



## List of Alysiini of Finland, excluding the genus *Dinotrema* (Hymenoptera, Braconidae, Alysiinae)

Martti Koponen, Veli Vikberg & Francisco Javier Peris-Felipo

Koponen, M., Vikberg, V. & Peris-Felipo, F. J. 2016. List of Alysiini of Finland, excluding the genus *Dinotrema* (Hymenoptera, Braconidae, Alysiinae). [Suomen Alysiini-tribukseen kuuluvien loispistiäisten luettelo (Hymenoptera, Braconidae, Alysiinae), paitsi *Dinotrema*-suku]. – Sahlbergia 22.2.: 20–31.

Suomesta luetellaan 105 Alysiini-tribukseen kuuluvaa loispistiäislajia (Hymenoptera, Braconidae, Alysiinae). Niistä 20 lajia on Suomelle uusia.

A total of 105 species of Alysiini (Hymenoptera, Braconidae, Alysiinae) are listed from Finland. Of them 24 species are recorded as new to Finnish fauna. A faunistic list with data of distribution and host records is provided.

Key words: Parasitoid wasps, Alysiinae, checklist, new records, Finland.

*Martti Koponen Tuoppitie 5 C, FI-50160 Mikkeli, Finland. E-mail: mar.koponen@surffi.fi*

*Veli Vikberg Liinalammintie 11 as. 6, FI-14200 Turenki, Finland. E-mail: veli.vikberg@pp.inet.fi*

*Francisco Javier Peris-Felipo Bleichstrasse 15, CH-4058 Basel, Switzerland. E-mail: peris.felipo@gmail.com*

### Introduction

The subfamily Alysiinae is one of the most peculiar and most diversified subfamilies of endoparasitoids in the family Braconidae (Yu et al. 2012). Morphologically, the two tribes of Alysiinae are mainly separated by the presence (Alysiini) or absence (Dacnusiini) of the fore wing vein  $cu_{2+3}$  (r-m or second radiomedial); accordingly Alysiini has two submarginal (radiomedial) cells while Dacnusiini have only one (Shenefelt 1974; Yu et al. 2012; Peris-Felipo et al. 2014).

Alysiini are common parasitoids of Diptera Cyclorrhapha usually found in humid and ephemeral substrates. Dacnusiini are almost exclusively specialized on leaf and stem miners of the families Agromyzidae, Ephydriidae and Chloropidae (Belokobylskij 2005; Berry 2007; Fischer & Beyarslan 2012; Peris-Felipo et al. 2014). Specimens of several genera have been successfully employed to control pests of leaf miners and Tephritidae (Wharton et al. 1997), which makes them valuable from an economic point of view (González et al. 2000; Elpino-Campos et al. 2007).

This subfamily has 104 genera recorded in worldwide (Yu et al. 2012). Of them 65 genera were recorded in the Palearctic fauna (Shaw & Huddleston 1991). Only a few studies on the diversity of this wasp group have been carried out in Scandinavia (Munk et al. 2013a, 2013b; van Achterberg & Vikberg 2014). Recently, Koponen and Vikberg (2014) recorded 163 Dacnusiini species from Finland. In the present work, the checklist of Alysiini from Finland is provided, with the exclusion of genus *Dinotrema* Foerster, 1862, which was treated earlier in Koponen & Peris-Felipo (2016).

### Material and methods

The criteria indicated by Fischer (1990, 1993), van Achterberg (1993), Tobias (1995), Sharkey & Wharton (1997), and Peris-Felipo et al. (2014) was used for identification. Classification and distribution follows Yu et al. (2012). New records of species are marked by an asterisk (\*).

All the material examined and types of described species are deposited in the Zoological collection of Finnish Natural History Museum, University of Helsinki (Helsinki, Finland; MZH) and Natural History Museum of Denmark (Copenhagen, Denmark; NHMD).

### Results

A total of 105 species belonging to 26 genera, *Adelphenaldis* Fischer, 2003, *Adeluroloa* Strand, 1928, *Alloea* Haliday, 1833, *Alysia* Latreille, 1804, *Anisocyrtia* Foerster, 1862, *Aphaereta* Foerster, 1862, *Asobara* Foerster, 1862, *Aspilota* Foerster, 1862, *Asyntactus* Marshall, 1898, *Atopandrium* Graham, 1952, *Chasmodon* Haliday, 1838, *Cratospila* Foerster, 1862, *Dapsilarthra* Foerster, 1862, *Eudinostigma* Tobias, 1986, *Idiasta* Foerster, 1862, *Mesocrina* Foerster, 1862, *Orthostigma* Ratzeburg, 1844, *Panerema* Foerster, 1862, *Pentapleura* Foerster, 1862, *Phaenocarpa* Foerster, 1862, *Phasmalysia* Tobias, 1971, *Symphanes* Foerster, 1862, *Synaldis* Foerster, 1862, *Syncrasis* Foerster, 1862, *Tanycarpa* Foerster, 1862 and *Trachyusa* Ruthe, 1854 are recorded and catalogued for Finland. Species recorded for the first time from Finland are listed below.

## Species recorded for first time for Finland

### 1. *Adelphenaldis globipes* (Fischer, 1962)

**Material examined:** 1 ♀, *N*: Espoo, Luukki, 6691:3372, 10.viii.1980, mushroom forest (M. Koponen leg.) (NHMD); 1 ♀, *Obb*: Simo, 7286:3711, 17.vii.1980 (M. Koponen leg.) (NHMD).

**Distribution.** Oriental and Palaearctic Region (Peris-Felipo *et al.* 2012).

### 2. *Alloea bonessi* Fischer, 1966

**Material examined:** *Ab*: 1 ♀, Lohja, Lojo, Lylyinen, 668:333, 24.viii.1950 (W. Hellén leg.) (MZH). *N*: 1 ♂, Helsinki, Kannelmäki, 6682:3383, 26.vii.1980, 25.vi.1981 (M. Koponen leg.) (MZH). *Oba*: 1 ♀, Pudasjärvi, Kongasjärvi, Mäntyniementie, 7245:3498, 7.vii.2000 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region.

