



## Eohypsibiidae (Eutardigrada, Tardigrada) from the Faroe Islands with the description of a new genus containing three new species

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### Abstract

A diverse eutardigrade fauna of the family Eohypsibiidae Bertolani & Kristensen, 1987 was collected on the Faroe Islands. The first record of *Bertolanius weglarskae* (Dastych, 1972) and new records of *Eohypsibius najdae* Kristensen, 1982 are documented. The new genus *Austeruseus* is established and three new species, *Austeruseus faeroensis*, **nov. sp.**, *A. balduri* **nov. sp.** and *A. rokuri* **nov. sp.** are described. The genus differentiates from the genera *Bertolanius* and *Eohypsibius* in the buccal tube. The apophyses for the insertion of stylet muscles are (two or six) lateral hooks and the entire length of the mouth and buccal tube are straight in *Austeruseus*, while *Bertolanius* and *Eohypsibius* have the apophyses for the insertion of stylet muscles as crests with ventral and dorsal hooks, and the mouth and buccal tube are flared or trumpet shaped. With five species the Faroese tardigrade fauna is the richest in the world with regard to the family Eohypsibiidae. The genus *Austeruseus* is primarily found in mosses at high mountain biotopes, and the new genus may be a glacial relic.

**Key words:** Tardigrade, *Austeruseus*, new genus, high mountain fauna, glacial relic

### Introduction

The Faroe Islands are a group of 18 small islands situated in the Northeast Atlantic Ocean (62°N, 7°W) (Fig. 1A–C) southeast of the Icelandic coast. The land area covers in total 1399 km<sup>2</sup>. The Islands are characterised by steep mountains and many narrow fjords and sounds. In some regions the sea facing, almost vertical, cliffs reach above 700 m a.s.l. The highest mountain peak is Slættaratindur, 882 m a.s.l. The Islands are exposed remnants of extensive Palaeogene volcanic eruptions, and form a 6.6 km thick basaltic lava sequence, produced prior and during the opening of the North Atlantic Ocean basin from *c.* 58 to 55 Ma (Mortensen 2002; Passey & Jolley 2009). The Faroe Plateau is to the northwest bound by the Faroe-Iceland ridge and to the east and west the plateau falls into the deep ocean trenches. To the southeast it borders on the Faroe-Shetland channel and to the southwest by the Faroe Bank channel. The high reliefs of the archipelago are partly due to the forces of erosion both before and after glaciation (Rasmussen 1984), but the glaciation processes of the Quaternary period shaped even steeper valleys with steep sides and flat bottoms. The glaciers reached a thickness of 350–400 m a.s.l., and at Reyðafellstindur reached about 700 m a.s.l. (Mortensen 2002).

This paper is based on moss-samples collected from four islands in the Faroe Island Archipelago over the years 2001–2004 as a part of the first authors M.Sc. thesis (Trygvadóttir, unpublished). The study also includes specimens collected by Reinhardt M. Kristensen from two expeditions in the early and late 1980's (Table 1). Previous known tardigrade records from the Faroes were published in only a few papers. The first was published over a century ago by Sellnick (1908), and twenty years later came “Über die Phylogenie und das System der Tardigraden” (Thulin 1928). Tuxen (1941) gave his synopsis of the previous records in “The Zoology of the Faroes”. The most recent record of limnic tardigrades was published in Bertolani & Kristensen (1987), who reported *Eohypsibius najdae* from a soil sample from a homothermic spring (12°C) at “Við Áir” on Streymoy. This, together with other indi