

The Black Fungus Gnats (Diptera, Sciaridae) of Norway – Part I: species records published until December 2019, with an updated checklist

Frank Menzel¹, Øivind Gammelmo², Kjell Magne Olsen², Arne Köhler¹

¹ *Senckenberg Deutsches Entomologisches Institut, Eberswalder Straße 90, 15374 Müncheberg, Germany*

² *BioFokus, Gaustadalléen 21, 0349 Oslo, Norway*

Corresponding author: Arne Köhler (arne.koehler@senckenberg.de)

Academic editor: N. Dorchin | Received 12 September 2019 | Accepted 11 June 2020 | Published 10 August 2020

<http://zoobank.org/ECBF8EDB-7096-4563-991A-526901CC53B9>

Citation: Menzel F, Gammelmo Ø, Olsen KM, Köhler A (2020) The Black Fungus Gnats (Diptera, Sciaridae) of Norway – Part I: species records published until December 2019, with an updated checklist. *ZooKeys* 957: 17–104. <https://doi.org/10.3897/zookeys.957.46528>

Abstract

Black Fungus Gnats (Sciaridae) are a megadiverse, cosmopolitan family of bibionomorph Diptera. Even in Europe, the continent with the longest tradition in sciarid taxonomy, numerous taxonomic issues remain unresolved and countless species await discovery and description. The fauna of Norway is in these respects no exception. Recognising considerable knowledge gaps, the Norwegian Biodiversity Information Centre provided substantial funding for a detailed inventory of the Sciaridae species occurring in Norway, which was realised in 2014–2018. The results of this project will be published in a series of papers, of which the first is presented here, summarising available data on the taxonomy, faunistics, and autecology of Norwegian Sciaridae beginning with Zetterstedt's pioneering work in 1838 and ending with 31 December 2019 as the cut-off date. All published records from that period were analysed. The result is a list of 143 species and four unplaced names. Following a consistent scheme, verified locality details are provided including alternative spellings, habitats, and flight times of adults in Norway, literature citations for the faunistic records, and general taxonomic references for classification or identification. A checklist of the sciarid fauna of Norway and a complete list of the relevant literature are also presented.

Keywords

armyworm, diversity, Europe, faunistics, habitats, literature review, localities, phenology, Scandinavia, Sciaroidea

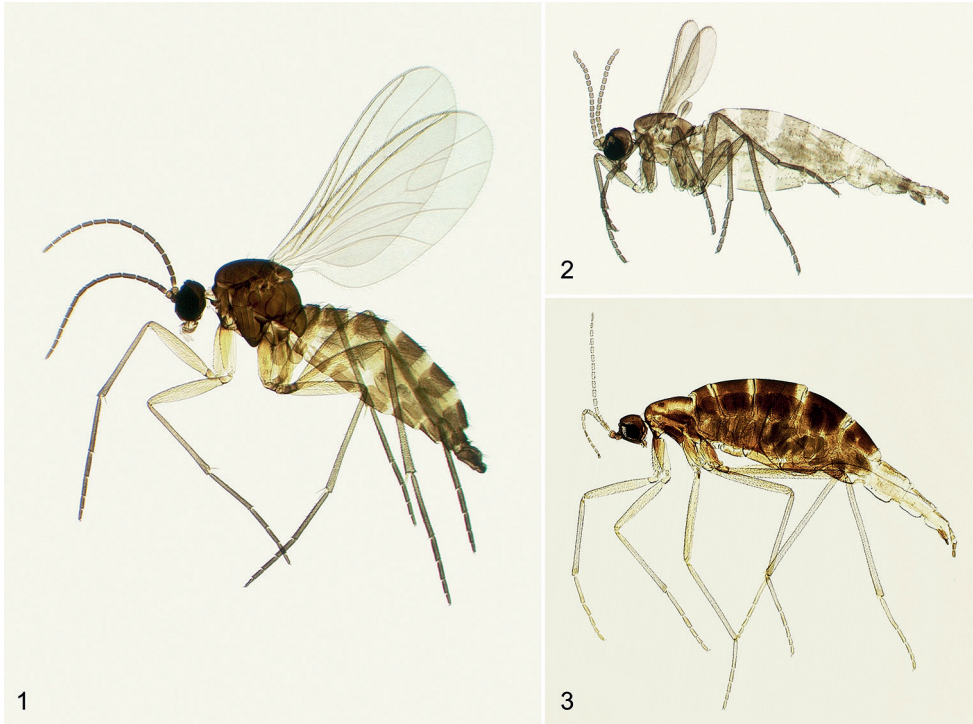
Introduction

The Sciaridae is one of the largest families of Diptera, rich in both species and individuals, and plays a significant role in natural ecosystems (summarised in Menzel and Mohrig 2000; Menzel and Schulz 2007). For example, the larvae are important for the litter decomposition in forests (Hövmeyer 1989; Deleporte and Rouland 1991; Deleporte and Charrier 1996), and the adults for the transmission of basidiospores of fungi (Schmidt 1979) and the pollination of plants (Vogel and Martens 2000; Rulik et al. 2008). Sciarids are also well-known as pests in mushroom farms and greenhouses, or as common inhabitants of pot plants in houses (e.g., Broadley et al. 2018).

Often sciarids are one of the most dominant Diptera families in ecological studies (e.g., Thiede 1977; Feldmann 1992; Hövmeyer 1992; Bickel and Tasker 2004), and thousands of specimens can be collected in a short time (Menzel and Schulz 2007). Many species prefer moist, shady deciduous and coniferous woods with a high proportion of dead wood (Hövmeyer 1998, 1999, 2002; Menzel and Schulz 2007). Other species can be found in wetlands (e.g., moist meadows, fens) or xerothermic habitats (e.g., dry grassland, heath) (Hövmeyer 1996; Heller 1998, 2000; Menzel et al. 2006).

The Black Fungus Gnats (Figs 1–3) are inconspicuous, minute to medium-sized flies (0.8–7.0 mm body length) and are fairly uniform in appearance. While adults of most species are completely black or dark brown, others exhibit some yellow or orange. The head is relatively small and usually rounded, with the eyes meeting at a narrow bridge above the antennae. There are three ocelli on the forehead. The antennae are long and thin, with 16 segments. Of the mouthparts, which are generally inconspicuous, only the palpi are of relevance for taxonomy. The body is almost hairless at first glance. The wings are rather broad and rounded at the apex, often smoky-coloured, with a distinctively curved vein fork (M_1+M_2) in the middle of the apex of wing. Females of some species have reduced wings (e.g., in *Epidapus* Haliday). The legs are long and slender, but not as long as for example in Mycetophilidae. The larvae are cylindrical, white and shiny, with a clearly sclerotised, dark head capsule. Detailed descriptions for the pre-imaginal stages and adults, and their importance for the identification and classification of sciarids, are given by Menzel and Mohrig (2000) and Menzel and Smith (2017).

Compared to most other Diptera in Norway, Sciaridae have previously attracted little attention from entomologists. Notorious for their uniformity and small body size, adult sciarids are largely the domain of taxonomic specialists, while larvae of most species remain undiscovered. The earliest mention of Black Fungus Gnats in Norway was by Ramus (1735), who reported about the ‘armyworm’, a migration of thousands of sciarid larvae. However, the first taxonomic studies of Sciaridae in Norway are those of Zetterstedt (1838–1860), Walker (1848), Siebke (1853–1877), and Holmgren (1869). Later, Edwards (1923–1935), Lengersdorf (1926b–1930c), Soot-Ryen (1942), Frey (1948), and Tuomikoski (1960, 1967) contributed to the knowledge of the sciarid fauna of Norway. Some of these early records, but not all, were later treated in a modern review of the family (Menzel and Mohrig 2000). Relatively few recent studies exist, but notably Thunes et al. (2004), Hipa et al. (2010), Köhler et al. (2014),



Figures 1–3. Habitus of Norwegian Sciaridae **1** winged male of *Bradysia fenestralis* (Zetterstedt, 1838) **2** brachypterous female of *Corynoptera minima* (Meigen, 1818) **3** apterous female of *Epidapus gracilis* (Walker, 1848).

and Heller et al. (2016) have presented new and valuable information on the fauna of Norwegian Sciaridae.

In 2014 the Norwegian Biodiversity Information Centre (NBIC) granted the project ‘Sørgemygg i Norge’ (Sciaridae of Norway) funding for the period 2014–2016. Later NBIC also granted funding for the project ‘Sørgemygg i norske skoger’ (Sciaridae in Norwegian forests), which is effectively the second phase of our research work. This ran from January 2017 to December 2018. Our study collates the records published between 1735 and 2019 and provides many corrected locality data for the Norwegian sciarid fauna. The revised nomenclature and the evaluation of faunistic records at species level form the basis for an updated checklist. For the first time, information is also summarised on the identified habitats and the phenology of species in Norway. Consequently, all results presented here comprise the published ‘status quo’, form the basis for the evaluation of our faunistic work in both mentioned NTI projects, and are the starting point for a series of papers on the Norwegian fauna. Many unpublished data on the Black Fungus Gnats of Norway, based on the identification of specimens in several museum collections, or on the samples collected by the authors between 2014 and 2018, shall be published in this series.

Material and methods

Norway, Europe's sixth largest country by land area, occupies approximately half of the Scandinavian Peninsula, bordering Sweden to the east, and Finland and Russia to the northeast (Fig. 4). The Norwegian mainland extends from 57.9 to 71.2N. The extensive coastline is dominated by many fjords and numerous islands, making it highly indented and irregular. The remote island of Jan Mayen (70.5–71.1N, 07.6–09.0E) and the archipelago of Svalbard comprising Bjørnøya (74.2–74.3N, 18.4–19.1E) and Spitsbergen (76.3–80.5N, 10.3–33.3E) are also parts of the Kingdom of Norway.

All data analysed here were taken from both the scientific literature and publications in the media. They relate exclusively to the sciarid specimens recorded from Norway. The great total amount of data made it impossible for us to validate all the species identifications on which published records are based. To enable comparison with previous faunal lists, references to earlier records were added to the list and the synonymous names were given for each species.

Nomenclature and systematics

Employed nomenclature and systematics are mainly based on the revision of Palaearctic fauna (Menzel and Mohrig 2000), the revision of Nearctic fauna (Mohrig et al. 2013), and some works after 2000. These comprise Hippa and Vilkkamaa (2004, 2016) [*Xylosciara*, *Claustropyga*]; Hippa et al. (2003, 2010) [*Claustropyga*, *Corynoptera* s. str.]; Vilkkamaa and Menzel (2019) [*Lycoriella*, *Hemineurina*, *Trichocoelina*] and Vilkkamaa et al. (2004, 2013a) [*Dichopygina*, *Camptochaeta*]. The proposal by Mohrig et al. (2017), who postulated *Ctenosciara* Tuomikoski, 1960 as a junior synonym of *Austrosociara* Schmitz & Mjöberg, 1924, was not followed here, because the procedure used therein is contrary to the International Code of Zoological Nomenclature (ICZN 1999), and the type specimens of the type species have not yet been revised and compared. Some other nomenclatural problems at the species level are discussed at the appropriate places in 'Taxonomic notes'.

Presentation of data

All literature sources containing data and information on the Norwegian sciarid fauna are cited for each species under 'Faunistics'. Various outdated catalogues (e.g., Kertész 1902, 1903; Gerbachevskaja-Pavluchenko 1986) were not evaluated because they do not contain primary data for the sciarid fauna of Norway and/or their abstracted and largely unverifiable content may lead to false results. In addition, in the category 'Taxonomy' publications are mentioned that are important for the classification, nomenclature and/or identification of the included sciarid species.

Locality data. Due to the geographical peculiarities, the Norwegian mainland with the offshore islands is treated first in the faunistic section on each species. Counties (fylke) and localities are listed in alphabetical order, unlike the traditional practice



Figure 4. The studied area for the sciarid fauna of Norway, subdivided into 18 mainland counties, the island Jan Mayen and the Svalbard archipelago comprising Bjørnøya and Spitsbergen.

in lists of Norwegian fauna, which are arranged from south to north. Because the Arctic island of Jan Mayen and the Arctic archipelago of Svalbard are very remote from the Norwegian mainland, they are considered separately. Faunistic records for these islands are summarised in a separate block at the end of the locality lists, following the ‘mainland records’. Geographic names are given in both modern Norwegian script and the spelling(s) used in the original literature, to facilitate their location in geographical maps and electronic resources. The reclassification of the Norwegian counties valid since 1 January 2020 was not taken into account here.

If available, all information about a locality is presented in a unified data structure as follows:

- *COUNTY; municipality, region/island(s), city/village/collecting place* without or with an explanation of more precise geographic location (= ‘citation of different *original spellings* in the analysed literature, including wrong spellings’). For example, data-

sets of localities in various publication languages and/or with different spellings would look as follows:

- **FINNMARK**; Vardø, Varangerhalvøya, Persfjorden (= ‘Finmark, Vardø, Persfjord’; = ‘Vardö, Persfjord’) • **OSLO**; Oslo, Tøyen (= ‘ad Christianiam in Tøyen’; = ‘Tøyen ad Christianiam’; = ‘in Tøyen ad Christ.’; = ‘Tøyen nahe Kristiania [Oslo]’; = ‘Tøyen’; = ‘Töien’; = ‘Toiën’).
- **JAN MAYEN**; without further locality details (= ‘Jan Mayen’; = ‘Jan Mayen Island’)
 - **SVALBARD**; Bjørnøya, mining camp Tunheim on the NE coast (= ‘Bear Island, Tunheim’) • **Spitsbergen**, Isfjorden, Dickson Land, Kapp Thorsden (= ‘in Spetsbergia ad Cap Torsden in Isfjorden’; = ‘Cap Torsden’).”

Ecological data. If the literature sources provide information on habitat and/or temporal occurrence of a species, these data were summarised in an ‘Ecological note’. All data published here refer exclusively to the Norwegian sciarid fauna. It should be noted that for most species the habitat requirements are poorly known or missing, so notes in this paragraph should be considered as incomplete. For example, the listing of a single habitat type does not necessarily mean that the species is only adapted to that habitat or that this information applies to all published Norwegian records and/or collected specimens. For many Norwegian species with few published data, no information currently exists on the habitat or the flight time of adults. Such ‘negative results’ of our literature study are indicated in the ecological notes of the species concerned by ‘Habitat not specified’ and/or ‘Phenology: without data’.

Meanings of common Norwegian locality names

Listed here are Norwegian words, or suffixes, frequently occurring in place names together with their English translations:

-**dal**/**-dalen** = valley; -**bukta**/**-bugten** = bay; -**elv**/**-elva** = river; -**fjell**/**-fjellet**/**-fjella** = mountain(s); -**fjellstue** = mountain lodge/inn; -**fjord**/**-fjorden** = fjord; -**halvøya** = peninsula; -**hytta** = hut/bothy; -**øy**/**-øya** = island; -**stua**/**-stue** = cabin/hostel/mountain lodge; -**vann**/**-vannet**/**-vatn**/**-vatnet** = lake; -**vidda** = plateau.

Abbreviations

The following general abbreviations are used in the text: **E** = eastern; **N** = northern; **NE** = northeastern; **NW** = northwestern; **S** = southern; **SE** = southeastern; **SW** = southwestern; **W** = western; **?** = questionable content (concerning locality names, species identifications, or cited references in literature); **SG** = subgenus (only used in the checklist); **Mar.–Dec.** = month (March to December) in relation to the collecting time (= flight time of imagines).

Some museums and institutions were abbreviated as follows: **BFCO** = BioFokus Collection, Oslo, Norway; **NHMO** = University of Oslo, Natural History Museum, Oslo, Norway; **NIBR** = Norwegian Institute of Bioeconomy Research, Ås, Norway;

NTNU-VM = Norwegian University of Science and Technology, University Museum, Department of Natural History, Trondheim, Norway; **PWMP** = Private Collection of Werner Mohrig, Poseritz, Germany; **SDEI** = Senckenberg Deutsches Entomologisches Institut, Müncheberg, Germany; **TMUC** = The Arctic University Museum of Norway, Tromsø Museum, Tromsø, Norway; **UZMH** = University of Helsinki, Finnish Museum of Natural History, Helsinki, Finland.

Results

Records of ‘armyworms’

Some publications, especially older ones, contain reports about spectacular processions of sciarid larvae. The up to ten meters long columns are called an ‘armyworm’ in the popular language. In the studied literature sources which refer to Norway, can also be found – partly in other languages – the synonym names ‘hærorm’ (= ‘Heervurm’; = ‘Heerwurm’), ‘dragfæ’ (= ‘dragfæe’; = ‘fedrag’), ‘ormedrag’ (= ‘Orme-Drag’; = ‘Wurmdrache’), ‘budrag’, ‘markskrei’, ‘härmask’, ‘hærmygg’, ‘hærsørgemygg’ or ‘sørgemygg’. In Norway, these have been partly associated with the species *Sciara hemerobioides* (Scopoli, 1763) [= *thomae* (Linnaeus, 1767)] (Berthold 1854: 30; Berthold 1856: 66; Schøyen 1926: C31; Hansen and Granrud 2011: 46) and *Sciara militaris* Nowicki, 1868 (Schøyen 1893: 41; Schøyen 1917: 94; Schøyen 1936: 81; Sundby 1967: 6; Hansen and Granrud 2011: 46). No reliable information currently exists on the occurrence of the ‘armyworm creator’ *Sciara militaris* Nowicki, 1868 in Norway. Although adults of *Sciara hemerobioides* have been found several times in Norway, none of the specimens mentioned in the evaluated literature sources was reared from larvae of an ‘armyworm’. Besides the two *Sciara* species discussed above, other sciarids can also form long columns of larvae. The same phenomenon has already been reported from other European countries in the species *Bradysia bicolor* (Meigen, 1818), *Cratyna perplexa* (Winnertz, 1867), *Ctenosciara hyalipennis* (Meigen, 1804) and *Sciara analis* Schiner, 1864 (Menzel and Mohrig 2000: 17). Except for *Sciara analis* these are species that are also very common in Norway. For these reasons, all unspecified ‘armyworm’ records are not assigned to any Norwegian sciarid species and are listed in the section ‘Doubtful species’.

The Norwegian records of ‘armyworms’ were presented or summarised in the following publications: Ramus (1735) [1715]: 240; Berthold (1845): 65, 66; Boheman (1847): 22; Berthold (1854): 4, 5; Berthold (1856): 40, 41; Schøyen (1893): 41; Schøyen (1917): 94; Schøyen (1926): C31; Schøyen (1936): 81; Sundby (1967): 4; Greve Jensen (1979): [unpaginated page]; Menzel and Mohrig (2000): 18; Hansen and Granrud (2011): 45; Stenløkk (2011): 9 [without data]; Giske and Blåsmo Aronsen (2016): [unpaginated page]; Nesvold (2017a): [unpaginated page]; Nesvold (2017b): [unpaginated page]; Ringsaker (2018): [unpaginated page].

Finds of ‘armyworms’ have been reported from the following Norwegian localities:

- NORWAY; without further locality details (= ‘i Norrige’; = ‘in Norwegen’) – Ramus

(1735) [1715]: 240; Pontoppidan (1753): 67; Pontoppidan (1755b): 42; Berthold (1845): 65, 66; Boheman (1847): 22; Berthold (1854): 4, 5; Berthold (1856): 40, 41 • AKERSHUS; Aurskog-Høland, N part of the area Aurskog [formerly ‘Urskog’] NW of Aursmoen and SE of Blaker (= ‘ved Blaker i Urskog’) – Schøyen (1917): 94; Sundby (1967): 5 • BUSKERUD; Modum [without exact locality] – Hansen and Granrud (2011): 48 [based on a forum blog by Haavik (2009)] • HEDMARK; Eidskog [in the former district ‘Hedmarka’] (= ‘Eidsskogen, Hedemarken’; = ‘i Eidsskogen på Hedemarken’) – Schøyen (1917): 94; Sundby (1967): 5 • LØTEN, in Løten (= ‘i Løyten’) – Schøyen (1893): 41; Sundby (1967): 5 • HORDALAND; Bergen (= ‘Bergen’) – Menzel and Mohrig (2000): 18 • Bergen, Søreidgrenda, Søviknes [today settlement area at the street Søvikneset] (= ‘på Søviknes i Fana’) – Greve Jensen (1979): [unpaginated page] • MØRE OG ROMSDAL; Eide, Vevang SW of Kristiansund (= ‘ved Vevang pr. Kristiansund’; = ‘på Vevang ved Kristiansund’) – Schøyen (1926): C31; Sundby (1967): 5 • NORDLAND; Sørfold, Seljåsen (= ‘Seljåsen, Nordland’) – Ringsaker (2018): [unpaginated page] • OPPLAND; Sel, Heidal, side valley Heidal in the Gudbrandsdalen (‘Heidal i Sel kommune i Gudbrandsdalen’) – Hansen and Granrud (2011): 46 • ØSTFOLD; Eidsberg, Mysen (= ‘Mysen i Østfold’) – Schøyen (1936): 81 • RØMSKOG, Flaten near the Swedish border (= ‘på Flaten i Rømskog’; = ‘Flaten i Rømskog’) – Sundby (1967): 4; Hansen and Granrud (2011): 48 • TROMS; Tromsø, village Tromvika on the Kvaløya (= ‘Tromvika i Tromsø’) – Giske and Blåsmo Aronsen (2016): [unpaginated page] • TRØNDELAG; Holtålen, Ålen, on the Hessjøvegen NW of the lake Hessjøen (= ‘ved Hessjøen i Holtålen, på Hessjøvegen’) – Nesvold (2017a): [unpaginated page]; Nesvold (2017b): [unpaginated page] • VEST-AGDER; Flekkefjord, Gyland NE of Flekkefjord (= ‘Gyland ved Flekkefjord’) – Schøyen (1936): 81.

Faunistic note: Most of the Norwegian armyworm records in Menzel and Mohrig (2000: 18), taken from historical literature of the 18th Century (Ramus 1735; Pontoppidan 1753, 1755b), were incorrectly translated or indicate only unspecified localities. So, the expression ‘Baand in Vejen’ (recte ‘og Baand i Vejen’), originates from Ramus (1735: 240), lines 15–17: ‘*Gemeene Folk, ..., kaste deres Klæder og Baand i Vejen for dem, ...*’, which in Danish language simply means ‘*Common people ... throw their clothes and ribbons in their way ...*’. The title ‘*Firefodde Dyr, som findes i Norrige samt krybende Orme*’ [= ‘*Four-footed animals, found in Norway as well as creeping worms*’] indicates, that Ramus (1735: 240) mentions the armyworm (‘dragfæ’ or ‘ormedrag’) for the first time for Norway, which was cited by Pontoppidan (1753: 68; 1755b: 42).

Those armyworm records included in Menzel and Mohrig (2000: 18) refer to the preceding definition of the area in the first part of the ‘Natural history of Norway’ by Pontoppidan (1752: 67; 1755a: 41) and are not certain. Accordingly, the following misinterpreted localities are to be deleted from the list of Norwegian armyworm records (cited from the secondary literature): ‘Bygle-Field = Byglefield; Dofre-Field = Dofrefield; File-Field = Filefield; Hardanger-Field = Hardangerfield; Halne-Field = Halnefield; Hekle-Field = Hecklefield [also as ‘Skelefield’]; Jogle-Field = Joglefield; Lang-Field = Langfield; Loms-Field = Lomsfield; Norden-Fields = Nordenfield; Sogne-Field = Sognefield; Sonden-Fields = Sondenfield; Tronhiems Stift; Vesten-Fields = Vestenfield’.

Alphabetical list of Norwegian species with associated data

Bradysia affinis (Zetterstedt, 1838)

Synonym. = *pratincola* Tuomikoski, 1960.

Literature. *Faunistics*: Zetterstedt (1851): 3752; Siebke (1877): 214 [both as *Sciara affinis*]; Tuomikoski (1960): 119 [only correctly mentioned under *Bradysia affinis* as ‘in Norwegen’ [in Norway] based on the old records by Zetterstedt (1851) and Siebke (1877); the rest are misidentifications] and 120 [as *Bradysia pratincola*]; Menzel et al. (1990): 368 [as *Bradysia pratincola* only; not *Bradysia affinis* sensu Tuomikoski; misidentification]; Menzel and Mohrig (2000): 178 [as *Bradysia pratincola*]; Köhler et al. (2014): 328 [as *Bradysia affinis*]. *Taxonomy*: Tuomikoski (1960): 116, 120 [as *Bradysia pratincola*]; Menzel and Mohrig (1998): 356 [as *Bradysia affinis*]; Menzel and Mohrig (2000): 172 [as *Bradysia affinis*] and 178 [as *Bradysia pratincola*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’; = ‘Norway’)
 • FINNMARK; Tana, Tanafjorden, fjord Vestertana (= ‘Finmark, Tana, Vestertana’)
 • TELEMARK; Drangedal, Djupedal 1.5 km SE of Henneseid (= ‘Drangedal, Djupedal, Henseid’)
 • Drangedal, woodland Steinknapp SW of Drangedal (= ‘Drangedal, Steinknapp’)
 • TROMS; Nordreisa, woodland and farm Hallen at the E shore of Reisaelva SE of Storslett (= ‘Nordreisa, Hallen’)
 • Tromsø (= ‘Tromsø’; = ‘Tromsö’)
 • TRØNDELAG; Verdal, Østre Nes at the Jamtlandsvegen [road no. 72] between Verdal and Lysthaugen (= ‘ad diversorium Näs Værdalæ’; = ‘ad diversorium Næs Værdalæ’).

Ecological note. Grove meadows. Phenology: Jun.–Aug.

Bradysia alpicola (Winnertz, 1867)

Synonyms. = *caliginosa* (Winnertz, 1867); = *concolor* (Beling, 1873); = *egens* (Winnertz, 1867); = *meridiana* (Lengersdorf, 1926); = *moreensis* (Lengersdorf, 1926); = *mutabilis* (Lengersdorf, 1926); = *obscura* (Winnertz, 1867); = *rogenhoferi* (Winnertz, 1867).

Literature. *Faunistics*: Lengersdorf (1926b): 7 [as *Sciara mutabilis*]; Lengersdorf (1928–30): 6, 31 [as *Lycoria (Neosciara) mutabilis*]; Soot-Ryen (1942): 78 [as *Neosciara mutabilis*]; Menzel and Mohrig (2000): 164 [as *Sciara mutabilis* under *Bradysia alpicola*]; Köhler et al. (2014): 328 [as *Bradysia alpicola*]. *Taxonomy*: Zetterstedt (1851): 3716 [as *Sciara morio*; misidentification]; Tuomikoski (1960): 125 [as *Bradysia morio* sensu Zetterstedt and Frey; misidentification]; Menzel and Mohrig (2000): 163 [as *Bradysia alpicola*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’)
 • FINNMARK; Alta, Bojobæskihytta in the Stabbursdalen between Karasjok and Alta (= ‘Bojobæske’; = ‘Bojobaeske’)
 • Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= ‘Jotkajavre’)
 • Karasjok, Karasjok at the river Karasjohka (= ‘Karasjok’)
 • NORDLAND; Sørfold, Røsvik at the S shore of Sørfolda (= ‘Røsvik’; = ‘Røsvik [? Rørvik]’)
 • TELEMARK; Drangedal, woodland Steinknapp SW of Drangedal (= ‘Drangedal, Steinknapp’).

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jun.–Aug.

***Bradysia angustipennis* Winnertz, 1867**

Synonyms. = *campestris* Mohrig & Mamaev, 1970; = *pedestris* (Kieffer, 1903).

Literature. *Faunistics*: Vilkamaa and Hippa (2004): 21 [as *Bradysia angustipennis*].
Taxonomy: Menzel and Mohrig (2000): 119 [as *Bradysia angustipennis*].

Locality. • NORWAY; without further locality details (= ‘Norway’).

Faunistic note. The single Norwegian record of *Bradysia angustipennis* was published by Vilkamaa and Hippa (2004) in a phylogenetic analysis (appendix 2) as ‘Norway’ without further locality details. The male specimen is deposited in the UZMH collection and was not revised here.

Ecological note. Habitat not specified. Phenology: without data.

***Bradysia bicolor* (Meigen, 1818)**

Synonyms. = *abdominalis* (Lehmann, 1824); = *bicolor* var. *alpestris* (Lengersdorf, 1926); = *bore* (Walker, 1848); = *rufiventris* (Macquart, 1834).

Literature. *Faunistics*: Walker (1848): 107 [as *Sciara bore*]; Zetterstedt (1851): 3724 [as *Sciara bicolor*] and 3725 [as *Sciara rufiventris*]; Siebke (1853): 305; Zetterstedt (1855): 4889 [both as *Sciara rufiventris*]; Siebke (1866b): 417; Siebke (1877): 211 [both as *Sciara bicolor* and *Sciara rufiventris*]; Becher (1886): 62; Strand (1904): 9; Edwards (1923): 236 [all as *Sciara bicolor*]; Lengersdorf (1926b): 3 [as *Sciara bicolor*] and 9 [as *Sciara rufiventris* and *Sciara bore*]; Soot-Ryen (1942): 77 [as *Neosciara bicolor*]; Mohrig and Menzel (1993): 270 [as *Bradysia bicolor*]; Menzel and Mohrig (2000): 133 [as *Bradysia bicolor* and *Sciara bore* under *Bradysia bicolor*].
Coulson and Refseth (2004): 102 [as *Bradysia bicolor*].
Taxonomy: Tuomikoski (1960): 137, 139; Mohrig and Menzel (1993): 270; Menzel and Mohrig (2000): 133 [all as *Bradysia bicolor*].

Localities. • NORWAY; without further locality details (= ‘Nord-Norwegen’)
 • BUSKERUD; Røyken (= ‘in par. [parochia] Røken’; = ‘Røken’; = ‘Røyken’) • FINNMARK; Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= ‘Jotkajavre’) • Hammerfest, Hammerfest (= ‘Hammerfest’; = ‘Hammerfest, Finmark’; = ‘Hammerfest, Finmark [Hammerfest auf der Insel Kvaløya]’) • NORDLAND; Hattfjelldal, Røssvatnet (= ‘Røsvand’; = ‘Røssvatn’) • Nord-Helgeland, Ranfjorden (= ‘Ranfjord’) • OPPLAND; Nord-Fron or Sør-Fron in the Gudbrandsdalen (= ‘Gudbrandsdalen, Fron’) • Øyer in the Gudbrandsdalen (= ‘Øier Gudbrandsdaliæ’; = ‘Gudbrandsdalen, Øier’; = ‘Øier’) • Øyer, Moshus in the SE part of Øyer in the Gudbrandsdalen (= ‘Øier Gudbrandsdaliæ ad Moshus’; = ‘Moshus, Øyer’) • TROMS; Tromsø, Ramfjorden (= ‘Ramfjord’) • TRØNDELAG; Levanger, Alstadhaug (= ‘Alstadhaug, Levanger’; = ‘ad Alstadhaug’; = ‘ad Alstahaug’) • Levanger, Levanger (= ‘ad Levanger’; = ‘Levanger’) • VESTFOLD; Sandefjord (= ‘ad Sandefjord’; = ‘ved Sandefjord’; = ‘Sandefjord’) • Staværn (= ‘ad oppidum Staværn’; = ‘ved Staværn’; = ‘Staværn’).

• JAN MAYEN; without further locality details (= ‘Jan Mayen’; = ‘Jan Mayen Island’).

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

***Bradysia brevispina* Tuomikoski, 1960**

Literature. *Faunistics*: Thunes et al. (2004): 72, 85 [as *Bradysia brevispina*]. *Taxonomy*: Tuomikoski (1960): 130, 135; Menzel and Mohrig (2000): 151 [both as *Bradysia brevispina*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • BUSKERUD; Sigdal, Heimseteråsen (= ‘Sigdal’).

Ecological note. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*. Phenology: Jul.

***Bradysia confinis* (Winnertz, 1867)**

Synonyms. = *myrtilli* (Winnertz, 1867); = *nigrescens* (Winnertz, 1869); = *occulta* (Winnertz, 1867); = *sororcula* (Winnertz, 1867); = *tarda* (Winnertz, 1867).

Literature. *Faunistics*: Lengersdorf (1926b): 3 [as *Sciara sororcula*]; Soot-Ryen (1942): 78 [in part as *Neosciara nervosa*; misidentification (only cited *sororcula* specimens)]. *Taxonomy*: Tuomikoski (1960): 139, 140; Menzel and Mohrig (2000): 127 [both as *Bradysia confinis*].

Localities. • FINNMARK; Alta, Bossekop in Alta (= ‘Bosekop’) • Hammerfest, Hammerfest (= ‘Hammerfest’) • Porsanger, farm Fæstningsstua near Lævnasjarvi W of Skoganvarre (= ‘Fæstningstuen’; = ‘Festningsstuen’) • MØRE OG ROMSDAL/OPPLAND/TRØNDELAG; Dovrefjell [Dovre Mountains] (= ‘Dovre’) • TROMS; Balsfjord, Svendborg ca. 1.7 km from the N shore of Fjellfrøsvatnet (= ‘Svendborg’; = ‘Svendborg’) • Karlsøy, Torsvåg at the NW coast of Vannøya 15 km N of Tromsø (= ‘Torsvaag’; = ‘Torsvåg’) • Tromsø (= ‘Tromsø’) • Tromsø, Ramfjorden (= ‘Ramfjord’).

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

***Bradysia distincta* (Staeger, 1840)**

Synonyms. = *egregia* (Beling, 1873); = *fastuosa* (Winnertz, 1867); = *insignis* (Winnertz, 1867).

Literature. *Faunistics*: Siebke (1877): 212 [as *Sciara distincta*]; Soot-Ryen (1942): 78 [in part as *Neosciara morio*; misidentification (only cited *distincta* specimen)]. *Taxonomy*: Menzel and Mohrig (2000): 165 [as *Bradysia distincta*].

Locality. • MØRE OG ROMSDAL/OPPLAND/TRØNDELAG; Dovrefjell [Dovre Mountains] (= ‘in alpe Dovre’; = ‘Dovre’).

Ecological note. Habitat not specified. Phenology: Jul.

***Bradysia fenestralis* (Zetterstedt, 1838)**

Synonyms. = *bulbostyla* Mohrig & Menzel, 1990; = *frigida* (Winnertz, 1867); = *signata* (Winnertz, 1867).

Literature. *Faunistics*: Köhler et al. (2014): 328 [as *Bradysia fenestralis*]. *Taxonomy*: Menzel and Mohrig (1998): 354 [as *Bradysia fenestralis*]; Menzel and Mohrig (2000): 120 [as *Bradysia bulbostyla*] and 153 [as *Bradysia fenestralis*]; Menzel and Heller (2005): 349 [as *Bradysia fenestralis*]; Menzel and Heller (2006): 49 [as *Bradysia signata*].

Locality. • TELEMARK; Drangedal, 300 m SE of Henneseid (= ‘Drangedal, Henseid’).

Faunistic note. The first specimen of *Bradysia fenestralis* from Norway, on which the record in the cited literature was based, was identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jul.

Bradysia flavipila Tuomikoski, 1960

Literature. *Faunistics*: Vilkkamaa (2000): 71 [as *Bradysia* sp.]. *Taxonomy*: Tuomikoski (1960): 144, 146; Menzel and Mohrig (2000): 125 [both as *Bradysia flavipila*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • ROGALAND; Finnøy, Finnøy Island, Lasteinvatnet SE of Lastein on the SE coast (published as ‘Norway’; see faunistic note).

Faunistic note. The single Norwegian record of *Bradysia flavipila* published in Vilkkamaa (2000) as ‘Norway’ (without collecting details) was based on the following material: NORWAY • 2 ♂♂; ‘Rogaland; Finnøy, Lasteinvatnet’; 15–23 May 1994; J. Skartveit leg.; Malaise trap; UZMH.

Ecological note. Habitat not specified. Phenology: May.

Bradysia forficulata (Bezzi, 1914)

Synonyms. = *luravi* (Johannsen, 1929); = *nocturna* Tuomikoski, 1960.

Literature. *Faunistics*: Menzel et al. (2013): 286 [as *Bradysia forficulata*]. *Taxonomy*: Tuomikoski (1960): 139, 141 [as *Bradysia nocturna*]; Mohrig and Menzel (1993): 281 [as *Bradysia forficulata*] and 283 [as *Bradysia nocturna*]; Menzel and Mohrig (2000): 119 [as *Bradysia forficulata*] and 141 [as *Bradysia nocturna*]; Menzel et al. (2013): 286; Mohrig et al. (2013): 159 [both as *Bradysia forficulata*].

Locality. • NORWAY; without further locality details (= ‘Norway’).

Ecological note. Habitat not specified. Phenology: without data.

Bradysia fungicola (Winnertz, 1867)

Synonyms. = *fera* (Winnertz, 1867); = *hercyniae* (Winnertz, 1869); = *incana* (Strobl, 1910); = *ingrata* (Winnertz, 1867); = *sylvicola* (Winnertz, 1869).

Literature. *Faunistics*: Soot-Ryen (1942): 78 [as *Neosciara fungicola*]. *Taxonomy*: Tuomikoski (1960): 115, 119; Menzel and Mohrig (2000): 175 [both as *Bradysia fungicola*].

Locality. • TROMS; Balsfjord, Fjellfrøsvatnet [Fjellfrøskvannet] N of Øverbygd (= 'Fjellfrøskvann').

Ecological note. Habitat not specified. Phenology: Jul.

***Bradysia giraudii* (Egger, 1862)**

Synonyms. = *clavigera* (Lengersdorf, 1926); = *nemorum* (Winnertz, 1867).

Literature. *Faunistics:* Soot-Ryen (1942): 78 [as *Neosciara nemorum*]; Menzel et al. (1990): 358 [as *Bradysia giraudii*]. *Taxonomy:* Tuomikoski (1960): 130; Menzel and Mohrig (1993b): 74 [both as *Bradysia giraudi* (Schiner); recte *giraudii* (Egger)]; Menzel and Mohrig (2000): 144 [as *Bradysia giraudii*].

Localities. • NORWAY; without further locality details (= 'Norwegen') • TROMS; Tromsø, Ramfjorden (= 'Ramfjord').

Ecological note. Habitats not specified. Phenology: Jul.

