



## Finnish Pipunculidae (Diptera) studies part II: an annotated checklist of Finnish big-headed flies

Christian Kehlmaier & Gunilla Ståhls

Kehlmaier C. & Ståhls G. 2007: Finnish Pipunculidae (Diptera) studies part II: an annotated checklist of Finnish big-headed flies.— *Sahlbergia* 13: 44–68. Helsinki, Finland, ISSN 1237-3273.

The paper represents the second part of a project dealing with the Finnish Pipunculidae fauna. An annotated checklist is provided for Finland, with voucher specimens of each recorded taxon for each biogeographic region where present. The number of species cited for Finland is increased from 78 (including doubtful records) to 107.

*Christian Kehlmaier, University of Lüneburg, Institute of Ecology and Environmental Chemistry, Scharnhorststrasse 1 (Building 13), D-21314 Lüneburg, Germany.*

**Contact address:** *State Natural History Collections Dresden, Museum of Zoology, Königsbrücker Landstrasse 159, D-01109 Dresden, Germany. E-mail: kehlmaier@web.de*

*Gunilla Ståhls, Finnish Museum of Natural History, Entomology department, PO Box 26, FI-00014 University of Helsinki, Finland. E-mail: gunilla.stahls@helsinki.fi*

### Introduction

Ever since Fallén's and Zetterstedt's journeys through Fennoscandia in the early 19<sup>th</sup> century, the Northern European fauna of big-headed flies has been investigated by a fair number of entomologists, dedicating part of their scientific interest in collecting and identifying this inconspicuous but fascinating family of two-winged insects. Being small in size (2–12 mm) and rather uniform in outer appearance, Pipunculidae are hard to detect in the field and species recognition lies hidden in the variability of the genitalic structures. Most frequently, Pipunculidae can be spotted hovering amongst dense herbal vegetation or leaves of bushes and trees in search of food sources (primarily honey dew) and mating partners or for suitable hosts for their parasitic larvae, which have been found developing as endoparasitoids of various families of Auchenorrhyncha (Waloff & Jervis 1987) and only lately also in Tipulidae (Koenig & Young 2007). Female adults possess a pier-

cer-like ovipositor for penetrating the intersegmental skin of their hosts. Some 1.300 species have been described from all biogeographic regions until now (De Meyer 1996, De Meyer & Skevington 2000).

After Hackman (1980) summarized the presence of Pipunculidae in post-war Finland, ending up with a total of 54 species including 9 doubtful records, the taxonomic knowledge has increased rapidly and most genera have been the topic of a revisionary process since then. An excellent example is Albrecht's (1990) pivotal revision on the world-fauna of *Dorylomorpha* Aczél, 1939, largely based on material collected in Finland. Recently, the faunistic records of Finnish Pipunculidae scattered in the literature have been compiled by De Meyer (2004) in the Fauna Europaea database, providing a listing of 75 species names. Additional citations for Finland can be found in Kozánek & Belcari (1995) and Kehlmaier (2005), bringing the Finnish fauna to a total of 78 taxa (including doubtful records) – note that the citations

published in part I of these studies (Kehlmaier 2008) are disregarded at this stage. By comparing these listings to other national lists, e.g. Germany (111), Slovakia (101) or Great Britain (93) (Dempewolf & Sander 1999; Kozánek & Kehlmaier 2004; Falk & Chandler 2005), it becomes evident that a number of widely distributed European species have not been recorded for the Finnish territory in the past. This is due to the fact that the Finnish Pipunculidae fauna by itself has never been the topic of a detailed study. For obtaining a better idea of the species composition of this Northern European country, a project was initiated by Ståhls to revise the collection material of the Finnish Museum of Natural History. Additionally, several private collections of active Finnish dipterologists were partly studied as well as own collecting efforts carried out during various field trips in 2006 and 2007.

Whereas the first part of the studies on Finnish Pipunculidae provides the taxonomic implications resulting from the study of type material, characterisation and illustration of selected species and identification keys (Kehlmaier 2008), the second part presented here gives a detailed account of the Finnish species list, providing voucher specimens of each recorded taxon for as many biogeographical provinces possible plus extra annotations where appropriate.

### Material and Methods

In this study, the following collection acronyms are used throughout the text:

**MZH** = Finnish Museum of Natural History, Helsinki, G. Ståhls & J. Laiho.

**PCAH** = Personal collection A. Haarto, Mynämäki, Finland.

**PCJK** = Personal collection J. Kahanpää, Helsinki, Finland.

**PCKW** = Personal collection K. Winqvist, Turku, Finland.

**ZMT** = Zoological Museum of Turku, Finland, S. Koponen.

For identification of Finnish Pipunculidae, the following key papers can be recommended:

- *Chalarus*: Jervis (1992), Dempewolf (1998) and Kehlmaier (2003).
- *Jassidophaga* & *Verrallia*: Kuznetsov (1992) and Kehlmaier (2006).
- *Nephrocerus*: Grootaert & De Meyer (1989).
- Cephalopsini: De Meyer (1989), Ackland (1993), Kehlmaier & De Meyer (2005) and Kehlmaier (2008).
- Eudorylini: Kehlmaier (2005) and Kuznetsov (1990).
- Pipunculini: Kehlmaier (2008).
- *Dorylomorpha*: Albrecht (1990).
- *Tomosvaryella*: Földvári & De Meyer (1999) and Kehlmaier (2008).

Although several thousand specimens have been checked during the last years, it has to be stated that the entire collection present at MZH could not be revised. At several occasions throughout this paper, the author refers to certain specimens that are currently placed in an “old reference collection” present at MZH. It is assumed that these drawers will be incorporated into the general collection in the near future. Unless stated otherwise, specimens have been determined by the author (‘det. Kehlmaier’) and are in the MZH collection (coll. MZH). In order to save time, not all identified Pipunculidae did get an individual author’s determination label stating the species name. Species marked with an asterisk (\*) are new to the Finnish fauna, although some of them already have been cited in the first part of this study (Kehlmaier 2008). A green label has been attached to all voucher specimens listed below for unambiguously identifying them in the future, stating [‘/’ signifies a line break]: VOUCHER SPECIMEN / Kehlmaier / Finnish Pipunculidae studies. If pinned, the voucher specimens are stored in the general collection under their appropriate species epithet. Alcohol material was stored in vials carrying the green voucher label and placed together in white cardboard boxes.

Some of the voucher specimens preserved in ethanol have also been used for molecular studies and are or will be placed in the DNA voucher collection of the MZH. For these specimens the DNA voucher number (DNA CK####) is supplied in the species list below.

The data labels of many voucher specimens contain a specific number combination referring to the “KKJ national grid coordinate system”. A useful internet resource for locating Finnish town names etc. is the “Citizen’s MapSite—National Land Survey of Finland” freely accessible under <http://kansalaisen.karttapaikka.fi>.

The biogeographic provinces of Finland are shown on the back cover of this issue, or see Haarto & Kerppola (2004).

## Checklist of Finnish Pipunculidae

### CHALARINAE

#### *Chalarus* Walker, 1834

##### \* *Chalarus argenteus* Coe, 1966

*Voucher specimen.* 1 ♀, 8.VIII.2001, Ab, Turku, Satava, Marielund, leg. Winqvist, coll. PCKW.

##### *Chalarus basalis* Loew, 1873

*Voucher specimen.* 1 ♀, 21.VIII.2006, Ok, Pal-tamo, Annila Nature Reserve, 71501:35268, leg. Kehlmaier & Ståhls (DNA CK#99).

*Remarks.* 3 ♀ cited in Jervis (1992) from Ab and N. These specimens are currently on loan to Jervis and do not have a green voucher label (yet) but are included in table 1.

##### *Chalarus brevicaudis* Jervis, 1992

*Voucher specimens.* 1 ♀, Finland, Ab, Karjalohja, Karkali Nature Reserve, 6685:3322, 13.VII.–9.VIII.2006, leg. Ståhls & Jakovlev; 1 ♂, N, Helsinge, leg. Hellén; 1 ♂, 23.VI.2004, Ka, Kotka, Laajaskoskenjärvi, 67161:34925, leg. Kahanpää, coll. PCJK; 1 ♀, 17.VII.2005, Tb, Kannonkoski, 697:40, leg. Winqvist, coll.

PCKW.

*Remarks.* Records provided in Jervis (1992) for 2 ♀ cover Ab and Sa (included in table 1 but no green voucher label yet). Additionally, he lists 2 ♀ under Form A near *brevicaudis* from Ab and Sa.

##### *Chalarus decorus* Jervis, 1992

*Voucher specimens.* 1 ♂, 14.VII.1941, Ab, Perniö, leg. Tiensuu; 1 ♂, 15.VI.1973, Ka, Vehkalahti, leg. Tiensuu.

*Remarks.* Amongst the type material is 1 ♀ from N. 9 non-type females cited in Jervis (1992) originate from Al, Ab, N and Sa (included in table 1; no green voucher label yet).

##### *Chalarus elegantulus* Jervis, 1992

*Voucher specimen.* None.

*Remarks.* The original description is based on the female holotype collected at Ab, Runsala. This specimen is currently on loan and could not be studied but is included in table 1 (no green voucher label yet).

##### *Chalarus fimbriatus* Coe, 1966

*Voucher specimens.* 1 ♂, 4.VI.2002, Al, Lemland, Herrö, 6672:3120, leg. Kahanpää, coll. PCJK; 1 ♂, Ab, Nystad, leg. Hellén; 1 ♂, 21.VI.2004, N, Karjaa, Långå, 66659:3218, leg. Kahanpää, coll. PCJK; 1 ♂, 1.VII.2005, Oa, Maalahti, Petolahdenjokisuu, 69868:32154, leg. Kahanpää, coll. PCJK.

*Remarks.* Jervis (1992) lists 10 ♀ from Al, Ab, N, Ta and Sa. He also cites 2 ♂ as Form C near *fimbriatus* from N. These specimens are included in table 1 (no green voucher label yet).

##### *Chalarus gynocephalus* Jervis, 1992

*Voucher specimen.* None.

*Remarks.* Among the type series Jervis (1992) mentions 1 ♂ paratype from MZH collected in Ab. The specimen is currently on loan but included in table 1 (no green voucher label yet).

***Chalarus indistinctus* Jervis, 1992**

*Voucher specimens.* 1 ♂, 4.VI.2002, Al, Hammarland, Strömman, 6707:101, leg. Haarto, coll. PCAH; 1 ♂, 13.VII.–10.VIII.2003, Sb, Kangaslampi, leg. Laurence; 1 ♂, 18.VI.–15.VII.2006, Lkoc, Pallastunturi NP, Kuusikko, 7550832:3381268, leg. Siitonen, Jakovlev & Penttinen; 1 ♀, 5.VII.2004, Li, Utsjoki, Vuollejärvi, 77761:35290, leg. Kahanpää, coll. PCJK. *Remarks.* 6 ♀ paratypes from Om, Ok, Le and Li plus 8 ♂ and 8 ♀ from N, Sa, Om, Ok and Ks, are listed by Jervis (1992) (included in table 1; no green voucher label yet) of which 1 ♀ paratype and 2 ♂ are deposited at MZH.

***Chalarus juliae* Jervis, 1992**

*Voucher specimens.* 1 ♂, 9.VIII.2006, Ab, Karjalohja, Karkali nature reserve, 6685:3322, leg. Kehlmaier & Ståhls; 1 ♂, 29.VII.2006, N, Mäntsälä, Ohkolanjoki, 67166:33997, leg. et det. Kahanpää, coll. PCJK; 1 ♂, 27.VII.2006, Ta, Sysmä, Jalaanvuori, 68430: 34308, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 18.7.2005, Tb, Kannonkoski, 697:40, leg. Winqvist, coll. PCKW; 1 ♂, 21.VIII.2006, Ok, Paltamo, Annila nature reserve, 71501:35268, leg. Kehlmaier & Ståhls.

