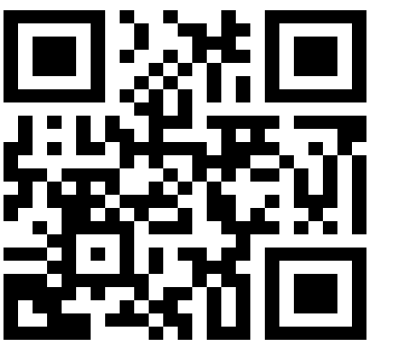


Differences in Metal Rings between the Hallstatt and La Tène Cultures

Cody Carr, Emily Hale, Audrey Dienes, Bailey Stephenson

The Cobb Institute of Archaeology, Department of Anthropology and Middle Eastern Studies, Mississippi State University

Acknowledgements, References, and Statistics:

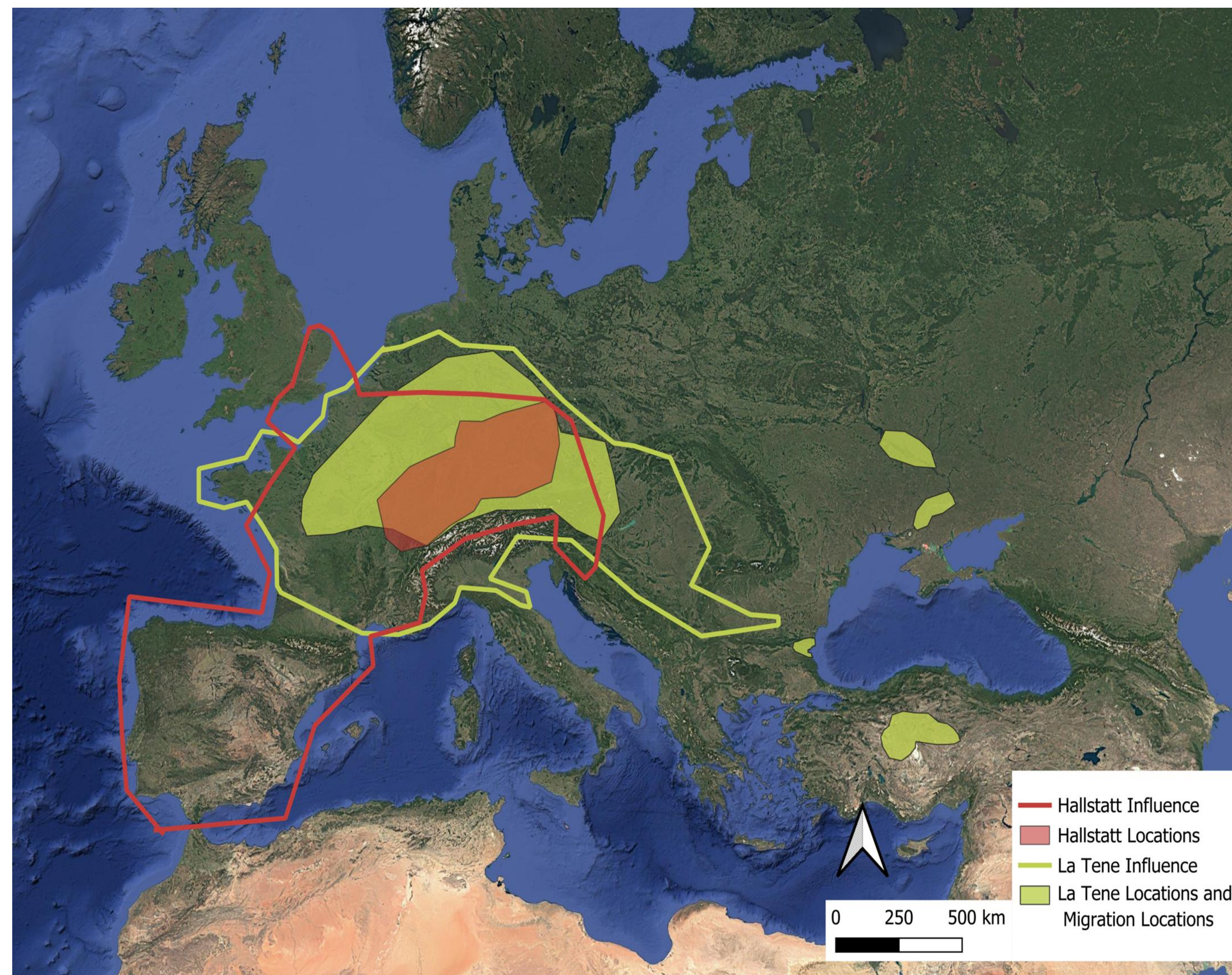


Abstract:

