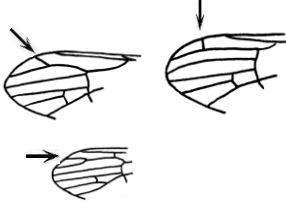
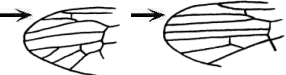

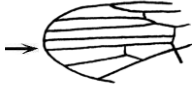


KEY TO LIMONIID CRANEFLIES WITH A CLOSED DISCAL CELL
by ALAN STUBBS 2001. Revised by John Kramer 2016

R₂₊₃ forked (as in most groups except Limoniinae). Many in the sub-family Chioneinae lack a discal cell (have an open discal cell) and are covered in a separate key. This key covers a substantial batch of species with a closed discal cell. The Chioneinae in this key are predominantly small craneflies with a wing length usually ranging from 2.5 mm to 9mm, although *Gnophomyia* may be up to 12mm. The majority are associated with moist or wet soils. Some species are from rivers and streams whose larvae are assumed to be aquatic and others develop in decaying wood.

You are directed to a separate key to identify species in the sub-family Limnophilinae.

With a x20 hand lens it is possible to identify genera and, with care, many species. With a x30 microscope, virtually all species are identifiable, though a slightly higher power is useful for the tiniest species.

1.	R ₂ short (vertical, oblique or if parallel with R ₃ , shorter than discal cell).	 <p style="text-align: right;">GROUP A (p 2)</p>
-	R ₂ long (much longer than discal cell, running parallel with vein R ₃ and R ₄₊₅).	 <p style="text-align: right;">2</p>
2.	M ₁ (runs along top of discal cell) forked beyond discal cell.	 <p style="text-align: right;">GROUP B (p 9)</p>
-	M ₁ simple (not forked).	 <p style="text-align: right;">GROUP C (p 10)</p>

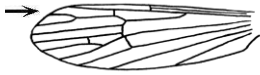
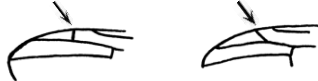
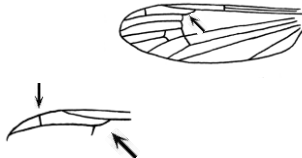


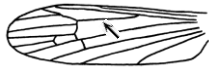
GROUP A

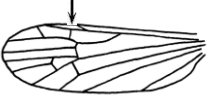
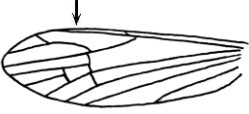
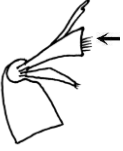

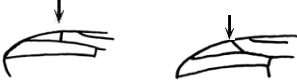
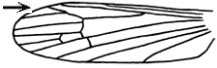


- **R₂ short** (vertical, oblique or no longer than discal cell),
- **M₁ never forked beyond discal cell** (M₁ runs across top of discal cell).
- **Generally small species** of wing length 5- 7 mm, up to c.9 mm,

This group is distinct from all other crane flies with a discal cell (except *Pilaria meridiana*, Limnophilinae, which is included in this key).

Small yellow bodied species include *Cheilotrichia imbuta*, *Gonempeda flava* and *Rhabdomastix hilaris*; some *Gonomyia* have extensive yellow on the thorax and on the sternites.

Key to genera and subgenera

1.	R2 runs parallel with R3.		2
-	R2 vertical or oblique. Body can be yellow, but then legs without black knees.		3
2.	Delicate pale yellow bodied species; legs yellow with black 'knees'. Wing length 4.5mm.		Cheilotrichia imbuta
-	A more robust broader winged species. Body and legs dark brown. Wing length 5.5mm (This species is usually without a discal cell.)		Cheilotrichia cinerascens
3.	Rs exceedingly short, abbreviated, so upper basal cell (ubc) very high in outer part. R2 vertical.		Gonomyia sg Prolipophleps abbreviata
-	Rs longer so upper basal cell less wedge-shaped. R2 vertical or oblique.		4
4.	Rs shorter than half the length of the upper basal cell.		5
-	Rs as long as or longer than half the length of the upper basal cell.		7

