

# The West Palearctic species of Ctenophorinae (Diptera: Tipulidae): key, distribution and references

An illustrated key is presented for the fifteen West Palearctic species and subspecies of the genera *Ctenophora*, *Dictenidia*, *Phoroctenia* and *Tanyptera*, with a review of their distribution and an overview of the recent literature for these taxa.

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**Key words:** *Ctenophora*, *Dictenidia*, *Phoroctenia*, *Tanyptera*

## Introduction

Among the long-palped craneflies, the Tipulidae, the members of the subfamily Ctenophorinae are more or less spectacular. They are large and often ichneumon- or wasp-like. The body is frequently polished and bright, or coloured black with large yellow, orange or red markings. Another striking feature are the comb-like antennae of the males. The group comprises in the West Palearctic fifteen species and subspecies, belonging to four genera: *Ctenophora* Meigen, *Dictenidia* Brullé, *Phoroctenia* Coquillett and *Tanyptera* Latreille. The fifth genus in the Ctenophorinae, *Pselliophora* Osten Sacken, has a predominantly Oriental distribution.

The larvae of all these species develop in decaying wood of deciduous trees and might turn out to represent an especially significant conservation and monitoring element of the saproxylic fauna, as most of the species are rather scarce and some of them even very rare. Moreover, they are usually confined to old forests, orchards and similar habitats where there has been a long continuity of the presence of old, dying and fallen trees (Stubbs 2003).

The purpose of this paper is to present an illustrated key to the adults of all the West Palearctic species and subspecies. In addition, an overview of the distribution of the species is given, based on Oosterbroek (2006). For information about the habitat and biology, the reader is referred to the list of references for each species.

## Key to species and subspecies

- 1 Segments 4-12 of male antenna with appendages (figures 1-5, 31), these segments in female serrate or ventrally rounded (figures 7-8, 32), short and toward apex wider than long (figure 6), or segment 3 lengthened, almost twice the length of segment 4 (figures 9, 52); basal part of antennal segments always with bristles, the so-called verticils . . . . . Ctenophorinae 2
- Male antennal segments without appendages (figures 10-11) and in female not as above; if segments serrate then verticils absent (genus *Prionocera*, figure 11) . . . . . other Tipulidae

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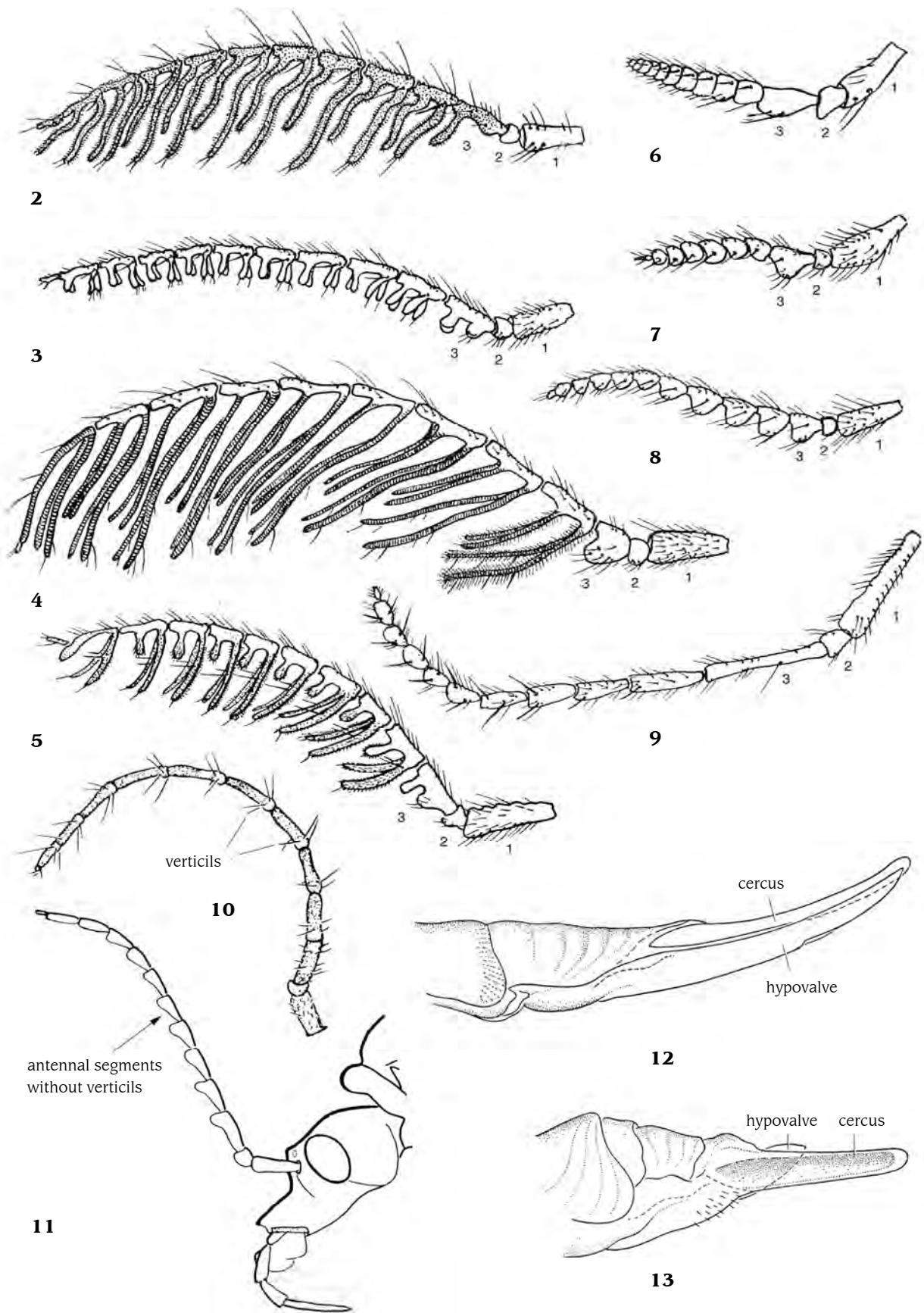
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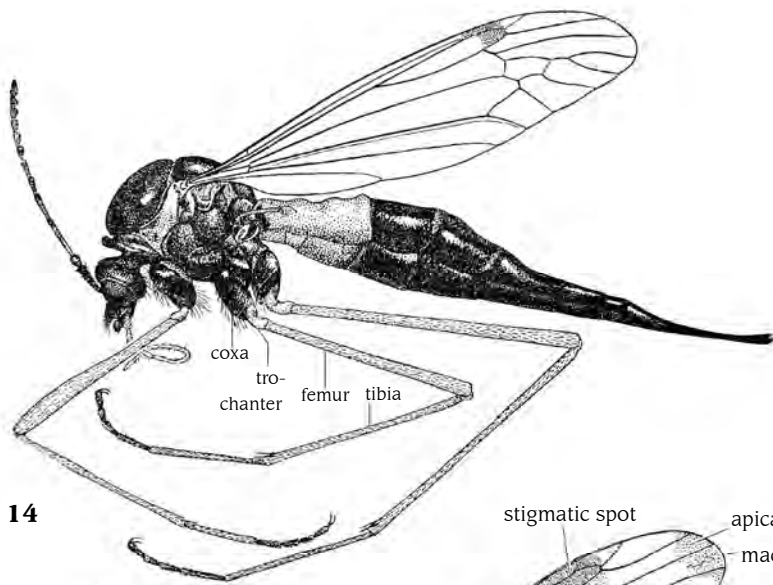


**Figure 1.** ♂ *Ctenophora flaveolata*. Nazareth, Belgium, 23 April 2005. Photo: Marc Espeel  
♂ *Ctenophora flaveolata*. Nazareth, België, 23 april 2005.

