

# Diptera from rich fens and other habitats in eastern part of Innlandet, southeastern Norway. IV. Brachystomatidae and Empididae (Empidoidea)

TERJE JONASSEN & TROND ANDERSEN

Jonassen, T. & Andersen, T. 2021. Diptera from from rich fens and other habitats in eastern part of Innlandet, southeastern Norway. IV. Brachystomatidae and Empididae (Empidoidea). *Norwegian Journal of Entomology* 68, 223–252.

Records of three species of Brachystomatidae and 109 species of Empididae from Hedmark in eastern part of Innlandet County, southeastern Norway, are presented based partly on material collected in 2016 and 2017 during a survey of insects inhabiting rich fens in the region, partly on older material. *Chelipoda inexpectata* Tuomikoski, 1966 and *Empis (Xanthempis) punctata* Meigen, 1804 are new to Norway. *Dolichocephala bartaki* Wagner, 1988 and *D. bellstedti* Joost, 1985 are recorded for the first time from Norway as past collectors have failed to separate them from the common *D. irrorata* (Fallén, 1816). The record of *Wiedemannia (s.s.) bistigma* (Curtis, 1834) is the first Norwegian record in more than 80 years. Of the remaining species 96 are recorded for the first time from southern and/or northern Hedmark. Two species of Brachystomatidae and 74 species of Empididae were collected on the rich fens. Most of the material was collected in eight Malaise traps situated on different rich fens and collected continuously from early spring to late autumn 2016. A total of 20 specimens belonging to 2 species of Brachystomatidae and 2649 specimens of 67 species of Empididae were collected in these traps. Of Brachystomatidae *Heleodromia immaculata* Haliday, 1833 was the most abundant species. Of Empididae *Hilara interstincta* (Fallén, 1816) was the most abundant species constituting 24.6% of the material, *Chelipoda albisetata* (Zetterstedt, 1838) ranged second with 18.4%, and *Rhamphomyia (Holoclera) umbripennis* Meigen, 1822 third with 9.7% of the material. There were, however, large differences in the number of specimens and species collected in the different traps.

Key words: Rich-fens, Diptera, Empidoidea, Brachystomatidae, Empididae, new records, Innlandet, Norway.

Terje Jonassen, Naustvikvegen 69, NO-4170 Sjernarøy, Norway. E-mail: [terjonas@start.no](mailto:terjonas@start.no)

Trond Andersen, Department of Natural History, University Museum of Bergen, University of Bergen, P.O. Box 7800, NO-5020 Bergen, Norway. E-mail: [trond.andersen@uib.no](mailto:trond.andersen@uib.no)

## Introduction

In a recent molecular phylogeny of the superfamily Empidoidea Wahlberg & Johanson (2018) recognize five families: Atelestidae, Dolichopodidae, Empididae, Hybotidae and Ragadidae. They found the former family Brachystomatidae to be nested within Empididae and treat it as a subfamily, Brachystomatinae,

within Empididae. Ragadinae was formally established as a subfamily within Empididae by Sinclair (2016). Wahlberg & Johanson (2018) gave it status as a separate family, Ragadidae, and included two subfamilies, Ragadinae and Iteaphilinae. However, until more widely accepted, we follow the conservative view of Sinclair & Cumming (2006), and Moulton & Wiegmann (2007) and treat Brachystomatidae

and Empididae as separate families and retain Ragadinae as a subfamily of Empididae.

Empididae is distributed in all biogeographical regions except Antarctica, but is most numerous in the Holarctic. The species are mainly small to medium sized flies, rarely large (1.0–15.0 mm). The body is generally slender and elongated. The colour ranges from yellow to black and they may be lustrous or pollinose, but have never metallic shine. The head is often small and rounded with comparatively large eyes; many males are holoptic. The antennae usually have three segments of which the third is the largest and bears an apical arista. The proboscis is often long and piercing, but some species have short mouthparts. The wings are clear or partially tinged and in some species with a stigma or with distinct pattern. The legs are usually long and slender. The fore legs in many species are raptorial adapted to catching and holding prey (Oosterbroek 2006).

Empididae are found in a variety of forest habitats, but some species are also associated with open areas such as grassland, marshes, coastal zones, and beaches. The adults are originally predators, mainly on flying Diptera, but some species forage by walking about on tree trunks or prey on aquatic insects. Some species also visit flowers to obtain nectar. Many species form swarms and the males are offering prey to the females as part of the mating ritual (Oosterbroek 2006). This behavior has reached its excellence in the common genus *Hilara* Meigen, 1822, where the nuptial gift is wrapped in a web produced by silk glands on the male fore basitarsus (Chvála 2005).

In Europe Brachystomatidae is represented by 13 species in 5 genera. The species are small to medium sized (2.0–7.0 mm), slender, yellowish to dark flies. The head is small with comparatively large eyes; the antenna usually have three segments, third segment bears a long, apical arista; the mouthparts are stout and projecting downwards towards the fore legs. Wings are clear or infusate. Legs are long and slender; in some species the fore legs are somewhat raptorial. The species are usually associated with mature forest where the adults are predators, mainly preying on adult Diptera (Oosterbroek 2006).

In 2016 the project "Insects on rich fens in Hedmark, eastern Norway" was initiated aiming at increasing the knowledge of the insect fauna on rich fens in Norway (see Artsdatabanken 2016, Andersen & Hagenlund 2019). Rich fens are among our most vulnerable and threatened nature types. Five types of lowland rich fens are listed in the Norwegian Red List of Nature Types (Lindegaard & Henriksen 2011). These fens are rich in calcium (Ca) and usually fed by ground water and a number of rare and red-listed plants, like the fragrant orchid, *Gymnadenia conopsea* (L.) and the early marsh-orchid *Dactylorhiza incarnata* (L.), grow on these fens.

During the project insects were collected in nearly 100 localities (see Jonassen & Andersen 2020). The insect fauna on rich fens were the main target, but insects were also collected in a number of other habitats to get a better understanding of the habitat preferences of the different species. Below we present a list of the Brachystomatidae and Empididae species from Hedmark identified during the project. The list is mainly based on the insects collected during the project, but we have also sorted through and identified older material from the area housed in the entomological collections at the Natural History Museum, University of Oslo and in the Department of Natural History, University Museum of Bergen.

## Material and methods

The fieldwork was conducted during 2016 and 2017. The main part of the material was collected in Malaise traps, but adult Diptera were also collected with other methods like sweep nets, window traps, light traps and yellow pan traps. A total of 94 localities in Hedmark were visited during the project. Each locality is given a HeLoc number, using the abbreviation HeLoc for "Hedmark Locality". Although the fieldwork was focused on rich fens, a number of other habitats were also explored. In the species list rich fen localities are marked with an asterisk after the HeLoc number. All localities including HeLoc numbers are listed in Jonassen & Andersen (2020: Table 1).

The Malaise traps were situated on eight different rich fens in 2016 and were emptied bi-weekly beginning after the snow had melted in April–May and continuing until the winter started in late October. The fens are of different sizes and structure and a gradient from lowland fens to upland fens were strived for. Several of the fens are a mosaic of different nature types, with areas varying from comparatively poor to extremely rich. The fens may include both firm substrate and areas with fen carpet and mud bottom, and some are to a varying degree covered with shrubs and trees. In some of the fens there are springs and spring-brooks, others have streams or brooks running through, and some have pools or ponds of various sizes.

During the field work the material was preserved in 75–80% ethanol, then brought to the Department of Natural History, University of Bergen, and sorted to family level. The material from the project is mainly stored in 75–80% ethanol, but a few specimens are pinned. All species were identified by the senior author and is housed in the entomological collection at the Department of Natural History, University Museum of Bergen (ZMBN).

In addition, material collected in the eastern part of Innlandet county by Gudrun Bakkerud, Asle Bruserud, Marit Hagenlund, Lars Ove Hansen, Kjell Magne Olsen, Eirik Rindal, Arnstein Staverløkk, Karsten Sund, Geir E. Søli and Anders Thylén, and housed in the entomological collections at the University Museum of Bergen and the Natural History Museum, University of Oslo, were identified and is listed as additional material in the species list. Much of the additional material is stored in the entomological collection at the Department of Natural History, University Museum of Bergen. The remaining additional material is in the Natural History Museum, University of Oslo (ZMO). A few specimens are also housed in Terje Jonassen's private collection.

The former counties Oppland and Hedmark were merged into Innlandet County on the 1 January 2020. None of the municipalities in Hedmark were, however, altered or merged and the municipality boundaries are still as before 2020. All fieldwork was performed in the eastern

part of Innlandet, i.e. the former Hedmark County, and we have used the biogeographical regions southern Hedmark (HES) and northern Hedmark (HEN) following the "Strand-system" (Økland 1981, Endrestøl 2021).

### The Malaise trap localities

The different fens were selected using Naturbase (Miljødirektoratet 2017) which includes a thorough descriptions of the different fens.

**HeLoc17\***, Northern Hedmark (HEN), Åmot, Kildesaga, 61.178778°N 11.402167°E, 290 m a.s.l. (Malaise trap no. 1). Small (6.8 daa), extremely rich wood and scrub-covered lowland fen with firm substrate (<https://faktaark.naturbase.no/?id=BN00075142>).

**HeLoc32\***, Northern Hedmark (HEN), Stor-Elvdal, Nabbtjern, 61.378417°N 11.191750°E, 251 m a.s.l. (Malaise trap no. 2). Medium large (117 daa), intermediate to rich carpet / mud bottom lowland fen with interspersed flarks (<https://faktaark.naturbase.no/?id=BN00026540>).

**HeLoc45\***, Northern Hedmark (HEN), Rendalen, Jøgåsmyra, 61.774556°N 11.593472°E, 640 m a.s.l. (Malaise trap no. 3). Large (694 daa), rich to extremely rich fen with a mosaic of firm substrate and loose mats (<https://faktaark.naturbase.no/?id=BN00026324>).

**HeLoc47\***, Northern Hedmark (HEN), Rendalen, Sekserbua NE, 61.556056°N 11.168556°E, 520 m a.s.l. (Malaise trap no. 4). Medium large (64 daa), intermediate to rich wood and scrub-covered fen with firm substrate (<https://faktaark.naturbase.no/?id=BN00026412>).

**HeLoc71\***, Northern Hedmark (HEN), Engerdal, Ulvåkjølen–Sundsetra, 61.836556°N 11.791250°E, 660 m a.s.l. (Malaise trap no. 5). Large (2403 daa) fen complex with poor to rich fens. The Malaise trap was situated in one of the richest parts, with gently sloping terrain (<https://faktaark.naturbase.no/?id=BN00026842>).

**HeLoc74\***, Northern Hedmark (HEN), Engerdal, Åsen, 61.885861°N 11.782833°E, 700 m a.s.l. (Malaise trap no. 6). Small (18 daa), fragmented, extremely rich fen in upland area, close to a larger rich fen. At the sampling site the fen is gently sloping with a mix of scattered

conifers and deciduous trees (see Løvhuskjølen: <https://faktaark.naturbase.no/?id=BN00026820>).

**HeLoc75\***, Northern Hedmark (HEN), Tolga, Bjørnvollen, 62.387028°N 11.118861°E, 770 m a.s.l. (Malaise trap no. 7). Medium large (335 daa), intermediate to extremely rich fen in upland area. The fen is partly covered with mixed forest and has mostly firm substrate, in some places with exposed stones, but there are also smaller areas with fen carpet and mud bottom (<https://faktaark.naturbase.no/?id=BN00099251>).

**HeLoc78\***, Northern Hedmark (HEN), Tynset, Brydalskjølen, 62.255444°N 10.907250°E, 780 m a.s.l. (Malaise trap no. 8). Large (990 daa), intermediate to extremely rich fen complex in upland area. Mostly open fen with firm substrate, but also areas with fen carpet and some areas are covered with mixed forest (<https://faktaark.naturbase.no/?id=BN00100041>).

## Results

### The species

#### FAMILY BRACHYSTOMATIDAE

##### *Gloma fuscipennis* Meigen, 1822

**Material.** HeLoc 17\*, 23 June–11 July 2016, 1♀, Malaise trap.

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 1–24 June 1993, 1♂, Malaise trap, leg. G. Bakkerud. HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♂, Malaise trap, leg. K.M. Olsen.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

##### *Heleodromia immaculata* Haliday, 1833

**Material.** HeLoc07, 28 June 2016, 1♀, sweep net; HeLoc 17\*, 26 May–9 June 2016, 3♂♂1♀; 9–23 June 2016, 1♂1♀; 23 June–11 July 2016, 3♂♂1♀; 4–17 August 2016, 1♀; 7 August–2 September 2016, 1♀; 29 September–13 October 2016, 1♂, Malaise trap; HeLoc24, 15 August 2016, 1♂1♀, sweep net; HeLoc25, 20 August–16 September 2016, 7♂♂1♀; 16

September–5 November 2016, 1♀, light trap; HeLoc 32\*, 4–17 August 2016, 1♀, Malaise trap; HeLoc34, 3–21 June 2017, 2♂♂1♀; 21 June–20 July 2017, 8♂♂7♀♀; 20 July–6 August 2017, 3♂♂2♀♀; 6 August–10 September 2017, 1♂1♀; 10 September–20 October 2017, 1♂, light trap; HeLoc 35, 6 June 2015, 1♀, sweep net; 29–31 July 2016, 3♂♂1♀, light trap; HeLoc 70\*, 25 July 2016, 1♂, sweep net; HeLoc 74\*, 23 June–11 July 2016, 1♂; 11–21 July 2016, 1♂1♀; 21 July–4 August 2016, 1♂; 4–17 August 2016, 1♂, Malaise trap.

