Bronze Age herding in Northern Italy: Case study of Oppeano using a multi-proxy isotope approach

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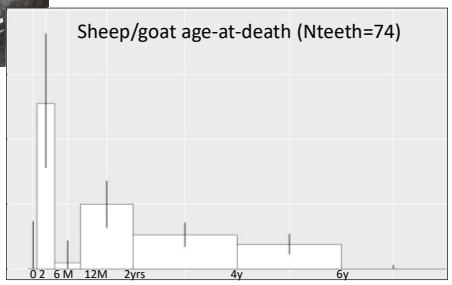
Transhumance herding is believed to have been commonly practised by Italian Bronze Age societies, fueling the growth and development of these communities; however proof of these practices is scant.

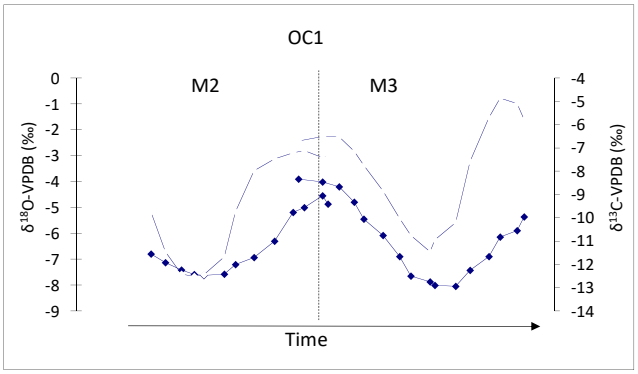
Oppeano is a well preserved small-scale settlement dating to the Middle Bronze Age (1650-1350 BCE). Wooden structures are well-preserved with soil micromorphological evidence of fine laminated layers providing evidence of stabling. The faunal record is dominated by caprines, with possible evidence of herd spitting with a low frequency of infants and animals aged 6-12M.

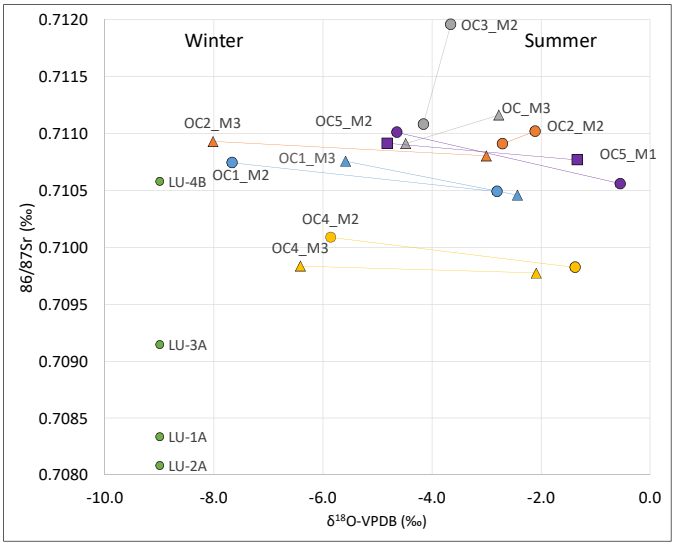
To examine herding practices in particular transhumance, we incrementally sampled 10 teeth (5M2s/5M3s) from five individuals for oxygen, carbon with two samples taken for strontium isotopes per tooth.



Results

The $\delta^{13}C$ values had a strong correlation $\delta^{18}O$ values i.e. In winter, the values are low (ave.:–12.0‰), while in summer they are high (ave.:– 4.5‰). Therefore, they have a large amplitude of c. 3-5‰ per tooth.





The Sr isotopes show little variation but this may be a reflection of the local radiogenic Sr signal, which concurs with Lugli (2022) strontium biosphere map.

There is no evidence for any of the animals grazing on the higher ground to the north of the site (Sr86/87: <0.709). While the summer values are on average lower than the winter values but appear not related to a different geology.

Two outliers (OC2/3), could be individuals raised elsewhere and brought into the herd.

Discussion

The results suggest a diet with based on plants growing within the context of a strong seasonal variation in climate, with no evidence of animals moving between upland and lowland pastures. The Sr values also show no vertical movement but show a consistent pattern within both M2/M3s where animals are moved between pastures in the summer and winter while remaining within the same geological unit. Further analysis of the outliers may provided an insight of exchange and contact between groups living at higher altitudes.

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