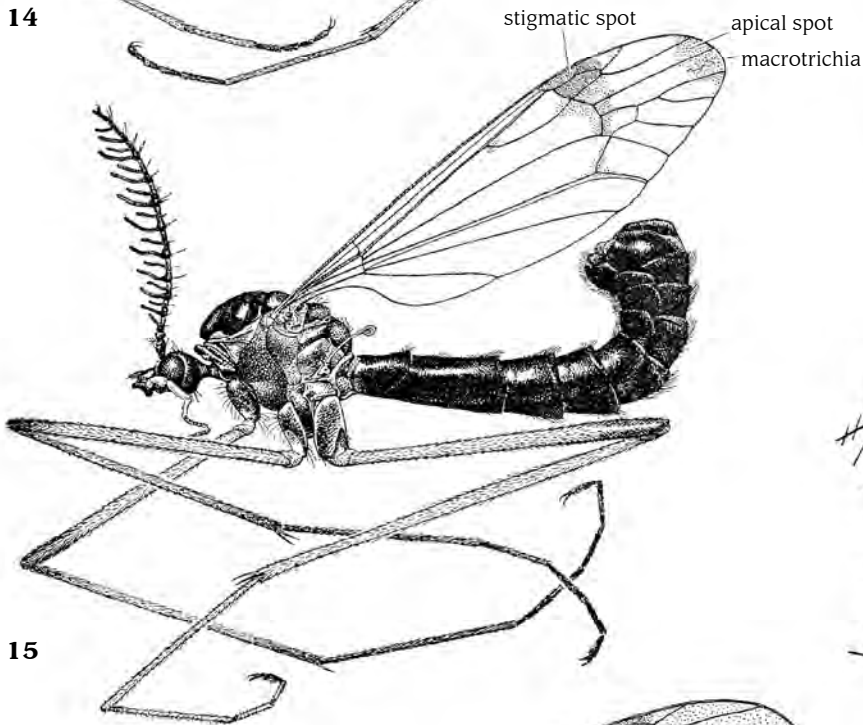


**Figures 2-13.** Antenna of **2** ♂ *Dictenidia bimaculata*, **3** ♂ *Phoroctenia v. vittata*, **4** ♂ *Ctenophora ornata*, **5** ♂ *Tanyptera a. atrata*, **6** ♀ *Dictenidia bimaculata*, **7** ♀ *Phoroctenia v. vittata*, **8** ♀ *Ctenophora ornata*, **9** ♀ *Tanyptera a. atrata*, **10** ♂ *Nephrotoma aculeata*, **11** ♂ *Prionocera spec.*; ovipositor of **12** *Tanyptera a. atrata*, **13** *Ctenophora guttata*. Figures 2-9 after Mannheims (1951), 10 after Oosterbroek (1978), 11 after Brodo (1987), 12-13 after Savchenko (1973).

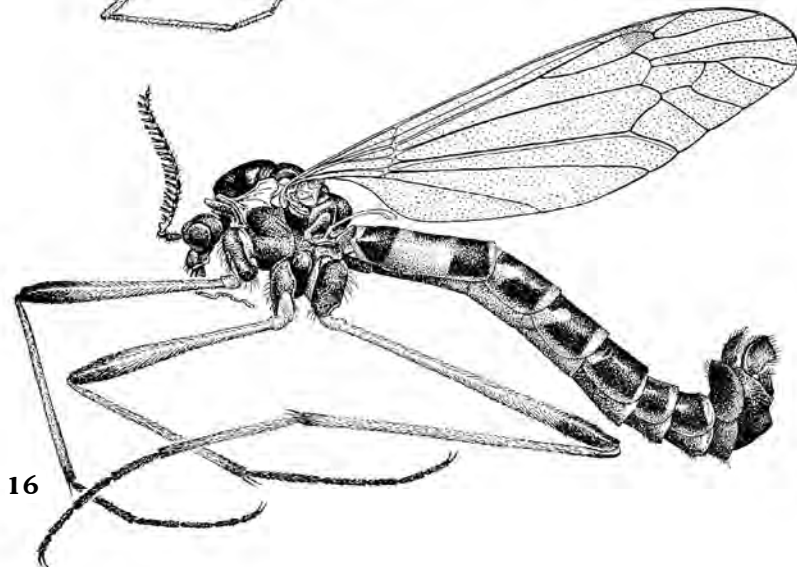
Antennes (2-11) en legboren (12-13) van Ctenophorinae-langpootmuggen.



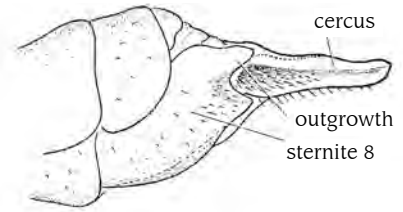
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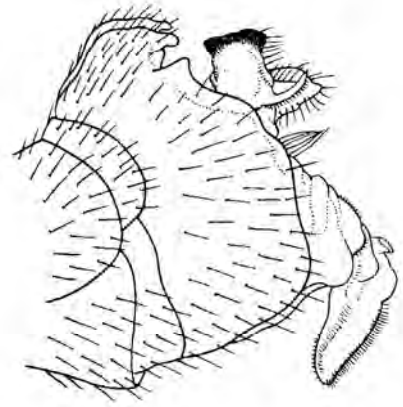
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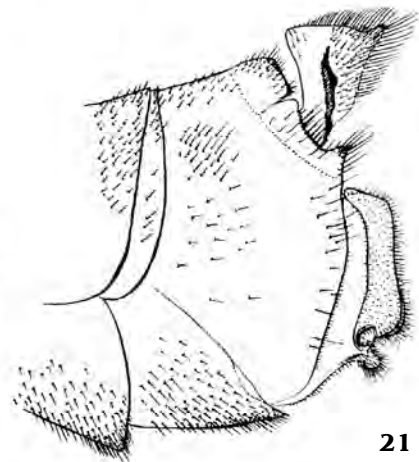
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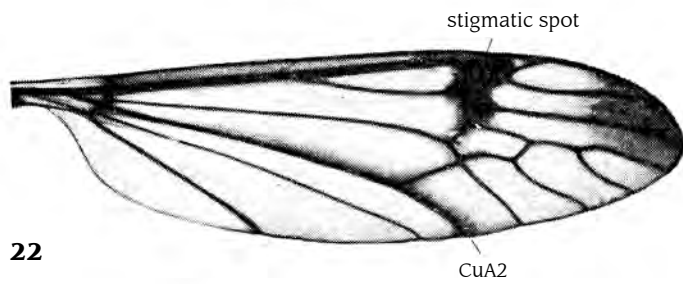


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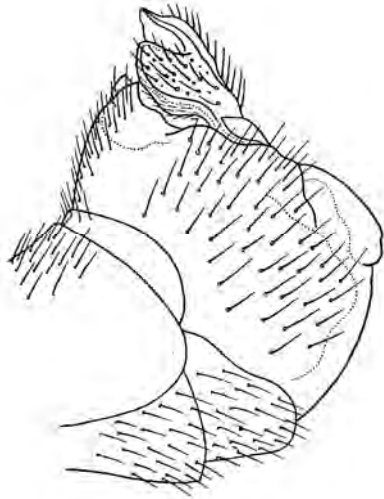


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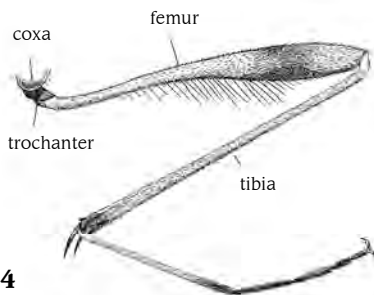
**Figures 14-21.** 14 ♀ *Tanyptera a. atrata*, 15 ♂ *Dichtenidia bimaculata*, 16 ♂ *Phoroctenia v. vittata*; 17 ovipositor of *Phoroctenia v. vittata*; abdomen of 18 ♂ *Ctenophora flaveolata*, 19 ♀ *Ctenophora flaveolata*; hypopygium of 20 *Ctenophora flaveolata*, 21 *Ctenophora n. nigriceps*. Figures 14-17 and 20 after Savchenko (1973), 18-19 and 21 after Menier (1973), 20 after Mannheims (1967).  
*Habitus* (14-16), *legboor* (17), *achterlijf* (18-19) en *achterlijfspunt* (20-21) van *Ctenophorinae*-langpootmuggen.



