

New Dolichopodidae in the fauna of Denmark (Diptera)

Igor Grichanov

Grichanov, I.: New Dolichopodidae in the fauna of Denmark (Diptera).
Ent. Meddr 78: 43-51. Copenhagen, Denmark 2010. ISSN 0013-8851.

Examination of unsorted material of Dolichopodidae deposited in the Natural History Museum of Denmark in Copenhagen and the Natural History Museum in Århus has resulted in the finding of 10 species new to Denmark. The species are illustrated, and notes on their global distribution are given. *Sciapus contristans* (Wiedemann, 1817) is excluded from the Danish fauna.

Dansk sammendrag

Gennemgang af ubestemt materiale af Dolichopodidae fra Statens Naturhistoriske Museum i København og Naturhistorisk Museum i Århus gav som resultat 10 nye arter for Danmark. Arterne er illustreret og deres globale udbredelse angives. *Sciapus contristans* (Wiedemann, 1817) ekskluderes fra den danske liste.

Igor Grichanov, All-Russian Institute of Plant Protection, Podbelskogo 3, St. Petersburg, Pushkin, 196608 Russia (E-mail: grichanov@mail.ru).

Introduction

Long-legged flies (family Dolichopodidae) are delicate, small to medium-sized, usually greenish flies. The Dolichopodidae fauna of the world is very large, with approximately 7300 extant and nearly 100 fossil described species (Grichanov, 2003-2010). These mostly predatory flies are distributed throughout the world including the tropics and high-latitude islands and territories. In Denmark adults and larvae of almost all species of long-legged flies are predators inhabiting moist substrata.

The Danish dolichopodid fauna was listed recently by Pollet & Petersen (2001), and since then MacGowan (2005) has added two more species to the fauna. Examination of unsorted material of Dolichopodidae deposited in the Natural History Museum of Denmark (ZMUC) in Copenhagen and the Natural History Museum (NHMA) in Århus revealed 10 species new to Denmark. Most of these have previously been included in the Danish list (Pollet & Petersen 2001) as likely to occur in the country based on an expert opinion. Including the new data presented in this paper, the Danish fauna of Dolichopodidae now numbers 209 species.

In the late fall of 2009, all the unsorted material of Dolichopodidae in the Danish collections stored at the Natural History Museum of Denmark and the Natural History Museum in Århus was identified by the author. About 2000 unsorted specimens from all parts of Denmark were identified to species, and new localities for 110 Danish dolichopodid species were recorded.

This paper presents the new records in detail and provides additional information in the form of remarks and notes on the known distribution for each species. The known global distribution of species is given after Grichanov (2003-2010).

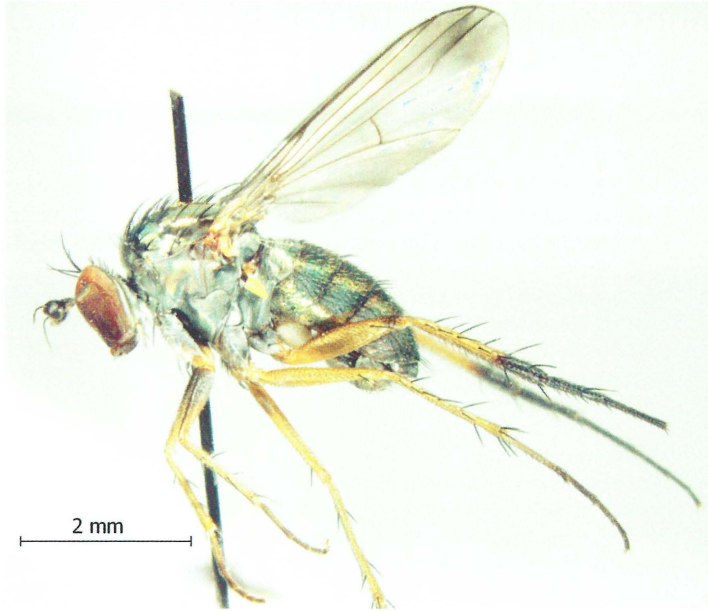


Fig. 1: *Dolichopus signifer* Haliday, 1832.