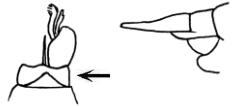
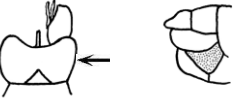
5.	Wing short and broad, discal cell nearly triangular, vein r present. Small and delicate pale yellow species.	 <p style="text-align: right;">Gonempeda flava</p>
-	Wing more elongate, discal cell rectangular, vein r absent. At least part of top of thorax darkened, pleura often partly dark or bright yellow.	 <p style="text-align: right;">6</p>
6.	Body drab; top of thorax entirely dark, wide pleural stripe and yellow areas murky, dull. First two flagellar segments minute. When combined they equal the length of the pedicel. Male coxite with three styles, one of them blunt elongate triangular.	 <p style="text-align: right;">Gonomyia sg. Teuchogonomyia edwardsi (p7)</p>
-	Body with brighter yellow areas including at least parts of the pleura and usually at the sides of the top of the thorax in front of the wing. Basal flagellar segments longer, not so markedly small compared to the pedicel. Male coxite with 2 styles, neither triangular.	 <p style="text-align: right;">Gonomyia sg. Gonomyia (p 5)</p>
7.	R2 vertical or highly oblique.	 <p style="text-align: right;">Rhabdomastix (p 7)</p>
-	R2 low oblique, fairly long.	 <p style="text-align: right;">8</p>
8.	Pleura at top with a strong dark horizontal stripe. Anal lobe weak.	 <p style="text-align: right;">Pilaria meridiana (Subfamily Limnophilinae)</p>
-	Body dark with some dull yellow markings. Anal lobe large.	 <p style="text-align: right;">Ellipteroides sg. Protogonomyia</p>

Genus CHEILOTRICHIA, sg. CHEILOTRICHIA

imbuta Widespread but very local in mid summer, usually by water margins with canary grass (*Phalaris*) or common reed (*Phragmites*) swarming in the evening.

Genus ELLIPTEROIDES sg. PROTOGONOMYIA

There are two subgenera, *Ellipteroides (lateralis)* with an open discal cell (See Key to Species with an Open Discal Cell) and *Protogonomyia (alboscuteclatus and limbatus)* with a closed discal cell.

1.	Pale yellow scutellum. Body dusted, legs brown. Male sternite 9 shorter than length of coxite. Female cerci elongate and tapering.	 <p style="text-align: right;">alboscuteclatus</p>
-	Thoracic stripe more distinct. Male sternite 9 large, broad and smoothly concave on the hind margin. Last tergite longer than coxite. Female ovipositor very short.	 <p style="text-align: right;">limbatus</p>

alboscuteclatus Rare species of calcareous seepages in light shade. Late July-early August. Found on perched springline flushes. (Heaver D., 2006)

limbatus Very rare species of open or shaded seepages, spring-fed runnels and base rich stony stream habitats. It was added to the British list in 1977 when discovered in the Brecon Beacons. (Stubbs 1977). Brecon Beacons (S Wales) and Yorkshire. June.


Genus GONEMPEDA

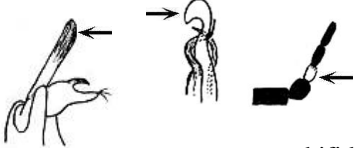






flava Widespread in wet woodland and by lush semi-shaded ditches in the spring. Swarms in the evening. So delicate and pale that it is easily overlooked in a sweep net.






Genus GONOMYIA

sg. GONOMYIA - males only

The males have distinctive genitalia, though the separation of some species needs special care. As yet some females are not identifiable.