**Additional localities.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 10 August–30 September 2003, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 14 August–6 September 2005, 1♂, Malaise trap, leg. K. Sund (ZMO); Femoen, N60.2033° E12.3506°, 206 m a.s.l., 11 May–21 June 2006, 1♂, Malaise trap, leg. K. Sund (ZMO). Våler: Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 1♂, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 6 July–22 September 2018, 1♂, Malaise trap, leg. K.M. Olsen.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

##### *Trichopeza longicornis* (Meigen, 1822)

**Additional localities.** HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 6 July 2018, 1♂, sweep net, leg. K.M. Olsen (coll. T. Jonassen).

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

#### FAMILY EMPIDIDAE

##### *Anthepiscopus oedalinus* (Zetterstedt, 1838)

**Additional localities.** HES, Kongsvinger: Femoen, N60.2033° E12.3506°, 206 m a.s.l., 11 May–21 June 2006, 1♂1♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Chelifera concinnicauda* Collin, 1927**

**Material.** HeLoc34, 21 June–20 July, 1♂; 20 July–6 August 2017, 2♂♂, light trap; HeLoc45\*, 17 August–2 September 2016, 1♂, Malaise trap; HeLoc71\*, 16–29 September 2016, 1♂2♀♀, Malaise trap; HeLoc75\*, 17 August–2 September 2016, 1♂, Malaise trap; HeLoc76\*, 17 August 2016, 1♂, sweep net; HeLoc88, 25 July 2017, 1♂, sweep net; HeLoc92\*, 17 August 2016, 1♂, sweep net; HeLoc93, 25 July 2017, 1♂1♀, sweep net.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Chelifera flavella* (Zetterstedt, 1838)**

**Material.** HeLoc74\*, 4–17 August 2016, 1♂, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Chelifera precabunda* Collin, 1961 (Figure 1)**

**Material.** HeLoc17\*, 23 June–11 July 2016,

1♂; 17 August–2 September 2016, 3♀♀; 16–29 September 2016, 1♀, Malaise trap; HeLoc32\*, 16–29 September 2016, 1♀, Malaise trap; HeLoc41, 29 July 2016, 1♂, sweep net; HeLoc47\*, 11–21 July 2016, 1♀; 21 July–4 August 2016, 1♀, Malaise trap; HeLoc74\*, 21 July–4 August 2016, 1♂1♀; 4–17 August 2016, 1♂1♀; 17 August–2 September 2016, 2♀♀; 2–16 September 2016, 1♀, Malaise trap; HeLoc92\*, 17 August 2016, 1♀, sweep net.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Chelifera precatoria* (Fallén, 1816)**

**Material.** HeLoc03, 23 July 2017, 2♂♂1♀, sweep net; HeLoc14\*, 26 June 2016, 1♀, sweep net; HeLoc32\*, 21 July–4 August 2016, 1♀; 17 August–2 September 2016, 1♀, Malaise trap; HeLoc45\*, 24 June–11 July 2016, 1♀; 11–21 July 2016, 1♀, Malaise trap; HeLoc47\*, 9–23 June 2016, 1♂; 23 June–11 July 2016, 2♀♀; 11–21 July 2016, 1♀, Malaise trap; HeLoc70\*, 25 July 2016,



**FIGURE 1.** *Chelifera precabunda* Collin, 1961 was collected nearly exclusively on rich fens. Photo: Morten Angard Mjælde.

1♂, sweep net; HeLoc71\*, 11–21 July 2016, 1♀; 21 July–4 August 2016, 1♂4♀♀; 17 August–2 September 2016, 1♂; 2–16 September 2016, 2♀♀, Malaise trap; HeLoc74\*, 23 June–11 July 2016, 2♂♂; 11–21 July 2016, 9♂♂5♀♀; 21 July–4 August 2016, 13♂♂5♀♀; 4–17 August 2016, 3♂♂; 17 August–2 September 2016, 2♀♀; 16–29 September 2016, 1♀, Malaise trap; HeLoc75\*, 23 June–11 July 2016, 1♂, Malaise trap; HeLoc78\*, 23 June–11 July 2016, 1♂1♀; 11–21 July 2016, 1♂; 21 July–4 August 2016, 1♀, Malaise trap.

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 17 September–1 October 1993, 1♀, Malaise trap, leg. G. Bakkerud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

### *Chelifera subangusta* Collin, 1961

**Material.** HeLoc17\*, 23 June–11 July 2016, 4♂♂; 11–21 July 2016, 7♀♀, Malaise trap; HeLoc37\*, 27 July 2016, 1♀, sweep net; HeLoc71\*, 21 July–4 August 2016, 2♀♀; 4–17 August 2016, 1♀, Malaise trap; HeLoc74\*, 23 June–11 July 2016, 3♂♂; 11–21 July 2016, 5♂♂5♀♀; 21 July–4 August 2016, 5♂♂11♀♀; 4–17 August 2016, 1♂3♀♀; 17 August–2 September 2016, 1♂4♀♀; 2–16 September 2016, 4♀♀, Malaise trap; 15 July–18 September 2016, 2♂♂, window trap; HeLoc78\*, 4–17 August 2016, 1♀, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

### *Chelifera trapezina* (Zetterstedt, 1838)

**Material.** HeLoc34, 21 June–20 July, 1♂, light trap; HeLoc74\*, 21 July–4 August 2016, 1♂, Malaise trap; HeLoc92\*, 17 August 2016, 3♂♂, sweep net.

**Additional material.** HES, Ringsaker: Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–31 July 1990, 1♂, Malaise trap, leg. A. Bruserud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

### *Chelipoda albiseta* (Zetterstedt, 1838)

**Material.** HeLoc17\*, 21 July–4 August

2016, 3♂♂1♀; 4–17 August 2016, 2♂♂3♀♀; 17 August–2 September 2016, 1♀; 2–16 September 2016, 1♀; 16–29 September 2016, 1♂1♀; 13–27 October 2016, 1♀, Malaise trap; HeLoc29, 18 September 2016, 1♀, sweep net; HeLoc32\*, 21 July–4 August 2016, 1♂1♀; 4–17 August 2016, 2♂♂1♀; 17 August–2 September 2016, 3♂♂5♀♀; 2–16 September 2016, 3♀♀; 16–29 September 2016, 1♀, Malaise trap; HeLoc37\*, 27 July 2016, 1♀, sweep net; HeLoc44, 17 September 2016, 2♀♀, sweep net; HeLoc45\*, 17 August–2 September 2016, 3♀♀, Malaise trap; HeLoc46, 18 September 2016, 1♀, sweep net; HeLoc47\*, 21 July–4 August 2016, 1♂1♀; 4–17 August 2016, 3♀♀; 2–16 September 2016, 7♂♂15♀♀; 16–29 September 2016, 1♂12♀♀; 29 September–13 October 2016, 4♀♀, Malaise trap; HeLoc51, 18 August 2016, 2♂♂, sweep net; HeLoc63, 17 August 2016, 3♂♂4♀♀, sweep net; HeLoc64\*, 28 July 2016, 1♀, sweep net; HeLoc70\*, 16 August 2016, 2♂♂, sweep net; HeLoc71\*, 21 July–4 August 2016, 2♀♀; 4–17 August 2016, 2♀♀; 17 August–2 September 2016, 2♂♂24♀♀; 2–16 September 2016, 5♂♂48♀♀; 16–29 September 2016, 26♀♀; 29 September–13 October 2016, 1♀, Malaise trap; HeLoc74\*, 4–17 August 2016, 1♂3♀♀; 17 August–2 September 2016, 6♂♂10♀♀; 2–16 September 2016, 43♂♂77♀♀; 16–29 September 2016, 43♂♂109♀♀; 29 September–13 October 2016, 6♀♀; 13–27 October 2016, 1♀, Malaise trap; 15 July–18 September 2016, 2♀♀; 18 September–27 October 2016, 11♂♂8♀♀, window trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 10 August–30 September 2003, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 3 August–16 October 2015, 1♂, Malaise trap, leg. K. Sund (ZMO); Viker, Vikeråa, N60.202567° E12.450709°, 276 m a.s.l., 29 June–12 August 2007, 3♂♂6♀♀, Malaise trap, leg. K. Sund (ZMO). Våler: Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 6 August–28 October 2009, 12♂♂15♀♀, Malaise trap, leg. E. Rindal & G. Sølvi (ZMO). HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 6 July–22 September 2018, 1♂, Malaise

trap, leg. K.M. Olsen.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES and HEN).

***Chelipoda inexpectata* Tuomikoski, 1966**

**Additional material.** HES, Kongsvinger: Vikar, Vikaråa, N60.202567° E12.450709°, 276 m a.s.l., 29 June–12 August 2007, 1♂, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** New to Norway. This species has previously been reported from Sweden, Finland, and Russia (Karelen) (Hellqvist *et al.* 2015).

***Clinocera appendiculata* (Zetterstedt, 1838)**

**Material.** HeLoc27, 27 June 2016, 1♂2♀♀, sweep net; HeLoc38, 8 June 2016, 3♀♀, sweep net; HeLoc74\*, 13–26 May 2016, 2♂♂; 26 May–11 June 2016, 1♂; 23 June–11 July 2016, 2♂♂; 11–21 July 2016, 1♀; 21 July–4 August 2016, 1♂; 2–16 September 2016, 1♂; 16–29 September 2016, 1♀, Malaise trap; HeLoc75\*, 11–21 July 2016, 1♀, Malaise trap; HeLoc78\*, 23 June–11 July 2016, 1♀, Malaise trap; HeLoc83\*, 8 June 2016, 2♀♀, sweep net; HeLoc87, 26 July 2017, 1♂, sweep net.

**Additional material.** HEN, Åmot: Deifjellia, N61.2843° E11.505°, 515 m a.s.l., 6 July–22 September 2018, 1♂, Malaise trap, leg. K.M. Olsen.

***Clinocera fontinalis* (Haliday, 1833)**

**Material.** HeLoc74\*, 13–26 May 2016, 1♂; 26 May–11 July 2016, 3♂♂, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN). A seemingly rare or overlooked species in Norway, previously only recorded from Rogaland (Jonassen 1987).

***Clinocera stagnalis* (Haliday, 1833)**

**Material.** HeLoc74\*, 2–16 September 2016, 1♂; 29 September–13 October, 1♀, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Dolichocephala bartaki* Wagner, 1988**

**Material.** HeLoc14\*, 21 July–4 August 2016, 1♂, Malaise trap; HeLoc47\*, 21 July–4 August 2016, 2♂♂, Malaise trap.

**Remarks.** Recorded for the first time from Norway. It is obvious, however, that past collectors have failed to separate this and the following species from the common *D. irrorata* (Fallén, 1816).

***Dolichocephala bellstedti* Joost, 1985**

**Material.** HeLoc25, 20 August–16 September 2016, 2♂♂, light trap; HeLoc34, 20 July–6 August 2017, 1♂, light trap; HeLoc47\*, 21 July–4 August 2016, 1♂, Malaise trap; HeLoc71\*, 21 July–4 August 2016, 1♂, Malaise trap; HeLoc74\*, 21 July–4 August 2016, 1♂, Malaise trap; HeLoc75\*, 23 June–11 July 2016, 1♂; 11–21 July 2016, 1♂; 21 July–4 August 2016, 1♂, Malaise trap.

**Remarks.** Recorded for the first time from Norway. The relatively widespread occurrences of this species in Hedmark led us to re-examine the material of '*D. irrorata*' reported from the Finnmark survey (Jonassen *et al.* 2013). All males in that material turned out to belong to *D. bellstedti* (females of *D. bellstedti* and *D. irrorata* are indistinguishable). This demonstrates that *D. bellstedti* obviously is an overlooked species in this country, although none of the examined *Dolichocephala* specimens from coastal areas in southern Norway have as yet proven to belong to *D. bellstedti*.

***Dolichocephala irrorata* (Fallén, 1816)**

**Material.** HeLoc25, 20 August–16 September 2016, 2♂♂, light trap; HeLoc34, 3–21 June 2017, 4♂♂4♀♀; 21 June–20 July 2017, 2♂♂; 6 August–10 September 2017, 1♂, light trap; HeLoc45\*, 21 July–4 August 2016, 1♂, Malaise trap; HeLoc71\*, 23 June–11 July 2016, 1♂, Malaise trap; HeLoc75\*, 23 June–11 July 2016, 1♂, Malaise trap.