***Bradysia hilariformis* Tuomikoski, 1960**

Literature. *Faunistics:* Köhler et al. (2014): 328 [as *Bradysia hilariformis*]. *Taxonomy:* Tuomikoski (1960): 125, 127; Menzel and Mohrig (2000): 120 [both as *Bradysia hilariformis*].

Locality. • TELEMARK; Drangedal, woodland Steinknapp SW of Drangedal (= 'Drangedal, Steinknapp').

Faunistic note. The first specimen of *Bradysia hilariformis* from Norway, on which the record in the cited literature was based, was identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jun.

***Bradysia hilaris* (Winnertz, 1867)**

Synonyms. = *betuleti* (Lengersdorf, 1940); = *dolens* (Johannsen, 1912); = *fumida* (Johannsen, 1912).

Literature. *Faunistics:* Tuomikoski (1960): 125 [as *Bradysia hilaris*]. *Taxonomy:* Tuomikoski (1960): 125; Menzel and Mohrig (2000): 167; Mohrig et al. (2013): 161 [all as *Bradysia hilaris*].

Locality. • TROMS; Tromsø (= 'Tromsø').

Ecological note. Habitat not specified. Phenology: Aug.

***Bradysia impatiens* (Johannsen, 1912)**

Synonyms. = *agrestis* Sasakawa, 1978; = *hardyi* (Shaw, 1952); = *paupera* Tuomikoski, 1960; = *tristicula* var. *difformis* Frey, 1948.

Literature. *Faunistics*: Sundbye and Johansen (2002): 26; Sundbye and Johansen (2003): 1; Sundbye (2005): 1 [all as *Bradysia difformis*]. *Taxonomy*: Tuomikoski (1960): 130, 134 [as *Bradysia paupera*]; Menzel and Mohrig (2000): 146 [as *Bradysia agrestis*] and 152 [as *Bradysia difformis*]; Mohrig et al. (2013): 162; Broadley et al. (2018): 205 [both as *Bradysia impatiens*].

Localities. • NORWAY; without further locality details (= ‘Norway’; = ‘several horticultural localities’) • AKERSHUS; Ås.

Ecological note. In greenhouses and laboratories on poinsettia (*Euphorbia pulcherrima*). Phenology: without data.

Bradysia inusitata (Tuomikoski, 1960)

Literature. *Faunistics*: Komarova (2009): 2 [as *Bradysia inusitata*]. *Taxonomy*: Tuomikoski (1960): 144, 148; Menzel and Mohrig (2000): 128 [both as *Bradysia inusitata*].

Locality. • NORWAY; without further locality details (= ‘Norway’).

Ecological note. Habitat not specified. Phenology: without data.

Bradysia iridipennis (Zetterstedt, 1838)

Synonyms. = *hirundina* (Winnertz, 1867); = *latiuscula* (Winnertz, 1867); = *merula* (Winnertz, 1867); = *tremulae* (Beling, 1873).

Literature. *Faunistics*: Zetterstedt (1855): 4890; Siebke (1877): 213 [both as *Sciara iridipennis*]; Soot-Ryen (1942): 78 [as *Neosciara iridipennis*]. *Taxonomy*: Tuomikoski (1960): 122, 124; Menzel and Mohrig (2000): 178; Mohrig et al. (2013): 163 [all as *Bradysia iridipennis*].

Localities. • NORWAY; without further locality details (= ‘Norwegia’) • FINNMARK; Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= ‘Jotkajavre’) • NORDLAND; Herøy, Måsvær Island (= ‘Måsvær’) • Øksnes, in the NW part of Langøya of the Vesterålen archipelago (= ‘Øksnes’) • OSLO; Oslo, Tøyen (= ‘in Tøien ad Christianiam’; = ‘Tøyen, Oslo’) • TROMS; Balsfjord, Fjellfrøsvatnet [Fjellfrøskvannet] N of Øverbygd (= ‘Fjellfrøskvann’) • Tromsø (= ‘Tromsø’) • TRØNDELAG; Verdal, farm Nes between Verdal and Lysthaugen at the S site of Verdalselva (= ‘Nes, Værdal’).

Ecological note. Habitats not specified. Phenology: Jun.–Jul., Sep.

Bradysia lapponica (Lengersdorf, 1926)

Synonyms. = *nigerrima* (Lengersdorf, 1940); = *pseudopraecox* Frey, 1948; = *quinquedentata* (Lengersdorf, 1936).

Literature. *Faunistics*: Tuomikoski (1960): 123; Menzel et al. (1990): 359 [both as *Bradysia lapponica*]. *Taxonomy*: Tuomikoski (1960): 122, 123; Menzel and Mohrig (2000): 145 [both as *Bradysia lapponica*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • FINNMARK; Vardø, Varangerhalvøya, Persfjorden (= ‘Finmark: Varangerhalbinsel, Persfjord’) • TROMS; Tromsø (= ‘Tromsø’).

Ecological note. Habitats not specified. Phenology: Aug.

Bradysia longicubitalis (Lengersdorf, 1924)

Synonym. = *cinereovittata* Frey, 1948.

Literature. *Faunistics*: Komarova (2009): 3 [as *Bradysia longicubitalis*]. *Taxonomy*: Tuomikoski (1960): 138, 140 [as *Bradysia cinereovittata*]; Mohrig and Menzel (1993): 275; Menzel and Mohrig (2000): 119 [both as *Bradysia longicubitalis*].

Locality. • NORWAY; without further locality details (= ‘Norway’).

Ecological note. Habitat not specified. Phenology: without data.

Bradysia nervosa (Meigen, 1818)

Synonyms. = *fucata* (Meigen, 1818); = *variabilis* (Zetterstedt, 1838).

Literature. *Faunistics*: Zetterstedt (1838): 827 [as *Sciara variabilis*]; Walker (1848): 108 [as *Sciara nervosa*]; Zetterstedt (1851): 3738 [as *Sciara variabilis*]; Zetterstedt (1855): 4890 [as *Sciara nervosa* and *Sciara variabilis*]; Boheman (1866): 575; Holmgren (1869): 8 [both as *Sciara variabilis*]; Siebke (1877): 212 [as *Sciara variabilis*] and 213 [as *Sciara nervosa*]; Lengersdorf (1926b): 4 [as *Sciara nervosa*] and 9 [as *Sciara variabilis*]; Thor (1930): 4 [as *Sciara variabilis*]; Soot-Ryen (1942): 78 [in part as *Neosciara nervosa*; misidentification (only cited *variabilis* specimens)]; Coulson and Refseth (2004): 102; Coulson (2008): 160; Coulson (2013): 153 [all as *Bradysia nervosa*]. *Taxonomy*: Tuomikoski (1960): 125; Menzel and Mohrig (2000): 161 [both as *Bradysia nervosa*].

Localities. • NORWAY; without further locality details (= ‘Norwegia’; = ‘Norwegen’; = ‘Nord-Norwegen’) • FINNMARK; Hammerfest, Hammerfest (= ‘Hammerfest, Finmark’; = ‘Hammerfest’) • KARASJOK, Karasjok at the river Karasjohka (= ‘Karasjok’) • MØRE OG ROMSDAL/OPPLAND/TRØNDELAG; Dovrefjell [Dovre Mountains] (= ‘in alpe Dovre’; = ‘Dovre’) • NORDLAND; Narvik, Bjerkvik at the Ofotfjorden NE of Narvik (= ‘in Nordlandiæ Norvegicæ, ad diversorium Björkvik juxta Ofodenfjorden’; = ‘ad diversorium Björkvik prope Ofodenfjord Nordlandiæ’; = ‘ad Björkvik Nordlandiæ Norvegicæ’; = ‘Björkvik, Ofoten’) • OSLO; Oslo, Tøyen (= ‘ad Christianiam in Tøien’; = ‘in Tøien ad Christianiam’; = ‘Tøien ad Christianiam’; = ‘Tøyen, Oslo’) • Oslo, Tøyenhaven (= ‘Tøienhaven’; = ‘Tøyenhaven’) • TRØNDELAG; Verdal, farm Nes between Verdal and Lysthaugen at the S site of Verdalselva (= ‘ad Næs Værdaliæ’; = ‘ad Näs Værdaliæ’; = ‘Nes, Værdal’; = ‘Værdaliæ’) • Verdal, former poststation ‘Suulstuen’ SE of Vuku at the Jamtlandsvegen [road no. 72] (= ‘ad diversorium Suul’; = ‘ad Suul Værdaliæ’; = ‘Suul Værdaliæ’; = ‘Sul, Værdal’; = ‘Værdaliæ’).

• SVALBARD; Spitsbergen, Bellsund at the W coast (= ‘ad Bel Sund’) • Spitsbergen, Edgeøya at the Storfjorden, ? Kvalpynten at the N side of the mouth of Tjuvfjorden

(= ‘in Spetsbergia ad Whales Point in Storfjorden’; = ‘ad Whales Point in Storfjorden’; = ‘Whales Point, Storfjord’) • Spitsbergen, Isfjorden, Dickson Land, Kapp Thorsen (= ‘ad Cap Thorsen in Isfjorden’) • Spitsbergen, without further locality details (= ‘Spetsbergen’; = ‘Spitsbergen’).

Ecological note. Habitats not specified. Phenology: Apr.–Sep.

Bradysia nitidicollis (Meigen, 1818)

Synonyms. = *alacris* (Winnertz, 1867); = *albicans* (Winnertz, 1867); = *aprilina* (Meigen, 1818); = *atroparva* Frey, 1948; = *fenestrata* (Meigen, 1818); = *inornata* (Winnertz, 1867); = *scatopsoides* (Meigen, 1818); = *tenella* (Winnertz, 1867); = *trichoptera* (Lengersdorf, 1926).

Literature. *Faunistics*: Walker (1848): 108 [as *Sciara aprilina*]; Zetterstedt (1851): 3737; Zetterstedt (1855): 4890; Siebke (1877): 212 [all as *Sciara nitidicollis*]; Lengersdorf (1926b): 4 [as *Sciara nitidicollis*] and 9 [as *Sciara aprilina*]; Soot-Ryen (1942): 76 [in part as *Neosciara aprilina* (only cited Walker’s specimen)] and 79 [as *Neosciara nitidicollis*]; Tuomikoski (1960): 124; Köhler et al. (2014): 328 [both as *Bradysia nitidicollis*]. *Taxonomy*: Tuomikoski (1960): 122, 124; Menzel and Mohrig (2000): 179 [both as *Bradysia nitidicollis*].

Localities. • NORWAY; without further locality details (= ‘Norwegia’) • AKERSHUS; Frogn, Sønderstøa-Degerud (= ‘Degerud’) • FINNMARK; Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= ‘Jotkajavre’) • Hammerfest, Hammerfest (= ‘Hammerfest, Finmark’; = ‘Hammerfest’) • Vardø, Varangerhalvøya, Persfjorden (= ‘Finmark: Varangerhalbinsel, Persfjord’) • HORDALAND; Kvam, ‘Berge landskapsvernrområde’ [protected landscape area with the Bergsvatnet] NW of Tørvikbygd (= ‘Kvam, Berge’) • NORDLAND; Sømna, Sømnes at the bay Sømnesvika N of Vik (= ‘Sømnes’) • OSLO; Oslo, Tøyen (= ‘ad Christianiam in Tøien’; = ‘Tøien’; = ‘Tøyen, Oslo’) • ØSTFOLD; Halden, Halden SE of Fredrikstad (= ‘ad Fredrikshald’) • TROMS; Nordreisa, woodland and farm Hallen at the E shore of Reisaelva SE of Storslett (= ‘Nordreisa, Hallen’) • Tromsø, lake Prestvannet on the Tromsøya (= ‘Prestvann, Tromsø’) • TRONDLAG; Verdal, former poststation ‘Suulstuen’ SE of Vuku at the Jamtlandsvegen [road no. 72] (= ‘ad Suul’; = ‘ad Suul Værdalix’; = ‘Sul, Værdal’).

Ecological note. Oak canopies of *Quercus robur*; on mountains. Phenology: May–Oct.

Bradysia opaca (Winnertz, 1871)

Synonym. = *formosa* (Winnertz, 1871).

Literature. *Faunistics*: Lengersdorf (1926b): 3 [as *Sciara opaca*]. *Taxonomy*: Menzel and Mohrig (2000): 166 [as *Bradysia opaca*].

Localities. • FINNMARK; Alta, Bojobæskihytta in the Stabbursdalen between Karasjok and Alta (= 'Bojobæske') • NORDLAND; Sørfold, Røsvik at the S shore of Sørfolda (= 'Røsvik') • TROMS; Karlsøy, Nord-Fugløya (= 'Nord-Fuglø').

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

Bradysia pallipes (Fabricius, 1787)

Synonyms. = *agilis* (Winnertz, 1867); = *brunnipes* (Meigen, 1804); = *conica* (Grzegorzek, 1884); = *dispar* (Winnertz, 1868); = *engadinica* (Winnertz, 1867); = *fallax* (Winnertz, 1867); = *kowarzii* (Grzegorzek, 1884); = *laeta* (Grzegorzek, 1884); = *luctuosa* (Winnertz, 1867); = *morbosa* (Winnertz, 1867); = *picipes* (Zetterstedt, 1838); = *prolifera* (Felt, 1897); = *rufipodex* (Frey, 1945); = *rufipodex* var. *elysiaca* (Frey, 1945); = *spretta* (Winnertz, 1867); = *subgrandis* (Shaw, 1941); = *tristis* (Winnertz, 1867); = *umbratica* (Zetterstedt, 1851).

Literature. *Faunistics*: Lengersdorf (1926b): 3 [as *Sciara brunnipes*]; Soot-Ryen (1942): 77 [as *Neosciara brunnipes*]; Tuomikoski (1960): 141 [as *Bradysia brunnipes*]. *Taxonomy*: Tuomikoski (1960): 139, 141; Mohrig and Menzel (1993): 270; Menzel and Mohrig (2000): 134 [all as *Bradysia brunnipes*]; Mohrig et al. (2013): 168; Broadley et al. (2018): 226 [both as *Bradysia pallipes*].

Localities. • FINNMARK; Vardø, Varangerhalvøya, Persfjorden (= 'Finmark: Varangerhalbinsel, Persfjord') • NORDLAND; Øksnes, in the NW part of Langøya of the Vesterålen archipelago (= 'Øksnes') • TROMS; Tromsø (= 'Tromsø'; = 'Tromsø') • TROND-DELAGE; Levanger, Hestøya NW of Alstahaug, southern tip Måkeskjær (= 'Måkeskjær').

Ecological note. Habitats not specified. Phenology: Jun.–Sep.

Bradysia pauperata (Winnertz, 1867)

Synonyms. = *aestivalis* (Winnertz, 1871); = *antennata* (Winnertz, 1867); = *lugubris* (Winnertz, 1867); = *rustica* (Winnertz, 1867).

Literature. *Faunistics*: Lengersdorf (1926b): 3 [as *Sciara lugubris*]; Soot-Ryen (1942): 78 [in part as *Neosciara morio*; misidentification (only cited *lugubris* specimens)]. *Taxonomy*: Tuomikoski (1960): 123; Menzel and Mohrig (2000): 166 [both as *Bradysia pauperata*].

Localities. • FINNMARK; Alta, Bossekop in Alta (= 'Bosekop') • TROMS; Tromsø (= 'Tromsø').

Ecological note. Habitats not specified. Phenology: Jun.–Jul.

Bradysia placida (Winnertz, 1867)

Synonym. = *fimbricauda* Tuomikoski, 1960.

Literature. *Faunistics*: Lengersdorf (1926b): 3 [as *Sciara placida*]; Soot-Ryen (1942): 78 [in part as *Neosciara nervosa*; misidentification (only cited *placida* specimen)]. *Taxonomy*: Tuomikoski (1960): 125, 128 [as *Bradysia fimbriocauda*]; Menzel and Mohrig (2000): 162 [as *Bradysia placida*].

Localities. • FINNMARK; Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= ‘Jotkajavre’) • TROMS; Målselv, Takvatnet (= ‘Takvand’; = ‘Takvann’).

Ecological note. Habitats not specified. Phenology: Jun.–Jul.

Bradysia praecox (Meigen, 1818)

Synonyms. = *albinervis* (Winnertz, 1867); = *brevipalpis* (Winnertz, 1868); = *leclerqi* (Lengersdorf, 1950); = *macilenta* (Winnertz, 1867); = *morosa* (Winnertz, 1867); = *nocticolor* (Winnertz, 1867); = *simplex* (Winnertz, 1867); = *simplex* var. *subsimplex* (Lengersdorf, 1926); = *unicolor* (Winnertz, 1868).

Literature. *Faunistics*: Zetterstedt (1851): 3735; Siebke (1863): 176; Siebke (1866a): 385, 388; Siebke (1877): 212; Strand (1904): 10; Summerhayes and Elton (1923): 222, 262 [all as *Sciara praecox*]; Lengersdorf (1926b): 3 [as *Sciara praecox*] and 4 [as *Sciara albinervis*]; Summerhayes and Elton (1928): 236 [as *Sciara praecox*]; Soot-Ryen (1942): 76 [in part as *Neosciara aprilina*; misidentification (only cited *albinervis* specimens)] and 79 [as *Neosciara praecox*]; Coulson and Refseth (2004): 102; Coulson (2008): 160; Coulson (2013): 153 [all as *Bradysia praecox*]. *Taxonomy*: Tuomikoski (1960): 122, 123; Menzel and Mohrig (2000): 181 [both as *Bradysia praecox*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • FINNMARK; Karasjok, Ravnastua fjellstue NW of Karasjok (= ‘Ravnastuen’) • Porsanger, farm Fæstningsstua near Lævnasjarvi W of Skoganvarre (= ‘Fæstningstuen’; = ‘Festningsstuen’) • MØRE OG ROMSDAL; Fræna, Hammarøya NW of Hopadalen (= ‘Hammarøy’) • Haram, ? Ormeneset (= in Romsdalia ad Ormen’; = ‘Romsdals Amt, omkring Ormen’; = ‘Ormem’) • Rauma, between Veblungsnes and Romsdalshornet Mountain in the Romsdalsalpene SE of Åndalsnes (= ‘Romsdals Amt, mellem Veblungsnæsset og Romsdalshorn’) • Rauma, Horgheim SE of Åndalsnes in the Romsdal (= ‘in Romsdalia ad Horgheim’; = ‘Romsdals Amt, Horgheim’; = ‘Horgheim’) • Rauma, Veblungsnes at the Romsdalsfjorden SW of Åndalsnes (= ‘in Romsdalia ad Veblungsnæs’; = ‘Veblungsnes, Romsdal’) • Smøla, Smøla Island (= ‘in insula Smølen in Nordmøre’; = ‘ad Smølen’; = ‘Smøla’) • NORDLAND; Hamarøy (= ‘Hammerø’) • OPPLAND; Lesja, Fogstuen on the Dovrefjell plateau (= ‘Fogstuen’; = ‘ad Fokstuen’; = ‘in alpe Dovre ad Fokstuen’; = ‘in alpe Dovre’) • OSLO; Oslo (= ‘ad Christianiam’; = ‘Oslo’) • Oslo, Botanisk hage (= ‘in horto botanico ad Christianiam’; = ‘Botanical Garden, Oslo’) • TROMS; Balsfjord, Øverbygd (= ‘Øverbygd’) • Karlsøy, Vannøya (= ‘Vannø’; = ‘Vannøy’) • Tromsø, Ramfjorden (= ‘Ramfjord’) • Tromsø (= ‘Tromsø’) • TRØNDELAG; Levanger, Skogn SE of Levanger (= ‘ad Thyæs in par. [parochia] Skogn’; = ‘ad Thyæs in Skogn’; = ‘Thynäs’; = ‘Tynes, Værdal’) [= in the accommodation of Thy in Skogn] • Meråker, NE of mountain Kølhaugan near the Swedish border [maybe a collecting

place in Sweden: Jämtland, village Skalstugan close to the border with Norway] (= ‘ad diversorium Skalstugan prope jugum alpinum Norwegiæ’) • Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= ‘Kongsvold’; = ‘ad Kongsvold’; = ‘in alpe Dovre ad Kongsvold’; = ‘in alpe Dovre’).

• SVALBARD; Bjørnøya (= ‘Bear Island, southern part’) • Spitsbergen, Aldert Dirkses Bugt in the Wijdefjorden (= ‘Spitsbergen, Aldert Dirkses Bay District [Wijde Bay]’) • Spitsbergen, Bünsow Land, Brucebyen 0.5 km S of Kapp Napier (= ‘Spitsbergen, Klaas Billen Bay (Bruce City Region), around Bruce City’).

Ecological note. On beaches with *Salix polaris* and mosses; *Cassiope* heath; plant community ‘fjaeldmark’ (= feldmark; mountain field) with phanerogams, mosses, lichens and *Salix polaris* (all Svalbard records); on mountains; in botanical gardens. Phenology: Jun.–Aug.

Bradysia quercina Menzel & Köhler, 2014

Literature. *Faunistics:* Köhler et al. (2014): 325 [as *Bradysia quercina*]. *Taxonomy:* Köhler et al. (2014): 325; Heller et al. (2015): 12 [both as *Bradysia quercina*].

Locality. • TELEMAR; Drangedal, Djupedal 1.5 km SE of Henneseid (= ‘Drangedal, Djupedal, Henseid’).

Faunistic note. The first specimens of *Bradysia quercina* from Norway, on which the cited literature based, were identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jul.

Bradysia rufescens (Zetterstedt, 1852)

Synonyms. = *pullula* (Winnertz, 1867); = *somnians* (Winnertz, 1867); = *testacea* (Zetterstedt, 1851) [preocc.]; = *villosa* (Winnertz, 1867).

Literature. *Faunistics:* Zetterstedt (1851): 3763 [as *Sciara testacea*; preocc.]; Siebke (1853): 305; Zetterstedt (1855): 4890; Siebke (1863): 177 [all as *Sciara rufescens*]; Siebke (1877): 212 [as *Sciara testacea*] and 214 [as *Sciara rufescens*]; Lengersdorf (1926b): 3 [as *Sciara pullula* and *Sciara rufescens*]; Soot-Ryen (1942): 80 [as *Neosciara pullula* and *Neosciara rufescens*]; Tuomikoski (1960): 145 [as *Bradysia rufescens*]. *Taxonomy:* Zetterstedt (1852): 4545 [*Sciara rufescens* as new name for *Sciara testacea* [preocc.; not *Sciara testacea* Zetterstedt, 1838]; Tuomikoski (1960): 143, 145 [as *Bradysia rufescens*]; Menzel et al. (1990): 370 [as *Bradysia rufescens*, in part]; Menzel and Mohrig (2000): 129 [as *Bradysia rufescens*].

Localities. • FINNMARK; Alta, Bojobæskihytta in the Stabbursdalen between Karasjok and Alta (= ‘Bojobæske’) • Alta, Bossekop in Alta (= ‘Bosekop’) • Vardø, Vardø (= ‘Vardø’) • MØRE OG ROMSDAL; Smøla, Smøla Island (= ‘in insula Smølen’; = ‘ad Smølen’; = ‘Smøla’) • OPPLAND; Dovre, Hjerkin NW of Folldal in the Gudbrandsdalen (= ‘in alpe Dovre ad Jerkin’; = ‘Jerkin’; = ‘Hjerkin, Dovre’) • Lesja, Fogstuen on the

Dovrefjell plateau (= ‘Fogstuen’; = ‘ad Fokstuen’; = ‘Fokstuen, Dovre’; = ‘in alpe Dovre ad Fokstuen’; = ‘in alpe Dovre’) • Øyer in the Gudbrandsdalen (= ‘in parochiis Øyer ... Gudbrandsdaliæ’; = ‘Gudbrandsdalen, Öier’; = ‘Öier’; = ‘Øyer’) • Ringebu in the Gudbrandsdalen (= ‘in parochiis ... Ringebo Gudbrandsdaliæ’; = ‘Gudbrandsdalen, Ringebo’; = ‘Ringebo’; = ‘Ringebu, Gudbrandsdal’) • OSLO; Oslo, Botanisk hage (= ‘in horto botanico ad Christianiam’) • Oslo, Tøyen (= ‘ad Töien prope Christianiam’; = ‘Töien nahe Kristiania [Oslo]’) • TROMS; Karlsøy, Torsvåg at the NW coast of Vannøya 15 km N of Tromsø (= ‘Torsvaag’) • Nordreisa, woodland and farm Hallen at the E shore of Reisaelva SE of Storslett (= ‘Nordreisa, Hallen’; = ‘Nordreisa’) • Tromsø (= ‘Tromsø’) • TRONDELAG; Levanger, Hestøya NW of Alstahaug, southern tip Måkeskjær (= ‘Måkeskjær’) • Oppdal, in the Drivdalen (= ‘Drivdalen’) • Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= ‘Kongsvold’; = ‘ad Kongsvold’; = ‘Kongsvold, Dovre’; = ‘in alpe Dovre ad Kongsvold’; = ‘in alpe Dovre’).

Taxonomic note. After Lengersdorf (1930a: 52) and Tuomikoski (1960: 145) *Sciara testacea* Zetterstedt, described in Zetterstedt (1838: 826), does not belong to the Sciaridae, but to the Diadocidiidae [= *Diadocidia testacea* (Zetterstedt, 1938)]. Zetterstedt (1851: 3763) later describes another ‘*Sciara testacea*’ [preocc.; not *Sciara testacea* Zetterstedt, 1838], which without doubt belongs to the Sciaridae and was re-named by Zetterstedt himself as *Sciara rufescens* [see Zetterstedt (1852: 4545)]. Siebke (1877: 212) used the name ‘*Sciara testacea* Zetterstedt’ in connection with Zetterstedt’s original description in volume ‘X’ of ‘Diptera scandinaviae disposita et descripta’ (Zetterstedt 1851). For that reason the citation by Siebke (1877) and the Norwegian record on page 212 is preliminarily included here.

In the here presented checklist of Norwegian Sciaridae, *Bradysia vagans* (Winnertz, 1868) is missing, with its synonyms *B. angustipennis* Frey, 1948 [preocc.], *B. callicera* Frey, 1948 and *B. richardi* Gerbachevskaja, 1986. This is a very common species throughout Europe. It is dark brown, with rather broad wings and unicoloured dark-brown antennae, but is not distinguishable by the male genitalia from the reddish-yellow *Bradysia rufescens* (Zetterstedt). It is possible, that there are some misidentified specimens of *Bradysia vagans* (Winnertz) among the records of ‘*Bradysia rufescens*’, published before Tuomikoski (1960).

Ecological note. In the grass in humid places; in botanical gardens. Phenology: Jun.–Aug.

Bradysia sordida (Zetterstedt, 1838)

Literature. *Faunistics:* Siebke (1863): 176; Siebke (1877): 212 [both as *Sciara sordida*]. *Taxonomy:* Menzel and Mohrig (2000): 185 [as *Bradysia sordida*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • OPPLAND; Dovre, Hjerkin NW of Folldal in the Gudbrandsdalen (= ‘in alpe Dovre, ad Jerkin’; = ‘Jerkin’) • TRONDELAG; Oppdal, in the Drivdalen (= ‘Drivdalen’) • Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= ‘in alpe Dovre ad Kongsvold’).

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

***Bradysia strenua* (Winnertz, 1867)**

Synonyms. = *annulata absoloni* (Bezzi, 1911); = *ardua* (Grzegorzek, 1884); = *watsoni* Colless, 1962.

Literature. *Faunistics*: Broadley et al. (2018): 230 [as *Bradysia strenua*]. *Taxonomy*: Mohrig and Menzel (1993): 283; Menzel and Mohrig (2000): 142; Broadley et al. (2018): 229 [all as *Bradysia strenua*].

Locality. • NORWAY; without further locality details (= 'Norway').

Ecological note. Habitat not specified. Phenology: without data.

***Bradysia strigata* (Staeger, 1840)**

Synonym. = *robusta* (Lengersdorf, 1926) [preocc.].

Literature. *Faunistics*: Zetterstedt (1851): 3747 [as *Sciara strigata*] and 3749 [as *Sciara persicariae* (Linnaeus); misidentification]; Siebke (1863): 177; Siebke (1870): 304; Siebke (1877): 213 [all as *Sciara persicariae* sensu Zetterstedt; misidentification]; Menzel et al. (1990): 372 [as *Bradysia strigata*]. *Taxonomy*: Frey (1948): 54, 77; Tuomikoski (1960): 144, 149; Menzel and Mohrig (1993b): 77; Menzel and Mohrig (2000): 130 [all as *Bradysia strigata*].

Localities. • NORWAY; without further locality details (= 'in jugo alpino Norwegiæ'; = 'in Norwegia'; = 'Norwegen') • OPPLAND; Dovre, Hjerkin NW of Folldal in the Gudbrandsdalen (= 'in alpe Dovre, ad Jerkin'; = Dovre ad Jerkin; = 'Jerkin'; = 'Hjerkin, Dovre') • Lesja, Fogstuen on the Dovrefjell plateau (= 'Dovre ad Fogstuen'; = 'Fogstuen') • Vang, Nystuen at the Otrøvatnet NW of Vang (= 'in alpebus Filefeld ad Nystuen; = 'Nystuen') • TRØNDELAG; Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= 'Dovre ad Kongsvold'; = 'Dovre ad Kongsvoll') • Verdal, Kjølhaugan mountain SE of Sul, close to the Swedish border (= 'in summo cacumine alpis ... Kälähög (4000 ped. supra mare elevato)'; = 'in summo cacumine alpis Kälähög Værdaliae').

Taxonomic note. The taxon '*Tipula persicariae*' was originally described by Linnaeus (1767: 977). The revision of the types revealed, that this species belongs to the gall midges and was placed in the genus *Wachtliella* Rübsaamen, 1915 [= *Wachtliella persicariae* (Linnaeus, 1767); Cecidomyiidae: Cecidomyiinae, Dasineurini]. Soot-Ryen (1942: 74) interpreted '*Sciara persicariae* (Linnaeus)' in Zetterstedt (1871) and Siebke (1863, 1870, 1877) as a species of '*Dasyneura*' [recte '*Dasineura*' (Cecidomyiidae)] and ignored therefore all records of '*Sciara persicariae*' in his list of Norwegian Sciaridae. Frey (1948: 54, 77) states however, that some specimens of '*Sciara persicariae* (Linnaeus)' sensu Zetterstedt were interpreted incorrectly and might belong to *Bradysia strigata* (Staeger) [misidentification]. One specimen in the TMUC collection (belonging to Sciaridae) was found under '*sororcula* Zetterstedt' (det. Siebke), which – following the synonymy of types – would be *Bradysia confinis* (Winnertz). We are following Frey (1948) and list under *Bradysia strigata* (Staeger) all Norwegian records until a final revision of misidentified '*Sciara persicariae* (Linnaeus)' sensu Zetterstedt is undertaken.

Ecological note. On sides and peaks of mountains, up to 4,000 ft (1,219 m). Phenology: Jul.–Aug.

Bradysia tilicola (Loew, 1850)

Synonyms. = *amoena* (Winnertz, 1867); = *alma* (Winnertz, 1871); = *caldaria* (Lintner, 1895); = *coprophila* (Lintner, 1895); = *domestica* Frey, 1948; = *incomta* (Winnertz, 1867); = *marcilla* (Hutton, 1902); = *nanella* (Frey, 1936); = *selecta* (Winnertz, 1871); = *setigera* (Winnertz, 1867); = *silvatica* (Meigen, 1818); = *sexdentata* (Petty, 1918); = *triseriata* (Winnertz, 1867); = *turbida* (Winnertz, 1867); = *vana* (Winnertz, 1871); = *vividula* (Winnertz, 1867); = *volucris* (Winnertz, 1867); = *wendalinae* (van Bruggen, 1954).

Literature. *Faunistics*: ? Schøyen (1889) 14; ? Trail (1889) 203, 215 [both as *Sciara tilicola*]; Soot-Ryen (1942) 78 [as *Neosciara modesta*; misidentification] and 80 [as *Sciara silvatica*]. *Taxonomy*: Tuomikoski (1960): 130, 132; Menzel and Mohrig (2000): 147 [both as *Bradysia amoena*]; Menzel and Heller (2005): 351; Menzel et al. (2013): 286; Mohrig et al. (2013): 171; Broadley et al. (2018): 224 [all as *Bradysia tilicola*].

Localities. • FINNMARK; Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= ‘Jotkajavre’) • ? HORDALAND; Hardanger, Granvin, Eide [= ‘vicinity of Eide’; = ‘Eide i Hardanger’ = ‘Eide, Hardanger’] • OSLO; Oslo, Tøyen (= ‘Tøyen, Oslo’) • TROMS; Balsfjord, Øverbygd (= ‘Øverbygd’) • Tromsø (= ‘Tromsø’) • TRONDLAG; Levanger, Hestøya NW of Alstahaug, southern tip Måkeskjær (= ‘Måkeskjær’) • Verdal, Tromsdal SE of Lysthaugen (= ‘Tromsdal’).

Ecological note. On twig of *Tilia parvifolia* [questionable record based on galls]. Phenology: Jun.–Oct.

Bradysia trivittata (Staeger, 1840)

Synonyms. = *basalis* (Winnertz, 1867); = *decipiens* (Winnertz, 1867); = *devittata* Tuomikoski, 1959; = *lignorum* (Kieffer, 1919); = *spectrum* (Winnertz, 1867); = *versicolorea* (Lengersdorf, 1940).

Literature. *Faunistics*: Siebke (1877): 215 [as *Sciara trivittata*]. *Taxonomy*: Tuomikoski (1960): 130, 133; Menzel and Mohrig (2000): 156 [both as *Bradysia trivittata*].

Locality. • OSLO; Oslo, Botanisk hage (= ‘in horto botanico ad Christianiam’).

Ecological note. In botanical gardens. Phenology: Jun.

Bradysia vernalis (Zetterstedt, 1851)

Synonyms. = *monticola* (Winnertz, 1867); = *vallestris* (Lengersdorf, 1926).

Literature. *Faunistics*: Lengersdorf (1926b): 5 [as *Sciara vallestris*]; Soot-Ryen (1942): 80 [as *Neosciara vernalis*]; Menzel et al. (1990): 377 [as *Bradysia vernalis*].

Taxonomy: Tuomikoski (1960): 123, 124; Menzel and Mohrig (2000): 183 [both as *Bradysia vernalis*].

Localities. • NORWAY; without further locality details (= 'Norwegen') • FINNMARK; Porsanger, farm Fæstningsstua near Lævnasjarvi W of Skoganvarre (= 'Fæstningsstuen'; = 'Festningsstuen') • TROMS; Karlsøy, Vannøya (= 'Vannö'; = 'Vannø'; = 'Vannøy').

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

Bradysiopsis vittigera (Zetterstedt, 1851)

Literature. *Faunistics*: Zetterstedt (1851): 3751; Siebke (1877): 213 [both as *Sciara vittigera*]; Soot-Ryen (1942): 80 [as *Neosciara vittigera*; in part]; Menzel and Mohrig (2000): 189 [as *Bradysiopsis vittigera*]. *Taxonomy*: Tuomikoski (1960): 74 [as *Lycoriella* (*Bradysiopsis*) *vittigera*]; Menzel and Mohrig (1998): 361; Menzel and Mohrig (2000): 189 [both as *Bradysiopsis vittigera*].

Localities. • NORWAY; without further locality details (= 'in Norwegia'; = 'Norwegia [Norwegen]') • OSLO; Oslo (= 'ad Christianiam'; = 'Oslo') • Oslo, Bekkelaget (= 'Bækkelaget propre Christ.'; = 'Bekkelaget') • ØSTFOLD; Halden, Halden SE of Fredrikstad (= 'ad Fredrikshald'; = 'Fredrikshald').

Ecological note. Habitats not specified. Phenology: May, Jul.

Camptochaeta bournei (Shaw, 1941)

Synonym. = *subvivax* (Mohrig, 1985).

Literature. *Faunistics*: Hipa and Vilkkamaa (1994): 29 [as *Camptochaeta bournei*]. *Taxonomy*: Mohrig (1985): 233 [as *Corynoptera subvivax*]; Hipa and Vilkkamaa (1994): 29; Menzel and Mohrig (2000): 194; Mohrig et al. (2013): 174 [all as *Camptochaeta bournei*].

Locality. • FINNMARK; Vardø, Varangerhalvøya, Persfjorden (= 'Persfjord, Varranger').

Ecological note. Habitat not specified. Phenology: without data.

Camptochaeta camptochaeta (Tuomikoski, 1960)

Literature. *Faunistics*: Hipa and Vilkkamaa (1994): 27; Thunes et al. (2004): 72, 85 [both as *Camptochaeta camptochaeta*]. *Taxonomy*: Tuomikoski (1960): 67, 69 [as *Corynoptera camptochaeta*]; Hipa and Vilkkamaa (1994): 27; Menzel and Mohrig (2000): 195; Komarova et al. (2007): 4 [all as *Camptochaeta camptochaeta*].

Localities. • NORWAY; without further locality details (= 'Norway') • BUSKERUD; Sigdal, Heimseteråsen (= 'Sigdal') • FINNMARK; Alta, Leirbotn at the E side of Altafjorden (= 'Leirbotn') • Porsanger, Børselv NE of Lakselv at the E coast of Porsangerfjorden (= 'Børselv').

Ecological note. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*. Phenology: Jun.–Jul.

Camptochaeta consimilis (Holmgren, 1869)

Synonym. = *glacialis* (Rübsaamen, 1898)

Literature. *Faunistics*: Holmgren (1869): 6, 16, 54 [as *Sciara consimilis*]; Edwards (1922): 198; Edwards (1924): 164 [both as *Sciara praecox*; misidentification]; Lengersdorf (1930a): 55 [as *Sciara consimilis* and *Sciara ecalcarata*; misidentification]; Lengersdorf (1930c): 52 [as *Sciara ecalcarata* sensu Lengersdorf; misidentification, and *Sciara glacialis* Rübsamer; recte Rübsaamen]; Edwards (1935): 534; Bertram and Lack (1938): 51 [both as *Sciara consimilis*]; Soot-Ryen (1942): 78 [as *Neosciara glacialis*]; Tuomikoski (1967): 46 [as *Corynoptera consimilis*]; Hippa and Vilkamaa (1994): 12 [as *Camptochaeta consimilis*]; Menzel and Mohrig (2000): 197 [as *Camptochaeta consimilis*] and 198 [as *Camptochaeta consimilis* in the discussion of *Camptochaeta delicata*]; Coulson and Refseth (2004): 102; Komarova et al. (2007): 6; Coulson (2008): 161; Coulson (2013): 153; Mohrig et al. (2013): 174 [all as *Camptochaeta consimilis*]. *Taxonomy*: Hippa and Vilkamaa (1994): 12; Menzel and Mohrig (2000): 197; Mohrig et al. (2013): 174 [all as *Camptochaeta consimilis*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • FINNMARK; Sør-Varanger, Bugøyfjord (= ‘Buköyffjord’) • ? TROMS; Tromsø (= ‘Tromsø’).

