

Checklist of primary parasitoids and hyperparasitoids (Hymenoptera, Apocrita) on aphids (Hemiptera, Aphididae) from Norway

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A Norwegian checklist of naturally occurring parasitoids and hyperparasitoids that are known to emerge from aphid species is presented. The checklist consists of both old records and species new to Norway. When available, host plant, host aphid and host parasitoid are given. The primary parasitoids *Binodoxys angelicae* (Haliday, 1833), *Lipolexis gracilis* Förster, 1862, *Lysiphlebus cardui* (Marshall, 1896), *Trioxys auctus* (Haliday, 1833) (Aphidiinae) and the hyperparasitoids *Alloxysta pleuralis* (Cameron, 1879) (Alloxystidae) are reported for the first time in Norway. In total we list 27 primary parasitoid species (24 Aphidiinae and 3 Aphelinidae) and 27 hyperparasitoids from Norway that are known to emerge from aphids. In Sweden about 125 species (114 Aphidiinae and 11 Aphelinidae) are known as primary parasitoids on aphids, whereas about 70 hyperparasitoid species are known. Obviously, this checklist does not include all parasitoids and hyperparasitoids that may emerge from aphids in Norway and only more studies may give us a more complete list. The checklist should therefore be updated periodically to assist researchers and policy makers within the field of biodiversity (mapping), natural resource management and applied entomology.

Keywords: parasitoids, hyperparasitoids, aphids, Norway, natural enemies, biodiversity, Hymenoptera, Aphidiinae, Aphelinidae, Pteromalidae, Encyrtidae, Megaspilidae, Alloxystidae, Hemiptera, Aphididae.

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Introduction

Previous and more recent studies from Norway have revealed new species of naturally occurring insect parasitoids and hyperparasitoids (Hymenoptera, Apocrita) known to emerge from aphids (Hemiptera, Aphididae), but it is difficult to trace their records. In this paper we have therefore attempted to collect records, both published and

unpublished, and present them in a checklist. Most faunistic publications on Norwegian insects have dealt with a specific taxon, whereas the focus of this checklist is the parasitoid and hyperparasitoid guild on aphids. It is our intention to update this checklist periodically to assist researchers and policy makers within the field of biodiversity (mapping) and applied entomology. We may have missed records, however, and would therefore