

Addition of fourteen species to the list of Danish aphids (Homoptera, Aphidoidea)

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Heie, O. E.: Addition of fourteen species to the list of Danish aphids (Homoptera, Aphidoidea).
Ent. Meddr 59: 51-56. Copenhagen, Denmark 1991. ISSN 0013-8851.

The following 14 aphid species are added to the list of species occurring in Denmark: *Anoecia major*, *Aphis euphorbiae*, *A. pernilleae*, *Baizongia pistaciae*, *Eriosoma anncharlotteae*, *Dysaphis bononii*, *D. hirsutissima*, *D. maritima*, *Macrosiphum albifrons*, *Muscaphis musci*, *Ovatomyzus chamaedrys*, *Plocamaphis amerinae*, *Uroleucon telekiae* and *U. erigeronensis*. The species *M. albifrons* (on lupine) and *U. erigeronensis* (on *Erigeron canadensis*) are of American origin, but recently found in several European countries, probably introduced by aircraft. The moss aphid *Myzodidium modestum* shall be deleted from the list because the material belongs to *Pseudacaudella rubida*. The correct name for one of the most common aphids in Denmark since 1982, listed as *T. saltans* (on elm), is *T. nevskyi*; the true *T. saltans* lives in Central and East Asia.

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Introduction

The total number of aphid species in Denmark given by Heie (1986a) was 445. It shall be reduced to 444 as *Aphis gossypii* must be regarded as a subspecies of *A. frangulae* (Heie, 1986b). Addition of the fourteen species listed below and subtraction of one species (*Myzodidium modestum*) result in a new total number of 457 species. Two of the species new to Denmark were found among old alcohol samples in the Zoological Museum, Copenhagen, collected in the 19th century and now mounted. Some species were found and determined by Dr. Thomas Thieme and cand. scient. Lone Godske.

Numbers in brackets after species names indicate sequence of species according to the first list (Heie 1960-70) and – when a species has been treated in one of the published volumes of Fauna entomologica scandinavica (abbreviation FES I, II and III) – species number in FES.

Annotated list of 14 species new to Denmark

Anoecia major Börner, 1950 (291b)
(FES I 10)

Germany, Netherlands, Sweden and Denmark.

Danish record: EJ: Randers, nest of *Lasius flavus*, October 1988 (Lone Godske coll. et det.) (Godske, in press).

The biology of the species is little known; it has been found in Germany on roots of grasses (e.g. *Calamagrostis arundinacea* and *Brachypodium pinnatum*) and is perhaps – like some other *Anoecia* spp. – host-alternating, with *Cornus* as the primary host, but it has never been observed on *Cornus* in nature. It resembles the common, host-alternating *Anoecia corni*, but has a longer rostrum, reaching almost to the middle part of abdomen.

Aphis euphorbiae Kaltenbach, 1843 (152b)
(FES III 200)

Europe, including Sweden, South West Asia, Africa, North America and Australia.

Danish record: LFM: Møn: *Euphorbia* sp., 23.vii.1990 (Thomas Thieme coll. et det.).

The apterous viviparous female is blackish brown, shiny and more or less wax-powdered, with a pigmented, nearly rectangular dorsal patch. It lives primarily on upper parts of *Euphorbia cyparissias*, and is apparently a rare species in North Europe.

Aphis permilleae Heie, 1986 (169a)
(FES III 230)

Only in Denmark.

Danish records: EJ: Mols, roots of *Hypochoeris* sp. (probably *glabra*), 4.viii.1959, 7.vii.1960, 8.ix.1960 (OEH coll.) (Heie 1986b).

It is a small green aphid (Fig. 3) feeding on roots of *Hypochoeris*. Colonies can be found down to 21 cm below the surface of the soil. Oviparae have been collected in September, showing that the species is holocyclic and monoecious.

Baizongia pistaciae (Linné, 1767) (317b)
(FES I 47)

Europe, Asia and North Africa.