***Chalarus latifrons* Hardy, 1943**

*Voucher specimen.* None.

*Remarks.* 11 ♂ and 5 ♀ cited in Jervis (1992) from Al, Ab, N, Sa, Kl, Om and Li (included in table 1; no green voucher label yet). All males and 2 ♀ recorded are deposited at MZH but currently on loan.

***Chalarus perplexus* Jervis, 1992**

*Voucher specimen.* None.

*Remarks.* 1 ♀ paratype listed in Jervis (1992) originates from Om (coll. MZH) and is included in table 1 (no green voucher label yet).

***Chalarus pughi* Coe, 1966**

*Voucher specimen.* 1 ♀, 7.–15.VII.2003, Al,

Nätö, near biological station, 667:10, leg. Ståhls, coll. MZH (DNA CK#47).

*Remarks.* Jervis (1992) provides data for 3 ♀ collected in Al and N (included in table 1; no green voucher label yet).

***Chalarus spurius* (Fallén, 1816)**

*Voucher specimens.* 1 ♂, 18.VI.2003, N, Espoo, Suomenoja, 66763:33730, leg. Kahanpää, coll. PCJK; 1 ♀, 3.VIII.2005, N, Inkoo, Fagervik, 66660:33225, leg. Kahanpää, coll. PCJK; 1 ♂, 9.VI.2006, Sa, Luumäki, Päivärinne, 67549:35144, leg. Kahanpää, coll. PCJK; 1 ♂, 27.VI.1945, Kl, Simpele, leg. Tiensuu.

*Remarks.* 11 ♀ from Ab, N, Ta, Sa and Om are listed in Jervis (1992) and deposited at MZH (included in table 1; no green voucher label yet).

***Chalarus spec. A***

*Voucher specimen.* 1 ♂, 9.VIII.2006, Ab, Karjalohja, Karkali Nature Reserve, 6685:3322, leg. Kehlmaier & Ståhls.

*Remarks.* This species, listed in table 1, is treated as *Chalarus spec. A* in the author's notes and will be part of the subject of a forthcoming study on European *Chalarus* (Kehlmaier & Aßmann in prep.).

***Jassidophaga Aczél, 1939*****\* *Jassidophaga beatricis* (Coe, 1966)**

*Voucher specimens.* 1 ♀, 24.VI.1978, Ab, Kikala, leg. Albrecht; 1 ♀, 10.VII.1976, Ka, Vehkalahti, leg. Tiensuu; 1 ♀, 23.VI.2002, Ta, Sysmä, Sipilä, 6837:428, leg. Kahanpää, coll. PCJK; 1 ♀, 21.VI.1966, Sa, Joutseno, leg. Thuneberg; 1 ♀, Kl, Parikkala, leg. Hellén.

***Jassidophaga fasciata* (Roser, 1840)**

*Voucher specimens.* 1 ♀, Al, Jomala, leg. Frey; 1 ♂, Ab, Lojo, leg. Frey; 1 ♂, N, Helsinki, leg. Tuomikoski; 1 ♂, Sb, Kuopio, leg. Lundström; 1 ♂, Kb, Kondiolaks, leg. Woldstedt; 1 ♂,













10.VII.1956, Lkoc, Pallasj, leg. Wegelius; 1 ♀, 12.VII.1962, Li, Ivalo, leg. Hellén.

*Remarks.* The type specimens of *J. fasciata* have been studied recently and found to be identical with *Verrallia pilosa* var. *setosa* Verrall, 1901 (Kehlmaier 2006).

#### ***Jassidophaga pilosa* (Zetterstedt, 1838)**

*Voucher specimens.* 1 ♀, Al, Hammarland, leg. Frey; 1 ♀, Ab, Nystad, leg. Hellén; 1 ♂ 1 ♀, 24.VI.–3.VII.1988, N, Tvärminne, Stormossen, leg. Albrecht & Keynäs; 1 ♂, 18.VI.1973, Ka, Virolahti, leg. Tiensuu; 1 ♀, Ta, Hausjärvi, leg. Tuomikoski; 1 ♂, Sb, Leppävirta, leg. Lundström; 1 ♂, Kb, Kondiolaks, leg. Woldstedt; 1 ♂, 12.VII.1962, Li, Ivalo, leg. Hellén.

#### ***Jassidophaga villosa* (Rosier, 1840)**

*Voucher specimens.* 1 ♀, 4.–15.VI.2004, Al, Nätö, near biological station, 667:10, leg. Ståhls; 1 ♀, 29.VI.1953, Al, Eckerö, leg. Hellén; 1 ♂, 17.VI.2004, Ab, Lohja, Outamo, 66888:3298, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 29.V.–5.VI.1989, N, Sibbo, Nevas, leg. Albrecht; 1 ♂, Ta, Pälkäne, leg. Hellén; 1 ♂, 17.VI.1948, Sa, Ruokolahti, leg. Hellén; 1 ♀, 5.VII.1957, Sa, Joutseno, leg. Thuneberg; 1 ♀, 9.VII.1961, Kb, Koli Sohlmansv., leg. Backman & Wikström; 1 ♀, 11.VII.1962, Kb, Koli, Lahnajoki, leg. Hackman.

#### ***Jassidophaga spec. A***

*Specimens.* 1 ♀, 20.VI.1979, N, Vanda, 669:39, leg. Albrecht; 1 ♀, 21.–27.VI.1987, N, Sibbo, Stormossen, 6687–8:413–4, leg. Albrecht; 1 ♀, Sb, Iisalmi, leg. Sahlberg; 1 ♀, Kb, Kondiolaks, leg. Grönvik; 1 ♂, Li, Ivalo, leg. Frey (1128).

*Remarks.* At MZH there do exist 1 ♂ and 4 ♀ that show the typical terminalia of *J. fasciata* but differ by various outer morphological features, e.g. chaetotaxy of scutellum and coloration of pollinosity. Using the key in Kuznetsov (1992), the male ends up as *J. kurilensis* (Kuznetsov, 1992), whereas the females key out as

*J. beatricis*. It should be noted that Kuznetsov's idea of female *J. beatricis* is not congruent with the first author's perception, who recently summarized the taxonomic information available for this genus (Kehlmaier 2006). Additional material in combination with molecular data should provide a better idea of the status of these specimens. At present, they are not listed in table 1 and are not regarded as vouchers for this study and hence did not receive a green label.

#### ***Verrallia* Mik, 1899**

##### ***Verrallia aucta* (Fallén, 1817)**

*Voucher specimens.* 1 ♂, Al, Eckerö, leg. Hellén; 1 ♀, 7.VII.1933, Ab, Lojo, leg. Krogerus; 1 ♂, Ab, Nystad, coll. Hellén; 1 ♀, 2.–9.VII.1989, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♂, 26.–28.VI.1990, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 11.VII.1975, Ka, Vehkalahti, leg. Tiensuu; 1 ♂, 22.VI.2002, Ta, Sysmä, Vinturi, 68427:4291, leg. et det. Kahanpää, coll. PCJK; 1 ♂, 17.VII.1954, Sa, Joutseno, leg. Thuneberg; 1 ♂, Kl, Parikkala, leg. Hellén; 1 ♀, 15.7.2003, Tb, Kannonkoski, 697:40, leg. Winqvist, coll. PCKW; 1 ♀, 13.VII.2002, Sb, Riistavesi, Vehkalampi, 69817:5478, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 7.VII.2002, Kb, Ilomantsi, Mutalahti, 69338:7128, leg. et det. Kahanpää, coll. PCJK; 1 ♂, Om, Jakobstad, leg. Frey; 1 ♀, 15.–21.VII.2003, Ok, Vaala, Manamansalo, 7136210:503693, leg. Leinonen, det. Kahanpää, coll. PCJK.

*Remarks.* The name *Verrallia helvetica* Kuznetsov, 1992 has recently been synonymized with *V. aucta* by Kehlmaier (2006).

#### **NEPHROCERINAE**

##### ***Nephrocerus* Zetterstedt, 1838**

##### ***Nephrocerus flavicornis* Zetterstedt, 1844**

*Voucher specimens.* 1 ♂, 24.VI.2004, Ka, Virolahti, Vilkkilän tura, 67123:5386, leg., det.

Kahanpää, coll. PCJK; 1 ♀, Sa, Kangaslampi, 21.VI.–14.VII.2003, leg. Laurene; 1 ♂, 20.VI.–7.VII.2004, Tb, Jyväskylä, Eerolanlahti, 69055:4338, leg. et det. Kahanpää, coll. PCJK; 1 ♂, Sb, [Maaninka], Tuovilanlaks, leg. Palmen.

***Nephrocerus lapponicus* Zetterstedt, 1838**

*Voucher specimens.* 1 ♂, Al, Jomala, leg. Hellén; 1 ♂, Ab, Kustö, leg. Lundström; 1 ♂, Ta, Sääksmäki, 15.VI.1932 (?), leg. Kivirikko; 1 ♀, 13.VI.2004, Ta, Evo, leg. Ståhls; 1 ♀, 28.VI.1946, Ta, Orivesi, leg. Tiensuu; 1 ♂, 4.VII.2006, Sb, Maaninka, Korkeakoskenpuro, 701548:350398, leg. et det. Kahanpää, coll. PCJK; 1 ♂, Lkoc, Pallastunturit, 1.VIII.1951, leg. Kaisila; 1 ♀, Li, Ivalo, leg. Hellén.

***Nephrocerus scutellatus* (Macquart, 1834)**

*Voucher specimens.* 1 ♀, Ab, Kustö, leg. Lundström, coll. MZH; 1 ♀, 3.–19.VII.2004, N, Hanko, leg. Söderman, det. Kahanpää, coll. PCJK.

**PIPUNCULINAE**

**Pipunculini**

***Pipunculus* Latreille, 1802**

**\* *Pipunculus calceatus* Roser, 1840**

*Voucher specimens.* 1 ♂, 22.–28.VI.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 7.–13.VII.1985, N, Sibbo, 668:41, leg. Albrecht; 1 ♀, 6.VII.2006, Ok, Hyrynsalmi, Raiskion Rutju, 71770:35619, leg. Kahanpää, coll. PCJK.

***Pipunculus campestris* Latreille, 1802**

*Voucher specimens.* 1 ♂, 11.VI.2007, Al, Finström, Norrö, 67022:1026, leg. Haarto, coll. PCAH; 1 ♂, 22.VII.2006, Ab, Turku, Satava, 670:23, leg. Winqvist, coll. PCKW; 1 ♂, 1.–6.VII.1985, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♂, 19.VIII.2004, St, Yläne, leg. Winqvist, coll. PCKW; 1 ♂, 12.VI.2004, Oa,

Mustasaari, Iskmo, 70259:2283, leg. Kahanpää, coll. PCJK; 1 ♂, 7.VI.2007, Tb, Jyväskylä, Kypärämäki, leg. Winqvist, coll. PCKW; 1 ♂, 4.VII.2006, Sb, Maaninka, Korkeakoskenpuro, 701548:350398, leg. Kahanpää, coll. PCJK; 1 ♂, 16.VII.2007, Le, Enontekiö Saana, 76764:2523, leg. Haarto, coll. PCAH; 1 ♂, 8.VII.2007, Li, Utsjoki, along roadside, 77586:35009, leg. Ståhls.

**\* *Pipunculus dimi* Kuznetsov, 1991 (Fig. 1)**

*Voucher specimens.* 1 ♀, 23.VI.1990, N, Borgå, Borgbacken, 6699:425, leg. Albrecht.