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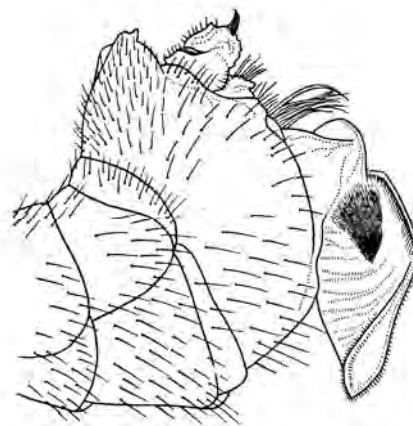
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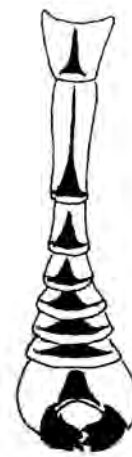
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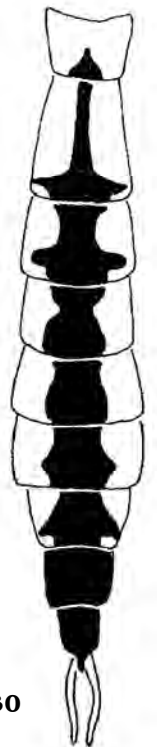
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**Figures 22-30.** 22 Wing of *Ctenophora nigriceps miyamotoi*; 23 hypopygium of *Ctenophora sibirica*; 24 hind leg of ♂ *Ctenophora elegans*; 25 hypopygium of *Ctenophora elegans*; 26 ♂ abdomen of *Ctenophora elegans*, 27 ♀ abdomen of *Ctenophora guttata*; 28 hypopygium of *Ctenophora guttata*; 29 ♂ abdomen of *Ctenophora pectinicornis*; 30 ♀ abdomen *Ctenophora pectinicornis*. Figures 22 after Takahashi (1960), 23-25 and 28 after Savchenko (1973), 26-27 and 29-30 after Menier (1973).

Vleugel (22), achterlijfspunten (23, 25, 28), achterpoot (24) en achterlijven (26-27, 29-30) van Ctenophorinae-langpootmuggen.



**Figure 31.** ♂ *Ctenophora flaveolata*, head and thorax. Nazareth, Belgium, 23 April 2005. Photo: Marc Espeel

*Kop en borststuk van ♂ Ctenophora flaveolata. Nazareth, België, 23 april 2005.*

- 2 Segments 4-12 of male antenna each with two (figure 2) or four appendages (figures 1, 3-4, 31); female segment 3 relatively long and thick (*Dictenidia*, figure 6) or short (not more than two times as long as wide) (figures 7-8, 32). Ovipositor with lower valves (hypoalves) much shorter than upper valves (cerci) (figure 13) . . . . . 3
- Segments 4-12 of male antenna each with three appendages (figure 5); female segment 3 long and slender (at least four times as long as wide) (figures 9, 52). Ovipositor sabre-like (figure 52) with lower valves (hypoalves) approximately as long as upper valves (cerci) (figure 12). Female habitus as in figure 14 . . . . .genus *Tanyptera* 16
- 3 Segments 4-12 of male antenna each with only two appendages (figure 2); female antenna short, not serrate and segments toward apex wider than long (figure 6). Wing with two dark spots, at stigma and at apex; apical part of wing with a small area with macrotrichia ('hairs') (figure 15). Habitus of male as in figure 15 . . . . . *Dictenidia bimaculata* . . . . . 4
- Segments 4-12 of male antenna each with four appendages (figures 1, 3-4, 31); female antenna weak or stronger serrate beyond segment 2 (figures 7-8, 32, 51). Apical part of wing without macrotrichia; wing with single small dark spot at stigma (figures 16, 35, 51) or single large spots in apical part of wing (figures 40-41, 43), rarely with two spots (figure 22) . . . . . 4
- 4 Appendages of male antennal segments not longer than the segment and of almost equal length (figure 3); female antenna with nine or ten segments (figure 7). Sides of thorax bare. Habitus of male as in figure 16. Female with relatively short cerci and base of cerci covered by outgrowth of sternite 8 (figure 17) . *Phoroctenia vittata vittata* . . . . . 4
- Appendages of male antennal segments longer than the segment and apical pair of appendages shorter than basal pair (figures 4, 31); female antenna with thirteen segments (figure 8). Sides of thorax with long macrotrichia ('hairs') . . . . . Genus *Ctenophora* 5
- 5 Abdomen black with broad yellow transverse bands at hind margins of segments 2-6 or 2-7 (figures 1, 18-19, 50).

- Male with hypopygium as in figure 20, with long appendage at lower hind margin . . . . . *Ctenophora (Ctenophora) flaveolata* . . . . . 6
- Abdomen not with series of yellow transverse bands at hind margins of segments; in case of a serial pattern then tergites always darkened in the middle (figure 27, 33). Male hypopygium with or without long appendage . . . . . 6
- 6 Wings with small darkened stigmatic spot only (figures 33, 35, 51), at most with a stigmatic spot and with apical part of wing infuscated (figure 22) . . . . . 7
- Wings with a large distinct clearly delimited dark spot in apical part (figures 40-41, 43) . . . . . 12
- 7 Upper side of thorax highly polished and anterior part of scutum (= part before the transverse suture) with three black longitudinal stripes, broadly separated by yellow and with black irregular spot on each lateral fore margin; posterior part of scutum with two black stripes, also broadly separated by yellow; scutellum black. Tibiae blackish-brown. Female with long first antennal segment, longer than rostrum. Male with hypopygium as in figure 21, without long appendage . . . . . *Ctenophora (Ctenophora) nigriceps* 8
- Upper side of thorax not coloured as above, but if so (in *C. pectinicornis* dorsal thoracic stripes sometimes separated), then tibiae not blackish-brown. Female with first antennal segment at most as long as rostrum. Male hypopygium with or without long appendage . . . . . 9
- 8 Wing tip more infuscated than remainder of wing membrane and vein CuA2 with a dark cloud (figure 22) . . . . . *Ctenophora (Ctenophora) nigriceps miyamotoi* . . . . . 9
- Wing tip not darkened and vein CuA2 without cloud . . . . . *Ctenophora (Ctenophora) nigriceps nigriceps* . . . . . 9
- 9 Tibia of hind leg basally black with broad whitish band before darkened apex (figure 33). Male with hypopygium as in figure 23, without long appendage . . . . . *Ctenophora (Xiphuromorpha) sibirica* . . . . . 10
- Not as above. Hypopygium with long appendage at lower hind margin . . . . . 10



