

Preboreal Glaciation of Southern Iceland

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ABSTRACT

The Búði terminal moraine complex, southern Iceland, was investigated with regard to glacial stratigraphy and chronology. Thirteen new radiocarbon dates of samples from southern Iceland are discussed. They indicate that the Búði moraines are of Preboreal age. The Búði moraines have hitherto been regarded as the type site for the Younger Dryas glaciation in Iceland. Sediments from Alleröd Interstadial have not been found in southern Iceland. This is believed to indicate a total glacial coverage of the Southern Lowlands during the Younger Dryas Stadial. The new radiocarbon dates are discussed in the light of other recent data on the deglaciation in southwest-, west- and northeast Iceland, all of which indicate a much heavier Younger Dryas glaciation than formerly assumed.

INTRODUCTION

The Búði moraine complex, which can be traced across the lowlands of southern Iceland (Fig. 1), has for long been considered to mark the terminal position of a Younger Dryas ice advance in Iceland (Kjartansson, 1943, 1958, 1961; Kjartansson *et al.*, 1964; Einarsson, 1964, 1968, 1978; Einarsson and Albertsson, 1988). Originally, Kjartansson (1940, 1943) inferred a Younger Dryas age for the complex by correlating it to the Raa moraines in Norway, the central Swedish end-moraines and the Salpausselkä moraine complex in Finland, which are considered

to mark the main frontal positions of the Younger Dryas ice sheet in Scandinavia (Andersen, 1979; Berglund, 1979; Donner, 1978). Later, Einarsson (1964) reported three shell samples from marine sediments distally to the Búði moraines (Table I, Fig. 1) as Preboreal in age, and concluded that the moraines were of Younger Dryas age.

Recent investigations in SW- and W-Iceland (Hjartarson, 1987; Ingólfsson, 1985, 1987; Andersen *et al.*, in press) suggest that glaciers reached beyond the present coast in the Faxaflói area (Reykjavík and Borgarfjörður) after 11.000 BP. It was suggested by Ingólfsson and Hjort (1988) that the history of the deglaciation in Iceland as described by Einarsson (1961, 1968, 1978) had to be reevaluated. They pointed out the type site of the Búði Stadial in southern Iceland as an important locality to be investigated with regard to lithostratigraphy and chronology of glacial events.

The first author of this paper has been working in the Búði area for several years. During the 1982-1985 field seasons he found several new localities with shell-bearing glaciomarine sediments near the Búði moraines. He outlined the glacial stratigraphy presented below and collected samples for radiocarbon dating. The second author worked in the area during the 1988 field season, as a part of a larger investigation on the deglaciation of Iceland, and was engaged in the preparation and interpretation of the lithostratigraphical and chronological