*Remarks.* The species has previously only been recorded from Latvia and Italy.

***Pipunculus elegans* Egger, 1860**

*Voucher specimens.* 1 ♀, 23.–29.VI.2003, Al, Nätö, near biological station, 667:10, leg. Ståhls; 1 ♀, 12.VII.–24.VIII.2005, Ab, Turku, Ruissalo, leg. Ståhls; 1 ♂ 1 ♀, 4.–10.VIII.1985, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 13.VII.–10.VIII.2003, Sa, Kangaslampi, leg. N. Laurene.

*Remarks.* The name *P. elegans* applies to the morphospecies previously known as *P. spinipes* auct. nec Meigen, which has been shown to be conspecific with *P. campestris* in the first part of this project (Kehlmaier 2008).

***Pipunculus fonsecai* Coe, 1966**

*Voucher specimens.* 1 ♀, 5.VII.2004, Ab, Turku, Satava, 670:23, leg. Winqvist, coll. PCKW; 1 ♀, 23.–30.VI.1985, N, Sibbo, Nevas, 6687:412, leg. Albrecht.

*Remarks.* This species is listed in Kozánek & Belcari (1995; their table 1) for Finland but no collection data is given.

***Pipunculus lenis* Kuznetsov, 1990**

*Voucher specimens.* 1 ♀, 15.–17.VII.2003, Al, Nätö, near biological station, 667:10, leg. Ståhls; 1 ♂, 8.VII.2002, Ab, Mietoinen, Perko, 6733:222, leg. Haarto, coll. PCAH; 1 ♀,



Fig. 1: Female paratype of *Pipunculus dimi* Kuznetzov, 1991 (Italy, Vallambrosa, coll. DEI — Deutsches Entomologisches Institut, Müncheberg, Germany). Insect pin was digitally rendered (photo Christian Kehlmaier).

29.VI.–4.VII.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♂, 13.VII.2002, Kb, Outokumpu, Sysmäjärvi, 69572:6057, leg. Kahanpää, coll. PCJK.

*Remarks.* The name *P. lenis* applies to the morphospecies previously regarded as *P. thomsoni* auct. nec Becker (sensu Kozánek 1981a, b), the latter being conspecific with *P. campestris* as shown in the first part of this project (Kehlmaier 2008).

\* ***Pipunculus lichtwardti* Kozánek, 1981**

*Voucher specimen.* 1 ♀, 27.VII.2006, Ta, Sysmä, Nilkkimäki, 68409:34306, leg. Kahanpää, coll. PCJK.

\* ***Pipunculus oldenbergi* Collin, 1956**

*Voucher specimens.* 1 ♂, 15.VI.2004, N, Helsinki, Kallahdenniemi, 6676:397, leg. Kahanpää, coll. PCJK; 1 ♀, 3.VII.2003, Kl, Parikkala KKO, 6828:633, leg. Haarto, coll. PCAH.

\* ***Pipunculus omissinervis* Becker, 1889**

*Voucher specimens.* 1 ♂, 16.VI.2004, Ab, Lohja, Vainiola, 6680:328, leg. Haarto, coll.

PCAH; 1 ♂, 22.–26.VIII.1984, N, Sibbo, Nevas, 6687:412, leg. Albrecht & Pekkarinen; 1 ♂, 17.VIII.2002, Ta, Hartola, 634:45, leg. Winqvist, coll. PCKW; 1 ♂, 10.VII.2004, Tb, Kannonkoski, 697:40, leg. Winqvist; 1 ♂, 6.VII.2006, Ok, Paltamo, Hevossuo, 71361:35518, leg. Kahanpää, coll. PCJK; 1 ♂, 8.VII.2007, Li, Kevonsuu, 77422:34997, leg. Ståhls.

\* ***Pipunculus tenuirostris* Kozánek, 1981**

*Voucher specimens.* 4 ♀, 7.–15.VII.2003, Al, Nätö, near biological station, 667:10, leg. Ståhls; 1 ♀, 8.VII.1984, Ab, Kiikala, 671:30, leg. Albrecht; 1 ♂, 3.–10.VII.1983, N, Sibbo, 669:40, leg. Albrecht & Pekkarinen; 1 ♀, 5.–11.VII.1987, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 28.VI.2006, Sa, Rantasalmi, 688:566, leg. Seppänen, coll. PCAH; 1 ♂, 4.VII.2006, Sb, Maaninka, Korkeakoskenpuro, 701548:350398, leg. Kahanpää, coll. PCJK.

\* ***Pipunculus violovitshi* Kuznetzov, 1991**

*Voucher specimens.* 1 ♂, 24.VII.–6.VIII.1989, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 16.–23.VII.1990, N, Tvärminne, 6642:287, leg. Albrecht; 1 ♀, 15.VI.2002, Ta, Hartola, sorakoppa, 68420:4503, leg. Kahanpää, coll. PCJK.

*Remarks.* Originally described from the eastern Palaearctic (Kuznetzov 1991), *P. violovitshi* was recently found to be the only available name for *P. varipes* auct. nec Meigen, the latter being transferred to *Cephalops* by Kehlmaier (2008).

\* ***Pipunculus zugmayeriae* Kowarz, 1887**

*Voucher specimens.* 1 ♂, 1.VII.2002, Ab, Turku, Satava, 6706:232, leg. et det. Winqvist, coll. ZMT; 1 ♀, 15.VI.2003, Ta, Hattula, Parola, 67743:3571, leg. Kahanpää, coll. PCJK.

*Remarks.* Kahanpää & Winqvist (2003) already published the specimen from Turku.

## CEPHALOPSINI

### *Cephalops* Fallén, 1810

#### *Cephalops (Cephalops) aeneus* Fallén, 1810

*Voucher specimens.* 1 ♀, 31.VII.1961, Al, Eckerö, Storby, leg. Hellén; 1 ♂, 9.VIII.2006, Ab, Karjalohja, Karkali Nature Reserve, 6685:3322, leg. Kehlmaier & Ståhls; 1 ♂, 15.–21.VI.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 13.–19.VII.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♂, 20.VII.2002, Ta, Hartola, 68390:4502, leg. et det. Kahanpää, coll. PCJK; 1 ♂, Sa, Taipalsaari, leg. Hellén; 1 ♂, 30.VII.1959, Oa, Lappfjärd, leg. Nordström; 1 ♂, Sb, Idensalmi, leg. Palmén; 1 ♂, 17.VIII.2006, Ok, Kuhmo, Teerisuo-Lososuo Nature Reserve, 70920:36085, leg. Kehlmaier & Ståhls; 1 ♂, 15.VII.–15.VIII.2006, Lkoc, Kolari, Poltettu saajo, 7462492:3360949, leg. Siitonen, Jakovlev & Penttinen.

#### *Cephalops (Cephalops) vittipes* (Zetterstedt, 1844)

*Voucher specimens.* 1 ♀, 7.–15.VII.2003, Al, Nåtö, near biological station, 667:10, leg. Ståhls; 1 ♀, Ab, Lojo, leg. Storå; 1 ♂, 22.–28.VI.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 15.–21.VI.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♂, 15.VII.1976, Ka, Vehkalahti, leg. Tiensuu; 1 ♂, 1953, St, Kokemäki, leg. Tuomikoski; 1 ♀, Ta, Kalvola, leg. Borg; 1 ♂, 13.VII.–10.VIII.2003, Sa, Kangaslampi, leg. Laurene; 1 ♂, 22.VI.1925, Om, Vetil, leg. Nessling; 1 ♂, 2.VII.2003, Ok, Sotkamo, 7116:544, leg. Haarto, coll. PCAH; 1 ♂, 10.VII.2004, Obb, Rovaniemi, Pöyliöjärvi, 73730:34456, leg. Kahanpää, coll. PCJK; 1 ♀, Ks, Kuusamo, leg. Mäklin; 1 ♀, Lkoc, Lapponia, leg. Palmén; 1 ♂, 1.VIII.1951, Lkoc, Pallastunturi, leg. Kaisila.

*Remarks.* In the online version of the Draft Catalogue of Finnish Flies (Kahanpää 2007) the name *Cephalops annulipes* (Zetterstedt, 1838)

is currently used instead of *C. vittipes*. This might be due to the fact, that the female paralectotype of [originally *Pipunculus*] *annulipes* represents *C. vittipes* according to Collin (1956) whereas the male lectotype of *P. annulipes*, designated by Collin (1956), is considered synonymous with *D. maculata* (Walker, 1834).

#### *Cephalops (Parabeckerias) obtusinervis* (Zetterstedt, 1844)

*Voucher specimens.* 1 ♀, 23.–29.VI.2003, Al, Nåtö, near biological station, 667:10, leg. Ståhls; 1 ♂, 22.V.–19.VI.2005, Ab, Turku, Satava, 670:23, leg. et det. Winqvist, coll. PCKW; 1 ♂ 1 ♀, 8.–14.VI.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♂, 25.VI.1974, Ka, Vehkalahti, leg. Tiensuu; 1 ♂, 22.V.1980, Ta, Lammi, biological station, 677:39, leg. Väisänen; 1 ♀, 7.VI.1956, Sa, Joutseno, leg. Thuneberg; 1 ♀, Kl, Parikkala, leg. Hellén; 1 ♂, 20.VI.1938, Ks, Salla, leg. Karvonen.

#### *Cephalops (Semicephalops) carinatus* (Verrall, 1901)

*Voucher specimens.* 1 ♂, 30.VIII.1976, Ab, Pojo, 6668:305, leg. Albrecht; 1 ♀, 22.VIII.1976, Ab, Bromarv, Könick, 665:27, leg. Grönlund; 1 ♂ 1 ♀, 11.–17.VIII.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 1.X.1976, Ka, Vehkalahti, leg. Tiensuu; 1 ♂, 6.IX.1952, Sa, Joutseno, leg. Thuneberg; 1 ♀, 15.VIII.2006, Ok, Kuhmo, at Kainuu Regional Environment Centre, 71160:36259, leg. Kehlmaier & Ståhls.

*Remarks.* This generally regarded rare taxon was collected in exceptionally large numbers (several hundred specimens) at the locality “N, Sibbo, Nevas” by means of Malaise traps situated at the transition between a deciduous forest and a meadow/bog.

#### *Cephalops (Semicephalops) straminipes* (Becker, 1900)

*Voucher specimens.* 1 ♀ (paralectotype of *Pi-*

*punculus chlorionae* Frey, 1945), 17.VII.1943, Al, Eckerö, leg. Lindberg; 1 ♂, 27.VII.1938, Ab, Lojo, leg. Lindberg; 1 ♂ 1 ♀, N, Tvärminne, leg. Lindberg; 1 ♀, 1.IX.2002, Ta, Hartola, 6840:3449, leg. Kahanpää, coll. PCJK.

*Remarks.* Synonymized recently with *Cephalops chlorionae* (Frey, 1945) by Kehlmaier & De Meyer (2005).

***Cephalops (Semicephalops) subultimus* Collin, 1956**

*Voucher specimens.* 1 ♀, 27.VII.1938, Ab, Lojo, leg. Lindberg; 1 ♂, Ab, Pargas, leg. Hackman; 1 ♂, 19.–31.VIII.1985, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 11.–17.VIII.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 23.VIII.1962, Ta, Forssa, leg. Käpylä; 1 ♂, 3.VIII.1961, Sa, Joutseno, leg. Thuneberg; 1 ♂, 19.VIII.1952, Sa, Savonlinna, leg. Thuneberg; 1 ♂, Tb, Keuru, leg. Hellén; 1 ♂, 21.VIII.2006, Ok, Paltamo, Myllymäki Nature Reserve, 71450: 35323, leg. Kehlmaier & Ståhls.