• SVALBARD; Bjørnøya (= ‘Beeren Eiland’; = ‘Beeren Island’; = ‘Bear Island’) • Bjørnøya, Gravodden [grave point (graveyard)] at the N coast (= ‘Bear Island, Gravodden’) • Bjørnøya, Haussvatnet in the N part of island (= ‘Bear Island, Hausvatnet’) • Bjørnøya, Kvalrossbukta [formerly ‘Hvalrosbugten’] at the SE side of island (= ‘Bear Island, Walrus Bay, S.E.’) • Bjørnøya, Laksvatnet in the N part of island (= ‘Bear Island, Laksvatnet’) • Bjørnøya, near the Steelva at the Laksvatnet in the N part of island (= ‘bei Steelva’, am Laksvatnet (B.)) • Bjørnøya, Røyevatnet in the SW part of island (= ‘Bear Island, Røyevatnet’) • Spitsbergen, Adventdalen near Adventfjorden at the W coast (= ‘Spitzbergen, Adventdalen’; = ‘Adventdalen’) • Spitsbergen, Adventfjorden at the W coast (= ‘in Spetsbergia ad Advent Bay’; = ‘Spetsbergia ad Advent Bay’ [Spitzbergen, bei der Advent Bay]’; = ‘Spitsbergen, near Advent Bay’; = ‘Spitzbergen, Advent Bay’) • Spitsbergen, Albert I Land, Cape Flathuken on the Vasahalvøya (= ‘Spitzbergen, Flathuken’; = ‘Flathuken’) • Spitsbergen, Albert I Land, strait Sörgattet between Reuschhalvøya and Danskøya (= ‘Sörgattet’; = ‘Sörgatt’) • Spitsbergen, Billefjorden between Dickson Land and Bünsow Land (= ‘head of Billefjorden [Klaas Billen Bay]’) • Spitsbergen, Bünsow Land, Brucebyen 0.5 km S of Kapp Napier (= ‘Spitsbergen, Bruce City, head of Klaas Billen Bay’; = ‘Brucebyen [Bruce City]’) • Spitsbergen, Grønfjorden, Barentsburg (= ‘Barentsburg’; = ‘bei Barentsburg (S.)’) • Spitsbergen, Haakon VII Land, Liefdefjorden (= ‘N. Spitsbergen, Liefde Bay’) • Spitsbergen, Haakon VII Land at the NW coast, S side of Reinsdyrfløya (= ‘middle of S. side of Reindeer Peninsula’; = ‘middle of S. side of Reinsdyrfløya [Reindeer Peninsula]’) • Spitsbergen, Hiorth-

hamn [former mining settlement] at the E side of Adventfjorden (= 'Hiorthhamn (S.), bei Residensen') • Spitsbergen, Kobbefjorden at the NW coast near the Danskøya (= 'in Spetsbergia ad Kobbabay'; = 'Kobbefjorden [Kobbabay]'; = 'Kobbabay') • Spitsbergen, Longyearbyen (= 'Spitzbergen, Longyearbyen'; = 'Longyearbyen auf Spitzbergen'; = 'Longyearbyen') • Spitsbergen, Nordenskiöld Land, Helvetiadalen between the mountains Helvetiafjellet and Artowskifjellet N of Adventdalen (= 'front face of Helvetiadalen') • Spitsbergen, Nordenskiöld Land, Mälardalen at the N side of the mouth of Adventelva (= 'Mælardalen') • Spitsbergen, Ny-Ålesund (= 'Spitsbergen, Ny Ålesund') • Spitsbergen, Ny-Friesland, Dirksbukta at the S side of the Dirksodden (= 'N. Spitsbergen, Albert Dirkses Bay'; = 'Dirksbukta [Albert Dirkses Bay]') • Spitsbergen, S coast of Kongsfjorden along the N side of Brøggerhalvøya, W of Ny-Ålesund [= 'NW Spitsbergen, South cost Königsfjord, W Ny Ålesund'] • Spitsbergen, Sassen-Bünsow Land, Sassendalen (= 'Sassendalen') • Spitsbergen, Wijdefjorden (= 'N. Spitsbergen, Wijde Bay'; = 'Wijdefjorden [Wijde Bay]') • Spitsbergen, without further locality details (= 'Spetsbergen'; = 'Spitzbergen'; = 'Spitsbergen').

Taxonomic note. The female holotype of *Sciara glacialis* Rübsaamen was studied by the senior author and identified as a junior synonym to *Camptochaeta consimilis* (Holmgren). More detailed information will be presented in a separate publication about the *Sciara* species described by Rübsaamen (1898).

Ecological note. Bird cliffs; in mosses, lichens and *Salix* plants; on *Cerastium alpinum*, *Salix polaris* and *Cassiope*; on shingly raised beaches with *Dryas*; among stones; on bare rocks (all Svalbard records). Phenology: Jun.–Aug.

***Camptochaeta delicata* (Lengersdorf, 1935)**

Synonyms. = *macrodon* (Frey, 1948); = *pallidiventris* (Holmgren, 1869) [preocc.].

Literature. *Faunistics*: Holmgren (1869): 15, 53 [as *Sciara pallidiventris*]; Edwards (1922): 196; Edwards (1924): 164; Summerhayes and Elton (1923): 262; Edwards (1925): 354; Summerhayes and Elton (1928): 209, 218, 228, 236; Lengersdorf (1930a): 55 [all as *Sciara pallidiventris*]; Edwards (1935): 534 [as *Sciara* sp. indet. and *Sciara pallidiventris*]; Lengersdorf (1935): 75; Soot-Ryen (1942): 77 [both as *Neosciara delicata*]; Frey (1948): 86, 91 [as *Bradysia (Diorychophthalma) macrodon*]; Tuomikoski (1967): 47 [as *Corynoptera macrodon*] and 50 [as *Sciara delicata*]; Hippa and Vilkkamaa (1994): 36 [as *Camptochaeta delicata*]; Menzel and Mohrig (2000): 197 [as *Camptochaeta delicata* and *Sciara pallidiventris*]; Coulson and Refseth (2004): 102 [as *Camptochaeta delicata* (Frey); recte (Lengersdorf)]; Hågvar et al. (2007): 67; Komarova et al. (2007): 6 [both as *Corynoptera delicata*]; Coulson (2008): 161; Coulson (2013): 154 [both as *Camptochaeta delicata* (Frey); recte (Lengersdorf)]; Mohrig et al. (2013): 174 [as *Camptochaeta delicata*]. *Taxonomy*: Hippa and Vilkkamaa (1994): 36; Menzel and Mohrig (2000): 197; Mohrig et al. (2013): 174 [all as *Camptochaeta delicata*].

Localities. • NORWAY; without further locality details (= 'Norway') • FINNMARK; Karasjok, 20 km N of Karasjok (= '20 km N of Karasjok').

• SVALBARD; Bjørnøya (= ‘Bear Island’) • Bjørnøya, Brettingsdalen at the E side of Miseryfjellet (= ‘Bear Island, Brettingsdalen’) • Spitsbergen, Adventdalen, Fivelflyane 8 km E of Longyearbyen (= ‘Adventdalen, Fivelflyane’) • Spitsbergen, Adventfjorden at the W coast (= ‘in Spetsbergia ad Advent Bay’; = ‘Spetsbergia, Advent Bay’; = ‘Spitzbergen, bei der Advent Bay’; = ‘Adventfjorden [Advent Bay]’) • Spitsbergen, Aldert Dirkses Bugt in the Wijdefjorden (= ‘Spitsbergen, Aldert Dirkses Bay District [Wijde Bay]’) • Spitsbergen, Billefjorden between Dickson Land and Bünsow Land (= ‘head of Billefjorden [Klaas Billen Bay]’) • Spitsbergen, Bünsow Land, Brucebyen 0.5 km S of Kapp Napier (= ‘Spitsbergen, Bruce City, head of Klaas Billen Bay’; = ‘Spitsbergen, Klaas Billen Bay (Bruce City Region), around Bruce City’; = ‘Bruce City, Klaas Billen Bay (S.)’; = ‘Brucebyen [Bruce City]’) • Spitsbergen, Haakon VII Land, Bockfjorden at the W side of Woodfjorden (= ‘Bockfjorden’) • Spitsbergen, Haakon VII Land, Reinsdyrflya, at the Liefdefjorden (= ‘Spitsbergen, Reindeer Peninsula, at the Liefde Bay’; = ‘N. Spitsbergen, Liefde Bay’; = ‘Liefdefjorden [Liefde Bay]’) • Spitsbergen, Haakon VII Land, S side and centre of Reinsdyrflya (= ‘West Spitsbergen Island, south side and centre of the east half of Reindeer Peninsula’) • Spitsbergen, Isfjorden (= ‘Isfjorden’) • Spitsbergen, Isfjorden, Dickson Land, Kapp Thorsden (= ‘in Spetsbergia ad Cap Torsden in Isfjorden’; = ‘Cap Torsden’) • Spitsbergen, Kobbefjorden at the NW coast near the Danskøya (= ‘in Spetsbergia ad Kobbabay’; = ‘Kobbefjorden [Kobbabay]’) • Spitsbergen, Longyearbyen (= ‘Spitzbergen, Longyearbyen’; = ‘Longyearbyen auf Spitzbergen’; = ‘Longyearbyen’) • Spitsbergen, Nordaustlandet (= ‘Spitsbergen, North-East Land’) • Spitsbergen, Nordenskiöld Land, Arctowskifjellet mountain S of Sassenfjorden (= ‘Arctowskifjellet’) • Spitsbergen, Nordenskiöld Land, Helvetiadalen between the mountains Helvetiafjellet and Artowskifjellet N of Adventdalen (= ‘front face of Helvetiadalen’) • Spitsbergen, Ny-Friesland, Dirksbukta at the S side of the Dirksodden (= ‘Dirksbukta [Aldert Dirkses Bay]’; = ‘N. Spitsbergen, Albert Dirkses Bay’) • Spitsbergen, Sassen-Bünsow Land, Sassendalen (= ‘Sassendalen’) • Spitsbergen, Sigridholmen, Kongsfjorden • Spitsbergen, Wijdefjorden (= ‘N. Spitsbergen, Wijde Bay’; = ‘Wijdefjorden [Wijde Bay]’) • Spitsbergen, without further locality details (= ‘Spetsbergen’; = ‘Spitsbergen’; = ‘Spitzbergen’).

Ecological note. From plants on flower slopes; *Dryas* community on mountain slopes (*Dryas octopetala*, *Carex misandra*, *Cerania vermicularis*, *Cetraria nivalis*); over leaves and flowers of *Dryas* plants; *Cassiope* heath; lichen-moss heath; plant community ‘fjaeldmark’ (= feldmark; mountain field) with phanerogams, mosses, lichens and *Salix polaris*; on *Saxifraga oppositifolia*; from grass; under stones with some vegetation; on beaches with *Salix polaris* and mosses; on shingly raised beaches with *Dryas* (all Svalbard records). Phenology: Jul.–Aug.

Camptochaeta fallax Hippa & Vilkkamaa, 1994

Literature. *Faunistics*: Hippa and Vilkkamaa (1994): 19; Rudzinski and Ševčík (2012): 146 [both as *Camptochaeta fallax*]. *Taxonomy*: Hippa and Vilkkamaa (1994): 19; Menzel and Mohrig (2000): 194 [both as *Camptochaeta fallax*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • FINNMARK; Lebesby, at the Matselva (= ‘Mattselva’) • Porsanger, Børselv NE of Lakselv at the E coast of Porsangerfjorden (= ‘Børselv’).

Ecological note. Habitats not specified. Phenology: Jul.

Camptochaeta hirtula (Lengersdorf, 1934)

Synonym. = *fulvicollis* (Tuomikoski, 1960).

Literature. *Faunistics*: Hippa and Vilkkamaa (1994): 14 [as *Camptochaeta fulvicollis*]; Thunes et al. (2004): 85 [as *Camptochaeta hirtula*]. *Taxonomy*: Tuomikoski (1960): 67 [as *Corynoptera fulvicollis*]; Hippa and Vilkkamaa (1994): 14 [as *Camptochaeta fulvicollis*]; Menzel and Mohrig (2000): 198; Mohrig et al. (2013): 176 [both as *Camptochaeta hirtula*].

Localities. • BUSKERUD; Sigdal, Heimseteråsen (= ‘Sigdal’) • FINNMARK; Kvalsund, Skaidi (= ‘Skaidi’) • Sør-Varanger, Bugøyfjord (= ‘Buköyford’) • Sør-Varanger, Neiden (= ‘Neiden’) • TROMS; Nordreisa, Sappen (= ‘Sappen’).

Ecological note. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*. Phenology: Jun.–Aug.

Camptochaeta mimica Hippa & Vilkkamaa, 1994

Literature. *Faunistics*: Mohrig et al. (2013): 176 [as *Camptochaeta mimica*]. *Taxonomy*: Hippa and Vilkkamaa (1994): 39; Mohrig et al. (2013): 176 [both as *Camptochaeta mimica*].

Locality. • SVALBARD; Spitsbergen, Ny-Ålesund (= ‘Spitsbergen, Ny Ålesund’).

Ecological note. Habitat not specified. Phenology: Jul.

Camptochaeta truncata Vilkkamaa & Mohrig, 2013

Literature. *Faunistics*: Vilkkamaa et al. (2013a): 484 [as *Camptochaeta truncata*]. *Taxonomy*: Vilkkamaa et al. (2013a): 484 [as *Camptochaeta truncata*].

Locality. • SVALBARD; Spitsbergen, S coast of Kongsfjorden along the N side of Brøggerhalvøya, W of Ny-Ålesund [= ‘Spitzbergen, southern coast of Königsfjord, west of Ny Ölesund’].

Ecological note. Habitat not specified. Phenology: Jul.

Camptochaeta xystica Hippa & Vilkkamaa, 1994

Literature. *Faunistics*: Hippa and Vilkkamaa (1994): 44 [as *Camptochaeta xystica*]. *Taxonomy*: Hippa and Vilkkamaa (1994): 44; Menzel and Mohrig (2000): 194 [both as *Camptochaeta xystica*].

Locality. • FINNMARK; Tana, Storfossen at the river Karasjohka near the Finnish border (= ‘Tana, Nedre Storfoss’).

Ecological note. Habitat not specified. Phenology: Jul.

Chaetosciara estlandica (Lengersdorf, 1929)

Synonym. = *lengersdorfi* (Frey, 1948).

Literature. *Faunistics*: Staverløkk and Sæthre (2007): 16, 36; Sæthre et al. (2010): 28, 31 [both as *Chaetosciara estlandica*]. *Taxonomy*: Tuomikoski (1960): 41; Menzel and Mohrig (2000): 202 [both as *Chaetosciara estlandica*].

Locality. • NORWAY; without further locality details (= ‘Norway, imported from the Netherlands’).

Ecological note. On plants of *Taxus media*. Phenology: Apr.

Claustropyga brevichaeta (Mohrig & Antonova, 1978)

Literature. *Faunistics*: Hippa et al. (2003): 488; Villkamaa et al. (2013): 22 [both as *Claustropyga brevichaeta*]. *Taxonomy*: Menzel and Mohrig (2000): 222 [as *Corynoptera brevichaeta*]; Hippa et al. (2003): 488 [as *Claustropyga brevichaeta*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • TRØNDELAG; Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= ‘Oppdal, Kungsvoll’).

Ecological note. Habitats not specified. Phenology: Jun.–Jul.

Claustropyga refrigerata (Lengersdorf, 1930)

Synonym. = *scandinavica* (Rudzinski, 1992).

Literature. *Faunistics*: Lengersdorf (1930b): 3; Soot-Ryen (1942): 80 [both as *Neosciara refrigerata*]; Tuomikoski (1960): 47; Menzel and Mohrig (2000): 250 [both as *Corynoptera refrigerata*]; Hippa et al. (2003): 502 [as *Claustropyga refrigerata*]. *Taxonomy*: Tuomikoski (1960): 43, 46; Menzel and Mohrig (2000): 250 [both as *Corynoptera refrigerata*]; Hippa et al. (2003): 501 [as *Claustropyga refrigerata*].

Localities. • NORWAY; without further locality details (= ‘Nordnorwegen’) • FINNMARK; ? Tana, Hangalacærro mountain near Austertana (= ‘Finnmark, Caerro’) • TROMS; Balsfjord, Fjellfrøsvatnet [Fjellfrøskvannet] N of Øverbygd (= ‘Fjellfrøskvann’) • Balsfjord, Øverbygd (= ‘Øverbygd’) • Kvænangen (= ‘Kvaenangen’) • Tromsø (= ‘Tromsø’) • Tromsø, lake Prestvannet on the Tromsøya (= ‘Prestvann, Tromsø’) • Tromsø, Ramfjorden (= ‘Ramfjord’) [misinterpretation in Menzel and Mohrig (2000), not ‘Ramsøyfjord zwischen den Inseln Smøla und Hitra’].

Ecological note. Habitats not specified. Phenology: Jun.–Aug.

***Corynoptera boletiphaga* (Lengersdorf, 1940)**

Synonyms. = *filiceti* (Frey, 1948); = *geogenia* Tuomikoski, 1960.

Literature. *Faunistics:* Thunes et al. (2004): 72, 85 [as *Corynoptera boletiphaga*]; Hippa et al. (2010): 177 [as *Corynoptera (Corynoptera) boletiphaga*]. *Taxonomy:* Tuomikoski (1960): 49, 61; Mohrig (1978): 426; Menzel and Mohrig (2000): 250 [all as *Corynoptera boletiphaga*]; Hippa et al. (2010): 176 [as *Corynoptera (Corynoptera) boletiphaga*].

Localities. • BUSKERUD; Sigdal, Heimseteråsen (= 'Buskerud, Sigdal'; = 'Sigdal')
• FINNMARK; Sør-Varanger, near Neiden (= 'nr. Neiden') • Vardø, Vardø (= 'Vardsø').

Ecological note. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*; birch forest with shrubs. Phenology: Jun.–Aug.

***Corynoptera brachypennis* (Lengersdorf, 1926)**

Literature. *Faunistics:* Lengersdorf (1926b): 4; Lengersdorf (1928–30): 22; Soot-Ryen (1942): 75 [all as *Bradysia brachypennis*]; Mohrig and Mamaev (1970): 353; Mohrig et al. (1978): 398; Menzel and Mohrig (2000): 260 [all as *Corynoptera brachypennis*]. *Taxonomy:* Menzel and Mohrig (2000): 260 [as *Corynoptera brachypennis*].

Localities. • NORWAY; without further locality details (= 'Norwegia'; = 'Norwegen') • TROMS; Tromsø (= 'Tromsö'; = 'Tromsø'; = 'Umgebung Tromsø').

Ecological note. Habitats not specified. Phenology: May.

***Corynoptera defecta* (Frey, 1948)**

Literature. *Faunistics:* Hippa et al. (2010): 174 [as *Corynoptera (Corynoptera) defecta*]. *Taxonomy:* Tuomikoski (1960): 49, 60 [as *Plastosciara (Plastosciara) defecta* under *Corynoptera bistrispina*]; Menzel and Mohrig (2000): 250 [in part as *Corynoptera bistrispina*; misidentification]; Hippa et al. (2010): 174 [as *Corynoptera (Corynoptera) defecta*].

Locality. • FINNMARK; Kvalsund, Skaidi (= 'Skvalsund, Skaidi').

Ecological note. Habitat not specified. Phenology: Jul.

***Corynoptera fatigans* (Johannsen, 1912)**

Synonyms. = *bicornis* (Lengersdorf, 1943); = *perpusilla* Winnertz, 1867 [preocc.].

Literature. *Faunistics:* Soot-Ryen (1942): 79 [as *Neosciara perpusilla*]. *Taxonomy:* Menzel and Mohrig (2000): 223; Hippa et al. (2010): 21 [both as *Corynoptera perpusilla*]; Mohrig et al. (2013): 183 [as *Corynoptera fatigans*].

Localities. • TROMS; Balsfjord, Fjellfrøsvatnet [Fjellfroskvannet] N of Øverbygd (= ‘Fjellfrøsvann’) • Tromsø, Ramfjorden (= ‘Ramfjord’) • TRONDELAG; Verdal, Tromsdal SE of Lysthaugen (= ‘Tromsdal’).

Ecological note. Habitats not specified. Phenology: Jun.–Jul.

Corynoptera flavicauda (Zetterstedt, 1855)

Literature. *Faunistics:* Lengersdorf (1926b): 3 [as *Sciara flavicauda*]; Soot-Ryen (1942): 77 [as *Neosciara flavicauda*]; Menzel et al. (1990): 382 [as *Corynoptera flavicauda*]. *Taxonomy:* Tuomikoski (1960): 48, 52; Menzel and Mohrig (2000): 255 [both as *Corynoptera flavicauda*]; Hippa et al. (2010): 119 [as *Corynoptera (Corynoptera) flavicauda*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • OSLO; Oslo, Tøyen (= ‘Tøien’; = ‘Tøyen’) • TROMS; Tromsø (= ‘Tromsø’) • Tromsø, Ramfjorden (= ‘Ramfjord’).

Ecological note. Habitats not specified. Phenology: Jun.–Jul.

Corynoptera forcipata (Winnertz, 1867)

Literature. *Faunistics:* Köhler et al. (2014): 328 [as *Corynoptera forcipata*]. *Taxonomy:* Tuomikoski (1960): 64, 65; Menzel and Mohrig (2000): 247 [both as *Corynoptera forcipata*].

Localities. • HORDALAND; Kvam, point Skeianeset at the N shore of the Hardangerfjorden SW of Indre Ålvik (= ‘Kvam, Skeianeset’) • TELEMARK; Drangedal, 300 m SE of Henneseid (= ‘Drangedal, Henseid’) • Drangedal, woodland Steinknapp SW of Drangedal (= ‘Drangedal, Steinknapp’).

Faunistic note. The first specimens of *Corynoptera forcipata* from Norway were identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jun.–Jul.

Corynoptera hypopygialis (Lengersdorf, 1926)

Synonyms. = *pachycerca* (Frey, 1948); = *piniphila* (Lengersdorf, 1940).

Literature. *Faunistics:* Tuomikoski (1960): 52 [as *Corynoptera piniphila*]; Köhler et al. (2014): 328 [as *Corynoptera hypopygialis*]. *Taxonomy:* Tuomikoski (1960): 48, 52 [as *Corynoptera piniphila*]; Menzel and Mohrig (1993b): 72; Menzel and Mohrig (2000): 256 [both as *Corynoptera hypopygialis*]; Hippa et al. (2010): 121 [as *Corynoptera (Corynoptera) hypopygialis*].

Localities. • FINNMARK; Vardø, Varangerhalvøya, Persfjorden (= ‘Vardö, Persfjord’) • TELEMARK; Drangedal, 300 m SE of Henneseid (= ‘Drangedal, Henseid’) • Drangedal, woodland Steinknapp SW of Drangedal (= ‘Drangedal, Steinknapp’).

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jun.–Aug.

***Corynoptera irmgardis* (Lengersdorf, 1930)**

Literature. *Faunistics:* Köhler et al. (2014): 329 [as *Corynoptera irmgardis*]. *Taxonomy:* Tuomikoski (1960): 49, 57; Menzel and Mohrig (2000): 225 [both as *Corynoptera irmgardis*]; Hippa et al. (2010): 100 [as *Corynoptera (Corynoptera) irmgardis*].

Locality. • TELEMAR; Porsgrunn, Mule Varde SE of Porsgrunn at the Eidangerfjorden (= 'Porsgrunn, Mule Varde').

Faunistic note. The first specimen of *Corynoptera irmgardis* from Norway was identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jul.

***Corynoptera membranigera* (Kieffer, 1903)**

Synonym. = *trispina* Tuomikoski, 1960.

Literature. *Faunistics:* Köhler et al. (2014): 329 [as *Corynoptera membranigera*]. *Taxonomy:* Tuomikoski (1960): 49, 63 [as *Corynoptera trispina*]; Menzel and Mohrig (2000): 230 [as *Corynoptera membranigera*]; Hippa et al. (2010): 153 [as *Corynoptera (Corynoptera) membranigera*].

Localities. • HORDALAND; Kvam, point Skeianeset at the N shore of the Hardangerfjorden SW of Indre Ålvik (= 'Kvam, Skeianeset') • TELEMAR; Drangedal, Djupedal 1.5 km SE of Henneseid (= 'Drangedal, Djupedal, Henseid') • Drangedal, woodland Steinknapp SW of Drangedal (= 'Drangedal, Steinknapp') • VESTFOLD; Larvik, lake Skjærsvø near Kvelde NW of Larvik (= 'Larvik, Skjærsvø').

Faunistic note. The first specimens of *Corynoptera membranigera* from Norway were identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jun.–Jul.

***Corynoptera minima* (Meigen, 1818)**

Synonyms. = *brachyptera* (Lengersdorf, 1941); = *brevipennis* (Walker, 1848).

Literature. *Faunistics:* Zetterstedt (1851): 3749; Siebke (1877): 213 [both as *Sciara minima*]; Soot-Ryen (1942): 78 [as *Neosciara minima*]; Thunes et al. (2004): 85 [as *Corynoptera minima*]; Hippa et al. (2010): 189 [as *Corynoptera (Corynoptera) minima*]. *Taxonomy:* Tuomikoski (1960): 61, 62 [as *Corynoptera brachyptera* in the discussion of *Corynoptera geogenia*]; Mohrig (1978): 427 [as *Corynoptera brachyptera*]; Menzel and Mohrig (2000): 253 [as *Corynoptera minima*]; Hippa et al. (2010): 188 [as *Corynoptera (Corynoptera) minima*].

Localities. • NORWAY; without further locality details (= 'Norwegiæ') • BUSKERUD; Sigdal, Heimseteråsen (= 'Sigdal') • OSLO; Oslo, Botanisk hage (= 'in horto botanico ad Christianiam'; = 'Botanical Garden, Oslo').

Ecological note. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*; in botanical gardens. Phenology: Apr., Jun.–Jul.

***Corynoptera montana* (Winnertz, 1869)**

Synonym. = *fusca* (Winnertz, 1871).

Literature. *Faunistics*: Hippa et al. (2010): 57 [as *Corynoptera* (*Corynoptera*) *montana*]. *Taxonomy*: Tuomikoski (1960): 48, 50; Menzel and Mohrig (2000): 256 [both as *Corynoptera montana*]; Hippa et al. (2010): 57 [as *Corynoptera* (*Corynoptera*) *montana*].

Locality. • FINNMARK; Kvalsund, Kvalsund (= ‘Kvalsund’).

Ecological note. Habitat not specified. Phenology: Jul.

***Corynoptera penna* (Pettey, 1918)**

Synonym. = *alneti* Hippa, Vilkamaa & Heller, 2010.

Literature. *Faunistics*: Hippa et al. (2010): 25 [as *Corynoptera* (*Corynoptera*) *alneti*]; Mohrig et al. (2013): 189 [as *Corynoptera* (*Corynoptera*) *penna*]. *Taxonomy*: Hippa et al. (2010): 25 [as *Corynoptera* (*Corynoptera*) *alneti*]; Mohrig et al. (2013): 189 [as *Corynoptera* (*Corynoptera*) *penna*].

Locality. • FINNMARK; Sør-Varanger, Kirkenes (= ‘Kirkenes’).

Ecological note. Forest with birch, willow and bushes. Phenology: Jul.

***Corynoptera roederi* (Lengersdorf, 1931)**

Literature. *Faunistics*: Lengersdorf (1931): 65 [as *Neosciara röderi*; recte *roederi*]; Bertram and Lack (1938): 51 [as *Sciara röderi*; recte *roederi*]; Menzel and Mohrig (1993a): 54 [as *Lycoriella* (*Lycoriella*) *roederi*]; Menzel and Mohrig (2000): 257 [as *Corynoptera roederi*]; Coulson and Refseth (2004): 103; Coulson (2008): 161; Coulson (2013): 154 [all as *Corynoptera röderi*; recte *roederi*]. *Taxonomy*: Menzel and Mohrig (1993a): 54 [as *Lycoriella* (*Lycoriella*) *roederi*]; Menzel and Mohrig (2000): 257 [as *Corynoptera roederi*].

Locality. • SVALBARD; Bjørnøya (= ‘Bäreninsel’; = ‘Bear Island’).

Ecological note. Habitats not specified. Phenology: without data.

***Corynoptera saetistyla* Mohrig & Krivosheina, 1985**

Synonym. = *densiseta* Mohrig & Menzel, 1990.

Literature. *Faunistics*: Hippa et al. (2010): 114 [as *Corynoptera* (*Corynoptera*) *saetistyla*]. *Taxonomy*: Menzel and Mohrig (2000): 226 [as *Corynoptera saetistyla*]; Hippa et al. (2010): 113; Mohrig et al. (2013): 192 [both as *Corynoptera* (*Corynoptera*) *saetistyla*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • FINNMARK; Vardø, Vardø (= ‘Vardsø’).

Ecological note. Birch forest with shrubs. Phenology: Jul.

***Corynoptera sphenoptera* Tuomikoski, 1960**

Literature. *Faunistics*: Hippa et al. (2010): 35 [as *Corynoptera (Corynoptera) sphenoptera*]. *Taxonomy*: Tuomikoski (1960): 49, 58; Menzel and Mohrig (2000): 227 [both as *Corynoptera sphenoptera*]; Hippa et al. (2010): 34; Mohrig et al. (2013): 192 [both as *Corynoptera (Corynoptera) sphenoptera*].

Locality. • FINNMARK; Sør-Varanger, Kirkenes (= 'Kirkenes').

Ecological note. Forest with birch, willow and bushes. Phenology: Jul.

***Corynoptera spoeckeri* (Lengersdorf, 1930)**

Synonym. = *venerata* Rudzinski, 1994.

Literature. *Faunistics*: Menzel et al. (1990): 389 [as *Corynoptera spoeckeri*]. *Taxonomy*: Menzel and Mohrig (2000): 249 [as *Corynoptera spoeckeri*].

Locality. • NORWAY; without further locality details (= 'Norwegen').

Ecological note. Habitat not specified. Phenology: without data.

***Corynoptera subtilis* (Lengersdorf, 1929)**

Synonyms. = *longicornis* (Bukowski & Lengersdorf, 1936); = *signhildae* (Frey, 1948).

Literature. *Faunistics*: Hippa et al. (2010): 93 [as *Corynoptera (Corynoptera) subtilis*]. *Taxonomy*: Tuomikoski (1960): 49, 57 [as *Corynoptera longicornis*]; Menzel and Mohrig (2000): 228 [as *Corynoptera subtilis*]; Hippa et al. (2010): 92 [as *Corynoptera (Corynoptera) subtilis*].

Localities. • FINNMARK; Båtsfjord, Varangerhalvøya, Ytre Syltefjord 35 km SE of Båtsfjord (= 'Varanger peninsula, Ytre, Syltefjord, 35 km SE Batsfjord') • Sør-Varanger, Svanvik 40 km S of Kirkenes (= 'Svanvik') • Vardø, Vardø (= 'Vardsø') • NORDLAND; Nessna, Nessna in Helgeland (= 'Nessna').

Ecological note. Mixed forest (pine, birch); birch forest with shrubs; dwarf-shrub tundra. Phenology: Jul.

***Corynoptera subvariegata* Rudzinski, 1992**

Literature. *Faunistics*: Vilkkamaa et al. (2013b): 329 [as *Corynoptera subvariegata*]. *Taxonomy*: Menzel and Mohrig (2000): 221; Vilkkamaa et al. (2013b): 329 [both as *Corynoptera subvariegata*].

Locality. • TROMS; Nordreisa, Sappen (= 'Sappen').

Ecological note. Habitat not specified. Phenology: Jul.

***Corynoptera trepida* (Winnertz, 1867)**

Synonyms. = *clinochaeta* Tuomikoski, 1960; = *subflava* (Lengersdorf, 1941).

Literature. *Faunistics*: Thunes et al. (2004): 72, 85 [as *Corynoptera trepida*]; Hippa et al. (2010): 96 [as *Corynoptera (Corynoptera) trepida*]. *Taxonomy*: Tuomikoski (1960): 49, 52 [as *Corynoptera clinochaeta*]; Menzel and Mohrig (2000): 230 [as *Corynoptera trepida*]; Hippa et al. (2010): 95; Mohrig et al. (2013): 194 [both as *Corynoptera (Corynoptera) trepida*].

Localities. • BUSKERUD; Sigdal, Heimseteråsen (= ‘Sigdal’) • HEDMARK; Trysil, Fulufjellet mountain near Ljørdalen (= Ljørdal, way to Fulufjället’) • ROGALAND; Finnøy, Finnøy Island, Lasteinvatnet SE of Lastein at the SE coast (= ‘RY, Finnøy, Ledsteinvatnet’).

Ecological note. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*. Phenology: Apr.–Aug.

***Corynoptera waltraudis* Mohrig & Mamaev, 1987**

Literature. *Faunistics*: Hippa et al. (2010): 91 [as *Corynoptera (Corynoptera) waltraudis*]. *Taxonomy*: Menzel and Mohrig (2000): 221 [as *Corynoptera waltraudis*]; Hippa et al. (2010): 91 [as *Corynoptera (Corynoptera) waltraudis*].

Localities. • FINNMARK; Berlevåg, Varangerhalvøya, Kjølnes fyr (= ‘Varanger Peninsula, Kjølnes fyr’) • Sør-Varanger, Svanvik 40 km S of Kirkenes (= ‘Svanvik’) • TRONDLAG; Oppdal, stream Sprenbekken NE of Kongsvold Fjeldstue in the Drivdalen (= ‘Oppdal, Kongsvoll, Sprenbekken’).

Ecological note. Mixed forests (pine, birch); meadows at coasts. Phenology: Jul.–Aug.

***Cratyna (Cratyna) ambigua* (Lengersdorf, 1934)**

Synonyms. = *latiforceps* (Bukowski & Lengersdorf, 1936); = *lignea* (Lengersdorf, 1941); = *prima* (Frey, 1942).

Literature. *Faunistics*: Köhler et al. (2014): 329 [as *Cratyna (Cratyna) ambigua*]. *Taxonomy*: Tuomikoski (1960): 32 [as *Plastosciara (Decembrina) latiforceps*]; Menzel and Mohrig (1998): 363; Menzel and Mohrig (2000): 272 [both as *Cratyna (Cratyna) ambigua*].

Locality. • HORDALAND; Kvam, ‘Berge landskapsvernområde’ [protected landscape area with the Bergsvatnet] NW of Tørvikbygd (= ‘Kvam, Berge’).

Faunistic note. The first specimen of *Cratyna ambigua* from Norway was identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jun.

***Cratyna (Cratyna) atra* Winnertz, 1867**

Synonyms. = *corticalis* (Lengersdorf, 1930); = *ericia* (Pettesy, 1918); = *lugens* (Johannsen, 1912); = *macclurei* (Shaw, 1941); = *pictiventris* (Kieffer, 1898).

Literature. *Faunistics:* Lengersdorf (1926a): 253 [as *Sciara pictiventris*]; Lengersdorf (1926b): 4; Soot-Ryen (1942): 75 [both as *Plastosciara pictiventris*]. *Taxonomy:* Tuomikoski (1960): 33, 34 [as *Plastosciara (Plastosciara) pictiventris*]; Menzel and Mohrig (1998): 363; Menzel and Mohrig (2000): 271; Mohrig et al. (2013): 196 [all as *Cratyna (Cratyna) atra*].

Localities. • NORWAY; without further locality details (= 'N. = Norwegen') • FINNMARK; Alta, Bossekop in Alta (= 'Bosekop').

Ecological note. Habitats not specified. Phenology: May–Jul.

***Cratyna (Cratyna) hirticornis* (Meigen, 1818)**

Literature. *Faunistics:* Zetterstedt (1851): 3753; Siebke (1877): 214 [both as *Sciara hirticornis*]; Soot-Ryen (1942): 80 [in part as *Scatopsiara vitripennis* (only cited *hirticornis* specimen)]. *Taxonomy:* Menzel and Mohrig (1998): 363; Menzel and Mohrig (2000): 274 [both as *Cratyna (Cratyna) hirticornis*].

Locality. • TRØNDELAG; Verdal, former poststation 'Suulstuen' SE of Vuku at the Jamtlandsvegen [road no. 72] (= 'ad Suul'; = 'ad Suul in Værdalen'; = 'Sul, Værdal').

Ecological note. Habitat not specified. Phenology: Jul.

***Cratyna (Cratyna) longipennis* (Lengersdorf, 1931)**

Literature. *Faunistics:* Lengersdorf (1931): 66 [as *Plastosciara longipennis*]; Menzel and Mohrig (1993a): 56 [as *Plastosciara (Plastosciara) longipennis*]; Menzel and Mohrig (2000): 275 [as *Cratyna (Cratyna) longipennis*]. *Taxonomy:* Menzel and Mohrig (1993a): 56 [as *Plastosciara (Plastosciara) longipennis*]; Menzel and Mohrig (2000): 275 [as *Cratyna (Cratyna) longipennis*].

Locality. • SVALBARD; Bjørnøya (= 'Bäreninsel').

Ecological note. Habitat not specified. Phenology: without data.

***Cratyna (Cratyna) uliginosa* (Lengersdorf, 1929)**

Literature. *Faunistics:* Thunes et al. (2004): 72, 85 [as *Cratyna uliginosa*]; Heller et al. (2016): 100 [as *Cratyna (Cratyna) uliginosa*]. *Taxonomy:* Tuomikoski (1960): 32, 33 [as *Plastosciara (Decembrina) uliginosa*]; Menzel and Mohrig (1998): 363; Menzel and Mohrig (2000): 277; Heller et al. (2016): 98 [all as *Cratyna (Cratyna) uliginosa*].

