

Further records and DNA barcodes of Norwegian moth flies (Diptera, Psychodidae)

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New records and barcodes are given for three species of Psychodidae not previously recorded from Norway; *Telmatoscopus advena* (Eaton, 1893), *Parajungiella pseudolongicornis* (Wagner, 1975) and *Psychoda erminea* Eaton, 1898. New distributional data are given for eleven species of Psychodidae. *Pericoma blandula* Eaton, 1893 is confirmed as a cryptic species complex using DNA barcodes, and nine additional species are listed with DNA barcodes. The Norwegian fauna of Psychodidae now stands at 43 species.

Key words: Psychodidae, *Telmatoscopus advena*, *Parajungiella pseudolongicornis*, *Psychoda erminea*, *Pericoma blandula*, faunistics, Norway, distribution, DNA barcodes.

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Introduction

The Norwegian fauna of Psychodidae was until recently very poorly known, but has been the object of considerable study in recent years. The checklist by Kvifte *et al.* (2011) listed 36 species based on material in Norwegian museums, and four additional species were collected during the National Taxonomy Initiative's expedition to Finnmark (Salmela *et al.* 2012, Kvifte & Andersen 2012). However, very little material has been identified from other parts of Norway and it is likely that further species remain to be discovered. Furthermore, the distributional patterns of Norwegian moth flies are almost completely unknown, as many species are known from very few localities.

The present paper provides new national and regional records of Norwegian moth-flies, based mostly on freshly collected material. With the

records presented herein, 43 species of moth-flies are presently known to occur in Norway.

Material and Methods

Specimens were collected in Malaise traps or manually, by the authors or by collaborators. All reported material has been dissected and mounted on slides in euparal or Canada balsam. The specimens are mostly deposited in the Natural History collections at the University of Bergen, except for some specimens, which are in the private collection of L. Boumans. The latter specimens are labelled LB.

DNA barcodes were obtained in cooperation with Barcode of Life Datasystems as described in Ekrem *et al.* (2012). Sequences were compared in R version 3.0.1 (www.r-project.org) and in the BOLD online user interface (www.boldsystems.org).