**Hosts.** *Lonchoptera lutea* Panzer, 1809 (Diptera: Lonchopteridae).

### 3. *Alloea lonchopterae* Fischer, 1966

**Material examined:** *Al*: 1 ♀, Eckerö, 6700:3094, 1.vii.1983 (M. Koponen leg.) (MZH); 1 ♀, Hammarland, Bovik, 670:309, 29.vi.1983 (M. Koponen leg.) (MZH); 1 ♀, Jomala, Möckelö, 668:310, 23.vi.1939, 5.vii.1939 (W. Hellén leg.) (MZH); 1 ♀, Lemland, Flaka, 667:311, 21.vi.1939 (W. Hellén leg.) (MZH). *N*: 1 ♀, Helsinki, Viikki, 6680:3390, 13.ix.1979 (M. Koponen leg.) (MZH); 1 ♀, Nurmijärvi, Kirkonkylä, 6708:3380, 21.vii.1986 (M. Koponen leg.) (MZH); 1 ♀, Rajamäki, 6715:3376, 23.vi.1986 (M. Koponen leg.) (MZH). *Sa*: 1 ♂, Mikkeli, Tiusala, 6832:3517, 2.vii.2010 (M. Koponen leg.) (MZH). *St*: 1 ♀, Pyhäranta, Rauman mlk. Sorkka, 6796:3207, 3.vii.1986 (M. Koponen leg.) (MZH).

**Distribution.** Oriental and Palaearctic region.

**Hosts.** *Lonchoptera* sp. (Diptera: Lonchopteridae).

### 4. *Alysia alticola* (Ashmead, 1890)

**Material examined:** *Le*: 5 ♀♀, 2 ♂♂, Enontekiö, Kilpisjärvi, 767:325, 29.vi.1939 (1 ♀), 1.7.1942 (4 ♀) on dead rats, 7.vii.1950 (1 ♂), 23.vii.1950 (1 ♂) (W. Hellén leg.) (MZH). *Li*: 1 ♀, Inari, Ivalo, 761:352, vii.1922 (E. Kivirikko leg.) (MZH); 1 ♀, Opukasjärvi, 772:355, 6.vii.1960 (V. Vikberg leg.) (MZH); 1 ♂, *Li*: Utsjoki, 775:350, 2.vii.1967 (Karvonen leg.) (MZH); 1 ♀, same locality but, 7758:3502, 13.viii.1983 (M. Koponen leg.) (MZH); 1 ♀, Pulmanki, 77678:35372, 22–29.vii.2010, swept on Malaise trap (R. Leinonen & G. Söderman leg.) (MZH).

**Distribution.** Nearctic, Neotropical, and Palaearctic regions.

**Hosts.** *Calliphora* sp. (Diptera: Calliphoridae).

**Remarks.** W. Hellén collected several females from dead rats in Finnish Lapland.

### 5. *Alysia fuscipennis* Haliday, 1838

**Material examined:** 31 ♀♀, 39 ♂♂, sampled from *Ab* (Kustavi, Nauvo, Vihti), *Al* (Eckerö, Hammarland, Jomala, Mariehamn, Saltvik), *Kb* (Joensuu, Liperi, Pielisjärvi, Tohmajärvi), *Kl* (Parikkala, Rautjärvi), *Ks* (Kuusamo), *Le* (Enontekiö), *Li* (Inari), *N* (Nurmijärvi), *Obb* (Tornio), *Ok* (Kuhmo, Paltamo), *Om* (Haapavesi), *Sa* (Luumäki, Mikkeli), *Sb* (Kuopio), *St* (Pori, Vammala), *Ta* (Janakkala, Kangasala, Kärkölä, Lammi, Pälkäne, Ruovesi, Sääksmäki), and *Tb* (Keuruu, Rautalampi) (MZH).

**Distribution.** Western Palaearctic region.

### 6. *Alysia lucia* Haliday, 1838

**Material examined:** 123 ♀♀, 46 ♂♂, swept from *Al* (Finström, Hammarland, Jomala, Lemland, Sund), *Ab* (Korpo, Kustavi, Perniö, Vihti), *Kb* (Liperi), *Kl* (Parikkala), *Ks* (Kuusamo), *Le* (Enontekiö), *Lkoc* (Kittilä, Kolari, Muonio), *Lkor* (Pelkosenniemi, Sodankylä), *Li* (Inari, Utsjoki), *N* (Espoo, Hanko, Helsinki, Hyvinkää, Nurmijärvi, Sipoo, Tammisaari, Vantaa), *Oba* (Yli-Ii), *Obb* (Ranua), *Ok* (Sotkamo), *Om* (Vimpeli), *Sa* (Mikkelin mlk. Ristiina, Suomenniemi, Valkeala), *St* (Nakkila), *Ta* (Hartola, Janakkala, Juupajoki, Lahti, Lammi, Nastola, Pälkäne, Säynätsalo), *Tb* (Konnevesi, Saarijärvi).

**Distribution.** Nearctic and Palaearctic regions.

7. *Alysia subproia* Tobias, 1999

**Material examined:** *Ks*: 1 ♀, Salla, Pirunkirkko, 7494:3610, 26.vi.2003 (M. Koponen leg.) (MZH). *Sa*: 1 ♀, Mikkeli, Otava, 6835:3503, 22.v.2008 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region.

8. *Aphaereta brevis* Tobias, 1962

**Material examined:** *N*: 1 ♀, Nurmijärvi, Hindrikanpolku, 6708:3380, 15.vii.1995, swept on kotipihalta (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region.

9. *Asobara tabida* (Nees, 1834)

**Material examined:** 44 ♀♀ 15 ♂♂ sampled from *Ab* (Karjalohja, Pyhäjärvi), *Kb* (Joensuu), *Om* (Haapavesi), *Sa* (Mikkeli, Ristiina, Ruokolahti, Savitaipale), *Sb* (Joroinen), *St* (Merikarvia), and *Ta* (Hausjärvi, Hämeenlinna, Janakkala, Lammi) (MZH).

