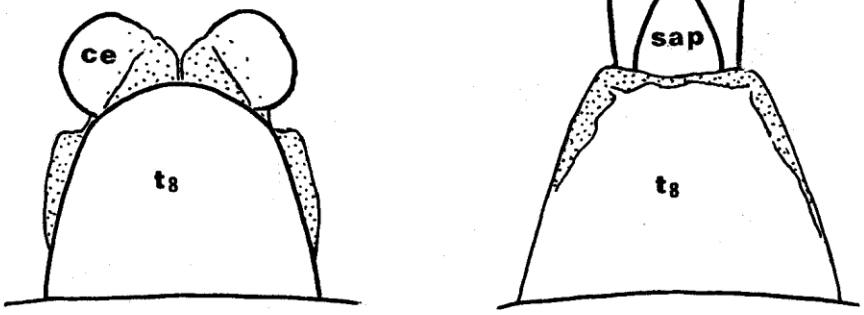


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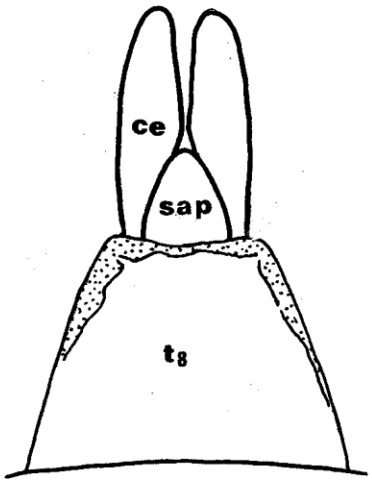


40

**Fig. 37**, *Syrphus ribesii*, female, abdomen, lateral view, right side. **Fig. 38**, *Sericomyia silentis*, female, abdomen, lateral view, right side. **Fig. 39**, *Syrphus ribesii*, female, terminalia, dorsal view. **Fig. 40**, *Microdon mutabilis*, terminalia, dorsal view.

