

CRANEFLY RECORDING SCHEME

TEST KEY FOR TIPULA (Feb 1996) (Amended April 1997)

A test key to the genera of Long-palped Craneflies (Tipulidae *sensu stricta*) has already been issued. This key addresses the identification of subgenera and species in the large genus *Tipula*, with 61 known species in Britain. Note that *Nigrotipula nigra*, a smallish chocolate brown species was separated in the generic key and that *Prionocera* (which are grey species lacking bristles on the flagellar segments of the antennae) look very like *Tipula*.

Nearly all *Tipula* are of large to moderate in size, always 10 mm or more in wing length, and generally well in excess of that measurement. Relatively few species in other cranefly groups are so large, but some of these exceptions can be very large (eg *Pedicia rivosa*).

Being large species with plenty of good characters, the majority of *Tipula* species, or certainly groupings, have distinctive characters that can easily be seen in the field, often even without a hand lens. The genitalia, especially in the males, give such firm characters that one is largely free of the frustrating variation that bedevils many hoverfly genera.

The problem in the past has been some difficult keys (notably *Tipula* is the main bug-bear in the otherwise fairly workable Royal Ent. Soc. Handbook). This has been one of the major disincentives in the study of craneflies. I have also met my claim that legs are optional extras, and indeed even the loss of antennae should not matter, stemming from experience in identifying very battered material. Accurate records are what matter.

The new keys firstly adopt the subgeneric classification which entered the British scene in the late 1960s. Possibly I could have produced a marginally simpler key by treating *Tipula* in one lump but the penalty would have been an amorphous long key which would be very intimidating to use and even more difficult to remember. By using subgenera, the huge genus is broken down into logical units, making it much easier with a bit of experience to recognise the groupings. It is only convention that has retained *Tipula* as one giant genus: it is just as logical to treat the subgenera as genera.

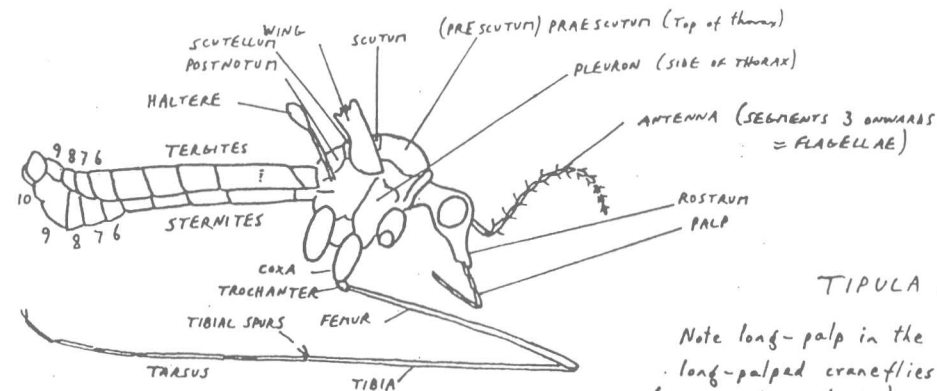
Secondly, a mini-illustration is far more meaningful than words. Hence there are plenty of illustrations that should make a major difference in ease of use and give confidence. In many cases the males and females have been keyed separately, focusing attention on the essential features of the moment which is not possible if the sexes are combined.

Hence the keys are long, but in use they will hopefully prove quick and easy. Be encouraged that many species are very distinctive once one knows what to look for.

I have decided from now on to do all illustrations, when in side view, with the head to the right as in *British Hoverflies*. This means that a side mounted cranefly will have the wing tip to the left as illustrated over. If you pin or point mount it should be easy to view from either side. Earlier cranefly test keys often took the quick route of cannibalising anything available.

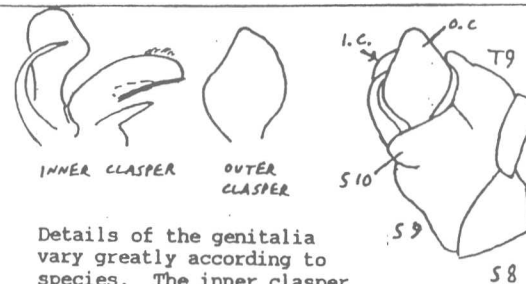
The intention is to complete test keys to Long-palped Craneflies as a priority and to follow through with a book in a few years time. These keys are so different from what went before that there are bound to be parts that need polishing so please draw attention to bits that need amendment.

Alan Stubbs



TIPULA s.s.

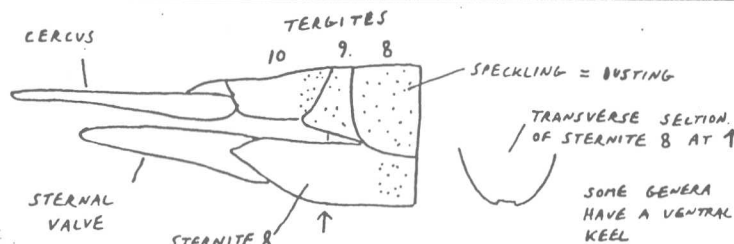
Note long-palp in the long-palped craneflies (can crumple in drying).



Male Genitalia

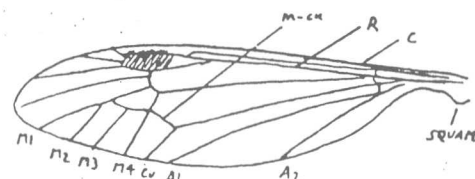
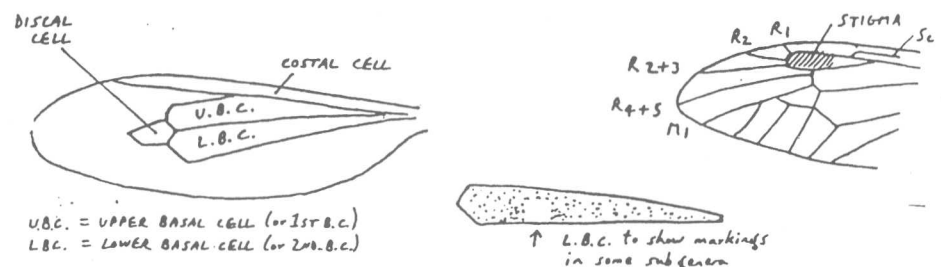
TIPULA s.s.

Details of the genitalia vary greatly according to species. The inner clasper is usually obscured behind the outer clasper



Female genitalia

TIPULA s.s.

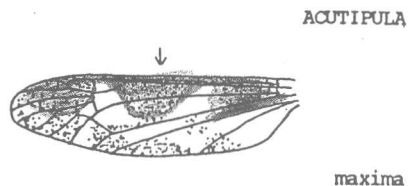


Using the closed cells as markers (top left), other features are easily identified (mid and top right). Other veins are rarely referred to in Long-palped craneflies.

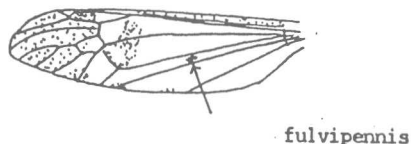
KEY TO SUBGENERA OF Tipula

1. Acutipula check list.

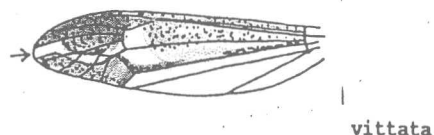
- Wing with large chocolate wings, including an anterior large median triangle.