Abbreviations for geographical divisions:

B = Bornholm

EJ = East Jutland

LFM = Lolland, Falster, Møn

NEZ = North East Zealand

SZ = South Zealand

WJ = West Jutland

The species new to Denmark

Genus *Dolichopus* Latreille, 1796

***Dolichopus signifer* Haliday, 1832**

(Fig. 1)

Material examined: 1 ♂, NEZ: UB49, Rude Skov, Femsølyng, 6.VI.1964, W. Buch leg.; 3 ♂♂, B: Nexø Strand, 2.VII.2002, Lars Trolle [ZMUC]. Recorded from Denmark for the first time.

Distribution. This species is known mainly from the southern parts of the Palaearctic Region, but reaching southern Scandinavia in Europe. It has been recorded from Afghanistan, Armenia, Austria, Azerbaijan, Azores, Belgium, Bulgaria, Czechia, Finland, France, Germany, Georgia, Greece, Hungary, Ireland, Italy, Kazakhstan, Morocco, Netherlands, Norway, Poland, Romania, Russia (Kabardino-Balkaria, Krasnodar, Rostov, Voronezh), Slovakia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Turkmenistan, United Kingdom, Ukraine (Crimea, Odessa) and Uzbekistan.

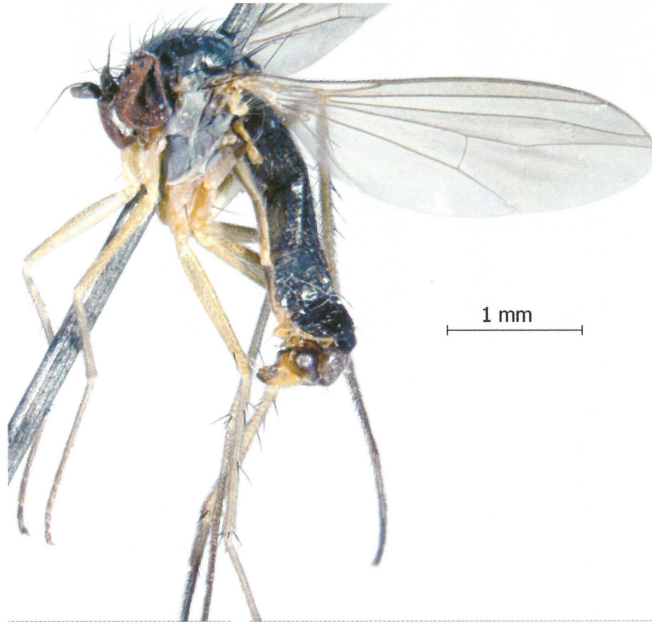


Fig. 2. *Hercostomus fulvicaudis* (Haliday, 1851).

Genus *Hercostomus* Loew, 1857

***Hercostomus fulvicaudis* (Haliday, 1851)**
(Fig. 2)

Material examined: 3 ♂♂, LFM: Møns Klint, 17.VII.1918; 1 ♀, SZ: Ringsted, 31.VII.1910 [Axel Petersen coll?] [NHMA]. Recorded from Denmark for the first time.

Distribution. Austria, Belgium, Czechia, Estonia, France, Germany, United Kingdom, Hungary, Netherlands, Poland, Romania, Russia (Voronezh, Lipetsk), Slovakia, Sweden, Ukraine (Kherson, Odessa, Uzhhorod), Turkmenistan, Tajikistan and China.

Genus *Medetera* Fischer von Waldheim, 1819

***Medetera jugalis* Collin, 1941**
(Fig. 3)

Material examined: 1 ♂, LFM: PF55, Rødbyhavn, 17.VIII.2005, J. Pedersen leg. [ZMUC]. Recorded from Denmark for the first time.

