Assessing biological and cultural admixture in the Etruscan-Celtic population of Monterenzio Vecchio and Monte Bibele (Bologna, Italy)

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What happens when two populations meet?

Research question

Biological
- Exchange
- Admixture
- Replacement

?  

Cultural
- Exchange
- Admixture
- Replacement
Evidence for “Celtic migrations”? Strontium isotope analysis at the early La Tène (LT B) cemeteries of Nebringen (Germany) and Monte Bibele (Italy)

Mirjam Scheeres\textsuperscript{a,}\textsuperscript{*}, Corina Knipper\textsuperscript{a}, Maya Hauschild\textsuperscript{b}, Martin Schönfelder\textsuperscript{c}, Wolfgang Siebel\textsuperscript{d}, Daniele Vitali\textsuperscript{e}, Christopher Pare\textsuperscript{b}, Kurt W. Alt\textsuperscript{a}

Patterns of funerary variability, diet, and developmental stress in a Celtic population from NE Italy (3\textsuperscript{rd}-1\textsuperscript{st} c BC)

Zita Laffranchi\textsuperscript{1\textsuperscript{st}a}, Giuliana Cavalieri Manasse\textsuperscript{2\textsuperscript{nd}}, Luciano Salzani\textsuperscript{2\textsuperscript{nd}}, Marco Milella\textsuperscript{3\textsuperscript{rd}ab}}
Our study

Monte Bibele (Monte Tamburino) and Monterenzio Vecchio (Bologna, Italy; end of 5\textsuperscript{th} - 2\textsuperscript{nd} century BC)

176 individuals sampled to collect evidence on different proxies:

1) Strontium isotopes on M1: identify local/non-local individuals; additional teeth sampled at MV describe individual movement

2) Non-metric dental traits (following ASUDAS) biological relationship between case study and potential parent populations (Italian Iron Age; European Celtic groups);

3) Cultural population structure based on provenance, age, and sex (presence/absence; distance; AMOVA; PCA; stepwise variable selection; LDA/QDA; Random Forest)
Sr isotopes: provenance and movement

- Individual movement: different stories
- Presence of locals and nonlocal individuals
- Majority: local
- One individual per site with markedly divergent (non local) Sr values
Biological variability: Non metric dental traits

- MV and MB segregated but close
- Cluster: Both fall between Celtic (British, ) and Local (Etruscan/Italic) populations
- MDS: MVNL close to BRIT, MBNL drifted apart
Cultural variability: Grave goods

If the two sites are pooled together only sex strongly discriminates, origin is not significant

<table>
<thead>
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<th></th>
<th>MV</th>
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<th></th>
<th>MB</th>
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<td></td>
<td></td>
<td>$\Phi_{st}$</td>
<td>p-value</td>
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<td>0.11</td>
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<thead>
<tr>
<th></th>
<th>Sex</th>
<th>F</th>
<th>M</th>
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<th>L</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>whorls, skyphos, mirror, different types of pearls</td>
<td>iron sword with scabbard, iron knife, kylix, iron javelin, iron spear, mortar, shear, strigil, razor</td>
<td>0.47</td>
<td>kantharos, fibula, jar, amber pearl, pendant, helmet</td>
<td>stemmed plate, ceramic kyathos, and bowl</td>
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<td></td>
<td>Monterenzio</td>
<td>0.9</td>
<td></td>
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<tr>
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<td>Monte Bibele</td>
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<td>whorls, skyphos, mirror, different types of pearls, bone distaff, pendant, miniaturized vessel</td>
<td>bowl(bucchero), candelabrum, iron spear, glass, bronze belt rings, jar, iron javelin, iron knife, razor</td>
<td>0.82</td>
<td>plate(bucchero), kylix, fibula, iron knife, bronze kyathos, black glazed bowl, amber pearl, bronze vase, bronze belt rings, iron javelin</td>
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Cultural variability: Grave goods

Locals vs. Non locals
Conclusion

- The two sites present similar trends

- There is slight biological segregation between local and non local individuals; more visible at Monterenzio Vecchio

- Cultural homogeneity, *syncretism* hypothesised by archaeologists: culture does not allow to discriminate different origin

- Population structured more on sex and age differences to convey interpersonal diversity in funerary practices

- Monte Bibele: better prediction of provenance based on grave goods than Monterenzio (chronology?)

- Complex picture emerging through different proxies: reassessment of both cultural and anthropological evidence
Thank you!

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