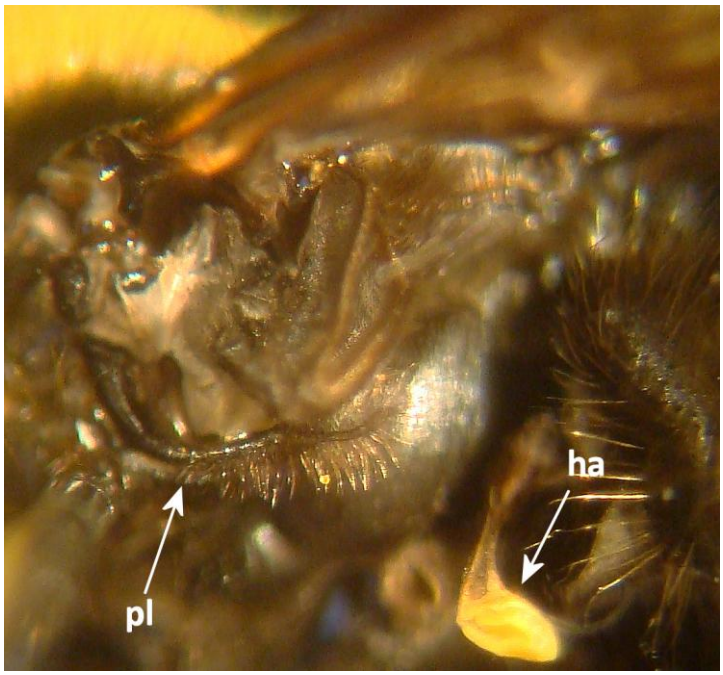


**Fig. 41**, *Xanthogramma* sp., side of thorax immediately ventral to wing-base, showing the plumule and the haltere.

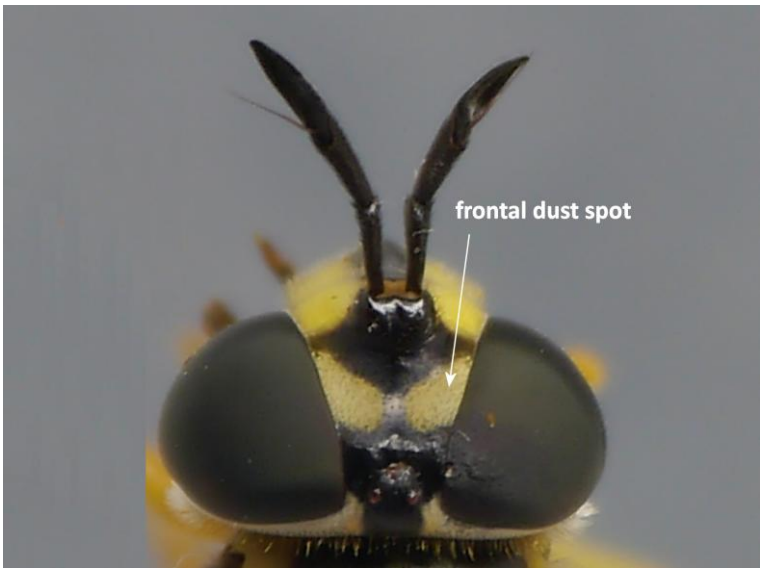


**Fig.42,** *Chrysotoxum elegans*, head of female in dorsal view, showing frontal dust spots.

**Figure 43a**: head and anterior part of thorax in dorsal view, *Scaeva pyrastri*

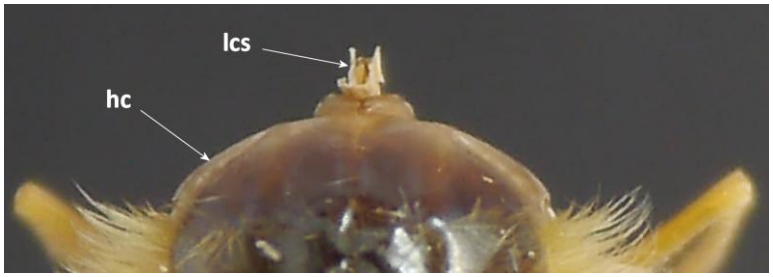


**Figure 43b**: anterior part of thorax in dorsal view, to show hairless humeral callus, *Scaeva pyrastri*


**Figure 43c**: head and anterior part of thorax, dorsal view, showing bare humeral callus exposed, *Episyrphus balteatus*


