

## A REVIEW OF THE ESTONIAN DITOMYIIDAE, KEROPLATIDAE, AND DIADOCIDIIDAE (DIPTERA, NEMATOCERA)

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**Abstract.** Data on 19 Estonian species of Ditomyiidae, Keroplatidae, and Diadocidiidae are presented, 8 of them new to the Estonian list of fauna: *Summerus nobilis* Lacksch. (Ditomyiidae); *Cerotelion humeralis* (Zett.), *Monocentrotia lundstroemi* Edw., *Orfelia pallida* (Staeg.), *O. unicolor* (Staeg.), *Pyratula zonata* (Zett.) (Keroplatidae); *Diadocidia (D.) spinosula* Tollet, *D. (A.) valida* Mik (Diadocidiidae). The northernmost record of *Summerus nobilis* Lacksch. is given.

**Key words:** Diptera, Ditomyiidae, Keroplatidae, Diadocidiidae, Estonia.

Ditomyiidae, Keroplatidae, and Diadocidiidae are small families among the Nematocera (Diptera). Below these families are dealt in accordance with Mamaev & Krivosheina (1988), Krivosheina & Mamaev (1988), and Krivosheina (1988).

In the Palaearctic region 16 species of Ditomyiidae, 61 species of Keroplatidae, and 5 species of Diadocidiidae have been recorded (Mamaev & Krivosheina, 1988; Krivosheina & Mamaev, 1988; Krivosheina, 1988; Zaitzev, 1994).

In the neighbouring areas of Estonia 2 species of Ditomyiidae (Dit.), 23 species of Keroplatidae (Ker.), and 3 species of Diadocidiidae (Diad.) are known (see the Table). Two species – *Summerus annulatus* (Meigen, 1830) (Dit.) and *Keroplatus tipuloides* Bosc, 1792 (Ker.) – are included in the Red Book of Russian Karelia (Ivanter & Kuznetzov, 1995). *Keroplatus tipuloides* (= *sesidioides* Wahlberg, 1839) is also in Red Lists of Finland and Sweden (Rassi & Väisänen, 1987; Ehnström et al., 1993).

Formerly 11 species of Ditomyiidae, Keroplatidae, and Diadocidiidae were registered in Estonia. According to Krivosheina and Mamaev (1988) *Keroplatus tipuloides* has also been recorded in Estonia, but it is obviously a mistake. In the literature available to me, the species has not been recorded in Estonia.

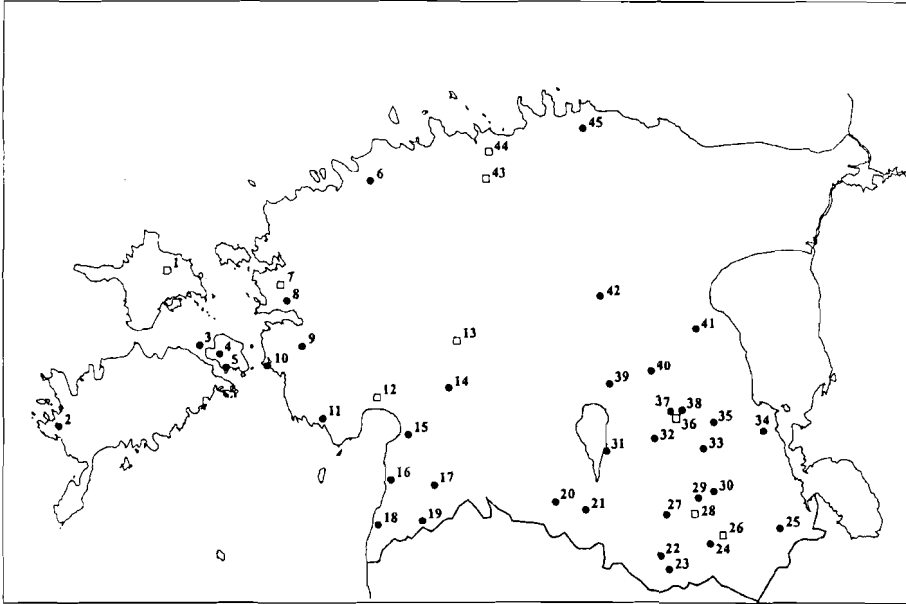
**The species of Ditomyiidae, Keroplatidae, and Diadocidiidae in Estonia and in neighbouring areas**