Distribution. Widely distributed in central and northern Europe, recorded once from Siberia. Recorded from Belgium, Czechia, Estonia, Finland, France, Germany, Hungary, Netherlands, Norway, Russia (Buryatia), Slovakia, Sweden and United Kingdom.

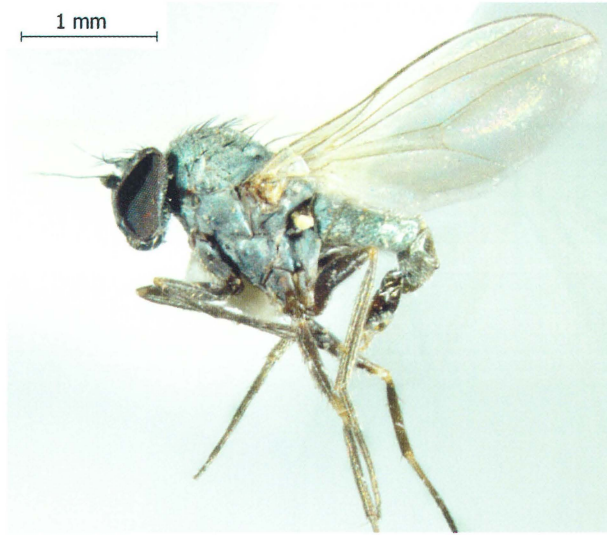


Fig. 3. *Medetera jugalis* Collin, 1941.

Genus *Orthoceratium* Schrank, 1803

***Orthoceratium lacustre* (Scopoli, 1763)**

(Fig. 4)

Material examined: 1 ♂, 1 ♀, WJ: Ag 28, Skallingen, marsken [= the marsh], med[io]. VII.1978, Eric Rald leg. [ZMUC]. Recorded from Denmark for the first time.

Distribution. The species is confined to a coastal band along western Europe and the Mediterranean, being also recorded from the coasts of the Caspian Sea in the Caucasus and at

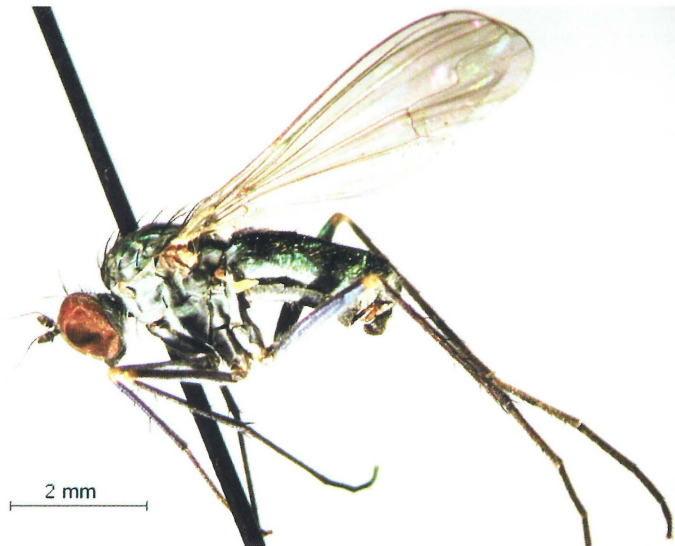


Fig. 4: *Orthoceratium lacustre* (Scopoli, 1763).

the Indian Ocean coast in East Africa. In Azerbaijan, it reaches the foothills of the Talysh Mountains. Palearctic: Algeria, Austria, Azerbaijan, Belgium, Bulgaria, Cyprus, Finland, France, Germany, Greece, Ireland, ?Israel, Italy, Madeira, Netherlands, Portugal, Spain, Tunisia, Ukraine (Crimea), United Kingdom and “Yugoslavia”; Afrotropical: Tanzania.

Genus *Rhaphium* Meigen, 1803

***Rhaphium fissum* Loew, 1850**

(Fig. 5)

Material examined: 1 ♂, LFM: Egebjerg, 20.V.1914 [Axel Petersen coll.] [NHMA]. Recorded from Denmark for the first time.