**Distribution.** Nearctic, Oceanic, Oriental, and Palaearctic regions.

**Hosts.** *Drosophila* sp. and *Fabomyia* sp. (Diptera: Drosophilidae, Cecidomyiidae).

10. *Asobara tabidula* (Tobias, 1962)

**Material examined:** *Sa*: 1 ♀, Mikkeli, Mikkelin mlk., 6830:3501, 27.vi.1992 (M. Koponen leg.) (MZH).

**Distribution.** Oriental, and Palaearctic regions.

11. *Aspilota delicata* Fischer, 1973

**Material examined:** *Ab*: 1 ♀, Nauvo Selli, 669:322, 18.vii.1978 (M. Koponen leg.) (NHMD). *N*: 5 ♀♀, Helsinki, Lassila, 6682:3382, 20.vii.1977, 25.vii.1979, 6679:3382, 24.ix.1978, Viikki, 6681:3390, 2.viii.1979 (M. Koponen leg.) (NHMD). *Sa*: 1 ♀, Mikkelin mlk. 6830:3501, 27.vii.1979 (M. Koponen leg.) (NHMD).

**Distribution.** Palaearctic region.

12. *\*Aspilota laevinota* Tobias, 1962

**Material examined:** *Ab*: 1 ♀, Vihti, Komiharjanne, 6716:3366, swept on mushroom forest, 19.ix.1976 (M. Koponen leg.) (NHMD).

**Distribution.** Palaearctic region.

13. *Aspilota nidicola* Hedqvist, 1972

**Material examined:** *N*: 1 ♀, Helsinki, Pohjois-Haaga, 6681:383, 9.viii.1976 (M. Koponen leg.) (NHMD). *Sa*: 1 ♀, Anttola, 6832:3527, 15.viii.1976 (M. Koponen leg.) (NMHD).

**Distribution.** Western Palaearctic region.

14. *Aspilota stenogaster* Stelfox & Graham, 1951

**Material examined:** *N*: 1 ♀, Espoo, Luukki, 6691:3372, swept on mushroom forest, 10.viii.1980 (M. Koponen leg.) (NMHD).

**Distribution.** Palaearctic region.

15. *Aspilota tetragona* Fischer, 1976

**Material examined:** *N*: 3 ♀♀, Nurmijärvi, Rajamäki, 6715:3376, 10.vii.1976, 7.viii.1980, and Rajamäki, 6715:3375, mushroom forest, 23.viii.1980 (M. Koponen leg.) (NMHD). *Sa*: 2 ♀♀, Mikkelin mlk., 6830:3502, 15.vi.1975 and 6830:3501, 7.vii.1978 (M. Koponen leg.) (NMHD).

**Distribution.** Western Palaearctic region.

16. *Idiasta dichrocera* Königsmann, 1960

**Material examined:** *Ab*: 1 ♀, Kaarina, Järvelä, 67146:32457, 20.vii–8.ix.2014 (V.-M. Mukkala leg.) (MZH). *Ok*: 1 ♀, Kajaani, Paltaniemi airport, 71319:35327, 31.viii.2011, swept on Malaise trap (R. Leinonen and G. Söderman leg.) (MZH). *Sa*: 1 ♀, Mikkeli, Laajalampi, 68398:35143, 28.ix.2014 (M. Koponen leg.) (MZH); 1 ♀, Tornimäki, 6839:3518,

8.ix.2013 (M. Koponen leg.) (MZH); 1 ♀, Laajalammentie, 68400:35143, 6.ix.2013 (M. Koponen leg.) (MZH); 1 ♀, Ryssänkirkonmäki, 6841:3514, 25.viii.2013 (M. Koponen leg.) (MZH).

**Distribution.** Oriental and Palaearctic regions.

**17. *Orthostigma latinerve*** (Petersen, 1956)

**Material examined:** *Sa*: 1 ♂, Ristiina, Ylölänkylä, Alatalo, 6826:3502, 26.v.2009 (M. Koponen leg.) (MZH).

**Distribution.** Oriental and Palaearctic regions.

**18. *Orthostigma longicubitale*** Königsman, 1969

**Material examined:** *Ab*: 1 ♀, Perniö, Matilda, 6685:2273, 18.ix.1994 (M. Koponen leg.) (MZH). *N*: 2 ♂♂, Espoo, Tontunmäki, 667625:337604, 18–24.vi.2011, swept on window trap (P. Rassi leg.) (MZH); 2 ♀♀, Nurmijärvi, Kaanaanmetsä, 6705:3381, swept on old forest, 6.v.1989 (M. Koponen leg.) (MZH). *Oa*: 1 ♀, Kristinestad, Nordfjärden, 69218:32086, 13.vi.2014 (M. Koponen leg.) (MZH). *Sa*: 3 ♀♀, 1 ♂, Mikkeli, Hietala, 68305:35017, 2.vi.2014 (M. Koponen leg.) (MZH); 1 ♀, Laajalampi, 6839:3514, 23.v.2014, swept on shore of a lakelet (M. Koponen leg.) (MZH); 2 ♀♀, Ryssänkirkonmäki, 6841:3514, 8.vi.2014 (M. Koponen leg.) (MZH).

**Distribution.** Oriental and Palaearctic regions.

**19. *Phaenocarpa galatea*** (Haliday, 1838)

**Material examined:** *Le*: 2 ♀♀, 3 ♂♂, Enontekiö, Kilpisjärvi, 767:325, 3–21.vii.1950 (W. Hellén leg.) (MZH).

**Distribution.** Oriental and Western Palaearctic regions.

**20. *Phaenocarpa intermedia*** Tobias, 1962

**Material examined:** *Ab*: 1 ♀, Sauvo, Karuna, 669:235, 27.viii–12.ix.2000, swept on Malaise trap (R. Jussila leg.) (MZH).

**Distribution.** Oriental and Palaearctic regions.

**21. *Phaenocarpa tacita*** Stelfox, 1941

**Material examined:** *Ab*: 1 ♀, Uusikaupunki, Nystad, 675:319, 6.ix.1920 (W. Hellén leg.) (MZH). *Al*: 1 ♀, Eckerö, Storby, 670:308, 13.vii.1958 (W. Hellén leg.) (MZH). *N*: 5 ♀♀, Espoo, 667625:337604, 11–20.vi.2010, swept on window trap (P. Rassi leg.) (MZH). *Sa*: 1 ♀, Mikkeli, Vihtaniemi, 6839:3506, 30.vi.2012 (M. Koponen leg.) (MZH). *Ta*: 1 ♀, Nastola, Pyhäntäka, 6774:3436, 22.vi.1980, swept on grove slope (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region.

**22. *Phasmalysia zinovjevi*** Tobias, 1971

**Material examined:** *Sb*: 1 ♂, Savonranta, 69081:36026, 18.vi–13.vii.1996, swept on trunk window trap on dead aspen (P. Martikainen leg.) (MZH).