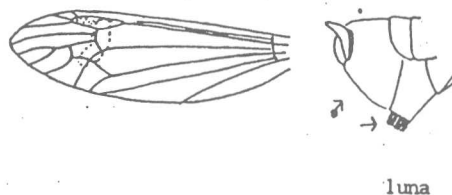
- Wing with smudgy markings, with a dark spot between close veins Cu2 and 1A midway across wing. Very large species, as maxima.



- Wing with strong markings including a white streak from apex of wing to below discal cell PLUS grey abdomen with black lateral stripes.



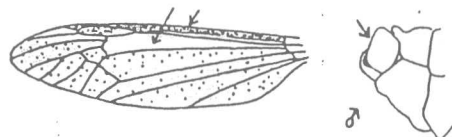
- Wing only faintly tinted (a faint white lunule runs down to discal cell as in some other subgenera) PLUS grey abdomen with dark median stripe. Male genitalia with gold tuft of hairs ventrally (on sternite 8).



- Without these characters.

2

2. Costal cell brown (along front of wing) and a parallel white stripe below; rest of wing slightly greyish. Male outer clasper large rhomboid.



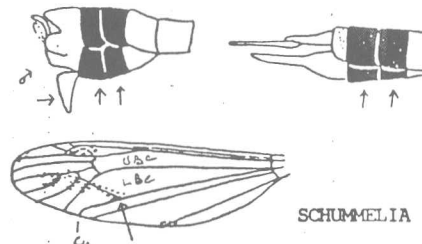
TIPULA

p 25

3

- Wing without this contrasting pattern. Male genitalia with outer clasper more slender, or very small rhomboid.

3. Abdomen yellowish with black pre-genital band; male genitalia with large ventral dagger. Vein Cu straight past end of second basal cell (wings with a few vague marks only).

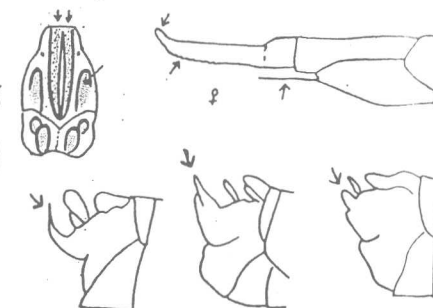


- Abdomen rarely with a black pre-genital band. Vein Cu angled at level of end of second basal cell near apex of Cu * straight, abdomen not black-ringed as in Schummelia

male genitalia without large ventral dagger.

4

4. Praescutum (top of thorax) with 4 stripes with pale centres within dark borders. Male genitalia with an upwardly pointing process on sternite 10 (a forked hook on inner clasper in L. fascipennis Care L. dilatata) [Genitalia can dry so little to see but a then extruded dorsal square tab.] Female with cerci broad, blunt, slightly saw edged; sternal valves with an apical pair of thread-like tails. [wings mottled]



- Thoracic stripes entirely dark or with Vestiplex pattern. (Care with Beringotipula) Lacking above genital features.

5

5. Middle flagellar segments with one or more median bristles (as well as basal ones). [If damaged, eliminate easy characters in next couplet] [wings clear]



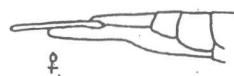
6

- Middle flagellar segments with basal whorl of bristles only.



7

6. Costal cell yellow (rest of wing clear). Male tergite 9 rather square ended, with a pair of median teeth. Female with slender ovipositor (as in many other *Tipula*).



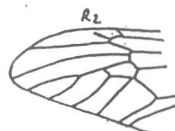
DENDROTIPULA
(*flavolineata*)

- Costal cell and rest of wing clear greyish. Male tergite 9 V-notched, sternite 8 with a long projecting tongue. Ovipositor with broad leaf-like cerci. [rare, Scotland]



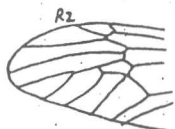
ODONATISCA
(*nodicornis*)

7. Wing with R2 short or missing. (definitely not meeting costa even if the break is short: the key allows for doubtful decisions)



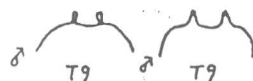
8

- Wing with R2 complete, finishing in wing margin.



9

8. Pleurae yellowish, at most with light grey patches. Male tergite 9 with a pair of apical processes. [small weak species, very rare]



MEDIOTIPULA

- Pleurae grey. Male tergite 9 without processes, deeply cleft or blunt ended. [common in woods in spring]

PTERELACHISUS (part)

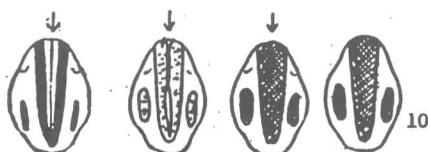
→ p 13

9. Praescutum (top of thorax) with a pale median line clearly separating the subdorsal stripes at least in the front three quarters.



11

- Praescutum dark on median line, either with a thin median dark line (at least locally developed) or as a broad dark median stripe.



10

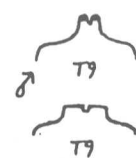
10. Three choice couplet (to preserve numbering).

- Praescutum with 5 distinct dark stripes, the median one thin. The grey colour between these stripes is equally pale (as at either side of the subdorsal stripes. Male tergite 9 as shown



Pterelachisus (part)

- Praescutum with a partial thin median stripe resulting from the fusion of the subdorsal stripes. The subdorsal and lateral stripes are often paler within darker margins. Male tergite 9 with a median or paired median projection.



Yamatotipula
→ p 28

- Praescutum with a very broad median dark stripe (almost uniform colour though may have an even darker thin median stripe. Male tergite 9 not as above.



11

11. Wings membrane clear, apart from a white lunule below the stigma in some species (stigma pale or dark).

12

- Wings patterned, with at least a white spot in lower basal cell [view obliquely along wing to reveal any markings; doubtful cases should key out by either choice]

14

12. Abdomen orange with a dark dorsal stripe. Stigma yellow. Male genitalia slender, special features illustrated. Female tergite 10 short and mainly dusted. [bogs, swamps and carr in late summer and autumn]



Platytipula

- Abdomen brown, grey or orange, and may lack a distinct dorsal stripe. If orange and with a dorsal stripe, then the male genitalia are large (giving a club-ended appearance to the abdomen, and without *Platytipula* characters illustrated) and the female tergite 10 is long and glossy. [the orange abdomen species in dry/moist places in spring/mid summer]

13. Blackish grey species of boggy ground in spring, or feeble drab brown species of autumn. Female can be brachypterous.

SAVTSHENKIA (part)

- Orange or brown species of spring and summer. [moist and dry habitats]

LUNATIPULA

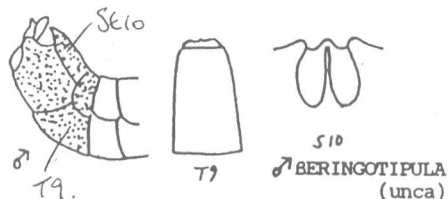
14. Males.

15

- Females.

18

15. Male genitalia long and angled up in side view. Tergite 9 very elongate. Sternite 10 with a yellow double U-shaped membranous area.

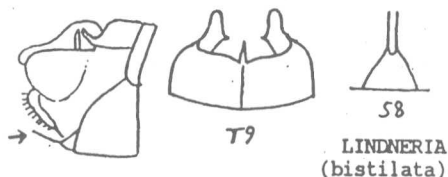


BERINGOTIPULA (unca)

- Otherwise.

