New records and notes on the Swedish Thrips Fauna (Thysanoptera)

ULLMAR QVICK

Qvick, U.: New records and notes on the Swedish Thrips Fauna (Thysanoptera). [Nyfynd av och anteckningar om svenska tripsar (Thysanoptera).] – Ent. Tidskr. 98:127–131 (1977). Lund, Sweden 10 December 1977. ISSN 0013-886X.

The author reports 18 Thrips species as new to the Swedish fauna. He also points out that the *Liothrips* species recorded by Ahlberg (1925, 1926) under the name of *setinodis* O. M. Reuter is identical with *Liothrips austriacus* Karny. The occurrence of the real *L. setinodis* O. M. Reuter in Sweden is doubtful. The find of the previously unknown male of *Belothrips morio* O. M. Reuter is also mentioned in a brief note.

U. Qvick, Pl. 7800, S-683 00 Hagfors, Sweden.

The only comprehensive work on the Swedish Thrips Fauna published so far is the one by Ahlberg (1926) in the series "Svensk Insektfauna". After that time E. Johansson (1938, 1946) and L. Cederholm (1963) have treated Thysanoptera from an ecological viewpoint, but the only additional faunistic contribution has been by H. von Oettingen (1954).

The total number of valid Swedish thrips species listed by Ahlberg and Oettingen amounts to 81. During the years 1973–75 I have been able to collect 18 species not previously recorded for Sweden. The nomenclature used is in confirmity with Jacot-Guillarmod (1970–74).

I am much indepted to Dr. L. Cederholm, Lund, Sweden, Dr. R. zur Strassen, Frankfurt-Main, Germany, Dr. G. Morison, Aberdeen, Great Britain, and Dr. B. R. Pitkin and Dr. L. A. Mound, London, Great Britain for their valuable help and advice. I also wish to thank the Swedish Natural Science Research Council for their financial support.

Aeolothrips intermedius Bagnall, 1934. Very similar to *Ae. fasciatus* L., but the males of the two species are easy to distinguish. – Ög. Malexander 26.7.1974 on flowering *Pisum arvense*, 1 ♀; Tjällmo 26.7.1974 on flowering *Centaurea jacea*, 1 ♀. – Vrm. Gustaf Adolf, Uddeholmshyttan 11.6.1975 on flowering *Antennaria dioica*, 1 ♀; Gustaf Adolf, 1 km SW Mossjön 18.6.1975 on grass, 1 ♀; on flowering *Cardaminopsis arenosa*, 2 ♂♂; on flowering *Rumex acetosella*, 1 ♀; Lysvik, Tossebergsklätten 5.7.1975 on flowering *Chaemenerium angustifolium*, 1 ♀.

Aeolothrips ericae Bagnall, 1920. A common species on a great number of plants. Altogether 29 slides from different localities: Ög. Logtorp. – Sdm. Floda. – Vrm. Gustaf Adolf; Rämmen; Lysvik, Tossebergsklätten. Forma *aterrima* Hukkinen, 1935 and f. *mülleri* Priesner, 1920 appear to be more common than forma typica in Sweden.

Dendrothrips saltator Uzel, 1895. A single female was found on the trunk of a *Salix* tree in Vrm. Gustaf Adolf, Geijersholm on 25.9.1973. Finds of this species have been reported from Finland by Y. Hukkinen (1936), but it seems to be rare or local in northern Europe.

Drepanothrips reuteri Uzel, 1895. I collected a single female on 29.9.1973 in Vrm. Gustaf Adolf, Geijersholm Dam on a marsh among tufts of *Carex*. The species has previously been found in Denmark and Finland, but according to Hukkinen (1935) and Maltbaek (1932) only once in each country, and no later records from Northern Europe have been published until now. Lives mainly on *Betula* and *Quercus*, in the south also on *Vitis vinifera* and is widespread in Europe and North America.