**Distribution.** Western Palaearctic region.

**23. *Tanycarpa amplipennis*** (Förster, 1862)

**Material examined:** *Kl*: 1 ♀, Parikkala, Laurila, 683:363, 16–27.vi.1940 (W. Hellén leg.) (MZH). *Sa*: 1 ♀, Hirvensalmi, Sammakkolampi, 6839:3499, 9.vi.2010 (M. Koponen leg.) (MZH). *Ta*: 1 ♀, Pälkäne, 680:335, 16.vi.1959 (V. Vikberg leg.).

**Distribution.** Nearctic, Oriental and Palaearctic regions.

**24. *Tanycarpa rufinotata*** (Haliday, 1838)

**Material examined:** *Al*: 1 ♀, Eckerö, Skag, 670:309, 12.vii.1961 (W. Hellén leg.) (MZH). *Le*: 1 ♀, Enontekiö, Urttasjoki, 7692:3263, 9–15.vii.2009 (A. Haarto leg.) (MZH). *N*: 1 ♀, Espoo, 667625:337604, 10–20.ix.2010, swept on window trap (P. Rassi leg.) (MZH). *Sa*: 6 ♀♀, Mikkeli, Laajalampi, 6839:3514, 29.vi.2014, 7.vii.2014, 4.ix.2014, 27.viii.2015, 1.ix.2015, and 7.ix.2015 (M. Koponen leg.) (MZH).

**Distribution.** Oriental and Western Palaearctic regions.

## Additional material recorded from Finland

*Aspilota fuscicornis* (Haliday, 1838)

**Material examined:** *N*: 4 ♀♀, Nurmijärvi, Rajamäki, 6715:3376, 15.vii.1979, 31.viii.1979, and 27.vi.1981 (M. Koponen leg.) (NHMD). *Oba*: 1 ♀, Kuivaniemi, 7273:3417, 18.vii.1980 (M. Koponen leg.) (NMHD). *Ta*: 2 ♀♀, Nastola, Pyhäntäka, grove slope, 6774:3436; 17.viii.1980 (M. Koponen leg.) (NMHD).

**Distribution.** Palaearctic region.

## New species for present day Finland

*Idiasta subannellata* (Thomson, 1895)

Reported by Krogerus (1927, 1932) from Terijoki, Kuokkala (now Repino, Leningrad region, Russia). **Finland:** 8 ♀♀, 54 ♂♂ were sampled from *Al* (Eckerö, Finström, Hammarland, Jomala, Lemland), *Ab* (Karjalohja, Sammatti, Uusikaupunki), *N* (Espoo, Hanko, Helsinki, Raasepori), *St* (Karkku), *Ta* (Hauho, Janakkala), *Sa* (Imatra, Mikkeli), *Kl* (Parikkala), *Tb* (Keuruu), *Om* (Pietarsaari), *Ok* (Kuhmo), *Oba* (Hailuoto), *Ks* (Kuusamo), *Li* (Inari).

**Distribution.** Palaearctic region.

## Checklist of Finnish Alysiinae species with literature citations

Citations and species marked with [ ] are not from present day Finland. They were recorded from regions ceded to the USSR after the Second World War.

\* = First record from Finland.

**ADELPHENALDIS** Fischer, 2003

*acutidentata* (Fischer, 1970)

van Achterberg 2007, 2012

\**globipes* (Fischer, 1972)

New to Finland

*parvicornis* (Thomson, 1895)

van Achterberg 2007, 2012, Peris-Felipo *et al.* 2012

**ADELUROLA** Strand, 1928

*florimela* (Haliday, 1838)

[Krogerus 1927, 1932, Hellén 1931, 1940, Shenefelt 1974], Koponen 2000, Silfverberg 2001, van Achterberg 2012, Yu *et al.* 2012, Riedel & Hansen 2014

**ALLOEA** Haliday, 1833

\**bonessi* Fischer, 1966

New to Finland

\**lonchopterae* Fischer, 1966

New to Finland

**ALYSIA** Latreille, 1804

\**alticola* (Ashmead, 1890)

New to Finland

*brachycera* Thomson, 1895

Wharton 1986, Silfverberg 1991, van Achterberg 2007, 2012, Yu *et al.* 2012

*frigida* Haliday, 1838

Nordström 1948, Hackman & Meinander 1979, Koponen & Vikberg 1984, van Achterberg 2012, Yu *et al.* 2012

\**fuscipennis* Haliday, 1838

New to Finland

- incongrua*** Nees, 1834  
Hellén 1938, 1940, Shenefelt 1974, Fischer 1993, van Achterberg 2012, Yu *et al.* 2012
- \**lucia*** Haliday, 1838  
New to Finland
- lucicola*** Haliday, 1838  
van Achterberg 2007, 2012
- luciella*** Stelfox, 1941  
van Achterberg 2007, 2012
- mandibulator*** (Nees, 1812)  
[Krogerus 1927], Shenefelt 1974, Fischer 1993, Yu *et al.* 2012, Söderman *et al.* 2010, van Achterberg 2012  
?*mandibularis* auct.: Nylander 1859, Hellén 1923, 1940, Krogerus 1960
- manducator*** (Panzer, 1799)  
Hellén 1938, 1940, Silfverberg 1968, Shenefelt 1974, Yu *et al.* 2012, Silfverberg 2007, van Achterberg 2012  
*curtungula* Thomson, 1895: Hellén 1938, 1940  
*obscuripes* Thomson, 1895: van Achterberg 2007, 2012
- rufidens*** Nees, 1834  
van Achterberg 2007, 2012
- similis*** Nees, 1812  
van Achterberg 2007, 2012
- sophia*** Haliday, 1838  
van Achterberg 2007, 2012
- \**subproia*** Tobias, 1999  
New to Finland
- tipulae*** (Scopoli, 1763)  
van Achterberg 2007, 2012
- ANISOCYRTA*** Foerster, 1862
- alpinicola*** van Achterberg, 1986  
Koponen 2000, Silfverberg 2001, van Achterberg 2007, 2012, Yu *et al.* 2012
- perdita*** (Haliday, 1838)  
Koponen 2000, Silfverberg 2011, van Achterberg 2007, 2012, Yu *et al.* 2012
- APHAERETA*** Foerster, 1862
- \**brevis*** Tobias, 1962  
New to Finland
- major*** (Thomson, 1895)  
van Achterberg 2007, 2012
- minuta*** (Nees, 1811)  
van Achterberg 2007, 2012, Yu *et al.* 2012, Riedel & Hansen 2014, Gadallah *et al.* 2015  
*cephalotes* (Haliday, 1833): Hellén 1938, 1940, Shenefelt 1974
- rubicunda*** Tobias, 1962  
van Achterberg 2007, 2012
- scaptomyzae*** Fischer, 1966  
van Achterberg 2007, 2012
- tenuicornis*** Nixon, 1939  
Wishart *et al.* 1957, van Achterberg 2007, 2012, Yu *et al.* 2012
- ASOBARA*** Foerster, 1862
- fungicola*** (Ashmead, 1894)  
van Achterberg 2007, 2012
- \**tabida*** (Nees, 1834)  
New to Finland