16

16. Tergite 9 with large flanges at the hind corners. Sternite 8 with a tab ending in twin tails.



LINDNERIA (bistilata)

- Otherwise.

17

17. Genitalia with a distinct bulge bearing long pale hairs at hind side corner. Sternite 8 with long yellow apical hairs (normally visible: can arise just inside of hind margin); if a more general apical area of hairs, the bulge character works well..



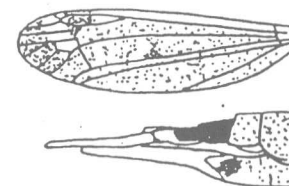
PTERELACHISUS. (part)

- Genitalia without distinctively hairy apical side bulge. Often bald in this general area though an even covering of hairs is present in some species). Sternite 8 generally without the characters above, can be with projecting processes..



SAVTSHENKIA

18. Abdomen orange-brown with a strong median dark stripe. Wings short and broad, mottled.

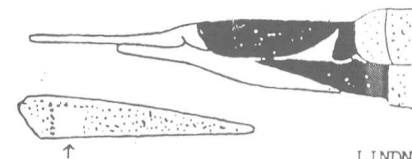


BERINGOTIPULA (unca)

- Without this combination.

19

19. Tergite 10 very elongate. Lower basal cell with large white spot close to apex. [rare, Scotland]

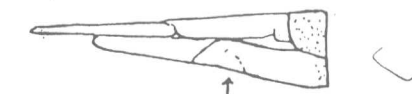


LINDNERIA (bistilata)

- Tergite 10 not markedly elongate. Lower basal cell with any white spot less close to apex.

20

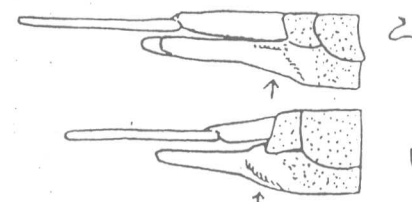
20. Tergite 10 long (lower edge more than half length of cerci). Sternite 8 flattish V-shaped in section, without a keel. [This distinction applies having earlier eliminated other members of the subgenus] [spring - mid summer]



PTERELACHISUS (part)

- Tergite 10 long or shorter. Sternite 8 with a keel, well developed in species with a longish tergite 10.

[mainly late summer - autumn including all species with T10 as long as upper figure]



SAVTSHENKIA

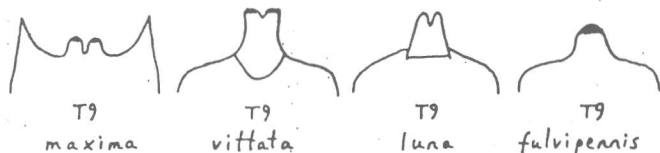
KEYS TO SPECIES OF *Tipula*

Subgenus ACUTIPULA

4 species, see beginning of subgeneric key

These are highly distinctive and widespread species in wet situations

Male tergite 9 has median processes very similar to those of *Tipula* and *Yamatotipula* so these clearly form an allied group.



Subgenus BERINGOTIPULA

unca only, see subgeneric key

Very distinctive short broad mottled wings plus dorsal stripe on abdomen. Male genitalia especially distinctive. Common in marshes and wet woods.

Subgenus DENDROTIPULA

flavolineata only, see subgeneric key.

The clear wing with a yellowish front edge, plus the extra whorls of bristles on the antennae, and the very long abdomen of the female are a distinctive combination. Breeds in dead wood, locally common in spring.

Subgenus LINDNERIA

bistilata only, see subgeneric key

A dark mottled winged species by Scottish rivers. Rare.

Subgenus LUNATIPULA

Orange, orange-brown or brown species. Wings usually clear, with a white lunule or a grey stigma; one species has streaky markings. Two species have the ovipositor greatly reduced. Eyes often bright green in life.

Key to male Lunatipula

1. Wings with dark stigma or streaky. Tergite 9 strongly V-notched at apex.



2

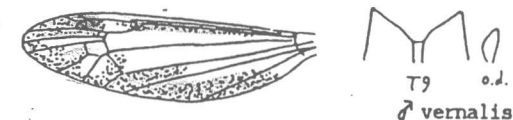
- Wings with stigma pale or dark, AND additionally with a white lunule. Tergite 9 rarely so strongly V-notched (see cava: note its white blister and hatchet-shaped outer clasper).

3

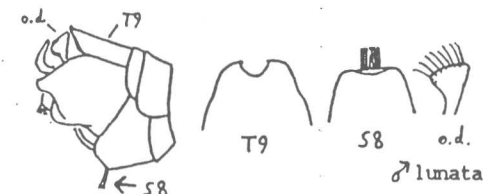
2. Wings plain with dark stigma.



- Wings streaky dark and white.



3. Orange species with sternite 8 bearing a flat tab of gold hairs directed obliquely downwards. [outer dististyle very broad and blunt ended]



- Any such tab not oriented as above. [od different]

4

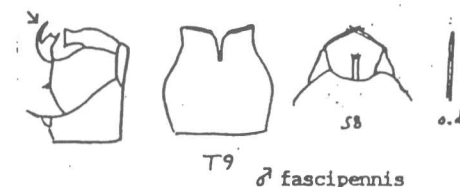
4. Orange species with an isolated white blister on the side apex of the genitalia. Outer dististyle broad, curved, hatchet-shaped. [smaller white blister in helvola]



- No isolated white blister. [od of different shape]

5

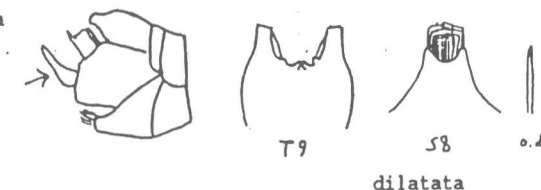
5. Inner clasper with a conspicuous curved spine. Tergite 9 with heavy blunt square-ended processes. [Vestiplex scripta has a rather similar curved spine attached to sternite 10; this, however, is a mottled-winged species]



- Genitalia otherwise. [scarce species]

6

6. Genitalia apically at side with a whitish horn-like projection.



- Genitalia without such a long whitish horn at side. Tergite 9 not deeply and broadly incised.

7

7. Hind end of genitalia (view from behind), in lower part with heavy pair of processes bearing inwardly directed golden hairs and apical spines. [lunata & cava similar]

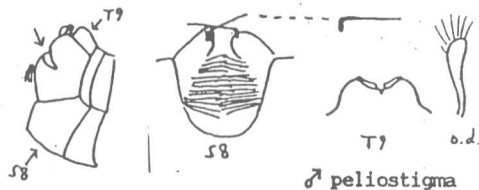


8

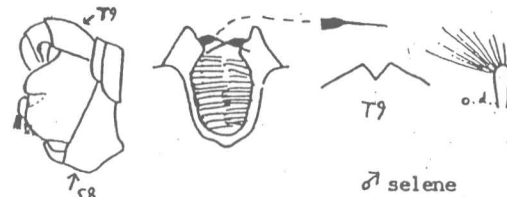
- Hind end of genitalia without above structures.

9

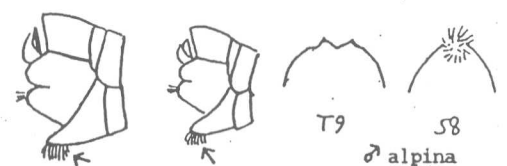
8. Orange species. Genitalia in side view with tergite 9 small, a white membranous slit and sternite 8 compact. Sternite 8 with the spines elbowed at the base and slender throughout. Outer dististyle long and curved.