Distribution. It is known from Austria, Czechia, Estonia, France, Georgia, Germany, Greece, Hungary, Italy, Norway, Ireland, Netherlands, Poland, Romania, Russia (St Petersburg env., Baikal), Slovakia, Spain, Sweden, Switzerland, “Yugoslavia”, Tajikistan and Korea.

Genus *Sciapus* Zeller, 1842

Remark. Lundbeck (1912) noted that *Sciapus contristans* was taken at many localities in Denmark and suggested that *S. zonatulus* is a synonym of the former. Meuffels & Grootaert (1990) published new species concepts of sister – but apparently different – species of *contristans* group, raised *S. zonatulus* from synonymy and described a new species *S. basilicus*. Marc Pollet (Petersen & Pollet, 2001) re-identified the ZMUC collection of Dolichopodidae and associated almost all the material of the *contristans* group with *S. maritimus* Becker, 1918. There was not any *S. zonatulus* specimen found. Only one male



Fig. 5. *Rhaphium fissum* Loew, 1850.

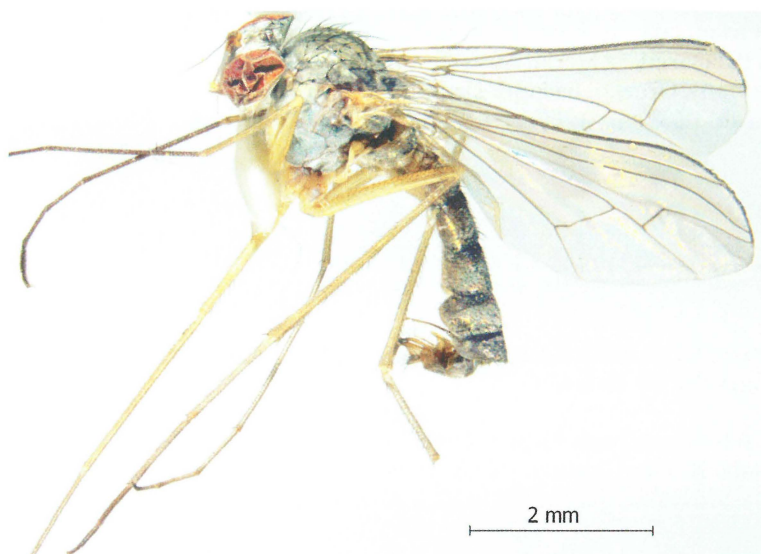


Fig. 6: *Sciapus flavicinctus* (Loew, 1857).

and two females were placed under the label *S. contristans*. I have examined this series, collected at one locality, and found that the specimens belong to *S. basilicus*. I have examined also all specimens standing under the label *S. contristans* in the NMHA and found no specimen of this species. It is worth noting that *S. contristans* sensu Meuffels & Grootaert was earlier excluded from the fauna of Finland and Sweden (Grichanov, 2006), being also extremely rare in Schleswig-Holstein (Hans Meyer, pers. comm. 2009), from where it was originally described. So, in this paper *S. contristans* is finally excluded from the Danish fauna, but with *S. zonatulus* and *S. basilicus* added instead. All these species are reliably distinguished by male genitalia only (see figures in Meuffels & Grootaert, 1990).

***Sciapus basilicus* Meuffels & Grootaert, 1990**

Material examined: 1 ♂, 2 ♀♀, SZ: Fakse Ladeplads, 16-17.VII.1912 / coll. W. Lundbeck [ZMUC]; 1 ♂, SJ: Villebøl, 25.VII.1918 [coll?] [NHMA]. Recorded from Denmark for the first time.

Distribution. Austria, Finland, Germany, Netherlands, Norway, Romania, Sweden, Switzerland and United Kingdom.

***Sciapus zonatulus* (Zetterstedt, 1843)**

Material examined: 1 ♂, EJ: PH58, Anholt, Nordbjerg, 2.VII.2003, leg. R. Bygebjerg [NHMA]. Recorded from Denmark for the first time.

