Shifting harvests: archaeobotanical contributions to our understanding of the Cypriot Chalcolithic-Bronze Age transition

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Background

- The Near Eastern crop package spread to Cyprus by the end of the 9th millennium BC; however, recent research suggests a deviation from the mainland trajectory thereafter[1].
- In contrast to the mainland, data from Cyprus suggests a prolonged period of a mixed-subsistence economy that involved small-scale intensive garden cultivation and hunting[1].
- Data suggests a delayed adoption of an integrated agroecosystem, i.e. crop-agriculture, intensive livestock herding, and secondary products from both plants (cash crops) and animals particularly ante mortem (life-time) products – dairy, wool and traction[1-8].

Questions

1. What plants have been recovered archaeologically from sites dated to the Chalcolithic and Bronze Age of Cyprus?
2. What can the data tell us about the transition to an integrated agroecosystem?
3. Can these data contribute to our understanding of the rise of the Cypriot Bronze Age Economy?

Sites

Chalcolithic (ca. 4000-2300 cal BC):

1. Lemba-*Lakkous*[10]
2. Kissonerga-*Mylouthkia*[11]
3. Kissonerga-*Mosphilia*[12]
4. Prastio-*Savvas* Tis Karonis Monestery[13]
5. Souksiou-*Laona*[9, 14]
6. Politiko-*Kokkinorotsos*[15]

E/M Bronze Age (ca. 2400-1700 cal BC):

7. Mark-*Alonia*[16]
8. Sotira-*Kaminoudhia*[17]
9. Politiko-*Troullia*[18]
10. Kissonerga-*Skalia*[9, 19]

Fig. 1 Arial image of Cyprus showing approximate locations of sites mentioned in text.

Methods

The archaeobotanical data summarized here comes from previously published reports[9-19].

Results

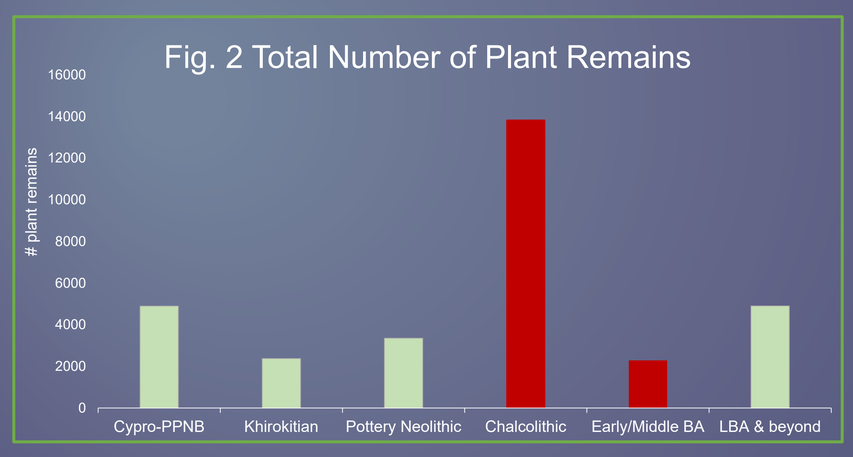

Fig. 2 Total Number of Plant Remains

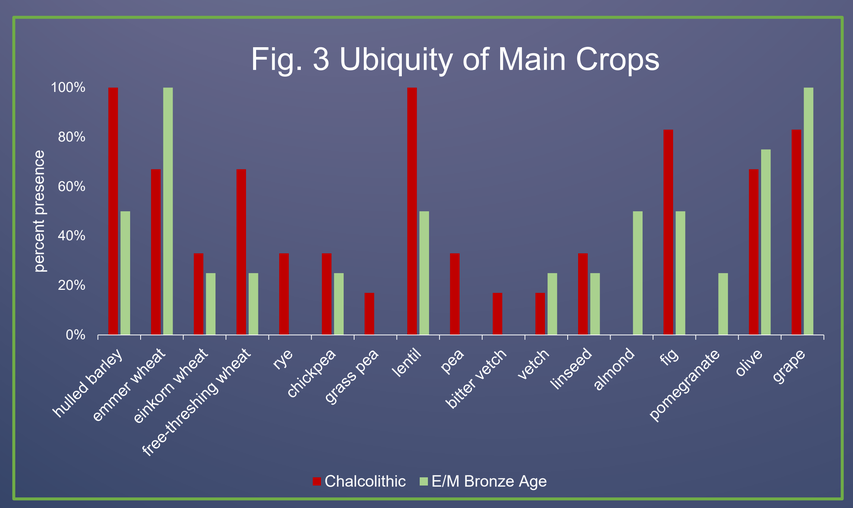

Fig. 3 Ubiquity of Main Crops

Conclusions

1. There is a disparity in the data across cultural phases (Fig. 2). To better understand agricultural changes during the Chalcolithic-Bronze Age transition it is imperative more data is collected systematically from sites dated to the Early/Middle Bronze Age. Despite the disparity, the staple crops are similar during the transition with comparable ubiquities of hulled barley and wheat; however, there appears to be a preference for emmer wheat in the Bronze Age (Fig. 3). There is reduced diversity in pulse crops in Chalcolithic assemblages with only chickpea, lentil and vetch remaining in the E/M Bronze Age. With regards to cash crops we see a rise in percent presence of olive and grape from the Chalcolithic to the E/M Bronze Age which also corresponds to the earliest evidence of almond and pomegranate on the island.
2. The data summarized here suggests a shift in agricultural practices from the Chalcolithic to the E/M Bronze Age, one that involves a move away from crop diversification, particularly in cereal and pulse crops, to fruit tree and cash crops. Of great significance is the presence of pomegranate (Fig. 4) in the Cypriot E/M Bronze Age at Kissonerga-*Skalia*[19].
3. Pomegranate is rare in the Levantine Bronze Age and its presence early in Cyprus contributes to our understanding of external interactions during the transition to the Cypriot Bronze Age. The shift to cash crops and fruit trees provides insight into the beginnings of the Cypriot LBA economy. Forthcoming results from E/M Bronze Age Kissonerga-*Skalia* and Prastio-*Mesorotsos* will help even out the disparities in data and shed light on changes in agricultural practices during this important transition in Cypriot prehistory.

Fig. 2 (left above) bar chart showing the total number of plant remains recovered from sites dated from the Cypro-PPNB to the LBA and later with total counts published[14].
Fig. 3 (left below) bar chart showing the percent presence of cereals, pulses, flax, and fruit/cash crops from sites dated from the Cypro-PPNB to the E/M Bronze Age[14].
Fig. 4 (right side) botanical print of pomegranate[20].

Fig. 4

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