- Darkish-brown species. Genitalia in side view with tergite 9 larger, no white membranous slit and sternite 8 tall. Sternite 8 with spines bulbous at base, straight, and abruptly slender. od short.



9. Sternite 8 with an apical ventral tuft of gold hairs.

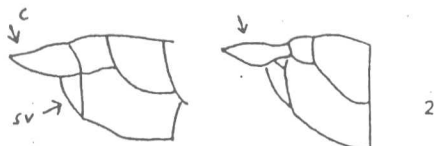


- Sternite 8 with a flat horizontal tab of gold hairs. Side of genitalia with a projecting small brown knob, with adjacent small white blister at the base. [od short and broad]



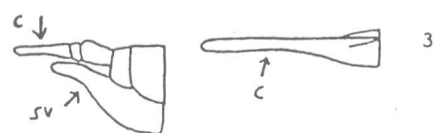
Key to Female Lunatipula

1. Ovipositor very short cerci and sternal valves.



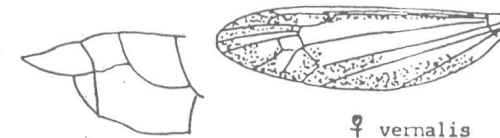
2

- Ovipositor elongate as normal.



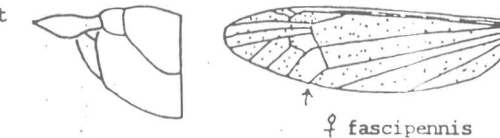
3

2. Cerci blunt. Wings streaky.



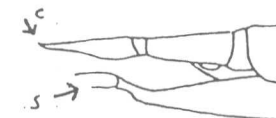
♀ vernalis

- Cerci pointed. Wings clear faint greyish with a white bar below stigma to hind margin of wing.



♀ fascipennis

3. Sternal valves bifid at apex; cerci swollen at base and with pointed apex. Brown species with dark stigma.

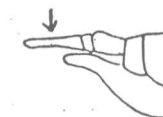


♀ livida

- Sternal valves simple. Cerci blunt ended.

4

4. Cerci short (about equal to eye width); sternal vales short. Weak pale brown species.

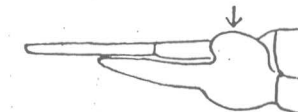


♀ helvola

- Cerci longer; sternal valves well developed. Often large robust species.

5

5. Sternite 8 with huge upwardly directed side flaps.



♀ dilatata

- Sternite 8 simple.

6

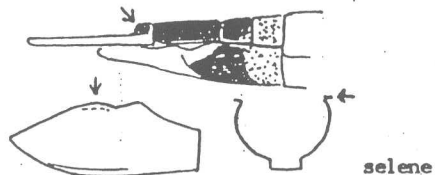
6. Thorax brown above. Pleurae and postnotum matt pale grey-brown.

7

- Thorax mainly orange-yellow, including the upper hind part of the pleurae and the postnotum (rest of pleurae yellowish grey).

8

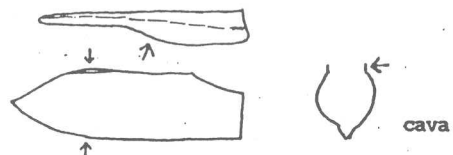
7. Cerci with very strong abrupt bulge at base above. Sternite 8 dorsally with a local trough and sharp ridge: a keel below. Abdomen bearing a strong dorsal median stripe. [rare]



- Cerci with a less abrupt bulge at base above or without a bulge. Sternite 8 without modification on dorsal or ventral edges. Abdomen with at most a weak dorsal stripe. [rare]



8. Cerci with base uniformly wide in basal half, then fairly abruptly slender to apex. Sternite 8 almost plain on dorsal edge, but with a local vertical strip. Orange-brown species.



- Cerci slender for much or all length. Sternite 8 with a ridge or flange on dorsal edge. Orange species.



9. Sternite 8 with a bulbous ridge on the dorsal edge.



- Sternite 8 with a thin flange on the dorsal edge. [rare]



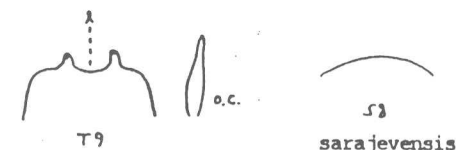
Subgenus MEDIOTIPULA

Two very rare southern species. Rather small build, with mainly yellowish-grey pleurae. Wings clear (yellow-brown stigma); R_2 abbreviated or absent.

Females are difficult to separate and there is inadequate material to produce a key.

Key to males only

1. Tergite 9 with sub-median apical thumbs on dorsal edge, and a median tooth beneath. Outer clasper straight, tapering at both ends. Sternite 8 simple. [very rare]



- Tergite 9 with sub-median processes rooted beneath dorsal surface. Outer clasper curved, hatchet-shaped. Sternite 8 with ventral V-shaped brush of hairs; [very rare]



Subgenus ODNATISCA

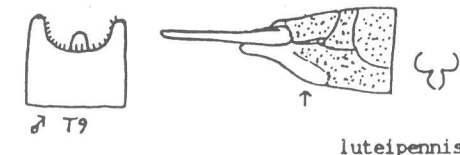
nodicornis only, see subgeneric key

One rare species with long abdomen. On Scottish dunes and river sand banks.

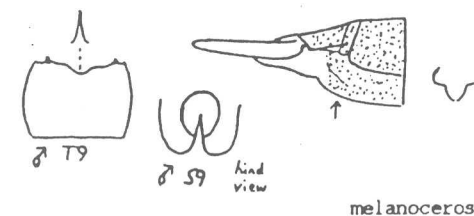
Subgenus PLATYTIPULA

Two species of late summer and autumn. Wings clear, no stigma, often yellowish. Abdomen yellowish-brown with a dark dorsal median stripe. Female sternite 8 with upper part strongly bulbous. Larvae aquatic in bogs, marshes and carr.

1. Male tergite 9 strongly extended at hind corners. Female sternite 8 extensively dusted in forward wedge. Cerci slender. [Yellow wing veins, antennae and palps; femora only black at tip.]



- Male tergite 9 rather square ended; viewed from behind sternite 8 with a vertical table tennis bat-shaped process. Female sternite 8 only dusted at base. Cerci broader. [If not teneral - black veins (mostly), antennae and palps; femora black in at least distal quarter.]



Subgenus PTERELACHISUS

Blackish, grey or brown species of spring and early summer, mainly in woodland. The wings range from strongly mottled to having weak reduced markings. The abdomen usually has a dark median dorsal stripe, at least near the base. In some species (*pseudovariipennis*, *submarmorata* and *variipennis*) vein R_2 is usually incomplete (as in *Mediotipula*), not reaching the wing margin, but examples with this vein complete make the character unreliable.

Key to males

1. Praescutum (top of thorax) with a thin median dark stripe (plus typical paired stripes). Tergite 9 with one or a paired median process, plus sub-lateral projections.



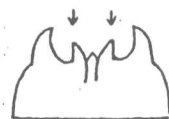
2

- Praescutum only with the two pairs of stripes in the median area. Tergite 9 deeply V-cleft or blunt ended.