Danish records: WJ: Tipperne, trap near *Deschampsia caespitosa*, August 1977 (E. Rald coll., OEH det.); EJ: Alrø, nest of *Lasius flavus*, 17.xii.1987 (Lone Godske coll. et det.), and also recorded from Samsø, December 1987 (Godske, in press).

Like *Aploneura lentisci* it produces wax from six longitudinal rows of dorsal wax gland plates, but its body is broader, nearly globular. In South Europe the species is host-alternating, with *Pistacia terebinthus* as the primary host, making galls shaped like cows' horns, and grasses as the secondary hosts. In North Europe it lives on roots of grasses and reproduces by parthenogenesis, exclusively. It is unlike *Aploneura* strongly associated with ants, especially *Lasius flavus*.

Dysaphis bononii
(Hille Ris Lambers, 1935) (128b)

Europe, including Sweden.

Danish record: EJ: Horsens, *Pastinaca sativa*, 21.viii.1988 (OEH coll. et det.).

It is dull greyish green, occasionally slightly pink, with a thin layer of wax, feeds in leaf sheaths and on lower parts of stems of *Pastinaca*, visited by ants (Fig. 2). Host alternation does not take place.

Dysaphis hirsutissima (Börner, 1940)
(129a)

Europe north of the Alps.

Danish records: WJ: Læborg, 6.vii.1988; NWZ: Vig Lyng, 11.vi.1972; NEZ: Nærum, 17.vi.1972; all on *Anthriscus silvestris* (OEH coll. et det.).

This bluish green, very long-haired aphid lives in leaf sheaths of *Anthriscus silvestris*, visited by ants (Fig. 1). It is holocyclic and monoecious.

Dysaphis (Pomaphis) maritima
(Hille Ris Lambers, 1955) (132a)

Coasts in North West Europe.

Danish record: EJ: Samsø, nest of *Lasius flavus*, about 1985 (M. Gissel Nielsen coll., OEH det.).

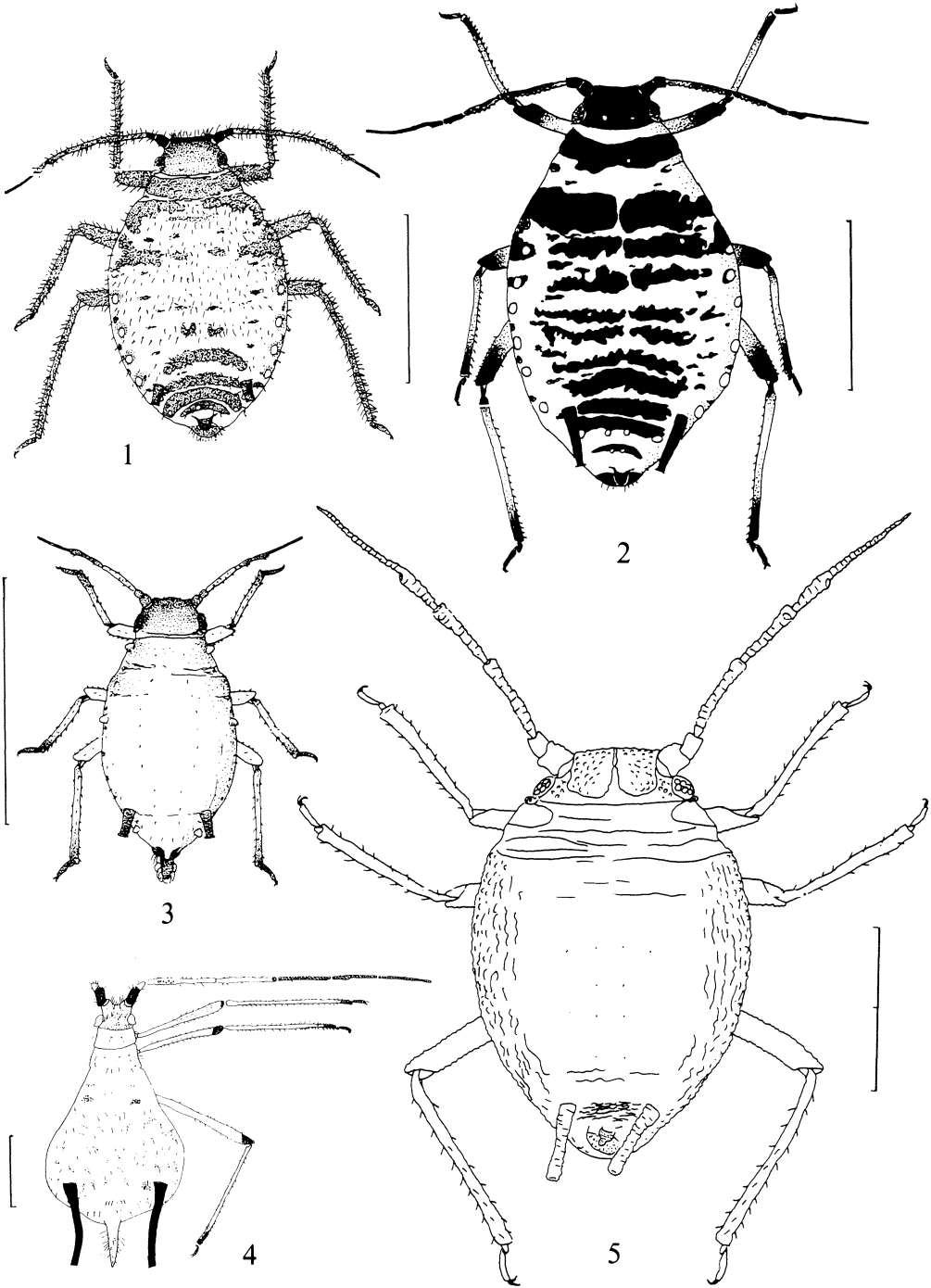
It is brownish or reddish with wax powder along the borders of the body segments, holocyclic and monoecious on *Plantago maritima* and *P. coronopus*. Normally it is not associated with ants, so it probably arrived at the nest from neighbouring plantains.

