

1 Introduction

1.1 Background

On September 19th 1991, the married couple Helmut and Erika Simon discovered a frozen body at approximately 3,210 m a.s.l. near the Hauslabjoch at the melting edge of the Niederjoch Glacier along the border of Italy and Austria in the Ötztal Alps. At that moment, nobody was aware of the great importance of this corpse for science and archaeology. The corpse is the oldest, best preserved human body ever found and the scientific investigations of the corpse and the associated artefacts have produced a wealth of new information concerning archaeology, ethnobotany, diet, technology and palaeoenvironment (Dickson 2011a, b).

The real age of the Iceman, often called Ötzi, was revealed only after some time. First regarded as a recent mountaineer, who suffered a fatal accident, the body was brought to the laboratory for forensic medicine at the University of Innsbruck. Soon it became evident that the man and the scattered remains of his clothing and gear were very old. However, it should be mentioned that one of the first people who saw the corpse before its removal from the ice, the mountaineer Reinhold Messner, immediately supposed a very ancient age. Radiocarbon dates from the body, gear and plant remains showed that the Iceman lived about 5,200 – 5,300 years ago in the Copper Age (Bonani et al. 1994; Dickson et al. 2011a, 2011b; Kutschera & Müller 2003; Kutschera

et al. 2000; Müller et al 2003a, b). He had tools seldom recovered from archaeological sites as such the complete copper-headed axe and not just a yew bow but a quiver with 14 arrows (Oeggel 2000; Lippert et al. 2007).

The corpse of the glacier mummy was unceremoniously ripped from the ice, followed by a brief excavation. By the thorough excavation in summer 1992, hundreds of sediment samples from the site were obtained. These samples were systematically searched for plant remains, including bryophytes, in Professor Klaus Oeggel's laboratory at the University of Innsbruck, Department of Botany.

1.2 Aims of the Study

Thousands of leafy fragments of mosses and liverworts were recovered from on, in and around the body, gear and clothing as well as from the sediment samples. It quickly became clear (April 1994) that some species could never have grown at the elevation of the Iceman site. This crucial finding compelled the authors to investigate the present day distribution of the bryophytes, particularly those of low to moderate altitudes. An important task of these investigations has been to assess the altitudinal limits of the bryophytes of the area with special emphasis to the taxa recovered with the Iceman. It was a necessity to record in both North and South Tyrol adjacent to the Iceman site. The recording began in 1994 and ended in 2017. This volume supplements the important basic results given in Dickson

et al. (2019) which, with statistical analyses, deal with excavation, sampling, radiocarbon dating, dispersal, taphonomy and the Iceman's last journey.