3

2. Tergite 9 with a pair of small median projections.



pabulina

- Tergite 9 with a single strong median triangle on hind margin.



truncorum

(straight ended)

3. Tergite 9 truncate/with minute median notch. Outer clasper broad.



4

- Tergite 9 with a broad deep median notch (within which there may be minute median notches). Outer clasper elongate and narrower.



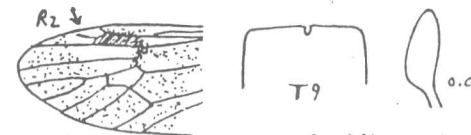
5

4. R_2 absent. Small. weakly marked species (wing length only 10mm). Outer clasper short, semi-triangular. [very rare]



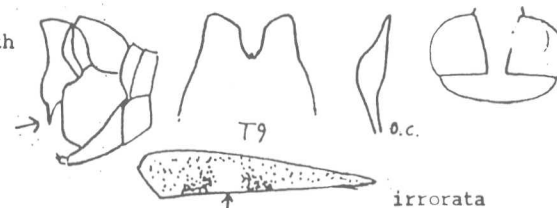
mutilla

- R_2 present, even if incomplete. Larger species. Outer clasper more elongate. [rare]



luridirostris

5. Inner clasper with a strong downward spine. Tergite 9 with a narrow deep notch. Wings darkish mottled with a large square white spot in lower basal cell.



irrorata

- Inner clasper without a downward spine. Tergite 9 with a broader notch. Lower basal cell with any white spot nearer apex.



l.b.c.

6

6. Tergites 1-5 pale brown. Femora entirely pale or only weakly dark tipped (rarely black). Inner clasper with strong tooth (can be obscured). Eyes fairly close together beneath.



(ex *meigeni*)
submarmorata

- Tergites mainly blackish. Femora with at least apex black. Eyes further apart.

7

7. Front femora normally black in apical third. Male inner clasper with only a tiny spine. Outer clasper not unduly slender. Eyes very widely separated beneath.



variipennis

- Front femora black at apex only. Male inner clasper with a strong spine. Outer clasper very slender. Eyes less separated beneath.



pseudovariipennis

Key to females

1. Praescutum (top of thorax) with a thin median dark stripe (between typical paired sub-dorsal stripes).



2

- Praescutum without a median stripe.



3

2. Wings with scarcely any obvious markings; lower basal cell faintly marked as shown. Sternite 8 sinuous dorsally, locally with a thickened edge.



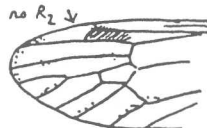
pabulina

- Wings strongly marked; lower basal cell with pattern as shown. Sternite 8 fairly straight on dorsal margin, with a flange on edge basally.



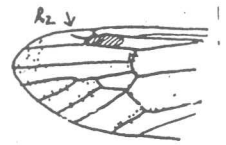
truncorum

3. R₂ absent. Small, weakly marked species (wing length only 10mm). Sternite 8 short. [very rare]



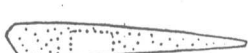
mutilla

- R₂ present even if incomplete. Wing length much more than 10mm. Sternite 8 longer.



4

4. Second basal cell with sub-apical white patch well before apex (if markings faint, view obliquely along wing.).



5

- Second basal cell with sub-apical white patch very close to apex.

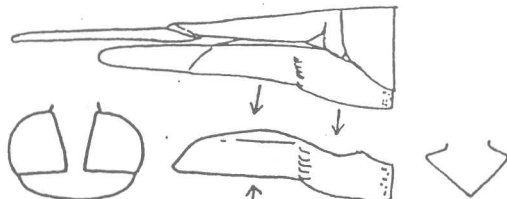


6

5. Eyes very close beneath. Wings dark-greyish and white mottled, Sternite 8 apically shaped like an inverted arrow-head in section.

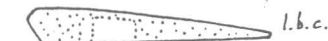


l.b.c.



irrorata

- Eyes further apart beneath. Wing pattern weakish brown and white. Sternite 8 with fine thumb-print pattern as shown (in only specimen available) and simple V-shaped in section.



l.b.c.



luridirostris

6. Abdomen medium greyish. Wing weakly brown-mottled. Femora usually at most poorly darkened at apex. Eyes separated beneath by distance intermediate between next 2 species.

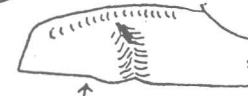


(ex meigeni)
submarmorata

- Abdomen blackish. Front femora black at apex or more.

7

7. Front femora normally black in apical third, often short and thick. Eyes strongly separated beneath. Sternite 8 with a deep elbowed transverse furrow, usually harbouring a black spot.



varipennis

- Front femora dark at apex only, slender. Eyes not so widely separated beneath. Sternite 8 without much of a furrow; no black mark. [INTERMEDIATE problem specimens occur] [scarce]



pseudovariipennis

Subgenus SAVTSHENKIA

Mottled and clear-winged species, superficially resembling *Pterelashius*. However, the few spring species occur on boggy ground and most species fly in late summer and autumn in woods and open habitat (*Pterelashius* occurs mainly in woodland in spring and early summer; none occur on boggy ground). The male sternite 8 lacks an apical median brush of hairs (present in most *Pterelashius*) though a few species have a line of hairs on tiny tubercles or lateral brushes of hairs. Vein R₂ is always complete.

Key to Male Savtshenkia

1. Sternite 8 plain on hind margin (straight or slightly sinuous)



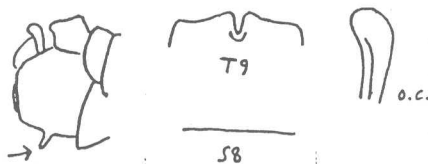
2

- Sternite 8 with hind margin modified (strongly sinuous, hair clusters, spines, projections or membranous areas flanked by hairs).



7

2. Sternite 9 with ventral peg.
Outer clasper *smoothly clubbed*.



cheethami

- Sternite 9 without this peg.

3

3. Outer clasper short and dumpy.
[spring species]



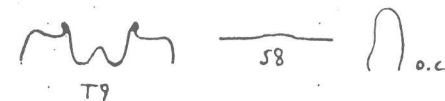
4

- Outer clasper long or with projection. [late summer and autumn species]



5

4. Grey species. Flagellum with most segments just over twice as long as broad. Tergite 9 with median notch containing slight median triangle and small sub-lateral projections. [spring]



subnodicornis

- Brown species. Flagellum with very long segments. Tergite 9 without projections. [early spring]



grisescens

5. Outer clasper elongate; slender or with spine on inner hind edge.



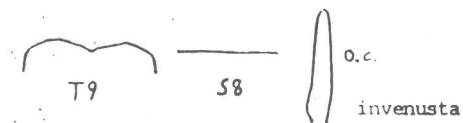
6

- Outer clasper less elongate; with nose on hind edge. Sternite 8 with hind edge strongly sinuous. [allows for mis-interpretation of sternite in couplet 1]



8

6. Outer clasper slender, simple. Tergite 9 very plain. [late August-September, rocky places on mountains, rare]



invenusta

- Outer clasper with inner projection seen in hind view. Tergite 9 with slight sub-lateral projections on hind edge. [wet places in mountains, October]



gimmerthali

7. Outer clasper with long posterior spine at base. Sternite 8 strongly projecting as a tab, with a V-shaped apical notch. Wings obscurely mottled. [Autumn]

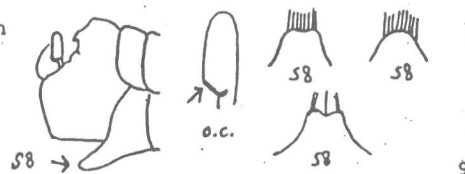


obsoleta

- Outer clasper without such a strong spine. Rarely V-notched as above (*holoptera* only).