Anaphothrips badius Williams, 1913. This species was previously recorded in Denmark (Maltbaek, 1932) and in Estonia (zur Strassen, 1964) and is associated with marshy ground. I found 1 ♀ in Vrm. Gustaf Adolf, V. Gällsjön 14.8.1974 on flowering *Carex* and 2 ♀ ♀ in Vrm. Gustaf Adolf, Uddeholmshyttan 25.8.1974 on *Phragmites*.

Anaphothrips validus Karny, 1910. On 22.6.1975 I read Dr. Guy D. Morison's paper on '*Anaphothrips validus* Karny, a species new to Britain' (1970) and five minutes later I collected a number of specimens of this species on its host plant, *Galium palustre*. This event demonstrates two facts: thrips collecting has been very much neglected in Sweden and secondly, new species are easy to find if you know exactly where to look for them! Material: Vrm. Gustaf Adolf, Geijersholm Dam 22.6.1975, 2 ♂♂, 7 ♀♀ and 1 larva II on flowering *Galium palustre*. The species is not previously recorded in Northern Europe, the nearest finds previously reported are from Scotland and Germany.

Anaphothrips ferrugineus Uzel, 1895. Looking for more specimens of *Anaphothrips validus* Karny I examined some *Galium uliginosum*, also on 22.6.1975. I collected 7 *Anaphothrips* ♀♀, but only after mounting them on slides I noticed that they belonged to another species, *Anaphothrips ferrugineus* Uzel, also new to Sweden. Found in Vrm., Gustaf Adolf, Geijersholm. The only other findings in Northern Europe were reported by O. M. Reuter (1899) under the name of *Anaphothrips litoralis*.

Mycterothrips latus Bagnall, 1912. Priesner (1964) treats *Taeniothrips latus* Bagnall, 1912 and *T. propinquus* Bagnall, 1921 as two different species. Jacot-Guillarmod (1974:883–885), however, lists only one species: *Mycterothrips latus* Bagnall, 1912. Already in 1929, it is interesting to note, G. D. Morison gave a detailed account on the relationship between *latus* and *propinquus*, in which he showed that "the two types of insects belong to a single species which is essentially linked in its life-history with the leaf-cycle of the birch, *Betula alba*." (Morison 1929.)

Mycterothrips latus Bagnall has been found here as follows: Vrm. Gustaf Adolf, Geijersholm 5.9.1973 2 ♀♀ on ferns under a *Betula* tree; 30.9.1973 1 ♀ on a *Polyporus* growing on *Betula verrucosa;* 2.10.1973–3.10.1973 5 ♀♀ on a sapping log of *Betula verrucosa;* 2.6.1974 on leaves of *Salix* shrubs 1 ♀; Vrm. Norra Råda, Sjögeränd 9.6.1974 1 ♀ on flowering *Potentilla erecta;* Vrm. Gustaf Adolf, Geijersholm 15.6. 1974 1 ♀ on a dry *Polyporus* growing on *Betula verrucosa;* 4.8.1974 1 ♀ beaten from *Betula verrucosa;* 1.9.1974 1 ♂ beaten from *Betula verrucosa;* 17.6.1975 1 ♀ on grassland; 18.6.1975 2 ♀♀ on grassland; 19.6.1975 1 ♀ on grassland; 19.9.1975 1 ♀ on leaves of *Alnus incana* shrubs; 20.9.1975 1 ♀ beaten from *Salix* affected by fungi.

