



## Checklist of *Dinotrema* Foerster, 1863 species of Finland (Hymenoptera, Braconidae, Alysiinae)

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### Abstract

In the present study, a total of 91 species of the genus *Dinotrema* Foerster, 1863 (Hymenoptera: Braconidae: Alysiinae) from Finland are catalogued. Of them, 73 species are recorded for the first time for this country. A faunistic list with distributional data and host records is provided.

**Key words:** *Dinotrema*, parasitic wasps, checklist, Palaearctic, new records

### Introduction

*Dinotrema* Foerster, 1863 is one of the largest genera in the tribe Alysiini (Alysiinae) with species parasitoids of the larvae of Diptera predominantly belonging to the family Phoridae (van Achterberg 1988). This genus comprises 350 species described approximately from all regions around the world (Fischer 1972; van Achterberg 1988; Tobias 2003, 2004a, 2004b, 2006; Peris-Felipo and Belokobylskij 2013, 2016a, 2016b; Munk *et al.* 2013a, 2013b; Peris-Felipo *et al.* 2013a, 2013b, 2013c, 2013d, 2014a, 2014b, 2014c; van Achterberg and Vikberg 2014).

However, few studies have been carried out from the Northern Palaearctic region (Munk *et al.* 2013a, 2013b; van Achterberg and Vikberg 2014), they provided an initial indication of the extent of the Finnish *Dinotrema* fauna. Recently, the first author began to catalogue Alysiinae from Finland, and here we provide a catalogue of Finnish *Dinotrema*.

### Materials and methods

**Area of study.** Finland or Suomi is located in Northern Europe and has a total area of approximately 338.435 km<sup>2</sup>. The country is mostly flat with few hills and fewer mountains and the highest point is the Halti (in *Le*—see Fig. 1) at 1.324 m (Raatikainen and Kuusisto 1990). It is considered as the country of thousands of lakes and islands because of it has about 188.000 lakes and 179.000 islands and it is divided in 21 natural history provinces (see Fig. 1). Finland is included in the Boreal or Holarctic Kingdom and can be subdivided into three ecoregions: Sarmatic mixed forests in *Al* and *Ab*, the Scandinavian and Russian taiga in most of Finland, and Scandinavian Montane Birch forest and grasslands in northern *Le* and *Li*. Climate conditions in the boreal zone are characterized by temperate summers with an average of 15–20°C, freezing winters with an average -10–0°C, and annual average temperature in *N* Helsinki 5.9°C and in *Lkor* Sodankylä -0.4°C (1981–2010). In summer the mean daily temperature is consistently above 10°C. Summer usually begins in late May in southern Finland and lasts until mid-September. Summer in Lapland starts about one month later and ends a month earlier than the south coast. The Finnish climate is characterized by irregular rains caused by rapid changes in the weather. (Finnish Meteorological Institute 2016). For example, Helsinki has an average annual precipitation of 655 mm.



FIGURE 1. Map with the distribution of natural history provinces of Finland.

## Data identification

We used the criteria outlined in Peris-Felipo *et al.* (2014a) for the identification and classification of *Dinotrema* taxa. New species records are marked by asterisk (\*). Abbreviations for natural history provinces of Finland follow those in Figure 1.

All the material examined and types of described species are deposited in the collections of MZH, Zoological Collections of Finnish Natural History Museum, University of Helsinki (Helsinki, Finland); ENV, Entomological Collection of the University of Valencia (Valencia, Spain); HNHM, Hungarian Natural History Museum (Budapest, Hungary); NHMD, Natural History Museum of Denmark (Copenhagen, Denmark); NHMW, Naturhistorisches Museum (Vienna, Austria); NMA, Naturhistorisk Museum Aarhus (Aarhus, Denmark); RMNH, Naturalis Biodiversity Center (Leiden, Netherlands); and ZISP, Zoological Institute of the Russian Academy of Sciences (St Petersburg, Russia).

## Results

A total of 91 *Dinotrema* species are recorded and catalogued for Finland. Of these, 73 species are recorded for the first time. A faunistic list with distributional data and host records is provided below.

## Subfamily Alysiinae Leach, 1815

### Tribe Alysiini Leach, 1815

#### Genus *Dinotrema* Foerster, 1863

Type species: *Dinotrema erythroga* Foerster, 1863.

**Diagnosis.** Mandibles small, simple, tridentate. Paraclypeal fovea short, not reaching ventral edge of eyes. Vein r1 (r) present and sclerotized; nervulus (cu-a) postfurcal.

**Hosts.** Dipteran larvae from families Anthomyiidae, Drosophilidae, Phoridae, Platypezidae.

1. *\*Dinotrema adventum* (Fischer, 1973)

**Material examined.** *Ab*: 1 female, Uusikaupunki, Nystad, 675:319, 13.viii.1917 (W. Hellén leg.) (MZH). *Sa*: 1 female, Mikkeli, Laajalampi, 68392:35140, 20.ix.2015 (M. Koponen leg.) (MZH); 2 females, Mikkeli, Laajalampi, 68400:35143, 24.viii.2015 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

2. *\*Dinotrema affine* (Fischer, 1973)

**Material examined.** *Ab*: 1 female, Korpo, Röskär, 66643:320312, 21.viii–11.ix.1992 (M. Nieminen leg.) (MZH); 1 female, Perniö, Matilda, 6685:3273, 19.ix.1994 (M. Koponen leg.) (MZH). *N*: 2 females, Espoo, 667625:337604, 18–24.vi.2011, swept on window trap (P. Rassi leg.) (MZH); 1 female, Nurmijärvi, Rajamäki, 6715:3376, 28.vi.1980 (M. Koponen leg.) (MZH). *Sa*: 1 female, Mikkelin mlk. Kivilahti, 6839:3506, 27.ix.1996 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

3. *\*Dinotrema agaricophagum* Peris-Felipo, 2013

**Material examined.** *Ab*: 1 female, Uusikaupunki, Nystad, 675:319, 17.viii.1923 (M. Hellén leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

4. *\*Dinotrema agnitum* Tobias, 2004

**Material examined.** *N*: 1 female, Espoo, 667625:337604, 11–20.vi.2010, swept on window trap (P. Rassi leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

5. *\*Dinotrema alysiiae* Munk & Peris-Felipo, 2013

**Material examined.** *N*: 4 females, 3 males, Espoo, 667625:337604, 18–24.vi.2011, swept on window trap (P. Rassi leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

6. *\*Dinotrema amoenidens* (Fischer, 1973)

**Material examined.** *N*: 1 female, Nurmijärvi, Kiljava-Vaaksi, 6711:3373, 15.viii.1995 (M. Koponen leg.) (MZH). *Ta*: 1 female, Juupajoki, Hyytiälä, 686:335, 13.vi.1982 (Yang Zhongqi leg.) (MZH). *Sa*: 1 female, Taipalsaari, Saikkola, 678:355, 7.vii.1949 (W. Hellén leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

7. *Dinotrema aureliae* (Fischer, 1973)

**Material examined.** *N*: 1 female, Kirkkonummi, Kyrkslätt, 3.ix.1980 (Vásárhenlyi leg.) (HNHM).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a).