**Figure 43d**: head and anterior part of thorax, side view, showing location of humeral callus, *Episyrphus balteatus*


**Figure 44a:** head and anterior part of thorax, dorsal view, showing humeral callus with hairs, *Eristalis arbustorum*

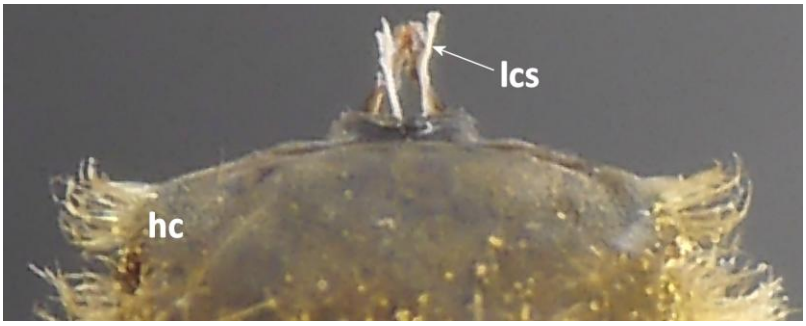


**Figure 44b:** anterior part of thorax, dorsal view, showing humeral callus with hairs, *Eristalis nemorum*


**Figure 44c:** head and anterior part of thorax, dorsal view, showing humeral callus with hairs, *Xylota segnis*

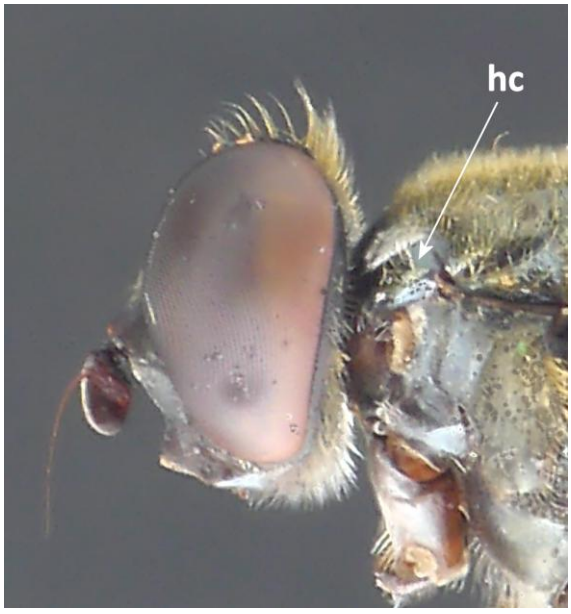


**Figure 44d:** head and anterior part of thorax, side view, showing humeral callus with hairs, *Xylota segnis*

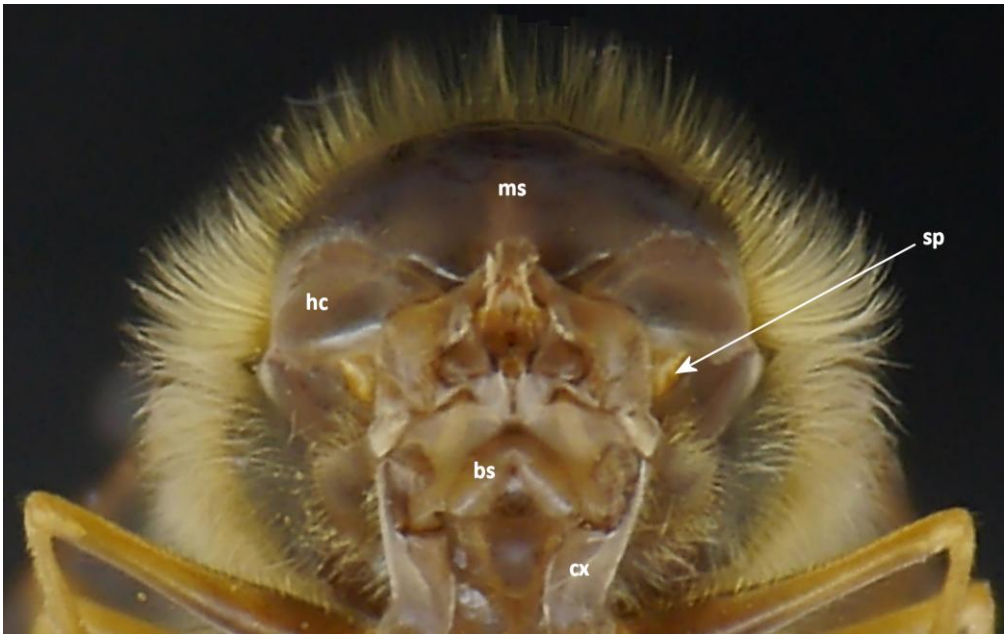


**Figure 45a:** thorax, anterior view, to show bare humeral callus, *Scaeva pyrastri*

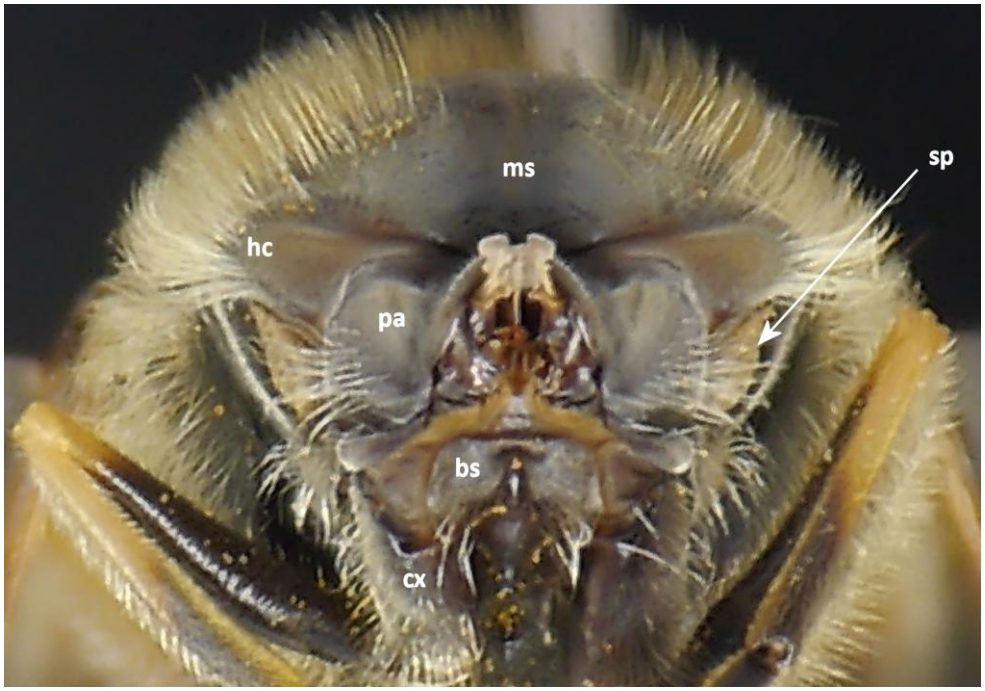


**Figure 45b:** thorax, anterior view, to show humeral callus with hairs, *Eristalis nemorum*

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# **Appendix 1**: **Taxonomic literature: European genera keyed out in major works**

Abbreviations used: T & R = Thompson and Rotheray; V & T = Vockeroth and Thompson

| Authors: | **StN** | Haarto & Kerppola | Bradescu | T & R | Torp | van Veen | Verlinden | Violovitsch | V & T |
|---|---|---|---|---|---|---|---|---|---|
| Date of publication: | | 2007 | 1991 | 1998 | 1994 | 2004 | 1991 | 1986 | 1987 |
| Language: | | Finnish /English | French | English | Danish | English | Flemish/French | English | English |
| Anasimyia | **1** | 1 | | | 1 | 1 | 1 | 1 | |
| Arctosyrphus | **1** | | | 1 | | | | | 1 |
| Baccha | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Blera | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Brachyopa | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Brachypalpoides | **1** | 1 | 1 | 1 | 1 | 1 | | | |
| Brachypalpus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Caliprobola | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Callicera | **1** | 1 | 1 | 1 | | 1 | 1 | 1 | 1 |
| Ceriana | **1** | 1 | 1 | 1 | | 1 | 1 | 1 | 1 |
| Chalcosyrphus | **1** | 1 | 1 | 1 | 1 | 1 | | | 1 |