***Cephalops (Semicephalops) varipes* (Meigen, 1824)**

*Voucher specimens.* 1 ♀, 30.VI.–6.VII.2003, Al, Nätö, near biological station, 667:10, leg. Ståhls; 1 ♂, 20.VIII.1947, Ab, Lojo, leg. Hellén; 1 ♂, 12.VII.1976, N, Tvärminne, 664:28, leg. Albrecht; 1 ♂ 1 ♀, 25.IX.1947, Sa, Joutseno, leg. Thuneberg; 1 ♀, 13.7.2004, Tb, Kannonkoski, 697:40, leg. Winqvist, coll. PCKW; 1 ♂, 18.VIII.2006, Ok, Kuhmo, Teerisuo-Lososuo Nature Reserve, 70920:36085, leg. Kehlmaier & Ståhls.

*Remarks.* In the first part of these studies, the lectotype of *Pipunculus varipes* Meigen, 1824 was found to represent a species of *Cephalops*, being conspecific with *Cephalops semifumosus* (Kowarz, 1887).

***Cephalosphaera* Enderlein, 1936**

***Cephalosphaera (Cephalosphaera) furcata* (Egger, 1860)**

*Voucher specimens.* 1 ♂, 27.VI.1933, Ab, Lojo, leg. Krogerus; 1 ♂, 3.–10.VII.1983, N, Sibbo, 669:40, leg. Albrecht & Pekkarinen; 1 ♀, 19.VI.1978, N, Hangö, 6649:286–7, leg. Albrecht; 1 ♂, 16.VI.1975, Ka, Vehkalahti, leg. Tiensuu; 1 ♀, Ta, Kangasala, leg. Frey; 1 ♂, 6.VII.2006, Ok, Ristijärvi, Lehtipuro, 71509:35577, leg. Kahanpää, coll. PCJK.

***Cephalosphaera (Cephalosphaera) germanica* Aczél, 1940**

*Voucher specimens.* 1 ♂, Ab, Uskela, leg. Mäklin; 1 ♀, 17.–29.VI.1989, N, Hangö, Skolmosen, leg. Albrecht; 1 ♀, 10.VII.2004, Obb, Rovaniemi maalaiskunta, Kampsala, 73609:4670, leg. et det. Kahanpää, coll. PCJK; 1 ♀, Le, Kilpisjärvi, leg. Nordman.

**MICROCEPHALOPSINI**

***Microcephalops* De Meyer, 1989**

***Microcephalops opacus* (Fallén, 1816)**

*Voucher specimens.* 1 ♀, 30.VI.–6.VII.2003; Al, Nätö, near biological station, 667:10, leg. Ståhls; 1 ♀, 19.VIII.2006, Ab, Turku, Satava, 670:23, leg. Winqvist, coll. PCKW; 1 ♀, 12.VII.1977, N, Tvärminne, 6642:288, leg. Albrecht; 1 ♀, 17.VI.1948, Sa, Ruokolahti, leg. Hellén; 1 ♂, 21.VIII.2006, Ok, Paltamo, Myllymäki Nature Reserve, 71450: 35323, leg. Kehlmaier & Ståhls.

**EUDORYLINI**

***Clistoabdominalis* Skevington, 2001**

**\* *Clistoabdominalis doczkali* Kehlmaier, 2005**

*Voucher specimen.* 1 ♀, 13.VII.–10.VIII.2003, Sa, Kangaslampi, leg. Laurenne.

***Eudorylas* Aczél, 1940*****Eudorylas angustimembranus* Kozánek & Kwon, 1991**

*Voucher specimens.* 1 ♂, 9.VII.2002, Ab, Miettinen, Perkkio, 6733:222, leg. Haarto, coll. PCAH; 1 ♀, 13.–19.VII.1986, N, Sibbo, Nevas, leg. Albrecht.

*Remarks.* Recently synonymized with *Eudorylas kozaneki* De Meyer, 1993 by Kehlmaier (2005).

**\* *Eudorylas arcanus* Coe, 1966**

*Voucher specimen.* 1 ♂, 18.VII.1993, Ab, Miettinen, 673:22, leg. Haarto, coll. PCAH.

**\* *Eudorylas barkalovi* Kuznetsov, 1990**

*Voucher specimens.* 1 ♀, 11.–18.VIII.1985, N, Sibbo, 668:41, leg. Albrecht & Pekkarinen; 1 ♀, 19.VIII.2006, Ok, Kuhmo, Iso Lentuankoski, 71240:36260, leg. Kehlmaier & Ståhls (DNA CK#161); 1 ♀, 29.VII.2003, Le, Kilpisjärvi, Saana, itärinne, 7673:3255, leg. Kahanpää, coll. PCJK.

*Remarks.* The species represents a first record for Europe and belongs to the *Eudorylas elephas* group as outlined in Kehlmaier (2005). It can be identified by the characteristic ovipositor with its gently curved piercer as illustrated in Kuznetsov (1990).

**\* *Eudorylas carpathicus* Kozánek, 1993**

*Voucher specimen.* 1 ♂, 3.–10.VII.1983, N, Sibbo, Gesterby, 669:40, leg. Pekkarinen & Albrecht.

***Eudorylas coloratus* (Becker, 1897)**

*Voucher specimens.* 1 ♂, 5.–11.VII.1987, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 3.VII.1985, N, Borgå lk, Kullo, leg. Albrecht; 1 ♀, St, Karkku, leg. Hellén; 1 ♂, 22.VI.2002, Ta, Sysmä, Vintturi, 68420:34305, leg. Kahanpää, coll. PCJK; 1 ♂, 11.–17.VII.2001, Kl, Parikkala, 68201:36285, leg. Sinkkonen, Linden

& Kahanpää, coll. PCJK.

*Remarks.* The true identity of *E. coloratus* has only lately been established by Kehlmaier (2005) who also lists two ♂ and one ♀ from Ta (Lammi biological station, coll. HNHM). Almost all former authors have addressed the taxon as *E. fascipes* auct. nec (Zetterstedt, 1844).

***Eudorylas elephas* (Becker, 1897)**

*Voucher specimens.* 1 ♂, Ab, Finby, leg. Hellén; 1 ♂, 29.VII.–3.VIII.1985, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 1.–6.VII.1985, N, Sibbo, Nevas, 6687:412, leg. Albrecht & Pekkarinen; 1 ♂, 21.VIII.2006, Ok, Paltamo, Annila Nature Reserve, 71501:35268, leg. Kehlmaier & Ståhls (DNA CK#263).

**\* *Eudorylas fascipes* (Zetterstedt, 1844)**

*Voucher specimens.* 1 ♂, 24.V.2002, Ab, Kaarina, Rauhalinna, 6708:247, leg. Mukkala, coll. PCAH; 1 ♂, 23.VI.1979, N, Sibbo, 668:39, leg. Albrecht.

*Remarks.* The identity of this species has only recently been re-analyzed by Kehlmaier (2005). Citings of *E. fascipes* by other authors have to be regarded as doubtful as they most probably refer to *E. coloratus*.

***Eudorylas furvulus* Collin, 1956**

*Voucher specimens.* 1 ♂, 8.VIII.2003, Ab, Dragsfjärd, Kasnäs, 6654:243, leg. Haarto, coll. PCAH; 1 ♂, 22.VI.2002, Ta, Sysmä, Vintturi, 68420:34305, leg. Kahanpää, coll. PCJK; 1 ♂, 6.VIII.1940, Om, Jakobstad, Varvet, leg. Storå (No. 45).

***Eudorylas fuscipes* (Zetterstedt, 1844)**

*Voucher specimens.* 1 ♀, 10.VIII.1976, Ab, Bromarv, leg. Albrecht; 1 ♂, 15.VIII.1976, N, Tvärminne, 6642:289, leg. Albrecht; 1 ♀, Ta, Teisko, leg. Frey; 1 ♂, 18.VIII.2006, Ok, Kuhmo, Teerisuo-Lososuo Nature Reserve, 70920:36085, leg. Kehlmaier & Ståhls.

*Remarks.* The female from Teisko has pre-

viously been misidentified as *Pipunculus roseri* Becker, 1897. It is placed in an old reference collection (drawer 11) under the epithet *Roseri*.

***Eudorylas fuscus* (Zetterstedt, 1844)**

*Voucher specimens.* 1 ♂, 7.–15.VII.2003, Al, Nåtö, near biological station, 667:10, leg. Ståhls; 1 ♂, 30.VIII.1976, Ab, Pojo, Po 1 [site no. 1], 6668:305, leg. Albrecht; 1 ♀, 15.VIII.1975, Ab, Lojo Lk., 6680:334, leg. Albrecht; 1 ♂, 21.VII.1978, N, Tvärminne, 6642:289, leg. Albrecht; 1 ♀ 6.VIII.1976, N, Tvärminne, 6642:288, leg. Albrecht; 1 ♀, 30.VII.2005, St, Karvia, Pohjankangas, 69025:32661, leg. et det. Kahanpää, coll. PCJK; 1 ♂, 1.IX.2002, Ta, Hartola, Korvenpohja, 68396:34497, leg. Kahanpää, coll. PCJK; 1 ♀, 26.VII.2002, Sa, Puumala, Laakko, 68197:5683, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 30.VII.2005, Oa, Teuva, Ritämäki, 69454:32291, leg. et det. Kahanpää, coll. PCJK; 1 ♂, 13.VII.2002, Sb, Riistavesi, Vehkalampi, 69817:35478, leg. Kahanpää, coll. PCJK; 1 ♂, 7.VII.2002, Kb, Lieksa, Vuonijärvi, 70076:6580, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 15.VIII.2006, Ok, Kuhmo, at Kainuu Regional Environment Centre, 71160:36259, leg. Kehlmaier & Ståhls.

***Eudorylas goennersdorfensis* Dempewolf & Dunk, 1996**

*Voucher specimens.* 1 ♂, 15.VII.1976, Ab, Pojo, Baggby, 666:30, leg. Albrecht; 1 ♂ 1 ♀, 17.VI.1990, N, Tenala, Skogby, 6652:294, leg. Albrecht; 1 ♂ 1 ♀, 4.VII.1980, Kb, Ilomantsi, Mekrijärvi, 696:70, leg. Albrecht.

*Remarks.* Kehlmaier (2005) lists one male from Ta (Lammi biological station, coll. HNHM).

**\* *Eudorylas inferus* Collin, 1956**

*Voucher specimens.* 1 ♂, 25.VI.2002, Ab, Mietoinen, Perkko, 6733:222, leg. Haarto, coll. PCAH; 1 ♂, 6.VII.1977, N, Tvärminne, 6642:289, leg. Albrecht; 1 ♀, 7.VII.1977, N, Tvärminne, 6642:284, leg. Albrecht.

**\* *Eudorylas jenkinsoni* Coe, 1966**

*Voucher specimens.* 1 ♂, 18.VIII.–2.IX.2003, Al, Nåtö, near biological station, 667:10, leg. Ståhls; 1 ♀, 11.VIII.2002, Ab, Mietoinen, 6733:222, leg. Haarto, coll. PCAH; 1 ♂ 1 ♀, 11.–18.VIII.1985, N, Sibbo, 668:41, leg. Albrecht & Pekkarinen; 1 ♂, 31.VIII.2002, Ta, Hartola, Korvenpohja, 68396:34497, leg. Kahanpää, coll. PCJK; 1 ♀, 21.VIII.2006, Ok, Paltamo, Myllymäki Nature Reserve, 71450:35323, leg. Kehlmaier & Ståhls.