8. *\*Dinotrema aurelianum* (Fischer, 1976)

**Material examined.** 33 females, sampled in *Ab* (Sauvo), *Li* (Inari), *N* (Espoo, Helsinki, Hyvinkää,

Kirkkonummi, Nurmijärvi), *Om* (Haapavesi), *Sa* (Mikkeli), *Sb* (Maaninka), *St* (Pori), *Ta* (Jämsä, Korpilahti), and *Tb* (Rautalampi) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

9. *\*Dinotrema brevicauda* (Tobias, 1962)

**Material examined.** *N*: 1 female, Espoo, 667625:337604, 18–24.vi.2011, swept on window trap (P. Rassi leg.) (MZH); 1 female, Nurmijärvi, Mars, 6717:3375, 6.ix.1989 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

10. *\*Dinotrema brevis* van Achterberg et Vikberg, 2014

**Material examined.** *Ta*: 1 female (holotype), Janakkala, Kalpalinna, Turistirinne, 6760:3369, 16.v.2013 (V. Vikberg leg.) (MZH); 12 females, 9 males, same locality but, 15–25.v.2013 (MZH, RMNH). *Sa*: 1 male, Mikkeli Rantakylä, Sokkalantie, 6840:3511, 17.v.2010 (M. Koponen leg.) (MZH); 1 male, Mikkeli Otava, 6835:3503, 21.v.2012 (M. Koponen leg.) (MZH); 3 males, Mikkeli, Tuukkala, 6837:3514, 18.v.2014 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (van Achterberg and Vikberg 2014).

11. *\*Dinotrema caesum* Tobias, 2006

**Material examined.** *Ab*: 1 female, Uusikaupunki, Nystad, 675:319, 22.viii.1920 (W. Hellén leg.) (MZH). *N*: 1 female, Helsinki, Helsinge, Hoplax, 667:338, 26.vi.1915 (W. Hellén leg.) (MZH); 1 female, Nurmijärvi, Kiljava–Vaaksi, 6711:3373, 15.viii.1995 (M. Koponen leg.) (MZH). *Om*: 1 female, Haapavesi, Ollala, 7120:3421, 13.vii.1995 (M. Koponen leg.) (MZH). *Sa*: 1 female, Mikkeli, Urpola, Myllykoski, 68408:35144, 15.viii.2014 (M. Koponen leg.) (MZH); 1 female, Suomenniemi, 6803:3510, 23.vii.1978 (M. Koponen leg.) (MZH). *Ta*: 1 female, Hauho, Vuolijoki, 678:336, 18.viii.1935 (W. Hellén leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

12. *\*Dinotrema calamitosum* Tobias, 2006

**Material examined.** *N*: 1 female, Helsinki, Viikki, 668:339, 3.vii.1982 (Yang Zhongqi leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

13. *\*Dinotrema callidium* Tobias, 2006

**Material examined.** *Obb*: 1 female, Tornio, 7312:3385, 6.vii.1982 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

14. *\*Dinotrema carinatum* (Tobias, 1962)

**Material examined.** *N*: 3 females, Espoo, 667625:337604, 18–24.vi.2011, swept on window trap (P. Rassi leg.) (MZH); 1 female, Nurmijärvi, Kiljava–Vaaksi, 6711:3373, 15.viii.1995 (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

15. *\*Dinotrema catharinae* (Fischer, 1973)

**Material examined.** *Kb*: 1 female, Rääkkylä, Vuoniemi, 6924:3642, 15.vi.2001 (M. Koponen leg.) (MZH). *N*: 1 female, Helsinki, Helsingfors, Munksnäs, 667:338, 14.vi.1958 (W. Hellén leg.) (MZH). *Sa*: 1 female, Ristiina, Ylölänkylä Alatalo, 6826:3502, 28.vii.1985 (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

16. *Dinotrema caudatum* (Thomson, 1895)

**Material examined.** *N*: 1 female, Tammisaari, 6657:3302, *Quercus* grove, 17.vi.1980 (Koponen leg.) (NMA); 1 female, Helsinki, Pirkkola, 6682:3384, 28.vi.1976 (Koponen leg.) (NMA). *Ta*: 1 female, Lammi, biol. station, 6773:3394, *Quercus* grove, 13.vii.1976 (Koponen leg.) (NMA);

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a).

17. *\*Dinotrema compressum* (Haliday, 1838)

**Material examined.** *Tb*: 1 female, Keuruu, Keuru, 690:337, 28.vii.1928 (W. Hellén leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

18. *\*Dinotrema concinnum* (Haliday, 1838)

**Material examined.** 17 females, 16 males, sampled from *Al* (Eckerö, Finström, Hammarland, Jomala, Lemland, Vårdö), *Ab* (Halikko, Uusikaupunki), *Oba* (Kuivaniemi), *Om* (Pietarsaari, Vimpeli), *N* (Espoo, Helsinki, Nurmijärvi, Raasepori, Tammisaari, Tuusula), *Sa* (Mikkeli, Pertunmaa), *Sb* (Pieksämäki), *St* (Pori, Vammala), *Ta* (Sääksmäki), and *Tb* (Keuruu) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

19. *\*Dinotrema converginerve* (Fischer, 1973)

**Material examined.** *Ab*: 1 female, Nauvo, Seili, 6691:3221, 10.vi.2005 (M. Koponen leg.) (MZH); 1 female, Uusikaupunki, Nystad, 675:319, 14.viii.1914 (W. Hellén leg.) (MZH). *Le*: 1 female, Enontekiö, Kilpisjärvi, Siilastupa, 7675:3252, 11.vii.1950, swept on moist meadow (W. Hellén leg.) (MZH). *N*: 3 females, Espoo, 667625:337604, 11–20.vi.2010 and 24.vi–1.vii.2011, swept on window trap (P. Rassi leg.) (MZH). *Sa*: 1 female, Mikkeli, Otava, 6835:3503, 15.viii.2004 (M. Koponen leg.) (MZH); 1 female, Mikkeli, Laajalampi, 68398:35143, 4.ix.2014, swept on lake shore (M. Koponen leg.) (MZH). *Tb*: 1 female, Pihtipudas, Isomäki, 7043:3423, 1.vii.2004 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