Eriosoma (Schizoneura) anncharlotteae
Danielsson, 1979 (299b) (FES I 16)

Sweden and Denmark.

Danish records: NEZ: Hornbæk, *Ulmus carpiniifolia*, 18.vi.1987 (OEH coll. et det.); Copenhagen, *Ulmus* sp. (the old label says *montana*), 29.viii.1895 (TJ coll., in Zoological Museum, R. Danielsson det.).

Roy Danielsson (1979) presented information on the biology of this species, which



Figs. 1-5. Apterous viviparous females of 1: *Dysaphis hirsutissima* (Börner), 2: *D. bononii* (Hille Ris Lambers); 3: *Aphis pernilleae* Heie, 4: *Uroleucon telekiaae* (Holman), 5: *Muscaphis musci* Börner. (4. after Müller & Steiner). Scales 1 mm for 1-4, 0.2 mm for 5.

is closely related the common *Eriosoma (Schizoneura) ulmi*. The primary hosts are species of *Ulmus* (*carpinifolia* and *procera*), and the secondary host is *Ribes alpinum*. On elm the leaves are rolled down from both sides, eventually becoming reddish. Living aphids can according to Danielsson be found in the galls until September, but the species mostly occurs on roots of *Ribes alpinum* in summer.

Macrosiphum albifrons Essig, 1911 (23b)

Originates in the western part of North America, introduced into Europe.

Danish records: NEZ: Hellerup, 3.viii.1990 (OEH coll. et det.); LFM: Nykøbing F., 24.viii.1990 (Thomas Thieme coll. et det.); both on *Lupinus* sp. (cultiv.).

It is a very large aphid, 3-5 mm long, dull green, mealy from wax powder, feeding on *Lupinus* spp. Large colonies can occur on leaves and leaf stalks. It may be serious to lupines in U.S.A. (Essig 1958: 250). It appeared recently in several European countries, recorded from England in 1981 (Stroyan, 1981; Blackman & Eastop, 1984), later from the Netherlands, Belgium, Switzerland and Germany, east to Potsdam (Müller, Steiner & Dubnik, 1990). The reason for its recent appearance may be the same as for *Uroleucon erigeronensis* (see below). It may be expected to become a pest to lupines also in Denmark.