1.	Most of tergites with a yellow band posteriorly. Male with complex of long straight pointed projections; aedeagus sea-horse shaped.	 <p style="text-align: right;">hippocampi</p>
-	Tergites dark, lacking pale bands. Male with two styles, the beaked one with 1 or 2 curved dorsal thorns; aedeagus different.	<p style="text-align: right;">2</p>

2.	Both sexes have basal flagellar segment yellowish. Top of head, including frons, yellow in both sexes. (as in <i>hippocampi</i> and some <i>recta</i>). Male, outer style thick, apically darkish ; apex of aedeagus hooked down.	 bifida
-	Antennae entirely black. Top of head entirely black or any yellowish areas very restricted or grey dusted.	3
3.	Outer style narrow, like a grass leaf.	 4
-	Outer style thick, finger-like.	 5
4.	Inner beaked style with right-angled bend close to apex. Basal flagellar segments very short. Pleura with fairly well marked median dark area. Form A. inner style with two strong dorsal thorns. Form B, (from Skye) with one strong thorn, one tiny.	 abscondita
-	Inner beaked style with gentle bend close to apex and single dorsal thorn. Basal flagellar segments longer. Pleura with poorly marked median dark area.	 lucidula
5.	Outer finger style with a distinct fairly sharp black-tipped prominence. Aedeagus with a short up-curved apex.	 6
-	Outer finger style lacking this prominence. Aedeagus with a long up-curved apex.	 7

6.	Aedeagus with outer ventral lobe very long. Beaked style with 2 dorsal thorns.		conoviensis
-	Aedeagus with outer ventral lobe short. Beaked style with 1 dorsal thorn.		dentata
7.	Outer finger style without a dark patch. Aedeagus with a very long rather parallel-sided apical projection. Pleura extensively yellow.		recta
-	Outer finger style with a dark patch. Aedeagus with a more complex apex. Pleura extensively yellow or more darkened.		8
8.	Aedeagus with slender hook at apex. Pleural stripe fairly well developed.		simplex
-	Aedeagus with a thick hook at apex. Pleural stripe weak.		tenella

abscondita Frequent in north and west, especially near streams or in wet woodland & scrub. Formerly confused with *lucidula* and confidence over characters still to be clarified. Mainly June.

bifida Scarce, southern, mostly in fens. July-August.

conoviensis Scarce, beside streams in the uplands. June-August,

dentata Characteristic of seepages on heaths, moors and uplands, especially if mildly acid but eutrophic. May-August.

hippocampi Near Basingstoke, Hants. Beside a tiny chalk stream through fen carr. July.

lucidula Scarce, seemingly preferring fen and base rich seepages. June-August.

recta Scarce, mainly southern; shaded fens/calcareous seepages. June-July.

simplex Scarce at seepages (need for clarification of types of seepages). May-September.

tenella Scarce, usually in fen/fen scrub. May-August.

sg. PROLIPOPHLEPS

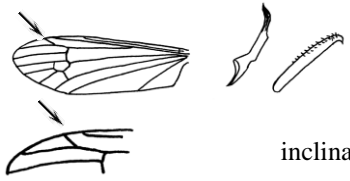


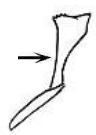


abbreviata Very like s.g. *Gonomyia*, apart from the wing venation, and in the field with a rather whitish line at the top of the pleura in front of the wing base. Very local at shaded calcareous seepages, mainly southern. June-July, rarely September.

sg. TEUCHOGONOMYIA

edwardsi In Scottish Highlands; very rare. Beside small streams in moorland, where some deposition of marginal sand is present.

Genus RHABDOMASTIX

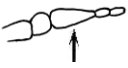
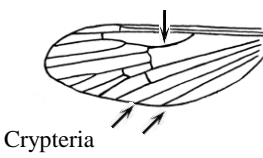
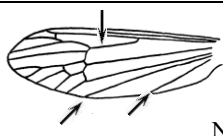
A very varied genus with regard to wing-shape and body colour. The males have rather elongate coxites which are angled upwards; the outer styles are rather uniformly thick with a tiny hook at the apex and with the outer surface minutely covered in adpressed bristles. The female ovipositor is long and slender. These crane flies are confined to river margins. The larvae are aquatic. A revision of this genus was carried out in 2006. (Stary 2006)