**\* *Eudorylas johndae* Dempewolf, 1996**

*Voucher specimens.* 1 ♂, 15.VI.1978, N, Tvärminne, 6642:289, leg. Albrecht; 1 ♂, 1.VII.2003, Ks, Salla Naruska, Elola, 7453:593, leg. Haarto, coll. PCAH.

*Remarks.* The specimens fit well to the redescription presented by Kehlmaier (2005). However, it should be noted that the species status is not beyond doubt as *E. johndae* might be revealed as a junior synonym of the rather variable *E. obscurus* in the future. A molecular approach should test this hypothesis.

**\* *Eudorylas kowarzi* (Becker, 1897)**

*Voucher specimens.* 1 ♂, 10.VI.2001, Ab, Turku, Ruissalo, 6711:234, leg. Mukkala, coll. PCAH; 1 ♂, 22.–28.VI.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 17.–24.VI.1984, N, Sibbo, Nevas, 6687:412, leg. Albrecht.

**\* *Eudorylas montium* (Becker, 1897)**

*Voucher specimens.* 1 ♂, Ab, Kustö, leg. Lundström; 1 ♂ 1 ♀, 13.–23.VII.1989, N, Hangö, Skolmossen, leg. Albrecht; 1 ♂, Ta, Hattula, leg. Hellén; 1 ♂, 9.VII.2006, Obb, Tervola, Mulkosilmälampi, 734884:340802, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 7.VII.2006, Ks, Kuusamo, Antinvaara, 73390:36039, leg. Kahanpää, coll. PCJK.

**\* *Eudorylas obscurus* Coe, 1966**

*Voucher specimens.* 1 ♂, 24.VI.1978, Ab,



Kiikala, 6710:311, leg. Albrecht; 1 ♂, 19.VI.1979, N, Vanda, 669:39, leg. Albrecht; 1 ♂, 27.VI.1976, Ka, Vehkalahti, leg. Tiensuu; 1 ♂, 6.V.–15.VI.2000, Ta, Somero, Hängtälä, 6724:301, leg. Haarto & Mukkala, coll. PCAH; 1 ♂, 9.VI.2006, Sa, Luumäki, Päivärinne, 67549:35144, leg. Kahanpää, coll. PCJK; 1 ♂, 9.VI.1979, Kb, Tohmajärvi, 690:67, leg. Albrecht; 1 ♂, 8.VI.1980, Oba, Ylikiiminki, 723:46, leg. Albrecht.

*Remarks.* Because of the not entirely resolved taxonomic situation within the *Eudorylas sulcatus* species group (Kehlmaier 2005), females are treated as *E. obscurus* agg.

\* ***Eudorylas restrictus* Coe, 1966**

*Voucher specimens.* 1 ♂, 18.VIII.–2.IX.2003, Al, Nätö, near biological station, 667:10, leg. Ståhls; 1 ♂, 18.VIII.2005, Ab, Karjalohja, Karkalinniemi, 6685:3322, leg. Ståhls; 1 ♂ 1 ♀, 24.–30.VII.1989, N, Hangö, Skolmossen, 664:28, leg. Albrecht; 1 ♂, 5.VIII.2000, Ka, Imatra, 6787:595, leg. Järveläinen, coll. PCAH; 1 ♂, 11.IX.2004, Ta, Lammi, 677:39, leg. Ståhls; 1 ♀, 13.VII.–10.VIII.2003, Sa, Kangaslampi, leg. Laurene; 1 ♀, 27.VII.2005, Oa, Kristiinankaupunki, Santaheininrämmäkkä, 69213:32240, leg. et det. Kahanpää, coll. PCJK; 1 ♂, 16.VIII.1940, Om, Jakobstad, Bäckdalen [brook valley] by Långträsk, leg. Storå (No. 512); 1 ♂, 20.VIII.2006, Ok, Kuhmo, Elimyssalo, near lake Palonen, 71291:36666, leg. Kehlmaier & Ståhls.

\* ***Eudorylas slovacus* Kozánek, 1993**

*Voucher specimen.* 1 ♀, 14.VI.1985, N, Tvärminne, 664:28, leg. Albrecht.

\* ***Eudorylas stackelbergi* Kuznetsov, 1990**

*Voucher specimens.* 1 ♂, 9.VIII.2006, Ab, Karjalohja, Karkali Nature Reserve, 6685:3322, leg. Kehlmaier & Ståhls (DNA CK#264); 1 ♀, 11.–18.VIII.1985, N, Sibbo, 668:41, leg. Albrecht & Pekkarinen.

***Eudorylas subfascipes* Collin, 1956**

*Voucher specimens.* 1 ♂ 1 ♀, 2.VI.2002, Al, Lemland, Nätö, 6680:109, leg. Haarto, coll. PCAH; 1 ♂, 25.V.2002, Ab, Mietoinen, Perkkko, 6733:222, leg. Haarto, coll. PCAH; 1 ♂ 1 ♀, 8.–14.VI.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht; 1 ♀, 19.V.1975, Ka, Vehkalahti, leg. Tiensuu; 1 ♀, 13.VI.2003, St, Punkalaidun, Koskiainen, 67814:32957, leg. Kahanpää & Kullberg, coll. PCJK; 1 ♀, 15.VI.2002, Ta, Hartola, 68420:34503, leg. Kahanpää, coll. PCJK; 1 ♂, 3.VI.2004, Sa, Joutsa, Kupari, 6847:452, leg., det. Kahanpää, coll. PCJK; 1 ♂, 1.VII.2005, Oa, Närpes, Hinjärvi, 69645:32098, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 7.VI.1979, Sb, Leppävirta, 693:54, leg. Albrecht; 1 ♂ 1 ♀, 14.VI.1980, Kb, Kitee, 687:66, leg. Albrecht; 1 ♂, 8.VI.1980, Oba, Uleåborg, 720:42, leg. Albrecht.

\* ***Eudorylas subterminalis* Collin, 1956**

*Voucher specimens.* 1 ♂, 24.VI.–3.VII.1988, N, Tvärminne, Stormossen, 664:28, leg. Albrecht & Keynäs; 1 ♀, 26.VI.1978, N, Tvärminne, 6643:287, leg. Albrecht; 1 ♂, 26.VI.1980, Sa, Kerimäki, 687:61, leg. Albrecht.

***Eudorylas terminalis* (Thomson, 1870)**

*Voucher specimens.* 1 ♂, 28.VII.2004, Ab, Mietoinen, Perkkko, 6733:222, leg. Haarto coll. PCAH; 1 ♂, 19.–25.VII.1987, N, Sibbo, Stormossen, 6687–8:413–4, leg. Albrecht; 1 ♀, 16.–22.VIII.1987, N, Sibbo, Stormossen, 6687–8:413–4, leg. Albrecht, 1 ♀, 5.VII.1980, Sb, Heinävesi, 692:60, leg. Albrecht; 1 ♂, 10.VII.2004, Obb, Rovaniemen mlk., Kivitaitpale, 73601:34517, leg. Kahanpää, coll. PCJK.

***Eudorylas unicolor* (Zetterstedt, 1844)**

*Voucher specimens.* 1 ♂ 1 ♀, 19.–25.VII.1987, N, Sibbo, Stormossen, 6687–8:413–4, leg. Albrecht.

**\* *Eudorylas vonderdunki* Dempewolf, 1998**

*Voucher specimens.* 1 ♂, 9.VIII.2006, Ab, Karjalohja, Karkali Nature Reserve, 6685:3322, leg. Kehlmaier & Ståhls; 1 ♂, 2.–7.VIII.1983, N, Sibbo, 669:40, leg. Albrecht & Pekkarinen.

**\* *Eudorylas zermattensis* (Becker, 1897)**

*Voucher specimens.* 1 ♂, Al, Finström, leg. Frey; 1 ♂, 23.VI.1979, N, Sibbo, 668:39, leg. Albrecht; 1 ♀, 27.VI.1990, N, Hangö, Furuviik, 664:27, leg. Albrecht; 1 ♂, 29.VI.2002, Ta, Hartola, 6842:3450, leg. Kahanpää, coll. PCJK; 1 ♂, 23.VII.1940, Om, Jakobstad, Varvet, leg. Storå (No. 119).

*Remarks.* The male from Finström was originally misidentified as *Cla. halterata*. It is placed in the old reference collection (drawer 10).

***Eudorylas zonatus* (Zetterstedt, 1849)**

*Voucher specimen.* 1 ♀, 29.VI.–4.VII.1986, N, Sibbo, Nevas, 6687:412, leg. Albrecht.

**\* *Eudorylas zonellus* Collin, 1956**

*Voucher specimens.* 1 ♀, 25.VII.1994, Ab, Miettinen, 673:22, leg. Haarto, coll. PCAH; 1 ♂, 22.VI.1978, N, Tvärminne, 6642:289, leg. Albrecht; 1 ♀, 24.VII.2002, N, Hangö, Lappvik, 665:29, leg. Silfverberg; 1 ♂, 14.VII.1975, Ka, Vehkalahti, leg. Tiensuu.

**TOMOSVARYELLINI*****Dorylomorpha* Aczél, 1939*****Dorylomorpha (Dorylomorpha) aczeli* Hardy, 1947**

*Voucher specimens.* 1 ♂, 21.VI.1954, Ab, Vichtis, Päivölä, leg. Strandlund, det. Albrecht; 1 ♂ 1 ♀, 20.–26.VI.1983, N, Sibbo, 669:40, leg. Albrecht & Pekkarinen, det. Albrecht.

***Dorylomorpha (Dorylomorpha) confusa* (Verrall, 1901)**

*Voucher specimens.* 1 ♂, Al, Finström, leg.

Frey, det. Albrecht; 1 ♂, 9.VII.1979, Ab, Tenala, 665:29, leg. et det. Albrecht; 1 ♂, 27.VI.1979, N, Vanda, 669:39, leg. et det. Albrecht; 1 ♂, St, Yläne, leg. Sahlberg, det. Albrecht; 1 ♂, 16.VI.1979, Ta, Nastola, 676:44, leg. et det. Albrecht; 1 ♂, 4.VI.1960, Sa, Joutseno, leg. Thuneberg, det. Albrecht; 1 ♀, 28.VI.1940, Oa, Korsholm, leg. Lindberg, det. Albrecht; 1 ♂, Sb, Nilsjä, leg. Lundström, det. Albrecht; 1 ♂, 24.VI.2003, Oba, Ylikiiminki, 7227:447, leg. Haarto, coll. PCAH.

***Dorylomorpha (Dorylomorpha) extricata* (Collin, 1937)**

*Voucher specimens.* 1 ♂ 1 ♀, 18.V.2006, St, Karvia, leg. Kakko, det. Haarto & Winqvist, coll. PCAH & PCKW.

*Remarks.* Kozánek & Belcari (1995; their table 1) also cite *D. extricata* for Finland, however, without providing any exact collecting data.

***Dorylomorpha (Dorylomorpha) imparata* (Collin, 1937)**

*Voucher specimens.* 1 ♀, Al, Jomala, leg. Frey, det. Albrecht; 1 ♀, Ab, Vichtis, leg. Frey, det. Albrecht; 1 ♂, 14.VI.1977, N, Tvärminne, 6642:289, leg. et det. Albrecht; 1 ♀, 14.VI.1976, N, Bromarv, 6644:280, leg. et det. Albrecht; 1 ♂, 5.VI.93, Ta, Kalvola, leg. Borg, det. Albrecht.

***Dorylomorpha (Dorylomorpha) rufipes* (Meigen, 1824)**

*Voucher specimens.* 1 ♂, 1.VII.1978, N, Tvärminne, 6642:288–9, leg. et det. Albrecht; 1 ♀, 25.VI.2007, Ab, Karjalohja, Karkalinniemi, 6685:3322, leg. Ståhls.