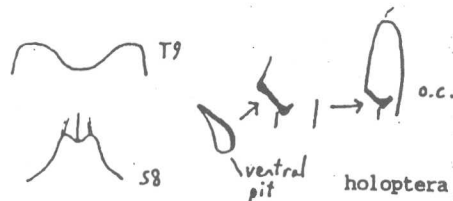
8

8. Wings plain. Outer clasper with strong nose on hind margin (except in dwarf specimens). Sternite 8 extended as a tab, either plain rounded with a median row of hairs or with a V-notch.

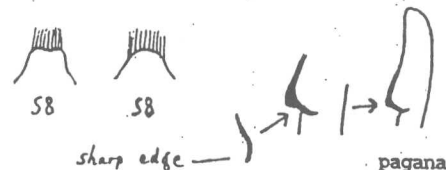


- Wings obviously mottled. Outer clasper very different or a sharper pointed nose. Sternite 8 different.

9. Sternite 8 with a V-notch bearing a single long hair in the centre. Outer clasper shorter; the nose less angular; thick enough to contain a hollowed pit beneath (view from below).



- Sternite 8 without a V-notch but with a row of hairs along extreme apex [CAUTION WITH INTERMEDIATES]. Outer clasper shorter; edge of the nose is very thin so pit absent (view from below).



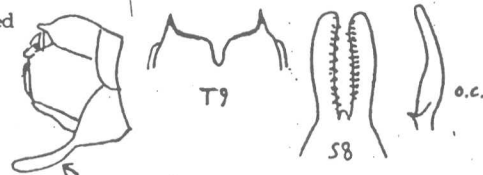
10. Sternite 8 with large sub-cylindrical paired median lobes.



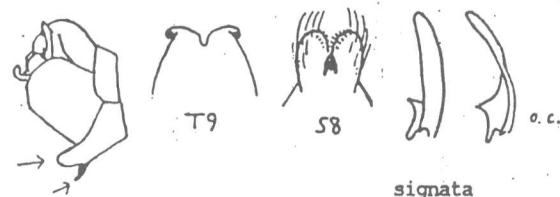
- Sternite 8 with at best only modest sub-median or lateral lobes.



11. Sternite 8 with very long paired median lobes.



- Sternite 8 with short median lobes and a median ventral peg.



12. Eyes separated by 1 scape width bei h. Squama usually with minute bristles. [CAUTION - make sure eye gap has not collapsed, but genitalia distinctive]



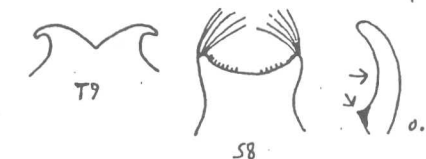
- Eyes separated by at least 2 times scape width beneath. Squamae bare.



13. Pleurae with a very strong dark stripe from neck to below wing (including pteropleuron). Sternite 8 rather plain, with semi-opposing rows of hairs. Outer clasper with hind edge straight, in basal half with this edge sharp and serrate.



- Pleurae with darkish stripe from neck to nearly below wing (pteropleuron at most more weakly marked). Sternite 8 with a concave hind edge with tiny black teeth; lateral hair tufts. Outer clasper longer, curved and with a triangular tooth at basal hind corner.



14. Sternite 8 with rows of tiny black teeth about hind margin, Outer clasper short, on hind margin with crochet-hooked nose.



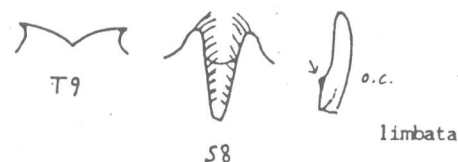
- Sternite 8 membranous in median hind area, without teeth. Outer clasper more elongate.



15. Sternite 8 with horse-shoe shaped median notch, flanked by knob-like lateral lobes bearing tufts of hairs. Outer clasper curved, with a blade-like hind edge.



- Sternite 8 with a deep median cleft, fringed by short hairs. Outer clasper with a small tooth on hind edge.



Key to Female Savtshenkia

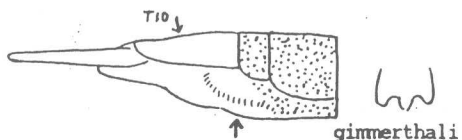
1. Brachypterous (wings reduced to small flaps)

2

- Wings well developed (reaching at least half way down abdomen)

3

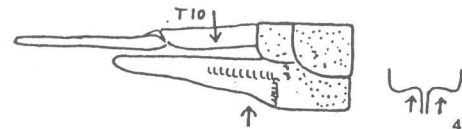
2. Tergite 10 long. Sternite 8 dusted at base only, ventrally with a furrow either side of the keel. [autumn; rare northern]



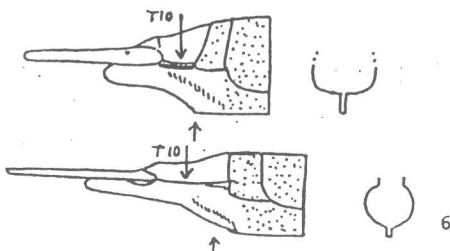
- Tergite 10 very short. Sternite 8 extensively dusted, ventrally with only a keel. [autumn]



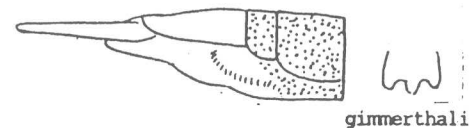
3. Tergite 10 long (on lower margin much more than half length of cerci). Sternite 8 furrowed below or almost so, with deep keel.



- Tergite 10 short or only medium length (lower margin no more than half length of cerci). Sternite 8 more rounded.



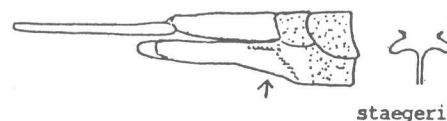
4. Sternite 8 very strongly furrowed beneath so much of height of keel hidden. [rare, upland seepages]



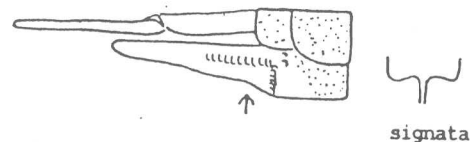
- Sternite 8 less deeply furrowed beneath, keel deep.

5

5. Sternite very deeply keeled, the upper part laterally corrugated (to accommodate long male lobes). Stigma pale brown.



- Sternite 8 with less deep keel and not corrugated at sides; depression very blunt ended (to accommodate male lobes). Stigma dark, as dark as on veins towards discal cell.



6. Dorsal thoracic stripes fused to form a broad central band (almost so in a species with femora mainly black). Wings of uniform hue or otherwise not distinctly mottled.



7

- Dorsal thoracic stripes separated, the median axis pale. Wings mottled (only very weakly in *obsoleta*)
Femora at most dark tipped



10

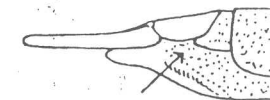
7. Spring species. Femora mainly pale or extensively black.

8

- Late summer and autumn species. Femora mainly pale.