20. *\*Dinotrema costulatum* (Thomson, 1895)

**Material examined.** *N*: 1 female, Helsinki, Kannelmäki, 6682:383, 12.viii.1977 (M. Koponen leg.) (NHMD); 1 female, Helsinki, Lassila, 6681:383, 28.ix.1978 (M. Koponen leg.) (NHMD). *Sb*: 1 female, Sonkajärvi, 708265:352154, 8.vii.2000 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

21. *\*Dinotrema cratocera* (Thomson, 1895)

**Material examined.** *N*: 1 female, Nurmijärvi, Kiljava-Vaaksi, 6711:3373, 15.viii.1995 (M. Koponen leg.) (MZH). *Kl*: 1 female, Parikkala, 683:363, 19.vii.1960 (W. Hellén leg.) (MZH). *Sa*: 1 female, Mikkeli, Tuoppitie, 6840:3514, 31.v.2013 (M. Koponen leg.) (MZH). *Ta*: 2 females, Jämsä, Säyrylä, 6865:3411, 26.viii.1991 (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

22. *\*Dinotrema cruciatum* (Fischer, 1973)

**Material examined.** *Al*: 1 female, Sund, 6697:3115, 4.vii.1984 (M. Koponen leg.) (MZH). *N*: 1 female, Espoo, 667625:337604, 11–20.vi.2010, swept on window trap (P. Rassi leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

23. *Dinotrema cruciforme* (Fischer, 1973)

**Material examined.** *Ab*: 1 female, Askainen, Villnäs, Hannula, 672:321, 27.viii.1936 (W. Hellén leg.) (MZH); 1 female, Korpo, Korpoström, 66788:31999, 22.viii–10.ix.1992, swept on light trap, (M. Nieminen leg.) (MZH). *N*: 2 females, Espoo, Tontunmäki, 667625:337604, 18–24.vi.2011, swept on window trap (P. Rassi leg.) (MZH). *Kl*: 1 female, Parikkala, 683:363, 25.vii.1960 (W. Hellén leg.) (MZH). *Ta*: 1 female, Hauho, Tuittula, 678:337, 24.viii.1941 (W. Hellén leg.) (MZH). *Oa*: 1 female, Ylihärmä, 7011:3287, 13.vii.1980 (M. Koponen leg.) (NMA). *Sa*: 1 female, Mikkeli, Kivilahti, 6839:3506, 4.viii.2011 (M. Koponen leg.) (MZH); 1 female, Mikkeli, Tuoppitie, 6840:3514, 5.vi.2013 (M. Koponen leg.) (MZH). *Sb*: 1 female, Kuopio, Syvänniemi, 697336:350964, 30.vii–4.viii.2012, swept on Malaise trap (A. Haarto leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a).

24. *\*Dinotrema deprane* Munk & Peris-Felipo, 2013

**Material examined.** *Al*: 1 female, Jomala, Espholm, 668:310, 21.vi.1958 (W. Hellén leg.) (MZH). *N*: 1

female, Hanko, Hangö, Sandö, 6644:3283, 15–20.viii.1990, swept on Malaise trap (A. Albrecht leg.) (MZH); 1 female, Nurmijärvi, Mutaanmäki, 6710:3378, 28.vii.1987 (M. Koponen leg.) (MZH). *Sa*: 1 female, Mikkeli, Urpola, Myllykoski, 68408:35144, 25.vi.2014 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

25. *\*Dinotrema dimidiatum* (Thomson, 1895)

**Material examined.** *N*: 1 female, Espoo, Esbo, Hagalund, 667:337, 5.x.1919 (W. Hellén leg.) (MZH); 1 female, Tuusula, Metsänjalostusasema, 6695:3389, 9.v.1983 (M. Koponen leg.) (MZH). *Sa*: 2 females, Mikkeli, Otava, 6835:3503, 2 & 22.v.2008, (M. Koponen leg.) (MZH); 1 female, Tuoppitie/Patapolku, 6840:3514, 5.vii.2014 (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

**Host.** *Scaptomyza* sp. (Drosophilidae).

26. *\*Dinotrema dimorpha* (Fischer, 1976)

**Material examined.** *Ab*: 1 female, Sauvo, Karuna, 669:325, 23.ix–20.x.2001, swept on Malaise trap (R. Jussila leg.) (MZH). *Sa*: 1 female, Taipalsaari, Saikkola, 678:355, 29.vii.1949 (W. Hellén leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

27. *\*Dinotrema divisum* (Stelfox & Graham, 1950)

**Material examined.** 15 females, 2 males, sampled from *Ab* (Perniö, Vihti), *Kb* (Kontiolahti), *Kl* (Parikkala), *N* (Helsinki, Nurmijärvi), *Sa* (Mikkeli), *Sb* (Kuopio), and *Ta* (Janakkala, Loppi) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

28. *Dinotrema erythropum* Foerster, 1863

**Material examined.** *Ab*: 1 female, Karkkila, 671:334, 19.viii.1978, (V. Vikberg leg.) (MZH); 1 female, Lohja, Vaanila, 669:334, 24.viii.1935 (W. Hellén leg.) (MZH). *Ab*: 2 females, Vehmaa, 6735:3209, 1.vii.2002 (M. Koponen leg.) (MZH). *Al*: 1 female, Geta, 6715:3107, 5.vii.1984 (M. Koponen leg.) (MZH); 1 female, Jomala, Ramsholm, 668:310, 24.vi.1953 (W. Hellén leg.) (MZH). *Kl*: 3 females, Parikkala, 683:363 (2657, 2736), 9–30.vii.1960 (W. Hellén leg.) (MZH). *N*: 2 females, Helsinki, 667:338, 21.viii.1964, and 21.viii.1967 (Karvonen leg.) (MZH); 1 female, Sipoo, Sibbo, Nevas, 668:341, 7–13.vii.1986, malaise trap (A. Albrecht leg.) (MZH). *Oa*: 1 female, Ilmajoki, 697:328, 6.vii.1999 (M. Ahola leg.) (MZH). *Sa*: 1 female, Valkeala, 6772:3483, 28.vii.1977 (Koponen leg.) (NMA); 1 female, same locality but, 29.vii.1977 (NMA). *Ta*: 2 females, Hauho, Vuolijoki, 677:337, 18.viii.1935, (W. Hellén leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a).