**Additional material.** HES, Kongsvinger: Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 8 August–29 October 2004, 1♂, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Dolichocephala thomasi* Wagner, 1983**

**Material.** HeLoc17\*, 4–17 August 2016, 1♂, Malaise trap; HeLoc32\*, 21 July–4 August 2016,

1♂, Malaise trap; HeLoc47\*, 9–23 June 2016, 1♀; 23 June–11 July 2016, 2♂♂2♀♀; 21 July–4 August 2016, 1♀; 4–17 August 2016, 1♂, Malaise trap; HeLoc71\*, 4–17 August 2016, 1♂2♀♀, Malaise trap; HeLoc74\*, 4–17 August 2016, 1♂; 17 August–2 September 2016, 1♂; 2–16 September 2016, 1♂, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 10 July–10 August 2003, 1♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO). Våler: Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 6 August–28 October 2009, 2♀♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Empis (Anacrostichus) lucida Zetterstedt, 1838***

**Material.** HeLoc17\*, 26 May–9 June 2016, 1♂; 9–23 June 2016, 1♀; 23 June–11 July 2016, 1♂, Malaise trap; HeLoc34, 21 June–20 July 2017, 1♂1♀, light trap; HeLoc45\*, 24 June–11 July 2016, 4♂♂5♀♀, Malaise trap; HeLoc47\*, 9–23 June 2016, 2♂♂1♀; 23 June–11 July 2016, 2♂♂6♀♀, Malaise trap; HeLoc71\*, 9–23 June 2016, 4♂♂1♀; 23 June–11 July 2016, 27♂♂7♀♀, Malaise trap; HeLoc74\*, 9–23 June 2016, 11♂♂; 23 June–11 July 2016, 19♂♂13♀♀; 11–21 July 2016, 3♂♂2♀♀, Malaise trap; 1 June–15 July 2016, 1♂, window trap; HeLoc75\*, 9–23 June 2016, 5♀♀; 23 June–11 July 2016, 2♂♂; 11–21 July 2016, 1♀; 21 July–4 August 2016, 1♀, Malaise trap; HeLoc78\*, 9–23 June 2016, 5♂♂2♀♀; 23 June–11 July 2016, 24♂♂17♀♀; 11–21 July 2016, 3♂♂9♀♀, Malaise trap; HeLoc83\*, 27 June 2016, 1♂1♀, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.18458° E12.46155°, 321 m a.s.l., 26 May–22 June 2003, 2♂♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 6 June–2 July 2015, 3♂♂, Malaise trap, leg. K. Sund (ZMO). Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015, 2♂♂10♀♀, Malaise trap, leg. A. Staverløkk. Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 7 June–6

August 2009, 1♂2♀♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO); Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 2♀♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Åmot: Deifjellia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♀, Malaise trap, leg. K.M. Olsen.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Empis (Coptophlebia) albinervis Meigen, 1822***

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 17 September–1 October 1993, 1♂, Malaise trap, leg. G. Bakkerud.

***Empis (Coptophlebia) hyalipennis Fallén, 1816***

**Material.** HeLoc17\*, 4–17 August 2016, 1♀, Malaise trap; HeLoc34, 6 August–10 September 2017, 1♂3♀♀, light trap; HeLoc47\*, 4–17 August 2016, 2♀♀, Malaise trap; HeLoc71\*, 17 August–2 September 2016, 1♂4♀♀, Malaise trap; HeLoc74\*, 4–17 August 2016, 1♀; 17 August–2 September 2016, 1♀; 2–16 September 2016, 1♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.18458° E12.46155°, 321 m a.s.l., 10 August–30 September 2003, 1♂1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 14 August–6 September 2005, 1♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 1–30 September 1993, 1♀, Malaise trap, leg. G. Bakkerud. Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 6 June–6 August 2009, 1♂, Malaise trap, leg. E. Rindal & G. Søli (ZMO); Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 6 June–6 August 2009, 1♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO).

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Empis (Euempis) picipes Meigen, 1804***

**Additional material.** HES, Kongsvinger: Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 14 June–8 August 2004, 1♂1♀, Malaise



trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Empis (Euempis) tessellata* Fabricius, 1794**  
(Figure 2)

**Material.** HeLoc17\*, 11–21 July 2016, 2♂♂2♀♀; 21 July–4 August 2016, 1♂, Malaise trap; HeLoc32\*, 9–23 June 2016, 1♂; 11–21 July 2016, 1♂, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 9♂♂10♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 1♀, Malaise trap, leg. K. Sund (ZMO); Femoen, N60.2033° E12.3506°, 206 m a.s.l., 21 June–18 July 2006, 2♂♂3♀♀, Malaise trap, leg. K. Sund (ZMO); Vikør, Vikøråa, N60.202567° E12.450709°, 276 m a.s.l., 26 May–

29 June 2007, 1♀, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 4♂♂8♀♀; 14 June–8 August 2004, 2♂♂13♀♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Helgøya, Hovinsholm, N60.718297° E11.010333°, 171 m a.s.l., 29 June–27 July 1991, 1♀, Malaise trap, leg. A. Bruserud. Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015, 1♂, Malaise trap, leg. A. Staverløkk. Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 7 June–6 August 2009, 1♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♀, Malaise trap, leg. K.M. Olsen.

***Empis (Kritempis) livida* Linnaeus, 1758**

**Material.** HeLoc19, 21 July 2017, 5♂♂5♀♀, sweep net.



**FIGURE 2.** *Empis (Euempis) tessellata* Fabricius, 1794 was collected both on rich fens and in other habitats. Photo: Morten Angard Mjælde.

**Additional material.** HES, Kongsvinger: Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 2 July–3 August 2015, 1♂, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 1–30 September 1993, 3♂♂4♀♀, Malaise trap, leg. G. Bakkerud.

***Empis (Platyptera) borealis* Linnaeus, 1758**

**Material.** HeLoc02, 5 June 2017, 4♀♀, sweep net; HeLoc17\*, 28 April–11 May 2016, 3♂♂; 14–26 May 2016, 1♂2♀♀; 26 May–9 June 2016, 1♂2♀♀, Malaise trap; HeLoc32\*, 29 April–14 May 2016, 2♀♀; 14–26 May 2016, 1♂, Malaise trap; 31 May 2016, 8♂♂, sweep net; HeLoc36\*, 3 June–25 July 2017, 1♂4♀♀, Malaise trap; HeLoc45\*, 26 May–9 June 2016, 17♂♂15♀♀; 17 August–2 September 2016, 6♂♂, Malaise trap; HeLoc47\*, 27 April–13 May 2016, 1♂; 13–26 May 2016, 3♂♂4♀♀; 26 May–9 June 2016, 1♂3♀♀, Malaise trap; HeLoc49\*, 7 June 2016, 2♂♂, sweep net; HeLoc50, 7 June 2016, 3♂♂, sweep net; HeLoc71\*, 28 April–13 May 2016, 1♂; 13–26 May 2016, 3♂♂; 26 May–9 June 2016, 11♂♂8♀♀; 9–23 June 2016, 2♂♂1♀; 23 June–11 July 2016, 1♂, Malaise trap; HeLoc74\*, 26 May–9 June 2016, 6♂♂6♀♀; 9–23 June 2016, 2♂♂1♀; 23 June–11 July 2016, 1♂1♀, Malaise trap; HeLoc75\*, 13–26 May 2016, 1♂; 26 May–9 June 2016, 14♂♂7♀♀, Malaise trap; HeLoc78\*, 13–26 May 2016, 5♂♂; 26 May–9 June 2016, 12♂♂22♀♀; 9–23 June 2016, 1♂, Malaise trap; HeLoc80\*, 2 June 2016, 10♂♂2♀♀, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.18458° E12.46155°, 321 m a.s.l., 26 May–22 June 2003, 2♂♂1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 13 April–28 May 2005, 1♂, Malaise trap, leg. K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 12–15 May 2015, 2♀♀, Malaise trap, leg. K. Sund (ZMO); Vikar, Vikaråa, N60.202567° E12.450709°, 276 m a.s.l., 28 April–26 May 2007, 6♂♂1♀, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 43♂♂16♀♀, Malaise trap, leg. K. Sund (ZMO). Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015,

6♂♂1♀, Malaise trap, leg. A. Staverløkk. Våler: Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 1♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♂, Malaise trap, leg. K.M. Olsen.

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Empis (Xanthempis) laetabilis* Collin, 1926**

**Additional material.** HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♂, Malaise trap, leg. K.M. Olsen (coll. T. Jonassen).

**Remarks.** Recorded for the first time from northern Hedmark (HEN). A rare species, previously only found in inner Sogn and Fjordane (SFI) (Chvála 1994).

***Empis (Xanthempis) punctata* Meigen, 1804**

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 5♂♂1♀; 10 July–10 August 2003, 1♂1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 26♂♂18♀♀; 14 June–8 August 2004, 39♂♂61♀♀, Malaise trap, leg. K. Sund (ZMO; T. Jonassen).

**Remarks.** New to Norway. The species is distributed in Central and Northern Europe including Denmark, Finland, and Sweden (Chvála 2013).

***Empis (Xanthempis) stercorea* Linnaeus, 1761**

**Material.** HeLoc17\*, 9–23 June 2016, 1♂; 11–21 July 2016, 1♀, Malaise trap; HeLoc78\*, 11–21 July 2016, 1♀, Malaise trap; HeLoc87, 26 July 2017, 1♂1♀, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Vikar, Vikaråa, N60.202567° E12.450709°, 276 m a.s.l., 29 June–12 August 2007, 1♀, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 14 June–8 August

2004, 3♂♂7♀♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 12–15 July 1993, 3♀♀, Malaise trap, leg. G. Bakkerud. **HEN**, Stor-Elvdal: Evenstad, Høgskolen i Innlandet, N61.4244977° E11.077615°, 251 m a.s.l., 3–10 June 2011, 1♀, Malaise trap, leg. M. Hagenlund.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Empis (s.s.) bicuspidata* Collin, 1927**

**Material.** HeLoc07, 28 June 2016, 1♂, sweep net.

**Additional material.** **HES**, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 2♂♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Empis (s.s.) nigripes* Fabricius, 1794**

**Material.** HeLoc17\*, 26 May–9 June 2016, 2♀♀; 9–23 June 2016, 2♂♂2♀♀; 23 June–11 July 2016, 1♂, Malaise trap; HeLoc32\*, 9–23 June 2016, 1♀, Malaise trap; HeLoc47\*, 26 May–9 June 2016, 1♂; 11–21 July 2016, 1♂, Malaise trap; HeLoc71\*, 9–23 June 2016, 1♂; 23 June–11 July 2016, 1♀; 11–21 July 2016, 1♀, Malaise trap.

**Additional material.** **HES**, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 1♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 1♂, Malaise trap, leg. K. Sund (ZMO); Femoen, N60.2033° E12.3506°, 206 m a.s.l., 11 May–21 June 2006, 2♂♂, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 2♂♂; 14 June–8 August 2004, 3♂♂3♀♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 28 May–4 June 1993, 1♂; 1–30 September 1993, 1♂1♀, Malaise trap; 10 July 1991, 1♀, sweep net, leg. G. Bakkerud. Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015, 4♂♂8♀♀, Malaise trap, leg. A. Staverløkk.

**Remarks.** Recorded for the first time from

northern Hedmark (HEN).

***Empis (s.s.) pennipes* Linnaeus, 1758** (Figure 3)

**Material.** HeLoc34, 21 June–20 July 2017, 1♀, light trap.

**Additional material.** **HES**, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 10 July–10 August 2003, 6♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 28 May–4 June 1993, 2♂♂3♀♀, Malaise trap, leg. G. Bakkerud; Veldre, N60.917283° E10.890533°, 311 m a.s.l., 9 July 1991, 1♂1♀, sweep net, leg. G. Bakkerud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Empis (s.s.) staegeri* Collin, 1963**

**Material.** HeLoc17\*, 9–23 June 2016, 1♂, Malaise trap; HeLoc19, 21 July 2017, 1♀, sweep net; HeLoc34, 3–21 June 2017, 6♂♂8♀♀; 21 June–20 July 2017, 3♂♂, light trap; HeLoc47\*, 9–23 June 2016, 1♀, Malaise trap.

**Additional material.** **HES**, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 1♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 11♂♂1♀; 14 June–8 August 2004, 9♂♂1♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Veldre, N60.917283° E10.890533°, 311 m a.s.l., 9 July 1991, 1♂2♀♀, sweep net, leg. G. Bakkerud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Empis (s.s.) syrovatkai* Chvála, 1985**

**Material.** HeLoc10, 22 July 2017, 1♀, sweep net.

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Hemerodromia oratoria* (Fallén, 1816)**

**Material.** HeLoc10, 22 July 2017, 1♂, sweep net; HeLoc19, 21 July 2017, 1♂1♀, sweep net; HeLoc34, 21 June–20 July 2017, 8♂♂5♀♀; 20 July–6 August 2017, 3♂♂, light trap; HeLoc50, 26 July 2016, 5♂♂5♀♀, sweep net.