Fin. – Finland, Lat. – Latvia, Len. D., Kar. – Leningrad District and Russian Karelia, Est. – Estonia

Families/Species	Fin.	Lat.	Len. D., Kar.	Est.
	References*			
<b>Ditomyiidae</b>				
<i>Summerus annulatus</i> (Meig.)	1	3	7	3, 10
<i>S. nobilis</i> Lacksch.	–	3	–	10
<b>Keroplatidae</b>				
<i>Asindulum nigrum</i> Latr.	–	3	5	3, 10
<i>Cerotelion humeralis</i> (Zett.)	1	3	5, 6	10
<i>C. lineatus</i> (Fabr.)	1	–	–	–
<i>Isoneuromyia semirufa</i> (Meig.)	1	3	5	3, 10
<i>Keroplatus dispar</i> Dufor	–	–	5	–
<i>K. testaceus</i> (Dalman)	1	3	6, 9	3, 10
<i>K. tipuloides</i> Bosc	1, 2	–	7	–
<i>Macrorrhyncha flava</i> Winn.	1	–	5	4, 10
<i>M. rostrata</i> (Zett.)	1	3	5	–
<i>Monocentrotta lundstroemi</i> Edw.	1	–	5	10
<i>Neoplatyura flava</i> (Macq.)	–	3	8	3, 10
<i>N. modesta</i> (Winn.)	1	–	–	–
<i>Orfelia basalis</i> (Winn.)	1	–	–	–
<i>O. discoloria</i> (Meig.)	1	3	5, 9	3
<i>O. fasciata</i> (Meig.)	1	3	–	3, 10
<i>O. nemoralis</i> (Meig.)	1	3	5	3
<i>O. nigricornis</i> (Fabr.)	1	–	5	3
<i>O. pallida</i> (Staeg.)	1	–	–	10
<i>O. unicolor</i> (Staeg.)	1	–	–	10
<i>Platyura bicolor</i> (Macq.)	–	3	–	–
<i>Pyratula zonata</i> (Zett.)	1	–	–	10
<i>Urytalpa ochracea</i> (Meig.)	1	3	–	–
<i>U. trivittata</i> (Lundst.)	1	–	–	–
<b>Diadocidiidae</b>				
<i>Diadocidia</i> ( <i>D.</i> ) <i>ferruginosa</i> (Meig.)	1	3	5	3, 4, 10
<i>D.</i> ( <i>D.</i> ) <i>spinosula</i> Tollet	1	–	–	10
<i>D.</i> ( <i>A.</i> ) <i>valida</i> Mik	1	3	–	10
Total number of species	23	15	15	19

\* 1, Hackman, 1980; 2, Ståhls & Kaila, 1990; 3, Lackschewitz, 1937; 4, Dampf, 1924; 5, Zaitzev, 1994; 6, Krivosheina et al., 1986; 7, Ivanter & Kuznetsov, 1995; 8, Yakovlev & Möttus, 1989; 9, Yakovlev, 1986; 10, Original data, and data not published earlier.