**\*tabidula** (Tobias, 1962)  
New to Finland

**ASPILOTA** Foerster, 1862

**compressiventris** Stelfox & Graham, 1951  
van Achterberg 2007, 2012

**\*delicata** Fischer, 1973  
New to Finland

**fuscicornis** (Haliday, 1838)

van Achterberg 2007, 2012, Yu *et al.* 2012

**dilatata** Thomson, 1895: Krogerus [1927], 1932, Hellén [1931], 1940, Shenefelt 1974

**\*laevinota** Tobias, 1962

New to Finland

**\*nidicola** Hedqvist, 1972

New to Finland

**stenogaster** Stelfox & Graham, 1951

van Achterberg 2007, 2012

**\*tetragona** Fischer, 1976

New to Finland

**ASYNTACTUS** Marshall, 1898

**rhogaleus** Marshall, 1898

Koponen 2000, Silfverberg 2001, van Achterberg 2007, 2012, Yu *et al.* 2012

**ATOPANDRIUM** Graham, 1952

**debilitatum** (Morley, 1933)

Vänninen & Koskula 1998, van Achterberg 2007, 2012

**CHASMODON** Haliday, 1838

**acares** van Achterberg, 1975

van Achterberg 2007, 2012

**apterus** (Nees, 1812)

Krogerus 1927, 1932, Hellén 1931, 1940, Shenefelt 1974, van Achterberg 2007, 2012, Yu *et al.* 2012, Riedel & Hansen 2014

**CRATOSPILA** Foerster, 1862

**tricolor** (Telenga, 1948)

van Achterberg 2007, 2012

**DAPSILARTHRA** Foerster, 1862

**sylvia** (Haliday, 1839)

van Achterberg 2007, 2012

**DINOTREMA** Foerster, 1862 – included in Koponen & Peris-Felipo (2016) – 91 species

**EUDINOSTIGMA** Tobias, 1986

**alox** van Achterberg, 1988

van Achterberg 2007, 2012

**IDIASTA** Foerster, 1862

**annulicornis** (Thomson, 1895)

Hellén 1938, 1940, Shenefelt 1974, Tobias 1995, van Achterberg 2007, 2012, Yu *et al.* 2012

**\*dichrocera** Königsmann, 1960

New to Finland

**nephele** (Haliday, 1838)

Hellén 1938, 1940, Shenefelt 1974, van Achterberg 2007, 2012, Yu *et al.* 2012

[\*]**subannellata** (Thomson, 1895)

[Krogerus 1927, 1932, Hellén 1931, 1940, Shenefelt 1974, Tobias 1995, van Achterberg 2007, 2012, Yu *et al.* 2012, Riedel & Hansen 2014]

**MESOCRINA** Foerster, 1862

**indagatrix** (Foerster, 1862)

van Achterberg 2007, 2012

**ORTHOSTIGMA** Ratzeburg, 1844

**breviradiale** Königsmann, 1969

van Achterberg 2007, 2012

**cratospilum** (Thomson, 1895)

van Achterberg 2007, 2012

**laticeps** (Thomson, 1895)

van Achterberg 2007, 2012

**\*latinerve** (Petersen, 1956)

New to Finland.

**longicorne** Königsmann, 1969

van Achterberg 2007, 2012

**\*longicubitale** Königsmann, 1969

New to Finland

**maculipes** (Haliday, 1838)

van Achterberg 2007, 2012

**mandibulare** (Tobias, 1962)

van Achterberg 2007, 2012

**pseudolaticeps** Königsmann, 1969

van Achterberg 2007, 2012

**pumilum** (Nees, 1834)

van Achterberg 2007, 2012

**pusillum** (Zetterstedt, 1838)

van Achterberg 2007, 2012

**sculpturatum** Tobias, 1962

van Achterberg 2007, 2012

**PANEREMA** Foerster, 1862

**inops** Foerster, 1862

van Achterberg 2007, 2012

**PENTAPLEURA** Foerster, 1862

**angustula** (Haliday, 1838)

van Achterberg 2007, 2012

**fuliginosa** (Haliday, 1838)

van Achterberg 2007, 2012

**pumilio** (Nees, 1812)

van Achterberg 2007, 2012

**PHAENOCARPA** Foerster, 1862

**angustiptera** Papp, 1968

Koponen & Vikberg 2005, Silfverberg 2007, van Achterberg 2007, 2012, Yu *et al.* 2012, Riedel & Hansen 2014



