

INNER ALPINE VALLEY FILLS AS ARCHIVES OF CLIMATIC AND DEPOSITIONAL CONDITIONS DURING MIS 5 (EASTERN ALPS/TYROL/AUSTRIA)

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Detailed information about vegetation and climate change during MIS 5 in the Eastern Alps is available from key sites like the lacustrine archives of Samerberg (GRÜGER 1979) and Mondsee (DRESCHER-SCHNEIDER, 2000). However our knowledge of the impact of these changing conditions on the depositional processes especially in the alpine valleys is very limited. The valley of Kitzbühel (800-600 m a.s.l.) and the adjacent small basin of Hopfgarten (900 - 600 m.a.sl.) in Tyrol are surrounded by up to 2300 m high mountains. These areas were covered by ~ 1200 m thick icestreams during the Last Glacial Maximum (MIS 2). In the valley of Kitzbühel the sequence starts with the basal till and sediments (banded clay) of Termination (both MIS 6). The following lignites associated with alluvial cone and overbank deposits indicate an environment similar to today's situation, with partly prograding alluvial cones and peat growth in their backwater. The pollen content shows wood vegetation with dominance of spruce (*Picea*) and up to 20% fir (*Abies*) indicating the last Interglacial (Eem; MIS 5e). Overlying alluvial fan deposits are attributed to the cold phase of the 1. Würm - Stadial (MIS 5d). Lignites and silts with wood, again in association with fan deposits, were deposited in the arboreous environment (mostly *Picea*) of the 1. Würm-Interstadial (Brörup; MIS 5c). A lignite age of 90 ± 8 ka dated by Th/U (BORTENSCHLAGER, unpublished) supports this classification. In the Hopfgarten basin up to 130 m thick pre.LGM valley fill consists mainly of coarse fluvial gravels with intercalated lignites in the same facies association as in Kitzbühel. According to pollenanalysis of the lignites two interstadials with wood vegetation can be distinguished: The 1. Würm-Interstadial (*Picea*, *Pinus*, *Abies*, *Fagus*; MIS 5c) and the 2. Würm - Interstadial (*Picea*, *Pinus*, *Abies*; Odderade; MIS 5c). The thick gravel layers below and between the lignites represent the cold 1. and 2. Würm-Stadial (5d and 5b). Overbank deposits associated with the gravels provide evidence of a treeless environment during the fluvial accumulation of MIS 5b. These unique inner alpine sections show that the interglacial and interstadial environments of MIS 5 are comparable to those of the Holocene. The main accumulation happened during the cold stadials (MIS 5d & 5b). In contrast to the results of PREUSSER et al (2003) from Switzerland, the glaciation during cold phases in the Eastern Alps was quite restricted.

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