**Figure 32.** ♀ *Ctenophora flaveolata*, head and thorax. Nazareth, Belgium, 23 April 2005. Photo: Marc Espeel

*Kop en borststuk van ♀ Ctenophora flaveolata. Nazareth, België, 23 april 2005.*



**Figure 33.** ♀ *Ctenophora sibirica* (after Portschinsky 1873).  
♀ *Ctenophora sibirica* (naar Portschinsky 1873).

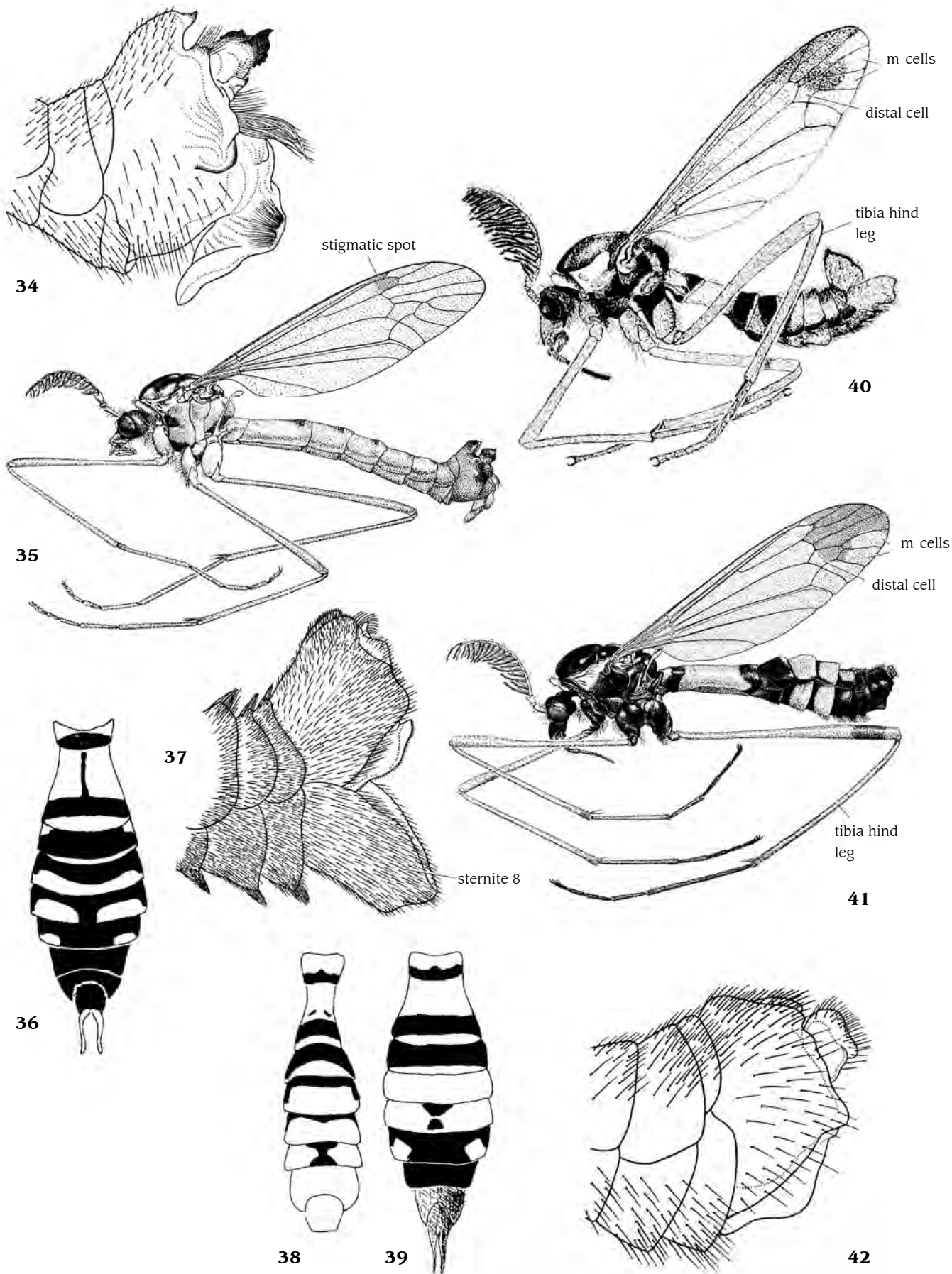
- 10** Male only: femur of hind leg provided with row of long yellowish-white macrotrichia ('hairs') before distinct thickening at apical part (figure 24). Hypopygium as in figure 25. Abdomen as in figure 26 . . . . . ♂ *Ctenophora (Ctenophora) elegans*
- Female, or if male, femur of hind leg without thickening, nor provided with row of long yellowish-white macrotrichia (figure 35) . . . . . 11
- 11** Abdomen black with whitish yellow lateral spots at hind margins of tergites 2-6 or 2-7 (figure 27), similar spots present on sternites, especially in female, where they can also be connected along hind margin of sternites. Sides of thorax black. Male with hypopygium as in figure 28 . . . . .  
. . . . . *Ctenophora (Ctenophora) guttata*
- Abdomen with dark dorsal stripe, in the male composed of elongated triangular spots on tergites 1-5 or 1-6 (figure 29); spots broader in female (figure 30); abdomen ventrally ochre-yellow or brown, sometimes with darkened spots along midline. Thorax laterally ochre-yellow or brown with some areas blackened. Male with hypopygium as in figure 34. Habitus of male as figure 35, of female as in figure 51 . . . . . *Ctenophora (Ctenophora) pectinicornis*
- 12** Spot in apical part of wing elongate, continuing broadly to wing tip (figures 40-41). Basal half of tibia of hind leg not darkened nor with darkened ring (figures 40-41) . . . 13

- Spot in apical part of wing rounded, not reaching wing tip (figure 43). Basal half of tibia of hind leg darkened or with darkened ring (figure 43) . . . . . 15
- 13** Female only: abdominal pattern as in figure 36; yellow of abdominal tergites shining. Dark spot in apex of wing may reach discal cell or go into it, but does not reach into the m-cells . . . . . ♀ *Ctenophora (Ctenophora) elegans*
- Male, or if female, yellow of abdominal tergites dull. Dark spot in apex of wing goes into m-cells (figures 40-41, 43) . . . . . 14
- 14** Upper side of thorax at least partly brown, usually with longitudinal black stripes (as in *C. fastuosa*, figure 43). Male with abdominal sternite 8 enlarged and not closely aligned to abdomen (figure 37). Abdomen of male and female as in figures 38-39. Habitus of male as in figure 40 . . . . . *Ctenophora (Cnemoncosis) ornata*
- Upper side of thorax black (figure 41). Male with abdominal sternite 8 not enlarged and closely aligned to abdomen (figure 42) . . . . . *Ctenophora (Cnemoncosis) magnifica*
- 15** Upper side of thorax at least partly yellow or brown, usually with longitudinal black stripes (figure 43). Entire basal half of tibia of hind leg darkened (figure 43). Male with hypopygium as in figure 44 . . . . . *Ctenophora (Cnemoncosis) fastuosa*
- Upper side of thorax black. Basal half of tibia of hind leg with broad darkened ring. Male with hypopygium as in figure 45. Abdomen of male and female as in figures 46-47 . . . . . *Ctenophora (Cnemoncosis) festiva*

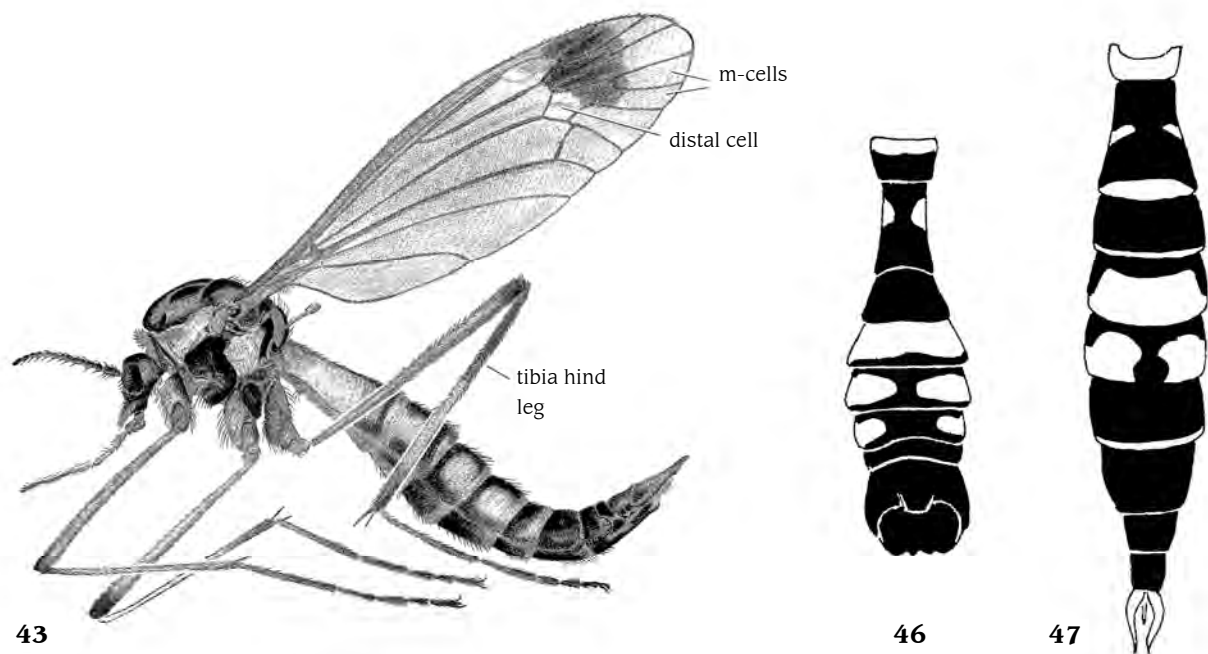
- 16** Trochanter (short unit of leg between coxa and femur) orange or brown, not black; in female apex of femora not blackened (figure 14). Male tergite 9 posteriorly with conspicuous angular notch in each side lobe (figure 48); the two long appendages on antennal segments clearly curved and about twice as long as short appendages (figure 5). Habitus of female as in figures 14 and 52. Wing length male 14-17 mm, female 16-20 mm . . . . . *Tanyptera (Tanyptera) atrata atrata*
- Trochanter black; in female apex of femora black. Male tergite 9 posteriorly without conspicuous angular notch in each side lobe (figure 49); the two long appendages on antennal segments slightly curved and about 1.5 time as long as short appendages. Wing length male 11-12 mm, female 13-14 mm . . . . . *Tanyptera (Tanyptera) nigricornis nigricornis*