Mycterothrips salicis O. M. Reuter, 1879. There has been much confusion throughout the years with regard to *Physothrips (Taeniothrips) salicis* O. M. Reuter and *ulmifoliorum* Uzel. Recent authors consider *ulmifoliorum* Uzel as a form or subspecies of *salicis* O. M. Reuter. My own finds do support the conception of a single variable species. – Vrm. Ekshärad, V. Gällsjön 15.7.1973 1 ♀ on *Carex* affected by blight; Gustaf Adolf, Geijersholm 2.6.1974 1 ♀ on leaves of *Salix* shrubs; 13.6.1974 1 ♀ on leaves of *Populus tremula;* Kristinehamn 17.8.1974 1 ♀ on flowering *Hieracium umbellatum*, 3 ♀♀ on leaves of *Sambucus racemosa*, 2 ♀♀ on shrubs of *Quercus robur;* Kristinehamn 18.8 1974 1 ♂ 2 ♀♀ on leaves and dry branches of *Populus tremula*. – Please note that *Taeniothrips ulmifoliorum* Haliday in Ahlberg (1926) is identical with *Oxythrips ulmifoliorum* Haliday in the modern faunas.

Taeniothrips firmus Uzel, 1895. Priesner (1964) states that this species is common only locally, on *Vicia cracca*. Hukkinen (1942) records *T. firmus* from Finland. Males are brachypterous, while females appear both in a brachypterous and a macropterous form. – Vrm. Norra Råda, Sjögeränd. 9.6.1974 on flowering *Potentilla erecta* 2 ♂♂, 3 ♀♀ b., 3 ♀♀ m.; Gustaf Adolf, Geijersholm 15.6.1974 on flowering *Vicia cracca* 2 ♀♀ b.; 20.7.1974 on flowering *Alopecurus pratensis* 1 ♀ m.; 20.6.1975 on a shrub of *Rhamnus frangula* 1 ♀ m.

Thrips alni Uzel, 1895. Common on *Alnus incana*, which is the dominating *Alnus* sp. in this part of Sweden. – Vrm. Hagfors, Lakheden 19.7.1973 1 ♂ 4 ♀♀ on *Alnus incana*, 1 ♀ on

Hordeum disticum; Gustaf Adolf, 500 m SW of V. Gällsjön 13.6.1974 4 ♀♀ on *Alnus incana;* Övre Ullerud 7.8.1974 1 ♀ on flowering *Hypericum maculatum;* Gustaf Adolf, Geijersholm 19.9 1975 4 ♀♀ on leaves of *Alnus incana* shrubs.

Haplothrips propinquus Bagnall, 1933. Most of my *Haplothrips* material remains undetermined or the determinations are doubtful. *H. propinquus* Bagn. is very similar to *H. leucanthemi* Schrank, but males can be distinguished by means of the form of the aedeagus. I have a rich material of *H. propinquus* from flowers of *Achillea millefolium,* which is its host plant. It is probable that the questionable finds of *Haplothrips angusticornis* Pr. mentioned by Oettingen (1954) also belong to *H. propinquus* Bagn.

Haplothrips (Xylaplothrips fuliginosus Schille, 1910. A species previously found in Denmark and probably rather common in Sweden too. – Vrm. Gustaf Adolf, Geijersholm 29.7.1973 on *Equisetum* 1 ♀; Örbäcken 21.10.1973 under the bark of *Salix* 1 ♀; Geijersholm 9.6.1975 on the bark of a dead *Betula verrucosa* 1; 20.6.1975 2 ♂♂ on shrubs of *Rhamnus frangula;* 1.9.1975 on dead branches of *Populus* or *Betula* 1 ♀; 20.9.1975 1 ♀ beaten from dead *Populus tremula* bush.

Phlaeothrips denticauda Priesner, 1914. Hukkinen (1935, 1942) found a single specimen of this species in Finland, and this is probably the only previous find in northern Europe. *Ph. denticauda* appears to be a rare or locally distributed species. I collected 2 ♂♂ and 2 ♀♀ in Vrm. Gustaf Adolf, Geijersholm 1.9.1975 on dead branches of *Populus* and *Betula.*

Hoplandrothrips williamsianus Priesner, 1923. A species previously known from central Europe. – Vrm. Gustaf Adolf, Geijersholm Dam 4.8.1974 3 ♂♂ beaten from twigs of *Betula,* cut during the spring; 19.6.1975 4 ♀♀ on twigs of dead *Betula* trees, cut during the winter.