Muscaphis musci Börner, 1933 (119c)

North West and Central Europe, U.S.A.

Danish record: NWJ: Vilsbøl Plantation, Thy, moss (driven out from moss sample in a Tullgren-funnel), 7.viii.1973 (OEH coll. et det.).

It lives on mosses throughout the year, with parthenogenetic reproduction. It may be possible that a tree of the Pomaceae may be the primary host, but it has never been observed on anything else but mosses. It can be distinguished from other moss aphids by its very close-sitting siphunculi with terminal apertures not surrounded by flanges (Fig. 5).

Ovatomyzus chamaedrys
(Passerini, 1879) (92c)

North West and South Europe (new to Scandinavia).

Danish record: NEZ: Copenhagen, Botanical Garden, *Teucrium divaricatum*, 15.vi.1972 (OEH coll. et det.).

It is a small, yellowish white aphid on *Teucrium* spp., easily mistaken for *O. calaminthae*, which feeds on plants belonging to Labiatae and Boraginaceae, but different with regard to the length of the basal thicker part of the ultimate antennal segment compared with the length of cauda (Figs. 5-10). The ratio is smaller than 1.0 in *O. chamaedrys*. This character is shared by *O. stachyos*, which feeds on *Stachys*, but the latter has shorter siphunculi than the other two species, only 10-14 times as long as the width of siphunculus in the middle (15-23 in *O. chamaedrys*).

Plocamaphis amerinae (Hartig, 1841)
(201a) (FES III 156)

Europe, North Asia.

Danish record: NEZ: Leersø (Copenhagen), *Salix viminalis*, June 1880 (Hornemann coll., in Zoological Museum, OEH det.).

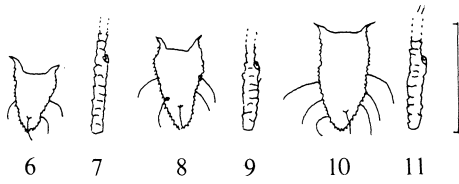
It is a large, 3.5-4.5 long, yellowish, greenish or brownish, wax-covered aphid, which is holocyclic and monoecious on *Salix viminalis* and other *Salix* spp. It may locally be harmful to osier plantations, but this is hardly the case in Denmark. The Danish sample was collected more than 100 years ago, discovered in the alcohol collection of the Zoological Museum and determined after mounting.

Uroleucon telekiae Holman, 1965 (17b)

Central Europe, North Germany and Denmark.

Danish records: NEZ: Hellerup, *Inula helenium*, 21.vii and 8.viii.1985 (OEH coll. et det.); Lyngby, *Telekia speciosa*, 26.vii.1990 (Thomas Thieme coll. et det.).

Telekia speciosa is the proper host plant. The material from *I. helenium* was deter-



Figs. 6-11. *Ovatomyzus* spp., apterous viviparous females, cauda (6, 8 and 10) and basal part of ultimate antennal segment (7, 9 and 11); 6 and 7: *O. calaminthae* (Macchiati), 8 and 9: *O. chamaedrys* (Passerini), 10 and 11: *O. stachyos* Hille Ris Lambers. Scale 0.1 mm.

mined after Holman's key (Holman, 1981). Measurements of various characters of the material of *I. helenium* show a variation similar to that given by Holman, except the ratio length of processus terminalis/length of the basal part of ultimate antennal segment, this ratio being 4.6-5.7 in the Danish material of apterae from *I. helenium* (N=16), but 5.1-5.8 in Holman's material (N=4) and 4.9-5.8 in German material (Müller & Steiner, 1989) (N=7). The number of hairs on tarsal segment I is 4 or 5 in several specimens from *I. helenium*, but 3 in material described from Czechoslovakia and Germany (though a picture in Holman (1965) shows 4 hairs). This is not surprising as most *Uroleucon* spp. have 5 hairs on the first tarsal segment.

