

The aphelinid freak *Marietta picta* (André, 1878) (Hymenoptera, Aphelinidae) recorded in Norway

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The aphelinid *Marietta picta* (André, 1878) (Aphelininae) is recorded from Aremark municipality in Østfold county [Ø], Norway in 2017. This represents the first record of the genus in Norway. The species is very easily recognizable with almost panther shaped patterns, and may be considered as a freak compared with other Norwegian aphelinids. Biology and distribution of the species are briefly given, together with an illustration. This increases the number of aphelinid species in Norway to 23.

Key words: Hymenoptera, Chalcidoidea, Aphelinidae, Aphelininae, *Marietta picta*, chalcid wasps, new record, Norway.

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Introduction

The chalcid family Aphelinidae represents an important agent in biological control of insects occurring as plant pests, particularly in greenhouses. They are, together with the family Encyrtidae, successfully used to control many pest species (Noyes 1985). The aphelinids utilize several insect orders as primary hosts, but the major targets are aphids, whiteflies and scale insects, all belonging to the suborder Sternorrhyncha (Hemiptera: Aphidoidea, Aleyrodoidea, Coccoidea) (Gauld & Bolton 1988, Liu *et al.* 2015). These hosts represent some of the most destructive pest species found on cultivated plants. Japoshvili *et al.* (2015) updated the family for Norway and registered 22 species, including two species considered as imported. This contribution deals with the first record of the genus *Marietta* Motschulsky, 1863 in Norway. Two species are recorded in this genus in Europe (Polaszek 2018,

Noyes 2018), but only *Marietta picta* (André, 1878) occurs in Northern Europe. The other, *M. carnesi* (Howard, 1910), is recorded from Spain and Italy in Europe, besides Africa, Asia, Australia and North America as well.

Material and methods

This contribution focuses on ethanol preserved project material collected by BioFokus (Oslo) and transferred to the Natural History Museum in Oslo (NHMO) for incorporation in their collections. The specimens were dried using ethanol and hexamethyldisilazane (HMDS), and then card mounted following the guidelines of Noyes (2018). The faunistic divisions within Norway follow Økland (1981), and are given in **bold**, and the coordinates are given in decimal degrees (Grid: Lat/Lon *hddd.dddd*°; datum: WGS84). Heraty *et al.* (2012) split the family Aphelinidae in three



FIGURE 1. *Marietta picta* (André, 1878) ♀ lateral view. Photo: Geir Søli, Natural History Museum, Oslo.

separate families [i.e. Aphelinidae, Azotidae and Eriaporidae], which seems to be well supported, but here we still considered it as one family: Aphelinidae [s.l.] (e.g. Gauld & Bolton 1988, Polaszek 2018).

The species

Marietta picta (André, 1878)

Material examined: ØSTFOLD [Ø], Aremark: Bøensætre [59.3159N 11.7253E ±10m;

145m asl] 1♀ in slam trap 23 May–31 July 2017; hay meadow northeast; leg. Kjell Magne Olsen (Figure 1). The slam trap was situated at the upper end of the hay meadow near a small pond (Figure 2).

Biology: A series of different primary hosts are mentioned in the literature, all from the Sternorrhyncha group (Hemiptera) (Noyes 2018). This includes about 140 reports from different primary host species from the following families: Aleyrodidae (Aleyrodoidea); Aphididae (Aphidoidea); Aclerdidae, Asterolecaniidae, Cocc-



FIGURE 2. Slam trap at Bøensætre 23 May 2017. Photo: Kjell Magne Olsen, BioFokus, Oslo.

idae, Diaspididae, Eriococcidae, Kermesidae, Pseudococcidae (Coccoidea); Psyllidae and Triozidae (Psylloidea) (Noyes 2018). Some secondary Hymenoptera hosts are also mentioned, including records from the families Aphelinidae, Encyrtidae, Eulophidae, Pteromalidae and Signiphoridae (Chalcidoidea); and Braconidae (Ichneumonoidea) (Noyes 2018).

Distribution: *Europe:* Czech Republic, Finland, France, Germany, Greece, Hungary, Italy, Moldova, Romania, Serbia, Slovakia, Spain, Sweden, Ukraine and Yugoslavia [Federal Republic]; *Asia:* Armenia, Georgia, India [Uttar Pradesh], Iran, Kazakhstan, Peoples' Republic of China [Hebei], Russia [Primor'ye Kray], South Korea, Turkey and Turkmenistan; *Africa:* Egypt; *America:* Canada, Mexico and Peru (Kalina 1989, Koponen & Vikberg 2014, Polaszek 2018, Noyes 2018).

Discussion

The genus *Marietta* is represented with 22 species worldwide, including two species in Europe (Polaszek 2018, Noyes 2018), but only *Marietta picta* occurs in Northern Europe. Together with the list presented by Japosvili *et al.* (2015), the family Aphelinidae now counts 23 species in Norway. Ottesen (1993) estimated the number in Norway to be 20. Hedqvist (2003), on the other hand, listed 32 species from Sweden, and Koponen & Vikberg (2014) reported 34 species of Aphelinidae [s.l.] from Finland. Even though the number of species in Sweden and Finland is higher than in Norway, more species may be expected in all three countries. The mismatch may be due to the fact that the neighbouring countries have longer traditions on these families and are far better investigated than Norway.

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