**FIGURE 3.** *Empis (s.s.) pennipes* Linnaeus, 1758 was not taken on the rich fens; it was only encountered in other types of habitats. Photo: Morten Angard Mjelde.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Hemerodromia raptorica* Meigen, 1830**

**Material.** HeLoc01, 20 July 2017, 1♂, sweep net.

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Hilara abdominalis* Zetterstedt, 1838**

**Material.** HeLoc17\*, 11–21 July 2016, 1♀, Malaise trap; HeLoc22, 21 July 2017, 1♂, sweep net; HeLoc47\*, 23 June–11 July 2016, 2♀♀, Malaise trap; HeLoc59, 24 July 2017, 1♂, light trap; HeLoc71\*, 21 July–4 August 2016, 1♀, Malaise trap; HeLoc74\*, 11–21 July 2016, 1♂3♀♀, Malaise trap; HeLoc75\*, 2 June–16 July 2016, 2♂♂3♀♀; 16 July–19 September 2016, 2♂♂10♀♀, window trap; HeLoc78\*, 21 July–4 August 2016, 1♀, Malaise trap; HeLoc84, 23 July 2016, 1♀, sweep net; HeLoc85, 23 July 2016, 1♂, sweep net.

**Additional material.** HES, Ringsaker: Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–31 July 1990, 3♂♂1♀; 1–31 August 1990, 1♀, Malaise trap, leg. A. Bruserud; Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 21–31 May 1993, 2♂♂, Malaise trap, leg. G. Bakkerud. Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 6 May–7 June 2009, 1♂, Malaise trap, leg. E. Rindal & G. Søli (ZMO); Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 2♂♂, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 6♂♂2♀♀, Malaise trap, leg. K.M. Olsen.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Hilara albitarsis* von Roser, 1840**

**Material.** HeLoc17\*, 26 May–9 June 2016, 1♂, Malaise trap.

**Additional material.** HES, Kongsvinger:

Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 4♀♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Hilara barbipes* Frey, 1908**

**Material.** HeLoc64\*, 28 July 2016, 1♀, sweep net.

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 4–10 June 1993, 1♂; 10–15 June 1993, 1♂; 20–25 June 1993, 2♀♀; 12–15 July 1993, 1♂, Malaise trap, leg. G. Bakkerud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Hilara biseta* Collin, 1927**

**Material.** HeLoc09, 22 July 2017, 2♂♂, sweep net; HeLoc34, 21 June–20 July 2017, 16♂♂7♀♀; 20 July–6 August 2017, 10♂♂5♀♀; 6 August–10 September 2017, 1♂, light trap; HeLoc35, 29–31 July 2016, 4♂♂12♀♀, light trap.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES and HEN). Previously only recorded from two localities in Buskerud (Chvála 2005) but seems to occur in moderately large numbers at Ottestad in Stor-Elvdal.

***Hilara bistrata* Zetterstedt, 1842**

**Material.** HeLoc34, 3–21 June 2017, 5♂♂7♀♀; 21 June–20 July 2017, 1♂, light trap; HeLoc35, 2–3 June 2016, 24♂♂4♀♀, sweep net; HeLoc80\*, 2 June 2016, 1♂, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 26 May–22 June 2003, 2♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO). HEN, Stor-Elvdal: Evenstad, Høgskolen i Innlandet, N61.4244977° E11.077615°, 251 m a.s.l., 3–10 June 2011, 1♀, Malaise trap, leg. M. Hagenlund.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Hilara brevivittata* Macquart, 1827**

**Material.** HeLoc94\*, 30 June 2016, 1♀, sweep net.

**Additional material.** HES, Kongsvinger: Femoen, N60.2033° E12.3506°, 206 m a.s.l., 11 May–21 June 2006, 1♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Hilara canescens* Zetterstedt, 1849**

**Material.** HeLoc06, 23 July 2017, 1♂, sweep net; HeLoc09, 22 July 2017, 2♂♂10♀♀, sweep net; HeLoc10, 22 July 2017, 2♀♀, sweep net; HeLoc25, 20 August–16 September 2016, 3♂♂6♀♀, light trap; HeLoc32\*, 4–17 August 2016, 1♀, Malaise trap; HeLoc34, 3–21 June 2017, 178♂♂70♀♀; 21 June–20 July 2017, 1211♂♂871♀♀; 20 July–6 August 2017, 65♂♂111♀♀; 6 August–10 September 2017, 18♂♂66♀♀, light trap; HeLoc35, 29–31 July 2016, 83♂♂187♀♀, light trap; HeLoc48, 24 July 2017, 1♂1♀, sweep net; HeLoc78\*, 21 July–4 August 2016, 1♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 2♂♂2♀♀, Malaise trap, leg. K. Sund (ZMO); Femoen, N60.2033° E12.3506°, 206 m a.s.l., 21 June–18 July 2006, 2♀♀, Malaise trap, leg. K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 2 July–3 August 2015, 1♂1♀, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 14 June–8 August 2004, 1♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 4–10 June 1993, 2♂♂1♀, Malaise trap, leg. G. Bakkerud. HEN, Stor-Elvdal: Evenstad, Høgskolen i Innlandet, N61.4244977° E11.077615°, 251 m a.s.l., 3–10 June 2011, 3♀♀, Malaise trap, leg. M. Hagenlund.

***Hilara chorica* (Fallén, 1816)**

**Material.** HeLoc06, 23 July 2017, 14♂♂13♀♀, sweep net; HeLoc07, 22 July 2017, 1♀, sweep net; HeLoc08, 22 July 2017, 1♀, sweep net; HeLoc10, 22 July 2017, 2♂♂, sweep net; HeLoc12, 21 July 2017, 1♀, sweep net; HeLoc18, 21 July 2017, 2♂♂6♀♀, sweep net; HeLoc19, 21 July 2017, 1♂, sweep net; HeLoc22, 21 July 2017, 1♀, sweep net; HeLoc24, 15 August 2016, 1♀,

sweep net; HeLoc25, 20 August–16 September 2016, 2♂♂1♀, light trap; HeLoc29, 24 July 2017, 2♀♀, sweep net; HeLoc32\*, 4–17 August 2016, 1♀, Malaise trap; HeLoc34, 21 June–20 July 2017, 98♂♂19♀♀; 20 July–6 August 2017, 8♂♂8♀♀; 6 August–10 September 2017, 7♂♂5♀♀, light trap; HeLoc35, 29–31 July 2016, 64♂♂103♀♀, light trap; HeLoc48, 24 July 2017, 1♂, sweep net; HeLoc51, 18 August 2016, 2♀♀, sweep net; HeLoc57, 28 July 2016, 1♂, sweep net; HeLoc58, 23–25 July 2016, 2♂♂1♀, sweep net; HeLoc59, 24 July 2017, 4♀♀, light trap; HeLoc68, 26 July 2016, 2♂♂; 15 August 2016, 1♀, sweep net; HeLoc76\*, 17 August 2016, 6♂♂12♀♀, sweep net; HeLoc77, 17 August 2016, 2♂♂1♀, sweep net; HeLoc78\*, 21 July–4 August 2016, 1♀; 4–17 August 2016, 1♂1♀, Malaise trap; HeLoc92\*, 17 August 2016, 2♀♀, sweep net; HeLoc93, 25 July 2017, 1♂2♀♀, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 10 July–10 August 2003, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 14 August–6 September 2005, 2♀♀, Malaise trap, leg. K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 2 July–3 August, 2015, 18♂♂14♀♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Dæli, N60.796244° E10.772216°, 201 m a.s.l., 24 Juni 1991, 2♀♀, sweep net, leg. G. Bakkerud; Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–30 June 1990, 1♀, Malaise trap, leg. A. Bruserud. Eidskog: Magnor motorcrossbane, N59.9535° E12.1754°, 135 m a.s.l., 4 June–26 July 2018, 1♀, Malaise trap, leg. K.M. Olsen & A. Thylén.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

### *Hilara clavipes* (Harris, 1776)

**Material.** HeLoc68, 26 July 2016, 5♂♂11♀♀, sweep net; HeLoc71\*, 23 June–11 July 2016, 1♂1♀; 11–21 July 2016, 1♀; 21 July–4 August 2016, 1♀, Malaise trap; HeLoc74\*, 23 June–11 July 2016, 1♂1♀; 11–21 July 2016, 1♂5♀♀; 21 July–4 August 2016, 5♂♂9♀♀; 4–17 August 2016, 2♀♀; 17 August–2 September 2016, 3♀♀, Malaise trap; 26 July 2016, 1♂1♀, sweep net;

HeLoc78\*, 23 June–11 July 2016, 1♀; 11–21 July 2016, 2♂♂; 21 July–4 August 2016, 1♂5♀♀; 4–17 August 2016, 1♀, Malaise trap; HeLoc87, 26 July 2017, 15♂♂12♀♀, sweep net; HeLoc91, 24–25 July 2017, 1♀, yellow tray; 24–25 July 2017, 1♂3♀♀, sweep net; HeLoc92\*, 17 August 2016, 1♂3♀♀, sweep net.

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 1–30 September 1993, 4♂♂3♀♀, Malaise trap, leg. G. Bakkerud.

### *Hilara cornicula* Loew, 1873

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 1–15 July 1993, 1♂, Malaise trap, leg. G. Bakkerud.

### *Hilara diversipes* Strobl, 1892

**Material.** HeLoc17\*, 11–21 July 2016, 1♀, Malaise trap; HeLoc34, 3–21 June 2017, 2♂♂88♀♀; 21 June–20 July 2017, 41♂♂59♀♀; 20 July–6 August 2017, 3♂♂7♀♀, light trap; HeLoc47\*, 11–21 July 2016, 1♂2♀♀; 21 July–4 August 2016, 1♀, Malaise trap; HeLoc48, 24 July 2017, 1♀, sweep net; HeLoc56, 18 August 2016, 1♂, sweep net; HeLoc73\*, 28 July 2016, 1♀, sweep net; HeLoc74\*, 23 June–11 July 2016, 4♂♂3♀♀; 11–21 July 2016, 4♂♂3♀♀, Malaise trap; 15 July–18 September 2016, 2♂♂, window trap; HeLoc78\*, 21 July–4 August 2016, 1♂, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 6♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 21–31 May 1993, 1♀, Malaise trap, leg. G. Bakkerud. HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♀, Malaise trap, leg. K.M. Olsen.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

### *Hilara eviana* Straka, 1976

**Material.** HeLoc25, 20 August–16 September 2016, 4♂♂, light trap; HeLoc34, 6 August–10 September 2017, 10♀, light trap.

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 1–31 August 1992, 9♂♂1♀♀; 1–31 September 1993, 1♂7♀♀, Malaise trap, leg. G. Bakkerud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

### *Hilara femorella* Zetterstedt, 1842

**Material.** HeLoc01, 20 July 2017, 1♂, sweep net; HeLoc18, 21 July 2017, 2♂♂1♀, sweep net; HeLoc22, 21 July 2017, 1♀, sweep net; HeLoc24, 15 August 2016, 1♂, sweep net; HeLoc48, 24 July 2017, 2♀♀, sweep net; HeLoc62, 16 August 2016, 1♀, sweep net; HeLoc71\*, 11–21 July 2016, 1♀, Malaise trap; HeLoc74\*, 21 July–4 August 2016, 2♀♀, Malaise trap.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

### *Hilara griseola* Zetterstedt, 1838

**Material.** HeLoc13, 21 July 2017, 2♂♂, sweep net & light trap; HeLoc32\*, 15 July 2016, 2♀♀, sweep net; HeLoc34, 3–21 June 2017, 8♂♂10♀♀; 21 June–20 July 2017, 1♂2♀♀, light trap; HeLoc58, 23–25 July 2016, 1♀, sweep net; HeLoc59, 24 July 2017, 18♂♂17♀♀, light trap; HeLoc71\*, 26 May–9 June 2016, 1♂, Malaise trap; HeLoc75\*, 23 June–11 July 2016, 3♂♂14♀♀; 11–21 July 2016, 1♂1♀; 21 July–4 August 2016, 2♀♀, Malaise trap; HeLoc90\*, 30 June 2016, 8♂♂8♀♀, sweep net.

**Additional material.** HES, Kongsvinger: Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 1♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 4–10 June 1993, 1♂1♀, Malaise trap, leg. G. Bakkerud. HEN, Stor-Elvdal: Evenstad, Høgskolen i Innlandet, N61.4244977° E11.077615°, 251 m a.s.l., 3–10 June 2011, 1♂1♀, Malaise trap, leg. M. Hagenlund.

