

New and little known Norwegian hoverflies (Diptera, Syrphidae)

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Eight species, *Ceriana conopsoides* (Linnaeus, 1758), *Cheilosia cynocephala* Loew, 1840, *Cheilosia reniformis* (Hellén, 1930), *Chrysotoxum octomaculatum* Curtis, 1831, *Cryptopipiza notabila* (Violovitsh, 1985), *Eupeodes goeldlini* Mazánek, Láska & Bičík, 1999, *Ferdinandea ruficornis* (Fabricius, 1775) and *Heringia latitarsis* (Egger, 1865) are reported new to the Norwegian fauna. In addition, records of some rare species are reported.

Key words: Diptera, Syrphidae, new records, Norway.

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Introduction

The hoverfly fauna of Fennoscandia is fairly rich, demonstrated by the comprehensive books by Bartsch *et al.* (2009 a, b) and Haarto & Kerppola (2007), and by a series of papers on the fauna. The current report is a part of a national strategy for increasing knowledge of biodiversity in Norway (Norwegian Biodiversity Information Centre 2013) where the Norwegian Institute for Nature Research (NINA) has been leading a large scale mapping project for insects (INVENT-ART). The main aim of this activity was to collect new data on the poorest known species including unknown species for the country. The project had particular focus on dry and warm nature types such as sandy areas and southern faced scree. This report summarizes the most interesting records of Syrphidae from this effort.

Material and methods

The main part of the material was collected with

Malaise traps (Figure 1) from 17 different localities in South Norway, mainly in 2009–2011. Most of the material was preserved in 80% ethanol and is kept in the NTNU Vitenskapsmuseet collections. A smaller part of the material is pinned and kept in the insect collections at NINA. All records are available at the interoperable biodiversity database services Species Maps (run by the Norwegian Biodiversity Information Centre), and at the Global Biodiversity Information Facility (GBIF). Most specimens have been DNA-barcoded where data (project NORSY) can be accessed from the BOLD public database (BOLDSystems 2013). All specimens are identified by the first author and collected by the second author unless other information is mentioned. A separate, first record of *Cheilosia cynocephala* Loew, 1840, is also included in the report.

Abbreviations and codes: MT = Malaise trap, FIT = flight interception traps connected to the Malaise trap, * new to Norway. Red List codes according to the 2010 Norwegian Red List of Species (Kålås *et al.* 2010): DD = data deficient, EN = endangered, NT = near threatened, VU =