Distribution. Belgium, Finland, Germany, Netherlands, Poland, Spain, Sweden, Switzerland and United Kingdom. A rather common species in some countries, and many old European records of *S. contristans* must be referred to this species.

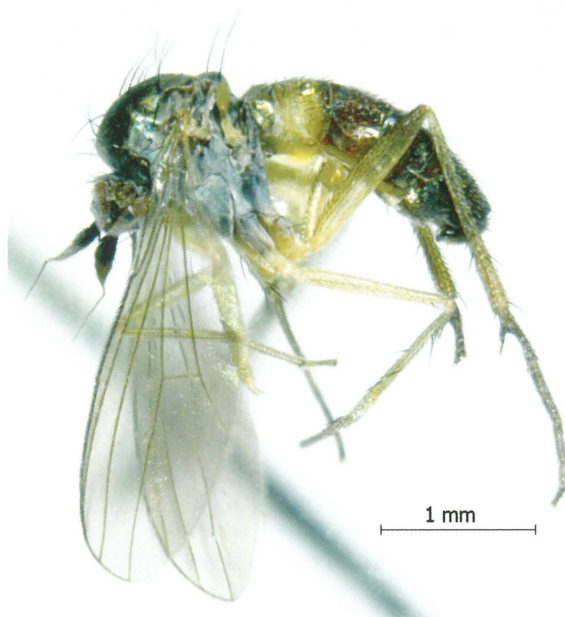


Fig. 7. *Syntormon fuscipes* (von Roser, 1840).

***Sciapus flavicinctus* (Loew, 1857)**

(Fig. 6)

Material examined: 1 ♂, NEZ: UB49, Rude Skov, Femsølyng, 6.VI.1964, W. Buch leg. [ZMUC]. Recorded from Denmark for the first time.

Distribution. Rare species throughout its distribution. Recorded from Azerbaijan, Bulgaria, France, Germany, Greece, Hungary, Italy, ?Israel, Romania; Russia (Krasnodar), Slovakia and Turkey. This is the first record of the species from northern Europe.

Genus *Syntormon* Loew, 1857

***Syntormon fuscipes* (von Roser, 1840)**

(Fig. 7)

Material examined: 1 ♂, SZ: Kærehave, 19.IV.1914 [Axel Petersen coll?] [NHMA]. Recorded from Denmark for the first time.

Distribution. Palaearctic: Andorra, Austria, Belgium, Bulgaria, Czechia, France, Greece, Germany, Hungary, Netherlands, Poland, Romania, Russia (Krasnodar), Ukraine (Crimea), Slovakia, Spain, Sweden, Turkey, United Kingdom, "Yugoslavia"; Afrotropical: Burundi and Kenya.

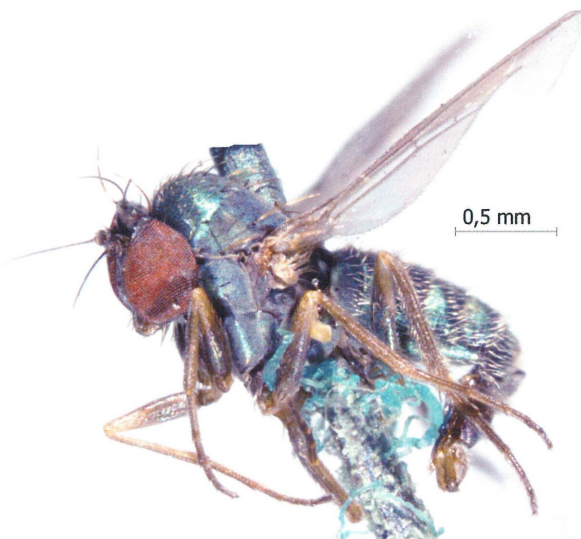


Fig. 8. *Thrypticus pollinosus* Verrall, 1912.

Genus *Thrypticus* Gerstäcker, 1864

***Thrypticus pollinosus* Verrall, 1912**
(Fig. 8)

Material examined: 1 ♂, SJ: Ribe Å [=river] 8.VIII.1918 [coll?] [NHMA]. Recorded from Denmark for the first time.