Phlaeothrips annulipes O. M. Reuter, 1880. Reported from Denmark and Finland as a rare species, but many finds from different localities indicate that *Ph. annulipes* could be a common species in Sweden. Found by me on 19 occasions during 1973, 1974 and 1975 in Vrm. Gustaf Adolf, Vrm. Rämmen and Vrm. Övre Ullerud. 61 specimens have been mounted on slides. Like most fungus spore eaters among Thysanoptera *Ph. annulipes* is most commonly found on twigs and branches of dead trees and shrubs. Collected from *Salix, Populus tremula, Betula verrucosa, Picea abies, Pyrus malus, Alnus incana, Rhamnus frangula,* rarely in flowers *(Cornus alba, Ranunculus flammula).*

Hoplothrips pedicularius Haliday, 1836. Previously recorded from Denmark and Finland. – Sdm. Flodafors 27.6.1973 1 ♀ on leaves of a *Quercus robur* shrub; Vrm. Gustaf Adolf, Geijersholm 23.6.1974 1 ♀ on a table in my garden.

Hoplothrips polysticti Morison, 1949. Thanks to the useful suggestions of Dr. G. D. Morison (Aberdeen, Scotland) I was able to find this interesting species, which was previously only recorded from Scotland between 1939 and 1964. *Hoplothrips polysticti* feeds on the fungus *Polystictus (Polyporus) abietinus* on dead *Pinus* and *Picea.* I have 29 specimens mounted on slides, collected on seven occasions during 1975, all in Vrm. Gustaf Adolf, Geijersholm: 9.6 1 ♀ b., 28.6 1 ♀ m., 11.8 2 ♀♀ b., 30.8 1 ♂b., 2 ♀♀ b., 19.9 3 ♂♂ b., 5 ♀♀ b., 20.9 6 ♂♂ b., 7 ♀♀ b., 25.12 1 ♀ b.

Except for the specimens found on 28.6 and 25.12 all the animals were found on dead *Picea abies* infested by *Polystictus abietinus.* The macropterous female collected on 28.6 was found on grass near a dead *Picea* tree with *Polystictus abietinus,* while the brachypterous female found on 25.12 was sitting indoors on a terrarium in which thick pieces of cortex from old *Pinus* trees had been placed. No fungi were observed on the pieces of bark, however. Dr. Morison states (in litt.) about *Hoplothrips polysticti* and *unicolor* Vuillet (the latter species not found here): "Both spp. may be exterminated in some Conifer forests through the efficiency of forest-management now practised – the removal of dead or dying trees."

Belothrips morio O. M. Reuter, 1899. The male of this species seems to be previously unknown. One male specimen was found together with a female one in Vrm. Gustaf Adolf, Geijersholm 2.6.1974 in flowers of *Fragaria vesca* in my garden. Another female specimen was collected at the same locality in flowers of *Saxifraga granulata* on 13.6.1974.

The single male specimen is smaller and lighter coloured than the females. It has large and broad grandular areas on sternites III–VI, whereas the male of *Belothrips acuminatus* Haliday has such grandular areas on sternites III–VII. A more detailed description of the newly discovered male will be given if/when more specimens are found.

Liothrips austriacus Karny, 1909. In Vrm. Kristinehamn 17.8.1974 I collected a number of *Liothrips* specimens, of which 1 ♂, 1 ♀ and 3 larvae from *Chamaenerium angustifolium* as well as 1 larva from leaves of *Sambucus racemosa* were mounted on slides.

Ahlberg (1925) described egg, larva and pupa of *Liothrips setinodis* Reut. found by him together with imagines in Sweden. I found that according to Priesner (1964) my animals were not *setinodus* Reut. but *austriacus* Karny. In his paper Ahlberg mentions that *L. setinodis* was first described by O. M. Reuter from Scotland, where he found two specimens in 1876. Later (1899) the species was also recorded by him from Sweden, unfortunately without any indication on the locality where it was found.