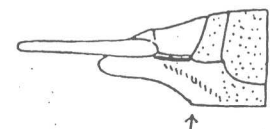
9

8. Dark greyish species with femora extensively black. Sternite 8 with dusting extending well forwards in upper part. [boggy ground]



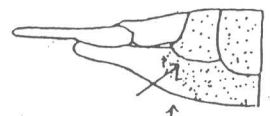
subnodicornis

- Brownish species with mainly yellowish femora. Sternite 8 only dusted at base. [early spring, bogs]



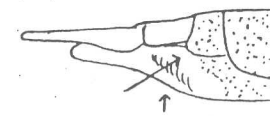
grisescens

9. Sternite 8 with whole inflated area dusted. [autumn, boggy ground]



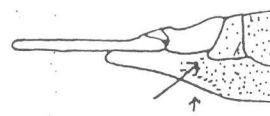
holoptera

- Sternite 8 with much of inflated area free of dusting. [mountain mossy rocks]



invenusta

10. Sternite 8 with dusting extending well forwards over whole of inflated area. [autumn]

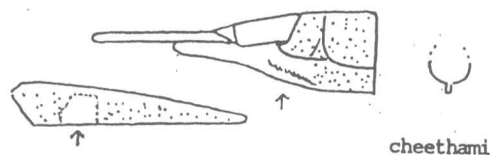


obsoleta

- Sternite 8 only dusted near base, leaving much of inflated area shining.

11

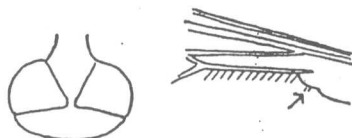
11. Lower basal cell with white patch well towards apex. [spring]



- Lower basal cell with main submedian white patch further from apex. [spring to autumn]



12. Eyes separated by one scape width below head. Squama with small dark bristles (as *cheethami*) Wings weak mottled. [spring-autumn]

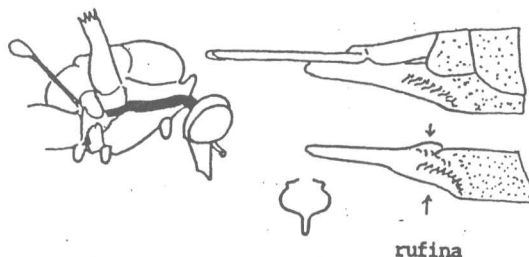


- Eyes separated by at least 2 times scape width below head. Wings dark mottled. [late summer & autumn]

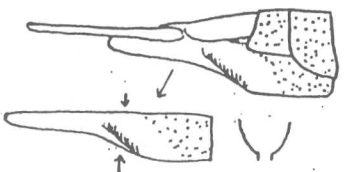


13. Pleurae with a very strong dark stripe from neck to below wing (including pteropleuron). Flagellar segment 2 more than half as long as 1. [very long season]

Sternite 8 with cavity either side of keel reaching far back, almost to dust zone.

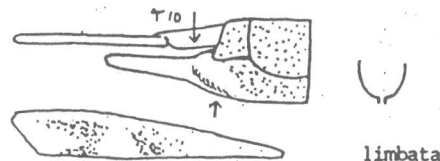


- Pleurae with darkish stripe from neck to nearly below wing (pteropleuron more weakly marked). [*marmorata* can look similar] Flagellar segment 2 half as long as 1. [May - September]



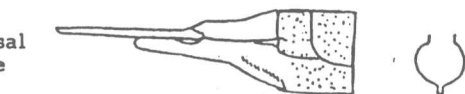
14. Eyes separated by 4 times scape width below head. [late summer]

Stigma dark. Tergite 10 very short on lower margin. [rare, northern] [autumn]

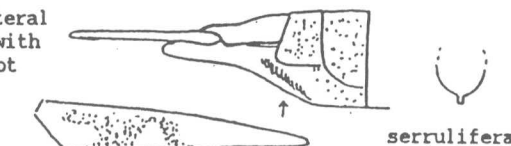


- Eyes separated by at most 2 and a half times scape width below head.

15. Abdomen with moderate dark lateral stripes. Lower basal cell with conspicuous white spot small and usually outwardly concave. [late summer & autumn, rarely spring]



- Abdomen with strong dark lateral stripe. Lower basal cell with large white spot that is not outwardly concave. Palps exceptionally long. [late summer, very rare]



Subgenus SCHUMMELIA

Very distinctive because the yellowish abdomen has two pregenital segments black, and in the male the genitalia have a ventral dagger-like process. Vein Cu₂ is unusual since it is straight. Both species live in wet woods.

Key to males

1. Tergite 9 with three projections on hind margin. Dagger pointed downwards.

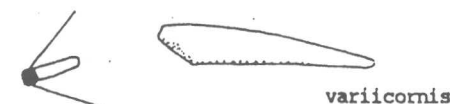


- Tergite 9 only with a median process. Dagger pointed obliquely and hind end of abdomen overall more bulbous.

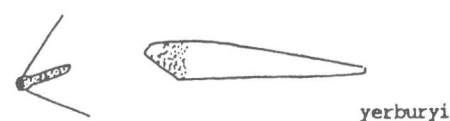


Key to females

1. Flagellar segments clear orange with contrasting black base. Lower basal cell only dark as a lower apical fringe.



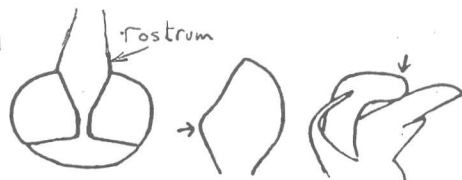
- Flagellar segments murky orange, bit darker at base. Second basal cell more broadly darkened about apex. [Take care - scarce species]



Subgenus TIPULA

The wings are distinctive because of the white stripe behind the dark costal cell (obscure in some specimens). The male tergite 9 has a pair of median knobs on the hind margin (as in *Acutipula* and most *Yamatotipula*); the large rhomboid outer claspers are distinctive.

1. Eyes ventrally narrowly separated (by 1-2 times scape width). Male inner clasper with lengthened upper process. Female with wings reaching end of abdomen or beyond (as *subcunctans*).



oleracea

- Eyes ventrally broadly separated (by c.3-5 times scape width).



2

2. Antennae with 14 segments (last one very small). Male inner clasper with plain club-like dorsal process. Female with wings not reaching end of abdomen.



paludosa

- Antennae with 13 segments (as *oleracea*). Male inner clasper with club bearing a small wart on anterior side. Female with wings reaching end of abdomen or beyond (as *oleracea*). [October-November]



[ex CZIZEKI]
subcunctans

Subgenus VESTIPLEX

Mottled winged species of woodland and mountains. Thoracic stripes pale in centre with dark borders (not unique to subgenus). Male genitalia very distinct, with upturned spur or spine at top outer corner (side view). Female cerci are uniquely upturned at the apex, with a saw edge below.

Key to male Vestiplex

1. Tergite 9 square ended.



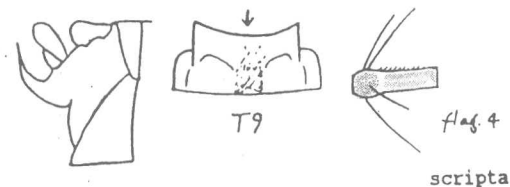
2

- Tergite 9 very deeply cleft into two narrow lobes.