| Cheilosia | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Chrysogaster | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Chrysosyrphus | **1** | 1 | | 1 | | 1 | | 1 | |
| Chrysotoxum | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Claussenia | **1** | | | | | | | | |
| Copestylum | **1** | | | | | | | | |
| Criorhina | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Cryptopipiza | **1** | 1 | | | | | | | |
| Dasysyrphus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | | 1 |
| Didea | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Doros | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Epistrophe | **1** | 1 | 1 | 1 | 1 | 1 | 1 | | 1 |
| Epistrophella | **1** | 1 | | 1 | 1 | | | | |
| Episyrphus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Eriozona | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Eristalinus | **1** | 1 | 1 | 1 | 1 | 1 | | 1 | 1 |
| Eristalis | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Eumerus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Eupeodes | **1** | 1 | 1 | 1 | 1 | 1 | 1 | | 1 |
| Ferdinandea | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Hammerschmidtia | **1** | 1 | 1 | 1 | | 1 | | 1 | |
| Helophilus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Heringia | **1** | 1 | | 1 | 1 | 1 | 1 | 1 | 1 |
| Ischyroptera | **1** | | 1 | 1 | | | | | |
| Lapposyrphus | **1** | | | 1 | 1 | | | | |
| Lejogaster | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Lejops | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Lejota | **1** | 1 | 1 | 1 | | 1 | | 1 | 1 |
| Leucozona | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mallota | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Megasyrphus | **1** | 1 | 1 | 1 | 1 | | 1 | | |
| Melangyna | **1** | 1 | 1 | 1 | 1 | 1 | 1 | | 1 |
| Melanogaster | **1** | 1 | | | | 1 | | | |
| Melanostoma | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Meligramma | **1** | 1 | | 1 | 1 | | | | |
| Meliscaeva | **1** | 1 | 1 | 1 | 1 | | | | 1 |
| Merodon | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Mesembrius | **1** | | 1 | 1 | | 1 | | 1 | |
| Microdon | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Milesia | **1** | | 1 | 1 | | 1 | | 1 | 1 |