The list of Dampf (1924) contains two species, *Diadocidia (D.) ferruginosa* (Meigen, 1830) (Diad.) and *Macrorrhyncha flava* Winnertz, 1846 (Ker.), collected by him from Määvli bog on Hiiumaa Island (see the Figure) and determined by Landrock. Lackschewitz (1937) abstracted Dampf (1924) and gave also data on



Sampling localities. □ data in literature, • original data and data not published earlier. 1, Määvli bog on Hiiumaa Island (Dampf, 1924); 2, Viidumäe Nature Reserve; 3, Islet of Kõinastu near Muhu Island; 4, Piiri on Muhu Island; 5, Suuremõisa on Muhu Island; 6, Klooga, northwest of Keila; 7, Ridala, southeast of Haapsalu (Lackschewitz, 1937); 8, Oonga, southeast of Haapsalu; 9, Kunila, south of Lihula; 10, Puhtu, near Virtsu; 11, Tõstamaa; 12, Audru (Lackschewitz, 1937); 13, Väandra (Lackschewitz, 1937); 14, Jõesuu, northeast of Pärnu; 15, Uulu, south of Pärnu; 16, Rannametsa, south of Pärnu; 17, northeast coast of Lake Rae, southwest of Kilingi-Nõmme; 18, Kabli, south of Pärnu; 19, Nigula Nature Reserve; 20, Ala, west of Tõrva; 21, Tõrva; 22, west coast of Lake Aheru, southeast of Valga; 23, Hargla, southeast of Valga; 24, west coast of Lake Kahrila, southwest of Võru; 25, Hanikase, west of Võru; 26, Kasaritsa, south of Võru (Lackschewitz, 1937); 27, Sangaste; 28, Piigandi, northwest of Võru (Lackschewitz, 1937); 29, Kiuma, southwest of Põlva; 30, Taevaskoja, north of Põlva; 31, Rannaküla, east coast of Lake Võrtsjärv; 32, Vapramäe, northeast of Elva; 33, Kambja, south of Tartu; 34, Järvselja Experimental Forestry Enterprise, southeast of Tartu; 35, Melliste, southeast of Tartu; 36, Tartu and Tartu Tähtvere (Lackschewitz, 1937); 37, Tiksoja, near Tartu; 38, southwest coast of Lake Vasula, near Tartu; 39, Jürüküla, southwest of Puurmani; 40, Suuresöödi, southeast of Puurmani; 41, Voore, east of Jõgeva; 42, Endla Nature Reserve; 43, Kose, southeast of Tallinn (Lackschewitz, 1937); 44, Raasiku, east of Tallinn (Lackschewitz, 1937); 45, Revoja, near Palmse in Lahemaa National Park.

ten species collected by Kennel and Sintenis from Ridala, Audru, Vändra, Kasaritsa, Piigandi, Tartu, Tartu Tähtvere, Kose, and Raasiku (Figure). According to Lackschewitz the material of Sintenis included also *Zelmira basalis* Winnertz, 1863 = *Orfelia basalis* (Winnertz, 1863) (Ker.) collected from Audru, and *Zelmira modesta* Winnertz, 1863 = *Neoplatoryura modesta* (Winnertz, 1863) (Ker.) collected from Raasiku, but the specimens were later destroyed by pests and they were impossible to check.

In this paper additional material on eight Ditomyiidae, Keroplatidae, and Diadocidiidae species is presented. All Estonian species, except *Summerus nobilis* Lackschewitz, 1937 (Dit.), are widely distributed in Europe (Mamaev & Krivosheina, 1988; Krivosheina & Mamaev, 1988; Krivosheina, 1988; Zaitzev, 1994).

I collected most of the material for the present communication by sweep netting from 31 sites in Estonia (Figure). One specimen of *Cerotelion humeralis* (Zetterstedt, 1850) (Ker.) and one of *Keroplatus testaceus* (Dalman, 1818) (Ker.) were collected by K. Elberg from the inner side of a window in a house at Ala and Hargla. Three specimens of *Diadocidia* (*D.*) *ferruginosa* (Diad.) and one specimen of *D. (A.) valida* Mik, 1874 (Diad.) were collected by K. Kimmel with a light trap from Endla Nature Reserve. One specimen of *Keroplatus testaceus*, one specimen of *Monocentrotro lundstroemi* Edwards, 1925 (Ker.), and two specimens of *Orfelia fasciata* (Meigen, 1804) (Ker.) were collected by H. Remm from Sangaste, Hanikase, and Rannaküla, but the method used is not known.