**Distribution and references**

***Ctenophora (Cnemoncosis) fastuosa* Loew**  
*Distribution* A widespread but rare species, in western Europe known from very few localities in southern Germany and southern Poland. In Central and south-eastern Europe known from Czech Republic, Croatia, Bulgaria, Romania, southern Ukraine and in Russia from north of the Black Sea. East Palearctic records are from Tyva, Amur province, Primorskiy kray, south of the Aral Sea and the Chinese provinces Heilongjiang and Zhejiang.  
*References* Savchenko 1973, Simova-Tosic & Oosterbroek 2003, Ujvarosi 2003.



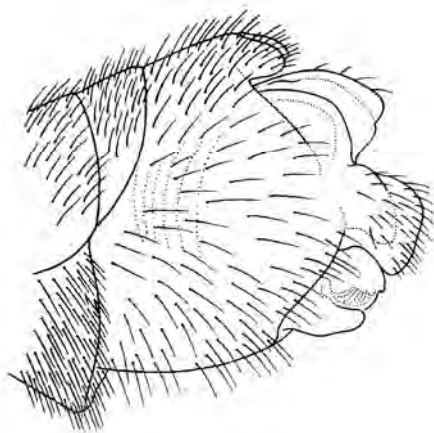
**Figures 34-42.** 34 Hypopygium *Ctenophora pectinicornis*; 35 ♂ *Ctenophora pectinicornis*; 36 ♀ abdomen *Ctenophora elegans*; 37 hypopygium *Ctenophora ornata*; abdomen of 38 ♂ *Ctenophora ornata*, 39 ♀ *Ctenophora ornata*; 40 ♂ *Ctenophora ornata*, 41 ♂ *Ctenophora magnifica*; 42 hypopygium *Ctenophora magnifica*. Figures 34-35, 37, 41-42 after Savchenko (1973), 36, 38-40 after Menier (1973). Achterlijfspunt (34, 37, 42), habitus (35, 40-41) en achterlijf (37, 38-39) van *Ctenophorinae*-langpootmuggen.



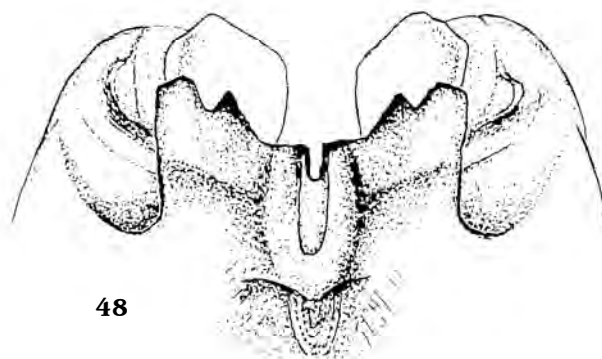
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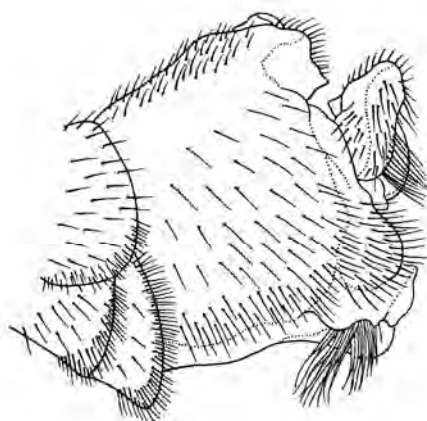
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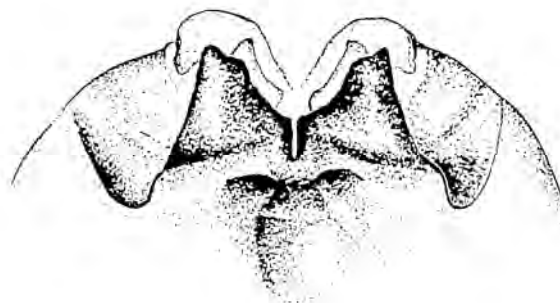
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**Figures 43-49.** 43 ♀ *Ctenophora fastuosa*; hypopygium of 44 *Ctenophora fastuosa*, 45 *Ctenophora festiva*; abdomen of 46 ♂ *Ctenophora festiva*, 47 ♀ *Ctenophora festiva*; ♂ tergite 9 of 48 *Tanyptera a. atrata*, 49 *Tanyptera n. nigricornis*. Figures 43 after Mannheims (1951), 44-45 after Savchenko (1973), 46-47 after Menier (1973) and 48-49 after Bygebjerg & Munk (2005).  
*Habitus* (43), *achterlijfspunt* (44-45), *achterlijf* (46-47) en *tergiet 9* (48-49) van *Ctenophorinae*-langpootmuggen.



***Ctenophora (Cnemoncosis) festiva* Meigen**

*Distribution* Limited to the West Palearctic and recorded from many countries, in the west from The Netherlands to northern Spain and northern Italy, in the east from Lithuania to Greece (including Corfu) and the North Caucasus.

*References* Drees 2001, Dufour 1986, 2003, Eiroa & Báez 2002, Martinovsky 1968, Menier 1973, Pilipenko 2002, Podenas 1995, Savchenko 1973, Simova-Tosic & Oosterbroek 2003, Ujvarosi 2003.



**Figure 50.** ♀ *Ctenophora flaveolata*. Nazareth, Belgium, 23 April 2005.

Photo: Marc Espeel

♀ *Ctenophora flaveolata*. Nazareth, België, 23 april 2005.

***Ctenophora (Cnemoncosis) magnifica* Loew**

*Distribution* Known from Azerbaijan and northern Iran only.

*Reference* Savchenko 1973.

***Ctenophora (Cnemoncosis) ornata* Meigen**

*Distribution* Limited to the West Palearctic and recorded from many countries, in the west from Ireland, Great Britain and Denmark to Spain and northern Italy, in the east from the Czech Republic to Greece (including Andros and Corfu), Ukraine and the Turkish province of Içel.

*References* Alexander 1991, 2002, Alexander & Grove 1990, Bygebjerg & Munk 2005, Dajoz 2000, Dufour 1986, Eiroa & Báez 2002, Falk 1991, Harvey 1999, Koç & Oosterbroek 2001, Menier 1973, Oosterbroek & de Jong 2001, Owens 1987, Savchenko 1973, Simova-Tosic & Oosterbroek 2003, Skidmore 2003, Sørensen 2002, Speight & Nash 1993, Stubbs 1992, 2003, Theowald 1967, Ujvarosi 2003.