29. *\*Dinotrema falsificum* (Stelfox & Graham, 1950)

**Material examined.** 27 females, sampled from *Al* (Jomala, Lemland, Sund), *Ab* (Korpo), *Ks* (Salla), *Li* (Inari), *N* (Espoo, Nurmijärvi, Porvoo, Tammisaari), and *Sa* (Mikkeli, Punkaharju) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

30. *\*Dinotrema fischerianum* Peris-Felipo, 2013

**Material examined.** *N*: 2 females, Espoo, 667625:337604, 18–24.vi.2011, and 24.vi–1.vii.2011, swept on window trap (P. Rassi leg.) (MZH). *Ks*: 1 female, Kuusama, Jäkälämutka, 7358:3618, 18.vi.2011 (M. Koponen leg.) (MZH). *Sa*: 2 females, Mikkeli, Mikkelin mlk. Vihtaniemi, 6839:3506, 13.viii.1998, and 18.vii.2011 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

31. *\*Dinotrema glabrideum* Munk & Peris-Felipo, 2014

**Material examined.** *Sa*: 3 females, Mikkeli, 6839:3506, 7.viii.2015 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

32. *\*Dinotrema glabrum* (Stelfox & Graham 1951)

**Material examined.** *N*: 1 female, Helsinki, Kannelmäki, 6682:3382, 11.vii.1979 (M. Koponen leg.) (NHMD); 1 female, Hyvinkää, 6715:3372, 24.ix.1977 (M. Koponen leg.) (NHMD); 1 female, Nurmijärvi, Rajamäki, 6715:3375, 21.viii.1976, mushroom forest (M. Koponen leg.) (NHMD); 1 female, Helsinki, Viikki, 6680:3390, 22.viii.1979 (M. Koponen leg.) (NHMD); 1 female, Nurmijärvi, Rajamäki, 6715:3376, 4.ix.1976 (M. Koponen leg.) (NHMD). **Om**: 1 female, Reisjärvi, Susisaari, 7057:3400, 12.vii.1980 (M. Koponen leg.) (NHMD).

**General Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

33. *\*Dinotrema haeselbarthi* Munk et Peris-Felipo, 2013

**Material examined.** 11 females sampled from *Ab* (Lohja, Uusikaupunki), *N* (Espoo, Kirkkonummi, Tammisaari), *Sa* (Mikkeli, Taipalsaari), *Tb* (Pihtipudas), and *Sb* (Tervo) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

34. *\*Dinotrema hodiense* (Fischer, 1976)

**Material examined.** *N*: 1 female, 1 male, Askola, Juornankylä, 671:343, 25–30.vi.1999, swept on light trap (T. Heiramo leg.) (MZH). **St**: 1 female, Huittinen, Karhiniemi, 6799:3266, 29.v.1993 (M. Koponen leg.) (MZH). **Kl**: 1 female, Parikkala, Roihankylmii, 6822:3637, 2.vii.1990 (M. Koponen leg.) (MZH). **Oba**: 1 female, Pudasjärvi, Kipinä, 7241:3438, 11.viii.1982, swept on bog (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

35. *\*Dinotrema incarinatum* (Fischer, 1973)

**Material examined.** **Al**: 1 female, Mariehamn, 668:310, 23.vi.1944 (W. Hellén leg.) (MZH). **Ta**: 1 female, Längelmäki, Sinivuori nature park, 68318:33798, 18.vi–3.vii.2000, swept on Malaise trap (J. Salokannel, K. Mattila and J. Kirjavainen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

36. *\*Dinotrema incongruens* (Fischer, 1973)

**Material examined.** 16 females, 2 males, sampled from *Al* (Jomala), *Ab* (Askainen, Korpo, Perniö), *Kb* (Liperi), *Li* (Inari), *N* (Espoo, Nurmijärvi, Tuusula), *Sa* (Mikkeli, Mäntyharju, Taipalsaari), *Ta* (Hausjärvi), and *Tb* (Konnevesi, Laukaa) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

37. *\*Dinotrema insigne* (Stelfox & Graham, 1950)

**Material examined.** 36 females, 48 males, sampled from *Al* (Jomala, Mariehamn), *Ab* (Paimio, Uusikaupunki, Vihti), *Kb* (Nilsjä), *Kl* (Parikkala), *Ks* (Kuusamo), *N* (Hanko, Helsinki, Inkoo, Kauniainen, Nurmijärvi, Porvoo), *Sa* (Mikkeli, Mäntyharju, Ristiina), and *Ta* (Hartola, Janakkala, Juupajoki, Kärkölä, Pälkäne, Tuulos) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

38. *\*Dinotrema intermissum* (Fischer, 1974)

**Material examined.** **Kl**: Parikkala, Laurila, 683:363, 21.vii.1942 (S. Hellén leg.) (MZH). **Li**: 1 female, Inari, Lemmenjoki, Morgam Maras, 762:345, 28.vi.1937 (W. Hellén leg.) (MZH). **Sa**: 1 female, Joutseno, 678:357, 1.viii.1955 (E. Thuneberg leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014). Finland (**new record**).

39. *\*Dinotrema jaculans* (Haliday, 1838)

**Material examined.** *N*: 1 female, Helsinki, Kannelmäki, 6682:3382, 26.vii.1976 (M. Koponen leg.) (NHMD).

**Distribution.** Western Palaearctic Region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

40. *Dinotrema kempei* (Hedqvist, 1972)

**Material examined.** 37 females sampled from *Ab* (Karkkila, Lohja, Vihti), *N* (Espoo, Helsinki, Nurmijärvi, Sipoo), *Ta* (Heinola, Janakkala, Korpilahti, Säynätsalo), *Sa* (Mikkeli), *Kl* (Parikkala), *Oba* (Pudasjärvi).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a).