Its occurrence in Denmark has later been confirmed by Thomas Thieme on the proper host. It was described from Czechoslovakia in 1965 and has later been found in Poland (Szelegiewicz, 1978), Rumania (Holman & Pintera, 1981) and - in 1982 - in Germany at Rostock (Müller & Steiner, 1989).

Uroleucon (Lambersius) erigeronensis
(Thomas, 1878) (18a)

North and South America, introduced into Europa.

Danish record: NEZ: Emdrup (Copenhagen), *Erigeron canadensis*, 26.viii.1987 (OEH coll. et det.).

It is not like other *Uroleucon* spp. red, brown or brownish black, but green, and feeds on upper parts of *Erigeron canadensis* (*E.*

annuus has also been recorded as a host). It seems to have been introduced from America into Europe rather recently and is probably of nearctic origin (Holman, 1974). The first European record was from France in 1952 (Remaudière, 1954). It has since been found in Germany, the Netherlands, Poland, Switzerland, Hungary, Yugoslavia and Spain, and also in Sweden (Danielsson, in litt.). The host plant is also of American origin, and was established in Europe at the end of the 18th century (Lampel, 1983). The late arrival of the aphid compared with the arrival of the host plant (a similar case is *Impatiens asiaticum* on *Impatiens parviflora* from Central Asia) is probably caused by the more frequent traffic connections, primarily by aircraft. This may also be the reason for recent arrival of many other aphid species, e.g. *Macrosiphum albifrons* (Müller, Steiner & Dubnik, 1990).

Species to be deleted from the list

Myzodium modestum (Hottes, 1926) (94a)

The species was listed by Heie (1969b), but the identification of the material from Fly at Skive (NWJ) is incorrect. It is another moss aphid, *Pseudacaudella rubida* (Börner, 1939). The latter is known from Denmark also from NEZ.

Note to previous additions to the list

Tinocallis nevskiyi Remaudière,
Quednau & Heie, 1988

The name of this species has been used for two species - as indicated earlier (Heie, 1982a). *Tinocallis yinchuanensis* Zhang, 1980, is a junior synonym of *T. saltans*, which lives on elm in Central and East Asia, whereas the other species known from elm in Central and West Asia and since the seventies also in Europe, shall be named *T. nevskiyi*. It has since 1982, perhaps a few years earlier, been one of the most common aphids in Denmark, at least on the islands and the southern and middle parts of Jutland (Heie 1986a).

I wish to thank Mr. Søren Langemark, the Zoological Museum of Copenhagen for help with preparation, cand. scient. Lone Godske og Dr. M. Gissel Nielsen, both Århus, for sending aphids from nests of *Lasius flavus*, and Dr. Thomas Thieme, Rostock, Dr. Roy Danielsson, Lund, og Dr. Jaroslav Holman, Budejovice, for material and information.

Dansk sammendrag

Følgende 14 bladlusarter føjes til listen over arter, der forekommer i Danmark: *Anoecia major*, *Aphis euphorbiae*, *A. pernilleae*, *Baizongia pistaciae*, *Eriosoma anncharlotteae*, *Dysaphis bononii*, *D. hirsutissima*, *D. maritima*, *Macrosiphum albifrons*, *Muscaphis musci*, *Ovatomyzus chamaedrys*, *Plocamaphis amerinae*, *Uroleucon telekia* og *U. erigeronensis*. Arterne *M. albifrons* (på lupin) og *U. erigeronensis* (på canadisk bakkestjerne) er begge af amerikansk oprindelse, men er i de senere år blevet fundet i adskillige europæiske lande, sandsynligvis indslæbt pr. fly. Mos-bladlusen *Myzodium modestum* skal fjernes fra listen, idet det tidligere publicerede fund var fejlbestemt og i virkeligheden er *Pseudacaudella rubida*. Den bladlus på elm, som tidligere kaldtes *Tinocalis saltans* er *T. nevskyi*, en af de mest almindelige bladlus i Danmark nu; den art, som rettelig bør kaldes *T. saltans*, lever i Central- og Østasien og er tidligere også blevet kaldt *T. yinchanuensis*.

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