

# New records of Encyrtidae (Hymenoptera, Chalcidoidea) from Norway, with additional information on host associations

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The material of the family Encyrtidae at the Natural History Museum of Oslo is revised. A total of 22 species is reported for the first time from Norway. Thus, the total number of Norwegian encyrtid species is now 42. Biology and distribution for all species are briefly commented on. New information on host associations is given for several species.

Key words: Hymenoptera, Chalcidoidea, Encyrtidae, new records, host-associations, Norway.

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## Introduction

One of the most important groups in biological control of insects harmful to plants is the chalcid family Encyrtidae. They are, together with the family Aphelinidae, successfully used against many pests, especially scale insects (Hemiptera, Coccoidea) (Noyes 1985, Nikolskaya & Yasnosh 1966). More than 400 species have been used worldwide as biological control agents of insect pests (Greathead 1986, Neueschwander et al. 1990, Noyes 1985, 2012). Parasitoids like encyrtids are the major component of many terrestrial ecosystems and may constitute up to 20% of all insect species (LaSalle & Gauld 1991, Godfray 1994, Memmot et al. 1994).

This is the first paper to highlight the

distribution of Norwegian chalcids. The aim is to produce a complete catalogue of Norwegian Chalcidoidea.

## Material and Methods

All pinned material of Encyrtidae in the collection of the Natural History Museum of Oslo is revised. For hatched material both order and family affiliations of the hosts are given. For the distribution only occurrence on the continents and in the Nordic countries are usually given. The faunistic divisions within Norway are defined in accordance to Økland (1981), and given in bold in the list below. The «European Invertebrate System» (EIS) follows Endrestøl (2005), and