The material is deposited at the Institute of Zoology and Botany, Tartu, Estonia. Asterisks before the names in the species list indicate new species to Estonia.

## LIST OF SPECIES

### Ditomyiidae

1. *Summerus annulatus* (Meigen, 1830)

Lackschewitz, 1937: 1 (from Kasaritsa, Audru, Piigandi, and Tartu Tähtvere)

Material: 1 ♂, 25. 06. 1995, Piiri on Muhu Island; 1 ♂, 24. 06. 1996, Melliste.  
Total 2 ♂♂.

\*2. *S. nobilis* Lackschewitz, 1937

Earlier known from Germany, Latvia, Ukraine, and Belarus (Lackschewitz, 1937; Stackelberg, 1969; Munroe, 1974; Zaitzev, 1994). This record is the northernmost so far.

Material: 1 ♂, 04. 07. 1994, Nigula Nature Reserve.

## Keroplastidae

### 3. *Asindulum nigrum* Latreille, 1805

Lackschewitz, 1937: 7 (from Kasaritsa)

Material: 1♂, 14. 08. 1992, Oonga.

### \*4. *Cerotelion humeralis* (Zetterstedt, 1850)

Material: 1♂, 18. 06. 1989, Voore; 1♂, 01. 07. 1995, Taevaskoja; 1♂, 14. 07. 1995, Ala, K. Elberg leg. Total 3♂♂.

### 5. *Isoneuromyia semirufa* (Meigen, 1818)

Lackschewitz, 1937: 7 (as *Zelmira semirufa* Meig. from Ridala)

Material: 3♂♂, 05. 08. 1990, 07. 08. 1990, and 13. 07. 1994, Nigula Nature Reserve.

### 6. *Keroplastus testaceus* (Dalman, 1818)

Lackschewitz, 1937: 7 (from Tartu, Kasaritsa, Piigandi, and Audru)

Material: 1♂, 05. 07. 1963, Sangaste, H. Remm leg.; 1♀, 17. 08. 1991, Puhtu; 1♂, 09. 07. 1994, Hargla, K. Elberg leg.; 1♂, 25. 08. 1995, Tõrva. Total 3♂♂ 1♀.

### 7. *Macrorrhyncha flava* Winnertz, 1846

Dampf, 1924: 44 (as *Asindulum flavum* Winn. from Määvli bog on Hiiumaa Island)

Material: 1♂, 21. 08. 1991, Nigula Nature Reserve.

### \*8. *Monocentrotia lundstroemi* Edwards, 1925

Material: 1♂, 25. 07. 1985, Hanikase, H. Remm leg.; 1♀, 26. 06. 1996, Jõesuu. Total 1♂ 1♀.

### 9. *Neoplatyura flava* (Macquart, 1826)

Lackschewitz, 1937: 7 (as *Zelmira flava* Macq. from Audru and Ridala)

Material: 19♂♂ 4♀♀, Piiri on Muhu Island (1995), Oonga (1992, 1995), Nigula Nature Reserve (1990, 1993, 1995, 1996), Kiuma (1995), Tiksoja (1994).

### 10. *Orfelia discoloria* (Meigen, 1818)

Lackschewitz, 1937: 8 (as *Zelmira discoloria* Meig. from Tartu, Kasaritsa, Audru, Raasiku).

### 11. *O. fasciata* (Meigen, 1804)

Lackschewitz, 1937: 7 (as *Zelmira fasciata* Meig. from Tartu, Audru, Kose)

Material: 1♂, 26. 06. 1956, Rannaküla, H. Remm leg.; 1♀, 13. 07. 1957, Sangaste, H. Remm leg.; 1♂, 17. 06. 1989, Voore; 1♂, 01. 07. 1996, Suuremõisa on Muhu Island. Total 3♂♂ 1♀.