Localities. • AKERSHUS; Asker, Sem NW of Asker, Tangen Peninsula at the E side of Semsvannet (= ‘Asker, Sem, Tangen’) • AUST-AGDER; Birkenes, Birkeland, Nordåsen. Lillesand, Lillesand, Furulia • BUSKERUD; Sigdal, Heimseteråsen (= ‘Sigdal’) • FINNMARK; Sør-Varanger, Neiden • HEDMARK; Elverum, Starmoen naturreservat SE of Elverum (= ‘Starmoen NR’) • Stor-Elvdal, N of Krokmyra, at a cabin E of Fåfengtjørna (= ‘N Krokmyra – Ved hytta, E Fåfengtjørna’) • HORDALAND; Bergen, Bergen, Fløyen mountain, mountain top Fløyfjellet (= Bergen, Fløyfjellet) • Stord, NE coast of Stord Island, SW part of Hageberg SE of Vistvik (= ‘Hageberg SV – SE of Vistvik, NE coast of Stord’) • MØRE OG ROMSDAL; Ørskog, Nysætra, near the Nysætervatnet NE of Sjøholt (= ‘Nysætra – NE of Sjøholt, near Nysætervatnet’) • SOGN OG FJORDANE; Jølster, Hamarsvika, Jølstravatnet NE of Vassenden (= ‘Hamarsvika – NE of Vassenden, Jølstravatnet’) • VESTFOLD; Larvik, Farmenrøysa mountain NE of Kvelde (= ‘Larvik, Farmenrøysa Ø’ [correctly: ‘Farmenrøysa, east-facing slope’]) • Larvik, hill Småås N of Larvik (= ‘Larvik, Småås’) • Larvik, Nevlungstranda W of Nevlunghavn, beach Mølen (= ‘Mølen’) • Re, Revetal, Våle.

Ecological note. On sandy beaches and hillsides; east- and south-facing mountain slopes with damp meadows (downy birch, dwarf birch, scots pines, blueberry, rushes, sedges, mosses) and deadwood-rich mixed forests (grey alder, downy birch, rowan, Norway spruce); swampy old spruce forests; in the damp ground vegetation (blueberry, ferns, grasses, mosses) with small springs; *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*. Phenology: May–Sep.

Cratyna (Cratyna) uliginosoides Heller, Köhler & Menzel, 2016

Literature. *Faunistics:* Heller et al. (2016): 102, 103, 104 [as *Cratyna (Cratyna) uliginosoides*]. *Taxonomy:* Heller et al. (2016): 102 [as *Cratyna (Cratyna) uliginosoides*].

Localities. • AKERSHUS; Ullensaker, Sessvollmoen N of Moen (= ‘Sessvollmoen – N Moen’) • AUST-AGDER; Evje og Hornnes, Klepsland • BUSKERUD; Sigdal, Heimseteråsen (= ‘Sigdal, Furukrone Nr. 1’ [correctly translated from Norwegian: ‘Sigdal, crown of pine tree no. 1’]) • HORDALAND; Stord, NE coast of Stord Island, SW part of Hageberg SE of Vistvik (= ‘Hageberg SV – SE of Vistvik, NE coast of Stord’) • Sveio, Langemyr SE of Sveio (= ‘Langemyr – SE of Sveio’) • MØRE OG ROMSDAL; Molde, N part of Julaksla mountain W of Mek (= ‘Julaksla N – W of Mek’) • Vestnes, Småøyane SE of Kristisetra, SE of Vestnes (= ‘Vestnes, Småøyane, SE of Kristisetra [SE of Vestnes]’) • Volda, at the Øyraelva. SOGN OG FJORDANE; Høyanger, NE of Austreim at the N side of Sognefjorden, N of hill Furehaugen (= ‘N Furehaugen’) • TELEMARK; Bamble, Langøya in the Langesundsfjorden, bay at the E side of island (= ‘Langøya – Bukt på østsiden (Langøya I)’ [correctly translated from Norwegian: ‘Langøya, bay at the eastern side (Langøya I)’]) • Tinn, Hovin NW of Kongsberg, Spjeldset SW of Øvre Fjellstul (= ‘Hovin, Spjeldset’) • TRØNDELAG; Trondheim, Trondheim, Sommerlystvegen (= ‘Sør-Trøndelag, Trondheim, M. Sommerlystvegen – in the garden of nr. 22’) • VESTFOLD; Horten, Borre, Adaltnjern naturreservat NW of Bakkenteigen (= ‘Adaltnjern, Bakkenteigen’) • Larvik, hill Småås N of Larvik (= ‘Larvik, Småås’).

Faunistic note. The first specimens of *Cratyna uliginosoides* from Norway were collected and/or identified in our NTI project 2014–2016. Erroneously Heller et al. (2016) listed the specimen with the no. BAB415020 twice: one time correctly as *Cratyna uliginosa* and one time falsely as paratype of *Cratyna uliginosoides*. Therefore the record of *Cr. uliginosoides* in Hedmark is not reliable.

Ecological note. On woody hillsides and in mountain birch forests; pine forests (e.g. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*); forests with oak, birch, juniper, blueberry and wavy hair-grass; mixed forests (scots pine, Norway spruce, downy birch, common hazel, juniper) with ferns and mosses; mixed forests on steep mountain slopes with crevices and cavities (scots pine, Norway spruce, downy birch, grey alder, rowan, juniper, heather, blueberry, cotton grass, marsh orchids, rushes, mosses); in bogs, otherwise muddy terrain and deadwood-rich carrs along streams and near rivers (downy birch, grey alder, rowan, juniper, rushes, sedges, mosses, lichens); deadwood-rich deciduous forests (common hazel, grey alder, sycamore maple, rowan, birch, ferns, mosses); in gardens with lawn and some larger trees, also on waste. Phenology: May–Sep.

Cratyna (Spathobdella) colei (Freeman, 1990)

Literature. *Faunistics*: Tuomikoski (1960): 27; Menzel et al. (1990): 321 [both as *Plastosciara (Spathobdella) brachialis* sensu Tuomikoski; misidentification]. *Taxonomy*: Tuomikoski (1960): 35, 37 [as *Plastosciara (Spathobdella) brachialis*; misidentification]; Rudzinski (1994): 17 [as *Plastosciara brachialis* sensu Tuomikoski; misidentification]; Freeman (1990): 52 [as *Plastosciara (Spathobdella) colei*]; Menzel and Mohrig (2000): 281 [as *Cratyna (Spathobdella) colei*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • FINNMARK; Tana, Tanafjorden, fjord Vestertana (= ‘Finmark, Vestertana’) • Tana, upper part of the Langfjordelva (= ‘Finmark, am oberen Lauf des Flusses Langfjordelva’) • Vardø, Varangerhalvøya, Persfjorden (= ‘Finmark, Varangerhalbinsel, Persfjord’).

Ecological note. Habitats not specified. Phenology: Aug.

Cratyna (Spathobdella) falcata (Tuomikoski, 1960)

Literature. *Faunistics*: Tuomikoski (1960): 39; Menzel et al. (1990): 321 [both as *Plastosciara (Spathobdella) falcata*]. *Taxonomy*: Tuomikoski (1960): 35, 39; Mohrig (1978): 430 [both as *Plastosciara (Spathobdella) falcata*]; Menzel and Mohrig (2000): 270 [as *Cratyna (Spathobdella) falcata*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • FINNMARK; Tana, Tanafjorden, fjord Vestertana (= ‘Finmark, Vestertana’) • Vardø, Varangerhalvøya, Persfjorden (= ‘Vardø, Persfjord’).

Ecological note. Habitats not specified. Phenology: Aug.

***Cratyna (Spathobdella) longispina* (Pettesy, 1918)**

Synonym. = *tuberculata* (Tuomikoski, 1960).

Literature. *Faunistics:* Tuomikoski (1960): 39 [as *Plastosciara (Spathobdella) tuberculata*]; Mohrig et al. (2013): 199 [as *Cratyna (Spathobdella) tuberculata* under *Cratyna (Spathobdella) longispina*]; Shin et al. (2014): 352 [as *Cratyna (Spathobdella) longispina*]. *Taxonomy:* Tuomikoski (1960): 37, 39 [as *Plastosciara (Spathobdella) tuberculata*]; Menzel and Mohrig (2000): 270 [as *Cratyna (Spathobdella) tuberculata*]; Mohrig et al. (2013): 199 [as *Cratyna (Spathobdella) longispina*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • FINNMARK; Tana, upper part of the Langfjordelva between Porsangerfjorden and fjord Vestertana (= ‘Finmark, am oberen Lauf des Flusses Langfjordelva zwischen Porsangerfjord und Vestertana’; = ‘Finmark, river Langfjordelva between Porsangerfjord and Vestertana’).

Ecological note. Habitats not specified. Phenology: Aug.

***Cratyna (Spathobdella) nobilis* (Winnertz, 1867)**

Synonyms. = *brachialis* (Winnertz, 1867); = *cunctans* (Winnertz, 1871).

Literature. *Faunistics:* Lengersdorf (1926b): 3 [as *Sciara nobilis*]; Soot-Ryen (1942): 79 [as *Neosciara nobilis*]; Tuomikoski (1960): 39 [as *Plastosciara (Spathobdella) nobilis*]. *Taxonomy:* Tuomikoski (1960): 35, 38 [as *Plastosciara (Spathobdella) nobilis*]; Menzel and Mohrig (2000): 280 [as *Cratyna (Spathobdella) nobilis*].

Localities. • FINNMARK; Tana, Tanafjorden, fjord Vestertana (= ‘Finmark, Vestertana’) • VARDØ, Varangerhalvøya, Persfjorden (= ‘Finmark, Vardø, Persfjord’; = ‘Vardö, Persfjord’) • NORDLAND; Sørfold, Røsvik at the S shore of Sørfolda (= ‘Røsvik’) • ROGALAND; Sandnes, Sandnes S of Stavanger (= ‘Sandnes’) • TROMS; Balsfjord, Labukt (= ‘Labukt’) • Balsfjord, Fjellfrøsvatnet [Fjellfroskvannet] N of Øverbygd (= ‘Fjellfrøskvann’) • TROMSØ (= ‘Tromsø’) • Tromsø, lake Prestvannet on the Tromsøya (= ‘Prestvann, Tromsø’) • TRØNDELAG; Levanger, Hestøya NW of Alstahaug, southern tip Måkeskjær (= ‘Måkeskjær’).

Ecological note. Habitats not specified. Phenology: Jul.–Sep.

***Cratyna (Spathobdella) perplexa* (Winnertz, 1867)**

Synonyms. = *brevicornis* (Tuomikoski, 1957); = *dispar* (Beling, 1885) [preocc.]; = *gregaria* (Beling, 1872); = *pilosa* (Rübsaamen, 1894) [preocc.]; = *socialis* (Winnertz, 1871).

Literature. *Faunistics:* Soot-Ryen (1942): 80 [as *Neosciara socialis*]; Menzel et al. (1990): 323 [as *Plastosciara (Spathobdella) socialis*]. *Taxonomy:* Tuomikoski (1957): 14 [as *Plastosciara (Spathobdella) brevicornis*]; Tuomikoski (1960): 35, 37 [as *Plastosciara (Spathobdella) socialis*]; Menzel and Mohrig (2000): 284 [as *Cratyna (Spathobdella) perplexa*].

Localities. • NORWAY; without further locality details (= 'Norwegen') • TROMS; Balsfjord, Fjellfrøsvatnet [Fjellfrøskvannet] N of Øverbygd (= 'Fjellfrøskvann').

Ecological note. Habitats not specified. Phenology: Jul.

Ctenosciara hyalipennis (Meigen, 1804)

Synonyms. = *annulata* (Meigen, 1818); = *autumnalis* (Winnertz, 1867); = *electa* (Grzegorzek, 1884); = *eximia* (Winnertz, 1867); = *insularis* (Frey, 1936); = *rufa* (Grzegorzek, 1884); = *sordidella* (Zetterstedt, 1851).

Literature. *Faunistics*: Zetterstedt (1851): 3728 [as *Sciara hyalipennis*] and 3729 [as *Sciara sordidella*]; Siebke (1863): 176 [as *Sciara hyalipennis*]; Siebke (1877): 211 [as *Sciara hyalipennis*] and 212 [as *Sciara sordidella*]; Lengersdorf (1926b): 3 [as *Sciara autumnalis*];

Soot-Ryen (1942) 75 [as *Lycoria annulata*]; Tuomikoski (1960): 110; Menzel and Martens (1995): 121; Thunes et al. (2003): 493; Thunes et al. (2004): 72, 85 [all as *Ctenosciara hyalipennis*]. *Taxonomy*: Tuomikoski (1960): 110; Menzel and Mohrig (2000): 295 [both as *Ctenosciara hyalipennis*].

Localities. NORWAY; without further locality details (= 'Norwegen') • BUSKERUD; Sigdal, Heimseteråsen (= 'Sigdal') • FINNMARK; Alta, Bojobæskihytta in the Stabbursdalen between Karasjok and Alta (= 'Bojobæske') • Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= 'Jotkajavre') • HORDALAND; Kvam, Geitaknottene naturreservat between Hardangerfjorden and Bjørnafjorden NE of Gjermondshamn (= 'Kvam, Geitaknottane') • NORDLAND; Herøy, Måsvær Island (= 'Måsvær') • OSLO; Oslo, Tøyen (= 'ad Christianiam in Tøien'; = 'in Tøien prope Christianiam'; = 'in Tøien'; = 'Tøyen, Oslo') • Oslo, Ryenberg (= 'monte Ryenbjerg'; = 'Ryenberg, Oslo') • OPPLAND; Dovre, Hjerkin NW of Follidal in the Gudbrandsdalen (= 'Hjerkin') • Lesja, Fogstuen on the Dovrefjell plateau (= 'Fogstuen'; = 'Fokstuen', Dovre'; = 'in alpe Dovre ad Fokstuen'; = 'in alpe Dovre'; = 'Dovre') • TROMS; Nordreisa, woodland and farm Hallen at the E shore of Reisaelva SE of Storslett (= 'Nordreisa, Hallen') • TRØNDELAG; Levanger, Skogn SE of Levanger (= 'ad diversorium Thyæs in parochia Skogn'; = 'ad diversorium Thynäs prope Levanger'; = 'Thynäs') [= in the accommodation of Thy in Skogn] • Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= 'Kongsvold'; = 'in alpe Dovre ad Kongsvold'; = 'in alpe Dovre'; = 'Dovre').

Ecological note. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*; rearing of adults from larvae found in rotten wood of gray alder (*Alnus incana*). Phenology: Jun.–Sep.

Ctenosciara lutea (Meigen, 1804)

Literature. *Faunistics*: Siebke (1877): 215 [as *Sciara lutea*; in part]; Soot-Ryen (1942): 76 [as *Lycoria lutea*]. *Taxonomy*: Menzel et al. (1990): 329; Menzel and Mohrig (2000): 298 [both as *Ctenosciara lutea*].

Locality. • OPPLAND; Øyer in the Gudbrandsdalen (= ‘in par. [parochia] Øier Gudbrandsdaliæ’; = ‘Øier Gudbrandsdaliæ’; = ‘Øyer’).

Ecological note. Habitat not specified. Phenology: Jul.

Dichopygina aculeata Vilkamaa, Hippa & Komarova, 2004

Literature. *Faunistics*: Leng et al. (2018): 19 [as *Dichopygina aculeata*]. *Taxonomy*: Vilkamaa et al. (2004): 110 [as *Dichopygina aculeata*].

Locality. • NORWAY; without further locality details (= ‘Norway’) • MØRE OG ROMSDAL; Vestnes, Småøyane SE of Kristisetra, SE of Vestnes (published as ‘Norway’; see faunistic note).

Faunistic note. The first specimens of *Dichopygina aculeata* mentioned in Leng et al. (2018: 19) from ‘Norway’ (without locality details) were collected and identified in our NTI project 2014–2016, based on the following material: NORWAY • 2 ♂♂; ‘Møre og Romsdal; Vestnes, Småøyane SE of Kristisetra (SE of Vestnes)’; 62.5598N, 06.9944E; 170 m a.s.l.; 22 Aug. 2015; K. Heller leg.; sweep net; bog and deadwood rich carr between road and river (downy birch, grey alder, rowan, juniper, rushes, sedges, mosses, lichens); BFCO; BOLD ID SCINO1252-16 (BAB 421460, bf-sci-00981) and SCINO1253-16 (BAB 421463, bf-sci-00982).

Ecological note. Bog and carr rich in dead wood (downy birch, grey alder, rowan, juniper, rushes, sedges, mosses, lichens). Phenology: Aug.

Dichopygina bernhardi Vilkamaa, Hippa & Komarova, 2004

Literature. *Faunistics*: Leng et al. (2018): 19, 23 [as *Dichopygina bernhardi*]. *Taxonomy*: Vilkamaa et al. (2004): 115 [as *Dichopygina bernhardi*].

Locality. • HEDMARK; Elverum, Starmoen naturreservat SE of Elverum (= ‘Elverum, S Starmoen’; see faunistic note).

Faunistic note. The first specimen of *Dichopygina bernhardi* mentioned in Leng et al. (2018: 19, 23) was collected and identified in our NTI project 2014–2016, based on the following material: NORWAY • 1 ♂; ‘Hedmark; Elverum, S of Starmoen – I’; 60.8524N, 11.6951E; 205 m a.s.l.; 1–6 Sep. 2014; K.M. Olsen leg.; yellow pan trap; sand pit; BFCO; BOLD ID SCINO736-15 (BAB 410634, bf-sci-00696).

Ecological note. sand pit with open vegetation. Phenology: Sep.

Dichopygina nigrohalteralis (Frey, 1948)

Literature. *Faunistics*: Leng et al. (2018): 19, 23 [as *Dichopygina nigrohalteralis*]. *Taxonomy*: Tuomikoski (1960): 70, 72; Menzel and Mohrig (2000): 259 [both as *Coryno-*

ptera nigrohalteralis]; Vilkamaa et al. (2004): 116; Mohrig et al. (2013): 199 [both as *Dichopygina nigrohalteralis*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • BUSKERUD; Kongsberg, Haugplassen in the Rajedalen (published as ‘Norway’; see faunistic note) • OPPLAND; Sør-Aurdal, SE part of Moldberget naturreservat NW of Nes (published as ‘Norway’; see faunistic note) • TRØNDELAG; Trondheim, Trondheim, Sommerlystvegen (published as ‘Norway’; see faunistic note).

Faunistic note. The first specimens of *Dichopygina nigrohalteralis* mentioned in Leng et al. (2018: 19, 23) were collected and/or identified in our NTI project 2014–2016, based on the following material: NORWAY • 1 ♂; ‘Sør-Trøndelag; Trondheim, Sommerlystvegen 22’; 63.4049N, 10.3829E; 65 m a.s.l.; 11–25 May 2014; E. Stur and T. Ekrem leg.; Malaise trap; garden with lawn and some larger trees at the top of a wooded hill side; NTNU; BOLD ID GMNWF813-14 • 1 ♂; ‘Buskerud; Kongsberg, Haugplassen’; 59.5340N, 09.5677E; 520 m a.s.l.; 26 Sep. 2013; Malaise trap; NW portion of managed meadow with a lot of *Dactylorhiza sambucina* and *Primula veris*; K.M. Olsen leg.; BFCO; BOLD ID SCINO031-14 (bf-sci-00031, BAB 363266) • 1 ♂; ‘Oppland; Sør-Aurdal, Moldberget E’; 60.6199N, 09.8935E; 308 m a.s.l.; 3 Jun. 2014; K. Heller leg.; sweep net; coniferous forest; BFCO; BOLD ID SCINO192-15 (bf-sci-00193, BAB 374132).

Ecological note. Managed meadows dominated by *Dactylorhiza sambucina* and *Primula veris*; gardens with lawn on wooded hills; coniferous forests. Phenology: May–Jun., Aug.–Sep.

Dichopygina ramosa Vilkamaa, Hippa & Komarova, 2004

Literature. *Faunistics*: Leng et al. (2018): 19 [as *Dichopygina ramosa*]. *Taxonomy*: Vilkamaa et al. (2004): 119 [as *Dichopygina ramosa*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • AKERSHUS; Nesodden, Blåbærstien in Nesoddtangen (published as ‘Norway’; see faunistic note) • TELEMARK; Kragerø, pond Frydensborgtjenna in Kragerø (published as ‘Norway’; see faunistic note).

Faunistic note. The first specimens of *Dichopygina ramosa* mentioned in Leng et al. (2018: 19) were identified in our NTI project 2014–2016, based on the following sciarid material: NORWAY • 1 ♂; ‘Akershus; Nesodden, Blåbærstien’; 59.8523N, 10.6698E; 25 March–7 Jun. 2012; O.J. Lønnve leg.; Malaise trap; residential area; BFCO; BOLD ID SCINO235-15 (bf-sci-00237, BAB 374552) • 1 ♂; ‘TELEMARK; Kragerø, Frydensborgtjenna’; 58.8748N, 09.3992E; 4 m a.s.l.; 17.08–28.09.2009; S. Olberg and A.E. Laugsand leg.; Malaise trap; pond with enhanced growth of aquatic vegetation (probably eutrophic); BFCO; BOLD ID SCINO497-15 (bf-sci-00500, BAB 393143).

Ecological note. At ponds with rich aquatic vegetation; in settled areas. Phenology: Mar.–Jun., Aug.–Sep.

***Dolichosciara flavipes* (Meigen, 1804)**

Synonyms. = *flavipes* var. *nigrithorax* (Strobl, 1898); = *fugax* (Grzegorzek, 1884).

Literature. *Faunistics:* Zetterstedt (1852): 4355 [as *Sciara flavipes*]; Siebke (1877): 214 [as *Sciara flavipes* Panzer; recte Meigen] and 215 [in part as *Sciara lutea*; misidentification]; Soot-Ryen (1942): 75 [as *Phorodonta flavipes*]. *Taxonomy:* Tuomikoski (1960): 108, 109; Mohrig and Menzel (1994): 186; Menzel and Mohrig (2000): 440 [all as *Phytosciara (Dolichosciara) flavipes*]; Vilkamaa (2000): 48 [as *Dolichosciara flavipes*].

Localities. • OSLO; Oslo, Botanisk hage (= ‘in horto botanico ad Christianiam’; = ‘Botanical Garden, Oslo’) • Oslo, Tøyen (= ‘ad Töien’) • TRØNDELAG; Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= ‘ad Kongsvold in alpe Dovre’; = ‘Kongsvold, Dovre’; = ‘Dovre’).

Ecological note. In botanical gardens. Phenology: Aug.–Sep.

***Epidapus (Epidapus) alnicola* (Tuomikoski, 1957)**

Literature. *Faunistics:* Tuomikoski (1960): 100 [as *Caenosciara alnicola*]; Menzel et al. (1990): 347 [as *Caenosciara (Bonessia) alnicola*]. *Taxonomy:* Tuomikoski (1957): 16 [as *Vimmeria alnicola*]; Tuomikoski (1960): 100 [as *Caenosciara alnicola*]; Mohrig (1970): 144 [as *Caenosciara (Bonessia) alnicola*]; Menzel and Mohrig (2000): 319 [as *Epidapus (Epidapus) alnicola*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • TROMS; Nordreisa, woodland and farm Hallen on the E shore of Reisaelva SE of Storslett (= ‘Troms, Hallen’).

Ecological note. From rotten wood of gray alder (*Alnus incana*). Phenology: without data.

***Epidapus (Epidapus) gracilis* (Walker, 1848)**

Synonyms. = *aptera* (Kieffer, 1903); = *edwardsi* Freeman, 1983; = *gracilis* (Winnertz, 1853) [preocc.]; = *longicornis* (Lengersdorf, 1941); = *pulicina* (Frey, 1952).

Literature. *Faunistics:* Thunes et al. (2004): 72, 85 [as *Epidapus gracilis*]; Köhler et al. (2014): 329 [as *Epidapus (Epidapus) gracilis*]. *Taxonomy:* Tuomikoski (1960): 97, 98; Mohrig (1969): 54 [both as *Epidapus (Epidapus) gracilis* (Winnertz)]; Freeman (1983): 170 [as *Epidapus edwardsi*]; Menzel and Mohrig (2000): 319 [as *Epidapus (Epidapus) gracilis* (Walker)].

Localities. • BUSKERUD; Sigdal, Heimseteråsen (= ‘Sigdal’) • VESTFOLD; Larvik, lake Skjærssjø near Kvelde NW of Larvik (= ‘Larvik, Skjærssjø’).

Ecological note. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*; oak canopies of *Quercus robur*. Phenology: Jul.

***Hemineurina abbrevinervis* (Holmgren, 1869)**

Literature. *Faunistics*: Holmgren (1869): 16, 54; Lengersdorf (1930a): 56 [both as *Sciara abbrevinervis*]; Frey (1948): 35, 85, 91 [as *Bradysia (Bradysia) abbrevinervis*]; Tuomikoski (1967): 48; Menzel and Mohrig (2000): 402; Coulson and Refseth (2004): 103; Coulson (2008): 161; Coulson (2013): 154 [all as *Lycoriella (Hemineurina) abbrevinervis*]. *Taxonomy*: Tuomikoski (1967): 48; Menzel and Mohrig (2000): 402 [both as *Lycoriella (Hemineurina) abbrevinervis*]; Vilkamaa and Menzel (2019): 50 [as *Hemineurina abbrevinervis*].

Localities. • SVALBARD; Spitsbergen, Kobbefjorden at the NW coast near the Danskøya (= 'in Spetsbergia ad Kobbabay'; = 'Spetsbergia ad Kobbabay'; = 'Spetsbergia, Kobbabay'; = 'Spitzbergen bei Kobbefjorden') • Spitsbergen, without further locality details (= 'Spetsbergen'; = 'Spitsbergen'; = 'Spitzbergen').

Ecological note. Bird cliffs. Phenology: Jul.

***Hemineurina conspicua* (Winnertz, 1867)**

Synonym. = *polychaeta* (Petty, 1918)

Literature. *Faunistics*: Lengersdorf (1926b): 4 [as *Sciara conspicua*]; Soot-Ryen (1942): 77 [as *Neosciara conspicua*]; Menzel et al. (1990): 335 [as *Lycoriella (Hemineurina) conspicua*]. *Taxonomy*: Tuomikoski (1960): 75, 76; Menzel and Mohrig (2000): 400; Mohrig et al. (2013): 210 [all as *Lycoriella (Hemineurina) conspicua*]; Vilkamaa and Menzel (2019): 50 [as *Hemineurina conspicua*].

Localities. • NORWAY; without further locality details (= 'Norwegen') • HORDALAND; Modalen, Mo (= 'Mo') • OSLO; Oslo, Tøyen (= 'Tøien'; = 'Tøyen') • TROMS; Tromsø (= 'Tromsøy').

Ecological note. Habitats not specified. Phenology: Aug.–Sep.

***Hemineurina inflata* (Winnertz, 1867)**

Synonyms. = *difficilis* (Grzegorzek, 1884); = *interdicta* (Grzegorzek, 1884); = *nitens* (Winnertz, 1867); = *subvenosa* (Mohrig & Krivosheina, 1983).

Literature. *Faunistics*: Zetterstedt (1851): 3758; Siebke (1877): 214 [both as *Sciara venosa*; misidentification]; Lengersdorf (1926b): 3 [as *Sciara inflata*]; Soot-Ryen (1942): 80 [in part as *Neosciara vittigera*; misidentification (only cited *inflata* specimens)]; Tuomikoski (1960): 77 [as *Lycoriella (Hemineurina) venosa* sensu Frey; misidentification]. *Taxonomy*: Tuomikoski (1960): 75, 77 [as *Lycoriella (Hemineurina) venosa* sensu Frey; misidentification]; Menzel and Mohrig (2000): 403 [as *Lycoriella (Hemineurina) inflata*]; Vilkamaa and Menzel (2019): 50 [as *Hemineurina inflata*].

Localities. • NORDLAND; Sømna, Sømnes at the bay Sømnesvika N of Vik (= 'Sømnes') • Sørfold, Røsvik at the S shore of Sørfolda (= 'Røsvik') • OSLO; Oslo,

Tøyen (= ‘in Tøien prope Christianiam’; = ‘ad Christianiam in Tøien’; = ‘Tøyen, Oslo’)
 • Troms; Balsfjord/Målselv/Tromsø [former municipality ‘Malangen’] (= ‘Malangen’)
 • Tromsø (= ‘Tromsø’) • Tromsø, Ramfjorden (= ‘Ramfjord’) • TRØNDELAG; Verdal,
 former poststation ‘Suulstuen’ SE of Vuku at the Jamtlandsvegen [road no. 72] (= ‘in
 jugo alpino Norvegiæ ad Suulstuen’; = ‘ad Suulstuen Værdaliæ’; = ‘ad Suul Værdaliæ’;
 = ‘Suulstuen, Værdal’; = ‘ad Suul’).

Ecological note. On mountains. Phenology: Jun.–Aug.

Hemineurina modesta (Staeger, 1840)

Synonyms. = *arctica* (Holmgren, 1869); = *conglomerata* (Petty, 1918); = *ecalcarata* (Holmgren, 1869); = *frigida* (Holmgren, 1869) [preocc.]; = *fumatella* (Lundbeck, 1898); = *globiceps* (Becher, 1886); = *groenlandica* (Holmgren, 1872); = *holmgreni* (Rübsaamen, 1894).

Literature. *Faunistics*: Holmgren (1869): 16, 52 [as *Sciara arctica* and *Sciara ecalcarata*] and 15, 53 [as *Sciara frigida*]; Becher (1886): 62; Edwards (1923): 236 [both as *Sciara globiceps*]; Edwards (1925): 354; Summerhayes and Elton (1928): 209, 220, 221, 225 [both as *Sciara holmgreni*]; Lengersdorf (1930a): 55 [as *Sciara arctica* and *Sciara frigida*]; Lengersdorf (1930c): 52 [as *Sciara groenlandica*]; Edwards (1935): 533; Bertram and Lack (1938): 51 [both as *Sciara holmgreni*]; Frey (1948): 91 [as *Bradysia (Hemineurina) modesta* var. *frigida*]; Tuomikoski (1967): 48 [as *Lycoriella (Hemineurina) modesta*], 49 [as *Sciara arctica*] and 50 [as *Sciara ecalcarata*]; Menzel et al. (1990): 337 [as *Lycoriella (Hemineurina) modesta*]; Menzel and Mohrig (2000): 405 [as *Sciara arctica*, *Sciara ecalcarata* and *Sciara frigida* under *Lycoriella (Hemineurina) modesta*] and 198 [in the discussion of *Camptochaeta delicata*; misidentification]; Coulson and Refseth (2004): 103 [as *Lycoriella (Hemineurina) globiceps* and *Lycoriella (Hemineurina) modesta*]; Thunes et al. (2004): 85 [as *Lycoriella globiceps*]; Coulson (2008): 161; Coulson (2013): 154 [both as *Lycoriella (Hemineurina) modesta*]; ? Coulson et al. (2013): 6 [as *Lycoriella (Hemineurina)* sp.]. *Taxonomy*: Tuomikoski (1960): 75, 77; Menzel and Mohrig (2000): 405; Mohrig et al. (2013) 213 [all as *Lycoriella (Hemineurina) modesta*]; Vilkkamaa and Menzel (2019): 10, 51 [as *Hemineurina modesta*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • BUSKERUD; Sigdal, Heimseteråsen (= ‘Sigdal’).

• JAN MAYEN: without further locality details (= ‘Jan Mayen’; = ‘Jan Mayen Island’)
 • SVALBARD; Bjørnøya (= ‘Bear Island’) • Bjørnøya, bay Austervåg at the E coast (= ‘bei Austervåg (B.)’) • Bjørnøya, mining camp Tunheim at the NE coast (= ‘Bear Island, Tunheim’) • Bjørnøya, Røyevatnet in the SW part of island (= ‘Bear Island, Røyevatnet’) • Spitsbergen, Amsterdamøya, Smeerenburg at the SE coast (= ‘in Spetsbergia ad Smeerenberg’; = ‘Spitzbergen, Smeerenberg’) • Spitsbergen, Bellsund at the W coast (= ‘in Spetsbergia ad Belsund’) • Spitsbergen, Edgeøya at the Storfjorden, ? Kvalpynten at the N side of the mouth of Tjuvfjorden (= ‘in Spetsbergia ad Whales Point in Storfjorden’) • Spitsbergen, Grønfjorden (= ‘in Spetsbergia ad Green Harbour’; = ‘Spetsbergia, Green Harbour’; = ‘Spitzbergen, Green Harbour’; = ‘Grønfjorden’) • Spitsber-

gen, Grøn fjorden, Barentsburg (= 'Barentsburg'; = 'bei Barentsburg (S.); = 'Grøn fjord, Barentsburg') • Spitsbergen, Haakon VII Land, Gerdøya in Dyrevika at the head of Kongsfjorden (= 'Head of King's Bay, Deer Bay Island') • Spitsbergen, Haakon VII Land, Reinsdyrfløya, at the Liefdefjorden (= 'Spitsbergen, Reindeer Peninsula, at the Liefde Bay') • Spitsbergen, Hiorthhamn [former mining settlement] at the E side of Adventfjorden (= 'Hjorthhamn'; = 'Hiorthhamn (S.), bei Residensen') • Spitsbergen, Kobbefjorden at the NW coast near the Danskøya (= 'in Spetsbergia ad Kobbabay'; = 'in Spetsbergia ad Kobbabay [Spitzbergen, bei Kobbefjorden]'; = 'Kobbabay'; = 'Kobbefjorden') • Spitsbergen, Nordaustlandet (= 'Spitsbergen, North-East Land') • Spitsbergen, Nordenskiöld Land, Mälardalen at the N side of the mouth of Adventelva (= 'Mælardalen'; = 'Maelardalen [Mælardalen]') • Spitsbergen, without further locality details (= 'Spetsbergen; = 'Spitzbergen'; = 'Spitsbergen').

Ecological note. Lichen-moss heath; bogs (grass-swamp); mats of *Luzula confusa* and mosses; in hollows and slight crevices of erratic boulders with mosses and lichens; plant community 'fjaeldmark' (= feldmark; mountain field) with phanerogams, mosses, lichens and *Salix polaris*; in mosses and lichens; on grass-leaves, moss-hummocks and hard snowdrifts near streams; among stones; from plants in stony areas and on large boulders; mixture of discarded greenhouse soil and manure from animal houses (all Svalbard records); *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*. Phenology: Jun.–Sep.

Hemineurina postconspicua (Mohrig, 1985)

Literature. *Faunistics*: Hågvar et al. (2007): 67; Coulson (2008): 161; Coulson (2013): 154 [all as *Lycoriella postconspicua*]. *Taxonomy*: Mohrig (1985): 236 [as *Lycoriella postconspicua*]; Menzel and Mohrig (2000): 385 [as *Lycoriella (Hemineurina) postconspicua*]; Vilkkamaa and Menzel (2019): 51 [as *Hemineurina postconspicua*].

Localities. • SVALBARD; Spitsbergen, Kapp Linné by the Isfjord, Isfjord Radio station (= 'Svalbard, Isfjord Radio') • Spitsbergen, Ny-Ålesund.

Ecological note. On dry ridges and slopes, with *Saxifraga oppositifolia*, mosses and lichens; in the ground vegetation with *Poa* spec., *Oxyria digyna* and *Deschampsia cespitosa*. Phenology: Jun.–Jul.

Hemineurina venosa (Staeger, 1840)

Synonyms. = *crassivenosa* (Lengersdorf, 1943); = *lepida* (Winnertz, 1867); = *praevenosa* (Mohrig & Menzel, 1990).

Literature. *Faunistics*: Lengersdorf (1926b): 3 [as *Sciara lepida*]; Soot-Ryen (1942): 78 [as *Neosciara lepida*]. *Taxonomy*: Menzel et al. (1990): 337 [as *Lycoriella (Hemineurina) praevenosa*]; Menzel and Mohrig (2000): 407 [as *Lycoriella (Hemineurina) venosa*]; Vilkkamaa and Menzel (2019): 51 [as *Hemineurina venosa*].

Locality. • TROMS; Målselv, farm Frihetsli in the Dividalen 32 km SE of Øverbygd (= ‘Frihetsli’).

Ecological note. Habitat not specified. Phenology: Jul.–Aug.

Leptosciarella (Hirtipennia) hirtipennis (Zetterstedt, 1838)

Synonyms. = *absurda* (Winnertz, 1867); = *hirtipennis* var. *minor* (Frey, 1948); = *jugicola* (Strobl, 1898); = *parcepilosa* var. *opacicollis* (Strobl, 1902).

Literature. *Faunistics*: Zetterstedt (1838): 826; Zetterstedt (1851): 3731; Siebke (1877): 212 [all as *Sciara hirtipennis*]; Lengersdorf (1926b): 9; Soot-Ryen (1942): 75 [both as *Trichosia hirtipennis*]; Menzel et al. (1990): 316 [as *Trichosia (Leptosciarella) hirtipennis*]. *Taxonomy*: Tuomikoski (1960): 20, 21 [as *Trichosia (Leptosciarella) hirtipennis*]; Mohrig and Menzel (1997): 45; Menzel and Mohrig (2000): 369 [both as *Leptosciarella (Hirtipennia) hirtipennis*].

Localities. • NORWAY; without further locality details (= ‘Nord-Norwegen’) • NORDLAND; Narvik, Bjerkvik at the Ofotfjorden NE of Narvik (= ‘in Nordlandia ad diversorium Björkvik; = ‘ad diversorium Björkvik juxta Ofodensfjoid’; = ‘ad Björkvik Nordlandiae’; = ‘Björkvik, Ofoten’; = ‘Lappland (Norwegen)’ [misinterpretation in Menzel et al. (1990), correctly ‘Nordland (Norwegen)’]).

Ecological note. Habitats not specified. Phenology: Jul.

Leptosciarella (Leptosciarella) fuscipalpa (Mohrig & Mamaev, 1979)

Literature. *Faunistics*: Mohrig and Menzel (1997): 65; Komarova (2016a): 197; Komarova (2016b): 256 [all as *Leptosciarella (Leptosciarella) fuscipalpa*]. *Taxonomy*: Mohrig and Menzel (1997): 65; Menzel and Mohrig (2000): 360 [both as *Leptosciarella (Leptosciarella) fuscipalpa*].