1.	R2 oblique	 <i>inclinata</i>
-	R2 vertical, very short.	 2
2.	Thorax extensively yellow, often also abdomen. Legs yellow. Wing very broad, width a third of length	3
-	Body dark grey. Legs entirely or mainly dark. Wing much narrower.	 4
3.	Antennae short, not reaching back to wing base; flagellum with fine pubescence, only half the width of the host segment. Paramere as shown.	 <i>japonica</i>
-	Antennae longer, reaching back to wing base; flagellum with fine pubescence as long as width of host segment.	<i>laeta</i>
4.	Coxae, trochanters and base of femora yellow.	 <i>eugeni</i>
-	Coxae and rest of legs dark. Wing as <i>eugeni</i> . Paramere as shown.	 <i>edwardsi</i>

edwardsi	Elusive but widespread in upland districts, by large streams and rivers, mainly with marginal shingle. Can be found under stones or by sweeping marginal vegetation. May-June.
eugeni	Exposed riverine sediment
inclinata	Rare in northern England and Scotland. Rivers with some gravel and sand at margins. August. [the male style illustrated has a more extended apical point than that in Edwards 1938; possibly this is a species complex].
japonica	Larval habitat, exposed riverine sediments. Adults seem to be associated with riparian trees.
laeta	Just one British site known in south-west England. Collected from riparian trees near exposed riverine sediments. July

GROUP B

- M1 forked beyond discal cell (M1 runs across top of discal cell).
- Discal cell complete.
- R2 long,

1.	Basal flagellar segment elongated and conical.		2
-	Not as above		Go to Key for Limnophilinae
2.	Wing exceptionally broad, anal lobe cut away so with A2 close to A1. Rs rather curved.		
-	Wing of modest width, anal lobe moderately developed, with A2 far from A1. Rs straight except at base.		

Genus CRYPTERIA

limnophiloides Widespread in wet woodland in late summer and autumn. Body brownish, rather wedge-shaped wing with bowed Rs.

Genus NEOLIMNOPHILA

Very easy to overlook as similar to some Limnophilinae, especially *Dicranophragma*, but the elongate conical basal flagellar segment is otherwise only found in *Crypteria*.

1.	Top of thorax with a median pair of dark brown stripes (narrowly separated, sometimes fused) and usually with a trace of a lateral pair.	placida
-	Top of thorax dark brown with a broad median stripe.	carteri

carteri Scarce, mainly northern and western, in wet woods. May-July.

placida Scarce, mainly southern, in wet woods. July-September.

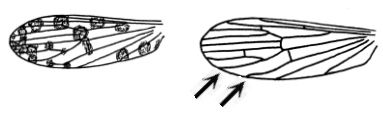

GROUP C


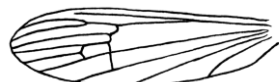


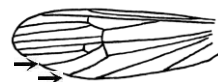
- **Discal cell complete.**

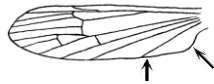

- **R₂ long**

- **M₁ never forked beyond discal cell** (M₁ runs across top of discal cell).

- **Small to medium sized species** of wing length 5- 12 mm,

1.	Wings with extensive pattern. Discal cell very asymmetrical distally. Veins M2 and M3 curved. Cu apex curved, to follow edge of wing.	 <p>To show pattern To show venation</p> <p>Ilisia (p 14)</p>
-	Wings clear or with very limited markings.	2
2.	Wing membrane covered with long hairs.	
-	Wing membrane bare.	4
3.	Wing membrane covered with rather long brown hairs. Vein A2 straight.	Ormosia (fascipennis p15)
-	Wing membrane covered in fine hairs, or if worn, the surface is dull and rough. Discal cell rectangular.	 <p>Scleroprocta (p15)</p>