This study compares the Hallstatt (1200–400 B.C.) and La Tène (400 B.C.–1 A.D.) cultures of the European Late Bronze and Iron Ages. These cultural groups succeeded one another and occupied overlapping regions in Central Europe with influence across the Mediterranean. Both cultures interacted with various Mediterranean peoples through trade and migration. Normality and relational tests were conducted using online databases from the British Museum and the Ashmolean Museum to examine the distinctiveness of these two cultures. The normality tests measuring culture, use, craft, material, and direction all showed non-normal distributions. Fisher's Exact tests revealed that only the Culture–Use (their usage of materials) and Culture–Craft (their methods of crafting) relationships showed low cultural differentiation, while all other categories differed significantly. These results suggest that Hallstatt and La Tène cultures were largely distinct, except in how they made and used rings (e.g., as anklets, torcs, or bracelets).

Introduction & Background:

This poster examines the morphological differences between bracelets, torcs, and anklets from the Hallstatt (800–450 B.C.) and La Tène (480/450 B.C.–1 A.D.) cultures from West-Central Europe and Anatolia. Burial practices changed and hillforts were abandoned, but trade connections were maintained and expanded if somewhat shifted. The goal of this study is to assess how trends related to bracelets, torcs, and anklets changed, if they changed at all.

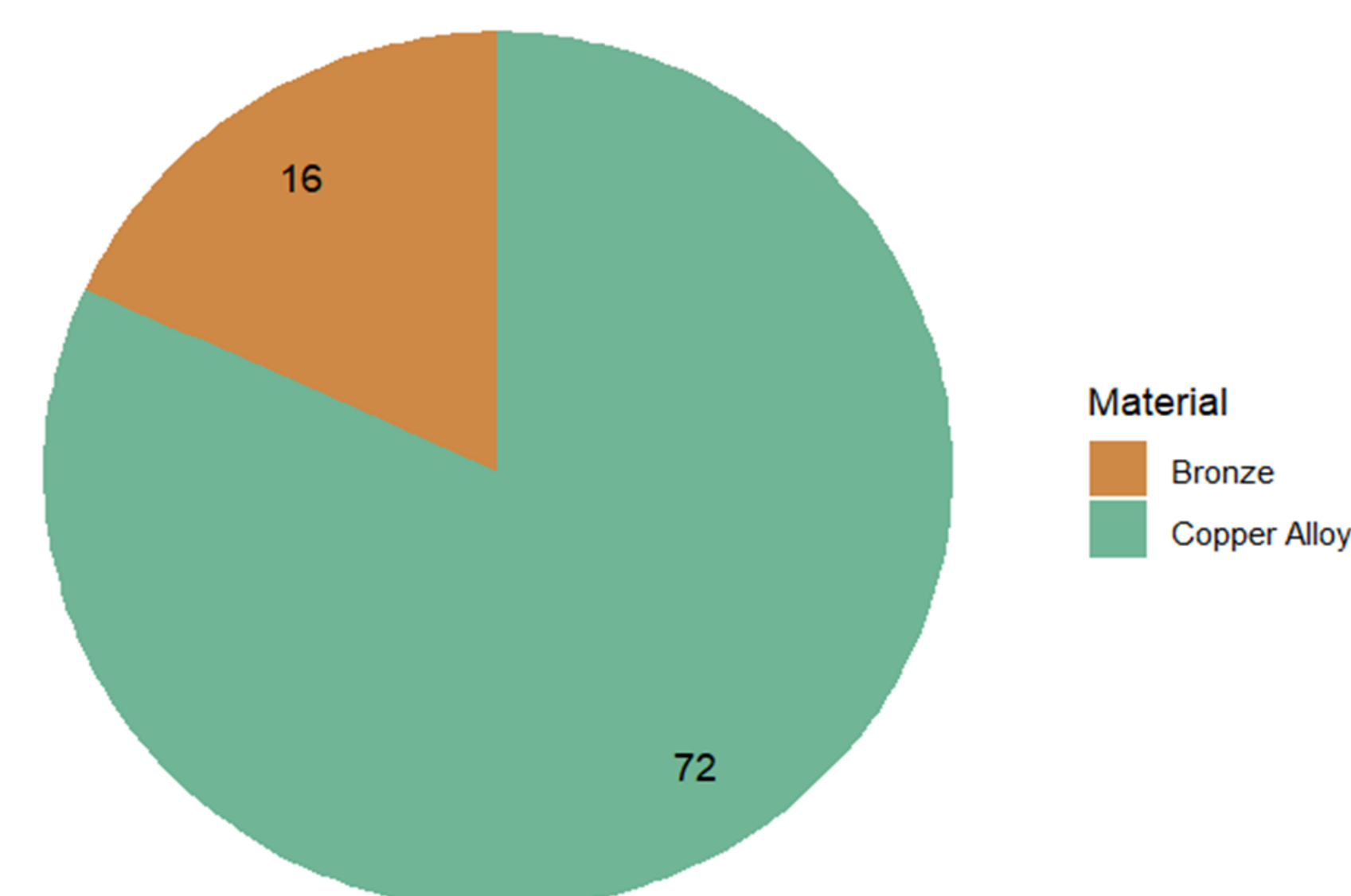


Map made in QGIS based on models presented in *The Ancient Celts* (Cunliffe 2018) and *Atlas of the Celtic World* (Haywood and Cunliffe 2001)

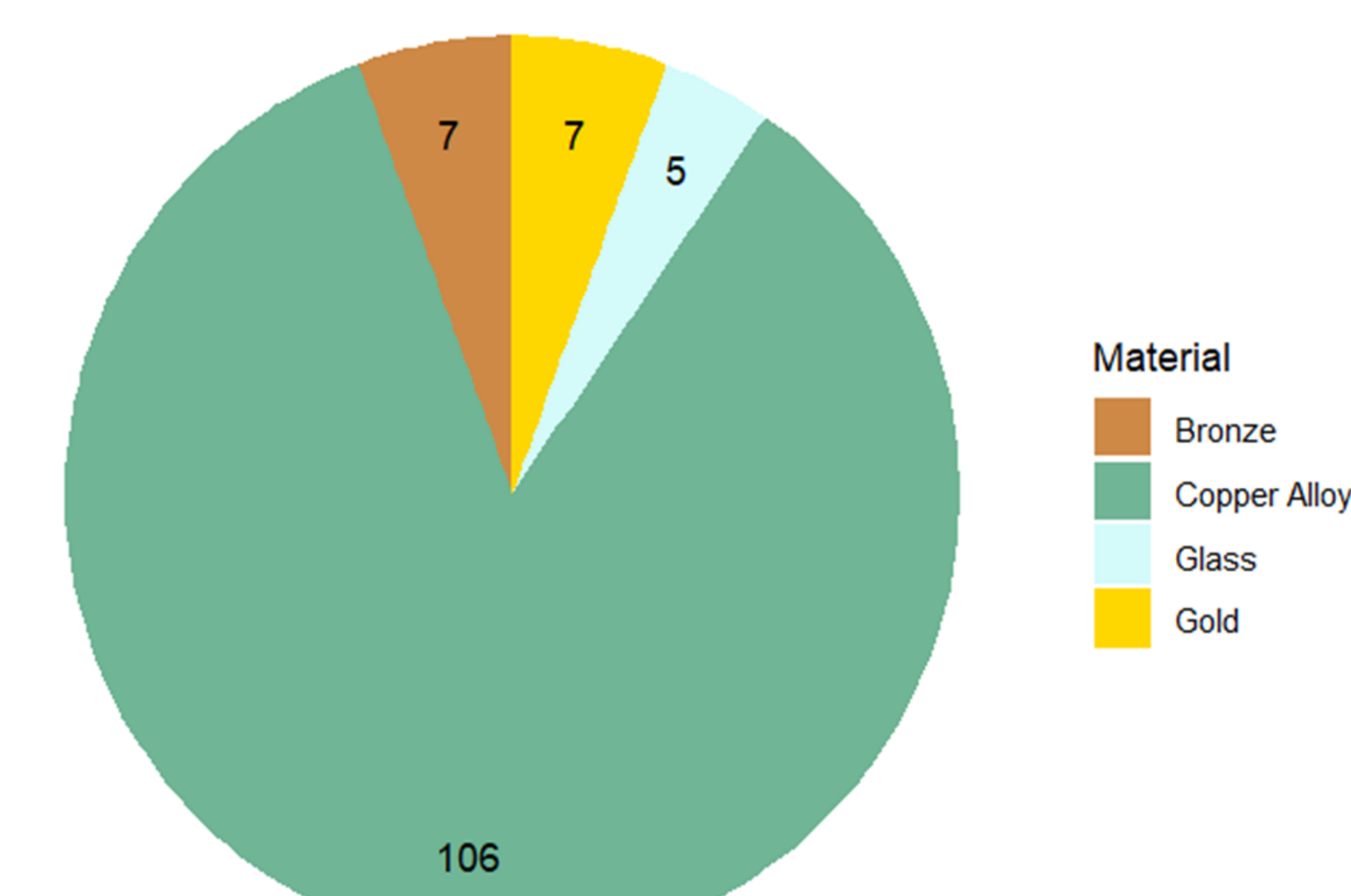
Methodology:

Using databases from the British Museum and the Ashmolean Museum, a dataset cataloging rings from the Hallstatt and La Tène cultures was created. In *RStudio*, several statistical tests were conducted. Shapiro-Wilks, Levene's, Wilcoxon, and Kruskal Wallis H tests compared the diameters of the rings to other categories, such as culture, use, craft, material, and direction. Chi-Square, Cramer's V, and Fisher's Exact tests were also conducted on the data.

Hallstatt Materials



La Tène Materials



(Above) Pie Charts made in *RStudio* comparing materials used in the Hallstatt (Left) and La Tène (Right) Cultures. The p-value for Fisher's Exact test was 0.0004363543

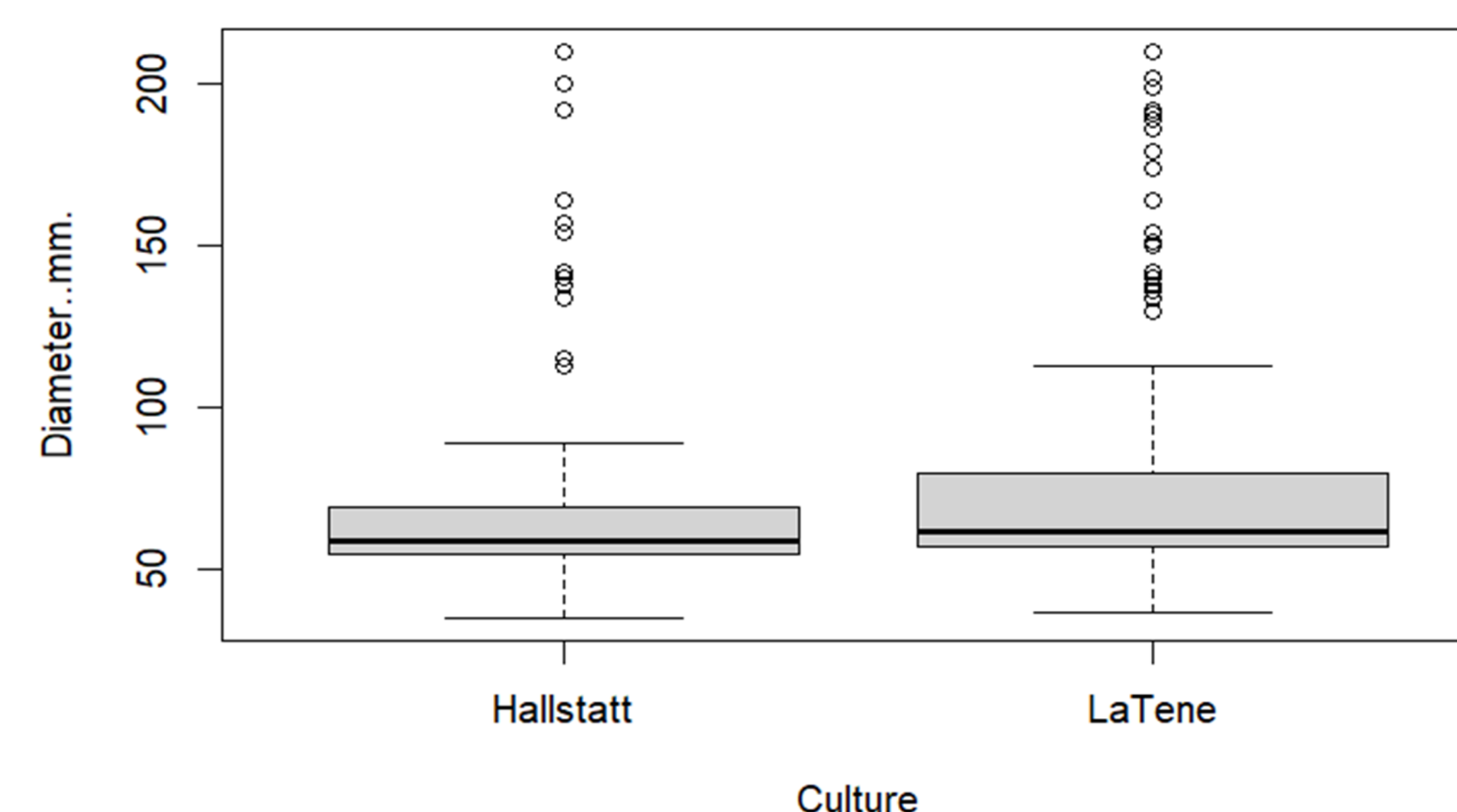
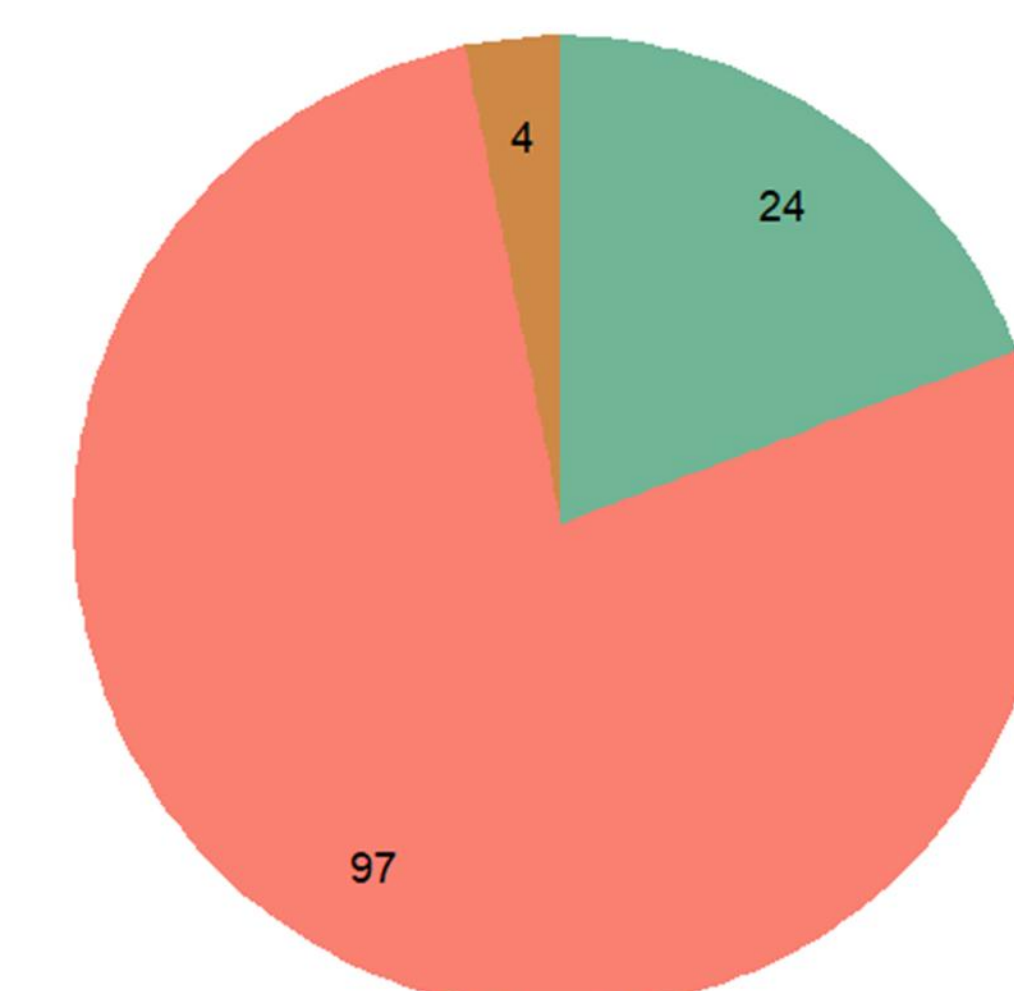