### *Hilara hirta* Strobl, 1892

**Material.** HeLoc65, 16 August 2016, 1♂, sweep net.

**Additional material.** HES, Kongsvinger: Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 14 August–6 September 2005, 1♀, Malaise

trap, leg. K. Sund (ZMO); Femoen, N60.2033° E12.3506°, 206 m a.s.l., 24 August–21 October 2006, 2♀♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

### *Hilara intermedia* (Fallén, 1816)

**Material.** HeLoc07, 22 July 2017, 1♂, sweep net; HeLoc09, 22 July 2017, 1♀, sweep net; HeLoc12, 21 July 2017, 1♂, sweep net; HeLoc32\*, 15 August–17 September 2016, 1♀, window trap; HeLoc34, 3–21 June 2017, 1♂; 21 June–20 July 2017, 113♂♂25♀♀; 20 July–6 August 2017, 16♂♂13♀♀; 6 August–10 September 2017, 1♂2♀♀, light trap; HeLoc35, 29–31 July 2016, 1♂, light trap; HeLoc43, 24 July 2017, 2♂♂6♀♀, sweep net; HeLoc76\*, 17 August 2016, 1♀, sweep net; HeLoc93, 25 July 2017, 1♂, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 2 July–3 August 2015, 1♂, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 14 June–8 August 2004, 2♀♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–30 June 1990, 1♀, Malaise trap, leg. A. Bruserud. Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 6 May–7 June 2009, 1♂2♀♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO); Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 1♂, Malaise trap, leg. E. Rindal & G. Søli (ZMO).

### *Hilara interstincta* (Fallén, 1816)

**Material.** HeLoc01, 20 July 2017, 1♂6♀♀, sweep net; HeLoc08, 22 July 2017, 1♂2♀♀, sweep net; HeLoc12, 21 July 2017, 5♂♂, sweep net; HeLoc13, 21 July 2017, 2♂♂1♀, sweep net & light trap; HeLoc14\*, 26 June 2016, 1♂, sweep net; HeLoc17\*, 26 May–9 June 2016, 1♀; 9–23 June 2016, 2♂♂7♀♀; 23 June–11 July 2016, 1♂6♀♀, Malaise trap; HeLoc32\*, 26 May–9 June 2016, 1♂; 9–23 June 2016, 10♂♂8♀♀; 23 June–11 July 2016, 14♂♂25♀♀;

11–21 July 2016, 1♀, Malaise trap; 15 August–17 September 2016, 1♀, window trap; HeLoc34, 3–21 June 2017, 24♂♂10♀♀; 21 June–20 July 2017, 212♂♂103♀♀; 20 July–6 August 2017, 6♂♂9♀♀, light trap; HeLoc36\*, 3 June–25 July 2017, 1♀, Malaise trap; HeLoc43, 24 July 2017, 2♀♀, sweep net; HeLoc47\*, 9–23 June 2016, 1♂1♀; 23 June–11 July 2016, 3♂♂5♀♀; 11–21 July 2016, 2♂♂1♀, Malaise trap; HeLoc54, 28 July 2016, 1♂3♀♀, sweep net; HeLoc71\*, 9–23 June 2016, 4♂♂3♀♀; 23 June–11 July 2016, 6♂♂14♀♀; 11–21 July 2016, 5♂♂7♀♀; 21 July–4 August 2016, 4♂♂8♀♀; 4–17 August 2016, 1♀, Malaise trap; HeLoc73\*, 28 July 2016, 1♂1♀, sweep net; HeLoc74\*, 9–23 June 2016, 1♀; 23 June–11 July 2016, 25♂♂15♀♀; 11–21 July 2016, 17♂♂26♀♀; 21 July–4 August 2016, 5♂♂13♀♀; 4–17 August 2016, 1♂, Malaise trap; 15 July–18 September 2016, 1♂8♀♀, window trap; 26 July 2016, 1♀, sweep net; HeLoc75\*, 23 June–11 July 2016, 49♂♂55♀♀; 11–21 July 2016, 28♂♂56♀♀; 21 July–4 August 2016, 8♂♂30♀♀; 4–17 August 2016, 1♀, Malaise trap; 16 July–19 September 2016, 1♀, window trap; HeLoc78\*, 23 June–11 July 2016, 46♂♂59♀♀; 11–21 July 2016, 33♂♂28♀♀; 21 July–4 August 2016, 9♂♂6♀♀, Malaise trap; HeLoc85, 23 July 2016, 3♂♂, sweep net; HeLoc90\*, 30 June 2016, 1♂5♀♀, sweep net; HeLoc92\*, 17 August 2016, 1♂, sweep net; HeLoc94\*, 30 June 2016, 1♂, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 1♂3♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 1♀, Malaise trap, leg. K. Sund (ZMO); Femoen, N60.2033° E12.3506°, 206 m a.s.l., 21 June–2 July 2006, 1♀, Malaise trap, leg. K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 6 June–2 July 2015, 4♂♂3♀♀, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 14 June–8 August 2004, 3♀♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 12–15 July 1993, 1♂, Malaise trap, leg. G. Bakkerud. Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m

a.s.l., 5 May–15 June 2015, 1♂, Malaise trap, leg. A. Staverløkk. Våler: Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 3♂♂1♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Stor-Elvdal: Evenstad, Høgskolen i Innlandet, N61.4244977° E11.077615°, 251 m a.s.l., 3–10 June 2011, 1♂, Malaise trap, leg. M. Hagenlund.

### *Hilara litorea* (Fallén, 1816)

**Additional material.** HES, Kongsvinger: Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 3 August–16 October 2015, 1♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–31 August 1990, 3♂♂3♀♀, Malaise trap, leg. A. Bruslerud; Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 1–30 September 1993, 2♂♂1♀, Malaise trap, leg. G. Bakkerud.

### *Hilara longivittata* Zetterstedt, 1842

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 20–25 June 1993, 1♂, Malaise trap, leg. G. Bakkerud.

### *Hilara lurida* (Fallén, 1816)

**Material.** HeLoc09, 22 July 2017, 1♂, sweep net; HeLoc34, 3–21 June 2017, 2♀♀; 21 June–20 July 2017, 38♂♂33♀♀; 20 July–6 August 2017, 11♂♂11♀♀; 6 August–10 September 2017, 4♀♀, light trap.

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 5–12 July 1993, 2♂♂1♀, Malaise trap, leg. G. Bakkerud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

### *Hilara nigratarsis* Zetterstedt, 1838

**Material.** HeLoc09, 22 July 2017, 1♂, sweep net; HeLoc13, 21 July 2017, 1♀, sweep net; HeLoc22, 21 July 2017, 1♀, sweep net; HeLoc34, 21 June–20 July 2017, 10♂♂4♀♀; 20 July–6 August 2017, 8♂♂18♀♀; 6 August–10 September 2017, 1♂, light trap; HeLoc54, 28 July 2016, 1♀, sweep net; HeLoc90\*, 30 June 2016, 5♂♂1♀, sweep net.



**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 17 September–1 October 1993, 1♂, Malaise trap, leg. G. Bakkerud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Hilara nitidula* Zetterstedt, 1838**

**Material.** HeLoc34, 3–21 June 2017, 179♂♂58♀♀; 21 June–20 July 2017, 57♂♂12♀♀, light trap; HeLoc47\*, 23 June–11 July 2016, 1♀, Malaise trap; HeLoc71\*, 23 June–11 July 2016, 1♂, Malaise trap; HeLoc74\*, 23 June–11 July 2016, 1♀, Malaise trap; HeLoc78\*, 23 June–11 July 2016, 1♂; 11–21 July 2016, 1♀, Malaise trap; HeLoc83\*, 27 June 2016, 6♂♂, sweep net; HeLoc85, 23 July 2016, 1♂6♀♀, sweep net; HeLoc90\*, 30 June 2016, 2♂♂, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 26 May–22 June 2003, 1♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Hilara obscura* Meigen, 1822**

**Material.** HeLoc06, 23 July 2017, 10♂♂6♀♀, sweep net.

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Hilara pseudochorica* Strobl, 1892**

**Material.** HeLoc19, 21 July 2017, 1♂, sweep net; HeLoc35, 29–31 July 2016, 3♂♂3♀♀, light trap.

**Additional material.** HES, Kongsvinger: Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 1♂1♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Hilara quadrifasciata* Chvála, 2002**

**Additional material.** HEN, Stor-Elvdal: Evenstad, Høgskolen i Innlandet, N61.4244977° E11.077615°, 251 m a.s.l., 3–10 June 2011, 1♂, Malaise trap, leg. M. Hagenlund.

**Remarks.** Recorded for the first time from

northern Hedmark (HEN).

***Hilara submaura* Collin, 1927**

**Material.** HeLoc34, 3–21 June 2017, 1♀, light trap; HeLoc74\*, 26 May–9 June 2016, 1♂; 23 June–11 July 2016, 1♂, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 26 May–22 June 2003, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 3♀♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Hilara tenuinervis* Zetterstedt, 1838**

**Material.** HeLoc47\*, 11–21 July 2016, 2♀♀, Malaise trap; HeLoc75\*, 21 July–4 August 2016, 1♂, Malaise trap; HeLoc78\*, 23 June–11 July 2016, 1♂2♀♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 1♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 2♂♂, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Iteaphila macquarti* Zetterstedt, 1838**

**Material.** HeLoc45\*, 26 May–9 June 2016, 1♀, Malaise trap; HeLoc75\*, 26 May–9 June 2016, 4♀♀, Malaise trap; HeLoc78\*, 26 May–9 June 2016, 1♀, Malaise trap. HeLoc82\*, 8 June 2016, 1♀, sweep net.

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 21–31 May 1993, 1♀, Malaise trap, leg. G. Bakkerud. HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♀, Malaise trap, leg. K.M. Olsen (coll. T. Jonassen).

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Iteaphila nitidula* Zetterstedt, 1838**

**Material.** HeLoc17\*, 26 May–9 June 2016,

1♂, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 26 May–22 June 2003, 2♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Phyllosmia melanocephala* (Fabricius, 1794)**

**Material.** HeLoc03, 23 July 2017, 2♀♀, sweep net; HeLoc07, 22 July 2017, 4♂♂4♀♀, sweep net; HeLoc09, 22 July 2017, 1♂, sweep net; HeLoc10, 22 July 2017, 1♂, sweep net; HeLoc17\*, 23 June–11 July 2016, 1♂; 11–21 July 2016, 1♂5♀♀; 21 July–4 August 2016, 4♂♂9♀♀; 4–17 August 2016, 1♂5♀♀; 17 August–2 September 2016, 2♀♀, Malaise trap; HeLoc25, 20 August–16 September 2016, 1♀, light trap; HeLoc32\*, 17 August–2 September 2016, 1♀, Malaise trap; HeLoc34, 21 June–20 July 2017, 1♀, light trap; HeLoc37\*, 27 July 2016, 2♀♀, sweep net; HeLoc47\*, 23 June–11 July 2016, 2♂♂; 11–21 July 2016, 1♂; 21 July–4 August 2016, 1♀; 4–17 August 2016, 1♂2♀♀, Malaise trap; HeLoc71\*, 21 July–4 August 2016, 1♀; 17 August–2 September 2016, 2♀♀, Malaise trap; HeLoc74\*, 4–17 August 2016, 1♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 2♂♂1♀, Malaise trap, leg. K. Sund (ZMO); Femoen, N60.2033° E12.3506°, 206 m a.s.l., 21 June–18 July 2006, 2♂♂, Malaise trap, leg. K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 6 June–2 July 2015, 5♂♂5♀♀, Malaise trap, leg. K. Sund (ZMO); Vikar, Vikaråa, N60.202567° E12.450709°, 276 m a.s.l., 29 June–12 August 2007, 2♀♀, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 14 June–8 August 2004, 6♂♂5♀♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–31 August 1990, 1♂, Malaise trap, leg. A. Bruserud. Eidskog: Magnor motorcrossbane, N59.9535°

E12.1754°, 135 m a.s.l., 4 June–26 July 2018, 1♂, Malaise trap, leg. K.M. Olsen & A. Thylén. Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 7 June–6 August 2009, 1♂3♀♀; 6 August–28 October 2009, 2♀♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO); Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 2♀♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO).

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Ragas unica* Walker, 1837**

**Material.** HeLoc17\*, 26 May–9 June 2016, 1♂, Malaise trap; HeLoc47\*, 26 May–9 June 2016, 1♂; 9–23 June 2016, 2♂♂, Malaise trap; HeLoc71\*, 9–23 June 2016, 1♂, Malaise trap; HeLoc75\*, 16 July–19 September 2016, 1♀, window trap; HeLoc78\*, 9–23 June 2016, 1♂, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 26 May–22 June 2003, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 6 June–2 July 2015, 1♂, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (Holoclera) culicina* (Fallén, 1816)**

**Material.** HeLoc47\*, 2–16 September 2016, 1♀, Malaise trap; HeLoc63, 17 August 2016, 1♂, sweep net; HeLoc71\*, 17 August–2 September 2016, 2♀♀; 2–16 September 2016, 3♀♀, Malaise trap; HeLoc72, 15–18 August 2016, 1♂2♀♀, light trap; HeLoc74\*, 17 August–2 September 2016, 1♀; 2–16 September 2016, 1♀; 16–29 September 2016, 1♀, Malaise trap; HeLoc78\*, 4–17 August 2016, 2♀♀; 17 August–2 September 2016, 1♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 8 August–29 October 2004, 1♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 1–31 August 1992, 5♀♀, Malaise trap, leg. G.