- canaliculata* Stelfox, 1941  
Gurasashvili 1983, Tobias 1995, Silfverberg 1991, van Achterberg 2007, 2012, Yu *et al.* 2012
- chiastochetae* Fischer, 1990  
Koponen 1989, Fischer 1990, Silfverberg 1991, van Achterberg 2007, 2012, Yu *et al.* 2012
- conspurcator* (Haliday, 1838)  
Kanervo 1936, Fischer 1971, Shenefelt 1974, Koponen & Vikberg 2005, van Achterberg 2007, Yu *et al.* 2012  
*arctica* Thomson, 1895: [Hellén 1938, 1940]
- eugenia* (Haliday, 1838)  
Hellén 1938, 1940, Fischer 1971, Shenefelt 1974, van Achterberg 1998, Koponen & Vikberg 2005, van Achterberg 2007, 2012, Yu *et al.* 2012
- eunice* (Haliday, 1838)  
van Achterberg 2007, 2012
- flavipes* (Haliday, 1838)  
van Achterberg 2007, 2012
- \*galatea* (Haliday, 1838)  
New to Finland
- hirsuta* Koponen & Vikberg, 2005  
Koponen & Vikberg 2005, Silfverberg 2007, van Achterberg 2012, Yu *et al.* 2012
- \*intermedia* Tobias, 1962  
New to Finland
- livida* (Haliday, 1838)  
van Achterberg 2007, 2012
- longicauda* (Thomson, 1895)  
van Achterberg 2007, 2012
- luteipes* Stelfox, 1950  
van Achterberg 2007, 2012
- notabilis* Stelfox, 1944  
van Achterberg 2007, 2012
- pellmyri* Fischer, 1990  
Koponen 1989, Fischer 1990, Silfverberg 1991, van Achterberg 2007, 2012, Yu *et al.* 2012
- picinervis* (Haliday, 1838)  
Koponen & Vikberg 2005, Silfverberg 2007, van Achterberg 2007, 2012, Yu *et al.* 2012
- pratellae* (Curtis, 1826)  
Hellén 1938, 1940, Fischer 1971, Shenefelt 1974, Koponen & Vikberg 2005, van Achterberg 2007, 2012, Yu *et al.* 2012
- pullata* (Haliday, 1838)  
Hellén 1938, 1940, Fischer 1971, Koponen & Vikberg 2005, van Achterberg 2012, Yu *et al.* 2012
- ruficeps* (Nees, 1812)  
Fischer 1990, Silfverberg 1991, Koponen & Vikberg 2005, van Achterberg 2007, 2012, Yu *et al.* 2012, Gadallah *et al.* 2015
- \*tacita* Stelfox, 1941  
New to Finland
- ungulosestosa* van Achterberg & Koponen, 2003  
van Achterberg & Koponen 2003, Silfverberg 2007, van Achterberg 2007, 2012, Yu *et al.* 2012
- PHASMALYSIA** Tobias, 1971
- \*zinovjevi* Tobias, 1971
- SYMPHANES** Foerster, 1862
- striolata* (Thomson, 1895)  
Koponen 2000, Silfverberg 2001, Yu *et al.* 2012

**SYNALDIS** Foerster, 1862**concolor** (Nees, 1812)

van Achterberg 2007, 2012

**distracta** (Nees, 1834)Koponen & Vikberg 1984, van Achterberg 2007, 2012, Yu *et al.* 2012, Askari Hesni *et al.* 2015**laccessiva** Fischer, 1975

van Achterberg 2007, 2012

**mandibulata** Fischer, 1970

Papp 2007, van Achterberg 2007, 2012

**megastigma** Fischer, 1967

van Achterberg 2007, 2012

**ultima** Fischer, 1970

van Achterberg 2007, 2012

**SYNCRASIS** Foerster, 1862**fucicola** (Haliday, 1838)

van Achterberg 2007, 2012

**halidayi** (Foerster, 1862)

van Achterberg 2007, 2012

**TANYCARPA** Foerster, 1862**\*amplipennis** (Foerster, 1862)

New to Finland

**bicolor** (Nees, 1812)

van Achterberg 2007, 2012

**gracilicornis** (Nees, 1812)Hellén 1938, 1940, van Achterberg 2007, 2012, Yu *et al.* 2012, Riedel & Hansen 2014**mitis** Stelfox, 1941

van Achterberg 2007, 2012

**\*rufinotata** (Haliday, 1838)

New to Finland.

**TRACHYUSA** Ruthe, 1854**aurora** (Haliday, 1838)Koponen 1999, Silfverberg 2001, van Achterberg 2007, 2012, Yu *et al.* 2012, Riedel & Hansen 2014**nigrothoracica** van Achterberg & O'Connor, 1990Koponen 1999, Silfverberg 2001, van Achterberg 2007, 2012, Yu *et al.* 2012

## Discussion

In the present study, a total of 105 Alysiinae species have been catalogued from Finland, and 24 species are recorded for the first time: *Adelphenaldis globipes* (Fischer, 1962), *Alloea bonessi* Fischer, 1966, *Alloea lonchopterae* Fischer, 1966, *Alysia alticola* (Ashmead, 1890), *Alysia fuscipennis* Haliday, 1838, *Alysia lucia* Haliday, 1838, *Alysia subproia* Tobias, 1999, *Aphaereta brevis* Tobias, 1962, *Asobara tabida* (Nees, 1834), *Asobara tabidula* (Tobias, 1962), *Aspilota delicata* Fischer, 1973, *Aspilota laevinota* Tobias, 1962, *Aspilota nidicola* Hedqvist, 1972, *Aspilota stenogaster* Stel-

fox & Graham, 1951, *Aspilota tetragona* Fischer, 1976, *Idiasta dichrocera* Königsmann, 1960, *Orthostigma latinerve* (Petersen, 1956), *Orthostigma longicubitale* Königsmann, 1969, *Phaenocarpa galatea* (Haliday, 1838), *Phaenocarpa intermedia* Tobias, 1962, *Phaenocarpa tacita* Stelfox, 1941, *Phasmalsia zinovjevi* Tobias, 1971, *Tanycarpa amplipennis* (Foerster, 1862), and *Tanycarpa rufinotata* (Haliday, 1838).

This study establishes 359 known Alysiinae species from Finland, 196 belonging to Alysiini, and 163 to Dacnusiini (Koponen & Vikberg 2013). This number of species is

higher than the number in adjacent countries such as Sweden (234), Denmark (173) and Norway (29) (Yu et al. 2012). However, further investigations both on the fauna composition and host association of the Finnish Alysiinae are necessary to provide the basis for biological control of the dipterous pests in agricultural and urban landscapes.

