



## **The onset of alpine pastoral systems in the Eastern Alps**

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Since the discovery of the Neolithic glacier mummy “Ötzi” in the nival belt of the main Alpine ridge, the onset of alpine pasture is matter of a highly controversial debate both in archaeology and in palaeo-ecology of the Eastern Alps. The implication is that his sojourn in the high-altitudes of the Alps is considered to be connected with pastoral nomadism. Regrettably any archaeological evidence for the existence of such Neolithic alpine pastoral systems is missing up to now and the assumption is based on palynological data only. However, also the palynological record is ambiguous, because pasture indicators in the alpine regions react positive on grazing as well as on fertilization induced by a higher runoff of precipitation. Thus alpine pasture indicators reflect both grazing pressure and climatic change.

Anyhow, alpine pastoral systems are a common practice in Alpine animal husbandry, but from an economic point of view such a seasonal vertical transhumance is costly. There are three main reasons for its practice: i) climatic, ii) economic (mainly in connection with population pressure or mining activities), and iii) cultural ideology. In this study we tested the above mentioned reasons in an interdisciplinary study on the beginning of pastoral activities in high altitudes in the central part of the Eastern Alps. This is conducted by palynological analyses of peat deposits situated in the vicinity of the timberline (1600 – 2400 m a.s.l.) combined with archaeological surveys. The investigated sites are located in traditional Alpine transhumance regions and aligned on a transect through the central part of the Eastern Alps. The studies reveal that grazing pressure is reflected since the Bronze Age, which is corroborated by archaeological findings in the vicinity of the investigated sites.