Regarding the identification of the species Ahlberg writes as follows: "Ich habe meine Tiere mit den Reuter'schen Typen leider nicht vergleichen können, da diese, nach gütiger Mitteilung des Herrn Prof. W. M. Linnaniemi in Åbo, wahrscheinlich verloren gegangen sind. Herr Prof. Dr. H. Priesner, der meine Tiere gesehen hat, hat mir indessen freundlichst mitgeteilt, dass sie mit *Hoodia austriaca* Karny völlig übereinstimmen. Da sie aber genau auch mit der Beschreibung Reuters von *L. setinodis* übereinstimmen, muss ich die beiden Arten als mit einander identisch auffassen."

I found that Ahlberg's description of the larva of *Liothrips setinodis* O. M. Reuter and the description of the imago given in his Swedish fauna (1926) corresponded with the specimens found by me. Dr. R. zur Strassen (in litt.) was kind enough to explain the relationships and the distinguishing features between *setinodis* and *austriacus*. He writes: "*L. austriacus* hat praktisch immer farblose Vorderflügel, bei *setinodis* sind diese zart grau; die subbasalen Borsten auf den Vorderflügeln sind bei *austriacus* gewöhnlich gelb, also heller als die Pronotum-Borsten, bei *setinodis* sind diese Borsten ebenso dunkel wie die Pron.-Borsten; die Sl-Borsten auf Tergit IX sind bei *austriacus* meist gelb und fast ebenso lang wie der Tubus, bei *setinodis* sind diese Borsten bräunlich und wesentlich kürzer als der Tubus; der Tubus selber ist bei *austriacus* etwa 0.8 mal so lang wie der Kopf, bei *setinodis* fast ebenso lang wie der Kopf. In der Sammlung Priesner befindet sich ein Präparat von Ahlberg mit allerdings sehr schlecht erhaltenen Tieren, die zweifellos zu *austriacus* im eben angegebenen Sinne gehören."

The most reliable characters, according to Dr. zur Strassen, for the distinction between the two species are the length relationship head-tube as well as the relationship between the length of the B1 setae at the hind margin of tergite IX and the length of the tube. The other characters mentioned by zur Strassen above are of secondary importance.

I am quite convinced that the animals found by Ahlberg belong to *L. austriacus* Karny. Hukkinen (1936, 1942) records the Thysanopterous fauna of Finland, but only the list from 1942 includes *Liothrips setinodis* O. M. Reuter, found by Hukkinen or his collaborators in southern Tavastland. Maltbaek (1932) describes *Liothrips hradecensis* Uzel, which according to Priesner (1964) is a synonym for *setinodis* O. M. Reuter. From Maltbaek's description it is evident that we have to do with this species, *setinodis* (sensu zur Strassen).

Summing up it seems clear that *Liothrips austriacus* Karny belongs to the Swedish fauna, while *Liothrips setinodis* O. M. Reuter has been found in Denmark. It is not clear whether *Liothrips setinodis* also has been collected in Sweden and Finland. It might be worthwhile to look for *setinodis* on trees and shrubs of *Fraxinus* and *Ulmus* in southern Sweden.

Sammanfattning

Det enda sammanfattande arbetet om den svenska tripsfaunan är Ahlbergs bearbetning (1926) i serien "Svensk Insektfauna". Ur ekologisk synpunkt har tripsarna behandlats av E. Johansson (1938, 1946) och L. Cederholm (1963). Det enda faunistiska bidraget efter Ahlberg har lämnats av H. von Oettingen (1954).