Chart made in *RStudio* comparing Ring Diameter size in the Hallstatt and La Tène Cultures. The p-value for the Wilcoxon Test was 0.03191

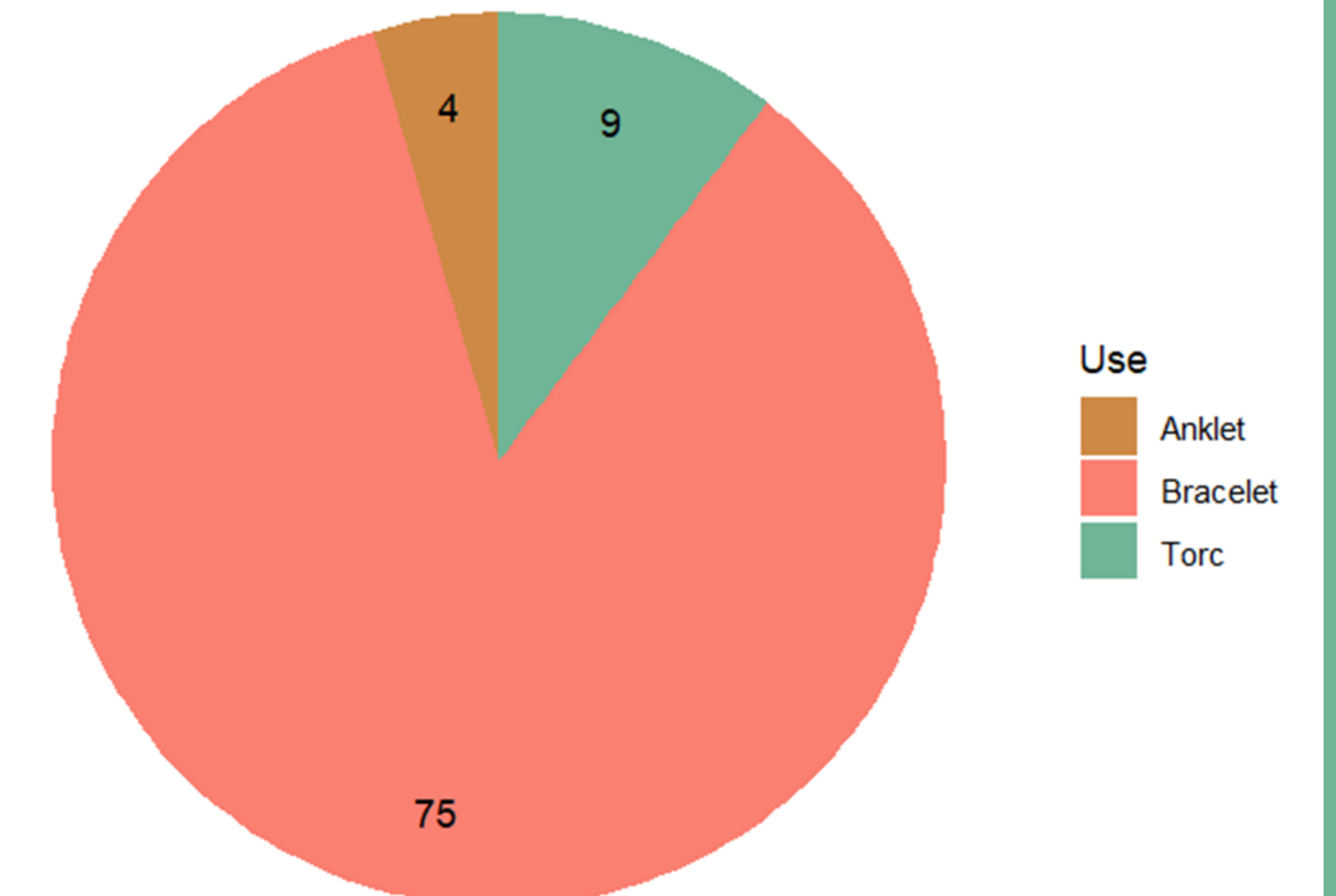
Results:

The results of the normality tests, Shapiro-Wilks, Wilcoxon, and Kruskal Wallis, demonstrate that in relation to total diameter, all categories are clearly distinct. The results of the relational tests, Chi-Square and Cramer's V, also demonstrate that the categories are distinct. The results of the Chi-Square and Fisher's Exact tests across specified categories shows Culture-Craft and Culture-Use are statistically similar and evenly distributed, while the other categories are not similar.