Bakkerud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Holoclera) nigripennis***  
(Fabricius, 1794)

**Material.** HeLoc09, 22 July 2017, 1♂, sweep net; HeLoc19, 21 July 2017, 2♂♂2♀♀, sweep net; HeLoc34, 21 June–20 July 2017, 1♂, light trap.

**Additional material.** HES, Kongsvinger: Dragonmoen, N60.18458° E12.36597°, 186 m a.s.l., 8 September–14 October 2005, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 8 August–29 October 2004, 1♂1♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–31 August 1990, 1♀, Malaise trap, leg. A. Bruserud; Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 1–30 September 1993, 1♂, Malaise trap, leg. G. Bakkerud; Veldre, N60.917283° E10.890533°, 311 m a.s.l., 9 July 1991, 6♂♂, sweep net, leg. G. Bakkerud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Holocera) sciarina*** (Fallén,  
1816)

**Material.** HeLoc25, 20 August–16 September 2016, 1♂4♀♀, light trap.

**Additional material.** HES, Kongsvinger: Dragonmoen, N60.18458° E12.36597°, 186 m a.s.l., 14 August–8 September 2005, 1♂2♀♀; 8 September–14 October 2005, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (Holoclera) trigemina***  
Oldenberg, 1927

**Material.** HeLoc34, 21 June–20 July 2017, 1♂, light trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Holoclera) umbripennis***

Meigen, 1822

**Material.** HeLoc17\*, 26 May–9 June 2016, 12♂♂2♀♀; 9–23 June 2016, 4♂♂1♀; 23 June–11 July 2016, 1♀, Malaise trap; HeLoc32\*, 26 May–9 June 2016, 2♂♂1♀; 9–23 June 2016, 1♂, Malaise trap; 31 May 2016, 1♂, sweep net; HeLoc34, 3–21 June 2017, 5♂♂3♀♀; 21 June–20 July 2017, 1♂, light trap; HeLoc35, 2–3 June 2016, 2♂♂, sweep net; HeLoc47\*, 26 May–9 June 2016, 2♂♂1♀; 9–23 June 2016, 32♂♂30♀♀; 23 June–11 July 2016, 4♂♂19♀♀, Malaise trap; HeLoc70\*, 25 July 2016, 1♂7♀♀, sweep net; HeLoc71\*, 9–23 June 2016, 3♀♀; 23 June–11 July 2016, 3♂♂3♀♀; 11–21 July 2016, 2♂♂1♀; 21 July–4 August 2016, 1♂, Malaise trap; HeLoc74\*, 9–23 June 2016, 3♂♂4♀♀; 23 June–11 July 2016, 17♂♂61♀♀; 11–21 July 2016, 6♂♂20♀♀; 21 July–4 August 2016, 4♂♂12♀♀; 2–16 September 2016, 1♀, Malaise trap; HeLoc75\*, 23 June–11 July 2016, 1♀, Malaise trap; HeLoc78\*, 9–23 June 2016, 1♂; 23 June–11 July 2016, 1♂1♀, Malaise trap; HeLoc90\*, 30 June 2016, 3♂♂4♀♀, sweep net; HeLoc94\*, 30 June 2016, 8♂♂3♀♀, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.18458° E12.46155°, 321 m a.s.l., 26 May–22 June 2003, 10♂♂10♀♀; 22 June–10 July 2003, 12♂♂24♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Femoen, N60.2033° E12.3506°, 206 m a.s.l., 11 May–21 June 2006, 2♂♂, Malaise trap, leg. K. Sund (ZMO); Viker, Vikeråa, N60.202567° E12.450709°, 276 m a.s.l., 26 May–29 June 2007, 13♂♂2♀♀, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 100♂♂100♀♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–30 June 1990, 1♀, Malaise trap, leg. A. Bruserud. Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015, 1♂3♀♀, Malaise trap, leg. A. Staverløkk.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Lundstroemiella) hybotina***  
**(Zetterstedt, 1838)**

**Material.** HeLoc07, 22 July 2017, 1♂, sweep net; HeLoc17\*, 23 June–11 July 2016, 4♀♀; 11–21 July 2016, 1♂1♀; 21 July–4 August 2016, 1♀; 4–17 August 2016, 1♀; 17 August–2 September 2016, 1♀, Malaise trap; HeLoc24, 15 August 2016, 3♀♀, sweep net; HeLoc25, 20 August–16 September 2016, 3♀♀, light trap; HeLoc32\*, 17 August–2 September 2016, 1♀; 2–16 September 2016, 1♀, Malaise trap; 15 August–17 September 2016, 1♀, window trap; HeLoc34, 20 July–6 August 2017, 1♂1♀; 6 August–10 September 2017, 5♂♂12♀♀; 10 September–20 October 2017, 1♀, light trap; HeLoc35, 29–31 July 2016, 1♂, light trap; HeLoc37\*, 27 July 2016, 2♀♀, sweep net; HeLoc45\*, 4–17 August 2016, 1♂2♀♀; 17 August–2 September 2016, 9♀♀; 2–16 September 2016, 2♂♂9♀♀, Malaise trap; HeLoc47\*, 2–16 September 2016, 2♂♂13♀♀; 16–29 September 2016, 1♂, Malaise trap; HeLoc51, 18 August 2016, 1♀, sweep net; HeLoc62, 16 August 2016, 1♀, sweep net; HeLoc63, 17 August 2016, 20♂♂3♀♀, sweep net; HeLoc66\*, 16–17 August 2016, 1♀, sweep net; HeLoc69, 16 August 2016, 2♂♂1♀, sweep net; HeLoc70\*, 16 August 2016, 1♀, sweep net; HeLoc71\*, 17 August–2 September 2016, 3♀♀; 2–16 September 2016, 5♀♀, Malaise trap; HeLoc74\*, 4–17 August 2016, 3♂♂2♀♀; 17 August–2 September 2016, 7♂♂23♀♀; 2–16 September 2016, 2♂♂9♀♀, Malaise trap; HeLoc75\*, 11–21 July 2016, 2♀♀; 21 July–4 August 2016, 3♀♀, Malaise trap; HeLoc78\*, 21 July–4 August 2016, 3♀♀, Malaise trap; HeLoc87, 26 July 2017, 8♂♂3♀♀, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 10 July–10 August 2003, 8♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 2 July–3 August 2015, 2♀♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–30 September 1990, 1♀, Malaise trap, leg. A. Bruserud. Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 7 June–6 August 2009, 1♂7♀♀; 6 August–28 October

2009, 1♂21♀♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 2♂♂1♀, Malaise trap, leg. K.M. Olsen.

***Rhamphomyia (Megacyttarus) anomalina***  
**(Zetterstedt, 1838)**

**Material.** HeLoc17\*, 26 May–9 June 2016, 1♂; 9–23 June 2016, 1♂, Malaise trap; HeLoc45\*, 11–21 July 2016, 1♀, Malaise trap; HeLoc71\*, 23 June–11 July 2016, 1♂3♀♀; 11–21 July 2016, 5♀♀, Malaise trap; HeLoc74\*, 11–21 July 2016, 1♀, Malaise trap; HeLoc75\*, 11–21 July 2016, 2♀♀, Malaise trap; 16 July–19 September 2016, 1♂, window trap; HeLoc78\*, 21 July–4 August 2016, 2♀♀, Malaise trap.

**Additional material.** HES, Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 7 June–6 August 2009, 1♂, Malaise trap, leg. E. Rindal & G. Søli (ZMO). Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 5♂♂5♀♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♀, Malaise trap, leg. K. M. Olsen.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (Megacyttarus) anomalipennis***  
**Meigen, 1822**

**Material.** HeLoc17\*, 26 May–9 June 2016, 2♀♀, Malaise trap; HeLoc47\*, 26 May–9 June 2016, 1♀; 9–23 June 2016, 1♂3♀♀; 23 June–11 July 2016, 1♂1♀, Malaise trap; HeLoc71\*, 23 June–11 July 2016, 1♂, Malaise trap; HeLoc74\*, 23 June–11 July 2016, 1♂; 11–21 July 2016, 1♀, Malaise trap; HeLoc78\*, 9–23 June 2016, 1♂1♀; 23 June–11 July 2016, 1♀, Malaise trap.

**Additional material.** HES, Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 7 June–6 August 2009, 1♂, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 13♂♂2♀♀, Malaise trap, leg. K. M. Olsen.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (Megacyttarus) crassirostris* (Fallén, 1816)**

**Material.** HeLoc17\*, 9–23 June 2016, 1♀; 23 June–11 July 2016, 1♂; 11–21 July 2016, 1♀, Malaise trap; HeLoc34, 21 June–20 July 2017, 2♂♂, light trap; HeLoc47\*, 23 June–11 July 2016, 2♀, Malaise trap; HeLoc59, 24 July 2017, 1♀, light trap; HeLoc71\*, 23 June–11 July 2016, 1♀, Malaise trap; HeLoc75\*, 23 June–11 July 2016, 2♂♂; 11–21 July 2016, 1♀, Malaise trap; HeLoc78\*, 23 June–11 July 2016, 1♂2♀♀; 11–21 July 2016, 1♂4♀♀; 21 July–4 August 2016, 1♀, Malaise trap; HeLoc90\*, 30 June 2016, 1♂, sweep net; HeLoc93, 25 July 2017, 1♀, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 2♂♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 28 May–4 June 1993, 2♂♂, Malaise trap, leg. G. Bakkerud. Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015, 1♂, Malaise trap, leg. A. Staverløkk. Våler: Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 2♂♂, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Åmot: Deiffjellia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♂, Malaise trap, leg. K.M. Olsen.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) albidiventris* Strobl, 1898**

**Material.** HeLoc74\*, 23 June–11 July 2016, 1♂2♀♀, Malaise trap.

**Additional material.** HES, Våler: Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 1♂, Malaise trap, leg. E. Rindal & G. Søli (ZMO). HEN, Åmot: Deiffjellia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♀, Malaise trap, leg. K.M. Olsen (coll. T. Jonassen).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (Pararhamphomyia) albipennis* (Fallén, 1816)**

**Additional material.** HES, Kongsvinger: Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 1♂, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Rhamphomyia (Pararhamphomyia) angulifera* Frey, 1913**

**Material.** HeLoc07, 22 July 2017, 1♀, sweep net; HeLoc71\*, 23 June–11 July 2016, 1♂; 11–21 July 2016, 1♂2♀♀, Malaise trap; HeLoc74\*, 21 July–4 August 2016, 1♂1♀, Malaise trap; HeLoc78\*, 21 July–4 August 2016, 1♂, Malaise trap.

**Additional material.** HES, Våler: Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 1♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (Pararhamphomyia) breviventris* Frey, 1913**

**Material.** HeLoc86, 24 July 2017, 3♂♂4♀♀, sweep net.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) caesia* Meigen, 1922**

**Material.** HeLoc74\*, 23 June–11 July 2016, 3♂♂, Malaise trap; HeLoc75\*, 9–23 June 2016, 1♂, Malaise trap; HeLoc78\*, 21 July–4 August 2016, 1♂, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) caudata* (Zetterstedt, 1838)**

**Material.** HeLoc17\*, 26 May–9 June 2016, 1♂2♀♀, Malaise trap; HeLoc32\*, 26 May–9 June 2016, 1♀, Malaise trap; HeLoc71\*, 13–26 May 2016, 1♀, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) curvula***  
Frey, 1913

**Material.** HeLoc17\*, 14–26 May 2016, 1♀; 26 May–9 June 2016, 3♂♂1♀, Malaise trap; HeLoc32\*, 31 May 2016, 1♀, sweep net; HeLoc36\*, 3 June–25 July 2017, 3♂♂, Malaise trap; HeLoc45\*, 26 May–9 June 2016, 1♂, Malaise trap; HeLoc47\*, 26 May–9 June 2016, 1♂4♀♀; 9–23 June 2016, 1♂1♀; 23 June–11 July 2016, 3♀♀, Malaise trap; HeLoc71\*, 26 May–9 June 2016, 2♂♂1♀; 9–23 June 2016, 6♂♂2♀♀; 23 June–11 July 2016, 8♂♂3♀♀, Malaise trap; HeLoc74\*, 9–23 June 2016, 14♂♂5♀♀; 23 June–11 July 2016, 6♂♂9♀♀, Malaise trap; HeLoc75\*, 16 July–19 September 2016, 1♂, window trap; HeLoc78\*, 26 May–9 June 2016, 2♂♂; 9–23 June 2016, 3♂♂6♀♀; 23 June–11 July 2016, 2♀♀, Malaise trap; HeLoc80\*, 2 June 2016, 1♂, sweep net; HeLoc94\*, 30 June 2016, 2♂♂, sweep net.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 26 May–22 June 2003, 1♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 6 June–2 July 2015, 1♂, Malaise trap, leg. K. Sund (ZMO). Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015, 1♂6♀♀, Malaise trap, leg. A. Staverløkk.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (Pararhamphomyia) dentata***  
Oldenberg, 1910

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 21–31 May 1993, 1♂; 1–24 June 1993, 1♀, Malaise trap, leg. G. Bakkerud.