***Dorylomorpha (Dorylomorpha) spinosa* Albrecht, 1979**

*Voucher specimens.* 1 ♀, Sb, Kuopio, leg. Lundström, det. Albrecht; 1 ♂, 9.VI.1979, Kb, Kitee, 688:66, leg. et det. Albrecht; 1 ♂, 8.VI.1979, Kb, Värtsilä, 691:69, leg. et det. Albrecht; 1 ♂,

8.VI.1980, Oba, Uleåborg, 720:42, leg. et det. Albrecht.

***Dorylomorpha (Dorylomyia) beckeri (Aczél, 1939)***

*Voucher specimens.* 1 ♂, 24.V.1978, Al, Lemland, 6674:118, leg. et det. Albrecht; 1 ♀, 2.VI.1979, Ab, Bromarv, 665:27, leg. et det. Albrecht; 1 ♂, 18.V.1976, N, Vanda, 6690:385, leg. et det. Albrecht; 1 ♀, 25.V.1979, N, Vanda, 669:39, leg. et det. Albrecht; 1 ♂, 27.V.1977, Ka, Vehkalahti, leg. Tiensuu, det. Albrecht; 1 ♂, Ta, Messuby, leg. Frey, det. Albrecht; 2 ♂, 6.VI.1979, Sa, Kangasniemi, 668:48, leg. et det. Albrecht; 1 ♀, 4.–14.VI.1946, Oa, Maxmo, leg. Hellén, det. Albrecht; 1 ♀, 7.VI.1979, Sb, Leppävirta, 695:54, leg. et det. Albrecht; 1 ♂, 8.VI.1979, Kb, Ilomants, 694:71, leg. et det. Albrecht; 1 ♂, 8.VI.1980, Oba, Pudasjärvi, 724:48, leg. et det. Albrecht; 1 ♀, 5.VI.1980, Obb, Rovaniemi, 743:42, leg. et det. Albrecht; 1 ♂, 10.VII.1935, Ks, Kuolajärvi, leg. Krogerus, det. Albrecht; 1 ♀, Lkoc, Kolari, leg. Hellén, det. Albrecht; 1 ♂, 3.VII.1962, Le, Kilpisjärvi, leg. Lindberg, det. Albrecht; 1 ♀, Li, Ivalo, leg. Hellén, det. Albrecht.

***Dorylomorpha (Dorylomyia) xanthocera (Kowarz, 1887)***

*Voucher specimens.* 1 ♂ 1 ♀, 3.–10.VII.1983, N, Sibbo, 669:40, leg. et det. Albrecht; 1 ♂, 15.VII.–15.VIII.2006, Lkoc, Pallastunturi NP, Kuusikko, 7550832:3381268, leg. Siitonen, Jakovlev & Penttinen.

***Dorylomorpha (Dorylomyza) albitarsis (Zetterstedt, 1844)***

*Voucher specimens.* 1 ♂, 17.–22.VI.2003, Al, Nätö, near biological station, 667:10, leg. Ståhls; 1 ♂, 12.VI.1979, Ab, Vihti, 669:36, leg. et det. Albrecht; 2 ♂, 17.VI.1979, N, Vanda, 669:39, leg. et det. Albrecht; 1 ♂, 30.V.2003, Ka, Miehkälä, 67384:5327, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 18.VI.1980, Ta, Loppi,

673:36, leg. et det. Albrecht; 1 ♂, 9.VI.1979, Sa, Sulkava, 686:57, leg. et det. Albrecht; 1 ♂, 15.–17.VII.1947, Tb, Jyväskylä, leg. Hackman, det. Albrecht; 1 ♂, 7.VI.1979, Sb, Leppävirta, 694:53, leg. et det. Albrecht; 1 ♀, 14.VI.1980, Kb, Kitee, 688:65, leg. et det. Albrecht; 1 ♂, 8.VI.1979, Kb, Värtsilä, 690:68, leg. et det. Albrecht; 1 ♂, 8.VI.1980, Oba, Ylikiiminki, 723:46, leg. et det. Albrecht; 1 ♂, 8.VI.1980, Oba, Pudasjärvi, 724:48, leg. et det. Albrecht; 1 ♀, 10.VII.2004, Obb, Rovaniemi maalaiskunta, Kivitaipale, 73601:4517, leg., det. Kahanpää, coll. PCJK; 1 ♀, Li, Ivalo, leg. Hellén, det. Albrecht; 1 ♀, Li, Ivalo, leg. Frey, det. Albrecht.

***Dorylomorpha (Dorylomyza) anderssoni Albrecht, 1979***

*Voucher specimen.* 1 ♀, 21.VI.1943, Al, Finström, Bjärström, leg. Lindberg, det. Albrecht.

***Dorylomorpha (Dorylomyza) canadensis Hardy, 1943***

*Voucher specimens.* 1 ♂, 26.VI.1977, N, Sjundeå, 6679–80:346–7, leg. et det. Albrecht; 1 ♂, 15.VI.1980, Ta, Jaala, 676:47, leg. et det. Albrecht; 1 ♂, 15.VI.1980, Sa, Puumala, 683:56, leg. et det. Albrecht; 1 ♀, Kl, Parikkala, leg. Hellén, det. Albrecht; 1 ♂, Om, Ostrob. m., leg. Sahlberg, det. Albrecht; 1 ♂, 8.VI.1980, Oba, Pudasjärvi, 724:48, leg. et det. Albrecht; 1 ♂, Lkoc, Pelkosenniemi, leg. Frey, det. Albrecht; 1 ♀, Lkoc, Muonio, leg. Frey, det. Albrecht.

***Dorylomorpha (Dorylomyza) clavata Albrecht, 1979***

*Voucher specimens.* 1 ♂ (holotype), Sb, Nilsinä, leg. Palmén; 1 ♂, 8.VI.1980, Oba, Pudasjärvi, 724:48, leg. et det. Albrecht; 1 ♀, 2.VII.2004, Lkor, Sodankylä, Lappalaisjärvi, 74563:4697, leg. et det. Kahanpää, coll. PCJK.

***Dorylomorpha (Dorylomyza) clavifemora Coe, 1966***

*Voucher specimens.* 1 ♀, 6.VII.1980, N,

Kyrkslätt, 666:36, leg. et det. Albrecht; 1 ♀, 19.VI.1974, Ka, Vehkalahti, leg. Tiensuu, det. Albrecht; 1 ♂, 15.VI.1980, Sa, Puumala, 683:56, leg. et det. Albrecht; 1 ♀, 5.VII.2007, Li, Inari, Kaunispää, leg. Ståhls (DNA CK#331).

***Dorylomorpha (Dorylomyza) fennica***

**Albrecht, 1979**

*Voucher specimens.* 1 ♂, 4.VI.2002, Al, Eckerö, Skag, 6707:3090, leg. et det. Kahanpää, coll. PCJK; 2 ♂ (paratypes), 29.VI.1979, Ab, Bjärnå, 667:28, leg. et det. Albrecht; 1 ♂, 11.VI.1980, N, Ingå, 666:32, leg. et det. Albrecht; 1 ♂, 30.VI.1975, Ka, Vehkalahti, leg. Tiensuu, det. Albrecht; 2 ♀, 15.VI.1980, Sa, Puumala, 683:56, leg. et det. Albrecht.

***Dorylomorpha (Dorylomyza) hackmani***

**Albrecht, 1979**

*Voucher specimens.* 1 ♂ (holotype), 12.VI.1977, Ab, Finby, Förby, 6672:271, leg. Albrecht; 1 ♂, 23.VI.2004, Ka, Hamina, Sahaoja, 67251:5066, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 7.VI.1980, Oba, Pudasjärvi, 728:52, leg. et det. Albrecht.

***Dorylomorpha (Dorylomyza) haemorrhoidalis***  
**(Zetterstedt, 1838)**

*Voucher specimens.* 1 ♀, Al, Eckerö, leg. Frey, det. Albrecht; 1 ♀, Ab, Karislojo, leg. Hellén, det. Albrecht; 2 ♂, 17.VI.1980, N, Sibbo, 668:41, leg. et det. Albrecht; 1 ♀, Ka, Vehkalahti, leg. Tiensuu, det. Albrecht; 1 ♂, St, Karkku, leg. Hellén, det. Albrecht; 1 ♀, Ta, Hausjärvi, leg. Tuomikoski, det. Albrecht; 1 ♂, 15.VI.1980, Sa, Puumala, 683:56, leg. et det. Albrecht; 1 ♂, 17.–28.VI.1946, Oa, Bergö, leg. Hellén, det. Albrecht; 1 ♂, 19.VI.1950, Tb, Wirrat, det. Albrecht; 2 ♂, 14.VI.1980, Kb, Kitee, 686:67, leg. et det. Albrecht; 1 ♂, 8.VI.1980, Oba, Pudasjärvi, 724:48, leg. et det. Albrecht; 1 ♀, 23.VII.1934, Ks, Kuusamo, leg. Krogerus, det. Albrecht; 1 ♂, 7.VII.2004, Li, Inari, Kie-

lajoki, 76906:4887, leg. et det. Kahanpää, coll. PCJK.

***Dorylomorpha (Dorylomyza) infirmata***

**(Collin, 1937)**

*Voucher specimens.* 1 ♀, 7.–15.VII.2003, Al, Nätö, near biological station, 667:10, leg. Ståhls; 1 ♂, Ab, Åbo, leg. Hellén, det. Albrecht; 1 ♂, 13.VI.1980, N, Pernå, 670:45, leg. et det. Albrecht; 1 ♂, 5.VI.1976, Ka, Vehkalahti, leg. Tiensuu, det. Albrecht; 1 ♀, 15.VI.1980, Ta, Jaala, 676:47, leg. et det. Albrecht.

***Dorylomorpha (Dorylomyza) lautereri***  
**Albrecht, 1990**

*Voucher specimens.* 1 ♂, 13.VI.2004, St, Kankaanpää, Kynärjärvi, 68688:2544, leg., det. Kahanpää, coll. PCJK; 1 ♂ (paratype), 2.VII.1940, Oa, Petalax, leg. Lindberg.

***Dorylomorpha (Dorylomyza) occidentis***

**(Hardy, 1939)**

*Voucher specimens.* 1 ♀, Al, Eckerö, leg. Frey, det. Albrecht; 1 ♂, 6.–12.VI.1983, N, Sibbo, 669:40, leg. Albrecht & Pekkarinen, det. Albrecht; 1 ♀, St, Yläne, leg. Sahlberg, det. Albrecht; 1 ♂, 15.VI.1980, Sa, Puumala, 683:56, leg. et det. Albrecht; 1 ♂, 6.VI.1979, Sb, Jäppilä, 691:52, leg. et det. Albrecht; 1 ♀, 9.VI.1979, Kb, Kitee, 687:66, leg. et det. Albrecht; 1 ♀, Kb, Kuopio, leg. Palmén, det. Albrecht; 1 ♀, Om, Ostrob. m., leg. Sahlberg, det. Albrecht.

***Dorylomorpha (Dorylomyza) onegensis***

**Albrecht, 1990**

*Voucher specimen.* 1 ♀ (paratype), Ab, Karislojo, leg. Frey.

***Dorylomorpha (Dorylomyza) platystylis***

**Albrecht, 1979**

*Voucher specimens.* 1 ♀, 20.VI.1980, Ab, Karkkila, leg. et det. Albrecht; 1 ♂, 17.VI.1980, N, Sibbo, 668:41, leg. et det. Albrecht; 1 ♀, 29.VI.1977, Ka, Vehkalahti, leg. Tiensuu, det.

Albrecht; 1 ♀, Ta, Ruovesi, leg. Sahlberg, det. Albrecht; 1 ♀, Sb, Kuopio, leg. Lundström, det. Albrecht.