Localities. • NORWAY; without further locality details (= ‘Norwegia’; = ‘Norway’) • FINNMARK; Berlevåg/Nesseby/Tana/Vadsø/Vardø, Varangerhalvøya (= ‘Finmark, Varanger-Halbinsel’) • ØSTFOLD; Hvaler, Hvaløerne (= ‘Hvaløerne’).

Ecological note. Habitats not specified. Phenology: Jul.

Leptosciarella (Leptosciarella) hispida (Winnertz, 1867)

Literature. *Faunistics*: Zetterstedt (1871): 3721 [as *Sciara trochanterata*; in part misidentification]; Lengersdorf (1926b): 3 [as *Sciara hispida*]; Lengersdorf (1930a): 49; Lengersdorf (1941): 48 [both as *Sciara hispida* under *Sciara trochanterata*; misidentification]; Soot-Ryen (1942): 76 [in part as *Lycoria trochanterata*; misidentification (only cited specimen from ‘Festningsstuen’)]. *Taxonomy*: Lengersdorf (1941): 48 [as *Sciara hispida*]; Mohrig and Menzel (1997): 63; Menzel and Mohrig (2000): 366 [both as *Sciara hispida* under *Leptosciarella (Leptosciarella) rejecta*; misidentification].

Localities. • FINNMARK; Porsanger, farm Fæstningsstua near Lævnasjarvi W of Skoganvarre (= ‘Fæstningstuen’; = ‘Festningsstuen’) • OSLO; Oslo, Tøyen (= ‘in Töien prope Christianiam’; = ‘Toiën’; = ‘Toien’) • TRØNDELAG; Meråker, NE of mountain Kølhaugan near the Swedish border [maybe a collecting place in Sweden: Jämtland, village Skalstugan close to the border with Norway] (= ‘in Jemtlandia ad diversorium Skalstugan’; = ‘Skalstuga’).

Ecological note. Habitats not specified. Phenology: Jun.–Aug.

***Leptosciarella (Leptosciarella) nudinervis* (Tuomikoski, 1960)**

Literature. *Faunistics:* Mohrig and Menzel (1997): 81 [as *Leptosciarella (Leptosciarella) nudinervis*]. *Taxonomy:* Tuomikoski (1960): 21, 25 [as *Trichosia (Leptosciarella) nudinervis*]; Mohrig and Menzel (1997): 81; Menzel and Mohrig (2000): 365 [both as *Leptosciarella (Leptosciarella) nudinervis*].

Locality. • FINNMARK; Båtsfjord, Varangerhalvøya, Syltefjorden (= ‘Varranger-Halbinsel, Sylkefjord’).

Ecological note. Habitats not specified. Phenology: Jul.

***Leptosciarella (Leptosciarella) pilosa* (Staeger, 1840)**

Literature. *Faunistics:* Siebke (1863): 176; Siebke (1877): 217; Lengersdorf (1926b): 3 [all as *Sciara pilosa*]; Soot-Ryen (1942): 76 [as *Lycoria pilosa*]; Menzel et al. (1990): 314 [as *Trichosia (Leptosciarella) pilosa*]; Komarova (2016a): 197; Komarova (2016b): 256 [both as *Leptosciarella (Leptosciarella) pilosa*]. *Taxonomy:* Tuomikoski (1960): 21, 25 [as *Trichosia (Leptosciarella) scutellata* sensu Frey; misidentification]; Mohrig and Menzel (1997): 72; Menzel and Mohrig (2000): 365 [both as *Leptosciarella (Leptosciarella) pilosa*].

Localities. • NORWAY; without further locality details (= ‘Norwegia’; = ‘Norway’; = ‘Norwegen’) • FINNMARK; Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjøk and Alta (= ‘Jotkajavre’) • TRØNDELAG; Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= ‘ad Kongsvold in alpe Dovre’; = ‘Kongsvold’; = ‘in alpe Dovre’) • TROMS; Balsfjord, Fjellfrøsvatnet [Fjellfrøskvannet] N of Øverbygd (= ‘Fjellfrøskvann’) • Balsfjord, Øverbygd (= ‘Øverbygd’).

Ecological note. Habitats not specified. Phenology: Jul.

***Leptosciarella (Leptosciarella) scutellata* (Staeger, 1840)**

Synonyms. = *bilineata* (Staeger, 1840); = *elegans* (Winnertz, 1867); = *inhonesta* (Winnertz, 1867); = *interrupta* (Strobl, 1895); = *obscuripennis* (Winnertz, 1867).

Literature. *Faunistics:* Siebke (1877): 210 [as *Sciara bilineata*]; Soot-Ryen (1942): 76 [as *Lycoria scutellata*]. *Taxonomy:* Tuomikoski (1960): 21 [as *Trichosia (Leptoscia-*

rella elegans]; Mohrig and Menzel (1997): 58; Menzel and Mohrig (2000): 361 [both as *Leptosciarella (Leptosciarella) scutellata*].

Locality. • OSLO; Oslo, Bekkelaget (= ‘Bækkelaget ad Christianiam’; = ‘Bekkelaget’).

Ecological note. Habitat not specified. Phenology: May.

Leptosciarella (Leptosciarella) trochanterata (Zetterstedt, 1851)

Synonyms. = *coarctata* (Winnertz, 1867); = *hirsutissima* (Strobl, 1895); = *prisca* (Winnertz, 1867); = *saluum* (Winnertz, 1868); = *splendens* (Winnertz, 1867) [*Sciara*].

Literature. *Faunistics:* Zetterstedt (1871): 3721; Siebke (1877): 211 [both as *Sciara trochanterata*; in part]; Soot-Ryen (1942): 76 [as *Lycoria trochanterata*; in part]; Menzel et al. (1990): 314 [as *Trichosia (Trichosia) trochanterata*; in part]; Mohrig and Menzel (1997): 54; Menzel and Mohrig (2000): 367 [both as *Leptosciarella (Leptosciarella) trochanterata*]. *Taxonomy:* Tuomikoski (1960): 21, 24 [as *Trichosia (Leptosciarella) coarctata*]; Mohrig and Menzel (1997): 54; Menzel and Mohrig (2000): 367 [both as *Leptosciarella (Leptosciarella) trochanterata*].

Localities. • OSLO; Oslo, Botanisk hage (= ‘in horto botanico ad Christianiam’) • Oslo, Tøyen (= ‘in Tøien prope Christianiam’; = ‘Tøien nahe Kristiania [Oslo]’; = ‘Tøien [Oslo]’; = ‘Tøien, Oslo’) • TRØNDELAG; Verdal, near Sul, between Kongsstuggu [formerly ‘Kongsstuen fjeldstue’] and Høyfjellsbro (= ‘inter Kongsstuen et Høyfjeldbroe’; = ‘Kongsstuen und Høyfjeldbroe’; = ‘Høyfjeldbroe’; = ‘between Kongsstuen and Høyfjellsbro’).

Ecological note. On mountains; in botanical gardens. Phenology: Jun.–Jul.

Leptosciarella (Leptosciarella) truncata (Tuomikoski, 1960)

Literature. *Faunistics:* Tuomikoski (1960): 27 [as *Trichosia (Leptosciarella) truncata*]; Mohrig and Menzel (1997): 80; Menzel and Mohrig (2000): 368; Komarova (2016a): 198; Komarova (2016b): 258 [all as *Leptosciarella (Leptosciarella) truncata*]. *Taxonomy:* Tuomikoski (1960): 21, 27 [as *Trichosia (Leptosciarella) truncata*]; Mohrig and Menzel (1997): 80; Menzel and Mohrig (2000): 368 [both as *Leptosciarella (Leptosciarella) truncata*].

Localities. • NORWAY; without further locality details (= ‘Norwegia’; = ‘Norway’) • FINNMARK; Båtsfjord, Varangerhalvøya, Syltefjorden (= ‘Varranger-Halbinsel, Syltefjord’) • Tana, upper part of the Langfjordelva E of the Porsangerfjorden (= ‘Finmark, Langfjordelva’ [= ‘Finmark, am oberen Lauf des Flusses Langfjordelva östlich vom Porsangerfjord’; = ‘Oberlauf des Flusses Langfjordelva östlich vom Porsangerfjord’]).

Ecological note. Habitats not specified. Phenology: Jun., Aug.

Lycoriella brevipila Tuomikoski, 1960

Literature. *Faunistics:* Tuomikoski (1960): 82 [as *Lycoriella (Lycoriella) brevipila*]. *Taxonomy:* Tuomikoski (1960): 79, 82 [as *Lycoriella (Lycoriella) brevipila*]; Menzel and

Mohrig (2000): 393 [as *Lycoriella (Lycoriella) brevipila* under *Lycoriella (Lycoriella) ingenua*; misidentification]; Menzel and Heller (2007): 220 [as *Lycoriella (Lycoriella) brevipila*]; Vilkamaa and Menzel (2019): 51 [as *Lycoriella brevipila*].

Locality. • TROMS; Nordreisa, Sappen (= 'Sappen').

Ecological note. Habitat not specified. Phenology: Aug.

Lycoriella ingenua (Dufour, 1839)

Synonyms. = *caesar* (Johannsen, 1929); = *bigoti* (Laboulbène, 1863); = *celer* (Winnertz, 1867); = *debilis* (Winnertz, 1867); = *decliva* (Winnertz, 1867); = *flammulinae* (Sasakawa, 1983); = *flaviventris* (Winnertz, 1867); = *humilis* (Winnertz, 1867); = *jauva* (Rapp, 1946); = *mali* (Fitch, 1856); = *mycorum* (Frey, 1948); = *pauciseta* (Felt, 1897); = *pleuroti* Yang & Zhang, 1987; = *ramicola* (Kieffer, 1919), = *segnis* (Winnertz, 1871); = *solani* (Winnertz, 1871); = *velox* (Winnertz, 1867); = *venusta* (Winnertz, 1867); = *womersleyi* (Séguy, 1940).

Literature. *Faunistics*: Siebke (1863): 177 [as *Sciara fenestralis*; misidentification]; Siebke (1877): 214 [as *Sciara fenestralis*; misidentification] and 215 [as *Sciara pectoralis*; misidentification]; Lengersdorf (1930a): 51 [as *Sciara solani* under *Sciara sordidella*; misidentification]; Soot-Ryen (1942): 77 [as *Neosciara fenestralis*; misidentification]; Kjærandsen (1993): 155 [as *Lycoriella* cf. *solani*]; Komarov (2009): 102; Menzel and Müller (2011): 164 [both as *Lycoriella (Lycoriella) castanescens*]; Menzel et al. (2013): 291 [as *Lycoriella (Lycoriella) ingenua*]; Østbye and Lauritzen (2013): 46, 48 [as *Lycoriella* cf. *solani*]; Köhler et al. (2014): 329 [as *Lycoriella (Lycoriella) ingenua*]. *Taxonomy*: Tuomikoski (1960): 79, 84 [as *Lycoriella (Lycoriella) solani*]; Menzel and Mohrig (2000): 393; Menzel et al. (2013): 291; Mohrig et al. (2013): 211 [all as *Lycoriella (Lycoriella) ingenua*]; Broadley et al. (2018): 215; Vilkamaa and Menzel (2019): 52 [both as *Lycoriella ingenua*].

Localities. • NORWAY; without further locality details (= 'Norwegen'; = 'Norway'; = 'Norwegia'; = 'almindelig overalt' [ordinary everywhere]) • AKERSHUS; Eidsvoll, Minnesund (= 'ad Eidsvold'; = 'ad Eidsvoll'; = 'Eidsvoll') • HORDALAND; Bergen, Gymmeland (= 'Bergen, Gymmeland, GR [gruve] 1:50M') • OSTERØY, Nonås mine filed (= 'Osterøy, Nonås, gruve 1') • NORDLAND; Øksnes, in the NW part of Langøya of the Vesterålen archipelago (= 'Øksnes') • OPPLAND; Dovre, Hjerkin NW of Folldal in the Gudbrandsdalen (= 'in alpe Dovre, ad Jerkin'; = 'Hjerkin, Dovre') • Lesja, Fogstuen on the Dovrefjell plateau (= 'in alpe Dovre ad Fokstuen'; = 'Dovre ad Fogstuen'; = 'Fokstuen, Dovre') • OSLO; Oslo, Botanisk hage (= 'Botanical Garden, Oslo') • Oslo, Tøyen (= 'ad Christianiam in Tøien'; = 'Tøyen, Oslo') • TELEMARK; Drangedal, Djupedal 1.5 km SE of Henneseid (= 'Drangedal, Djupedal, Henseid') • TROMS; Balsfjord, Fjellfrøsvatnet [Fjellfrøskvannet] N of Øverbygd (= 'Fjellfrøskvann') • Karlsøy, Finnkroken at the SW tip of Reinøya (= 'Finnkroken') • Tromsø (= 'Tromsø') • Tromsø, Ramfjorden (= 'Ramfjord') • TRØNDELAG; Levanger, Skogn SE of Levanger (= 'Thynas'; = 'Tynes') [= in the accommodation of Thy in Skogn] • Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= 'in alpe Dovre ad Kongsvold'; = 'Kongsvold, Dovre'; = 'ad Kongsvold').

Ecological note. Oak canopies of *Quercus robur*; in houses; as well as in caves and mines. Phenology: Jun.–Sep.; Mar. and Jul. in caves and mines.

Lycoriella latilobata Menzel & Mohrig, 2000

Literature. *Faunistics*: Thunes et al. (2004): 85 [as *Lycoriella latilobata*]. *Taxonomy*: Tuomikoski (1960): 79, 86 [as *Lycoriella (Lycoriella) obscuratipes*; misidentification]; Menzel and Mohrig (2000): 396 [as *Lycoriella (Lycoriella) latilobata*]; Vilkkamaa and Menzel (2019): 52 [as *Lycoriella latilobata*].

Locality. • BUSKERUD; Sigdal, Heimseteråsen (= ‘Sigdal’).

Ecological note. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*. Phenology: Jun.–Jul.

Lycoriella parva (Holmgren, 1869)

Synonyms. = *curvispina* Tuomikoski, 1960; = *difficilis* var. *obscuratipes* (Frey, 1948).

Literature. *Faunistics*: Holmgren (1869): 16, 52; Lengersdorf (1930a): 56; Edwards (1935): 535; Bertram and Lack (1938): 51 [all as *Sciara parva*]; Frey (1948): 35, 85 [as *Bradysia (Bradysia) parva*]; Tuomikoski (1967): 49; Menzel and Mohrig (2000): 398; Coulson and Refseth (2004): 103; Coulson (2008): 162; Coulson (2013): 154; Mohrig et al. (2013): 271 [all as *Lycoriella (Lycoriella) parva*]. *Taxonomy*: Tuomikoski (1960): 79, 85 [as *Lycoriella (Lycoriella) curvispina*]; Tuomikoski (1967): 49; Menzel and Mohrig (2000): 398; Mohrig et al. (2013): 271 [all as *Lycoriella (Lycoriella) parva*]; Vilkkamaa and Menzel (2019): 52 [as *Lycoriella parva*].

Localities. • SVALBARD; Bjørnøya (= ‘Bear Island’) • Bjørnøya, Laksvatnet in the N part of island (= ‘Bear Island, Laksvatnet’) • Spitsbergen, Kobbefjorden at the NW coast near the Danskøya (= ‘in Spetsbergia ad Kobbabay’; = ‘Spitzbergen bei Kobbefjorden’) • Spitsbergen, without further locality details (= ‘Spitzbergen’; = ‘Spitsbergen’).

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

Lycoriella piristylata Vilkkamaa, Hippa & Heller, 2013

Literature. *Faunistics*: Vilkkamaa et al. (2013c): 52 [as *Lycoriella (Hemineurina) piristylata*]; Vilkkamaa and Menzel (2019): 12 [as *Lycoriella piristylata*]. *Taxonomy*: Vilkkamaa and Menzel (2019): 12, 52 [as *Lycoriella piristylata*].

Locality. • FINNMARK; Båtsfjord, Varangerhalvøya, Ytre Syltefjord 35 km SE of Båtsfjord (= ‘Varanger Peninsula, Ytre Syltefjord 35 km SE Batsfjord’; = ‘Norway’).

Ecological note. Dwarf-shrub tundra. Phenology: Jul.

***Lycoriella sativae* (Johannsen, 1912)**

Synonyms. = *agarici* Loudon, 1978; = *auberti* (Séguy, 1940); = *brevipetiolata* (Shaw, 1941); = *castanescens* (Lengersdorf, 1940); = *difficilis* (Frey, 1948) [preocc.]; = *fucorum* (Frey, 1948); = *jeanneli* (Séguy, 1940); = *kaiseri* (Shaw, 1941); = *paucisetulosa* (Frey, 1948); = *rufotincta* Tuomikoski, 1959; = *similans* (Johannsen, 1925); = *solispina* (Hardy, 1956); = *trifolii* (Petty, 1918).

Literature. *Faunistics:* Soot-Ryen (1942): 77 [as *Neosciara auripila*; misidentification]; Tuomikoski (1960): 88; Menzel et al. (1990): 342 [both as *Lycoriella* (*Lycoriella*) *fucorum*]; Menzel and Müller (2011): 164 [as *Lycoriella* (*Lycoriella*) *castanescens*]; Menzel et al. (2013): 292 [as *Lycoriella* (*Lycoriella*) *sativae*]. *Taxonomy:* Tuomikoski (1960): 82, 88 [as *Lycoriella* (*Lycoriella*) *fucorum*]; Menzel and Mohrig (2000): 386 [as *Lycoriella* (*Lycoriella*) *castanescens*]; Menzel et al. (2013): 292; Mohrig et al. (2013): 216 [both as *Lycoriella* (*Lycoriella*) *sativae*]; Broadley et al. (2018): 216; Vilkkamaa and Menzel (2019): 52 [both as *Lycoriella sativae*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’; = ‘Norway’) • FINNMARK; Porsanger, two localities on the Porsangerfjorden (= ‘2 Stellen am Porsangerfjord’) • TROMS; Tromsø (= ‘Tromsø’) • TRØNDELAG; Levanger, Hestøya NW of Alstahaug, southern tip Måkeskjær (= ‘Måkeskjær’).

Ecological note. In accumulations of seaweed on sea shores. Phenology: Aug.

***Pseudolycoriella paludum* (Frey, 1948)**

Synonyms. = *leucocera* (Mohrig & Menzel, 1990); = *polliciformis* (Freeman, 1990).

Literature. *Faunistics:* Köhler et al. (2014): 329 [as *Pseudolycoriella paludum*]. *Taxonomy:* Tuomikoski (1960): 44, 47 [as *Corynoptera paludum*]; Menzel et al. (1990): 336 [as *Lycoriella* (*Hemineurina*) *leucocera*]; Freeman (1990): 54 [as *Corynoptera polliciformis*]; Menzel and Mohrig (1998): 369; Menzel and Mohrig (2000): 474 [both as *Pseudolycoriella paludum*].

Locality. • TELEMARK; Drangedal, Djupedal 1.5 km SE of Henneseid (= ‘Drangedal, Djupedal, Henseid’).

Faunistic note. The first specimens of *Pseudolycoriella paludum* from Norway were identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jul.

***Scatopsciara* (*Scatopsciara*) *atomaria* (Zetterstedt, 1851)**

Synonyms. = *borealis* (Rübsaamen, 1898); = *falsaria* (Winnertz, 1867); = *hybrida* (Winnertz, 1867); = *mundula* (Winnertz, 1867); = *nacta* (Johannsen, 1912); = *pagana*

(Winnertz, 1867); = *pratinnicola* (Winnertz, 1867); = *radialis* (Shaw, 1934); = *silvestris* (Frey, 1936); = *soluta* (Winnertz, 1867); = *vivida* (Winnertz, 1867).

Literature. *Faunistics*: Zetterstedt (1851): 3761; Siebke (1877): 214 [both as *Sciara atomaria*]; Lengersdorf (1926b): 4 [as *Sciara vivida*]; Lengersdorf (1930c): 52 [as *Sciara borealis* Rübsamer; recte Rübsaamen]; Soot-Ryen (1942): 76 [as *Neosciara atomaria*], 77 [as *Neosciara borealis*] and 80 [as *Neosciara vivida*]; Menzel et al. (1997): 140 [as *Scatopsciara atomaria*]; Menzel and Mohrig (2000): 494 [as *Scatopsciara (Scatopsciara) atomaria*]; Thunes et al. (2004): 85 [as *Scatopsciara atomaria*]; Mohrig et al. (2013): 235; Köhler et al. (2014): 329 [both as *Scatopsciara (Scatopsciara) atomaria*]. *Taxonomy*: Tuomikoski (1960): 151, 153 [as *Scaptosciara vivida*; recte *Scatopsciara*]; Menzel and Mohrig (2000): 494; Mohrig et al. (2013): 235 [both as *Scatopsciara (Scatopsciara) atomaria*]; Broadley et al. (2018): 234 [as *Scatopsciara atomaria*].

Localities. • AKERSHUS; Frogn, Sønderstøa-Degerud (= 'Degerud') • BUSKERUD; Sigdal, Heimseteråsen (= 'Sigdal') • FINNMARK; Alta, Bossekop in Alta (= 'Bosekop') • Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= 'Jotkajavre') • Karasjok, Karasjok at the river Karasjohka (= 'Karasjok') • HORDALAND; Kvam, 'Berge landskapsvernområde' [protected landscape area with the Bergsvatnet] NW of Tørvikbygd (= 'Kvam, Berge') • TELEMARK; Drangedal, woodland Steinknapp SW of Drangedal (= 'Drangedal, Steinknapp') • Porsgrunn, Mule Varde SE of Porsgrunn at the Eidangerfjorden (= 'Porsgrunn, Mule Varde') • TROMS; Tromsø (= 'Tromsø') • Tromsø, lake Prestvannet on the Tromsøya (= 'Prestvann, Tromsø') • TRONDELAG; Levanger, Hestøya NW of Alstahaug, southern tip Måkeskjær (= 'Måkeskjær') • Levanger, Skogn SE of Levanger (= 'ad diversorium Thynäs'; = 'ad Thyæs in Skogn'; = 'Thynäs'; = 'Tynes, Værdal') [= in the accommodation of Thy in Skogn].

• SVALBARD; Bjørnøya, Mosevatnet near Kapp Forsberg (= 'bei Mosevatnet (B.)').

Taxonomic note. The syntypes (two females) of *Sciara borealis* Rübsaamen were studied by the senior author and identified as a junior synonym of *Scatopsciara atomaria* (Zetterstedt). More detailed information will be presented in a separate publication about the *Sciara* species described by Rübsaamen (1898).

Ecological note. *Pinus sylvestris* dominated boreal forests with *Betula pubescens* and *Picea abies*; oak canopies of *Quercus robur*. In mosses, lichens and *Salix* plants (Svalbard records). Phenology: Jun.–Oct.

Scatopsciara (Scatopsciara) brevicornis (Zetterstedt, 1851)

Literature. *Faunistics*: Zetterstedt (1851): 3748; Zetterstedt (1860): 6526; Siebke (1877): 213 [all as *Sciara brevicornis*]; Soot-Ryen (1942): 79 [in part as *Neosciara nitidula*; misidentification (only cited *brevicornis* specimens)]. Menzel et al. (1990): 326 [as *Scatopsciara nacta* sensu Tuomikoski; misidentification]; Menzel and Mohrig (2000): 490 [as *Scatopsciara (Scatopsciara) brevicornis*]. *Taxonomy*: Tuomikoski (1960): 151, 153 [as *Scaptosciara nacta*; misidentification; recte *Scatopsciara*]; Menzel and Mohrig (2000): 490 [as *Scatopsciara (Scatopsciara) brevicornis*] and 498 [in part as *Scaptosciara (Scatopsciara) nacta* sensu Tuomikoski; misidentification]; Mohrig et al. (2013): 236

[as *Scatopsciara (Scatopsciara) brevicornis* in the taxonomic note of *Scatopsciara (Scatopsciara) atomaria*].

Localities. • NORWAY; without further locality details (= ‘Norvegia’; = ‘Norwegen’) • OSLO; Oslo, Tøyen (= ‘Tøyen, Oslo’) • TRØNDELAG; Levanger, Skogn SE of Levanger (= ‘Tynes, Værdal’) [= in the accommodation of Thy in Skogn] • Trondheim (= ‘ad Throndhjem’; = ‘ad Trondhjem’; = ‘ad Trondhjem [bei Trondheim]’; = ‘Trondheim’).

Ecological note. Habitats not specified. Phenology: Jul.

Scatopsciara (Scatopsciara) calamophila Frey, 1948

Literature. *Faunistics:* Köhler et al. (2014): 329 [as *Scatopsciara (Scatopsciara) calamophila*]. *Taxonomy:* Tuomikoski (1960): 151, 154 [as *Scaptosciara calamophila*; recte *Scatopsciara*]; Menzel and Mohrig (2000): 496 [as *Scatopsciara (Scatopsciara) calamophila*].

Localities. • TELEMARK; Drangedal, 300 m SE of Henneseid (= ‘Drangedal, Henseid’) • Drangedal, Djupedal 1.5 km SE of Henneseid (= ‘Drangedal, Djupedal, Henseid’) • Drangedal, woodland Steinknapp SW of Drangedal (= ‘Drangedal, Steinknapp’) • Porsgrunn, Mule Varde SE of Porsgrunn at the Eidangerfjorden (= ‘Porsgrunn, Mule Varde’).

Faunistic note. The first specimens of *Scatopsciara calamophila* from Norway were identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jun.–Jul.

Scatopsciara (Scatopsciara) fluviatilis (Lengersdorf, 1940)

Synonyms. = *coei* Freeman, 1983; = *pulchra* (Lengersdorf, 1940); = *robusticornis* (Frey, 1948).

Literature. *Faunistics:* Menzel et al. (1990): 326 [as *Scatopsciara fluviatilis*]; Tuomikoski (1960): 155 [as *Scaptosciara fluviatilis*; recte *Scatopsciara*]. *Taxonomy:* Tuomikoski (1960): 151, 155 [as *Scaptosciara fluviatilis*; recte *Scatopsciara*]; Freeman (1983): 167 [as *Scatopsciara coei*]; Menzel and Mohrig (2000): 486 [as *Scatopsciara (Scatopsciara) fluviatilis*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • FINNMARK; Tana, Tanafjorden, fjord Vestertana (= ‘Finmark, Vestertana’) • TROMS; Tromsø (= ‘Tromsø’).

Ecological note. Habitats not specified. Phenology: Aug.

Scatopsciara (Scatopsciara) multispina (Bukowski & Lengersdorf, 1936)

Literature. *Faunistics:* Köhler et al. (2014): 329 [as *Scatopsciara (Scatopsciara) multispina*]. *Taxonomy:* Tuomikoski (1960): 150, 152 [as *Scaptosciara multispina*; recte *Scatopsciara*]; Menzel and Mohrig (2000): 492 [as *Scatopsciara (Scatopsciara) multispina*].

Localities. • HORDALAND; Kvam, ‘Berge landskapsvernområde’ [protected landscape area with the Bergsvatnet] NW of Tørvikbygd (= ‘Kvam, Berge’) • TELEMARK; Drangedal, woodland Steinknapp SW of Drangedal (= ‘Drangedal, Steinknapp’).

Faunistic note. The first specimens of *Scatopsciara multispina* from Norway were identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jun.

Scatopsciara (Scatopsciara) nana (Winnertz, 1871)

Synonym. = *felti* (Pettey, 1918).

Literature. *Faunistics:* Lengersdorf (1926b): 3 [as *Sciara nana*] and 4 [as *Sciara intermista*; misidentification]; Soot-Ryen (1942): 79 [in part as *Neosciara nitidula*; misidentification (only cited *nana* and *intermista* specimens)]. *Taxonomy:* Menzel and Mohrig (2000): 492; Mohrig et al. (2013): 239 [both as *Scatopsciara (Scatopsciara) nana*].

Localities. • FINNMARK; Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= ‘Jotkajavre’) • Karasjok, Karasjok at the river Karasjohka (= ‘Karasjok’) • ROGALAND; Sandnes, Sandnes S of Stavanger (= ‘Sandnes’) • TROMS; Balsfjord, Nordkjosbotn 70 km SE of Tromsø (= ‘Nordkjosbotn’) • Karlsøy, Torsvåg at the NW coast of Vannøya 15 km N of Tromsø (= ‘Torsvåg’) • Målselv, farm Frihetsli in the Dividalen 32 km SE of Øverbygd (= ‘Frihetsli’) • Tromsø, lake Prestvannet on the Tromsøya (= ‘Prestvand’; = ‘Prestvann, Tromsø’) • TRØNDELAG; Levanger, Levanger (= ‘ad Levanger’; = ‘Levanger’).

Ecological note. Habitats not specified. Phenology: Jun.–Aug.

Scatopsciara (Scatopsciara) neglecta Menzel & Mohrig, 1998

Literature. *Faunistics:* Köhler et al. (2014): 329 [as *Scatopsciara (Scatopsciara) neglecta*]. *Taxonomy:* Menzel and Mohrig (1998): 370; Menzel and Mohrig (2000): 498 [both as *Scatopsciara (Scatopsciara) neglecta*].

Locality. • TELEMARK; Drangedal, 300 m SE of Henseid (= ‘Drangedal, Henseid’).

Faunistic note. The first specimen of *Scatopsciara neglecta* from Norway was identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jul.

Scatopsciara (Scatopsciara) pusilla (Meigen, 1818)

Synonyms. = *paludicicola* (Lengersdorf, 1940); = *pavida* (Winnertz, 1867); = *pusilliformis* Mohrig & Mamaev, 1986; = *zygoneuroides* Frey, 1948.

Literature. *Faunistics:* Lengersdorf (1926b): 3 [as *Sciara pavida*]; Soot-Ryen (1942): 80 [as *Neosciara pusilla*]. Menzel et al. (1990): 327 [as *Scatopsciara pusilla*]; Köhler et

al. (2014): 329 [as *Scatopsciara (Scatopsciara) pusilla*]. *Taxonomy*: Tuomikoski (1960): 151, 155 [as *Scaptosciara pusilla*; recte *Scatopsciara*]; Menzel and Mohrig (1998): 370; Menzel and Mohrig (2000): 499 [both as *Scatopsciara (Scatopsciara) pusilla*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • FINNMARK; Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= ‘Jotkajavre’) • TELEMAR; Drangedal, woodland Steinknapp SW of Drangedal (= ‘Drangedal, Steinknapp’).

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jun., Aug.

Scatopsciara (Scatopsciara) vitripennis (Meigen, 1818)

Synonyms. = *actuosa* (Johannsen, 1912); = *aucta* (Winnertz, 1867); = *basaliseta* (Yang & Zhang, 1987); = *coracina* (Zetterstedt, 1851); = *intermistia* (Winnertz, 1867); = *nitidula* (Zetterstedt, 1851); = *quinquelineata* (Macquart, 1834); = *superba* (Winnertz, 1867).

Literature. *Faunistics*: Zetterstedt (1851): 3739 [as *Sciara coracina*] and 3760 [as *Sciara nitidula*]; Siebke (1863): 176; Siebke (1866a): 388 [both as *Sciara quinquelineata* Macquart; recte *quinquelineata* Macquart]; Siebke (1877): 213 [as *Sciara coracina* and *Sciara quinquelineata*] and 214 [as *Sciara nitidula*]; Soot-Ryen (1942): 80 [as *Scatopsciara vitripennis*; in part (only cited *coracina*, *quinquelineata* and *vitripennis* specimens)]; Tuomikoski (1960): 152 [as *Scaptosciara vitripennis*; recte *Scatopsciara*]; Menzel and Mohrig (2000): 487 [as *Sciara coracina* and *Sciara nitidula* under *Scatopsciara (Scatopsciara) vitripennis*]; Köhler et al. (2014): 329 [as *Scatopsciara (Scatopsciara) vitripennis*]. *Taxonomy*: Tuomikoski (1960): 150, 151 [as *Scaptosciara vitripennis*; recte *Scatopsciara*]; Menzel and Mohrig (2000): 487; Mohrig et al. (2013): 240 [both as *Scatopsciara (Scatopsciara) vitripennis*].

Localities. • FINNMARK; Tana, between Porsangerfjorden and fjord Vestertana (= ‘Finmark, zwischen Porsangerfjord und Vestertana’) • HORDALAND; Kvam, ‘Berge landskapsvernområde’ [protected landscape area with the Bergsvatnet] NW of Tørvikbygd (= ‘Kvam, Berge’) • MØRE OG ROMSDAL; Haram, ? Ormeneset (= in Romsdalia ad Ormen’; = ‘Romsdals Amt, omkring Ormen’; = ‘Ormem, Romsdal’) • OPPLAND; Lesja, Fogstuen on the Dovrefjell plateau (= ‘Fogstuen’; = ‘Fokstuen, Dovre’; = ‘in alpe Dovre ad Fogstuen’; = ‘in alpe Dovre’) • OSLO; Oslo, Botanisk hage (= ‘ad Christianiam in horto botanico’; = ‘Botanical Garden, Oslo’) • Oslo, Tøyen (= ‘ad Christianiam in Tøien’; = ‘in Tøien prope Christianiam’; = ‘Tøien [Oslo]’; = ‘Tøien’) • TELEMAR; Drangedal, woodland Steinknapp SW of Drangedal (= ‘Drangedal, Steinknapp’) • TRØNDELAG; Levanger, Levanger (= ‘ad urbem Levanger’) • Levanger, Skogn SE of Levanger (= ‘ad diversorium Thynæs et urbem Levanger in paroecia Skogn’; = ‘ad Thyæs in parochia Skogn’; = ‘Thynäs’) [= in the accommodation of Thy in Skogn] • Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= ‘Kongsvold’; = ‘Kongsvold, Dovre’ = ‘in alpe Dovre ad Kongsvold’; = ‘in alpe Dovre’).

Ecological note. On coasts and in botanical gardens; oak canopies of *Quercus robur*. Phenology: May–Aug.

Schwenckfeldina carbonaria (Meigen, 1830)

Synonyms. = *frauenfeldi* (Winnertz, 1867); = *illepida* (Winnertz, 1867); = *indigena* (Winnertz, 1867), = *pilosa* Antonova, 1975.

Literature. *Faunistics:* Zetterstedt (1851): 3717; Siebke (1870): 304; Siebke (1877): 210 [all as *Sciara carbonaria*]; Soot-Ryen (1942): 77 [as *Neosciara carbonaria*]. *Taxonomy:* Tuomikoski (1960): 29; Menzel and Mohrig (2000): 510 [both as *Schwenckfeldina carbonaria*].

Localities. • BUSKERUD: Bjøberg in the Hemsedalsfjella between Hemsedal and Lærdal (= ‘Bjøberg paa Hemsedalsfjeldet’; = ‘ad Bjøberg in alpe Hemsedalsfjeld’; = ‘Bjøberg, Hemsedal’) • Røyken (= ‘in parochia Røken’; = ‘Røken’; = ‘Røyken’) • OSLO; Oslo (= ‘ad Christianiam’; = ‘Oslo’) • Oslo, Skøyen (= ‘Skøien’; = ‘Skøyen’) • Oslo, Tøyen (= ‘Tøien’; = ‘Tøyen’).

Ecological note. Habitats not specified. Phenology: Jun.–Jul.

Schwenckfeldina tridentata (Rübsaamen, 1898)

Synonyms. = *atrata* (Holmgren, 1869) [preocc.]; = *holmgreni* (Jacobson, 1898) [preocc.]; = *incisiforceps* (Frey, 1948), = *laguncularis* (Lengersdorf, 1930); = *validicornis* (Lundbeck, 1898).

Literature. *Faunistics:* Holmgren (1869): 15, 51 [as *Sciara atrata*]; Edwards (1922): 196; Edwards (1923): 236; Summerhayes and Elton (1923): 240 [all as *Sciara tridentata*]; Lengersdorf (1930a): 55 [as *Sciara atrata*]; Lengersdorf (1930c): 52 [as *Rhynchosciara laguncularis*]; Thor (1930): 31; Edwards (1935): 532 [both as *Sciara tridentata*]; Frey (1948): 77, 89 [as *Bradysia (Neosciara) incisiforceps*]; Tuomikoski (1967): 46 [as *Schwenckfeldina tridentata*]; Menzel and Mohrig (2000): 513 [as *Sciara atrata* and *Rhynchosciara laguncularis* under *Schwenckfeldina tridentata*]; Coulson and Refseth (2004): 103; Hågvar et al. (2007): 67; Coulson (2008): 162; Coulson (2013): 155; Mohrig et al. (2013): 246 [all as *Schwenckfeldina tridentata*]. *Taxonomy:* Tuomikoski (1966): 137; Tuomikoski (1967): 45; Menzel and Mohrig (2000): 513; Mohrig et al. (2013): 246 [all as *Schwenckfeldina tridentata*].