41. *\*Dinotrema lagunasense* Peris-Felipo, 2013  
**Material examined.** 10 females sampled from *Ab* (Turku), *Kb* (Rautavaara), *N* (Nurmijärvi), *Ok* (Sotkamo), and *Sa* (Mikkeli, Ristiina) (MZH).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
42. *\*Dinotrema latidens* (Fischer, 1973)  
**Material examined.** *Ab*: 1 female, Vihti, Siikajärvi, 668:336, 27.viii.1964 (V. J. Karvonen leg.) (MZH). *Oa*: 1 female, Bergö, Synnerstören, 700:320, 25.vi.1946 (W. Hellén leg.) (MZH). *Ta*: 1 female, Längelmäki, Sinivuori Nature Park, 68318:33798, 18.vi–3.vii.2000, swept on Malaise trap (J. Salokannel, K. Mattila and J. Kirjavainen leg.) (MZH).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
43. *\*Dinotrema latifemur* (Fischer, 1975)  
**Material examined.** *Ab*: 1 female, Vehmaa, Rautila, Novida, 6735:3209, 3.vii.2002 (M. Koponen leg.) (MZH).  
**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
44. *\*Dinotrema leptocauda* (Fischer, 1976)  
**Material examined.** *N*: 1 female, Nurmijärvi, Kalatiensuo, 6717:3375, 22.viii.1991 (M. Koponen leg.) (MZH).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
45. *\*Dinotrema leptocorne* (Fischer, 1979)  
**Material examined.** *Ab*: 1 female, Uusikaupunki, Nystad, Hango, 675:319, 12.viii.1920 (M. Hellén leg.) (MZH). *Kl*: 1 female, Parikkala, Laurila, 683:363, 1–18.vii.1940 (W. Hellén leg.) (MZH). *N*: 1 female, Espoo, 667625:337604, 24.vi–1.vii.2011, swept on window trap (P. Rassi leg.) (MZH); 1 female, Sipoo, Sibbo, Norrkulla, 669:340 (976), 8.viii.1957 (W. Hellén leg.) (MZH); 1 female, Tammisaari, Ekenäs, Skåldö, 664:330, 22.vii.1925 (W. Hellén leg.) (MZH). *Ta*: Hausjärvi, 6743:3384, 23.viii.1991, swept on *Pinus* forest (M. Koponen leg.) (MZH).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
46. *\*Dinotrema lineolum* (Thomson, 1895)  
**Material examined.** *Li*: 1 female, Inari, Lemmenjoki, Rovodosjoki, 762:345, 29.vi.1936 (W. Hellén leg.) (MZH).  
**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).  
**Hosts.** *Megaselia* sp. (Phoridae).
47. *Dinotrema lobatum* Munk et Peris-Felipo, 2013  
**Material examined.** *N*: 1 female, Espoo, Tontunmäki, 667625:337604, 24.vi–1.vii.2011, window trap, (P. Rassi leg.) (MZH); 1 female (paratype), Suomi, Helsinki, Kannelmäki, 6682:3382, 20.vii.1976 (Koponen leg.) (NMA).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a).
48. *\*Dinotrema longicarinatum* (Fischer, 1976)  
**Material examined.** *Sa*: 1 female, Mikkeli, Tuoppitie/Patapolku, 6840:3514, 3.viii.2013 (M. Koponen leg.) (MZH).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
49. *\*Dinotrema lugaense* Tobias, 2003  
**Material examined.** *N*: 1 female, Nurmijärvi, 6709:3372, 13.viii.1994 (M. Koponen leg.) (MZH).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).



50. *\*Dinotrema macrocera* (Thomson, 1895)  
**Material examined.** *Sa*: 5 females, Mikkeli, Mikkelin mlk. Vihtaniemi, 6839:3506, 20.vii.1996 (M. Koponen leg.) (MZH); 4 females, Tuoppitie, 6840:3514, 5.vi.2013, and 23.viii.2014 (M. Koponen leg.) (MZH); 1 female, Urpola, Myllykoski, 68408:35144, 25.vi.2014 (M. Koponen leg.) (MZH).  
**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).  
**Hosts.** *Scaptomyza* sp. (Drosophilidae).
51. *\*Dinotrema mareum* Peris-Felipo, 2013  
**Material examined.** *Kb*: 1 female, Rääkkylä, Vuoniemi, 6924:3642, 15.vi.2001 (M. Koponen leg.) (MZH).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
52. *\*Dinotrema matridignum* (Fischer, 1974)  
**Material examined.** *Sb*: 1 female, Nilsiä, Keskielampi, 701:355, 15.vi.1950, swept on *Salix* meadow (W. Hellén leg.) (MZH).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
53. *\*Dinotrema mediocorne* (Fischer, 1973)  
**Material examined.** *Kl*: 1 female, Parikkala, Kaltionsaari, 683:363, 13.vi.1940 (W. Hellén leg.) (MZH). *Sb*: 1 female, Sonkajärvi, 708265:352154, 8.vii.2000 (M. Koponen leg.) (MZH).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
54. *Dinotrema mesocaudatum* van Achterberg, 1988  
**Material examined.** 7 females, 5 males sampled from *Ab* (Uusikaupunki), *N* (Helsinki, Nurmijärvi), *Sa* (Mikkeli, Ristiina, Taipalsaari), *St* (Huittinen, Vammala), and *Tb* (Keuruu) (MZH).  
**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a).
55. *\*Dinotrema multiarticulatum* van Achterberg, 1988  
**Material examined.** *Al*: 1 female, Eckerö, Storby, 670:308, 31.vii.1961 (W. Hellén leg.) (MZH).  
**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
56. *\*Dinotrema necrophilum* (Hedqvist, 1972)  
**Material examined.** *Ab*: 1 female, Karjalohja, Karkali, 6685:3323, 19.vi.1992 (M. Koponen leg.) (MZH); 1 female, Piikkö, Bussila, 671:325, 12.vii.1999 (A. Lehtinen leg.) (MZH); 1 female, Turku, Runsala, 671:323 (501), 13.vii.1933 (W. Hellén leg.) (MZH). *Al*: 1 female, Jomala, Möckelö, 668:310, 11.vi.1939 (W. Hellén leg.) (MZH). *Kl*: 1 female, Parikkala, Laurila, 683:363, 5.viii.1943 (W. Hellén leg.) (MZH). *N*: 1 female, Nurmijärvi, Kaanaanmetsä, 6705:3381, 3.x.1987 (M. Koponen leg.) (MZH). *Sa*: 2 females, Mikkeli, Mikkelin mlk. Vihtaniemi, 6839:3506, 20.vii.1996 (M. Koponen leg.) (MZH); 1 female, Taipalsaari, Saikkola, 678:355, 11.vii.1949 (W. Hellén leg.) (MZH).  
**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).  
**Hosts.** *Megaselia* sp. (Phoridae).
57. *\*Dinotrema nigricorne* (Thomson, 1895)  
**Material examined.** 35 females, sampled in *Ab* (Korpo, Lohja, Sauvo, Uusikaupunki), *Al* (Eckerö, Jomala), *Kl* (Parikkala), *N* (Espoo, Helsinki, Nurmijärvi), *Ok* (Sotkamo), *Sa* (Mikkeli, Savonlinna), *Sb* (Maaninka), *St* (Vammala), and *Tb* (Keuruu) (MZH).  
**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).
58. *Dinotrema norwegicum* Munk et Peris-Felipo, 2014  
**Material examined.** *N*: 2 females, Helsinki, 6682:3382, 18.vii.1979 (Koponen leg.) (NHMW, NMA); 2 females, Espoo, Luukki, 6691:3372, 10.viii.1980, swept on mushroom forest (Koponen leg.) (ENV, NHMW); 3 females, Nurmijärvi, Rajamäki, 6715:3375/3376, 13.viii.1978, and 23.viii.1980 (Koponen leg.) (NHMW, ZISP). *Sa*: 1 female, Ristiina, 6826:3501, 28.vii.1979, swept on mushroom forest (Koponen leg.) (NMA). *Oa*: 1 female, Lapua, Tiistenjoki, 6984:3310, 22.vii.1980 (Koponen leg.) (NMA).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a).