***Ctenophora (Ctenophora) elegans* Meigen**

*Distribution* Limited to the West Palearctic, in the west recorded from The Netherlands and Germany to Spain and northern Italy, in the east from Austria and Slovakia to Greece (including Samos and Samothraki), Ukraine and neighbouring Russia.

*References* Eiroa & Báez 2002, Höchstetter 1963, Martinovsky 1968, Menier 1973, Oosterbroek & de Jong 2001, Savchenko 1973, Simova-Tosic & Oosterbroek 2003, Theowald 1967, Ujvarosi 2003.

***Ctenophora (Ctenophora) flaveolata* (Fabricius)**

*Distribution* Limited to the West Palearctic and recorded from many countries, in the west from Norway and Great Britain to Spain and Italy, in the east from Finland, Latvia and northwestern Russia to northern Greece, Ukraine and adjacent Russia.

*References* Alexander 1991, 2002, Alexander & Foster 1995, Bratton 2003, Bygebjerg & Munk 2005, Dagley & Ismay 2000, Denton 1997, 2000, Denton & Fry 1998, Drees 2001, Dufour 1986, Eiroa & Báez 2002, Falk 1991, Foster 1996, Godfrey 1994, Martinovsky 1968, Menier 1973, Miles 1983, Podenas 1995, Savchenko 1973, Simova-Tosic & Oosterbroek 2003, Smith 1998, Sørensen 2002, Stubbs 1992, 2002, 2003, Ujvarosi 2003, Whitehead 1994.

***Ctenophora (Ctenophora) guttata* Meigen**

*Distribution* A widespread Palearctic species and recorded from many countries, in the west from Norway and Sweden to France (including Corsica), Andorra, and northern Italy, in the east from Finland and European Russia to northern Greece, Turkey (Hakkari, Konya), and further east to Georgia, Armenia, Azerbaijan, Altay, Tyva, and Mongolia.

*References* Bygebjerg & Munk 2005, Cramer 1968, Dufour 1986, Koç & Oosterbroek 2001, Martinovsky 1968, Menier 1973, Oosterbroek & de Jong 2001, Oosterbroek & Eiroa 2004, Podenas 1995, Savchenko 1973, Simova-Tosic & Oosterbroek 2003, Sørensen 2002, Ujvarosi 2003.

***Ctenophora (Ctenophora) nigriceps miyamotoi* Takahashi**

*Distribution* Until recently known from far-eastern Russia (Kamtchatka, Primorskiy kray) and Japan (Honshu), but recorded as well from the Altay (Pilipenko 1999) and Moscow regions (Pilipenko 2002).

*References* Pilipenko 2002, Savchenko 1973.

***Ctenophora (Ctenophora) nigriceps nigriceps* (Tjeder)**

*Distribution* Described from Sweden (Jämtland (Tjeder 1949) and Norrbotten (Mannheims 1967) as *C. miyamotoi claripennis*).

*Reference* Savchenko 1973.

***Ctenophora (Ctenophora) pectinicornis* (Linnaeus)**

*Distribution* The most frequently encountered species of *Ctenophora*. Limited to the West Palearctic and recorded from many countries, in the west from Norway and Sweden to Great Britain, Ireland, Spain and Italy, in the east from Finland throughout the western half of European Russia, not further south than Montenegro, Romania and Ukraine.

*References* Alexander 2002, 2004, Alexander & Grove 1990, Bygebjerg & Munk 2005, Clements & Alexander 1987, 1988, Clemons 2000, Cramer 1968, Denton 2000, Dobson 1998, Drees 2001, Dufour 1986, Eiroa & Báez 2002, Falk 1991, Godfrey 1998, Grove 1990, Hac-



**Figure 51.** ♀ *Ctenophora pectinicornis*, 1 June 2005, Den Hoorn, Texel, Noord-Holland. Photo: Bert Pijs (Foto Natura)  
♀ *Ctenophora pectinicornis*, 1 juni 2005, Den Hoorn, Texel.

kett 1995, Harding & Walls 2000, Höchstetter 1963, Martinovsky 1968, Menier 1973, O'Connor & Ashe 1998, Podenas 1995, Podeniene 2003, Savchenko 1973, Simova-Tosic & Oosterbroek 2003, Sørensen 2002, Speight & Nash 1993, Stubbs 1976, 1992, 2003, Theowald 1967, Ujvarosi 2003.

***Ctenophora (Xiphuromorpha) sibirica* Portschinsky**

*Distribution* As the name suggests, distributed in Siberia (Yakutiya, Irkutsk-, Amur- and Magadan provinces, Mongolia), but recorded as well from Slovakia (Martinovsky 1987).

*Reference* Savchenko 1973.

***Dictenidia bimaculata* (Linnaeus)**

*Distribution* A relatively frequently encountered species and of all the species presented here the most widespread.

Known from all European countries except Iceland, Moldova, Portugal, Andorra, European Turkey and Malta. Known from Corsica and Sicily, but not Sardinia. Toward the east distributed throughout Siberia as far east as Kamtchatka, Sakhalin, Amur province, Primorskiy kray, 'Korea' and northern China (Hebei, Shandong). In the southern Palearctic known from Turkey (Artvin), Georgia, Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Mongolia, and central China (Sichuan, Zhejiang).

*References* Alexander 2002, 2004, Bloxham & Smart 2001, Bygebjerg & Munk 2005, Clements & Alexander 1987, 1988, Denton 2000, Drees 2001, Dufour 1986, Eiroa & Báez 2002, Godfrey 2003, Höchstetter 1963, Koç & Oosterbroek 2001, Menier 1973, Noll 1985, Oosterbroek 2002, Parvu 2003, Podenas 1995, Podeniene 2000, 2003, Savchenko 1973, Simova-Tosic & Oosterbroek 2003, Sørensen 2002, Stubbs 1992, 2003, Theowald 1967.

***Phoroctenia vittata vittata* (Meigen)**

*Distribution* Predominantly a species of temperate regions, known from south of 70°N throughout Fennoscandia, Latvia, Lithuania, northwest European Russia south of 70°N, Denmark, Germany, southern Siberia from the Altay to Kamt-

chatka, Sakhalin and the Kuril Islands, the Japanese islands Hokkaido and Honshu, and the Chinese province Hebei. In the western Nearctic (British Columbia to California) subspecies *angustipennis* (Loew) occurs.

*References* Bygebjerg & Munk 2005, Dajoz 2000, Savchenko 1973, Sørensen 2002.

***Tanyptera (Tanyptera) atrata atrata* (Linnaeus)**

*Distribution* Also a relatively frequently encountered and widespread species. Known from all European countries except Iceland, Portugal, Andorra, European Turkey and Malta. In the eastern and southern Palearctic limited to Altay, Tyva, Amur province, Kamtchatka, Kazakhstan, and Kyrgyzstan. In the East Palearctic the subspecies *T. (T.) portschinskyi* (Enderlein), *T. (T.) przewalskii* Savchenko, and *T. (T.) unilineata* Alexander, occur.

*References* Alexander 2002, Bea 1998, Bygebjerg & Munk 2005, Cramer 1968, Denton 2000, Drees 2001, Dufour 1986, Eiroa & Báez 2002, Falk 1991, Höchstetter 1963, Menier 1973, Parvu 2003, Podenas 1995, Podeniene 2003, Salmela 2004, Savchenko 1973, Simova-Tosic & Oosterbroek 2003, Skidmore *et al.* 1995, Sørensen 2002, Stubbs 1992, 2003, Theowald 1967.

***Tanyptera (Tanyptera) nigricornis nigricornis* (Meigen)**

*Distribution* Predominantly limited to the West Palearctic, in the west known from Norway and Great Britain to France, in the east from Finland throughout European Russia to Ukraine, Romania and Macedonia. Further east also known from Yakutiya and the Irkutsk province. In the East Palearctic the subspecies *T. (T.) fumibasis* Alexander and *T. (T.) kotan* Takahashi occur.