***Rhamphomyia (Pararhamphomyia) dispar***  
(Zetterstedt, 1838)

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 26 May–22 June 2003, 2♂♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Rhamphomyia (Pararhamphomyia) fascipennis***  
(Zetterstedt, 1838)

**Material.** HeLoc47\*, 9–23 June 2016, 1♀; 23 June–11 July 2016, 1♀, Malaise trap; HeLoc78\*, 9–23 June 2016, 1♀, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) fuscipennis***  
(Zetterstedt, 1838)

**Material.** HeLoc47\*, 23 June–11 July 2016, 1♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Femoen, N60.2033° E12.3506°, 206 m a.s.l., 11 May–21 June 2006, 1♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–30 June 1990, 1♀, Malaise trap, leg. A. Bruserud.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) geniculata***  
Meigen, 1830

**Additional material.** HES, Kongsvinger: Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 1♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Rhamphomyia (Pararhamphomyia) lividiventris***  
(Zetterstedt, 1838)

**Material.** HeLoc17\*, 23 June–11 July 2016, 3♀♀, Malaise trap; HeLoc32\*, 23 June–11 July 2016, 1♀, Malaise trap; HeLoc34, 21 June–20 July 2017, 1♂; 20 July–6 August 2017, 1♀, light trap; HeLoc47\*, 21 July–4 August 2016, 1♀, Malaise trap; HeLoc74\*, 23 June–11 July 2016, 1♀; 21 July–4 August 2016, 1♂; 4–17 August 2016, 1♀, Malaise trap; HeLoc75\*, 11–21 July 2016, 1♀; 21 July–4 August 2016, 1♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 1♂, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 1♀, Malaise trap, leg. K. Sund

(ZMO). Våler: Kaskonsbekken, Nordre Bølsjøen, N60.85639° E12.08927°, 390 m a.s.l., 7 June–6 August 2009, 2♂♂4♀♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO). **HEN**, Åmot: Deifjellia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 1♂4♀♀, Malaise trap, leg. K.M. Olsen.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (Pararhamphomyia) lucidula***  
**Zetterstedt, 1842**

**Material.** HeLoc25, 20 August–16 September 2016, 2♂♂3♀♀, light trap; HeLoc34, 6 August–10 September 2017, 18♂♂11♀♀, light trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) marginata***  
**(Fabricius, 1787)**

**Additional material.** **HES**, Kongsvinger: Femoen, N60.2033° E12.3506°, 206 m a.s.l., 11 May–21 June 2006, 4♀♀, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 2♂♂2♀♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Rhamphomyia (Pararhamphomyia) modesta***  
**Wahlberg, 1844**

**Material.** HeLoc17\*, 9–23 June 2016, 1♂1♀, Malaise trap; HeLoc71\*, 9–23 June 2016, 1♀; 21 July–4 August 2016, 2♀♀, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) obscura***  
**(Zetterstedt, 1838)**

**Material.** HeLoc01, 20 July 2017, 2♂♂3♀♀, sweep net; HeLoc32\*, 26 May–9 June 2016, 2♂♂, Malaise trap; HeLoc45\*, 24 June–11 July 2016, 1♂, Malaise trap.

**Additional material.** **HES**, Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015, 1♀, Malaise trap, leg. A. Staverløkk.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (Pararhamphomyia)***  
***obscuripennis* Meigen, 1830**

**Material.** HeLoc07, 28 June 2016, 1♂, sweep net; HeLoc17\*, 9–23 June 2016, 1♂; 23 June–11 July 2016, 1♂, Malaise trap; HeLoc34, 3–21 June 2017, 1♂; 21 June–20 July 2017, 3♂♂, light trap; HeLoc47\*, 23 June–11 July 2016, 1♂, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia)***  
***physoprocta* Frey, 1913**

**Material.** HeLoc09, 22 July 2017, 1♀, sweep net.

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Rhamphomyia (Pararhamphomyia) pilifer***  
**Meigen, 1838** (Figure 4)

**Material.** HeLoc17\*, 26 May–9 June 2016, 1♂; 9–23 June 2016, 1♂2♀♀, Malaise trap; HeLoc32\*, 9–23 June 2016, 1♂, Malaise trap; HeLoc34, 3–21 June 2017, 3♂♂3♀♀, light trap; HeLoc47\*, 23 June–11 July 2016, 1♀, Malaise trap; HeLoc71\*, 21 July–4 August 2016, 1♀, Malaise trap.

**Additional material.** **HES**, Kongsvinger: Dragonmoen, N60.19641° E12.36511°, 196 m a.s.l., 22 June–9 July 2005, 1♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Helgøya, Eiksåsen, N60.736872° E10.994616°, 285 m a.s.l., 1–30 July 1990, 1♀, Malaise trap, leg. A. Bruserud. Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015, 1♂, Malaise trap, leg. A. Staverløkk. Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 6 May–7 June 2009, 5♀♀; 7 June–6 August 2009, 1♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO). **HEN**, Stor-Elvdal: Evenstad, Høgskolen i Innlandet, N61.4244977° E11.077615°, 251 m a.s.l., 3–10 June 2011, 2♀♀, Malaise trap, leg. M. Hagenlund.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).



**FIGURE 4.** *Rhamphomyia (Pararhamphomyia) pilifer* Meigen, 1838 was collected both on rich fens and in other habitats. Photo: Morten Angard Mjelde.

***Rhamphomyia (Pararhamphomyia) plumifera*  
(Zetterstedt, 1838)**

**Material.** HeLoc74\*, 23 June–11 July 2016, 1♂, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) poplitea*  
Wahlberg, 1844**

**Material.** HeLoc32\*, 9–23 June 2016, 1♂; 11–21 July 2016, 1♀, Malaise trap; HeLoc34, 21 June–20 July 2017, 3♂♂; 20 July–6 August 2017, 1♂, light trap; HeLoc71\*, 23 June–11 July 2016, 1♀; 11–21 July 2016, 1♂, Malaise trap; HeLoc74\*, 11–21 July 2016, 1♂; 21 July–4 August 2016, 1♂1♀, Malaise trap; 15 July–18 September 2016, 1♂, window trap.

**Additional material.** HES, Kongsvinger: Fjørsjøen, N60.176827° E12.435088°, 225 m a.s.l., 6 June–2 July 2015, 1♂, Malaise trap, leg. K. Sund (ZMO). Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 6 May–7 June 2009, 1♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (Pararhamphomyia) tibiella*  
Zetterstedt, 1842**

**Material.** HeLoc17\*, 9–23 June 2016, 1♂, Malaise trap; HeLoc47\*, 26 May–9 June 2016, 1♀, Malaise trap.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) tipularia*  
(Fallén, 1816)**

**Material.** HeLoc34, 21 June–20 July 2017, 1♂1♀, light trap.

**Additional material.** HES, Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 21–31 May 1992, 3♂♂4♀♀; 1–24 June 1993, 3♂♂; 1–30 June 2000, 5♂♂1♀, Malaise trap, leg. G. Bakkerud. Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 6 May–7 June 2009, 3♀♀; 7 June–6 August 2009, 1♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO).

**Remarks.** Recorded for the first time from



northern Hedmark (HEN).

***Rhamphomyia (Pararhamphomyia) unguiculata* Frey, 1913**

**Material.** HeLoc14\*, 26 June 2016, 1♂, sweep net; HeLoc17\*, 23 June–11 July 2016, 1♂, Malaise trap; HeLoc47\*, 23 June–11 July 2016, 1♂2♀♀, Malaise trap; HeLoc71\*, 23 June–11 July 2016, 4♂♂, Malaise trap.

**Additional material.** HES, Kongsvinger: Femoen, N60.2033° E12.3506°, 206 m a.s.l., 11 May–21 June 2006, 1♂, Malaise trap, leg. K. Sund (ZMO). Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015, 1♂, Malaise trap, leg. A. Staverløkk.

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (s.s.) albosegmentata* (Zetterstedt, 1838)** (Figure 5)

**Material.** HeLoc45\*, 17 August–2 September 2016, 1♂2♀♀, Malaise trap; HeLoc51, 18 August 2016, 1♀, sweep net; HeLoc65, 16 August 2016, 1♂, sweep net; HeLoc66\*, 16–17 August 2016, 1♂, sweep net; HeLoc70\*, 16 August 2016, 1♀, sweep net; HeLoc74\*, 4–17 August 2016, 1♀; 17 August–2 September 2016, 5♂♂4♀♀; 2–16

September 2016, 1♀, Malaise trap; HeLoc78\*, 21 July–4 August 2016, 1♀; 4–17 August 2016, 2♂♂1♀, Malaise trap; HeLoc79, 17 August 2016, 3♂♂1♀, sweep net; HeLoc80\*, 17 August 2016, 1♂2♀♀, sweep net; HeLoc87, 26 July 2017, 1♂, sweep net; HeLoc92\*, 17 August 2016, 1♂, sweep net.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (s.s.) nitidula* Zetterstedt, 1842**

**Material.** HeLoc17\*, 26 May–9 June 2016, 2♀♀, Malaise trap; HeLoc32\*, 26 May–9 June 2016, 3♀♀, Malaise trap; HeLoc36\*, 3 June–25 July 2017, 1♂, Malaise trap; HeLoc45\*, 26 May–9 June 2016, 1♀, Malaise trap; HeLoc47\*, 26 May–9 June 2016, 10♀♀; 9–23 June 2016, 6♀♀, Malaise trap; HeLoc71\*, 26 May–9 June 2016, 3♀♀; 9–23 June 2016, 1♀, Malaise trap; HeLoc74\*, 26 May–9 June 2016, 2♂♂6♀♀; 9–23 June 2016, 3♂♂4♀♀; 23 June–11 July 2016, 1♂, Malaise trap; HeLoc75\*, 26 May–9 June 2016, 4♀♀; 23 June–11 July 2016, 1♂2♀♀, Malaise trap; HeLoc78\*, 26 May–9 June 2016, 2♀♀; 9–23 June 2016, 1♂4♀♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.18458° E12.46155°, 321 m



**FIGURE 5.** *Rhamphomyia (s.s.) albosegmentata* (Zetterstedt, 1838) was collected both on rich fens and in other habitats. Photo: Morten Angard Mjelde.

a.s.l., 26 May–22 June 2003, 27♀♀; 22 June–10 July 2003, 5♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 2♀♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (s.s.) plumipes (Meigen, 1804)***

**Material.** HeLoc71\*, 23 June–11 July 2016, 1♀, Malaise trap; HeLoc74\*, 23 June–11 July 2016, 1♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 1♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (s.s.) spinipes (Fallén, 1816)***

(Figure 6)

**Material.** HeLoc17\*, 16–29 September 2016, 1♂, Malaise trap; HeLoc25, 20 August–16 September 2016, 17♂♂5♀♀; 16 September–5 November 2016, 1♂6♀♀, light trap; HeLoc34,

6 August–10 September 2017, 3♂♂3♀♀; 10 September–20 October 2017, 9♂♂9♀♀, light trap; HeLoc75\*, 2–16 September 2016, 1♂; 16–29 September 2016, 1♂, Malaise trap; 16 July–19 September 2016, 1♂; 19 September–27 October 2016, 1♀, window trap; HeLoc78\*, 16–29 September 2016, 1♂, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 10 August–30 September 2003, 1♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Femoen, N60.2033° E12.3506°, 206 m a.s.l., 24 August–21 October 2006, 1♂, Malaise trap, leg. K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 8 August–29 October 2004, 1♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 1–31 August 1992, 1♀, Malaise trap, leg. G. Bakkerud. Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 6 August–28 October 2009, 1♂3♀♀, Malaise trap, leg. E. Rindal & G. Søli (ZMO).

**Remarks.** Recorded for the first time from northern Hedmark (HEN).



**FIGURE 6.** *Rhamphomyia (s.s.) spinipes* (Fallén, 1816) was collected both on rich fens and in other habitats. Photo: Morten Angard Mjelde.

***Rhamphomyia (s.s.) stigmosa* Macquart, 1827**

**Material.** HeLoc17\*, 9–23 June 2016, 8♂♂1♀; 23 June–11 July 2016, 5♂♂1♀, Malaise trap; HeLoc42, 3 August 2017, 1♂, net; HeLoc47\*, 9–23 June 2016, 5♂♂3♀♀; 23 June–11 July 2016, 11♂♂21♀♀; 11–21 July 2016, 2♂♂, Malaise trap; HeLoc71\*, 23 June–11 July 2016, 1♂; 11–21 July 2016, 7♂♂1♀; 21 July–4 August 2016, 1♂, Malaise trap; HeLoc74\*, 9–23 June 2016, 1♀; 23 June–11 July 2016, 8♂♂9♀♀; 11–21 July 2016, 1♂3♀♀, Malaise trap; HeLoc78\*, 23 June–11 July 2016, 1♂, Malaise trap; HeLoc94\*, 30 June 2016, 1♂, sweep net.