Sammanlagda antalet nu giltiga svenska tripsarter, som upptas av Ahlberg och Oettingen,

uppgår till 81. Åren 1973–75 har jag insamlat ytterligare 18 för den svenska faunan nya tripsarter: *Aeolothrips intermedius* Bagnall, *Ae. ericae* Bagnall, *Dendrothrips saltator* Uzel, *Drepanothrips reuteri* Uzel, *Anaphothrips badius* Williams, *A. validus* Karny, *A. ferrugineus* Uzel, *Mycterothrips latus* Bagnall, *M. salicis* O. M. Reuter, *Taeniothrips firmus* Uzel, *Thrips alni* Uzel, *Haplothrips propinquus* Bagnall, *H. (Xylaplothrips) fuliginosus* Schille, *Phlaeothrips denticauda* Priesner, *Hoplandrothrips williamsianus* Priesner, *Phlaeothrips annulipes* O. M. Reuter, *Hoplothrips pedicularius* Haliday och *H. polysticti* Morison.

Den tidigare okända hannen av *Belothrips morio* O. M. Reuter hittades i 1 ex. tillsammans med 1 hon-ex. i Vrm, Gustaf Adolf 2.6.1974. Den funna hannen är mindre och ljusare färgad än honan och har stora, transversala ljusa fält på 3:e till 6:e sterniten, medan hannen till *B. acuminatus* Haliday har sådana fält på 3:e till 7:e sterniten.

Den som *Liothrips setinodis* O. M. Reuter i Ahlberg upptagna arten har visat sig vara *L. austriacus* Karny. Den verkliga *L. setinodis* har bl.a. hittats i Danmark, men huruvida den tagits även i Sverige och Finland är tills vidare oklart. Reuters typer har troligen förkommit, dessa härrörde för övrigt från Skottland.

References

Ahlberg, O. 1925. Über die Biologie und die Entwicklungsstadien des Liothrips setinodis Reut. – Ent. Tidskr. 46:146–151.

– 1926. Svensk Insektfauna 6. Tripsar. Thysanoptera. Stockholm.

Cederholm, L. 1963. Ecological studies on Thysanoptera – Opusc. Ent. Suppl. 22.

Hukkinen, Y. 1935–36. Verzeichnis der Thysanopteren Finnlands. – Ann. Ent. Fenn. 1:84–95, 2:24–33, 124–141.

– 1942. Blick auf die Erforschung der Thysanopterenfauna Finnlands, besonders ihrer schädlichen Arten. – Ann. Ent. Fenn. 8:25–45.

Jacot-Guillarmod, C. F. 1970–74. Catalogue of the Thysanoptera of the world. – Ann. Cape prov. Mus. 7 (1–3): 1–976.

Johansson, E. 1938. Studier rörande de på gräs och sädesslag levande tripsarnas biologi och skadegörelse I. Stockholm. – Medd. Stat. Växtskydd Nr. 24.

– 1946. Ibidem. II. Stockholm. – Medd. Stat. Växtskydd Nr. 46.

Maltbaek, J. 1932. Frynsevinger. – Danmarks Fauna 37. Copenhagen.

Morison, G. D. 1929. Observations and Records for some Thysanoptera from Great Britain V. – Physothrips spp. – Ent. mon. Mag. 65:113–127.

– 1970. Observations and records for some British Thysanoptera X. Thripidae. Anaphothrips validus Karny, 1910, a species new to Britain. – Ent. Gazette 21 (1):33–38.

Oettingen, H. v. 1954. Beitrag zur Thysanopterenfauna Schwedens. – Ent. Tidskr. 75:134–150.

Priesner, H. 1964. Ordnung Thysanoptera. Berlin.

Reuter, O. M. 1899. Thysanoptera Fennica. Förteckning och beskrifning öfver Finska Thysanoptera. – Acta Soc. F. Fl. Fenn. 17 (2):43–44.

Zur Strassen, R. 1964. Eine Thrips-Ausbeute von den Flachmoore Estlands, mit einer Neubeschreibung. – Eesti NSV Tead. Akad. Toimet. biol. seer. 13 (1):55–72.