59. *\*Dinotrema occipitale* (Fischer, 1973)

**Material examined.** 41 females, 8 males, sampled from *Ab* (Perniö, Uusikaupunki, Vihti), *Kl* (Parikkala), *N* (Espoo, Helsinki, Hyvinkää, Nurmijärvi, Sipoo), *Om* (Haapavesi), *Sa* (Ristiina, Taipalsaari), *St* (Rauma), *Ta* (Hauho, Korpilahti), and *Tb* (Konnevesi, Saarijärvi) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

60. *\*Dinotrema oleraceum* (Tobias, 1962)

**Material examined.** 14 females, sampled from *Le* (Enontekiö), *Kb* (Kitee), *Kl* (Parikkala), *N* (Espoo, Nurmijärvi), *Oba* (Pudasjärvi), and *Sa* (Mikkeli, Ristiina, Taipalsaari) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

61. *\*Dinotrema pappi* Peris-Felipo, 2013

**Material examined.** *Sa*: 1 female, Mikkeli, Otava, 6836:3504, 21.viii.2012 (M. Koponen leg.). *Ta*: 1 female, Janakkala, Leppälampi, 6765:3379, 27.viii.2010 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

62. *Dinotrema paramicum* Peris-Felipo, 2013

**Material examined.** *N*: 1 female (paratype), Nurmijärvi, 6715:3376, 5.viii.1976 (Koponen leg.) (ENV). *Oa*: 1 female, Ilmajoki, Opisto, 6965:3270, 7.vii.1999 (M. Koponen leg.) (MZH). *Sa*: 1 female (paratype), Ristiina, 6826:3501, 6.viii.1978 (Koponen leg.) (NMA).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a).

63. *\*Dinotrema parapunctatum* (Fischer, 1976)

**Material examined.** 7 females, sampled in *Ab* (Bromarv), *Al* (Eckerö), *N* (Espoo, Helsinki), and *Sa* (Mikkeli, Ristiina) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

64. *\*Dinotrema paucicrene* (Fischer, 1973)

**Material examined.** *Al*: 1 female, Jomala, 668:310, 5.vii.1946 (W. Hellén leg.) (MZH). *N*: 1 female, Espoo, 667625:337604, 18–24.vi.2011, swept on window trap (P. Rassi leg.) (MZH); 1 female, Helsinki, Viikki, 6680:3390, 3.x.1979 (M. Koponen leg.) (MZH). *Ta*: 1 female, Janakkala Leppälampi, 6765:3379, 27.viii.2010 (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

65. *\*Dinotrema paucilicium* Papp, 2012

**Material examined.** *Sa*: 1 female, Mikkeli, Laajalamintie 22, 68400:35143, 11.xi.2015 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014). Finland (**new record**).

66. *\*Dinotrema perlustrandum* (Fischer, 1973)

**Material examined.** *Li*: 1 female, Inari, Kaamanen, 7667:3507, 24–28.vi.2013, swept on Malaise trap (R. Jussila leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

**Hosts.** Phoridae.

67. *\*Dinotrema phoridarum* (Goidanich, 1936)

**Material examined.** *N*: 1 female, Espoo, 667625:337604, 11–20.vi.2010, swept on window trap (P. Rassi leg.) (MZH). *Sa*: 1 female, Mikkeli, Tuoppitie/Patapolku, 68401:35144, 23.viii.2014 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

**Hosts.** *Spiniphora* sp. (Phoridae).

68. *\*Dinotrema pratense* van Achterberg, 1988

**Material examined.** *Ab*: 1 female, Korpo, Korpoström, 66788:31999, 22.viii–10.ix.1992, swept on light trap (M. Nieminen leg.) (MZH). *Sa*: 1 female, Mikkeli, Urpola, Myllykoski, 68408:35144, 25.vi.2014, (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

69. *\*Dinotrema propodeale* (Tobias, 1962)

**Material examined.** *Al*: 1 female, Lemland, Flaka, 667:311, 6.viii.1953 (W. Hellén leg.) (MZH); 1 female, Lemland, 6674:3117, 8.vii.1984, swept on *Quercus* forest (M. Koponen leg.) (MZH). *Lkoc*: 1 female, Kittilä, Linkupalo volcano park, 7519:3386, 3.vii.1997 (M. Koponen leg.) (MZH). *N*: 1 female, Nurmijärvi, 6709:3372, 13.viii.1994 (M. Koponen leg.) (MZH); 2 females, Murhamäki, 6710:3381, 9.viii.1994 (M. Koponen leg.) (MZH). *Sa*: 1 female, Mikkeli (Laajalampi, 68400:35143), 24.viii.2015, M. Koponen (MZH). *Sa*: 1 female, Mikkeli (Tuoppitie/Patapolku, 68401:35144), 8.viii.2015, M. Koponen (MZH). *Sa*: 1 female, Punkaharju, Punkasalmi, 685:362, 13.vi.1938 (W. Hellén leg.) (MZH). *Tb*: 1 female, Uurainen, 6933:3432, 14.vii.1995 (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

70. *Dinotrema puliciforme* (Fischer, 1973)

**Material examined.** *Lkoc*: 1 male, Pallastunturi, 29.vii.1967 (Mihályi leg.) (HNHM). *N*: 2 females, Espoo, 667625:337604, 11–20.vi.2010 (P. Rassi leg.) (MZH). *Ta*: 1 female, Hauho, Tuiskula, 678:337, 23.viii.1941 (W. Hellén leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a).