***Dorylomorpha (Dorylomyza) praetermissa* Albrecht, 1979**

*Voucher specimens.* 1 ♂ (paratype), 2.VI.1934, Ab, Karuna, leg. Ahlqvist; 1 ♂, 11.VI.1980, N, Ingå, 666:32, leg. et det. Albrecht; 1 ♀, 13.VI.1980, Ka, Miehkikälä, 672:54, leg. et det. Albrecht; 1 ♀, 15.VI.1980, Ta, Jaala, 676:47, leg. et det. Albrecht.

***Dorylomorpha (Dorylomyza) xanthopus* (Thomson, 1870)**

*Voucher specimens.* 1 ♀, Al, Eckerö, leg. Hellén, det. Albrecht; 1 ♀, Ab, Karis, leg. Frey, det. Albrecht; 1 ♂, 25.VI.1979, N, Vanda, 669:39, leg. et det. Albrecht; 1 ♂, 27.VI.1976, Ka, Vehkalahti, leg. Tiensuu, det. Albrecht; 1 ♀, St, Björneborg, leg. Hellén, det. Albrecht; 1 ♂, 15.VI.1980, Ta, Jaala, 676:47, leg. et det. Albrecht; 1 ♀, Ta, Kangasala, leg. Frey, det. Albrecht; 1 ♂, 26.VI.1980, Sa, Kerimäki, 687:61, leg. et det. Albrecht; 1 ♂, 7.VI.1979, Sb, Leppävirta, 693:54, leg. et det. Albrecht; 1 ♂, 14.VI.1980, Kb, Värtsilä, 691:69, leg. et det. Albrecht; 1 ♂, Kb, Eno, leg. Grönvik, det. Albrecht; 1 ♀, 9.VII.2006, Obb, Tervola, Mulkosilmälampi, 734884:340802, leg. et det. Kahanpää, coll. PCJK.

***Dorylomorpha (Pipunculina) borealis* (Wahlgren, 1910)**

*Voucher specimens.* 1 ♂, 13.VIII.2003, Ab, Vihiti, Myllypuro, 66940:3619, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 24.VI.1960, Sa, Joutseno, leg. Thuneberg, det. Albrecht; 1 ♀, Sb, [Maaninka], Tuovilanlaks, leg. Palmén, det. Albrecht; 1 ♀, 21.VII.1950, Obb, Pisavaara naturpark, leg. Lindberg, det. Albrecht; 1 ♂, 10.VII.2004, Obb, Rovaniemen maalaiskunta, Kuohunkijoki, 73675:4663, leg. et det. Kahanpää, coll. PCJK; 1 ♂, 24.VII.1934, Ks, Kuolajärvi, leg. Kroe-

ger, det. Albrecht; 1 ♀, Lkoc, Muonio, leg. Hellén, det. Albrecht; 1 ♀, 15.VII.–15.VIII.2006, Le, Kilpisjärvi, 7675056:3253286, leg. Siitonen, Jakovlev & Penttinen; 1 ♂, Li, Lemmenjoki, leg. Hellén, det. Albrecht; 1 ♂, 6.VII.2004, Li, Utsjoki, Paatus, 77558:4781, leg. et det. Kahanpää, coll. PCJK.

***Dorylomorpha (Pipunculina) maculata* (Walker, 1834)**

*Voucher specimens.* 1 ♂, Ab, Lojo, leg. Hellén, det. Albrecht; 1 ♂, 21.VII.1978, N, Tvärminne, 6642:289, leg. et det. Albrecht; 1 ♂, 5.VIII.1973, Ka, Vehkalahti, leg. Tiensuu, det. Albrecht; 1 ♀, St, Yläne, leg. Sahlberg, det. Albrecht; 1 ♀, Ta, Hauho, leg. Hellén, det. Albrecht; 1 ♂, 24.VII.2006, Sa, Luumäki, Päivärinne, 67549:35144, leg. et det. Kahanpää, coll. PCJK; 1 ♂, Tb, Keuru, leg. Hellén, det. Albrecht; 1 ♀, Sb, Kiuruvesi, leg. Palmén, det. Albrecht; 1 ♂, 2.VIII.1938, Kb, Hammaslahti, leg. Kontkanen, det. Albrecht; 1 ♀, Om, Jakobstad, leg. Storå, det. Albrecht; 1 ♂, 31.VII.1967, Ok, Puolanka, Kotila, leg. Meinander, det. Albrecht; 1 ♂, 12.VII.2002, Obb, Ranua, Kirveslampi, 7306:3479, leg. et det. Kahanpää, coll. PCJK; 1 ♂, 1.VIII.1967, Ks, Taivalkoski, Inkee, leg. Meinander, det. Albrecht; 1 ♂, 15.VII.–15.VIII.2006, Lkoc, Kolari, Poltettu saajo, 7462492:3360949, leg. Siitonen, Jakovlev & Penttinen; 1 ♂, 22.VIII.1983, Le, Enontekiö, 760:36, leg. Tuiskunen, det. Albrecht.

***Tomosvaryella* Aczél, 1939**

***Tomosvaryella ciliarsis* (Strobl, 1910)**

*Voucher specimens.* 1 ♂, N, Helsinki, leg. Tuomikoski; 1 ♂, 20.VII.2002, Ta, Hartola, 68390:4502, leg. et det. Kahanpää, coll. PCJK; 1 ♀, 27.VII.2005, Oa, Kristiinankaupunki, Santaheininrämäkkä, 69213:32240, leg. Kahanpää, coll. PCJK; 1 ♂ (lectotype of *Pipunculus forsiusi*), Tb, Wiitasaari, leg. Woldstedt; 1 ♂, 31.VII.2005, Sb, Kuopio, Korsu-

mäki, 69669:35297, leg. et det. Kahanpää, coll. PCJK; 1 ♀, Kb, Nurmis, leg. Sahlberg; 1 ♂, 18.VIII.2006, Ok, Kuhmo, Teerisuo-Lososuo Nature Reserve, 70920:36085, leg. Kehlmaier & Ståhls; 1 ♂, Oba, Uleåborg, leg. Nylander; 1 ♂, Oba, Hailuoto, leg. Frey; 1 ♀, Obb, Turtola, leg. Bergroth; 1 ♂, 12.VII.2002, Obb, Ranua, Kirveslampi, 7306:3479, leg. et det. Kahanpää, coll. PCJK; 1 ♀ (paralectotype of *P. forsiusi*), 25.VII.1934, Ks, Kuusamo, leg. Krogerus; 1 ♂, Lkoc, Muonio, leg. Frey; 1 ♂, 21.VII.2005, Le, Enontekiö, Pikku Jehkas, 76804:2516, leg. Haarto, coll. PCAH.

*Remarks.* The ♂ lectotype and 1 ♂ 3 ♀ paralectotypes of *Pipunculus forsiusi* Frey, 1932 were examined. Of the type material of *P. forsiusi*, the male from Polvijärvi and a female from Kola are missing head and abdomen.

\* ***Tomosvaryella coquilletti* (Kertész, 1907)**

*Voucher specimens.* 1 ♂, 21.VI.1979, N, Vanda, 669:39, leg. Albrecht; 1 ♂, 15.–25.VIII.1942, Kb, Kontiolahti, leg. Lindberg.

***Tomosvaryella geniculata* (Meigen, 1824)**

*Voucher specimen.* 1 ♂, Al, Sund, leg. Frey.

\* ***Tomosvaryella kalevala* Kehlmaier, 2008**

*Voucher specimens.* Type specimens from Finland (no green voucher labels attached).

*Remarks.* This taxon has been described and illustrated in the first part of these studies (Kehlmaier 2008). The Finnish type material originates from Al, Ab, N, Ta, Sb, Kb and Lkor.

\* ***Tomosvaryella kuthyi* Aczél, 1944**

*Voucher specimens.* 1 ♀, 26.V.2004, Ab, Turku, Satava, 670:23, leg. Winqvist, coll. PCKW; 1 ♀, 21.VI.1979, N, Vanda, 669:39, leg. Albrecht; 1 ♀, 8.VII.1957, Sa, Joutseno, leg. Thuneberg; 1 ♀, 9.VI.1979, Kb, Tohmajärvi, 690:67, leg. Albrecht.

\* ***Tomosvaryella minuscula* (Collin, 1956)**

*Voucher specimen.* 1 ♂, 30.VII.2007, Ab, Turku, Satava, 670:23, leg. Winqvist, coll. PCKW. *Remarks.* *T. minuscula* was recently found to be the senior synonym of *T. magyarica* Földvári & De Meyer, 1999 (Kehlmaier 2008).

\* ***Tomosvaryella palliditarsis* (Collin, 1931)**

*Voucher specimens.* 1 ♂, 12.VIII.2003, N, Helsinki, Kallahdenniemi, 6676:397, leg. Kahanpää, coll. PCJK; 1 ♀, 20.VI.1956, N, Hangö, Täcktom, leg. Nyström; 1 ♂, 5.VII.2005, Sb, Iisalmi, Keskimäinen, 70552:35053, leg. et det. Kahanpää, coll. PCJK.

\* ***Tomosvaryella rossica* Kuznetsov, 1993**

*Voucher specimens.* 1 ♂, 6.–13.VIII.2003, N, Espoo, Noux, leg. Vilkkamaa; 1 ♂ 1 ♀, 15.VII.–15.VIII.2006, Lkoc, Pallastunturi NP, Kuusikko, 7550832:3381268, leg. Siitonen, Jakovlev & Penttinen.

*Remarks.* For a discussion of this taxon and separation from *T. cilitarsis* see Kehlmaier (2008).

***Tomosvaryella sylvatica* (Meigen, 1824)**

*Voucher specimens.* 1 ♂, 30.VI.–6.VII.2003, Al, Nätö, near biological station, 667:10, leg. Ståhls; 1 ♂, 24.VI.1978, Ab, Kiikala, 6713:309, leg. Albrecht; 1 ♂, 2.VI.1978, N, Hangö, 6649:286, leg. Albrecht; 1 ♂, 3.VII.1979, Ta, Loppi, 672:36, leg. Albrecht; 1 ♂, 13.VI.2005, Sa, Joutseno, Anola, 67751:35818, leg. Kahanpää, coll. PCJK; 1 ♂, 7.VI.1979, Sb, Leppävirta, 694:53, leg. Albrecht; 1 ♂, 9.VI.1979, Kb, Tohmajärvi, 690:67, leg. Albrecht; 1 ♂, Om, Jakobstad, leg. Poppius; 1 ♂, 22.VII.1950, Obb, Rovaniemi, Pisa, leg. Lindberg; 1 ♂, Ks, Salla, leg. Frey; 1 ♂, 8.VII.2007, Li, Utsjoki, along roadside, 77586:35009, leg. Ståhls.

### Doubtful historic records to be deleted from the checklist

#### *Claraeola halterata* (Meigen, 1838)

In drawer 10 of an old reference collection at MZH, the following specimens are placed under the epithet *halteratus*: 1 ♂, 13.VII.1922, Finnström, leg. Frey (= *E. zermattensis*), 1 ♀, 18.VI.1939, Cyprus, Troodos, Lydia, leg. Lindberg (= *Clistoabdominalis ruralis* agg.). A green voucher label was attached to the male that was left in drawer 10 for the time being.