4.	Body entirely black (except genitalia), slender elongate; veins very black. Base of discal cell near middle of wing; m-cu distinctly beyond base of discal cell. Wing length 6-12 mm.		Gnophomyia (p 13)
-	Body not entirely black. Base of discal cell more distal; m-cu normally at or before base of discal cell (at most slightly beyond base).		5
5.	Body shining and sides of thorax entirely or almost entirely yellow. Wing length 8-10 mm.		Lipsothrix (p14)
-	Body rarely shining, usually dull; sides of thorax at most 50% yellow. Usually smaller.		6
6.	Thorax on top with a distinct narrow <u>median</u> dark stripe, at least in front (can be other stripes as well), rarely mainly glossy black. Vein A2 straight or sinuous.		7
-	Thorax without a well-defined <u>median</u> stripe (can be paired median stripes, paler between); never glossy black. Discal cell nearly triangular . Vein A2 always fairly straight.		8
7.	Thorax grey with a narrow dark median stripe. Vein A2 with long extended end section parallel with hind wing margin. Anal lobe narrow.		Eriocnopa (p12)
-	Thorax brownish or yellowish, usually with extra stripes, or mainly shining black. Vein A2 straight or with a long extended section ending with a short sinuous loop.		Symplecta (p16)
8.	Lower vein beyond discal cell (M3) and distal part of Cu curved. Discal cell very short. Body pale brown, thorax on top often with a widely spaced pair of darkish stripes.		Hoplolabis (p12) sg. Parilisia
-	All veins beyond discal cell are straight. Body usually darkish brown or grey, thorax on top with a closely spaced pair of darkish stripes or a median stripe.		9

9.	Anal lobe well developed. Body dull brown with some areas of dull yellow; top of thorax with weak median dark stripe. Male legs often very hairy. A2 short.	 <p>Trimicra pilipes (p17)</p>
-	Anal lobe scarcely developed. Body blackish, top of thorax with a pair of black shining stripes. A2 long.	 <p>Erioptera (Mesocyphona) bivittata , p12)</p>

Genus ERIOCONOPA

See key for Species with an Open Discal Cell

Genus ERIOPTERA (s.g. MESOCYPHONA)


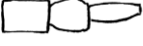



bivittata Rare, coast of Kent and East Anglia. Beside brackish ditches on grazing levels where there is exposed mud between such plants as *Bulboschoenus maritima* and weak *Phragmites*. May- July.

Genus HOPLOLABIS (s.g. PARILISIA)

As now defined, the 3 species below are in *Parilisia* as a sub genus of *Hoplolabis*.

There is a complex of species in Europe (Starý 2006). *Hoplolabis yeozana* has been discovered in Ireland (Mendl, 1987) and in Britain. Particular care is necessary in identification.

Key below from Parker 2005 (2), Dipterists Digest Vol. 12, p. 149-150.

1.	Postnotum with hairs. Male outer style divided into three. (ie. middle process simple)			vicina
-	Postnotum bare. Male outer style divided into four. (ie middle process divided 2-pronged.			2
2.	Veins Rs and R4+5 nearly equal in length. Wing narrow and discal cell usually smaller. Male paramere with outer process long, narrow and with a sharp bend at middle; inner process short, broad and truncate			areolata
-	Vein Rs shorter than vein R4+5 in ratio 3:4. Wing broader and discal cell usually larger. Male parameres with both processes fairly straight, the inner process shorter and finer.			yezoana

areolata

Shingle/sand river banks, local. April- June.

vicina

Northern and western sandy river banks, local. May-July, August- September.

yeozana


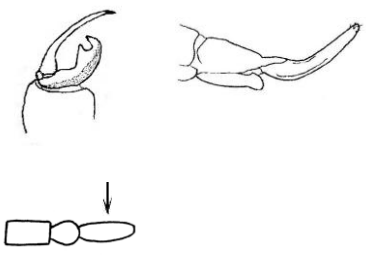
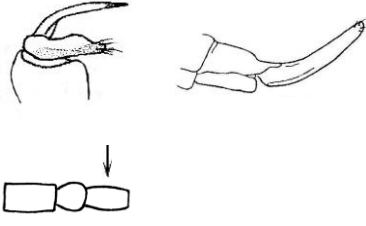
First British record was swept from riverine shingle in Cumbria, in July 2004. (J. Parker, 2005). One record in Ireland. April - July

Genus GNOPHOMYIA

Body predominantly black and elongate, with black-veined elongate wings (long narrow discal cell and long veins beyond). A very distinctive saproxylic genus.