La Tène Uses

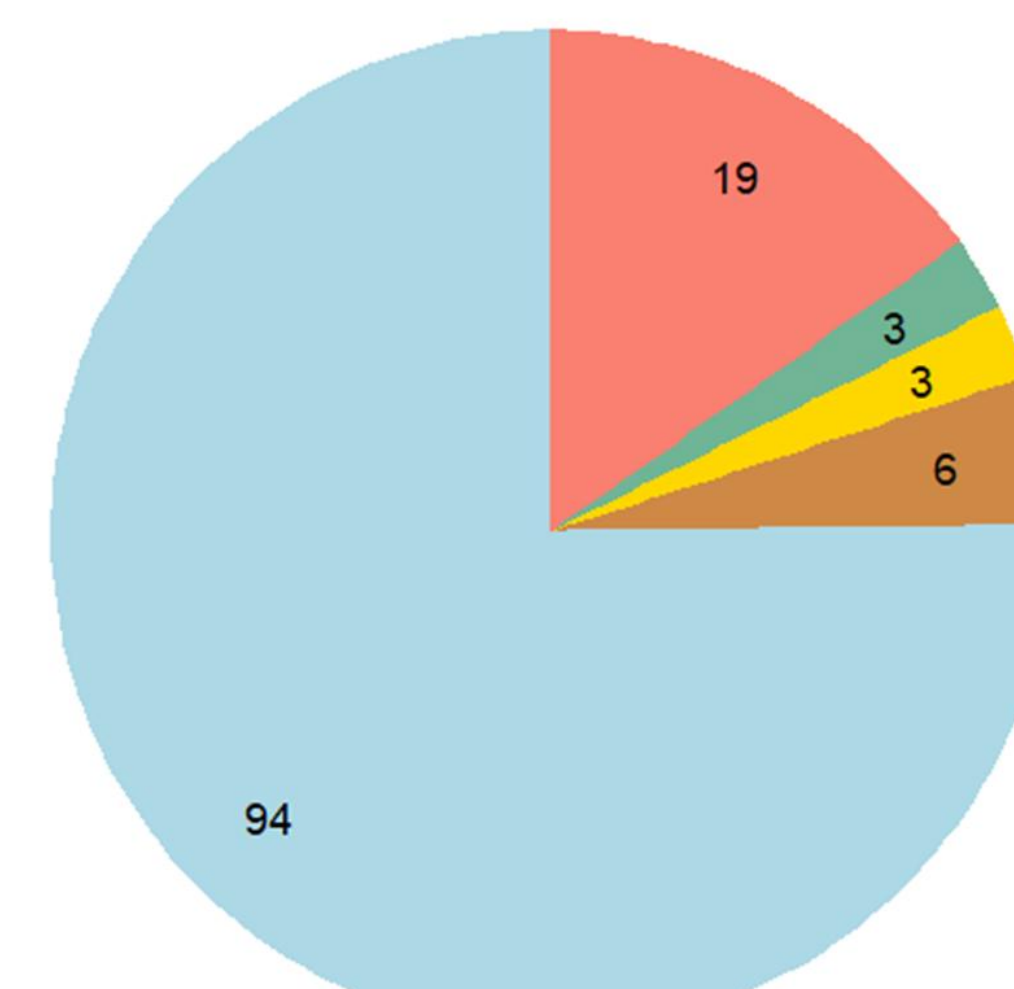


Hallstatt Uses

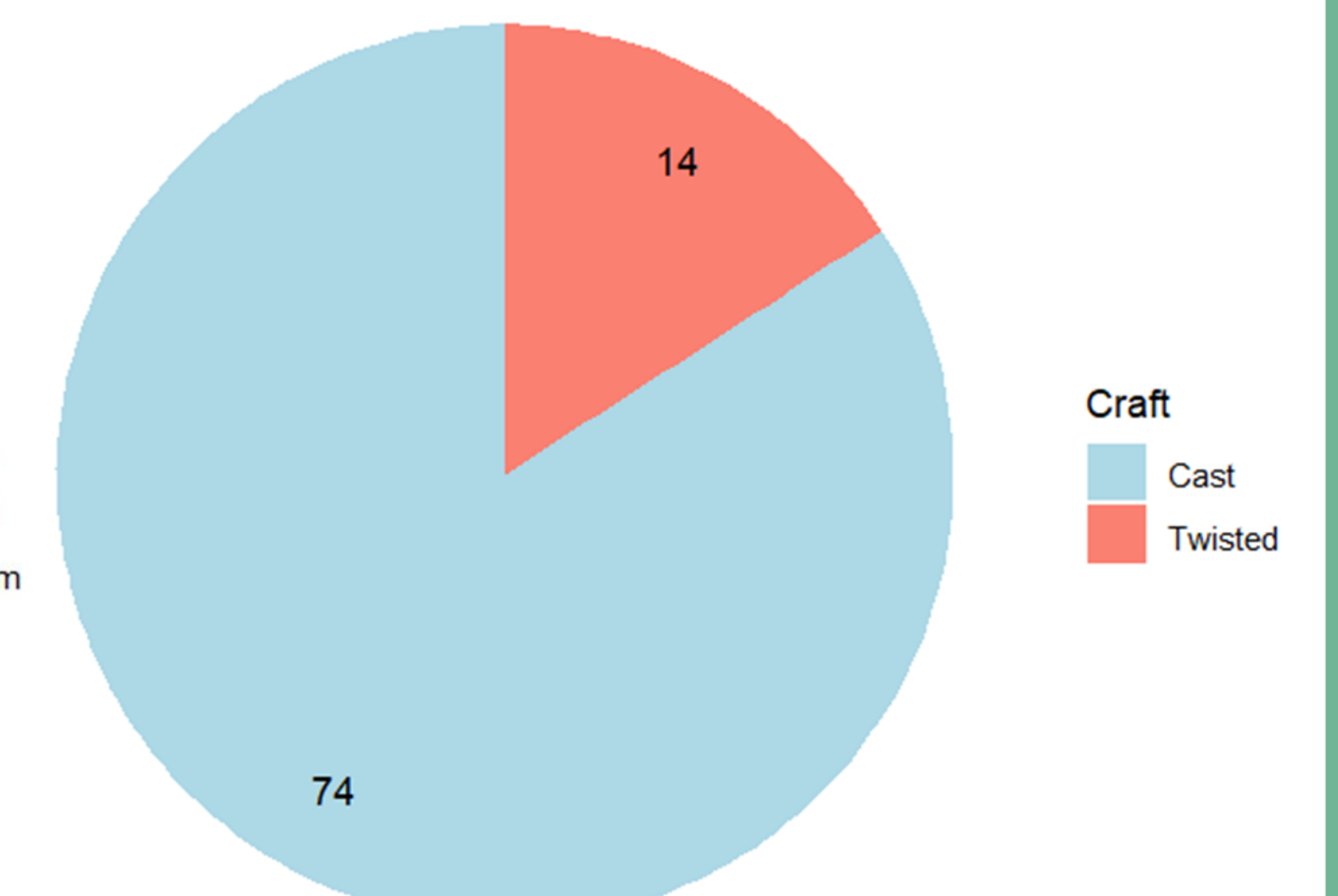


Pie Charts made in *RStudio* comparing Uses of rings in the Hallstatt and La Tène Cultures. The p-value for Fisher's Exact Test was 0.169689

La Tène Crafts



Hallstatt Crafts



Pie Charts made in *RStudio* comparing craftsmanship used in the Hallstatt and La Tène Cultures. The p-value for Fisher's Exact Test was 0.05491004

Discussion:

Using diameter as an indicator, the Hallstatt and La Tène cultures are distinct, and there is a strong connection between culture and diameter. Comparing them using a Fisher's test indicates that there is not a strong connection between cultures and their craft and use of the rings. All other categories tested have strong statistical connections with one or both cultures.

Conclusion:

These statistical results suggest that Hallstatt and La Tène cultures were largely distinct, except in how they made and used rings (e.g., as anklets, torcs, or bracelets). Looking forward, future research could delineate the cultures even further, into Hallstatt A, B, C, D, and La Tène A, B, C, D or include more details of the objects' locations and include data from more databases.