*References* Alexander 2001, 2002, Bygebjerg & Munk 2005, Cramer 1968, Clements & Alexander 1987, Denton 2000, Drees 2001, Dufour 1986, Falk 1991, Höchstetter 1963, Hoskin 2000, Menier 1973, Oosterbroek & de Jong 2001, Salmela 2004, Salmela & Ilmonen 2005, Savchenko 1973, Simova-Tosic & Oosterbroek 2003, Stubbs 1992, 2003, Theowald 1967.



**Figure 52.** ♀ *Tanyptera atrata*, 16 May 2005, département Meuse, France. Photo: Koen Verhoeven  
♀ *Tanyptera atrata*, 16 mei 2005, departement Meuse, Frankrijk.

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## References

- Alexander AA 1991. *Ctenophora flaveolata* (F.) (Diptera: Tipulidae) new to Gloucestershire. *British Journal of Entomology and Natural History* 4: 64.
- Alexander KNA 2001. The crane fly *Tanyptera nigricornis* (Meigen) (Diptera: Tipulidae) in East Cornwall (V.C.2) and Dorset (V.C.9). *Entomologists Gazette* 52: 200.
- Alexander KNA 2002. The invertebrates of living and decaying timber in Britain and Ireland: a provisional annotated checklist. *English Nature Research Report* 467: 1-142.
- Alexander KNA 2004. *Ctenophora pectinicornis* (Linnaeus) (Diptera, Tipulidae) in Cumberland. *Dipterists Digest* (2<sup>nd</sup> series) 10: 68.
- Alexander KNA & Foster AP 1995. Annual Exhibition. *British Journal of Entomology and Natural History* 8: 198.
- Alexander KNA & Grove SJ 1990. Annual Exhibition. *British Journal of Entomology and Natural History* 3: 80.
- Bea A-M 1998. Sur *Ctenophora atrata* L. (Diptera Tipulidae) parasite occasionnel de *Callitaera pudibunda* L. (Lepidoptera Lymantriidae). *Entomologiste* 54: 271.
- Bloxham MG & Smart MJ 2001. Some interesting South Staffordshire insect sites. In: *Dipterists Day Exhibits 2000* - compiled by editor from exhibitors notes. *Dipterists Digest* (2<sup>nd</sup> series) 8: 7-9.
- Bratton JH 2003. Further recent observations of *Ctenophora flaveolata* (Fabricius) (Diptera, Tipulidae). *Dipterists Digest* (2<sup>nd</sup> series) 10: 4.
- Bygebjerg R & Munk T 2005. [*Tanyptera nigricornis* (Meigen, 1818) new to the Danish fauna, and new records of other species of wood-living ctenophorine crane flies (Diptera: Tipulidae: Ctenophorinae).] *Entomologiske Meddelelser* 73: 39-46 (in Danish with English summary).
- Clements DK & Alexander KNA 1987. *Ctenophora* species (Dipt., Tipulidae) in Herefordshire and Worcestershire. *Entomologists Monthly Magazine* 123: 140.
- Clements DK & Alexander KNA 1988. Some further records of *Ctenophora* spp. (Dipt., Tipulidae). *Entomologists Monthly Magazine* 124: 122.
- Clemons L 2000. Rare and local Diptera recorded in Kent in 1998 and 1999. In: *Dipterists Day Exhibits 1999* - compiled by editor from exhibitors notes. *Dipterists Digest* (2<sup>nd</sup> series) 7: 19-20.
- Cramer E 1968. Die Tipuliden des Naturschutzparkes Hoher Vogelsberg. *Deutsche Entomologische Zeitschrift* (N.F.) 15: 133-232.
- Dagley JR & Ismay JW 2000. Recent records from Epping Forest, Essex of *Ctenophora flaveolata* (Fabricius) (Diptera, Tipulidae). *Dipterists Digest* (2<sup>nd</sup> series) 7: 26.
- Dajoz R 2000. Insects and Forests. The role and diversity of insects in the forest environment. Editions Tec et Doc.
- Denton JS 1997. Recent records of rare and notable *Ctenophora* and *Nephrotoma* (Tipulidae). *Dipterists Digest* (2<sup>nd</sup> series) 4: 3.
- Denton JS 2000. Rare and uncommon crane flies (Diptera, Tipulidae and Limoniidae) recorded in 1999. *Dipterists Digest* (2<sup>nd</sup> series) 7: 36.
- Denton JS & Fry R 1998. Notable Tipulidae (Diptera) from Surrey, North Hampshire and Essex. *Dipterists Digest* (2<sup>nd</sup> series) 5: 93-94.
- Dobson JR 1998. Observations on *Ctenophora pectinicornis* (Linnaeus) (Tipulidae) at Stanmore Common, Middlesex. *Dipterists Digest* (2<sup>nd</sup> series) 5: 68-69.
- Drees M 2001. Nachweise für Kammschnaken im Raum Hagen (Diptera: Tipulidae: Ctenophorinae). *Natur und Heimat* 61: 47-51.
- Dufour C 1986. Les Tipulidae de Suisse (Diptera, Nematocera). *Documenta Faunistica Helvetiae* 2: 1-187, fiches 1-149.
- Dufour C 2003. Contribution a l'étude des Tipulidae des Alpes du Sud et de la Côte d'Azur (Diptera, Tipulidae). *Bulletin de la Société Neuchâteloise des Sciences Naturelles* 126: 81-92.
- Eiroa ME & Báez M 2002. Tipulidae. In: *Catlogo de los Diptera de España, Portugal y Andorra* (Carles-Tolrà M ed). *Monografías Sociedad Entomológica Aragonesa* 8: 79-81.
- Falk S 1991. A review of the scarce and threatened flies of Great Britain (Part 1). *Research and Survey in Nature Conservation* 39: 1-194.
- Foster AP 1996. A second record of *Ctenophora flaveolata* (F.) (Diptera: Tipulidae) in Gloucestershire. *British Journal of Entomology and Natural History* 9: 2.
- Godfrey A 1994. *Ctenophora flaveolata* (F.) (Diptera: Tipulidae) from the Warburg Reserve, Oxon. *British Journal of Entomology and Natural History* 7: 26.
- Godfrey A 1998. The Diptera of Moccas Park National Nature Reserve. *Dipterists Digest* (2<sup>nd</sup> series) 5: 44-48.
- Godfrey A 2003. A review of the invertebrate interest of coarse woody debris in England. *English Nature Report* 513: 1-49.
- Grove SJ 1990. Old forest insects noted from some Berkshire Parklands. *British Journal of Entomology and Natural History* 3: 97-101.
- Hackett D 1995. Annual Exhibition. *British Journal of Entomology and Natural History* 8: 200.
- Harding PT & Walls T (eds) 2000. *Moccas: an English deer park*. English Nature. Peterborough.
- Harvey MC 1999. Annual Exhibition 1998. *British Journal of Entomology and Natural History* 12: 167.
- Höchstetter L 1963. Beiträge zur Biologie, Oekologie und Systematik der Tipuliden-Larven. *Sitzungsberichten der Physikalisch-Medizinischen Sozietät zu Erlangen* 82: 33-112.
- Hoskin SD 2000. The crane fly *Tanyptera nigricornis* (Meigen) (Diptera: Tipulidae) breeding in West Cornwall (V.C.1). *Entomologists Gazette* 51: 212.
- Koç H & Oosterbroek P 2001. Checklist of Turkish Tipulidae (Diptera), with new records. *Studia Dipterologica* 8: 463-468.
- Mannheims B 1951. 15. Tipulidae. In: *Die Fliegen der palaearktischen Region* (Lindner E ed) 3(5)1, Lief. 167: 1-64.
- Mannheims B 1967. Eine für Europa neue *Ctenophora* Art (Diptera, Tipulidae). *Bonner Zoologische Beiträge* 18: 199-206.
- Martinovsky J 1968. Beschreibung der Entwicklungsstadien von *Ctenophora guttata* Wied. und Übersicht der tschechoslowakischen Arten der Gattung *Ctenophora* (Dipt. Tipulidae). *Acta Entomologica* 12: 1-12.

