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Archaeobotany of Great Zimbabwe



Outside the Great Enclosure at Great Zimbabwe

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*all photographs by AJW

Archaeobotanical record from Zimbabwe

The archaeobotanical record from Zimbabwe includes charred remains from Early Holocene through to Iron Age sites, often recovered by dry-sieving soil samples (Jonsson, 1998). More focused efforts to recover archaeobotanical macrofossils at Iron Age sites have been conducted at Great Zimbabwe (Jonsson, 1998; Chikumbirike, et al. 2016) and Mtanye (Mushangwe, 2019). However, systematic flotation of samples has largely been absent, and we lack detailed information about the plants present throughout the occupation of sites.

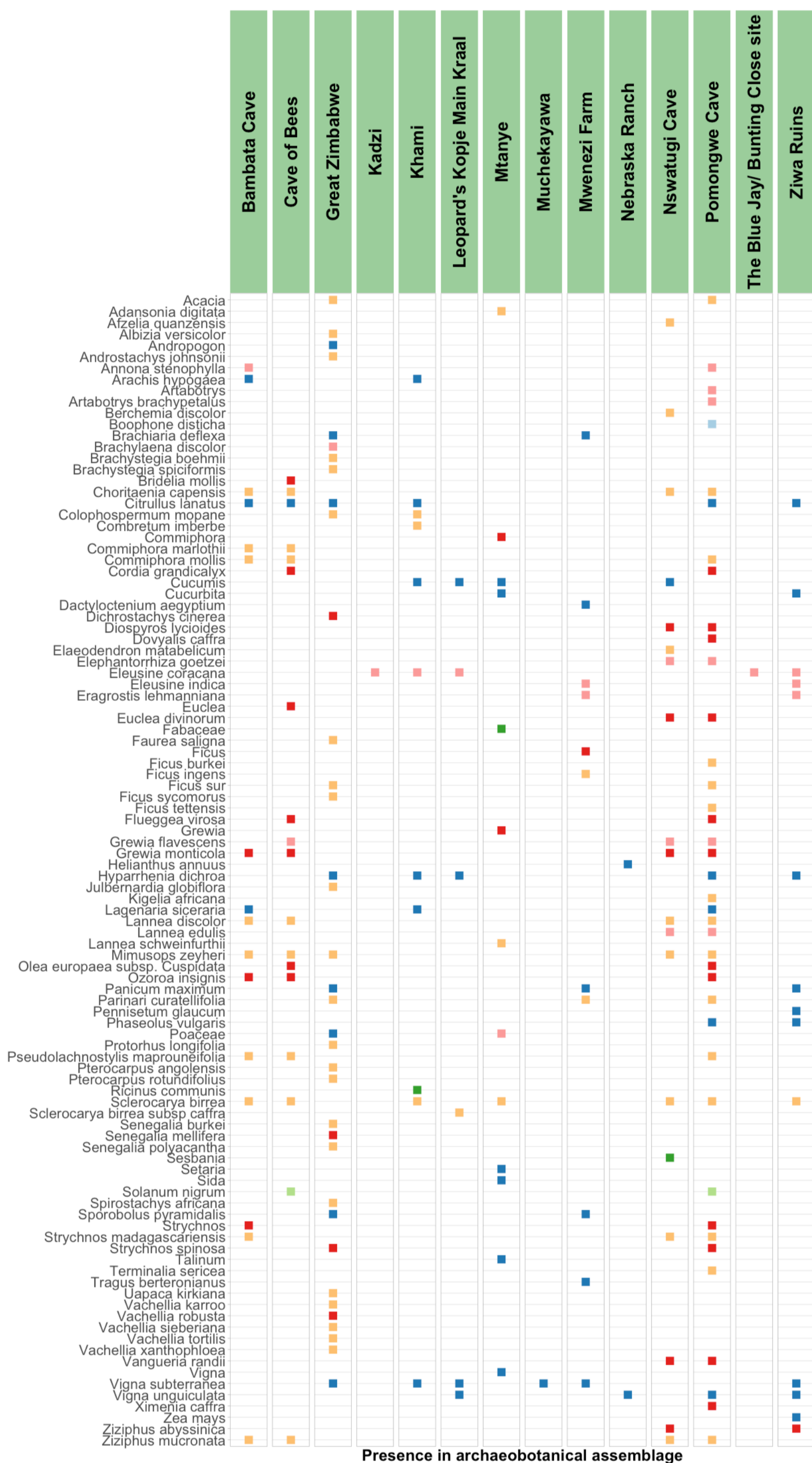
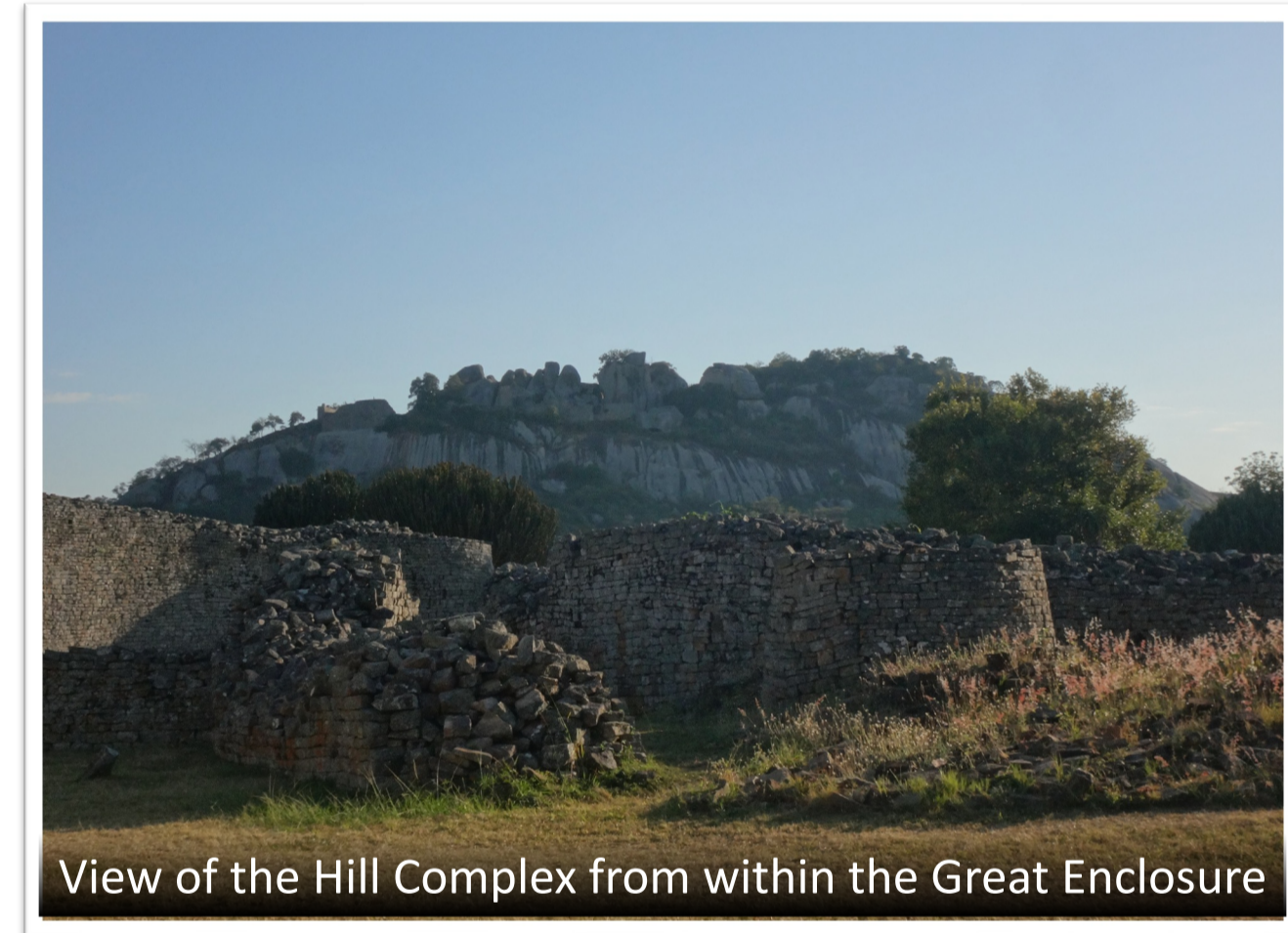
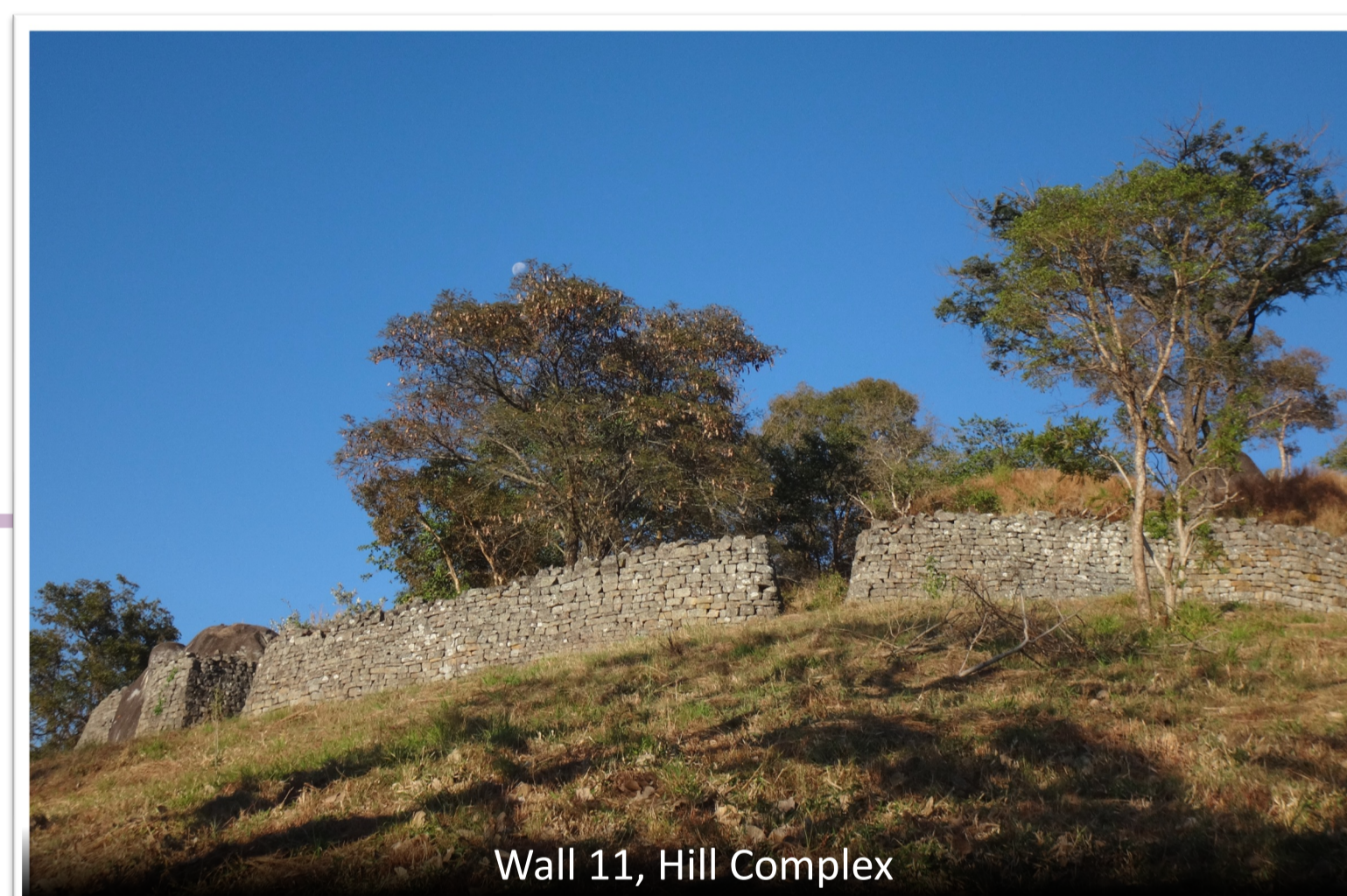