Distribution. Finland, France, Germany, Netherlands, Russia (Karelia, St Petersburg env.), Sweden, United Kingdom and China.

Discussion

About 400 dolichopodid species are registered from northern Europe (Grichanov, 2006) and 275 in Schleswig-Holstein State of Germany (Meyer, 2009). How complete is our knowledge of the Danish fauna? The number of Swedish species is about 330 (Grichanov & Viklund, 2007), i.e., substantially larger than the about 240 species known from Finland (Kahanpää & Grichanov, 2006) and the 209 from Denmark. Taking into consideration country areas, Schleswig-Holstein (17.4 spp. per 1000 sq.km) and Denmark (4.8 spp. per 1000 sq.km) are at the top with the highest indices, whereas Sweden and Finland each has only 0.7 species. I think a gradual decrease of biodiversity per unit area northward and eastward is an objective trend in northern Europe. Pollet & Petersen (2001) estimated that the number of Danish species could reach 297. The country is flat with little elevation, naturally covered with mixed deciduous forests. It is rather similar by elevation and phytogeography to Schleswig-Holstein that has been intensively collected by dipterists for more than two centuries and especially during the last decades. Therefore, the Danish fauna of long-legged flies probably equals or will slightly exceed that of Schleswig-Holstein State. It is worth noting that of the 10 newly recorded species mentioned in this paper, only *Dolichopus signifer* has not been found in neighbouring Schleswig-Holstein (*S. zonatulus* and *S. basilicus* were probably misidentified, being yet absent in the State list).

Acknowledgements

The work in the ZMUC has been supported by the IAMONET-RU programme. I am greatly indebted to Dr. Thomas Pape (ZMUC) and Søren Tolsgaard (NHMA) for their kindness in giving the opportunity to study the collections of their Museums with valuable support by their collaborators.

References

- Grichanov, I. Ya., 2003-2010. A checklist of species of the family Dolichopodidae (Diptera) of the World arranged by alphabetic list of generic names. [Http://grichanov.fortunecity.com/Genera3.htm](http://grichanov.fortunecity.com/Genera3.htm).
- Grichanov, I. Ya., 2006. *A checklist and keys to North European genera and species of Dolichopodidae (Diptera)*. St.Petersburg: VIZR RAAS. 120 pp.
- Grichanov, I. Ya. & Viklund, B., 2007. Dolichopodidae (Diptera) new to the fauna of Sweden. *International Journal of Dipterological Research* 18(2): 113–118.
- Kahanpää, J. & Grichanov, I., 2006. Dolichopodidae (Diptera) new for the fauna of Finland. *Entomologica Fennica* 17(2): 73–78.
- Lundbeck, W., 1912. *Diptera Danica. Genera and species of flies hitherto found in Denmark. Part 4, Dolichopodidae*. Gad, Copenhagen, 414 pp.
- MacGowan, I., 2005. New records of saproxylic Diptera from Denmark. *Entomologiske Meddelelser* 73(1): 63–66.
- Meuffels, H. & Grootaert, P., 1990. The identity of *Sciapus contristans* (Wiedemann, 1817) (Dolichopodidae, Diptera), and a revision of the species group of its relatives. *Bulletin van het Koninklijk Belgisch Instituut voor Natuurwetenschappen, Entomologie* 60: 161–178.
- Meyer, H., 2009. Bestandsaufnahme und Bibliographie der Langbein-, Tanz- und Rennraubfliegen Schleswig-Holsteins mit Angaben zur Ökologie ausgewählter Arten (Diptera, Empidoidea: Dolichopodidae s. l., Brachystomatidae, Empididae, Hybotidae). *Faunistisch-Ökologische Mitteilungen* 9: 17–60.
- Pollet, M. & Petersen, F. T., 2001. Dolichopodidae. In: Petersen, F. T. & Meier, R. (eds), A preliminary list of the Diptera of Denmark. *Steenstrupia*, 26: 166–170.