## References

- van Achterberg, C. 1993: Illustrated key to the subfamilies of the Braconidae (Hymenoptera: Ichneumonoidea). Zoologische Verhandlungen (Leiden) 283: 1–189.
- van Achterberg, C. 2007: Ichneumonoidea. Fauna Europaea version 1.3, <http://faunaeur.org>
- van Achterberg, C. 2012: Ichneumonoidea. Fauna Europaea version 2.5, <http://faunaeur.org>
- van Achterberg, C. & Koponen, M. 2003: *Phaenocarpa unguilobeseta* spec. nov. from Finland and *Elasmosoma depressum* spec. nov. from Estonia (Hymenoptera: Braconidae: Alysiini; Euphorinae: Neoneurini). Zoologische Mededelingen (Leiden) 77(16): 291–299, figs 1–25.
- van Achterberg, C. & V. Vikberg 2014: *Dinotrema brevis* spec. nov. (Hymenoptera: Braconidae: Alysiinae), a new brachypterous species from Finland. Zoologische Mededelingen (Leiden) 88(1): 1–7.
- Askari Hesni, M., Ghotbi Ravandi, S., Madjzadeh, S.M., Peris-Felipo, F.J. & Rakhshani, E. 2015: A contribution to the Alysiinae of southeastern Iran, with description of the male of *Chorebus longiarticulis*. Turkish Journal of Zoology 39: 836–841.
- Belokobylskij, S.A. 2005: Eastern Palaearctic species of the parasitic wasps of the genus *Aspilota* Foerster (Hymenoptera, Braconidae, Alysiinae). Species with developed mesoscutal pit. Entomologicheskoe Obozrenie, 84 (3), 610–641. [in Russian].
- Berry, J.A. 2007: Alysiinae (Insecta: Hymenoptera: Braconidae). Fauna of New Zealand, 58, 3–94.
- Elpino-Campos, A., Del-Claro, K. & Prezoto, F. 2007: Diversity of social wasps (Hymenoptera: Vespidae) in Cerrado fragments of Uberlândia, Minas Gerais state, Brazil. Neotropical Entomology 36: 685–692.
- Fischer, M. 1971: Untersuchungen über die europäischen Alysiini mit besonderer Berücksichtigung der Fauna Niederösterreichs (Hym., Braconidae). – Polskie Pismo Entomologiczne 41(1): 19–160, figs. 1–56.
- Fischer, M. 1990: Westpaläarktische *Phaenocarpa*-Arten: Vorläufiger Bestimmungsschlüssel, Deskriptionen und Redeskriptionen (Hymenoptera, Braconidae, Alysiinae). Annalen des Naturhistorischen Museums in Wien (B) 91: 105–135.
- Fischer, M. 1993: Neubesreibungen und Wiederbeschreibungen von Kieferwespen (Hym., Braconidae, Alysiinae: Tribus Alysiini) der Alten Welt. Linzer Biologische Beiträge 25(2): 593–648.
- Fischer, M. 1993a: Zur Formenvielfalt der Kieferwespen der Alten Welt: Über die Gattungen *Synaldis* Förster, *Trisynaldis* Fischer und *Kritscherysia* Fischer gen. nov. (Hymenoptera, Braconidae, Alysiinae). Annalen des Naturhistorischen Museums in Wien (B) 94-95[1990-1991]: 451–490.
- Fischer, M. & Beyarslan, A. 2012: New species of *Synaldis* Foerster and *Idiasta* Foerster and further records of Turkish Alysiini (Hymenoptera: Braconidae: Alysiinae). Zoology in the Middle East 55(1): 55–64.
- Gadallah, N.S., Ghahari, H., Peris-Felipo, F.J. & Fischer, M. 2015: An annotated catalogue of the Iranian Alysiinae (Hymenoptera: Braconidae). Zootaxa 3974(1): 1–28.
- González, J.A., Tomé, M.A.M.; Gayubo, S.F. & Torres, F. 2000: Himenópteros aculeados capturados mediante trampas Malaise en un sector arenoso de la Submeseta Norte (España) (Hymenoptera, Aculeata). Nouvelle revue d'Entomologie 17: 337–353.
- Gurasashvili, M.L. 1983: Parasitic wasps of the genus *Phaenocarpa* Foerster, 1862 (Hymenoptera, Braconidae, Alysiinae) of the western Caucasus. Entomologicheskoye Obozreniye 62: 780–788. [Entomological Review. 62(4): 109–118.]
- Hackman, W. & Meinander, M. 1974: Diptera feeding as larvae on macrofungi in Finland. Annales zoologici fennici 16: 50–83.
- Hellén, W. 1923: Veränderungen in der Kenntnis der Insektenfauna Finnlands bis zum Jahr 1921. Notulae Entomologicae 3: 29–32, 60–64.
- Hellén, W. 1931: Verzeichnis der in den Jahren 1926-1930 für die Fauna Finnlands neu hinzugekommenen Insektenarten. Notulae Entomologicae 11: 51–66.
- Hellén, W. 1938: Für die Fauna Finnlands neue Braconiden (Hym.). Notulae Entomologicae 18: 108–114.
- Hellén, W. 1940: Enumeratio Insectorum Fenniae II Hymenoptera 2. Terebrantia. Helsinki, 32 p.
- Kanervo, V. 1936: Kaalikoi (*Plutella maculipennis* Curt.) ristikkukaiskasvien tuholaisena Suomessa. [The diamond back moth (*Plutella maculipennis* Curt.) as a pest of cruciferous plants in Finland]. Valtion maatalouskoetöiminnan julkaisuja 86: 1–86.
- Koponen, M. 1989: Lists of the insect types in the Zoological Museum, University of Helsinki. 13. Hymenoptera: Braconidae, excluding types of the taxa described by Wolter Hellén. Acta Entomologica Fennica 55: 27–31.
- Koponen, M. 1999: Two species of *Trachyusa* Ruthe, 1854 (Hymenoptera, Braconidae, Alysiinae) in Finland. Entomologica Fennica 10: 199–200.
- Koponen, M. 2000: *Adelurola* Strand, 1928, *Anisocyrtia* Foerster, 1862, *Asyntactus* Marshall, 1898, and *Symphanes* Foerster, 1862 (Hymenoptera, Braconidae, Alysiinae) in Finland. Entomologica Fennica 11: 239–243.
- Koponen, M. & Peris-Felipo, F. J. 2016: Checklist of *Dinotrema* Foerster, 1863 species of Finland (Hymenoptera, Braconidae, Alysiinae). Zootaxa 4175(6): 556–570.
- Koponen, M. & Vikberg, V. 1984: Parasitic wasps (Hymenoptera, Parasitica) of Inari Lapland, excluding Ichneumonidae. Kevo Notes 7: 101–113.
- Koponen, M. & Vikberg, V. 2005: *Phaenocarpa hirsuta* sp. nov., *P. picinervis* (Haliday) and *P. angustiptera* Papp new to fauna of Finland (Hymenoptera: Braconidae: Alysiinae). Entomologica Fennica 15: 51–60.
- Koponen, M. & Vikberg, V. 2014: Suomen Dacnusiini-lajien luettelo [Check list of the species of Dacnusiini in Finland] (Hymenoptera, Braconidae, Alysiinae). Sahlbergia 20: 2–27.
- Krogerus, R. 1927: Parasteklar från Karelska näsets dynamråden. Memoranda Societatis pro Fauna et Flora Fennica 2: 44–48.
- Krogerus, R. 1932: Über die Ökologie und Verbreitung der Arthropoden der Triebsandgebiete an den Küsten Finnlands. Acta Societatis pro Fauna et Flora Fennica 12: 1–308.
- Krogerus, R. 1960: Ökologische Studien über nordische Moararthropoden. Artenbestand, ökologische Faktoren, Korrelation der Arten. Commentationes Biologicae (Societas Scientiarum Fennicae) 21(3): 1–238.
- Munk, T., Peris-Felipo, F.J. & Jiménez-Peydró, R. 2013a. New Western Palaearctic *Dinotrema* species with mesoscutal pit and only medially sculptured propodeum (Hymenoptera, Braconidae, Alysiinae). Zookeys 260: 61–76.