Localities. • JAN MAYEN: without further locality details (= ‘Jan Mayen Island’) • SVALBARD; Bjørnøya (= ‘Bear Island’) • Bjørnøya, bay Austervåg at the E coast (= ‘bei Austervåg (B.)’; = ‘Spitzbergen, bei Austervåg’) • Bjørnøya, Brettingsdalen at the E side of Miseryfjellet (= ‘Bear Island, Brettingsdalen’) • Bjørnøya, Nordcapp at the NE coast (= ‘Spetsberg, Nordcap’) [misinterpretation in Menzel and Mohrig (2000), not ‘Spetsberg, Nordcap (= Spitzbergen, Nordfjorden)’] • Spitsbergen, Adventdalen near Adventfjorden at the W coast (= ‘Adventdalen’) • Spitsbergen, Amsterdamøya, Smeerenburg at the SE coast (= ‘in Spetsbergia ad Smeerenberg’; = ‘Spitzbergen, Smeerenberg’; = ‘Nordfjorden, Smeerenburg’) • Spitsbergen, Bellsund at the W coast (= ‘in Spetsbergia ad Belsund’; = ‘Bellsund’; = ‘Belsund’) • Spitsbergen, Grønfjorden (= ‘in Spetsbergia ad Green Harbour’; = ‘Spetsbergia, Green Harbour’; = ‘Spetsbergia ad Green

Harbour [Spitzbergen, bei Green Harbour]; = 'Green Harbour' • Spitsbergen, Kapp Linné by the Isfjord, Isfjord Radio station (= 'Svalbard, Isfjord Radio') • Spitsbergen, Kobbefjorden at the NW coast near the Danskøya (= 'in Spetsbergia ad Kobbabay'; = 'Spitzbergen, Kobbabay'; = 'Kobbabay') • Spitsbergen, Nordaustlandet (= 'North-East Land') • Spitsbergen, Nordaustlandet, Murchisonfjorden (= 'North-East Land, Murchison Bay') • Spitsbergen, Nordfjorden between Bohemanneset and Kapp Thorsen (= 'in Spetsbergia ad Nordfjorden') • Spitsbergen, Prins Karls Forland at the W coast of Oscar II Land (= 'Prince Charles Foreland (S.)') • Spitsbergen, Prins Karls Forland at the W coast of Oscar II Land, between Richardlaguna and Carmichaelpynten (= 'Spitsbergen, Prince Charles Foreland (North Eastern Region), from Richard Lagoon to Point Carmichael') • Spitsbergen, Prins Karls Forland at the W coast of Oscar II Land, Carmichaelpynten (= 'Spitsbergen, Prince Charles' Foreland, Pt. Carmichael, Freshwater Bay district, N.E. of island') • Spitsbergen, Prins Karls Forland at the W coast of Oscar II Land, Ferskvassbukta at the NE coast (= 'Prince Charles Foreland, Freshwater Bay') • Spitsbergen, S coast of Kongsfjorden, W of Ny-Ålesund (= 'NW Spitsbergen, South coast of Kongsfjord, W of Ny Ålesund') • Spitsbergen, without further locality details (= 'Spetsbergen; = 'Spitsbergen'; = 'Spitzbergen').

Ecological note. In dry ridges and slopes with *Saxifraga oppositifolia*, mosses and lichens; in mosses and lichens; among stones and plants (e.g. *Buellia sorotia*, *Dicranoweisia crispula*, *Parmelia alpicola*, *Saxifraga oppositifolia*, *Salix polaris*); on stones of shingly raised beaches (all Svalbard records). Phenology: Jun.–Jul., Sep.

Sciara flavimana Zetterstedt, 1851

Synonyms. = *fulgens* Winnertz, 1867, = *mannii* Winnertz, 1867.

Literature. *Faunistics*: Siebke (1866a): 385; Siebke (1877): 211 [both as *Sciara flavimana*]; Soot-Ryen (1942): 76 [as *Lycoria flavimana*]; Menzel et al. (1990): 311; Menzel (1992): 267; Komarova (2006): 54 [all as *Sciara flavimana*]. *Taxonomy*: Antonova (1978): 182, 185; Menzel and Mohrig (2000): 530 [both as *Sciara flavimana*].

Localities. • NORWAY; without further locality details (= 'Norwegia'; = 'Norwegen') • MØRE OG ROMSDAL; Rauma, between Veblungnes and Romsdalshornet Mountain in the Romsdalsalpen SE of Åndalsnes (= 'Romsdals Amt, mellem Veblungsnæsset og Romsdalshorn') • Rauma, Veblungnes at the Romsdalsfjorden SW of Åndalsnes (= 'ad Veblungsnæs Romsdaliæ; = 'Veblungnes, Romsdal') • OSLO; Oslo, Tøyen (= 'in Tøien ad Christ.'; = 'Tøyen, Oslo').

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

Sciara hemerobioides (Scopoli, 1763)

Synonyms. = *lateralis* Meigen, 1818; = *morio* (Fabricius, 1794); = *thomae* (Linnaeus, 1767); = *valida* Winnertz, 1867.

Literature. *Faunistics*: Zetterstedt (1851): 3714; Siebke (1853): 305; Zetterstedt (1855): 4888; Siebke (1866a): 384, 387; Siebke (1866b): 417; Siebke (1870): 304; Siebke (1872): 96; Siebke (1877): 210; Strand (1904): 9; Lengersdorf (1926b): 3 [all as *Sciara thomae*]; Soot-Ryen (1942): 76 [as *Lycoria thomae*]; Menzel et al. (1990): 313 [as *Sciara thomae*]. *Taxonomy*: Antonova (1978): 181, 182 [as *Sciara thomae*]; Menzel and Mohrig (2000): 520; Sutou et al. (2004): 179; Komarova (2006): 52 [all as *Sciara hemerobioides*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’; = ‘Norwegia’) • BUSKERUD; Ål (= ‘Aal’) • Ringerike, farm Tanberg in Norderhov 5 km S of Hønefoss (= ‘Tandberg i Nordrehaug’) • Ringerike, Norderhov 5 km S of Hønefoss (= ‘in par. [parochia] Nordrehaug Ringerikiæ’; = ‘Nordrehaug Ringerikiæ’; = ‘Norderhov, Ringerike’; = ‘in Ringerike’) • HEDMARK; Åmot, in the Østerdalen (= ‘Østerdalen, Aamodt’; = ‘Aamodt’) • Tynset, Tyldalen in the Østerdalen (= ‘Tyldal Østerdaliæ’; = ‘Østerdalen, Tyld. len’; = ‘Tyldal’) • MØRE OG ROMSDAL; Rauma, Horgheim SE of Åndalsnes in the Romsdalen (= ‘Romsdals Amt, Horgheim’) • Rauma, Rauma in the Romsdalen (= ‘Romsdals Amt, i Rauma’) • Rauma, in the Romsdalen (= ‘ad Fladmark, Romsdaliæ’; = ‘Fladmark, Romsdal’) • OPPLAND; Nord-Fron or Sør-Fron in the Gudbrandsdalen (= ‘Gudbrandsdalen, Fron’) • Øyer in the Gudbrandsdalen (= ‘Øier Gudbrandsdaliæ’; = ‘Gudbrandsdalen, Øier’; = ‘Øyer’) • OSLO; Oslo (= ‘circa Christianiam’; = ‘Kristiania’; = ‘Oslo’) • Oslo, Tøyen (= ‘circa Christianiam’; = ‘circa Christianiam ... in Tøien’; = ‘Tøyen, Oslo’) • ØSTFOLD; Halden, Halden SE of Fredrikstad (= ‘ad Fredrikshald’; = ‘Fredrikshald’) • Sarpsborg, Sarpsborg NE of Fredrikstad (= ‘Sarpsborg’).

Ecological note. On flowers of *Pimpinella saxifraga* and *Scabiosa*; between stones on sandy soil. Phenology: Jul.–Sep.

Sciara humeralis Zetterstedt, 1851

Synonyms. = *analisis* var. *bezzii* Del Guercio, 1905; = *armata* Winnertz, 1867; = *hamatilis* Yang, Zhang & Yang, 1993.

Literature. *Faunistics*: Zetterstedt (1851): 3718; Siebke (1877): 210 [both as *Sciara humeralis*]; Soot-Ryen (1942): 75 [as *Lycoria humeralis*]; Hansen and Falck (2000): 18; Menzel et al. (1990): 312; Menzel and Mohrig (1991): 13; Menzel and Mohrig (2000): 528; Sutou et al. (2004): 187; Komarova (2006): 54 [all as *Sciara humeralis*]. *Taxonomy*: Antonova (1978): 182, 187; Menzel and Mohrig (1991): 13; Menzel and Mohrig (2000): 528; Sutou et al. (2004): 187 [all as *Sciara humeralis*].

Localities. • NORWAY; without further locality details (= ‘Norwegia’; = ‘Norwegen’) • BUSKERUD; Ringerike NE of Oslo (= ‘in Ringerige Norwegiæ’; = ‘Ringerige Norwegiæ’; = ‘Ringerige’; = ‘Ringerike’) • OSLO; Oslo, Botanisk hage (= ‘ad Christianiam in horto botanico’; = ‘Botanical Garden, Oslo’) • Østensjø, lake Østensjøvannet SE of Oslo (= ‘Østensjøvannet vel 5 km fra Oslo sentrum’).

Ecological note. In botanical gardens. Phenology: May, Aug.

***Sciara ruficauda* Meigen, 1818**

Synonyms. = *boleti* Winnertz, 1867; = *mamaevi* Antonova, 1978; = *vigilax* Winnertz, 1867.

Literature. *Faunistics:* Zetterstedt (1852): 4354; Siebke (1863): 176; Siebke (1877): 210; Lengersdorf (1926b): 3 [all as *Sciara ruficauda*]; Soot-Ryen (1942): 76 [as *Lycoria ruficauda*]; Menzel et al. (1990): 312 [as *Sciara ruficauda*]. *Taxonomy:* Antonova (1978): 182, 186 [as *Sciara mamaevi*]; Menzel and Mohrig (2000): 530 [as *Sciara ruficauda*].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • OPPLAND; Lesja, Fogstuen on the Dovrefjell plateau (= ‘ad Fogstuen’; = ‘in alpe Dovre ad Fokstuen’; = ‘Fokstuen, Dovre’) • OSLO; Oslo, Tøyen (= ‘ad Christianiam in Tøien’; = ‘ad Tøien’; = ‘Tøyen, Oslo’) • TROMS; Målselv, farm Frihetsli in the Dividalen 32 km SE of Øverbygd (= ‘Frihetsli’).

Ecological note. Habitats not specified. Phenology: Jun.–Jul.

***Trichocoelina brevicubitalis* (Lengersdorf, 1926)**

Literature. *Faunistics:* Lengersdorf (1926b): 6 [as *Sciara brevicubitalis*]; Soot-Ryen (1942): 77 [as *Neosciara brevicubitalis*]; Menzel and Mohrig (2000): 408 [as *Lycoriella (Hemineurina) brevicubitalis*]. *Taxonomy:* Menzel and Mohrig (2000): 408 [as *Lycoriella (Hemineurina) brevicubitalis*]; Vilkkamaa and Menzel (2019): 19, 53 [as *Trichocoelina brevicubitalis*].

Localities. • FINNMARK; Alta, Bojobæskihytta in the Stabbursdalen between Karasjok and Alta (= ‘Bojobæske’) • Alta, Jotkajavre fjellstue on the Finnmarksvidda between Karasjok and Alta (= ‘Jotkajavre’) • Karasjok, Karasjok at the river Karasjohka (= ‘Karasjok’) • NORDLAND; Sørfold, Røsvik on the S shore of Sørfolda (= ‘Røsvik’).

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

***Trichocoelina cochleata* (Rübsaamen, 1898)**

Synonym. = *haemorrhoidalis* (Lundbeck, 1898).

Literature. *Faunistics:* Soot-Ryen (1942): 77 [as *Neosciara cochleata*]; Tuomikoski (1960): 76; Tuomikoski (1967): 47; Coulson and Refseth (2004): 103; Coulson (2008): 161; Coulson (2013): 154; Mohrig et al. (2013): 270 [all as *Lycoriella (Hemineurina) cochleata*]. *Taxonomy:* Tuomikoski (1960): 75, 76; Menzel and Mohrig (2000): 409; Mohrig et al. (2013): 270 [all as *Lycoriella (Hemineurina) cochleata*]; Vilkkamaa and Menzel (2019): 16, 21, 53 [as *Trichocoelina cochleata*].

Localities. • FINNMARK; Vardø, Varangerhalvøya, Persfjorden (= ‘Vardö, Persfjord’).

• SVALBARD; Spitsbergen, Longyearbyen (= ‘Longyearbyen’) • Spitsbergen, without further locality details (= ‘Spitsbergen’).

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

Trichocoelina ithyspina Vilkamaa & Menzel, 2019

Literature. *Faunistics:* Vilkamaa and Menzel (2019): 29 [as *Trichocoelina ithyspina*]. *Taxonomy:* Vilkamaa and Menzel (2019): 15, 29, 53 [as *Trichocoelina ithyspina*].

Locality. • HEDMARK; Stor-Elvdal, at the river Atna, Solbakken NW of Koppang (= ‘Stor-Elvdal, Atna River, Solbakken’).

Faunistic note. The first specimen (holotype) of *Trichocoelina ithyspina* from Norway was prepared and identified in our NTI projects 2014–2018.

Ecological note. Habitats not specified. Phenology: Jun.–Jul.

Trichocoelina jukkai Vilkamaa & Menzel, 2019

Literature. *Faunistics:* Vilkamaa and Menzel (2019): 33 [as *Trichocoelina jukkai*]. *Taxonomy:* Vilkamaa and Menzel (2019): 15, 33, 53 [as *Trichocoelina jukkai*].

Locality. • TROMS; Tromsø, Nakkedalen, S of Estengammen.

Faunistic note. The first specimens (2 paratypes) of *Trichocoelina jukkai* from Norway were identified in our NTI project 2017–2018.

Ecological note. Habitats not specified. Phenology: Jul.

Trichocoelina obesula Vilkamaa & Menzel, 2019

Literature. *Faunistics:* Vilkamaa and Menzel (2019): 35 [as *Trichocoelina obesula*]. *Taxonomy:* Vilkamaa and Menzel (2019): 15, 35, 53 [as *Trichocoelina obesula*].

Locality. • SVALBARD; Bjørnøya, at the Engelskelva in the NE part of island (= ‘Svalbard, Engelskelva’) • Bjørnøya, at the Lakselva (= ‘Svalbard, Lakselva’).

Faunistic note. The first specimens (holotype, 2 paratypes) of *Trichocoelina obesula* from Norway were identified in our NTI project 2017–2018.

Ecological note. Habitats not specified. Phenology: Jul.

Trichocoelina oricillifera Vilkamaa & Menzel, 2019

Literature. *Faunistics:* Vilkamaa and Menzel (2019): 40 [as *Trichocoelina oricillifera*]. *Taxonomy:* Vilkamaa and Menzel (2019): 15, 40, 53 [as *Trichocoelina oricillifera*].

Localities. • FINNMARK; Karasjok, Karasjok at the river Karasjohka (= ‘Karasjok’) • Tana, Storfossen at the river Karasjohka near the Finnish border (= ‘Tana, Nedre Storfoss’).

Faunistic note. The first specimens (2 paratypes) of *Trichocoelina oricillifera* from Norway were identified in our NTI project 2017–2018.

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

Trichocoelina semisphaera Vilkamaa & Menzel, 2019

Literature. *Faunistics:* Vilkamaa and Menzel (2019): 43 [as *Trichocoelina semisphaera*]. *Taxonomy:* Vilkamaa and Menzel (2019): 16, 43, 53 [as *Trichocoelina semisphaera*].

Locality. • SVALBARD; Bjørnøya, at the Lakselva (= ‘Svalbard, Lakselva’).

Faunistic note. The first specimen (paratype) of *Trichocoelina semisphaera* from Norway was identified in our NTI project 2017–2018.

Ecological note. Habitats not specified. Phenology: Jul.

Trichocoelina vitticollis (Holmgren, 1883)

Synonyms. = *glacialis* (Lundbeck, 1898) [preocc.]; = *permutata* (Lundbeck, 1900).

Literature. *Faunistics:* Tuomikoski (1967): 48 [as *Lycoriella (Hemineurina) permutata*]; Menzel and Mohrig (2000): 411 [as *Sciara permutata* under *Lycoriella (Hemineurina) vitticollis*]; Coulson and Refseth (2004): 103; Coulson (2008): 162; Coulson (2013): 154; Mohrig et al. (2013): 271 [all as *Lycoriella (Hemineurina) vitticollis*]; Vilkamaa and Menzel (2019): 47 [as *Trichocoelina vitticollis*]. *Taxonomy:* Tuomikoski (1960): 75, 76 [as *Lycoriella (Hemineurina) permutata*]; Menzel and Mohrig (2000): 411; Mohrig et al. (2013): 271 [both as *Lycoriella (Hemineurina) vitticollis*]; Vilkamaa and Menzel (2019): 16, 47, 53 [as *Trichocoelina vitticollis*].

Localities. • SVALBARD; Bjørnøya (= ‘Bear Island’) • Bjørnøya, at the Lakselva (= ‘Svalbard, Lakselva’) • Spitsbergen, Adventdalen near Adventfjorden at the W coast (= ‘Adventdalen’) • Spitsbergen, Albert I Land, Lillehøkfjorden, E part of Mitrahalvøya, Nilspynten (= ‘Svalbard, Lillehøeokfjorden, Nilspynten’) • Spitsbergen, Fjortende Julibukta on the E side of Krossfjorden (= ‘Svalbard, Krossfjorden, 14. juli bukta’) • Spitsbergen, Kobbefjorden at the NW coast near the Danskøya (= ‘Kobbefjorden [Kobbabay]’) • Spitsbergen, Nordenskiöld Land, Bjørndalen W of Adventfjorden (= ‘Svalbard, Bjørndalen’) • Spitsbergen, Nordenskiöld Land, Bolterdalen on the S side of Adventdalen (= ‘Svalbard, Bolterdalen’) • Spitsbergen, Nordenskiöld Land, Colesbukta on the S side of Isfjorden (= ‘Svalbard, Colesbukta’) • Spitsbergen, Nordenskiöld Land, Hanaskogdalen on the E side of Adventfjorden (= ‘Svalbard, Hanaskogdalen’) • Spitsbergen, Nordenskiöld Land, Longyearbyen in the Longyeardalen S of Adventfjorden (= ‘Svalbard, Longyearbyen’) • Spitsbergen, S coast of Kongsfjorden, W of Ny-Ålesund (= ‘NW part of Spitsbergen, S coast of Kongsfjord, W of Ny Ålesund’; = ‘NW-Spitzbergen, Kongsfjord, Südküste, westlich von Ny Ålesund’) • Spitsbergen, Virgohamna at the N coast of Danskøya (= ‘Danskøya, Virgohamna’) • Spitsbergen, without further locality details (= ‘Spitsbergen’).

Ecological note. Under stones (some Svalbard records). Phenology: Jul.–Aug.

***Trichosia (Mouffetina) expolita* (Coquillett, 1900)**

Synonyms. = *abdita* (Johannsen, 1912); = *clavata* (Garrett, 1925); = *filispina* Menzel & Mohrig, 1997.

Literature. *Faunistics:* Menzel and Mohrig (1997): 32 [as *Trichosia (Mouffetina) filispina*]; Mohrig et al. (2013): 256 [as *Trichosia (Mouffetina) filispina* under *Trichosia (Mouffetina) expolita*]; Vilkamaa et al. (2013): 25 [as *Mouffetina expolita*]. *Taxonomy:* Menzel and Mohrig (1997): 32; Menzel and Mohrig (2000): 551 [both as *Trichosia (Mouffetina) filispina*]; Mohrig et al. (2013): 256 [as *Trichosia (Mouffetina) expolita*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • FINNMARK; Sør-Varanger, Pasvik Valley near lake Vaggatem (= ‘Pasvik-Tal bei Vaggatem’; = ‘Pasvik Valley near Vaggatem’).

Ecological note. Habitats not specified. Phenology: without data.

***Trichosia (Trichosia) caudata* (Walker, 1848)**

Synonyms. = *dziedzickii* (Grzegorzek, 1884); = *longiventris* (Zetterstedt, 1851); = *mikii* (Grzegorzek, 1884); = *sznablii* (Grzegorzek, 1884).

Literature. *Faunistics:* Zetterstedt (1851): 3727; Siebke (1863): 110; Siebke (1866a): 387; Siebke (1866b): 417; Siebke (1870): 304; Siebke (1872): 97; Siebke (1877): 211; Strand (1904): 10; Lengersdorf (1926b): 3 [all as *Sciara longiventris*]; Soot-Ryen (1942): 76 [as *Lycoria longiventris*]; Tuomikoski (1960): 19; Menzel et al. (1990): 314 [both as *Trichosia (Trichosia) caudata*]; Menzel and Mohrig (1997): 20 [as *Sciara longiventris* under *Trichosia (Trichosia) morio* sensu Menzel and Mohrig] and 21 [as *Trichosia (Trichosia) morio* sensu Menzel and Mohrig; misidentification]; Menzel and Mohrig (2000): 558 [as *Sciara longiventris* under *Trichosia (Trichosia) morio* sensu Menzel and Mohrig; misidentification]. *Taxonomy:* Tuomikoski (1957): 16 [as *Trichosia caudata*]; Tuomikoski (1960): 18, 19 [as *Trichosia (Trichosia) caudata*]; Menzel and Mohrig (1997): 19; Menzel and Mohrig (2000): 558 [both as *Trichosia (Trichosia) morio* sensu Menzel and Mohrig; misidentification].

Localities. • NORWAY; without further locality details (= ‘Norwegen’) • AKERSHUS; Skedsmo, Lillestrøm E of Oslo (= ‘Lillestrømmen in par. [parochia] Skedsmo’; = ‘ad Christianiam, Lillestrømmen’; = ‘Lillestrømmen’; = ‘Skedsmo’) • BUSKERUD; Krødsherad (= ‘Krødsherred’; = ‘Krydsherred’) • HEDMARK; Åmot, Åset 7.5 km N of Åmot in the Østerdalen (= ‘in parochiis Aamodt Østerdaliæ (ad Aaset)’; = ‘Åset, Åmot’) • Åmot, in the Østerdalen (= ‘Østerdalen, Aamodt’) • MØRE OG ROMSDAL; Rauma, Rauma in the Romsdalen (= ‘Romsdals Amt, i Rauma’) • Rauma, in the Romsdalen (= ‘ad Fladmark, Romsdaliæ’; = ‘Fladmark, Romsdal’) • OPPLAND; Nord-Aurdal, Aurdal (= Aurdal in Valdres’; = ‘Aurdal, Valdres’; = ‘Aurdal’) • Vågå, farm Sve NE of Vågåmo in the Gudbrandsdalen

(= 'Vaage Gudbrandsdaliæ ad Svee'; = 'i Vaage'; = 'Sve, Våge') • OSLO; Oslo (= 'ad Christianiam'; = 'Oslo'; = 'Moe.' [misinterpretation in Menzel and Mohrig (1997), correctly 'leg. M. Moe']) • Oslo, Tøyen (= 'Tøien'; = 'Tøyen, Oslo') • ØSTFOLD; Hvaler, Hvaløerne (= 'Hvaløerne') • TELEMARK; Porsgrunn, Porsgrunn (= 'Porsgrund') • TROMS; Nordreisa, woodland and farm Hallen at the E shore of Reisaelva SE of Storslett (= 'Nordreisa, Hallen') • TRØNDELAG; Fosnes, Jøa Island, mountain Mulfjellet SE of Dun (= 'Mulfjellet') • Levanger, Skogn SE of Levanger (= 'ad Thynæs'; = 'ad Thynæs'; = Tynes) [= in the accommodation of Thy in Skogn] • Stjørdal, farm Hammermoen NE of Stjørdal (= 'ad Hammermoen'); = 'Hammermoen') • Verdal, former poststation 'Suulstuen' SE of Vuku at the Jamtlandsvegen [road no. 72] (= 'ad Suulstuen Værdaliæ'; = 'Suulstuen Værdaliæ'; = 'Suul. [Suulstuen Værdaliæ]'; = 'Sulstuen') • Verdal, Kong Carl Johans Klev at the Jamtlandsvegen [road no. 72] SE of Vuku (= 'ad Kong Carl Johans Klev'; = 'Kong Carl Joh. Klev. [Kong Carl Johans Klev]'; = 'ad Carl Johans Klev'; = 'Karl Johans Klev') • Verdal, Østre Nes at the Jamtlandsvegen [road no. 72] between Verdal and Lysthaugen (= 'Østre Værdaliæ'; = 'Østre'; = 'Østre Nes'; = 'Østre Næs'; = 'Östre-Näs'; = 'Näs'; = 'Näs [Östre-Näs]').

Ecological note. Between stones on sandy soil; larvae in rotten wood of gray alder (*Alnus incana*); on mountains. Phenology: Apr., Jun.–Aug.

Trichosia (Trichosia) confusa Menzel & Mohrig, 1997

Literature. *Faunistics:* Zetterstedt (1871): 3721 [as *Sciara trochanterata*; in part misidentification]; Lengersdorf (1941): 48 [in part as *Sciara trochanterata*; misidentification (also discussed as *Sciara edwardsi*)]; Tuomikoski (1960): 19; Menzel et al. (1990): 314 [both as *Trichosia (Trichosia) trochanterata* sensu Edwards; in part]. *Taxonomy:* Tuomikoski (1957) 27 [as *Trichosia edwardsi* sensu Frey; misidentification]; Tuomikoski (1960) 18, 19 [as *Trichosia (Trichosia) trochanterata* sensu Edwards; misidentification]; Menzel and Mohrig (1997) 14; Menzel and Mohrig (2000) 555 [both as *Trichosia (Trichosia) confusa*].

Locality. • TRØNDELAG; Verdal, near Sul, Kongsstuggu [formerly 'Kongsstuen fjeldstue'] (= 'Kongsstuen'; = 'Kongstuen').

Ecological note. On mountains. Phenology: Jun.

Trichosia (Trichosia) edwardsi (Lengersdorf, 1930)

Literature. *Faunistics:* Camaño Portela et al. (2008): 93 [as *Trichosia edwardsi*]. *Taxonomy:* Menzel and Mohrig (1997): 20; Menzel and Mohrig (2000): 559 [both as *Lycoria edwardsi* under *Trichosia (Trichosia) morio*; misidentification]; Menzel and Heller (2006): 52 [as *Trichosia (Trichosia) edwardsi*]; Heller et al. (2016): 105 [as *Trichosia edwardsi*].

Locality. • NORWAY; without further locality details (= 'Norway') • FINNMARK; Båtsfjord, Varangerhalvøya, Ytre Syltefjord 35 km SE of Båtsfjord (published as 'Norway'; see faunistic note).

Faunistic note. The single Norwegian record of *Trichosia edwardsi* published in Camaño Portela et al. (2008) as ‘Norway’ (without collecting data) is based on the following material: NORWAY • 9 ♂♂; ‘Varanger Peninsula, Ytre, Syltefjord, 35 km S Batsfjord’; 7 Jul. 1994; M. Jaschhof leg.; aspirator; PWMP.

Ecological note. Dwarf-shrub tundra. Phenology: Jul.

Trichosia (Trichosia) flavicoxa Tuomikoski, 1960

Literature. *Faunistics:* Köhler et al. (2014): 329 [as *Trichosia (Trichosia) flavicoxa*]. *Taxonomy:* Tuomikoski (1960): 18, 19; Menzel and Mohrig (1997): 24; Menzel and Mohrig (2000): 556 [all as *Trichosia (Trichosia) flavicoxa*].

Locality. • TELEMARK; Drangedal, woodland Steinknapp SW of Drangedal (= ‘Drangedal, Steinknapp’).

Faunistic note. The first specimen of *Trichosia flavicoxa* from Norway was identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jun.

Trichosia (Trichosia) lengersdorfi Heller, Köhler & Menzel, 2016

Literature. *Faunistics:* Heller et al. (2016): 106, 109 [as *Trichosia (Trichosia) lengersdorfi*]. *Taxonomy:* Heller et al. (2016): 106 [as *Trichosia (Trichosia) lengersdorfi*].

Localities. • AKERSHUS; Nesodden, Blåbærstien in Nesoddtangen (= ‘Nesodden, Blåbærstien’; = ‘Nesodden, Blåbærstien – Østvendt skråning’ [correctly translated from Norwegian: ‘Blåbærstien, east-facing slope’]) • Nesodden, Ommen at the W side of Nesodden (= ‘Ommen – Sørvendt rasmark’ [correctly translated from Norwegian: ‘Ommen, south-facing scree’]) • Nesodden, W of abandoned settlement Flatebybråten (= ‘Flatebybråten vest’) • AUST-AGDER; Birkenes, Birkeland, Nordåsen • BUSKERUD; Kongsberg, Haugplassen near Raje in the Rajedalen (= ‘Kongsberg, Haugplassen’) • RINGERIKE, W of Hønefoss, small river Veksalbekken E of Veksalplassen [mouth of the Veksalbekken in the river Sogna] (= ‘Veksalbekken’) • Ringerike, Synneren naturreservat SW of Hønefoss (= ‘Synneren NR’) • Ringerike, W of Hallingby, S of the marsh Langmyra along the stream Sibekken (= ‘S Langmyra – Langs Sibekken’ [correctly translated from Norwegian: ‘S of Langmyra along Sibekken’]) • HEDMARK; Kongsvinger, Abborhøgda in the forest Varaldskogen S of Øyermoen [near the Swedish border] (= ‘Abborhøgda’) • HORDALAND; Bergen, Bergen, Fløyen mountain, mountain top Fløyfjellet (= Bergen, Fløyfjellet) • Bergen, Bergen, residential area Skansemyren (= ‘Skansemyren’) • Bergen, N of Langetoen (= ‘N Langetoen’) • Bergen, NW of hill Litlelia SE of Bergen, in the Sødalen N of Sødalen school (= ‘Litlelia – Valley Sødalen N of Sødalen skole’) • Eidfjord, settlement Tveit in the Simadalen NE of Eidfjord (= ‘Eidfjord, Simadalen, Tveit’) • OSLO; Oslo, Gaustad in the borough Nordre Aker (= ‘Gaustad – Jubileumsenga’) • Oslo, Ljabru in the borough Nordstrand, at the Ljan-

selva (= 'Ljabru, Ljanselva') • Oslo, borough Nordstrand, at the Ljanselva in the Liadalen (= 'Nordstrand, Ljanselva, Liadalen') • SOGN OG FJORDANE; Høyanger, NE of Austreim at the N side of Sognefjorden, N of hill Furehaugen (= 'Høyanger, N Furehaugen') • Høyanger, Vårstølen NE of Bjordal (= 'Vårstølen – Nedenfor veien' [correctly translated from Norwegian: 'Vårstølen, below the road']) • Lærdal, Eråksdalen SE of Lærdalsøyri (= 'Eråksdalen') • Lærdal, near settlement Voldum N of Borgund (= 'Lærdal, Eisurda') • Luster, NE of Gjerde, between river Jostedøla and road no. 334 near the stream Flatelvi (= 'Luster, Flatelvi – Ved Rv334' [correctly translated from Norwegian: 'by the road no. 334']) • Luster, NW of Gjerde, at the N shore of Nigardsbrevatnet near the Nigardsbreen parking area (= 'N Nigardsbrevatnet') • Luster, NW of Gaupne, near Hurrene at the E bank of river Jostedøla (= 'SW Hurrene') • Luster, SE of Gjerde, N from the farm Hesjevoll (= 'N Hesjevoll') • Sogndal, NE of Sogndal, above the road no. 55 W of the settlement Steig (= 'Sogndal, W Steig – Ovenfor veien' [correctly translated from Norwegian: 'W of Steig, above the road']) • TELEMARK; Bamble, Langøya in the Langesunds fjorden, bay at the E side of island (= 'Langøya – Bukta på østsiden (Langøya I)') [correctly translated from Norwegian: 'Langøya, bay at the eastern side (Langøya I)')] • Porsgrunn, Brevik, forest Dammane in the W part of Brevik (= 'Brevik, Dammane') • Tinn, Hovin NW of Kongsberg, Spjeldset SW of Øvre Fjellstul (= 'Hovin, Spjeldset') • Tokke, E of Dalen, headland Gunnarshelle at the N coast of the west end of lake Bandak (= 'WNW Gunnarshelle') • TRØNDELAG; Trondheim, Trondheim, Sommerlystvegen (= 'Sør-Trøndelag, Trondheim, M. Sommerlystvegen – in the garden of nr. 22') • VESTFOLD; Larvik, Farmenrøysa mountain NE of Kvelde (= 'Farmenrøysa Ø' [correctly: 'Farmenrøysa, east-facing slope']) • Larvik, hill Småås N of Larvik (= 'Larvik, Småås') • Larvik, N part of Jordstøyp naturreservat in the Lågendalen W of Kvelde (= 'Jordstøyp N') • Larvik, Nevlungstranda W of Nevlunghavn, beach Mølen (= 'Nevlungstranda – Mølen II') • Larvik, SE of Kvelde, settlement Fjære W of the Fjæreelva (= 'Fjære').

Faunistic note. The first specimens of *Trichosia lengersdorfi* from Norway were collected and/or identified in our NTI project 2014–2016.

Ecological note. East- and South-facing mountainsides; on scree of steep slopes and on the tops of woody hillsides; eroded mountains with sandy areas at the foot; on steep slopes with large elms and valuable hardwood trees; mountain birch forests; forests along streams in otherwise muddy terrain; gardens with lawn and some larger trees. Phenology: May–Sep.

Trichosia (Trichosia) splendens Winnertz, 1867

Synonyms. = *maxima* Strobl, 1880; = *winnertzi* Nowicki, 1868.

Literature. *Faunistics*: Menzel and Mohrig (1997): 22; Menzel and Mohrig (2000): 560 [both as *Trichosia (Trichosia) splendens* in the discussion of *Trichosia (Trichosia) morio*]. *Taxonomy*: Tuomikoski (1960): 17, 18; Menzel and Mohrig (1997): 10; Menzel

and Mohrig (2000): 552 [all as *Trichosia* (*Trichosia splendens*); Vilkamaa (2000): 71 [as *Trichosia splendens*].

Localities. • NORWAY; without further locality details (= ‘Norway’; see faunistic note) • TRØNDELAG; Fosnes, Jøa Island, mountain Mulfjellet SE of Dun (= ‘Mulfjellet’).

Faunistic note. The Norwegian specimen of *Trichosia splendens*, recorded without collecting details in Vilkamaa (2000), could not be found anymore in the UZMH collection (Vilkamaa, pers. comm.).

Ecological note. Habitats not specified. Phenology: without data.

Xylosciara (*Xylosciara*) *heptacantha* Tuomikoski, 1957

Literature. *Faunistics*: Hippa and Vikamaa (2004): 25 [as *Xylosciara* (*Xylosciara*) *heptacantha*]. *Taxonomy*: Tuomikoski (1957): 10 [as *Xylosciara heptacantha*]; Tuomikoski (1960): 92, 96; Menzel and Mohrig (2000): 574; Hippa and Vikamaa (2004): 23 [all as *Xylosciara* (*Xylosciara*) *heptacantha*].

Localities. • FINNMARK; Alta, Leirbotn SE of Kviby, Lakselva at the E side of Altafjorden (= ‘Leirbotn, Lakselva’) • Kvalsund, Skaidi (= ‘Skaidi’) • ROGALAND; Finnøy, Finnøy Island, Lasteinvatnet SE of Lastein at the SE coast (= ‘Finnøy, Ledsleinvatnet’) • TRØNDELAG; Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= ‘Oppdal, Kongsvoll’).

Ecological note. Habitats not specified. Phenology: May–Jul.

Xylosciara (*Xylosciara*) *spinata* (Petty, 1918)

Synonym. = *betulae* Tuomikoski, 1960.

Literature. *Faunistics*: Hippa and Vikamaa (2004): 20 [as *Xylosciara* (*Xylosciara*) *betulae*]. *Taxonomy*: Tuomikoski (1960): 92, 95; Menzel and Mohrig (2000): 568; Hippa and Vikamaa (2004): 20 [all as *Xylosciara* (*Xylosciara*) *betulae*]; Mohrig et al. (2013): 264 [as *Xylosciara* (*Xylosciara*) *spinata*].

Localities. • FINNMARK; Kvalsund, Skaidi (= ‘Skaidi’) • ROGALAND; Finnøy, Finnøy Island, Lasteinvatnet SE of Lastein at the SE coast (= ‘Finnøy, Ledsleinvatnet’) • TRØNDELAG; Oppdal, Kongsvoll near Kongsvold Fjeldstue in the Drivdalen (= ‘Oppdal, Kungsvoll’).

Ecological note. Habitats not specified. Phenology: May–Jul.

Xylosciara (*Xylosciara*) *trimera* Tuomikoski, 1960

Literature. *Faunistics*: Köhler et al. (2014): 329 [as *Xylosciara* (*Xylosciara*) *trimera*]. *Taxonomy*: Tuomikoski (1960): 90 [as *Xylosciara* (*Trixylosciara*) *trimera*]; Menzel and Mohrig (2000): 573; Hippa and Vilkamaa (2004): 11 [both as *Xylosciara* (*Xylosciara*) *trimera*].

Locality. • VESTFOLD; Larvik, lake Skjærstjø near Kvelde NW of Larvik (= ‘Larvik, Skjærstjø’).

Faunistic note. The first specimen of *Xylosciara trimera* from Norway was identified in our NTI project 2014–2016.

Ecological note. Oak canopies of *Quercus robur*. Phenology: Jul.

Xylosciara (Xylosciara) validinervis Tuomikoski, 1960

Literature. *Faunistics:* Tuomikoski (1960): 95; Hippa and Vilkkamaa (2004): 16; Mohrig et al. (2013): 265 [all as *Xylosciara (Xylosciara) validinervis*]. *Taxonomy:* Tuomikoski (1960): 92, 95; Menzel and Mohrig (2000): 569; Hippa and Vilkkamaa (2004): 16; Mohrig et al. (2013): 265 [all as *Xylosciara (Xylosciara) validinervis*].

Locality. • FINNMARK; Tana, Tanafjorden, fjord Vestertana (= ‘Finmark, Vestertana’; = ‘Finnmark, Vestertana’).

Ecological note. Habitats not specified. Phenology: Aug.

Zygoneura (Zygoneura) sciarina Meigen, 1830

Literature. *Faunistics:* Siebke (1877): 215; Lengersdorf (1926b): 4; Soot-Ryen (1942): 80 [all as *Zygoneura sciarina*]; Shin et al. (2014): 566 [as *Zygoneura (Zygoneura) sciarina*]. *Taxonomy:* Tuomikoski (1960): 156 [as *Zygoneura sciarina*]; Menzel and Mohrig (2000): 582 [as *Zygoneura (Zygoneura) sciarina*].

Localities. • NORWAY; without further locality details (= ‘Norway’) • OPPLAND; Lunner, Brovoll N of Oslo (= ‘Brovold ad Christianiam’; = ‘Brovold, Oslo’; = ‘Brovold’).

Ecological note. Habitats not specified. Phenology: Sep.

Doubtful species

The names included in this category are to be understood as ‘unplaced species’ within the Sciaridae. A reliable interpretation of the species names and their unequivocal placement within the Sciaridae on the basis of Meigen’s original descriptions is not possible without revision of the types. Consequently, these may either be synonymous names, or the Norwegian specimens may have been misidentified by previous authors.