- logica Bohemoslovaca 65: 319-324.
- Martinovsky J 1987. Tipulidae. In: Check List of Czechoslovak Insects, 2, Diptera. Acta Faunistica Entomologica Musei Nationalis Pragae 18: 11-14.
- Menier JJ 1973. Les Ctenophorinae de France (Dipt. Tipulidae). Annales de la Société Entomologique de France (N.S.) 9: 929-941.
- Miles SR 1983. Annual Exhibition. Proceedings and Transactions of the British Entomological and Natural History Society 16: 109.
- Noll R 1985. Taxonomie und Ökologie der Tipuliden, Cylindrotomiden, Limoniiden und Trichoceriden unter besonderer Berücksichtigung der Fauna Ostwestfalens. Decheniana, Beiheft 28: 1-265.
- O'Connor JP & Ashe P 1998. A second Irish record of *Ctenophora pectinicornis* (L.) (Dipt.: Tipulidae). Entomologists Record and Journal of Variation 110: 173-174.
- Oosterbroek P 2002. Ordine Diptera. Tipulidae. In: Invertebrati di una foresta Pianura Padana, Bosco della Fontana (Mason F, Cerretti P, Tagliapetra A, Speight MCD & Zapparoli M eds). Gianluigi Arcari, Mantova: 106.
- Oosterbroek P 2006. Catalogue of the Crane-flies of the World, online available from <http://www.science.uva.nl/zma/> and <http://ip30.eti.uva.nl/ccw/> (version 23 February 2006).
- Oosterbroek P & Eiroa EM 2004. On the Tipulidae (Insecta, Diptera) of Spain, Portugal, and Andorra. Studia Dipterologica 11: 199-201.
- Oosterbroek P & Jong H de 2001. New data on Tipulidae (Diptera) from The Netherlands. Entomologische Berichten 61: 101-114.
- Owens JA 1987. Exhibits, 23 June 1988. British Journal of Entomology and Natural History Society 1: 181.
- Parvu C 2003. Faunistic materials (Insecta: Diptera) for the knowledge of the biodiversity of Maramures Depression, Romania. Travaux de Museum National d'Histoire Naturelle Grigore Antipa 45: 227-277.
- Pilipenko VE 1999. [New records of crane-flies (Diptera, Tipulidae) from Altai.] Entomologicheskoe Obozrenie 78: 934-937 (in Russian with English summary. English translation: 1999, Entomological Review 79: 1178-1180).
- Pilipenko VE 2002. [The crane-flies (Diptera, Tipulidae) fauna of Moscow region.] Abstracts XII Congress of Russian Entomological Society, St. Petersburg, August, 19-24, 2002: 282 (in Russian).
- Podenas S 1995. The families Tipulidae, Limoniidae, Cylindrotomidae, Trichoceridae and Ptychopteridae in Lithuania: an eco-faunistic approach. Thèse, Faculté des Sciences, Université de Neuchâtel.
- Podeniene V 2000. Notes on the larvae of Lithuanian Tipulidae of the subgenus *Tipula* (Lunatipula). Ekologija 2000 (4): 3-9.
- Podeniene V 2003. [Morphology and ecology of the last instar larvae of the crane flies (Diptera, Tipulomorpha) of Lithuania.] Doctoral dissertation Vilnius University (In Lithuanian).
- Portschinsky JA 1873. Descriptions de quelques Diptères nouveaux de la Sibirie orientale. Horae Societatis Entomologicae Rossicae 9: 287-291.
- Salmela J 2004. Semiaquatic flies (Diptera, Nematocera) of three mires in the southern boreal zone, Finland. Memoranda Societatis pro Fauna Flora Fennica 80: 1-10.
- Salmela J & Ilmonen J 2005. Crane-fly (Diptera: Tipuloidea) fauna of a boreal mire system in relation to mire trophic status: implications for conservation and bioassessment. Journal of Insect Conservation 9: 85-94.
- Savchenko EN 1973. [Crane-flies (Fam. Tipulidae), Subfam. Tipulinae and Flabelliferinae.] Fauna USSR, Diptera, 2(5) (N.S.): 1-282 (in Russian).
- Simova-Tosic D & Oosterbroek P 2003. The Tipulidae (Diptera) of Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Monte Negro, and Macedonia. Acta Entomologica Slovenica 11: 41-60.
- Skidmore P 2003. Saproxylic insect survey of the Virginia Water and Bishopgate areas of Windsor Park, 2002-2003. English Nature Research Reports 514: 1-33.
- Skidmore P, Limbert M & Eversham BC 1995. The insects of Thorne Moors. Sorby Record 23, Supplement: 1-118.
- Smith MN 1998. Exhibit. British Journal of Entomology and Natural History. 11: 101.
- Sørensen L 2002. [Status of wood-living ctenophorine crane-flies (Diptera: Tipulidae) in Denmark's old forests.] Entomologiske Meddelelser 70: 129-142 (in Danish with English summary).
- Speight MCD & Nash R 1993. *Chrysotoxum cautum*, *Ctenophora ornata*, *C. pectinicornis*, *Helophilus trivittatus* and *Mesembrina mystacea* (Diptera), insects new to Ireland. Irish Naturalists Journal 24: 231-236.
- Stubbs AE 1976. Exhibit 13 May 1976. Proceedings of the British Entomology and Natural History Society 9: 57.
- Stubbs AE 1992. Provisional atlas of the long-palped crane-flies (Diptera: Tipulinae) of Britain and Ireland. Biological Records Centre, Institute of Terrestrial Ecology, Huntingdon.
- Stubbs AE 2002. Crane-fly recording scheme [News from the]. Bulletin of the Dipterists Forum 53: 5-7.
- Stubbs AE 2003. Tipulidae and Allies - Crane-flies. Managing Priority Habitats for Invertebrates 17: 1-158. Distributed on DEFRA-Bug-life CD-ROM 2004 and 2006.
- Theowald Br 1967. Familie Tipulidae (Diptera, Nematocera). Larven und Puppen. Bestimmungsbücher zur Bodenfauna Europas 7: 1-100.
- Tjeder B 1949. Description of a new species of *Nephrotoma* from Sweden (Dipt. Tipulidae). Opuscula Entomologica 14: 110.
- Ujvarosi L 2003. Records of new and insufficiently known species of crane flies (Diptera: Tipulidae) in Romania. Entomologica Romanica 7: 51-62.
- Whitehead PF 1994. A further modern Welsh record of *Ctenophora flaveolata* (F.) (Dipt., Tipulidae). Entomologists Monthly Magazine 130: 200.

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### Samenvatting

#### De West-Palearktische soorten van de Ctenophorinae (Diptera: Tipulidae): determinatietabel, verspreiding en literatuur

Binnen de familie van de grotere langpootmuggen, de Tipulidae, zijn de soorten van de subfamilie Ctenophorinae nogal bijzonder: ze hebben soms een wesp- of sluipwespachtig voorkomen en een veelal glimmend en licht gekleurd lichaam, ofwel een zwart lichaam met een opvallend deel van oranje vlekkenpatroon. Bovendien bezitten de mannetjes opvallende gevederde antennes. In het West-Palearktische gebied omvat de subfamilie vijftien soorten en ondersoorten in vier genera: *Ctenophora* Meigen, *Dictenidia* Brullé, *Phoroctenia* Coquillett and *Tanyptera* Latreille. Het vijfde genus binnen de Ctenophorinae, *Pselliophora* Osten Sacken, komt hoofdzakelijk voor in Oost-Azië.

De larven van alle soorten ontwikkelen zich in rottend hout van loofbomen. Ze zijn meestal beperkt tot oude bossen, hoogstamboomgaarden en andere terreinen gekenmerkt door een van oudsher langdurige aanwezigheid van oude, afstervende en omgevallen bomen. Hierdoor, en vanwege de relatieve zeldzaamheid van veel van de soorten, is te verwachten dat Ctenophorinae goede indicatoren zijn voor de biodiversiteitswaarde van bossen en aanverwante habitats.

In dit artikel wordt een geïllustreerde tabel gepresenteerd voor de adulten van alle West-Palearktische soorten en ondersoorten, een overzicht van hun verspreiding en van de recente literatuur.