



# Firewood, food and human niche construction: the potential role of Mesolithic hunter–gatherers in actively structuring Scotland's woodlands



Rosie R. Bishop\*, Mike J. Church, Peter A. Rowley-Conwy

Department of Archaeology, Durham University, South Road, Durham, DH1 3LE, UK

## ARTICLE INFO

### Article history:

Received 14 August 2014  
 Received in revised form  
 6 November 2014  
 Accepted 8 November 2014  
 Available online 1 December 2014

### Keywords:

Scotland  
 Mesolithic  
 Firewood selection  
 Charcoal  
 Fire ecology  
 Human niche construction

## ABSTRACT

Over the past few decades the potential role of Mesolithic hunter–gatherers in actively constructing their own niches, through the management of wild plants, has frequently been discussed. It is probable that Mesolithic hunter–gatherers systematically exploited specific woodland resources for food and fuel and influenced the 'natural' abundance or distribution of particular species within Mesolithic environments. Though there has been considerable discussion of the pollen evidence for potential small-scale human-woodland manipulation in Mesolithic Scotland, the archaeobotanical evidence for anthropogenic firewood and food selection has not been discussed in this context. This paper assesses the evidence for the active role of Mesolithic hunter–gatherer communities in systematically exploiting and managing woodlands for food and fuel in Scotland. While taphonomic factors may have impacted on the frequency of specific species in archaeobotanical assemblages, it is suggested that hunter–gatherers in Mesolithic Scotland were systematically using woodland plants, and in particular hazel and oak, for food and fuel. It is argued that the pollen evidence for woodland management is equivocal, but hints at the role of hunter–gatherers in shaping the structure of their environments, through the maintenance or creation of woodland clearings for settlement or as part of vegetation management strategies. It is proposed that Mesolithic hunter–gatherers may have actively contributed to niche construction and that the systematic use of hazel and oak as a fuel may reflect the deliberate pruning of hazel trees to increase nut-yields and the inadvertent – or perhaps deliberate – coppicing of hazel and oak during greenwood collection.

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## 1. Introduction

The nature of human–environment interaction in Mesolithic Europe is a contentious area of debate. Hunter-gathering and farming have traditionally been perceived as diametrically opposed economic and social systems with the transition between these two ways of life occurring during a period of abrupt change during the Neolithic (Childe, 1936:74, 1965:55; Pluciennik, 2002:115). Consequently, whereas Mesolithic peoples have been seen as mobile hunters that had little control over or impact on their environment, Neolithic people have been viewed as sedentary agriculturalists that actively modified their environment through large-scale

woodland clearances (Austin, 2000:72–73; Warren, 2005:69). Since the late 1960s this dichotomy has been increasingly questioned (e.g. Simmons, 1969; Smith, 1970:82; Woodburn, 1980:100–101; Simmons et al., 1981:103; Harris, 1989:12–13; Layton et al., 1991:260; Anderson, 2006:252), and it has been recognised that Mesolithic hunter–gatherers may have actively managed wild resources in a similar manner to domestic crops (Simmons and Innes, 1987; Harris, 1989; Zvelebil, 1994). At the same time, the widespread existence of highly developed and intensive systems of wild plant exploitation in modern hunter–gatherer societies in Africa, North America and Australia (e.g. Mellars, 1976; Lewis, 1982; Vincent, 1985; Anderson, 2006; Gammage, 2011; Rowley-Conwy and Layton, 2011; Smith, 2011; Hallam, 2014) indicates that similarly sophisticated systems of wild plant exploitation of non-domesticated native species may have existed in Mesolithic Europe (Zvelebil, 1994:36), without this

\* Corresponding author. Tel.: +44 191 334 2913; fax: +44 191 334 1101.  
 E-mail address: [r.r.bishop@durham.ac.uk](mailto:r.r.bishop@durham.ac.uk) (Rosie Bishop).

necessarily leading to the agricultural production of these resources (Rowley-Conwy, 2001:58–59; Rowley-Conwy and Layton, 2011:854).