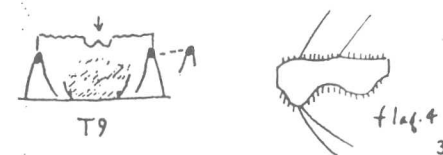
4

2. Tergite 9 with smooth hind margin. Flagellar segments simple.



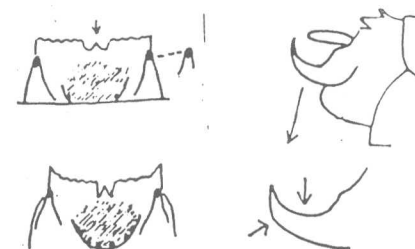
scripta

- Tergite 9 apically with a median notch bearing a tooth; dorsally with a strongly chitinated arc-shaped ridge bearing blunt teeth. Flagellum with long knobbly segments, [mountains]



3

3. Tergite 9 with blunt lateral spines; apically with short median tooth; dorsally with the glossy area/arcuate ridge not nearly reaching lateral spines. Sternite 10 with thicker hooked spine.



montana

- Tergite 9 with pointed lateral spines; apically with long median spine; dorsally with very wide glossy area/arcuate ridge reaching lateral spines. [doubtfully listed from GB]



[*excisa*]

- Intermediate. Abdomen dark grey. [not GB but widespread on European mountains]



[*hemiptera*]

4. Tergite 9 with short lateral lobes. Sternite 10 with process on hind apical corners obliquely truncate and almost twin-spined at apex. [rare]



hortorum

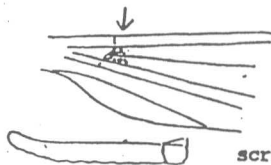
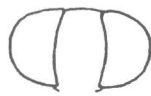
- Tergite 9 with long sinuous lateral lobes. Sternite 10 with short simple process on hind apical corner. [rare]



nubeculosa

Key to female Vestiplex

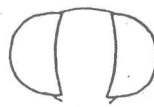
1. Wing tips extend beyond end of abdomen; basal cells usually with a dark spot at base. Face narrow, no wider than an eye (view from in front).



scripta

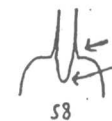
- Wing short, not reaching end of abdomen; basal cells clear at base.

2. Femora distinctly dark tipped (as scripta). Sternite 8 with broad triangular bases to twinned tails (view from below). Cerci thicker at base an rapidly narrower apically. [rare]



hortorum

- Femora not distinctly dark tipped. Sternite 8 with slender tails, deeply cleft between them (as scripta).



S8

3

3. Face narrow. Cerci narrow. [rare]



S8



nubeculosa

- Face wider than an eye. Cerci broad and blunt. [mountains]



S8



montana

Subgenus YAMATOTIPULA

The thorax usually has a thin dark median thoracic stripe in addition to the paired dark stripes (except *pruinosa*). Abdomen with black lateral stripes and a paler median dorsal stripe (or mainly black in *marginata*). Wings not mottled though with some darkening by veins, or plain tinged or with chocolate front margin to wing. Species of water margins and seepages.

Key to male Yamatotipula

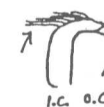
1. Genitalia orange.

2

- Genitalia grey or blackish, at least most of tergite 9.

4

2. Wings with chocolate costal cell (front edge). Inner clasper with a wisp of yellow hairs sweeping back from hind corner.



I.C. O.C.



(ex. *marginata*)
marginella

- Wings and inner clasper lacking above features.

3

3. Wings plain greyish with darker grey stigma. Tergite 9 with projections at hind corners as well as a median pair of projections.



T9



O.C.

pruinosa

- Wings brown tinged, stigma not conspicuous. Tergite 9 with an apical pair of wide blunt projections.



T9



O.C.

(ex. *solstitialis*)
pierrei

4. Tergite 9 with median apical projection with only a single black knob. [rare]



T9



O.C.

coerulescens

- Tergite 9 with median projection divided into a pair of black knobs.



T9

5

5. Outer clasper squarish. Visible part of base of inner clasper with a sharp vertical ridge (absent in *lateralis*, the species most likely to cause confusion). A smallish species with rather uniformly brownish relatively broad wings.

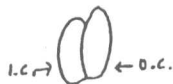


couckeii

- Outer clasper normally at least twice as long as broad (in *lateralis* occasionally shorter more like *couckeii*). Wings often less uniformly tinged, with whitish areas of membrane, and more elongate.

6

6. Outer clasper leaf-shaped; about the same size as the visible portion of the inner clasper



lateralis

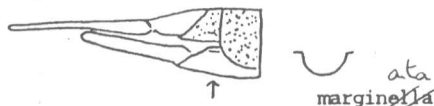
- Outer clasper curved, broadly blunt and with bulge at base behind; longer and larger than the visible portion of the inner clasper.



montium

Key to female Yamatotipula

1. Wings with dark chocolate costal cell.



2

- Costal cell not dark chocolate coloured.

2. Sternite 8 dust-free on hind part of bulbous area.



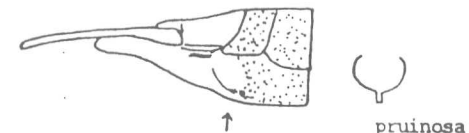
3

- Sternite 8 with whole of bulbous area dusted.

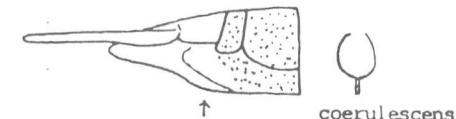


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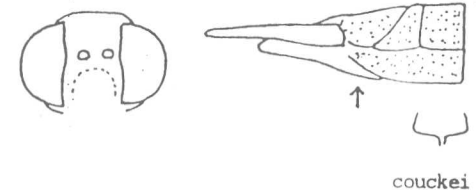
4. Wings plain greyish with darker grey stigma. Sternite 8 with dusting extending a little forwards under the bulge.



- Wings more generally with vague markings. Sternite 8 without dusting extending forwards under bulge. [rare].



4. Face very wide, at least the width of an eye throughout. Typically small (wing length c.13mm) and with rather uniformly brownish wings. Sternite 8 with slight keel (as *montium*, a large species). [Antennae mainly blackish]



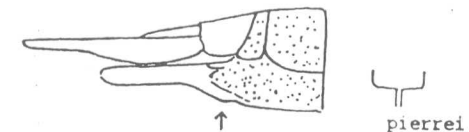
couckeii

- Face narrower. Generally larger (c. 14+ mm) but do not rely on size alone.



5

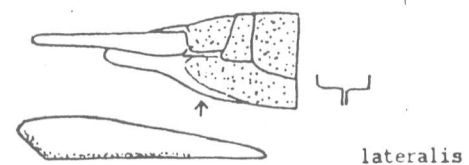
5. Wings with rather uniform brown tinge. Antennae mainly yellowish. Keel below sternite 8 abruptly broadened near base.



pierrei

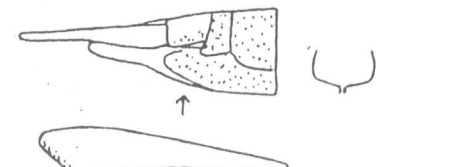
- Wings usually greyer, with white mark below stigma less obscure. Antennae usually mainly blackish. Keel below sternite 8 more gradually widening.

6. Sternite 8 with deep keel and very flat on underside of bulges. Tergite 10 often completely dusted but can be dust free to a varying extent. Lower basal cell dark along lower margin.



lateralis

- Sternite 8 with weaker keel and often less flattened on the underside of the bulges. Tergite 10 usually shining on top and abruptly dusted at sides. Lower basal cell dark at apex only. Some specimens very large (wing length up to 22 mm).



montium