12. *O. nemoralis* (Meigen, 1818)

Lackschewitz, 1937: 8 (as *Zelmira nemoralis* Meig. from Tartu)

13. *O. nigricornis* (Fabricius, 1805)

Lackschewitz, 1937: 7 (as *Zelmira nigricornis* Fabr. from Audru and Vändra)

\*14. *O. pallida* (Staeger, 1840)

Material: 1♂, 03. 07. 1994, Nigula Nature Reserve.

\*15. *O. unicolor* (Staeger, 1840)

Material: 1♂ 1♀, 04. 07. 1994 and 11. 07. 1993, Nigula Nature Reserve; 1♂, 18. 06. 1989, Voore. Total 2♂♂ 1♀.

\*16. *Pyratula zonata* (Zetterstedt, 1855)

Material: 1♂, 26. 06. 1993, Viidumäe Nature Reserve; 1♂, 12. 06. 1994, Taevaskoja; 1♀, 02. 07. 1994, Nigula Nature Reserve; 1♀, 03. 07. 1994, coast of Lake Rae. Total 2♂♂ 2♀♀.

## Diadocidiidae

17. *Diadocidia (Diadocidia) ferruginosa* (Meigen, 1830)

Dampf, 1924: 44 (from Määvli bog on Hiiumaa Island)

Lackschewitz, 1937: 6 (from Tartu, Audru, and Kose)

Material: 42♂♂ 3♀♀, Viidumäe Nature Reserve (1988), Kõinastu (1994), Oonga (1993), Klooga (1996), NE coast of Lake Rae (1994), Nigula Nature Reserve (1990, 1991, 1992, 1993, 1994, 1995), Hargla (1994), W coast of Lake Aheru (1994), W coast of Lake Kahrila (1995), Vapramäe (1995), Kambja (1995), Järvselja (1989), Melliste (1994), SW coast of Lake Vasula (1995), Jürikäla (1995), Suuresöödi (1994), Voore (1989); 3♂♂, 04.–11. 06. 1995, Endla Nature Reserve, K. Kimmel leg. Total 45♂♂ 3♀♀.

\*18. *D. (D.) spinosula* Tollet, 1948

Material: 17♂♂ 7♀♀, Piiri on Muhu Island (1995, 1996), Oonga (1989, 1993), Klooga (1996), Kunila (1995), Tõstamaa (1994), Uulu (1995), Rannametsa (1995), Kabli (1995), Nigula Nature Reserve (1991, 1994, 1995), Hargla (1994), Vapramäe (1989, 1995), Lahemaa, Revoja (1996).

\*19. *D. (Adidocida) valida* Mik, 1874

Material: 1♂, 04. 07. 1994, Nigula Nature Reserve; 1♂, 8.–15. 10. 1995, Endla Nature Reserve, K. Kimmel leg. Total 2♂♂.

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## ÜLEVAADE SUGUKONDADEST DITOMYIIDAE, KEROPLATIDAE JA DIADOCIDIIDAE (DIPTERA, NEMATOCERA) EESTIS

Olavi KURINA

On esitatud andmed sugukondade Ditomyiidae, Keroplatidae ja Diadocidiidae Eestis esineva 19 liigi kohta. Nendest kaheksa on leitud Eestis esmakordselt: *Summerus nobilis* Lacksch. (Ditomyiidae); *Cerotelion humeralis* (Zett.), *Monocentrotta lundstroemi* Edw., *Orfelia pallida* (Staeg.), *O. unicolor* (Staeg.), *Pyratula zonata* (Zett.) (Keroplatidae); *Diadocidia (D.) spinosula* Tollet, *D. (A.) valida* Mik (Diadocidiidae). Liigi *Summerus nobilis* Lacksch. leid on siiani kõige põhjapoolsem.