- Munk, T., Peris-Felipo, F.J. & Jiménez-Peydró, R. 2013b. New European species of the genus *Dinotrema* Foerster, 1862 with extensively sculptured propodeum (Hymenoptera, Braconidae, Alysiinae). *Annals Zoologici* 63(1): 123–141.
- Nordström, Å. 1948: *Alysia frigida* Hal. *Notulae Entomologicae* 28: 63.
- Nylander, W. 1859: Strödda anteckningar 1. Bidrag till Kännedom av Finlands Natur och Folk 3: 245–248.
- Papp, J. 2007: Braconidae (Hymenoptera) from Korea XXII. Subfamily Alysiinae. *Acta Zoologica Academiae Scientiarum Hungaricae* 53(1): 1–38.
- Peris-Felipo, F.J., Belokobylskij, S. & Jiménez-Peydró, R. 2012: Genus *Adelphenaldis* Fischer, 2003 (Hymenoptera: Braconidae: Alysiinae) in Spain, with a key to the World species. *Annales Zoologici (Warszawa)* 62(2): 287–296.
- Peris-Felipo, F.J., Belokobylskij, S.A. & Jiménez-Peydró, R. 2014: Revision of the Western Palaearctic species of the genus *Dinotrema* Foerster, 1862 (Hymenoptera, Braconidae, Alysiinae). *Zootaxa* 3885: 1–483.
- Riedel, M. & Hansen, L.O. 2014: Braconidae (Hymenoptera) of Norway, Part II. *Norwegian Journal of Entomology* 61: 147–159.
- Sharkey, M.J. & Wharton, R.A. 1997: Morphology and Terminology. In: Wharton, R.A., Marsh, P.M., & Sharkey, M.J. (Eds.), *Manual of the New World Genera of the Family Braconidae* (Hymenoptera). International Society of Hymenopterists, Washington DC, pp. 19–37.
- Shaw, M.R. & Huddleston, T. 1991: Classification and biology of braconid wasps (Hymenoptera: Braconidae). *Handbooks for the identification of British insects Vol. 7, Part 11*. Royal Entomological Society, London. 126 p.
- Shenefelt, R.D. 1974: Pars 11. Braconidae 7, Alysiinae. In: van der Vecht, J. & Shenefelt, R.D. (Eds.): *Hymenopterorum Catalogus (nova editio)*. Dr. W. Junk BV, The Hague. Pp. 937–1113.
- Silfverberg, H. 1991: Changes 1986–1990 in the list of Finnish insects. *Entomologica Fennica* 2: 9–17.
- Silfverberg, H. 1996: Changes 1991–1995 in the list of Finnish insects. *Entomologica Fennica* 7: 39–49.
- Silfverberg, H. 2001: Changes 1996–2000 in the list of Finnish insects. *Entomologica Fennica* 12: 217–243.
- Silfverberg, H. 2007: Changes in the list of Finnish insects during 2001–2005. *Entomologica Fennica* 18: 82–101.
- Söderman, G., Várkonyi, G. & Koponen, M. 2010: Kätköpistiäiset. Hymenoptera: Parasitica. In: Rassi, P., Hyvärinen, E., Juslén, A. Mannerkoski, I. (Eds.), *The 2010 Red List of Finnish Species*. Ympäristöministeriö & Suomen ympäristökeskus, Helsinki, pp. 519–528.
- Tobias, V.I. 1995: Family Braconidae, 22. subfamily Alysiinae. In: Medvedev, G.S. (Ed.), *Keys to the insects of the European Part of the USSR*. Volume III. Hymenoptera, part V. pp. 156–386.
- Vänninen, I. & Koskula, H. 1998: Effect of hydrogen peroxide on algal growth, cucumber seedlings and the reproduction of shore flies (*Scatella stagnalis*) in rockwool. *Crop Protection* 17 (6): 547–553.
- Wharton, R.A. 1986: The braconid genus *Alysia* (Hymenoptera): a description of the subgenera and a revision of the subgenus *Alysia*. *Systematic Entomology* 11(4): 453–504.
- Wharton, R.A., Marsh, P.M., & Sharkey, M.J. (Eds.) 1997: *Manual of the New World Genera of the Family Braconidae* (Hymenoptera). Special publication of the International Society of Hymenopterists No. 1. International Society of Hymenopterists, Washington DC, 439 p.
- Wishart, G., Colhoun, E.H. & Monteith, A.E. 1957: Parasites of *Hylemya* spp. (Diptera: Anthomyiidae) that attack cruciferous crops in Europe. *Canadian Entomologist* 89: 510–517.
- Yu, D.S.K., van Achterberg, C. & Horstmann, K. 2012: *Taxapad 2012*, Ichneumonoidea 2011. Database on flash-drive, Ottawa, Ontario, Canada.
- Zaykov, A.N. 1982: The European species of *Symphya* Förster (Hymenoptera: Braconidae). *Acta Zoologica Hungarica* 28: 171–179.