

***Bombus subterraneus* (L., 1758) (Hymenoptera, Apidae) rediscovered in Norway**

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The bumble bee *Bombus subterraneus* (L., 1758) has been regarded as a regional extinct species in Norway. We here present the first confirmed record of the species in more than 60 years. A queen was recorded from Østfold, Hobøl: Tomter 3 June 2010. The specimen was identified based on comparison of morphological characters and confirmed with DNA-sequencing methods.

Key words: *Bombus subterraneus*, bumble bees, determinant traits, DNA-sequencing, extinct, identification, Norway

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Introduction

Bumble bees have a northerly skewed geographical range and Norway has a rather large proportion (13,7%) of the 249 bumble bee species known worldwide. A total of 34 species are recorded from Norway (Ødegaard et al. 2009). There are growing evidence that the bumble bee diversity is declining, especially in developed regions of the World, such as Western Europe and North America (Williams 1982, Goulson 2003, Goulson et al. 2005, Kosior et al. 2007). Late-emerging long tongued bumble bee species associated with deep perennial flowers are thought to be most dramatically affected (Goulson et al. 2005). Mapping and monitoring of bumble bees in the last 10 years have revealed recent records of all species known from Norway except for the long tongued species *Bombus subterraneus* (L., 1758).

The lack of confirmed records during the last 60 years (Løken 1973) together with evidence for a general decline in bumble bees made Ødegaard et al. (2009) presume that *B. subterraneus* had gone extinct in Norway.

In the present paper we report a rediscovery of a queen of *B. subterraneus* in Norway. The identification is based on comparison of morphological characters and confirmed with DNA-sequencing methods. Due to difficulties with unambiguous traits and character states limited to our region the most determinant traits are described and illustrated.

The species

B. subterraneus is a long tongued bumble bee first described from Uppland in Sweden by