**Additional material.** HES, Kongsvinger: Vikør, Vikøråa, N60.202567° E12.450709°, 276 m a.s.l., 26 May–29 June 2007, 1♂1♀, Malaise trap, leg. K. Sund (ZMO).

**Remarks.** Recorded for the first time from southern and northern Hedmark (HES & HEN).

***Rhamphomyia (s.s.) sulcata* (Meigen, 1804)**

**Material.** HeLoc71\*, 23 June–11 July 2016, 2♂♂2♀♀; 11–21 July 2016, 2♀♀, Malaise trap; HeLoc74\*, 23 June–11 July 2016, 1♂, Malaise trap; HeLoc75\*, 2 June–16 July 2016, 1♀, window trap; 15–16 July 2016, 1♂1♀, yellow tray; HeLoc78\*, 11–21 July 2016, 1♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.183802° E12.459788°, 326 m a.s.l., 22 June–10 July 2003, 2♂♂3♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO); Åranstorpet, N60.202808° E12.434014°, 300 m a.s.l., 22 April–14 June 2004, 5♂♂8♀♀, Malaise trap, leg. K. Sund (ZMO). Ringsaker: Sandvoll, N60.779455° E10.787998°, 147 m a.s.l., 4–10 June 1993, 1♀, Malaise trap, leg. G. Bakkerud. Eidskog: Magnor, Veksåsen, N59.947025° E12.249714°, 144 m a.s.l., 5 May–15 June 2015, 1♂, Malaise trap, leg. A. Staverløkk. HEN, Åmot: Deifjell-lia, N61.2843° E11.505°, 515 m a.s.l., 5 May–6 July 2018, 2♂♂4♀♀, Malaise trap, leg. K.M. Olsen (coll. T. Jonassen).

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Rhamphomyia (s.s.) trilineata* Zetterstedt, 1859**

**Material.** HeLoc34, 3–21 June 2017,

1♂1♀; 21 June–20 July 2017, 3♂♂2♀♀, light trap; HeLoc35, June 2015, 1♂, Malaise trap; HeLoc36\*, 3 June–25 July 2017, 1♀, Malaise trap; HeLoc47\*, 23 June–11 July, 2016, 1♀, Malaise trap; HeLoc71\*, 26 May–9 June 2016, 1♀, Malaise trap; HeLoc75\*, 11–21 July 2016, 5♀♀; 21 July–4 August 2016, 2♀♀, Malaise trap.

**Additional material.** HES, Kongsvinger: Abborhøgda, N60.18458° E12.46155°, 321 m a.s.l., 26 May–22 June 2003, 1♂2♀♀, Malaise trap, leg. L.O. Hansen & K. Sund (ZMO). Våler: Gjerdåskoia, Nordre Bølsjøen, N60.85139° E12.10317°, 396 m a.s.l., 7 June–6 August 2009, 1♂, Malaise trap, leg. E. Rindal & G. Søli (ZMO).

**Remarks.** Recorded for the first time from southern Hedmark (HES).

***Rhamphomyia (s.s.) vesiculosa* (Fallén, 1816)**

**Material.** HeLoc75\*, 26 May–9 June 2016, 2♂♂, Malaise trap; HeLoc82\*, 8 June 2016, 1♂, sweep net.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Wiedemannia (Philolutra) bohemani* (Zetterstedt, 1838)**

**Material.** HeLoc34, 21 June–20 July 2017, 1♂3♀♀; 20 July–6 August 2017, 2♀♀, light trap; HeLoc38, 26 June 2016, 1♂3♀♀, sweep net; HeLoc92\*, 17 August 2016, 1♂, sweep net.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Wiedemannia (Eucelidia) zetterstedti* (Fallén, 1826)**

**Material.** HeLoc34, 6 August–10 September 2017, 1♂, light trap; HeLoc77, 17 August 2016, 3♂♂5♀♀, sweep net.

**Remarks.** Recorded for the first time from northern Hedmark (HEN).

***Wiedemannia (s.s.) bistigma* (Curtis, 1834)**

**Material.** HeLoc76\*, 17 August 2016, 2♂♂9♀♀, sweep net.

**Remarks.** Recorded for the first time from northern Hedmark (HEN). There is an unconfirmed record by Siebke (1877) as *Wiedemannia borealis* Zetterstedt, 1838 from Fagernes in Oppland. The

only other Norwegian specimen known to us is a single female collected by Tron Soot-Ryen at Nord-Kvaløy in Troms in 1935. The specimens from Tolga consequently constitute the first Norwegian records in more than 80 years.

### The Malaise trap catches

A total of 20 specimens of Brachystomatidae belonging to 2 species and 2649 specimens of Empididae belonging to 67 species were collected in the Malaise traps. There were large differences in the number of specimens and species collected in the different traps. Most specimens, 916, belonging to 40 species were collected in the Malaise trap at Åsen; at Ulvåkjølen-Sundsetra 364 specimens belonging to 37 species were collected, at Brydalskjølen 364 specimens belonging to 31 species, at Bjørvollen 323 specimens belonging to 21 species, and at Sekserbua NE 313 specimens belonging to 34 species were found. In the remaining traps less than 200 specimens were collected.

Of the Empididae a total of 13 species constituted more than 1% of the Malaise trap material (Table 1). Of *Hilaria interstincta* a total of

652 specimens were collected constituting 24.6% of the material. *Chelipoda albisetata* ranged second with 487 specimens (18.4%), *Rhamphomyia (Holoclera) umbripennis* third with 257 specimens (9.7%), *Empis (Anacrostichus) lucida* fourth with 178 specimens (6.8%), and *Empis (Platyptera) borealis* fifth with 168 specimens (6.4%) of the material. *Rhamphomyia (Lundstroemiella) hybotina*, *Rhamphomyia (s.s.) stigmosa*, *Rhamphomyia (Pararhamphomyia) curvula*, *Chelifera preclatoria*, *Chelifera subangusta*, *Rhamphomyia (s.s.) nitidula*, *Hilara clavipes*, and *Phylodromia melanocephala* were each collected in 112 to 40 specimens and constituted from 4.3% to 1.5% of the material. The remaining 54 species were each collected in less than 25 specimens.

In the four Malaise traps situated above 650 m a.s.l. no less than 58 species were collected, while 51 species were collected in the four Malaise traps situated below 650 m a.s.l. Most of the 13 most abundant species were collected in most of the Malaise traps between 250–780 m a.s.l. However, *Chelipoda albisetata* was only collected in the Malaise traps situated below 700 m a.s.l., while *Hilara clavipes* were only collected in the traps situated above 650 m a.s.l.

**TABLE 1.** Number of specimens as males/females of the most abundant Empididae species collected in the Malaise traps. Malaise trap no. 1 = Kildesaga, no. 2 = Nabbtjern, no. 3 = Jøgåsmyra, no. 4 = Sekserbua NE, no. 5 = Ulvåkjølen- Sundsetra, no. 6 = Åsen, no. 7 = Bjørvollen, no. 8 = Brydalskjølen.

Species/trap no.	1	2	3	4	5	6	7	8	Total	Percent
<i>Hilara interstincta</i>	3/14	25/34	–	6/7	19/33	48/55	85/142	88/93	274/378	24.61%
<i>Chelipoda albisetata</i>	6/8	6/11	-/3	9/35	7/103	93/206	–	–	121/366	18.38%
<i>Rhamphomyia (H.) umbripennis</i>	16/4	3/1	–	36/50	6/7	30/98	-/1	2/1	95/162	9.70%
<i>Empis (A.) lucida</i>	2/1	–	4/5	4/7	31/8	33/15	2/7	32/28	108/71	6.76%
<i>Empis (P.) borealis</i>	5/4	1/2	23/15	5/7	18/9	9/8	15/7	18/22	94/74	6.34%
<i>Rhamphomyia (L.) hybotina</i>	1/8	-/2	3/20	3/13	-/8	12/34	-/5	-/3	19/93	4.23%
<i>Rhamphomyia (s.s.) stigmosa</i>	13/2	–	–	18/24	9/1	9/13	–	1/-	50/40	3.40%
<i>Rhamphomyia (P.) curvula</i>	3/2	–	1/-	2/8	16/6	20/14	–	5/8	47/38	3.21%
<i>Chelifera preclatoria</i>	–	-/2	-/2	1/3	2/7	27/13	1/-	2/2	33/29	2.34%
<i>Chelifera subangusta</i>	4/7	–	–	–	-/3	15/27	–	-/1	19/38	2.15%
<i>Rhamphomyia (s.s.) nitidula</i>	-/2	-/3	-/1	-/16	-/4	6/10	1/6	1/6	8/48	2.11%
<i>Hilara clavipes</i>	–	–	–	–	1/3	7/20	–	3/7	11/30	1.55%
<i>Phylodromia melanocephala</i>	7/21	-/1	–	4/3	-/3	-/1	–	–	11/29	1.51%

## Discussion

The project gives new data on the distribution and occurrence of many of the species. *Empis (Xanthempis) punctata* Meigen, 1804 and *Chelipoda inexpectata* Tuomikoski, 1966 are new to Norway. *Dolichocephala bartaki* Wagner, 1988 and *D. bellstedti* Joost, 1985 are recorded for the first time from Norway as past collectors have failed to separate them from the common *D. irrorata* (Fallén, 1816). The record of *Wiedemannia (s.s.) bistigma* (Curtis, 1834) is the first Norwegian record in more than 80 years. In addition, 42 species are recorded for the first time from southern Hedmark (HES) and 78 species for the first time from northern Hedmark (HEN), raising the number of species recorded from these regions to 87 and 94, respectively.

Two species of Brachystomatidae were collected on the rich fens, of which *Gloma fuscipennis* was taken exclusively on a rich fen. Of Empididae 74 species were collected on the rich fens, of which 29 species were taken only on that type of fens. Some of the most abundant species collected in the Malaise traps are euryoecious, able to live in a variety of habitats, but several of the abundant species mainly inhabit open places such as bogs, marshes, swamps, and fens. *Hilaria interstincta* is a Holarctic species distributed in northeastern Canada and in western Palaearctic eastwards to Siberia. It is a very common species throughout Fennoscandia including the extreme north (Chvála 2005). Males searching for prey are flying over flowing streamwater and around the margins of ponds and puddles. *Chelipoda albiseta* belongs to the distinctive subfamily Hemerodromiinae where many of its members can be found on rocks and vegetation along streams and rivers. Several of the genera possess aquatic larvae. The larva of *C. albiseta*, however, is terrestrial (Trehen 1969). The species is distributed over most of Europe and reaching the East Palaearctic (Chvála 2013). The species is probably widespread in Norway, reaching north towards Finnmark (Jonassen *et al.* 2013). *Rhamphomyia (Holoclera) umbripennis* is abundant everywhere in spring and early summer. It has been recorded from most Norwegian

counties. Little is known about the biology, however, but the species serves as an important pollinator in spring, e.g. on *Salix* (personal observation – TJ). *Empis (Anacrostichus) lucida* has a boreo-alpine distribution in Europe. It is one of the most common species in northern and central Scandinavia. In Norway it is evidently an alpine species but is also found in lowland and coastal habitats (Chvála 1994). *Empis (Platyptera) borealis* is distributed in central and northern Europe eastwards to West Siberia. According to Chvála (1994) it is undoubtedly the most common empidid in Scandinavia, particularly in the colder and northern parts. The mating behaviour has been studied by Svenson & Peterson (1987, 1988). The females swarm close to overhanging branches of trees and bushes and males are entering the swarm carrying insect prey as nuptial gifts.

It is generally assumed that the species richness of insects is highest in mires with a high trophic status and that it generally declines from eutrophic to oligotrophic mires, as has been demonstrated for Tipuloidea (e.g., Salmela & Ilmonen 2005). It is also generally assumed that the species richness is higher in lowland mires than in mires in more upland areas. This seems not to hold for the Empididae collected on the rich fens in Hedmark. No less than 1962 specimens of 58 species were collected in the four traps situated above 650 m a.s.l., while only 687 specimens of 51 species were collected in the four Malaise traps situated below 650 m a.s.l. However, the number of species collected in the different Malaise traps varied strongly and probably reflects local differences between the fens. The fens varied both in size, structure, and vegetation and on some of the fens there were springs, streams, or ponds.

**Acknowledgements.** The project was funded by a grant from the Norwegian Taxonomy Initiative. The fieldwork was set up in cooperation with Inland Norway University of Applied Sciences, Campus Evenstad: Harry P. Andreassen, Mari E. Hagenlund and Frode Næstad. We are further indebted to all the participants in the project, particularly Linn K. Hagenlund and Steffen Roth, both Bergen. We are also indebted to Lars Ove Hansen, Oslo, for sorting through and sending us material of Empidoidea from the insect collection at the Natural History Museum in Oslo and to Morten Angard Mjelde, Drangedal, for allowing us to use his Empididae photos.

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Received: 9 October 2021  
Accepted: 8 November 2021