The antennal character which separates females would seem to apply to males.

Key to Males


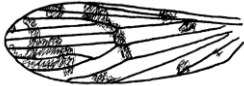
1.	Terminal segments and genitalia yellow; in male with relatively short yellow outer style. In female cerci short and blunt. Flagellar segments about four times as long as wide, with, in male, uniform pale fine hairs.		elsneri
-	Terminal segments and genitalia blackish: in male with a long black outer style; in female the ovipositor is long and pointed (rarely yellowish). Flagellum with conspicuous long black bristles.		2
2.	Basal flagellar segment about three times the length of the pedicel. Male inner style cleft. Female with lower ovipositor valves partly tapered at apex.		viridipennis
-	Basal flagellar segment about twice as long as wide. Male inner style not cleft. Female with lower ovipositor valves rather square-ended and not tapered at apex.		lugubris

elsneri Windsor Forest. Larvae in 'porridge' wet wood-mould in base of hollow beech trunks. Adults by such trees. July.

lugubris The first British specimen, a female, was found in north-east England by Alan Stubbs in July 2005. (Stubbs, 2005, DD Vol. 12, p.158)

viridipennis Widespread, mainly southern half of England. Larvae can be abundant in rotting cambium layer of recently dead fallen poplar (especially black poplar, *Populus nigra*), even in urban areas. Adults by such trees and logs. May use other trees rarely. June -July.

Genus ILISIA


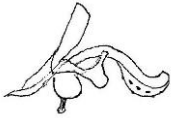



1.	Wing markings with paler centres; spots along front margin fairly evenly spaced.		<i>maculata</i>
-	Wing markings solid darker brown; spots along front margin with a wide gap half way along, so that the oblique vertical bar running just basal to the discal cell is strongly isolated.		<i>occoecata</i>

maculata Widespread sweeping bush and tree foliage in wet woodland by puddles and wet mud along shaded woodland paths and rides. May- Oct.

occoecata Often occurs with *maculata* and is almost as frequent.

Genus LIPSOTHRIX (LIMONIINAE)

Genital apodeme shown for all species.

1.	Femora entirely yellow. Apodeme as shown.		<i>remota</i>
-	Femora black at apex or more.		2
2.	Wing with a grey or black stigma. Thorax partly dark, even if only in part, dorsally.		3
-	Stigma clear. Thorax entirely yellow.		4
3.	Stigma black, wing tip faintly darkened. Male antennae about as long as thorax with segments about as long as broad. Female (and male) with much of top of thorax black, including scutellum.		<i>nobilis</i>
-	Stigma grey or pale brown, wing tip clear. Sexes very different. Male antennae very long, twice as long as thorax with long segments. Top of thorax black. Female mainly yellow, with yellow scutellum. Apodeme as shown		<i>nervosa</i>
4.	Abdomen with a trace of a dark median stripe. Male apodeme with a broad apical bulge as tip curves down to turn forwards, as shown. Basal flagellar segment only slightly longer than pedicel.		<i>errans</i>
-	Abdomen entirely yellow above. Male apodeme with fairly straight apex, as shown. Basal flagellar segment longer.		<i>ecucullata</i>

A saproxylic genus breeding in saturated wood; the scarcer species are Biodiversity Action Plan ones to emphasise the importance of this habitat.

(Hewitt and Parker, 2005)

ecucullata Rare, northern species, Cumbria and Scottish Highlands, at wooded seepages and by tiny streams. July.


errans Local, northern and western, wooded streams. June-July (rarely October)

nervosa Scarce endemic. Southern shaded seepages. June-July.

nobilis Rare, mid Welsh Borders, Cumbria and south Lancashire. Small streams in woodland. Mid-late May. [nobilis - name now has priority over **nigristigma**. Godfrey, 2001a]

remota Locally common at seepages and by streams in woodland. May-July.