71. *\*Dinotrema pulvinatum* (Stelfox & Graham, 1949)

**Material examined.** *N*: 1 female, Nurmijärvi, Rajamäki, 6715:3376, 20.viii.1977 (M. Koponen leg.) (NHMD).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

72. *\*Dinotrema rugisignum* (Fischer, 1973)

**Material examined.** *N*: 1 female, Askola, Juornankylä, 671:343, 25–30.vi.1999, swept on light trap (T. Heiramo leg.) (MZH); 1 female, Nurmijärvi, 6705:3378, 5.ix.1984 (M. Koponen leg.) (MZH). *Sa*: 1 female, Mikkeli, Otava, 6835:3503, 24.viii.2011 (M. Koponen leg.) (MZH). *Ta*: 1 female, Hauho, Tuiskula, 678:337, 24.viii.1941 (W. Hellén leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

73. *\*Dinotrema sauricum* Tobias, 2003

**Material examined.** *N*: 1 female, Nurmijärvi, Nukari, 6714:3385, 14.vii.1991, swept on river shore (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

74. *Dinotrema semicompressum* (Stelfox et Graham, 1949)

**Material examined.** *N*: 1 female, Nurmijärvi, Nukari, 6714:3385, 14.vii.1991, swept on river shore (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a).

75. *Dinotrema setaceum* Munk et Peris-Felipo, 2013

**Material examined.** *N*: 1 female, Helsinki, 6682:3382, 11.ix.1976 (M. Koponen leg.) (ENV). *Sa*: 1 female, Mikkeli, Rantakylä, Keronmäki, 6840:3509, 8.vii.2008 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a).

76. *Dinotrema significarium* (Fischer, 1973)

**Material examined.** *Ab*: 1 female, Uusikaupunki, Nystad, Hinträsket, 675:319, 18.vii.1916 (W. Hellén leg.)

(MZH). *Ka*: 1 male, Virolahti, Harvajanniemi, 670:352, 28.vii.1990 (Várkonyi leg.) (HNHM). *Ta*: 1 female, Loppi, Vojakkala, Perhontie, 6845:3349, 25.vii.2013 (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a).

77. *\*Dinotrema speculum* (Haliday, 1838)

**Material examined.** 116 males, sampled in *Ab* (Halikko, Karjalohja, Nauvo, Nousiainen), *Al* (Finsröm), *Ka* (Miehikkälä), *Kb* (Kesälahti, Kitee, Tohmajärvi), *Kl* (Parikkala, Rautjärvi), *N* (Helsinki, Nurmijärvi, Porvoo, Raasepori, Sipoo, Vantaa), *Oa* (Ilmajoki), *Ok* (Paltamo), *Sa* (Mikkeli, Ristiina), *Sb* (Sonkajärvi), *St* (Merikarvia, Ulvila), *Ta* (Hattula, Janakkala), and *Tb* (Karstula, Vesanto, Viitasaari) (MZH).

**Distribution.** Palaearctic region (Yu *et al.* 2012). Finland (**new record**).

78. *\*Dinotrema spitzzickense* (Fischer, 1976)

**Material examined.** 15 females, sampled in *Ab* (Sauvo), *Al* (Jomala), *Ka* (Miehikkälä, Virolahti), *Kl* (Parikkala), *N* (Espoo, Hanko), *Sa* (Mikkeli), and *Tb* (Viitasaari) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

79. *\*Dinotrema sternaunicum* (Fischer, 1973)

**Material examined.** 7 females, 1 male, sampled in *Kb* (Liperi), *Om* (Haapavesi), and *Sa* (Mikkeli) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

80. *\*Dinotrema stigmaticum* (Tobias, 1992)

**Material examined.** *Al*: 1 female, Lemland, Apelholm, 667:311, 6.viii.1953 (W. Hellén leg.) (MZH). *Om*: 1 female, Haapavesi, Ollala, 7120:3421, 13.vii.1995 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

81. *\*Dinotrema sylvaticum* Tobias, 2003

**Material examined.** *N*: 1 female, Espoo, 667625:337604, 11–20.vi.2010, swept on window trap (P. Rassi leg.) (MZH). *Sa*: 1 female, Mikkeli, Laajalammintie 22, 68400:35143, 24.ix.2015, grove (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

82. *Dinotrema tauricum* (Telenga, 1935)

**Material examined.** *Ab*: 1 female Villnäs, 672:321, 27.viii.1936 (W. Hellén leg.) (MZH); 1 female, Houtskär, Roslagsnäs, 668:318, 7.vi.1936 (W. Hellén leg.) (MZH); 1 female, Lojo, Lylyinen, 669:334, 21.viii.1947, swept on *Vaccinium myrtillus* (W. Hellén leg.) (MZH); 1 female, Perniö Matilda, 6685:3273, 19.ix.1994 (M. Koponen leg.) (MZH). *Kb*: 1 male, Kontiolahti, Herajärvi, 699:354, 15.viii.1968 (V. Vikberg leg.) (MZH). *Kl*: 1 female, Parikkala 683:363, 30.vii.1960 (W. Hellén leg.) (MZH). *N*: 2 females, Espoo Tontunmäki, 667625:337604, 18–24.vi.2011, swept on window trap (P. Rassi leg.) (MZH); 2 females, Helsinki Viikki, 668:339, swept on forest grasses, 29.viii.1982 (Yang Zhongqi leg.) (MZH); 1 female, Hyvinkää, 6714:3372, 25.viii.1992, swept on forest grasses (M. Koponen leg.) (MZH); 1 female (*D. alua*), Nurmijärvi, 6708:376, 8.viii.1986 (Koponen leg.) (ZISP). *Sa*: 1 female, Mikkeli Tuoppitie-Patapolku, 68401:35144, 23.viii.2014 (M. Koponen leg.) (MZH). *Ta*: 1 female, Janakkala Konttila, 675:337, 17.ix.1976 (V. Vikberg leg.) (MZH); 2 females, Korpilahti 6877:3420, 18.viii.1986, with aspirator from mushroom (M. Koponen leg.) (MZH); 1 female, Korpilahti Vaaruvuoret, 687:343, 20.viii.1986, swept on old forest (M. Koponen leg.) (MZH). *Tb*: 1 female, Laukaa Kuhaniemi, 692:344, 19.viii.1986 (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a).

83. *Dinotrema tergitalis* (Fischer, 1973)

**Material examined.** *Ab*: 1 female, Vihti, 6716:3366, 19.ix.1979 (Koponen leg.) (RMNH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a).