Sciara fuscipennis Meigen, 1818

Literature. *Faunistics:* Zetterstedt (1855): 4890 [as *Sciara fuscipennis*]; Soot-Ryen (1942): 78 [as *Neosciara fuscipennis*]. *Taxonomy:* Menzel and Mohrig (2000): 600 [as *Sciara fuscipennis*].

Locality. • NORWAY; without further locality details (= ‘Norwegia’; = ‘Norge’).

Ecological note. Habitats not specified. Phenology: without data.

Sciara longipes Meigen, 1818

Literature. *Faunistics:* Zetterstedt (1851): 3757; Siebke (1877): 214 [both as *Sciara longipes*]; Soot-Ryen (1942): 78 [as *Neosciara longipes*]. *Taxonomy:* Menzel and Mohrig (2000): 600 [as *Sciara longipes*].

Locality. • OSLO; Oslo, Tøyen (= ‘in Tøien ad Christianiam’; = ‘ad Tøien’; = ‘Tøyen, Oslo’).

Ecological note. Habitats not specified. Phenology: Sep.

Sciara nigripes Meigen, 1830

Literature. *Faunistics:* Zetterstedt (1851): 3719 [as *Sciara nigripes*]; Siebke (1863): 176 [as *Sciara nigripes* Zetterstedt; recte Meigen]; Zetterstedt (1871): 3719; Siebke (1877): 210 [both as *Sciara nigripes*]; Soot-Ryen (1942): 79 [as *Neosciara nigripes*]. *Taxonomy:* Tuomikoski (1960): 52 [as *Sciara nigripes* in the discussion of *Corynoptera montana*]; Menzel and Mohrig (2000): 600 [as *Sciara nigripes*].

Localities. • NORDLAND; Bodø, Bodø, Bjerkeng (= ‘Bjerkeng’) • OPPLAND; Lesja, Fogstuen on the Dovrefjell plateau (= ‘Fogstuen’; = ‘Fokstuen, Dovre’; = ‘in alpe Dovre ad Fokstuen’; = ‘in alpe Dovre’) • OSLO; Oslo, Tøyen (= ‘ad Christianiam in Tøien’; = ‘Tøyen, Oslo’) • TRØNDELAG; Verdal, Østre Nes at the Jamtlandsvegen [road no. 72] between Verdal and Lysthaugen (= ‘ad Oestre-Näs Værdaliæ’; = ‘ad Østre Næs Værdaliæ’; = ‘Østre Nes, Værdal’).

Ecological note. Habitats not specified. Phenology: Jul.–Aug.

Sciara pulicaria Meigen, 1818

Literature. *Faunistics:* Zetterstedt (1838): 827; Zetterstedt (1851): 3741; Zetterstedt (1855): 4890; Siebke (1866a): 385; Siebke (1877): 213; Lengersdorf (1926b): 9 [all as *Sciara pulicaria*]; Soot-Ryen (1942): 79 [as *Neosciara pulicaria*]. *Taxonomy:* Menzel and Mohrig (2000): 600 [as *Sciara pulicaria*].

Localities. • NORWAY; without further locality details (= ‘Nord-Norwegen’) • MØRE OG ROMSDAL; Rauma, between Veblungsnes and Romsdalshornet Mountain in the Romsdalsalpene SE of Åndalsnes (= ‘Romsdals Amt, mellem Veblungsneset og Romsdalshorn’) • Rauma, Veblungsnes at the Romsdalsfjorden SW of Åndalsnes (= ‘ad Veblungsnes Romsdaliæ’; = ‘Veblungsnes, Romsdal’) • OSLO; Oslo (= ‘ad Christianiam’) • Oslo, Bekkelaget (= ‘Bækkelgaet’; = ‘Bekkelaget’) • Oslo, Tøyen (= ‘circa Christianiam ... in Tøien’; = ‘Tøyen, Oslo’) • TROMS; Berg/Lenvik/Tranøy/Torsken, Senja Island (= ‘Nordlandiæ Norwegiæ insula Senjen’; = ‘Nordlandiæ, insula Senjen’; = ‘insula Senjen Nordlandiæ’; = ‘Senja’).

Ecological note. Habitats not specified. Phenology: May–Aug.

Checklist of Norwegian Sciaridae

***Bradysia* Winnertz, 1867**

affinis (Zetterstedt, 1838)
alpicola (Winnertz, 1867)
angustipennis Winnertz, 1867
bicolor (Meigen, 1818)
brevispina Tuomikoski, 1960
confinis (Winnertz, 1867)
distincta (Staeger, 1840)
fenestralis (Zetterstedt, 1838)
flavipila Tuomikoski, 1960
forficulata (Bezzi, 1914)
fungicola (Winnertz, 1867)
giraudii (Egger, 1862)
hilariformis Tuomikoski, 1960
hilaris (Winnertz, 1867)
impatiens (Johannsen, 1912)
inustata (Tuomikoski, 1960)
iridipennis (Zetterstedt, 1838)
lapponica (Lengersdorf, 1926)
longicubitalis (Lengersdorf, 1924)
nervosa (Meigen, 1818)
nitidicollis (Meigen, 1818)
opaca (Winnertz, 1871)
pallipes (Fabricius, 1787)
pauperata (Winnertz, 1867)
placida (Winnertz, 1867)
praecox (Meigen, 1818)
quercina Menzel & Köhler, 2014
rufescens (Zetterstedt, 1852)
sordida (Zetterstedt, 1838)
strenua (Winnertz, 1867)
strigata (Staeger, 1840)
tilicola (Loew, 1850)
trivittata (Staeger, 1840)
vernalis (Zetterstedt, 1851)

***Bradysiopsis* Tuomikoski, 1960**

vittigera (Zetterstedt, 1851)

***Camptochaeta* Hippa & Vilkkamaa, 1994**

bournei (Shaw, 1941)
camptochaeta (Tuomikoski, 1960)
consimilis (Holmgren, 1869)
delicata (Lengersdorf, 1935)
fallax Hippa & Vilkkamaa, 1994
hirtula (Lengersdorf, 1934)
mimica Hippa & Vilkkamaa, 1994
truncata Vilkkamaa & Mohrig, 2013
xystica Hippa & Vilkkamaa, 1994

***Chaetosciara* Frey, 1942**

estlandica (Lengersdorf, 1929)

***Claustropyga* Hippa, Vilkkamaa & Mohrig, 2003**

brevichaeta (Mohrig & Antonova, 1978)
refrigerata (Lengersdorf, 1930)

***Corynoptera* Winnertz, 1867**

boletiphaga (Lengersdorf, 1940)
brachypennis (Lengersdorf, 1926)
defecta (Frey, 1948)
fatigans (Johannsen, 1912)
flavicauda (Zetterstedt, 1855)
forcipata (Winnertz, 1867)
hypopygialis (Lengersdorf, 1926)
irmgardis (Lengersdorf, 1930)
membranigera (Kieffer, 1903)
minima (Meigen, 1818)
montana (Winnertz, 1869)
penna (Petty, 1918)
roederi (Lengersdorf, 1931)
saetistyla Mohrig & Krivosheina, 1985
sphenoptera Tuomikoski, 1960
spoeckeri (Lengersdorf, 1930)
subtilis (Lengersdorf, 1929)
subvariegata Rudzinski, 1992
trepida (Winnertz, 1867)
waltraudis Mohrig & Mamaev, 1987

Cratyna Winnertz, 1867SG *Cratyna Winnertz, 1867* s. str.*ambigua* (Lengersdorf, 1934)*atra* Winnertz, 1867*hirticornis* (Meigen, 1818)*longipennis* (Lengersdorf, 1931)*uliginosa* (Lengersdorf, 1929)*uliginosoides* Heller, Köhler & Menzel, 2016SG *Spathobdella* Frey, 1948*colei* (Freeman, 1990)*falcata* (Tuomikoski, 1960)*longispina* (Petty, 1918)*nobilis* (Winnertz, 1867)*perplexa* (Winnertz, 1867)***Ctenosciara Tuomikoski, 1960****hyalipennis* (Meigen, 1804)*lutea* (Meigen, 1804)***Dichopygina Vilkamaa, Hippa & Komarova, 2004****aculeata* Vilkamaa, Hippa & Komarova, 2004*bernhardi* Vilkamaa, Hippa & Komarova, 2004*nigrohalteralis* (Frey, 1948)*ramosa* Vilkamaa, Hippa & Komarova, 2004***Dolichosciara Tuomikoski, 1960****flavipes* (Meigen, 1804)***Epidapus Haliday, 1851***SG *Epidapus Haliday, 1851* s. str.*alnicola* (Tuomikoski, 1957)*gracilis* (Walker, 1848)***Hemineurina Frey, 1942****abbrevinervis* (Holmgren, 1869)*conspicua* (Winnertz, 1867)*inflata* (Winnertz, 1867)*modesta* (Staeger, 1840)*postconspicua* (Mohrig, 1985)*venosa* (Staeger, 1840)***Leptosciarella Tuomikoski, 1960***SG *Hirtipennia* Mohrig & Menzel, 1997*hirtipennis* (Zetterstedt, 1838)SG *Leptosciarella* Tuomikoski, 1960 s. str.*fuscipalpa* (Mohrig & Mamaev, 1979)*hispida* (Winnertz, 1867)*nudinervis* (Tuomikoski, 1960)*pilosa* (Staeger, 1840)*scutellata* (Staeger, 1840)*trochanterata* (Zetterstedt, 1851)*truncata* (Tuomikoski, 1960)***Lycoriella Frey, 1942****brevipila* Tuomikoski, 1960*ingenua* (Dufour, 1839)*latilobata* Menzel & Mohrig, 2000*parva* (Holmgren, 1869)*piristylata* Vilkamaa, Hippa & Heller, 2013*sativae* (Johannsen, 1912)***Pseudolycoriella Menzel & Mohrig, 1998****paludum* (Frey, 1948)***Scatopsciara Edwards, 1927***SG *Scatopsciara* Edwards, 1927 s. str.*atomaria* (Zetterstedt, 1851)*brevicornis* (Zetterstedt, 1851)*calamophila* Frey, 1948*fluviatilis* (Lengersdorf, 1940)*multispina* (Bukowski & Lengersdorf, 1936)*nana* (Winnertz, 1871)*neglecta* Menzel & Mohrig, 1998*pusilla* (Meigen, 1818)*vitripennis* (Meigen, 1818)***Schwenckfeldina Frey, 1942****carbonaria* (Meigen, 1830)*tridentata* (Rübsaamen, 1898)

Sciara Meigen, 1803

flavimana Zetterstedt, 1851
hemerobioides (Scopoli, 1763)
humeralis Zetterstedt, 1851
ruficauda Meigen, 1818

edwardsi (Lengersdorf, 1930)
flavicoxa Tuomikoski, 1960
lengersdorfi Heller, Köhler & Menzel, 2016
splendens Winnertz, 1867

Trichocoelina Vilkkamaa & Menzel, 2019

brevicubitalis (Lengersdorf, 1926)
cochleata (Rübsaamen, 1898)
ithyspina Vilkkamaa & Menzel, 2019
jukkai Vilkkamaa & Menzel, 2019
obesula Vilkkamaa & Menzel, 2019
oricillifera Vilkkamaa & Menzel, 2019
semisphaera Vilkkamaa & Menzel, 2019
vitticollis (Holmgren, 1883)

Xylosciara Tuomikoski, 1957

SG *Xylosciara* Tuomikoski, 1957 s. str.
heptacantha Tuomikoski, 1957
spinata (Pettey, 1918)
trimera Tuomikoski, 1960
validinervis Tuomikoski, 1960

Zygoneura Meigen, 1830

SG *Zygoneura* Meigen, 1830 s. str.
sciarina Meigen, 1830

Trichosia Winnertz, 1867

SG *Mouffetina* Frey, 1942
expolita (Coquillett, 1900)
 SG *Trichosia* Winnertz, 1867 s. str.
caudata (Walker, 1848)
confusa Menzel & Mohrig, 1997

Doubtful species

fuscipennis Meigen, 1818 [*Sciara*]
longipes Meigen, 1818 [*Sciara*]
nigripes Meigen, 1830 [*Sciara*]
pulicaria Meigen, 1818 [*Sciara*]

Discussion

In this literature review we document the knowledge on the Sciaridae of Norway accumulated up to 31 December 2019, which was basically the status quo before we started our nationwide taxonomic inventory funded by the NBIC. Nonetheless, data compiled here are the result of a meticulous study of the literature in the past six years, and thus a direct outcome of our NTI projects.

History of data collection. The first mention of black fungus gnats in Norway was by Ramus (1735). In our literature study we evaluated 111 literature sources published during a period of 285 years (Fig. 5). Of these, 43 papers contain first records of species identified between 1838 and 2019 (Fig. 6). Most publications reported the occurrence of ‘army worms’ until the middle of the 19th century and it was only with Zetterstedt (1838) that faunistic investigations began to be based on detailed Norwegian data at the species level. Of the 147 species now registered, the taxonomic status of four recorded by Zetterstedt (1838, 1851, 1855) is still unclear and these are treated here as doubtful species.

Not surprisingly, knowledge about the composition of the Norwegian sciarid fauna did not increase continuously. Roughly three different time periods of taxonomic work can be distinguished (Fig. 6). The first period began with the work of Johann Wilhelm

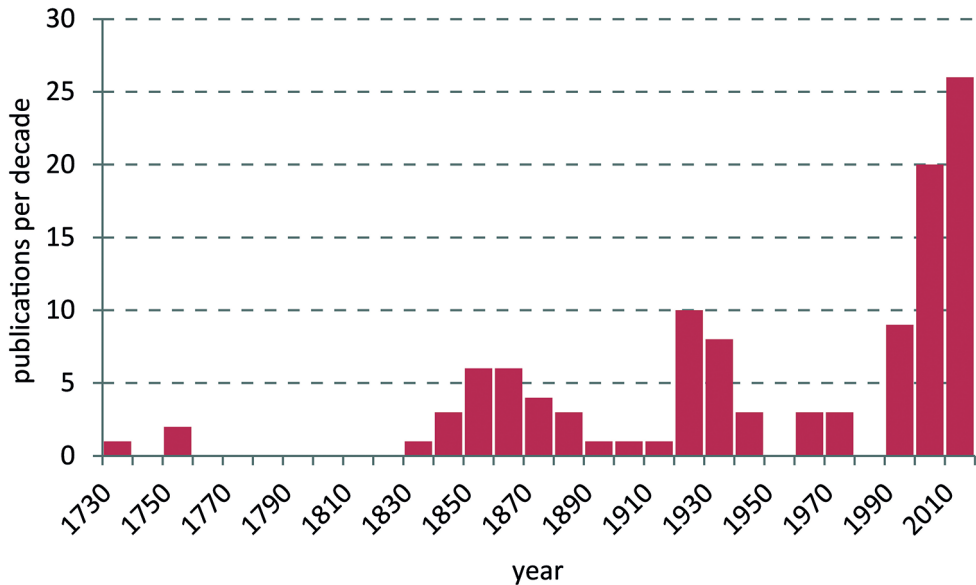


Figure 5. Number of publications on Norwegian sciarid fauna per decade between 1730 and 2020.

Zetterstedt (1785–1874), who described the first two Norwegian species in 1838. Later he published four additional books containing Norwegian records (Zetterstedt 1851, 1852, 1855, 1871). Other famous entomologists such as Francis Walker (1809–1874), Johan Heinrich Spalckhauer Siebke (1816–1875), August Emil Holmgren (1829–1888), and Wilhelm Maribo Schøyen (1844–1918) also contributed to an inventory of the Norwegian fauna. After 51 years, 41 sciarid species were recorded, representing 28% of the currently known species inventory. After an intermission of over 35 years, the second period began in 1926. Between 1926 and 1931 Franz Lengersdorf (1880–1965) added 19 new records to the faunistic inventory. Shortly thereafter, in the timescale of taxonomic and faunistic studies, Tron Soot-Ryen (1896–1986) and the founder of modern sciarid taxonomy Risto Kalevi Tuomikoski (1911–1989) recorded a further 17 species. Thus, in the second period, 36 species were recorded for the first time in Norway, representing a quarter of the known fauna. In the early 1990s, the number of publications and consequently the number of recorded species rose steeply. The increase was almost 86%, from 77 before 1990 to the current 143. The majority of these new records were provided by the dipterists Heikki Hippa, Frank Menzel, and Pekka Vilkkamaa.

For the closely related family Mycetophilidae (fungus gnats), Gammelmo and Søli (2006) described a similar curve of knowledge increase. Here, also, the beginning of the recording of the Norwegian fauna goes back to the middle of the 19th century. Through several fundamental works by J.W. Zetterstedt and J.H.S. Siebke, Siebke (1877) was already able to list an inventory of 53 Norwegian species. After this period the Mycetophilidae received only little attention until a few publications appeared in the 1970s. This was followed in 1994 by a steep increase in faunistic knowledge, leading to more

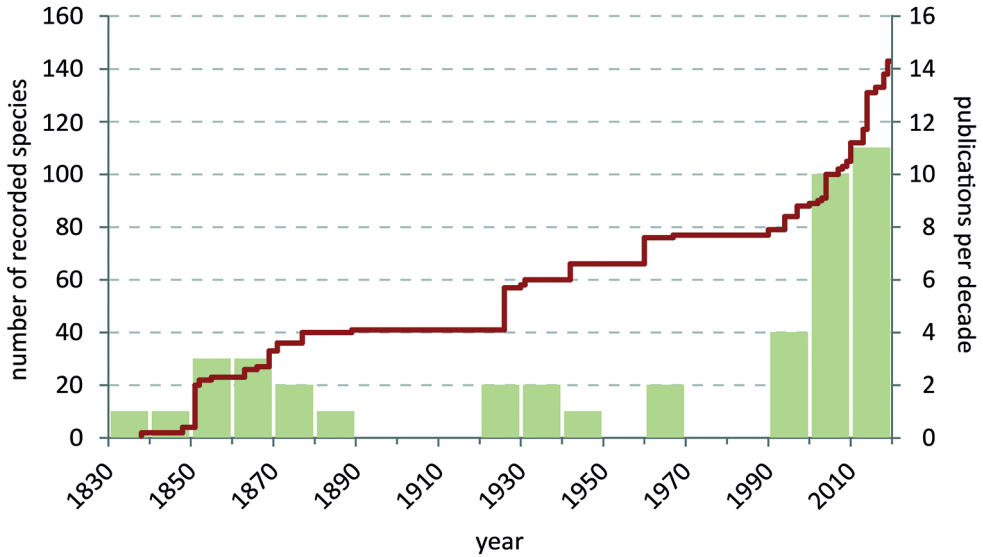


Figure 6. Cumulative increase of the number of Norwegian species records of Sciaridae (red line) and the number of corresponding publications (bars) containing first records per decade until 31 December 2019.

than 600 fungus gnat species having been recorded from Norway to date (see Gammelmo and Søli (2006), and subsequent papers). Records of approximately 200 additional species discovered in recent studies will soon be published (J. Kjærandsen, pers. comm.).

Diversity in Northern Europe. It is obvious that the 143 species summarised here are only a part of the extant sciarid fauna in Norway. We know of numerous additional species that will be dealt with in subsequent publications, including many new to science. We anticipate that the number of species in Norway is at least similar to that in Finland (370) (Vilkamaa 2014, Heller et al. 2015, Salmela et al. 2015, Hippa and Vilkamaa 2016, Vilkamaa and Menzel 2019) and Sweden (299) (Heller et al. 2009, 2015, 2016; Heller and Menzel 2013; Vilkamaa et al. 2013a–c; Vilkamaa and Menzel 2019), although the inventory for Sweden in particular is highly incomplete (Menzel et al. 2020). Even so, the results of our projects should not be regarded as exhaustive; there are still large areas, including very promising habitats, in which sciarids remain poorly sampled or have not been collected at all. Also, as the senior author's experience with the German fauna (more than 650 species) has shown, the high proportion of rare, or rarely collected, species makes it impossible to achieve a comprehensive inventory during a study period of only five years. Due to the diversity of landscape structures, climate conditions, and habitats, the number of sciarid species in Norway, including the Arctic islands, must be 20% higher than that in Sweden and Finland. Consequently, knowledge on the black fungus gnats in Norway summarised here is still incomplete and represents only 30% of the estimated inventory of ca. 450–500 species. The numbers mentioned above are an indication that we are still far from having a complete knowledge of sciarid diversity in Scandinavia, and that extensive research will be needed in the future.

Distribution and phenology in Norway. A rough summary of recorded species by mainland counties south and north of the Arctic Circle, including the offshore islands (Fig. 7) shows that a majority of 83 species were found in southern Norway while the northern mainland supports 74 species. The known species inventory of the Arctic islands ranges from three (Jan Mayen) to 13 (Spitsbergen). Our literature survey shows that some species are very common and widely distributed on the Norwegian mainland (e.g., *Bradysia nitidicollis*, *B. rufescens*, *Ctenosciara hyalipennis*, *Lycoriella ingenua*, *Scatopsciara atomaria*, *Sc. vitripennis*), similar to the situation in other European countries. Some species not only inhabit the entire mainland, but also reach the arctic islands (e.g., *Bradysia nervosa*, *B. praecox*). In addition, there are also species with a relatively large number of records, which are apparently adapted to a harsh climate with a short vegetation-growth period. These species (e.g., *Camptochaeta consimilis*, *Cam. delicata*, *Schwenckfeldina tridentata*, *Trichocoelina cochleata* and *Trichoc. vitticollis*) were only found in the far north (Troms, Finnmark) and/or on the Arctic islands of Jan Mayen, Bjørnøya and Spitsbergen. On the other hand, several species seem to occur only in southern Norway (e.g., *Cratyna uliginosoides*, *Sciara hemerobioides*, *Trichosia lengersdorfi*). The areas south of the Arctic Circle in particular have not been sufficiently investigated. At least 350 sciarid species are expected in southern Norway including the high mountains. By contrast, the number of species on the Arctic islands will be probably increase only slightly (up to 20).

The very species-rich genera *Bradysia* Winnertz, *Corynoptera* Winnertz and *Scatopsciara* Edwards are still largely underrepresented in the papers published so far (see checklist). Many Holarctic species of the genera *Claustropyga* Hippa, *Vilkamaa* &

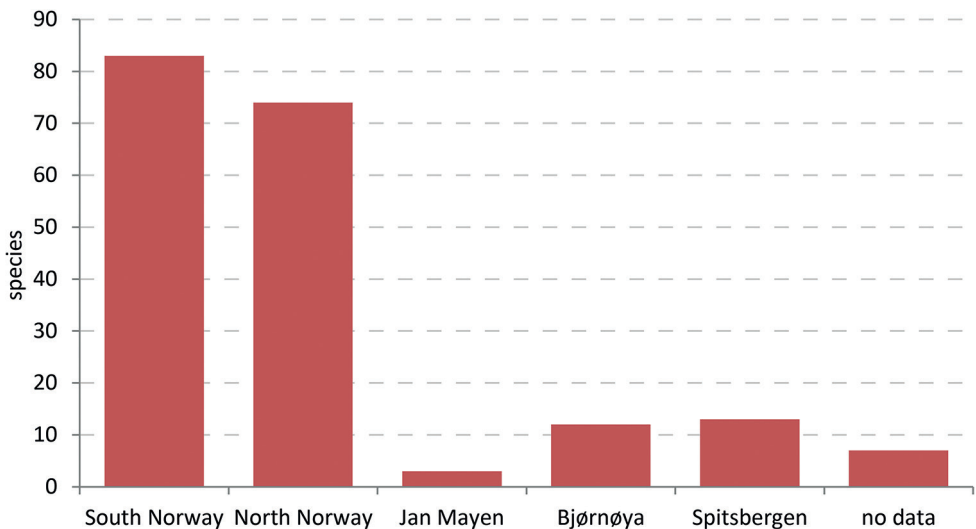


Figure 7. Distribution of sciarid species in Norway based on published records until 31 December 2019. ‘North Norway’ includes the counties Nordland, Troms and Finnmark, while the remaining counties of the Norwegian mainland are grouped as ‘South Norway’.

Mohrig, *Hemineurina* Frey, and *Lycoriella* Frey are also still missing. Only one or two species of *Epidapus* Haliday, *Dolichosciara* Tuomikoski and *Pseudolycoriella* Menzel and Mohrig have been reported from Norway so far. The genera *Cosmosciara* Frey, *Hyperlasion* Schmitz, *Phytosciara* Frey, *Prosciara* Frey, *Pnyxia* Johannsen, *Pnyxiopsis* Tuomikoski, *Scythropochroa* Enderlein and *Stenacanthella* Vilkkamaa and Menzel are not known yet from Norway. They were recorded from many countries in central and northern Europe, mostly with few species, and may also be present in Norway.

According to all literature sources, sciarids were found from March to October with a clear peak in July (Fig. 8). However, this is far from providing a realistic picture of the phenology. Together with the higher ‘accumulation of species’ in June and August, it reflects the preferred collecting period of entomologists in the summer rather than the actual phenology of Sciaridae. The sciarid records considered here are mostly from by-catches, whereas targeted long-term studies carried out with standardised trapping methods over several years in the same habitat type in Norway have not yet been undertaken.

Thiede (1977) and Feldmann (1992), for example, studied the emergence times and activity patterns of sciarids over a two to three year period in selected beech, spruce and pine forests in Germany. They found that sciarid phenology can vary significantly between studied forest ecosystems based on the species identified. Under temperate climatic conditions (e.g., in Central Europe) adults usually have two activity phases: mid-March to early June and early August to late September, with two peaks in April and September. Depending on precipitation and temperature, the first peak may shift to March or May and the second peak to June/July or October/November. Numerous ecological studies have shown that some species complete two generations per year in Central Europe, in spring and late summer or autumn. Other species are univoltine, with only one generation in spring, summer or late summer (Thiede 1977).

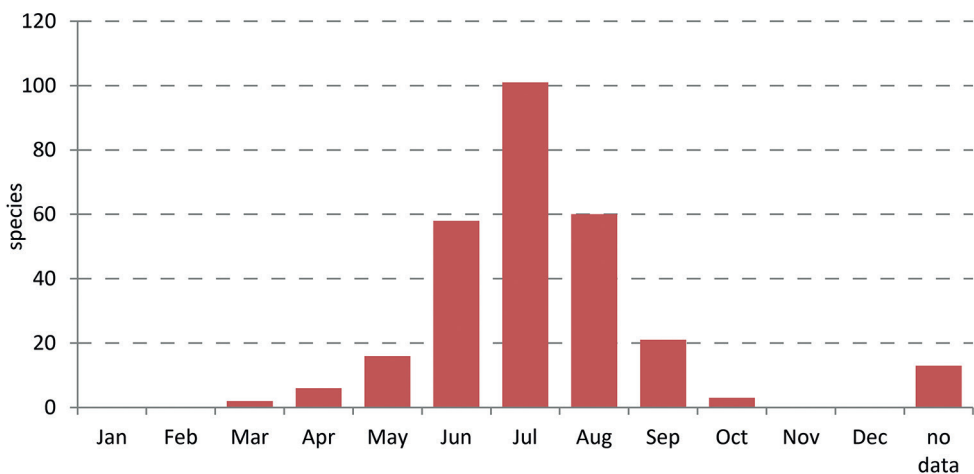


Figure 8. Phenology of sciarid species in Norway based on the flight times of adults summarised from the published records until 31 December 2019.

Unfortunately, data on Norwegian sciarids are still too sparse for a solid evaluation. Some common species are present from spring to autumn, similar to those in Central Europe (e.g., *Bradysia nitidicollis*, *Cratyna uliginosa*, *Cr. uliginosoides*, *Lycoriella ingenua*, *Scatopsciara atomaria*, *Scatopsciara vitripennis*, *Trichosia lengersdorfi*). In southern Norway some species could be bivoltine (e.g., *Bradysia iridipennis*, *Trichosia caudata*). It is to be expected for Norway that the phenologies of species adapted to temperate habitats will differ clearly from those of subpolar sites. The period of adult activity probably shortens significantly with increasing northern latitude, shifting to the summer months of June to August due to the short vegetation-growth period in the far north and Arctic islands (e.g. *Camptochaeta consimilis*, *C. delicata*, *Trichocoelina vitticollis*).

Outlook. The Sciaridae is still one of the most poorly studied families of Diptera in Norway, especially in the interior of the country, which is mostly unexplored. The life history of most Norwegian sciarid species (including immature stages and life cycles) are largely unknown. In addition, at present only little information exists on habitat preferences of the northern European species, especially those with a subarctic and arctic distribution. As a consequence, the family was not included in the new Red List for Norway (Gammemo et al. 2015). Knowledge on Sciaridae at the species level is important for understanding the complexity of terrestrial ecosystems, in particular woodland decomposition processes. The first step in establishing such knowledge must be to determine which species occur in Norway and in which habitats they thrive.

The above-mentioned NTI projects (including the present study) aimed to survey sciarids that are found in the wide array of natural habitats in Norway and in the ‘Natur i Norge’ (NiN) system. Another objective is to provide the Norwegian scientific community with tools for identifying Norwegian sciarids, including identification keys, reference collections and genetic resources. Both projects will also contribute to global biodiversity initiatives by providing data on species occurrence, genetic diversity and geographic distribution. Knowledge on the sciarid fauna in Norway is thus expected to increase considerably in the next few years. Continuous collecting efforts and taxonomic studies will provide a solid new base of knowledge on Sciaridae in Norway. Finally, we hope that the present study will contribute to a better understanding of an interesting insect group and close existing gaps of knowledge in biodiversity research, especially on the sciarid fauna of Scandinavia.

Acknowledgements

The authors are deeply grateful to the Norwegian Taxonomy Initiative (Artsprosjektet) for funding our projects on the sciarid fauna of Norway (2014–2016: grant no. 70184228; 2017–2018: grant no. 70184237). Our colleagues Dr Mathias Jaschhof (Station Linné, Färjestaden, Sweden), Kai Heller (Heikendorf, Germany), and Björn Rulík (ZFMK, Bonn, Germany) read the manuscript critically and gave valuable comments and additions. This work was also supported by Prof. Dr Torbjørn Ekrem and Dr Elisabeth Stur (NTNU-VM, Trondheim, Norway), Prof. Dr Jostein Kjærandsen (TMUC,

Tromsø, Norway), Prof. Dr Geir E.E. Søli (NHMO, Oslo, Norway), Dr Pekka Vilkkamaa (UZMH, Helsinki, Finland), and Dr Karl H. Thunes (NIBR, Ås, Norway). They provided us with samples in alcohol, loaned Norwegian sciarid specimens, provided various information about the collections included, or looked after FM and AK during the working stays at the museums in Helsinki, Tromsø, and Trondheim. We are also indebted to Andrew Liston (SDEI, Müncheberg, Germany) for checking the English.

References

- Antonova EB (1978) A review of the genus *Sciara* Meigen (Diptera: Sciaridae) from the USSR. Entomologicheskoe Obozrenie 57(1): 180–187. [in Russian]
- Becher E (1886) F. Insekten von Jan Mayen. Gesammelt von Dr. F. Fischer, Arzt der Österreichischen Expedition auf Jan Mayen. In: Kaiserliche Akademie der Wissenschaften (Ed.) Die Internationale Polarforschung 1882–1883. Die Österreichische Polarstation Jan Mayen ausgerüstet durch seine Excellenz Graf Hanns Wilczek, geleitet vom k. k. Corvetten-Capitän Emil Edlen von Wohlgemuth. Beobachtungs-Ergebnisse. 3. Band, VI. Theil. Zoologie. Karl Gerold's Sohn, Wien, 59–66. [+1 plate]
- Berthold AA (1845) Mittheilung über den Heerwurm oder Wurmdrachen. Nachrichten von der Georg August Universität und der Königlichen Gesellschaft der Wissenschaften zu Göttingen 5: 65–78.
- Berthold AA (1854) Der Heerwurm gebildet von Larven der Thomas-Trauermücke, *Sciara Thomae* [sic!]. Abhandlungen der Königlichen Gesellschaft der Wissenschaften zu Göttingen, Physikalische Classe 6 (1853–1855): 1–52. [+1 plate.]
- Berthold AA (1856) Der Heerwurm gebildet von Larven der Thomas-Trauermücke (*Sciara Thomae*) [sic!]. Abhandlungen der Königlichen Gesellschaft der Wissenschaften zu Göttingen, Physikalische Classe 6 (1853–1855): 39–88. [+1 plate] [reprint of the original publication of 1854]
- Bertram GCL, Lack D (1938) Notes on the animal ecology of Bear Island. Journal of Animal Ecology 7(1): 27–52. <https://doi.org/10.2307/1113>
- Bickel DJ, Tasker EM (2004) Tree trunk invertebrates in Australian forests: conserving unknown species and complex processes. In: Lunney D (Ed.) Conservation of Australia's Forest Fauna, second edition. Royal Zoological Society of New South Wales, Mosman, 888–898. <https://doi.org/10.7882/FS.2004.888>
- Broadley A, Kauschke E, Mohrig W (2018) Black fungus gnats (Diptera: Sciaridae) found in association with cultivated plants and mushrooms in Australia, with notes on cosmopolitan pest species and biosecurity interceptions. Zootaxa 4415(2): 201–242. <https://doi.org/10.11646/zootaxa.4415.2.1>
- Boheman CH (1847) Årsberättelse om Framstegen i Insekternas, Myriapodernas och Arachnidernas Naturalhistoria under Åren 1845 och 1846. PA Norstedt and Söner, Stockholm, 276 pp.
- Boheman CH (1866) Spetsbergens Insekt-Fauna. Öfversigt af Kungliga Vetenskaps-Akademiens Förhandlingar 22(8): 563–577. [+plate 35]

- Broadley A, Kauschke E, Mohrig W (2018) Black fungus gnats (Diptera: Sciaridae) found in association with cultivated plants and mushrooms in Australia, with notes on cosmopolitan pest species and biosecurity interceptions. *Zootaxa* 4415(2): 201–242. <https://doi.org/10.11646/zootaxa.4415.2.1>
- Camaño Portela JL, Pino Pérez JJ, Pino Pérez R, Silva-Pando FJ (2008) Contributions to the knowledge of Diptera in NW Spain – I. *Boletín Biodiversidad en Galicia* 4: 91–94.
- Coulson SJ (2008) The Terrestrial and Freshwater Invertebrate Fauna of Svalbard; a Check and Reference List. Report online, 17 October 2008, self publishing, Tunebreen, 197 pp. <http://svalbardinsects.net/assets/files/pdf/Full%20report.pdf> [Accessed on 01.08.2017]
- Coulson SJ (2013) The Terrestrial and Freshwater Invertebrate Fauna of Svalbard; a Checklist. Report online, 6 June 2013, self publishing, Tunebreen, 185 pp. [+21 unpaginated pp.] <https://www.yumpu.com/en/document/view/16680115/checklist-of-the-terrestrial-and-freshwater-invertebrate-fauna-unis> [Accessed on 03.08.2017]
- Coulson SJ, Fjellberg A, Gwiazdowicz DJ, Lebedeva NV, Melekhina EN, Solhøy T, Erséus C, Maraldo K, Miko L, Schatz H, Schmelz RM, Søli G, Stur E (2013) The invertebrate fauna of anthropogenic soils in the High-Arctic settlement of Barentsburg, Svalbard. *Polar Research* 32(1): 1–12. <https://doi.org/10.3402/polar.v32i0.19273>
- Coulson SJ, Refseth D (2004) Chapter 3. The terrestrial and freshwater invertebrate fauna of Svalbard (and Jan Mayen). In: Prestrud P, Strøm H, Goldman HV (Eds) *A Catalogue of the Terrestrial and Marine Animals of Svalbard*. Skrifter 201. Norwegian Polar Institute, Tromsø, 57–122.
- Deleporte S, Charrier M (1996) Comparison of digestive carbohydrases between two forest sciarid (Diptera: Sciaridae) larvae in relation to their ecology. *Pedobiologia* 40(3): 193–200.
- Deleporte S, Rouland C (1991) Étude préliminaire de l'équipement digestif osidasique de *Bradysia confinis* (Diptera, Sciaridae): implications dans la dégradation de la matière organique. *Comptes Rendus Hebdomadaires des Séances. Académie des Sciences Paris (Série 3)* 312(4): 165–170.
- Edwards FW (1922) XXI. Results of the Oxford University Expedition to Spitsbergen, 1921. No. 14. Diptera Nematocera. *Annals and Magazine of Natural History (Series 9)* 10: 193–215. <https://doi.org/10.1080/00222932308632762>
- Edwards FW (1923) XXIV. On the nematoceros Diptera of Jan Mayen Island. *Annals and Magazine of Natural History (Series 9)* 11: 235–240. <https://doi.org/10.1080/00222932308632846>
- Edwards FW (1924) Results of the Merton College Expedition to Spitsbergen, 1923. – No. 4. Diptera Nematocera. *Annals and Magazine of Natural History (Series 9)* 14: 162–174. <https://doi.org/10.1080/00222932408633103>
- Edwards FW (1925) Diptera (Nematocera) from Spitsbergen. Results of the Oxford University Expedition to Spitsbergen, 1924. *Annals and Magazine of Natural History (Series 9)* 16: 354–356. <https://doi.org/10.1080/00222932508633319>
- Edwards FW (1935) LI. Diptera from Bear Island. *Annals and Magazine of Natural History (Series 10)* 15: 531–543. <https://doi.org/10.1080/00222933508654996>
- Feldmann R (1992) Die Bodenmakrofauna im Lennebergwald. 1. Die Dipteren. *Mainzer Naturwissenschaftliches Archiv* 30: 171–241.