In the Storå collection at MZH, Frey identified and placed 4 specimens as *halteratus*: 1 ♂, No. 45, (= *E. furvulus*, voucher specimen), 6.VIII.1940, Om, Jakobstad, Varvet, leg. Storå; 1 ♂, No. 119 (= *E. zermattensis*, voucher specimen) 23.VII.1940, Om, Jakobstad, Varvet, leg. Storå (No. 119); 1 ♂, 129 (= *E. zermattensis*) 23.VII.1940, Om, Jakobstad, Varvet, leg. Storå (No. 129); 1 ♀, No. 195 (= *E. zermattensis*) 25.VII.1940, Om, Jakobstad, Varvet, leg. Storå (No. 195). These specimens were transferred to the main collection.

In the Hellén collection at MZH, a single ♂ was identified as *halterata* but turned out to be *E. elephas*. Unfortunately, the specimen was misplaced during the reviewing process.

#### *Clistoabdominalis trochanteratus* (Becker, 1900)

A single ♀ was identified as ? *trochanteratus* in an old reference collection (drawer 10) at MZH. The specimen turned out to be a female *E. fuscipes* and was left in drawer 10 (1 ♀, Helsinge, leg. Palmén, specimen used as voucher).

#### *Dasydorylas roseri* (Becker, 1897)

In drawer 11 of an old reference collection at MZH, a single ♀ was present under the epithet *roseri* (1 ♀, Teisko, leg. Frey; = *E. fuscipes*). The specimen was labelled a voucher specimen and left in drawer 11 for the time being.

#### *Eudorylas pannonicus* (Becker, 1897)

A single ♂ from the Storå collection at MZH (1 ♂, No. 512, 16.VIII.1940, Om, Jakobstad, Bäckdalen (brook valley) by Långträsk, leg. Storå) was identified as *pannonicus* by Frey. The specimen actually represents *E. restrictus*, was used as a voucher, labelled accordingly and stored in the main collection.

### Final remarks

In the course of this study, 33 species of big-headed flies can be recorded as new to Finland, including one still undescribed taxon (*Chalarus* spec. A). In addition, four species records previously regarded as doubtful were proven to be based on misidentifications, leaving the current number of Pipunculidae species known from the Finnish territory at 107. Although this listing can be considered to be pretty complete, it is assumed that the species number may be increased to about 120 in the future—in this respect attention is drawn to the regularly updated online version of the “Draft Catalogue of Finnish Flies (Diptera: Brachycera)” currently accessible on the internet under <http://www.elisabet.fi/~d625473/diptera/list/online/> (Kahanpää 2007). These still undiscovered taxa will not only originate from intensified sampling efforts but also from continuing taxonomic research in various genera, e.g. *Chalarus*, *Jassidophaga*, *Pipunculus*, *Eudorylas* or *Tomosvaryella*, in which yet undescribed species may well be expected. For Europe, a total of 206 described species are now recorded (after De Meyer 2004; Kehlmaier 2005, 2006 & 2008; Kehlmaier & De Meyer 2005).

In table 1, the current knowledge of the distribution of Finnish Pipunculidae within the 21 biogeographic provinces is summarized. The faunistic situation is best in southern Finland, especially in Regio aboënsis (Ab) and Nylandia (N) where most collecting activity by modern full and spare time dipterists is carried out. Es-

pecially the intensive sampling by Albrecht in the late 1970s and 1980s by means of large sized Malaise traps at the locality “N, Sibbo, Nevas” yielded an enormous amount of well preserved specimens, giving this region the “pole position” in Pipunculidae faunistics.

It is also evident that for some genera, species tend to lump more towards the south than in others, e.g. *Pipunculus* compared to *Dorylomorpha*—although both can be considered of primarily northern temperate distribution in the Holarctic. Apart from a deficit in collecting effort, an additional reason lays in the missing revisionary work of historic collection material. In the course of this study, a fair amount of the historic material present at MZH, collected all over Finland during the last two centuries, had to be left aside due to the limited time-frame. In comparison, Albrecht (1990) revised the entire *Dorylomorpha* material present and could thus retrieve far more regional citations than in the case of *Pipunculus*.

Hopefully, Finnish dipterologists will be encouraged to dedicate more of their time to the faunistic study of Pipunculidae in the future, in order to fill in the blank spots on the map as time goes by. Species identification of Pipunculidae sometimes can be rather difficult but speaking with the words of Kahanpää (in litt.) “...the difference between our knowledge of the North/Central European fauna now as compared with just 15 years ago is quite amazing ... From a serious amateur’s point-of-view Pipunculidae has proceeded from ‘totally hopeless’ to ‘very difficult’ status, which is a huge jump.”

### Acknowledgements

Our gratitude goes to Elvira Rättel and Juha Laiho (both Helsinki) who readily helped during collection work in Helsinki. Dr. Anders Albrecht (Helsinki), Antti Haarto (Mynämäki), Dr. Jevgeni Jakovlev (Finnish Forest Research Institute Vantaa), Jere Kahanpää (Helsinki) and

Kaj Winqvist (Turku) not only provided material but also gave valuable advice in various instances. Dr. Marc De Meyer (Tervuren) and Dr. Jeffrey Skevington (Ottawa) assisted by commenting on an earlier version of the manuscript. The study was financially supported through the PUTTE research program of the Finnish Ministry of Environment.

### References

- Ackland, D.M. 1993: Notes on British *Cephalops* Fallén, 1810 with description of a new species, and *Microcephalops* De Meyer, 1989, a genus new to Britain (Dipt., Pipunculidae). — Entomologist’s Monthly Magazine 129: 95–105.
- Albrecht, A. 1990: Revision, phylogeny and classification of the genus *Dorylomorpha* (Diptera, Pipunculidae). — Acta Zoologica Fennica 188: 1–240.
- Collin, J.E. 1956: Scandinavian Pipunculidae. — Opuscula entomologica 21: 149–169.
- De Meyer, M. 1989: The West-Palaearctic species of the pipunculid genera *Cephalops* and *Beckerias* (Diptera): classification, phylogeny and geographical distribution. — Journal of Natural History 23: 725–765.
- De Meyer, M. 1996: World Catalogue of Pipunculidae (Diptera). — Studiedocumenten van het Koninklijk Belgisch Instituut voor Natuurwetenschappen 86: 1–127.
- De Meyer, M. 2004: Fauna Europaea: Pipunculidae. — In Pape, T. (ed.) 2004: Fauna Europaea: Diptera. Fauna Europaea version 1.3, <http://www.faunaeur.org> (accessed 13<sup>th</sup> November 2007).
- De Meyer, M. & Skevington, J.H. 2000: First addition to the World Catalogue of Pipunculidae (Diptera). — Bulletin van het Koninklijk Belgisch Instituut voor Natuurwetenschappen, Entomologie 70: 5–11.
- Dempewolf, M. 1998: On the taxonomy of two German pipunculid flies with remarks on the terminology of the male genitalia. — Beiträge zur Entomologie 48: 531–537.
- Dempewolf, M. & Sander, F.W. 1999: Pipunculidae. In: Schumann, H., Bährmann, R. & Stark, A. (eds.) Checkliste der Dipteren Deutschlands. Studia dipterologica Supplement 2, Ampyx-Verlag, Halle an der Saale, pp. 177–179.



- Falk, S. J. & Chandler, P.J. 2005: A review of the scarce and threatened flies of Great Britain. Part 2: Nematocera and Aschiza not dealt with by Falk (1991). — Species Status 2: 1–189. Joint Nature Conservation Committee, Peterborough.
- Földvári, M. & De Meyer, M. 1999: Revision of Central and West European *Tomosvaryella* Aczél species (Diptera, Pipunculidae). — Acta Zoologica Scientiarum Hungaricae 45: 299–334.
- Grootaert, P. & De Meyer, M. 1986: On the taxonomy and ecology of *Nephrocerus* Zetterstedt (Diptera, Pipunculidae) with a redescription of *N. lapponicus* and a key to the European species. — Bulletin van het Koninklijk Belgisch Instituut voor Natuurwetenschappen, Entomologie 56: 85–91.
- Haarto, A. & Kerppola, S. 2004: Checklist of Finnish Hoverflies (Diptera, Syrphidae). — Sahlbergia 9: 147–164.
- Hackmann, W. 1980: A check list of the Finnish diptera. — Notulae Entomologicae 60: 17–48 & 117–162.
- Jervis, M.A. 1992: A taxonomic revision of the pipunculid fly genus *Chalarus* Walker, with particular reference to the European fauna. — Zoological Journal of the Linnean Society 105: 243–352.
- Kahanpää, J. (ed.) 2007: Draft Catalogue of Finnish Flies (Diptera: Brachycera). Version 5<sup>th</sup> June 2007, <http://www.elisanet.fi/~d625473/diptera/list/online/> (accessed 13<sup>th</sup> November 2007).
- Kahanpää, J. & Winqvist, K. 2003: Rare flies recorded in Finland during the year 2002. — Sahlbergia 8: 92–95.
- Kehlmaier, C. 2003: Pipunculidae (Diptera) from a forest ecosystem in northern Spain, with the description of a new species. — Entomologische Zeitschrift 113: 87–94.
- Kehlmaier, C. 2005: Taxonomic revision of European Eudorylini (Insecta, Diptera, Pipunculidae). — Verhandlungen des Naturwissenschaftlichen Vereins in Hamburg (NF) 41: 45–353.
- Kehlmaier, C. 2006: The West-Palaeartic species of *Jassidophaga* Aczél and *Verrallia* Mik described up to 1966 (Diptera: Pipunculidae). — Stuttgarter Beiträge zur Naturkunde, Serie A (Biologie) 697: 34 pp.
- Kehlmaier, C. 2008: Finnish Pipunculidae (Diptera) Studies Part I: Taxonomic Notes on *Cephelops* Fallén, 1810, *Pipunculus* Latreille, 1802 and *Tomosvaryella* Aczél, 1939. — Zootaxa 1672:1–42.
- Kehlmaier, C. & De Meyer, M. 2005: On the identity of *Pipunculus straminipes* Becker, 1900 (Diptera: Pipunculidae). — Studia dipterologica 11 [2004]: 600–602.
- Koenig, D.P. & Young, C.W. 2007: First observation of parasitic relations between big-headed flies, *Nephrocerus* Zetterstedt (Diptera: Pipunculidae) and crane flies, *Tipula* Linnaeus (Diptera: Tipulidae: Tipulinae), with larval and puparial descriptions for the genus *Nephrocerus*. — Proceedings of the Entomological Society of Washington 109 (1): 52–65.
- Kozánek, M. 1981a: Genus *Pipunculus* Latreille (Diptera, Pipunculidae) in Czechoslovakia. — Annotationes Zoologicae et Botanicae 142: 1–16.
- Kozánek, M. 1981b: Description of a new species of *Pipunculus* Latr. (Diptera, Pipunculidae) and a redescription of *P. omissinervis* Beck. — Biologia 36: 605–609.
- Kozánek, M. & Belcari, A. 1995: Contribution to the knowledge of the pipunculid fauna of Italy (Diptera, Pipunculidae). — Bollettino della Società Entomologica Italiana 127: 159–178.
- Kozánek, M. & Kehlmaier, C. 2004: Pipunculidae of Slovakia: additions and corrections to faunal list, with a description of a new *Eudorylas* (Diptera). — Entomological Problems 34: 21–36.
- Kuznetsov, S.Y. 1990: New Palaeartic species of Pipunculidae (Diptera). — Dipterological Research 1: 23–50.
- Kuznetsov, S.Y. 1991: New Palaeartic species of the genus *Pipunculus* (Diptera, Pipunculidae). — Dipterological Research 2: 1–52.
- Kuznetsov, S.Y. 1992: The Palaeartic species of the genus *Verrallia* (Diptera: Pipunculidae). — Zoosystematica Rossica 1: 102–116.
- Waloff, N. & Jervis, M.A. 1987: Communities of parasitoids associated with leafhoppers and planthoppers in Europe. — Advances in ecological Research 17: 282–403.