84. *\*Dinotrema thurnense* (Fischer, 1977)

**Material examined.** *N*: 1 female, Espoo, 667625:337604, 18–24.vi.2011, swept on window trap (P. Rassi leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

85. *\*Dinotrema tinencaense* Peris-Felipo, 2013

**Material examined.** 7 females, sampled in *N* (Espoo, Kauniainen, Nurmijärvi), *Ok* (Sotkamo), and *Sa* (Mikkeli) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new records**).

86. *\*Dinotrema toleratum* (Fischer, 1974)

**Material examined.** *Sa*: 1 female, Mikkeli 6839:3506, 7.viii.2015 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new records**).

87. *Dinotrema tuberculatum* van Achterberg, 1988

**Material examined.** *Ab*: 1 female, Sauvo, Karuna, 669:325, 10–22.vii.2000, swept on Malaise trap (R. Jussila leg.) (MZH). *Ks*: 1 female, Kuusamo, Kiutaköngäs, 7366:3604, 24.vi.1996, swept on Malaise trap (J. Viramo leg.) (MZH). *N*: 1 female, Askola, Juornankyä, 671:343, 25–30.vi.1999 (T. Heiramo leg.) (RMNH); 1 female, Hanko, Tvärminne, 664:328, 28.vii.1974, swept on *Russula* sp. (W. Hackman and M. Meinander leg.) (MZH); 1 female, Kirkkonummi, Porkkalanniemi, 6654:3355, 24.vii.1991 (M. Koponen leg.) (MZH); 1 female, Nurmijärvi, Rajamäki, 6715:3376, 15.vii.1979 (M. Koponen leg.) (MZH). *Ta*: 1 female, Hauho, Tuittula, 678:337, 24.viii.1941 (W. Hellén leg.) (MZH). *Ta*: 1 female, Lammi, Porraskoski, 679:338, 21–29.viii.1956 (W. Hellén leg.) (MZH). *Oa*: 1 female, Ilmajoki, Harjumäki, 6962:3274, 7.vii.1999 (M. Koponen leg.) (MZH). *Sa*: 1 female, Mikkeli, Otava, Kaposaaari, 6838:3503, 10.viii.1991 (M. Koponen leg.) (MZH); 1 female, Ristiina, 6828:3503, 18.vii.1987 (M. Koponen leg.) (MZH). *Tb*: 1 female, Uurainen, 6933:3433, 14.vii.1995 (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a).

88. *Dinotrema varipes* (Tobias, 1962)

**Material examined.** *Ab*: 1 female, Naantali, Nädendal, Luonnonmaa, Jaakkola, 671:322, 5.viii.1937 (W. Hellén leg.) (MZH). *Ks*: 1 female, Kuusamo Oulanka, 11.ix.1980 (Vásárherlyi leg.) (HNHM). *Sa*: 1 female, Mikkelin mlk. Hietala, 6830:3501, 10.viii.1987 (M. Koponen leg.) (MZH); 1 female, Mikkeli, Urpola, Myllykoski, 68408:35144, 23.vii.2014 (M. Koponen leg.) (MZH).

**Distribution.** Palaearctic region (Peris-Felipo *et al.* 2014a).

89. *\*Dinotrema venustum* (Tobias, 1962)

**Material examined.** *N*: 1 female, Hyvinkää, Matkusuo, 6716:3374, 8.viii.1981 (M. Koponen leg.) (MZH); 1 female, Nurmijärvi, 6709:3372, 13.viii.1994 (M. Koponen leg.) (MZH); 2 females, 1 male, Ruostesuo, 6712:3381, 27.viii.1994 (M. Koponen leg.) (MZH). *Lkor*: 1 female, Sodankylä, Kommattivaara, 7482:3490, 9.viii.1983 (M. Koponen leg.) (MZH). *Ta*: 1 female, Jämsä, Veijala, 6868:3414, 26.viii.1991 (M. Koponen leg.) (MZH). *Tb*: 1 female, Virrat, Toisvesi, 690975:333142, 5.vii.1999 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

90. *\*Dinotrema vitobiasi* Peris-Felipo, 2013

**Material examined.** *N*: 4 females, Espoo, 667625:337604, 18–24.vi.2011, swept on window trap (P. Rassi leg.) (MZH). *Sa*: 1 female, Mikkeli, 68416:35143, 3.ix.2015 (M. Koponen leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014a). Finland (**new record**).

91. *\*Dinotrema vituperatum* (Fischer, 1974)

**Material examined.** *Ks*: 1 female, Kuusamo, Juuma, 735:360, 21.vii.1934 (W. Hellén leg.) (MZH). *N*: 2 females, Espoo, 667625:337604, 24.vi–1.vii.2011, swept on window trap (P. Rassi leg.) (MZH).

**Distribution.** Western Palaearctic region (Peris-Felipo *et al.* 2014). Finland (**new record**).

## Discussion

*Dinotrema* is one of the largest genera within Alysiniinae and new species are continuously described around the world. However, few *Dinotrema* studies from Nordic countries have been carried out (Munk *et al.* 2013a, b; van

Achterberg and Vikberg 2014; Peris-Felipo *et al.* 2014a), and only 55 species are known from Denmark, 12 from Sweden, five from Norway, and two from Iceland (Peris-Felipo *et al.* 2014a).

In the present study, a total of 91 species have been catalogued from Finland, and 73 species are recorded for the first time. This number of species is higher than the number of adjacent countries such as Western Russia with 45 (Peris-Felipo *et al.* 2014a). However, the total for Finland is still much fewer than the 178 *Dinotrema* species known from the entire Western Palaearctic region (Achterberg and Vikberg 2014; Peris-Felipo *et al.* 2014a, b).

On the other hand, it should be noted that Alysiinae is important thanks to its biology because of they are koinobiont endoparasitoids of Diptera (Yu *et al.* 2012). However, the knowledge of hosts of Finnish *Dinotrema* species is very sparse with hosts known for just five species.

In general, the limited number of the known species from Finland reflects the paucity of the research on this group, as well as their relative rarity. Further investigations both on the fauna and host association of the Finnish *Dinotrema*, as well as subfamily Alysiinae in general, are necessary to provide a potential basis for biological control of dipterous pests in agricultural and urban landscapes.

## Acknowledgements

We want to thank Pekka Malinen keeper of Hymenoptera collection of Zoological collection of Finnish Natural History Museum, University of Helsinki for his help.

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