- Freeman P (1983) Revisionary notes on British Sciaridae (Diptera). *The Entomologist's Monthly Magazine* 119: 161–170.
- Freeman P (1990) Notes on British Sciaridae (Diptera) with descriptions of three new species and of a species new to Britain. *The Entomologist's Monthly Magazine* 126: 51–55.
- Frey R (1948) Entwurf einer neuen Klassifikation der Mückenfamilie Sciaridae (Lycoriidae). II. Die nordeuropäischen Arten. *Notulae Entomologicae* 27(2–4): 33–112.
- Gammelmo Ø, Søli G (2006) Norwegian fungus gnats of the family Mycetophilidae (Diptera, Nematocera). *Norwegian Journal of Entomology* 53(1): 57–69.
- Gammelmo Ø, Søli G (2015) Tovinger (Diptera). Norsk rødliste for arter 2015. Electronic version, Artsdatabanken, Trondheim. <http://www.artsdatabanken.no/Rodliste/Artsgruppene/Tovinger> [Accessed on 30.08.2018]
- Gerbachevskaja-Pavluchenko AA (1986) Family Sciaridae. In: Soós Á, Papp L (Eds) *Catalogue of Palaearctic Diptera 4: Sciaridae – Anisopodidae*. Akadémiai Kiadó, Budapest and Elsevier Science Publishers BV, Amsterdam, Oxford, New York, Tokyo, 11–72.
- Giske LAJ, Blåsmo Aronsen I (2016) Ronald skjønnte ingenting da dette dukket opp i hagen: – Det så ut som det kom rett fra en film. – iTromsø, online published on 5 July 2016, unpaginated page + film. <https://www.itromso.no/nyheter/2016/07/05/Ronald-skj%C3%B8nte-ingen-ting-da-dette-duk-ker-opp-i-hagen-%E2%80%93-Det-s%C3%A5-ut-som-det-kom-rett-fra-en-film-12998367.ece> [Accessed on 19.07.2018]
- Greve Jensen L (1979) Hærmygg-prosesjoner. *Bergens Tidende*, edition of 22 September 1979, 1 unpaginated page.
- Hågvar S, Heller K, Greve L (2007) *Lycoriella postconspicua* Mohrig, 1985 (Sciaridae, Diptera) new to Svalbard and records of some other Diptera from Svalbard. *Norwegian Journal of Entomology* 54(1): 65–68.
- Hansen LO, Falck M (2000) Insektfaunaen ved Østensjøvannet. Østensjøvannets Venner, Oslo, 27 pp. [+ 34 pp. appendix]
- Hansen LO, Granrud M (2011) Hærorm i Gudbrandsdalen. *Insekt-Nytt* 36(1): 45–48.
- Heller K (1998) Beiträge zur Sciaridenfauna Schleswig-Holsteins (Diptera). Teil 1. Das Trentmoor bei Plön. *Dipteron* 1(3): 45–56.
- Heller K (2000) Naturschutzmanagement im Feuchtgrünland und seine Auswirkungen auf bodenlebende Nematocera (Diptera: Sciaridae). *Mitteilungen der Deutschen Gesellschaft für allgemeine und angewandte Entomologie* 12(1–6): 611–614.
- Heller K, Hippa H, Vilkkamaa P (2015) Taxonomy of *Bradysia* Winnertz (Diptera, Sciaridae) in the Northern Holarctic, with the description of four new species. *European Journal of Taxonomy* 122: 1–15. <https://doi.org/10.5852/ejt.2015.122>
- Heller K, Köhler A, Menzel F, Olsen KM, Gammelmo Ø (2016) Two formerly unrecognized species of Sciaridae (Diptera) revealed by DNA barcoding. *Norwegian Journal of Entomology* 63(1): 96–115.
- Heller K, Menzel F (2013) Drei neue Trauermückenarten aus Mitteleuropa (Diptera: Sciaridae). In: Weber D (Ed.) *Die Höhlenfauna Luxemburgs*. Ferrantia 69, Musée national d'histoire naturelle du Luxembourg, Luxembourg, 337–348.
- Heller K, Vilkkamaa P, Hippa H (2009) An annotated check list of Swedish black fungus gnats (Diptera, Sciaridae). *Sahlbergia* 15(1): 23–51.

- Hippa H, Vilkkamaa P (1994) The genus *Camptochaeta* gen. n. (Diptera, Sciaridae). *Acta Zoologica Fennica* 194: 1–85.
- Hippa H, Vilkkamaa P (2004) The genus *Xylosciara* Tuomikoski (Diptera, Sciaridae) phylogeny and review of the species. *Acta Zoologica Fennica* 214: 1–38.
- Hippa H, Vilkkamaa P (2016) New species of *Claustropyga* Hippa, Vilkkamaa and Mohrig (Diptera, Sciaridae) from the Holarctic region. *Zootaxa* 4088(4): 594–600. <https://doi.org/10.11646/zootaxa.4088.4.10>
- Hippa H, Vilkkamaa P, Heller K (2010) Review of the Holarctic *Corynoptera* Winnertz, 1867, s. str. (Diptera, Sciaridae). *Zootaxa* 2695: 1–197. <https://doi.org/10.11646/zootaxa.2695.1>
- Hippa H, Vilkkamaa P, Mohrig W (2003) Phylogeny of *Corynoptera* Winnertz and related genera, with the description of *Claustropyga* gen. nov. (Diptera, Sciaridae). *Studia dipterologica* 9(2) (2002): 469–511.
- Holmgren AE (1869) Bidrag till Kännedomen om Beeren Eilands och Spetsbergens insektfauna. *Kongliga Svenska Vetenskaps-Akademiens Handlingar* 8(5): 3–55.
- Hövmeyer K (1989) Der Einfluß von Streumenge und Streuqualität auf die Siedlungsdichte von Dipterenlarven: ein Freilandexperiment im Kalkbuchenwald (Zur Funktion der Fauna in einem Mullbuchenwald 4). In: Schaeffer M (Ed.) 17. Jahrestagung Göttingen 1987. *Verhandlungen der Gesellschaft für Ökologie*, Band 17. Erich Goltze GmbH & Co. KG., Göttingen, 229–236.
- Hövmeyer K (1992) Die Dipteregemeinschaft eines Kalkbuchenwaldes: eine siebenjährige Untersuchung. *Zoologische Jahrbücher, Abteilung für Systematik, Ökologie und Geographie der Tiere* 119(2): 225–260.
- Hövmeyer K (1996) Die Dipteregemeinschaften eines Halbtrockenrasens und einer Hecke im südniedersächsischen Bergland: eine vergleichende Untersuchung. *Drosera* 96(2): 113–127.
- Hövmeyer K (1998) Diptera associated with dead beech wood. *Studia dipterologica* 5(1): 113–122.
- Hövmeyer K (1999) Abundance patterns in terrestrial dipteran communities. *Pedobiologia* 43(1): 28–43.
- Hövmeyer K (2002) Sukzession von Dipteren an Buchentotholz. *DgaaE-Nachrichten* 16(2): 55–55.
- ICZN [International Commission on Zoological Nomenclature] (1999) *International Code of Zoological Nomenclature*. Fourth Edition, adopted by the International Union of Biological Sciences. International Trust for Zoological Nomenclature, London, 306 pp.
- Kertész C [= Kertész K] (1902) *Catalogus dipterorum, hucusque descriptorum*. Volumen 1. Sciaridae, Mycetophilidae, Bibionidae, Chironomidae, Stenoxenidae, Culicidae, Ptychopteridae, Dixidae, Blepharoceridae, Simulidae, Orphnephilidae, Psychodidae, Rhyphidae. Typis G. Wesselényi, Budapestini [Budapest], 338 pp.
- Kertész K (1903) *Orthorrhapha Nematocera*. In: Becker T, Bezzi M, Bischof J, Kertész K, Stein P (Eds) *Katalog der Paläarktischen Dipteren*, Band 1. *Orthorrhapha Nematocera*. G. Wesselényi, Budapest, 382 pp.
- Kjøerandsen J (1993) Diptera in mines and other cave systems in southern Norway. *Entomologica Fennica* 4(3): 151–160. <https://doi.org/10.33338/ef.83761>

- Köhler A, Menzel F, Thunes KH, Søli GEE (2014) Black Fungus Gnats (Diptera: Sciaridae) in oak canopies: description of *Bradysia quercina* Menzel and Köhler spec. nov. and new records for Norway. *Studia dipterologica* 20(2) (2013): 325–331.
- Komarov SS (2009) A review of the sciarid species of the genus *Lycoriella* Frey (Diptera, Sciaridae) in the Altai fauna. *Entomologicheskoe Obozrenie* 88(1): 99–105. [in Russian]
- Komarova LA (2006) Review of species of the sciarid genus *Sciara* Meigen, 1803 (Diptera: Sciaridae) of the Altai fauna. In: Alejnikova VN, Dolgovyh SV (Eds) Biodiversity, Problems of Ecology of the Gorny Altai and Neighboring Territories: Present, Past, Future. Materials of the 2nd Interregional Scientific-practical Conference with international participation (11–13 September 2006, Gorno-Altaiisk). RIO of the Gorno-Altaiisk State University, Gorno-Altaiisk, 51–54. [in Russian]
- Komarova LA (2009) The sciarids of *rufescens* species-group of the genus *Bradysia* Winnertz (Diptera: Sciaridae) of Altai with description of new species. *Far Eastern Entomologist* 194: 1–5.
- Komarova LA (2016a) A review of sciarids of the genus *Leptosciarella* Tuomikoski 1960 (Diptera, Sciaridae) in the Altai fauna, with description of three new species. *Zoologicheskii Zhurnal* 95(2): 196–203. [in Russian] <https://doi.org/10.1134/S0013873816020123>
- Komarova LA (2016b) A review of sciarids of the genus *Leptosciarella* Tuomikoski 1960 (Diptera, Sciaridae) in the Altai fauna, with description of three new species. *Entomological Review* 96 (2): 255–262. <https://doi.org/10.1134/S0013873816020123>
- Komarova LA, Hippa H, Vilkkamaa P (2007) A review of the sciarids species of the genus *Camptochaeta* Hippa et Vilkkamaa, 1994 (Diptera: Sciaridae) of the Altai fauna. *Far Eastern Entomologist* 171: 1–9.
- Leng R, Heller K, Huang J, Ye L, Wu H (2018) DNA barcoding of the genus *Dichopygina*, with a new species from China (Diptera: Sciaridae). *Zoological Systematics* 43(1): 18–26. <https://doi.org/10.11865/zs.201802>
- Lengersdorf F (1926a) Die Sciariden des Naturhistorischen Museums in Wien. *Konowia* 5(3): 247–255.
- Lengersdorf F (1926b) Die Sciariden des Tromsø Museum. *Tromsø Museums Årshefter* 48(4) (1925): 1–9.
- Lengersdorf F (1928–1930) 7. Lycoriidae (Sciaridae). In: Lindner E (Ed.) (1926–1930) Die Fliegen der palaearktischen Region 2(1). E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart, 71 pp.
- Lengersdorf F (1930a) Bemerkungen zu den Zetterstedtschen, Staegerschen und Holmgrenschen *Sciara*-Typen. (Dipt. Sciar.). *Deutsche Entomologische Zeitschrift* 1930(1): 49–56. <https://doi.org/10.1002/mmnd.193019300107>
- Lengersdorf F (1930b) Eine neue *Sciara*art aus Norwegen. *Neosciara refrigerata* nov. spec. *Tromsø Museums Årshefter* 50(3) (1927): 3–4.
- Lengersdorf F (1930c) III. Ordo: Diptera. Subordo: Orthorhapha [sic!]. Gruppe: Nematocera, Oligoneura. I. Fam. Sciaridae. In: Thor S (Ed.) Beiträge zur Kenntnis der Invertebraten Fauna von Svalbard. Skrifter om Svalbard og Ishavet 27. Hos Jacob Dybwad, Oslo, 51–53.
- Lengersdorf F (1931) Zwei neue Arten der Familie Lycoriidae (Sciaridae). *Zoologischer Anzeiger* 94(3–4): 65–67.
- Lengersdorf F (1935) *Neosciara delicata* nov. spec. *Norsk Entomologisk Tidsskrift* 4(1–2): 1–75.

- Lengersdorf F (1941) Bemerkungen zu verschiedenen *Sciara*- (*Lycoria*-) Arten. Decheniana. Verhandlungen des Naturhistorischen Vereins der Rheinlande und Westfalens 100 B: 47–50.
- Menzel F (1992) Beiträge zur Taxonomie und Faunistik der paläarktischen Trauermücken (Diptera, Sciaridae). Teil II. Die Sciaridae des Museums für Naturkunde der Humboldt-Universität zu Berlin. Beiträge zur Entomologie 42(2): 259–277. <https://doi.org/10.21248/contrib.entomol.42.2.259-277>
- Menzel F, Heller K (2005) Sechs neue Arten aus den Gattungen *Bradysia*, *Camptochaeta* und *Corynoptera* (Diptera: Sciaridae) nebst einigen Bemerkungen zur Nomenklatur europäischer Trauermücken. Studia dipterologica 11(2) (2004): 335–357.
- Menzel F, Heller K (2006) Trauermücken (Diptera: Sciaridae) aus dem Nationalpark “Hainich” (Thüringen) nebst der Beschreibung von *Scatopsiara andrei* Menzel spec. nov. Studia dipterologica 13(1): 45–59.
- Menzel F, Heller K (2007) Bemerkungen zur Nomenklatur der Sciariden (Diptera, Bibionomorpha: Sciaridae). Studia dipterologica 13(2) (2006): 209–229.
- Menzel F, Martens J (1995) Die Sciaridae (Diptera, Nematocera) des Nepal-Himalaya. Teil I. Die blütenbesuchenden Trauermücken an Aronstabgewächsen der Gattung *Arisaema* (Araceae Juss.). Studia dipterologica 2(1): 97–129.
- Menzel F, Mohrig W (1991) Revision der durch Franz Lengersdorf bearbeiteten Sciaridae (Diptera, Nematocera) von Taiwan. Beiträge zur Entomologie 41(1) 9–26. <https://doi.org/10.21248/contrib.entomol.41.1.9-26>
- Menzel F, Mohrig W (1993a) Beiträge zur Taxonomie und Faunistik der paläarktischen Trauermücken (Diptera, Sciaridae). Teil III. – Die Sciaridae des Zoologischen Instituts der Martin-Luther-Universität Halle/Wittenberg und des Staatlichen Museums für Tierkunde Dresden. Beiträge zur Entomologie 43(1): 53–62. <https://doi.org/10.21248/contrib.entomol.43.1.53-62>
- Menzel F, Mohrig W (1993b) Beiträge zur Taxonomie und Faunistik der paläarktischen Trauermücken (Diptera, Sciaridae). Teil IV. – Lengersdorfsche Sciaridentypen aus dem Naturhistorischen Museum Wien (1. Beitrag). Beiträge zur Entomologie 43(1): 63–80. <https://doi.org/10.21248/contrib.entomol.43.1.63-80>
- Menzel F, Mohrig W (1997) Revision der paläarktischen Arten von *Trichosia* Winnertz sensu Tuomikoski, 1960 (Diptera, Sciaridae). – Teil I. Gattung *Trichosia* Winnertz, 1867. Studia dipterologica 4(1): 3–40.
- Menzel F, Mohrig W (1998) Beiträge zur Taxonomie und Faunistik der paläarktischen Trauermücken (Diptera, Sciaridae). Teil VI – Neue Ergebnisse aus Typenuntersuchungen und die daraus resultierenden taxonomisch-nomenklatorischen Konsequenzen. Studia dipterologica 5(2): 351–378.
- Menzel F, Mohrig W (2000) Revision der Paläarktischen Trauermücken (Diptera: Sciaridae). Studia dipterologica Supplement 6 (1999). Ampyx-Verlag, Halle an der Saale, 761 pp.
- Menzel F, Mohrig W, Báez M (1997) Die Trauermücken-Fauna der Kanarischen Inseln, unter Berücksichtigung der von Richard Frey beschriebenen Arten (Insecta: Diptera, Sciaridae). Vieraea 25(1996): 133–146.

- Menzel F, Mohrig W, Groth I (1990) Beiträge zur Insektenfauna der DDR: Diptera – Sciaridae. Beiträge zur Entomologie 40(2): 301–400. <https://doi.org/10.21248/contrib.entomol.40.2.301-400>
- Menzel F, Müller AH (2011) Trauermücken (Diptera: Sciaridae) aus Pfahlwurzeln von *Rumex obtusifolius* Linnaeus in Südwest-Thüringen (Deutschland), mit Bemerkungen zur Variabilität von *Bradysia scabricornis* Tuomikoski. Studia dipterologica 17(1–2) (2010): 161–171.
- Menzel F, Salmela J, Vilkkamaa P (2020) New species and new records of black fungus gnats (Diptera: Sciaridae) from the Viidumäe Nature Reserve, Estonia. European Journal of Taxonomy. [in press]
- Menzel F, Schulz U (2007) Die Trauermücken in Deutschland – ökosystemare Bedeutung, zöologische Koinzidenzen und bioindikatorisches Potential (Diptera: Sciaridae). Beiträge zur Entomologie 57(1): 9–36. <https://doi.org/10.21248/contrib.entomol.57.1.9-36>
- Menzel F, Smith JE (2017) 21 Sciaridae (Black Fungus Gnats). In: Kirk-Spriggs AH, Sinclair BJ (Eds) Manual of Afrotropical Diptera (Vol. 2). Nematoceros Diptera and lower Brachycera. Suricata (Vol. 5). SANBI Graphics & Editing, Pretoria, 557–580.
- Menzel F, Smith JE, Chandler PJ (2006) The sciarid fauna of the British Isles (Diptera: Sciaridae), including descriptions of six new species. Zoological Journal of the Linnean Society 146(1): 1–147. <https://doi.org/10.1111/j.1096-3642.2006.00190.x>
- Menzel F, Vilkkamaa P, Smith JE (2013) Overview of the Black Fungus Gnats from the Tristan da Cunha archipelago, including a redescription of *Hyperlasion viridiventris* (Frey) (Diptera, Sciaroidea: Sciaridae). Contributions to Entomology 63(2): 283–296. <https://doi.org/10.21248/contrib.entomol.63.2.283-296>
- Mohrig W (1969) Zur Kenntnis flügelreduzierter Dipteren der Bodenstreu. – I. Beitrag. Wissenschaftliche Zeitschrift der Ernst-Moritz-Arndt-Universität Greifswald (mathematisch-naturwissenschaftliche Reihe) 18(1–2): 53–59.
- Mohrig W (1970) Zur Kenntnis flügelreduzierter Dipteren der Bodenstreu. IV. Beitrag. Gattung *Caenosciara* (Sciaridae). Zoologischer Anzeiger 185(1–2): 140–151.
- Mohrig W (1978) Zur Kenntnis flügelreduzierter Dipteren der Bodenstreu. IX. Beitrag: Gattungen *Corynoptera*, *Bradysia* und *Plastosciara* (Sciaridae). Zoologischer Anzeiger 201(5–6): 424–432.
- Mohrig W (1985) Neue Trauermücken aus den Ostalpen (Insecta: Diptera, Sciaridae). Berichte des naturwissenschaftlich-medizinischen Vereins Innsbruck 72: 231–240.
- Mohrig W, Heller K, Hippa H, Vilkkamaa P, Menzel F (2013) Revision of Black Fungus Gnats (Diptera: Sciaridae) of North America. Studia dipterologica 19(1–2) (2012): 141–286.
- Mohrig W, Kauschke E, Heller K (2017) *Austrosciara* Schmitz and Mjöberg, 1924, a senior synonym of *Ctenosciara* Tuomikoski, 1960 (Diptera: Sciaridae) and the description of a new brachypterous species in the genus. Zootaxa 4344(2): 357–366. <https://doi.org/10.11646/zootaxa.4344.2>
- Mohrig W, Mamaev B (1970) Zur Kenntnis flügelreduzierter Dipteren der Bodenstreu. II. Beitrag. Gattung *Bradysia*, *Corynoptera*, *Lycoriella* und *Trichosia* (Sciaridae). Zoologischer Anzeiger 184(5–6): 349–359.

- Mohrig W, Mamaev B, Krivosheina N (1985) Beiträge zur Kenntnis der Trauermücken der Sowjetunion (Diptera, Sciaridae). Teil IX. Neue Arten aus der Tundra nördlich des Polarkreises. *Zoologische Jahrbücher, Abteilung für Systematik, Ökologie und Geographie der Tiere* 112(4): 429–434.
- Mohrig W, Menzel F (1993) Revision der paläarktischen Arten der *Bradysia brunnipes*-Gruppe (Diptera, Sciaridae). *Bonner Zoologische Beiträge* 44(3–4): 267–291.
- Mohrig W, Menzel F (1994) Revision der paläarktischen Arten von *Phytosciara* Frey (Diptera: Sciaridae). *Beiträge zur Entomologie* 44(1) 167–210. <https://doi.org/10.21248/contrib.entomol.44.1.167-210>
- Mohrig W, Menzel F (1997) Revision der paläarktischen Arten von *Trichosia* Winnertz sensu Tuomikoski, 1960 (Diptera, Sciaridae). – Teil II. Gattungen *Leptosciarella* Tuomikoski, 1960 und *Trichodapus* gen. nov. *Studia dipterologica* 4(1): 41–98.
- Mohrig W, Schuster R, Thaler K (1978) Flügelreduzierte Trauermücken (Fam. Sciaridae, Diptera) der Bodenstreu aus Österreich. *Carinthia II* 88(168): 393–402.
- Nesvold NK (2017a) Tusenvis av små ekle kryp krysser bilvei. Nea Radio Holtålen (NR), online published on 23 July 2017, unpaginated page + film. <http://nearadio.no/roros-holtalen/nyheter/tusenvis-av-sma-ekle-kryp-krysser-bilvei/19.17179> [Accessed on 19.07.2018]
- Nesvold NK (2017b) Mysteriet i Hessdalen er løst. Nea Radio Holtålen (NR), online published on 24 July 2017, unpaginated page + 2 interviews. <http://nearadio.no/roros-holtalen/nyheter/mysteriet-i-hessdalen-er-lost/19.17185> [Accessed on 19.07.2018]
- Østbye E, Lauritzen S-K (2013) A checklist of invertebrates from Norwegian caves and mines. *Fauna norwegica* 33: 35–51. <https://doi.org/10.5324/fn.v33i0.1585>
- Pontoppidan E (1752) *Det Første Forsøg paa Norges Naturlige Historie: Førestillende Dette Kongeriges Luft, Grund, Fielde, Vande, Væxter, Metaller, Mineralier, Steen-Arter, Dyr, Fugle, Fiske og Omsider Indbyggernes Naturel, Samt Sædvaner og Levemaade*. Berlingske Arvingers Bogtrykkerie, Ludoph Henrich Lillie, Kiøbenhavn [Kopenhagen], 338 pp. [+ 54 unpaginated pages] <https://doi.org/10.5962/bhl.title.70332>
- Pontoppidan E (1753) *Det Første Forsøg paa Norges Naturlige Historie: Førestillende Dette Kongeriges Luft, Grund, Fielde, Vande, Væxter, Metaller, Mineralier, Steen-Arter, Dyr, Fugle, Fiske og Omsider Indbyggernes Naturel, Samt Sædvaner og Levemaade*. Anden deel. Kongelige Wäysenhuses Bogtrykkerie, Gottmann Friderich Kisel, Kiøbenhavn [Kopenhagen], 464 pp. [+ 45 unpaginated pages] <https://doi.org/10.5962/bhl.title.70332>
- Pontoppidan E (1755a) *The Natural History of Norway: Containing, a Particular and Accurate Account of the Temperature of the Air, the Different Soils, Waters, Vegetables, Metals, Minerals, Stones, Beasts, Birds, and Fishes: Together with the Dispositions, Customs, and Manner of Living of the Inhabitants: Interspersed with Physiological Notes from Eminent Writers, and Transactions of Academies*. Part I. A Linde, London, 206 pp. [+ 1 map] [translated from the Danish original by Pontoppidan (1752)] <https://doi.org/10.5962/bhl.title.64789>
- Pontoppidan E (1755b) *The Natural History of Norway: Containing, a Particular and Accurate Account of the Temperature of the Air, the Different Soils, Waters, Vegetables, Metals, Minerals, Stones, Beasts, Birds, and Fishes: Together with the Dispositions, Customs, and Manner of Living of the Inhabitants: Interspersed with Physiological Notes from*

- Eminent Writers, and Transactions of Academies. Part II. A Linde, London, 291 pp. [+ 11 unpaginated pp. 'General Index'] [translated from the Danish original by Pontoppidan (1753)] <https://doi.org/10.5962/bhl.title.64789>
- Ramus J (1735) [1715] Norrignes beskrivelse: hvorudi dette riges strekning, beskaffenhed og deeling udi visse lehn, biskopsdømmer, provstier, præstegield, laugdømmer, fogderier, tinglaug rc. saavelsom indbyggernes tilstand og næring, tillige med adskillige paa et eller andet sted forefaldne merkværdigheder samt forefundne monumenter forestilles, og til slutning er hosføjet en fortegnelse paa dyr, fugle, fiske, træer, og urter som findes i Norrige. HR Majsts. and Univ. Bogtrykkerie, JJ Hopffner, Kjøbenhavn [Kopenhagen], 274 pp. [Remark: The book was completed in 1715, but not printed until 1735.]
- Ringsaker TH (2018) Hva er dette? Tinna trodde hun så orm – ble fascinert da hun så nærmere. VGTV, VG Nyheter, online published on 3 Aug. 2018, unpaginated page + film. <https://www.vgtv.no/video/162419/tinna-trodde-hun-saa-orm-ble-fascinert-dahun-saa-naermere> [Accessed on 10.08.2018]
- Rübsaamen EH (1898) VIII. Grönländische Mycetophiliden, Sciariden, Cecidomyiden, Psylliden, Aphiden und Gallen. *Bibliotheca Zoologica* 20(8): 103–119.
- Rudzinski H-G (1994a) Trauermückenfunde aus Nord-Mähren (Diptera: Sciaridae). *Entomological Problems* 25(2): 11–23.
- Rudzinski H-G, Ševčík J (2012) Fungus gnats (Diptera: Sciaroidea) of the Gemer region (Central Slovakia) Part 3 – Sciaridae. *Časopis Slezského zemského muzea (Série A – vědy přírodní)* 61: 143–157.
- Rulik B, Wanke S, Nuss M, Neinhuis C (2008) Pollination of *Aristolochia pallida* Willd. (Aristolochiaceae) in the Mediterranean. *Flora* 203(2): 175–184. <https://doi.org/10.1016/j.flora.2007.02.006>
- Sæthre M-G, Staverløkk A, Hågvar EB (2010) Stowaways in horticultural plants imported from the Netherlands, Germany and Denmark. *Norwegian Journal of Entomology* 57(1): 25–35.
- Salmela J, Siivonen S, Dominiak P, Haarto A, Heller K, Kanervo J, Martikainen P, Mäkilä M, Paasivirta L, Rinne A, Salokannel J, Söderman G, Vilkamaa P (2015) Malaise-pyynti Lapin suojelalueilla 2012–2014 [Malaise-trapping of insects in conservation areas in Lapland within 2012–2014]. *Metsähallituksen luonnonsuojelujulkaisuja (Sarja A)* 221: 1–141.
- Schmidt HB (1979) Rasterelektronenmikroskopischer Nachweis der Übertragung von Basidiosporendes Kulturchampignons durch Dipteren (Sciaridae). *Archiv für Phytopathologie und Pflanzenschutz* 15(6): 425–427. <https://doi.org/10.1080/03235407909437502>
- Schøyen TH (1917) Beretning om Skadeinsekter og Plantesygdommer i Land- og Havebruket 1916. Grøndahl and Søns boktrykkeri, Kristiania [Oslo], 37–94.
- Schøyen TH (1926) Beretning om Skadeinsekter og Plantesygdommer i Land- og Havebruket i Årene 1924 og 1925. Grøndahl and Søns boktrykkeri, Oslo, C1–C31.
- Schøyen TH (1936) Melding om Skadeinsekter på Skogtrærne i Årene 1931–1935. Tandberg and Jensens boktrykkeri, Oslo, 76–82.
- Schøyen WM (1889) Supplement til H. Siebke's Enumeratio insectorum Norvegicorum, Fasc. IV. (Diptera). *Christiania Videnskabs-Selskabs Forhandling* 1889(12): 1–15.
- Schøyen WM (1893) Beretning om Skadeinsekter og Plantesygdomme i 1892. Grøndahl and Søns bogtrykkeri, Kristiania [Oslo], 42 pp.

- Shin S, Menzel F, Heller K, Lee H, Lee S (2014) Review of the genus *Cratyna* Winnertz (Diptera: Sciaridae) in Korea, including the description of a new species. *Zootaxa* 3794(3): 344–354. <https://doi.org/10.11646/zootaxa.3794.3.2>
- Shin S, Menzel F, Lee H, Lee S (2014) Review of the genus *Zygoneura* Meigen (Diptera: Sciaridae) in Korea, with an updated checklist of the World species. *Journal of Asia-Pacific Entomology* 17(3): 561–567. <https://doi.org/10.1016/j.aspen.2014.05.004>
- Siebke H (1853) Beretning om en i Sommeren 1850 foretagen entomologisk Reise i en Deel af Gudbrandsdalen. *Nyt Magazin for Naturvidenskaberne* 7(3): 253–306.
- Siebke H (1863) Beretning om en i Sommeren 1861 foretagen entomologisk Reise. *Nyt Magazin for Naturvidenskaberne* 12(1–2): 105–192.
- Siebke H (1866a) Entomologisk Reise i Romsdals Amt i Sommeren 1864. *Nyt Magazin for Naturvidenskaberne* 14(4): 375–388.
- Siebke H (1866b) Entomologiske Undersøgelser, foretagne i Sommeren 1865. *Nyt Magazin for Naturvidenskaberne* 14(4): 389–420.
- Siebke H (1870) Beretning om en i Sommeren 1869 foretagen entomologisk Reise gennem Ringerike, Hallingdal og Valdres. *Nyt Magazin for Naturvidenskaberne* 17(4): 246–314.
- Siebke H (1872) Bidrag til Norges Insektfauna. Beretning om en i Østerdalen foretagen Reise i 1870. *Nyt Magazin for Naturvidenskaberne* 19(1–2): 39–102.
- Siebke H (1877) *Catalogum Dipteriorum Continentem*. In: Schneider JS (Ed.) *Enumeratio Insectorum Norvegicorum* 4, Typis AW Brøgger, Christianiæ [Oslo], 255 pp.
- Soot-Ryen T (1942) A List of the Norwegian Lycoridae (Diptera Nematocera). *Norsk Entomologisk Tidsskrift* 6(2–3): 74–80.
- Staverløkk A, Sæthre M-G (2007) Stowaways in imported horticultural plants: alien and invasive species – assessing their bioclimatic potential in Norway. *Bioforsk Report* 2(66): 1–71.
- Stenløkk J (2011) Insekter i krigføring. *Insect-Nytt* 36(4): 5–18.
- Strand E (1904) Norske lokaliteter for Diptera. *Forhandlinger i Videnskabs-selskabet i Christiania* 1903(3): 1–11.
- Summerhayes VS, Elton CS (1923) Contributions to the ecology of Spitsbergen and Bear Island. *Journal of Ecology* 11(2): 214–286. <https://doi.org/10.2307/2255863>
- Summerhayes VS, Elton CS (1928) Further contributions to the ecology of Spitsbergen. *Journal of Ecology* 16(2): 193–268. <https://doi.org/10.2307/2255794>
- Sundby R (1967) Hærorormen igjen observert i Norge. *Fauna. Norsk Zoologisk Forenings Tidsskrift* 20(1): 4–7.
- Sundbye A (2005) Hærmygg. *Norsk Hagetidend* 3: 1–55.
- Sundbye A, Johansen NS (2002) Nytteorganismer mot hærmygg i julestjerne. *Gartneryrket* 16: 26–27.
- Sundbye A, Johansen NS (2003) Nytteorganismer mot hærmygg i julestjerne. *Grønn kunnskap* e 7(116): 1–3. <http://hdl.handle.net/11250/2505781>
- Sutou M, Ito MT, Menzel F (2004) A taxonomic study on the Japanese species of the genus *Sciara* Meigen (Diptera: Sciaridae). *Studia dipterologica* 11(1): 175–192.
- Thiede U (1977) Untersuchungen über die Arthropodenfauna in Fichtenforsten (Populationsökologie, Energieumsatz). *Zoologische Jahrbücher, Abteilung für Systematik, Ökologie und Geographie der Tiere* 104(2): 137–202.

- Thor S (1930) Beiträge zur Kenntnis der Invertebraten Fauna von Svalbard. Skrifter om Svalbard og Ishavet 27, Hos Jacob Dybwad, Oslo, 156 pp. [+ 26 plates]
- Thunes KH, Skartveit J, Gjerde I (2003) The canopy arthropods of old and mature pine *Pinus sylvestris* in Norway. *Ecography* 26(4): 490–502. <https://doi.org/10.1034/j.1600-0587.2003.03392.x>
- Thunes KH, Skartveit J, Gjerde I, Starý J, Solhøy T, Fjellberg A, Kobro S, Nakahara S, zur Strassen R, Vierbergen G, Szadziewski R, Hagan DV, Grogan WL, Jonassen T, Aakra K, Anonby J, Greve L, Aukema B, Heller K, Michelsen V, Haenni J-P, Emeljanov AF, Douwes P, Berggren K, Franzen J, Disney RHL, Prescher S, Johanson KA, Mamaev B, Podenas S, Andersen S, Gaimari SD, Nartshuk E, Søli GEE, Papp L, Midtgaard F, Andersen A, von Tschirnhaus M, Bächli G, Olsen KM, Olsvik H, Földvári M, Raastad JE, Hansen LO, Djursvoll P (2004) The arthropod community of Scots pine (*Pinus sylvestris* L.) canopies in Norway. *Entomologica Fennica* 15(2): 65–90. <https://doi.org/10.33338/ef.84211>
- Trail JWH (1889) The galls of Norway. *Transactions of the Botanical Society of Edinburgh* 17(1) (1887–1888): 201–219. <https://doi.org/10.1080/03746608909468345>
- Tuomikoski R (1957) Beobachtungen über einige Sciariden (Dipt.), deren Larven in faulem Holz oder unter der Rinde abgestorbener Bäume leben. *Annales Entomologici Fennici* 23(1): 3–35.
- Tuomikoski R (1959) Mitteilungen über Sciariden (Dipt.). *Annales Entomologici Fennici* 25(1): 35–49.
- Tuomikoski R (1960) Zur Kenntnis der Sciariden (Dipt.) Finnlands. *Annales Zoologici Societatis Zoologicae Botanicae Fennicae “Vanamo”* 21(4): 1–164.
- Tuomikoski R (1966) Die Stellung von *Sciara tridentata* Rübs. (Dipt., Sciaridae). *Annales Entomologici Fennici* 32(2): 1–137.
- Tuomikoski R (1967) Notes on the arthropod fauna of Spitsbergen I. 6. Mycetophilidae and Sciaridae from Spitsbergen, collected by Dr. J. Kaisila in 1965. *Annales Entomologici Fennici* 33(1): 43–51.
- Vilkamaa P (2000) Phylogeny of *Prosciara* Frey and related genera (Diptera: Sciaridae). *Systematic Entomology* 25(1): 47–72. <https://doi.org/10.1046/j.1365-3113.2000.00094.x>
- Vilkamaa P (2014) Checklist of the family Sciaridae (Diptera) of Finland. In: Kahanpää J, Salmela J (Eds) Checklist of the Diptera of Finland. *ZooKeys* 441: 151–164. <https://doi.org/10.3897/zookeys.441.7381>
- Vilkamaa P, Heller K, Hippa H (2013) New species of Sciaridae (Diptera) to the Finnish fauna. *Sahlbergia* 19(1–2): 20–29.
- Vilkamaa P, Hippa H (2004) The genus *Xenosciara* gen. n. and the phylogeny of the Sciaridae (Diptera). *Zootaxa* 699: 1–24. <https://doi.org/10.11646/zootaxa.699.1>
- Vilkamaa P, Hippa H, Heller K (2013a) Review of the genus *Camptochaeta* Hippa and Vilkamaa (Diptera, Sciaridae), with the description of nine new species. *Zootaxa* 3636(3): 476–488. <https://doi.org/10.11646/zootaxa.3636.3.6>
- Vilkamaa P, Hippa H, Heller K (2013b) Notes on the taxonomy of the Holarctic *Corynoptera* Winnertz sensu lato (Diptera, Sciaridae) with description of six new species. *Zootaxa* 3710(4): 322–332. <https://doi.org/10.11646/zootaxa.3710.4.2>
- Vilkamaa P, Hippa H, Heller K (2013c) Taxonomy of the Sciaridae (Diptera) of Northern Europe: description of eight new species. *Studia dipterologica* 20(1): 47–58.

- Vilkamaa P, Hippa H, Komarova LA (2004) The genus *Dichopygina* gen. n. (Diptera: Sciaridae). *Insect Systematics and Evolution* 35(1): 107–120. <https://doi.org/10.1163/187631204788964691>
- Vilkamaa P, Menzel F (2019) Re-classification of *Lycoriella* Frey sensu lato (Diptera, Sciaridae), with description of *Trichocoelina* gen. n. and twenty new species. *Zootaxa* 4665(1): 1–67. <https://doi.org/10.11646/zootaxa.4665.1.1>
- Vogel S, Martens J (2000) A survey of the function of the lethal kettle traps of *Arisaema* (Araceae), with records of pollinating fungus gnats from Nepal. *Botanical Journal of the Linnean Society* 133: 61–100. <https://doi.org/10.1111/j.1095-8339.2000.tb01537.x>
- Walker F (1848) List of the Specimens of Dipterous Insects in the Collection of the British Museum, Part 1. Edward Newman, London, 229 pp.
- Zetterstedt JW (1838) Sectio Tertia. Diptera. Dipterologis Scandinaviae. In: Zetterstedt JW (Ed.) *Insecta Lapponica*. Leopold Voss, Lipsiae [Leipzig], 477–868.
- Zetterstedt JW (1851) Diptera scandinaviae disposita et descripta 10. ex officina Lundbergiana, sumtibus regiis. Lundae [Lund], 3711–4090.
- Zetterstedt JW (1852) Diptera scandinaviae disposita et descripta 11. ex officina Lundbergiana, sumtibus regiis. Lundae [Lund], 4091–4545.
- Zetterstedt JW (1855) Diptera scandinaviae disposita et descripta 12. ex officina Lundbergiana, sumtibus regiis. Lundae [Lund], 4547–4942.
- Zetterstedt JW (1860) Diptera scandinaviae disposita et descripta 14. ex officina Lundbergiana, sumtibus regiis. Lundae [Lund], 6191–6609.