| Authors: | StN | Haarto & Kerppola | Bradescu | T & R | Torp | van Veen | Verlinden | Violovitsch | V & T |
|---|---|---|---|---|---|---|---|---|---|
| Date of publication: | | 2007 | 1991 | 1998 | 1994 | 2004 | 1991 | 1986 | 1987 |
| Language: | | Finnish /English | French | English | Danish | English | Flemish/French | English | English |
| Myathropa | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Myolepta | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Neoascia | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Neocnemodon | **1** | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Orthonevra | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Palumbia | **1** | | | 1 | | | | | 1 |
| Paragus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Parasyrphus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | | 1 |
| Parhelophilus | **1** | 1 | | 1 | 1 | 1 | 1 | 1 | 1 |
| Pelecocera | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pipiza | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Pipizella | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Platycheirus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Platynochaetus | **1** | | | 1 | | | | | |
| Pocota | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Portevinia | **1** | 1 | 1 | 1 | 1 | 1 | | 1 | |
| Psarus | **1** | 1 | 1 | 1 | | 1 | 1 | | |
| Psilota | **1** | 1 | 1 | 1 | | 1 | 1 | 1 | 1 |
| Pyrophaena | **1** | | 1 | | 1 | | 1 | 1 | |
| Rhingia | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Riponnensia | **1** | 1 | | | | 1 | | | |
| Rohdendorfia | **1** | | 1 | 1 | | | | 1 | |
| Scaeva | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sericomyia | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Simosyrphus | **1** | | | 1 | | | | 1 | |
| Spazigaster | **1** | | 1 | 1 | | | | | |
| Sphaerophoria | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sphecomyia | **1** | 1 | 1 | 1 | | 1 | | 1 | 1 |
| Sphegina | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sphiximorpha | **1** | 1 | 1 | 1 | | 1 | 1 | | 1 |
| Spilomyia | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Syritta | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Syrphocheilosia | **1** | | | 1 | | | | | |
| Syrphus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Temnostoma | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Trichopsomyia | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Triglyphus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Tropidia | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Volucella | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Xanthandrus | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Xanthogramma | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Xylota | **1** | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **European generic names not recognised in the StN database** | | | | | | | | | |
| Arctophila | | 1 | 1 | 1 | 1 | 1 | 1 | | 1 |
| Chamaesyrphus | | | 1 | 1 | 1 | 1 | 1 | | 1 |
| Conosyrphus | | | 1 | 1 | | | | 1 | |
| Eurimyia | | | | 1 | 1 | | | | |
| Fagisyrphus | | 1 | | | 1 | | | | |
| Ischyrosyrphus | | | 1 | 1 | 1 | | 1 | 1 | |
| Lathyrophthalmus | | | | | | | | | |
| Olbiosyrphus | | | | | | | 1 | 1 | |
| Pachysphyria | | | | | 1 | | | | |
| Pleskeola | | | | | | | | 1 | |
| Spheginoides | | | 1 | 1 | | | | 1 | |
| **European genera not covered by the StN database** | | | | | | | | | |
| | | | | | | | | | |