Genus *Ormosia*

	Membrane covered with rather long brown hairs. Vein A2 straight. Styles as shown. (The only British <i>Ormosia</i> with a discal cell.)	 <p style="text-align: right;">fascipennis</p>
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Genus *SCLEROPROCTA*

The wing membrane in fresh specimens is covered in fine hairs. *Ormosia* and *Rhypholophus* share this feature, but nearly all have an open discal cell, the genitalia of *Scleroprocta* are clearly different.

1.	Femora only darkened at apex. Top of thorax with faint median darker stripe. m-cu well before base of discal cell.	<p style="text-align: right;">pentagonalis</p>
-	Femora blackish in apical half or more. top of thorax uniformly dark grey. m-cu at base of discal cell.	<p style="text-align: right;">sororcula</p>




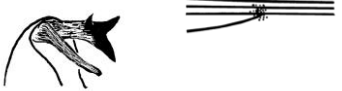


pentagonalis Rare, mainly southern, by wooded streams: sometimes with next species. June.

sororcula Scarce, extending to Scotland, by wooded streams. May- June

Species names have undergone changes in the application of *sororcula* so it is very important to apply names as above. In the keys of Edwards 1938, and Coe 1951 the current *S. sororcula* Zetterstedt was named *S. danica* Nielsen, and the current *S. pentagonalis* Loew was misidentified as *S. sorocula*.

Genus SYMPLECTA

Symplecta (Symplecta) chosenensis was added to the British List in 2003. (Chandler and Crossley, 2003)
Psiloconopa is now a subgenus within *Symplecta* (rather than *Erioptera*) but the generic and subgeneric content is somewhat different.

1.	An extra-cross vein connects R2 and R3.	 sg. <i>Symplecta</i> 2
-	Without an extra-cross vein connecting R2 and R3.	sg. <i>Psiloconopa</i> 3
2.	Greyish species. A dark spot, over vein Sc2, considerably beyond base of Rs. Male main style with a rather truncate apex.	 <i>hybrida</i>
-	Brownish species. Position of Sc2 relative to base of Rs similar to <i>hybrida</i> . Male styles bifurcated, as shown.	 <i>chosenensis</i>
-	Pale greyish brown species. Wing membrane distinctly spotted. Vein Sc2 only slightly beyond base of Rs, thus contained within spot at base of Rs. Male main style with three spines at apex.	 <i>scotica</i>
3.	Thorax bright shining black except yellow at top of sides of thorax, scutellum and humeri.	<i>meigeni</i>
-	Thorax drab dull brown.	4
4.	Vein A2 straight. Femora with densely black apical bands. Male styles rather similar, one of them is mildly bifurcate at the apex.	 <i>pusilla</i>
-	Vein A2 mildly sinuous. Femora with darker brown sub-apical rings. Male main style widely and deeply bifurcate, minor style thin and curved. (May have stunted wings.)	 <i>stictica</i>

Genus SYMPLECTA

- hybrida** Local in base rich to neutral wet meadows, marsh and fen. March-September.
- chosenensis** Added 2003(Chandler and Crossley, 2003) Found on soft cliffs in Yorkshire and Wales. In Europe, found inland by brooks and boggy meadows.
- meigeni** Rare, Scottish Highlands, margins of large sandy rivers or oxbow lakes. June.
- scotica** Rare, sparsely vegetated mud on Boulder Clay coastal cliffs, (but has been found in lowland boggy meadows in Europe). August.
- pusilla** Rare, wet sand margins of rivers with very sparse vegetation. South Welsh Borders. May - July.
- stictica** Abundant on saltmarsh (often with stunted wings), also widespread inland on wet ground though less often so abundant. April - November.

Genus TRIMICRA

- pilipes** Widespread but elusive and rarely recorded. Mainly southern, besides lakes and ponds with a draw-down zone of exposed wet mud. May - September. [One of the most widespread craneflies throughout the world.]