Within this context, it has been argued that Mesolithic hunter-gatherers may have played an active role in shaping

woodland ecodynamics through the deliberate manipulation of the structure of plant communities to increase the production of economically important plants and to attract desirable animals for hunting (Smith, 1970:82; Mellars, 1976; Simmons et al., 1981:103; Simmons and Innes, 1987; Zvelebil, 1994; Simmons, 1996). It has

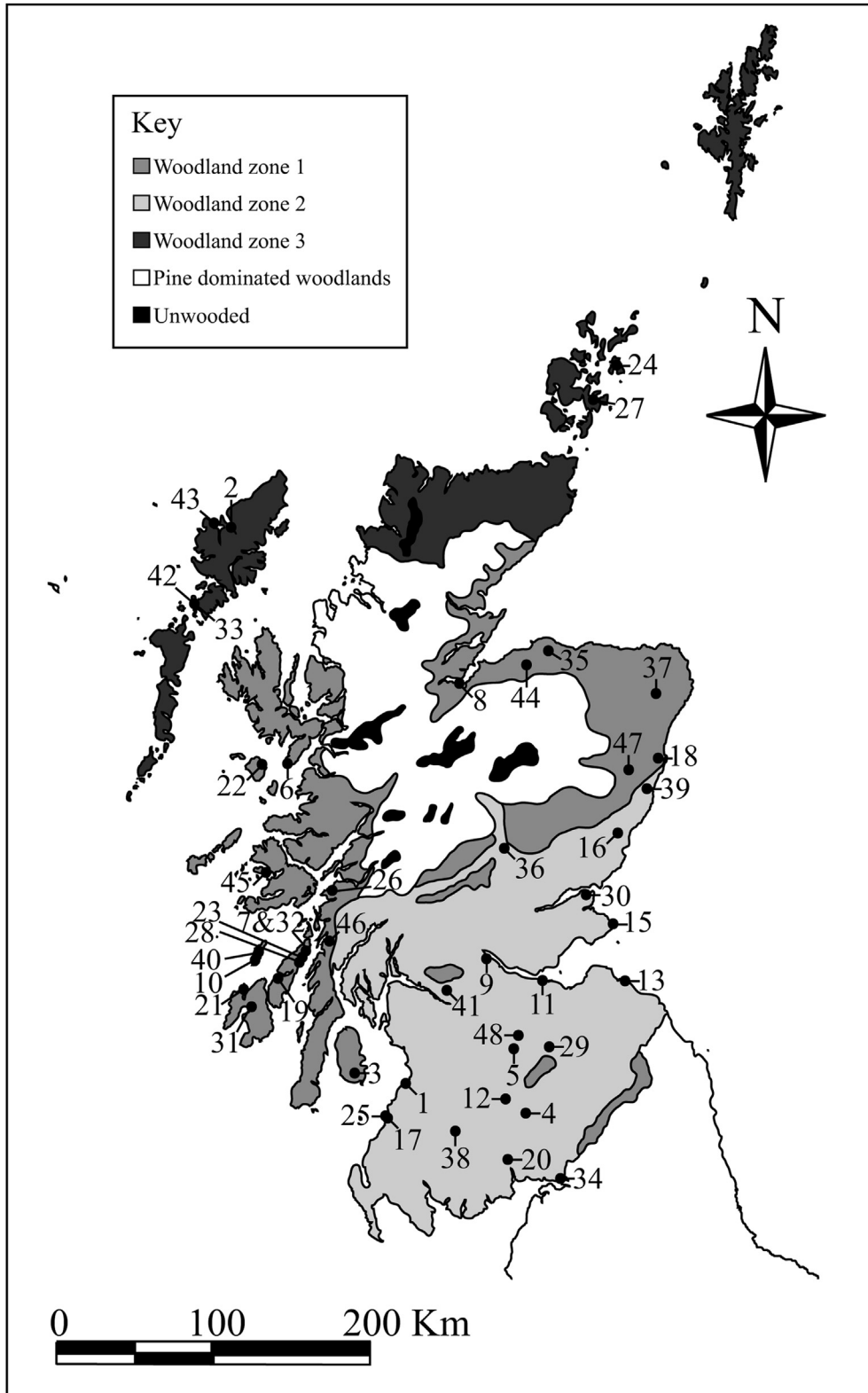


Fig. 1. Map of Scotland showing Mesolithic site locations. Numbers correspond to the sites listed in Table 1 and woodland zones are taken from Tipping (1994, 2004).

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