Figure 1 Plant species present in archaeological assemblages from archaeological sites across Zimbabwe. All levels and dates associated with sites, except modern layers, are included. Adiantic material has been excluded.

Data from Jonsson (1998), Chikumbirike, Bamford, & Esterhuysen (2016), Mushangwe (2019). Additional references cited by Jonsson (1998): Cooke (1953), Huffman (1974), Robinson (1959, 1961a,b), Soper & Chirawu (1996), Summers (1958), Walker (1995).



Archaeobotanical record from Great Zimbabwe

The Great Zimbabwe archaeobotanical record currently includes macrobotanical remains recovered by Jonsson (1998) and charcoal remains analysed by Chikumbirike, et al. (2016) (Figure 2). Jonsson (1998) recovered macrobotanical remains from outside the northern wall of the Hill Complex (Trench 1 and 2) by using flotation to process 2L soil samples from every ~10cm level.

Table 1 Dates associated with archaeobotanical material in Figure 1.

| Site | Period(s) | Age estimate(s) |
|----------------------------|--|--------------------------|
| Bambata Cave | Gwanda Amadzimba Middle Stone Age | 2100-4000 BP |
| Cave of Bees | Gokomere Early Holocene Late Pleistocene | |
| Great Zimbabwe | 19 th Century AD 15 th Century AD Early Iron Age | 320-1900 AD 1150-1600 AD |
| Kadzi | 4 th Century AD 8 th Century AD | |
| Khami | | 1300-1550 AD |
| Leopard's Kopje Main Kraal | Woodlandale, Mambo, Zhizo | 600-1050 AD |
| Mtanye | Iron Age | |
| Mwenezi Farm | | 670-1820 AD |
| Nebraska Rance | Zimbabwe Period IV | 1275-1550 AD |
| Nswatugi Cave | Early-Mid Holocene | 10000-6000 BP |
| Pomongwe Cave | Mid-Late Holocene Early-Mid Holocene | |
| The Blue Jay/Bunting Close | Woodlandale | |
| Ziwa Ruins | | 800-1800 AD |

Table 2 Dates associated with archaeobotanical material in Figure 2.

| Great Zimbabwe | Period(s) | Age estimate(s) |
|------------------------------------|--|-----------------|
| 2030 BD, furnace | 19 th Century AD | 1800 AD |
| Barrier Hut | Early Iron Age to 15 th Century | 400-1450 AD |
| Great Enclosure | | 1800 AD |
| Hill Complex | Early Iron Age to 15 th Century | 320-1900 AD |
| House D, floor h1, Hill Complex | | 1280 AD |
| Ridge Ruin | After decline of Great Zimbabwe | |
| Terrace Area, foot of Hill Complex | | |
| Trench 1 | 1150-1600 AD | |
| Trench 2 | 1150-1600 AD | |

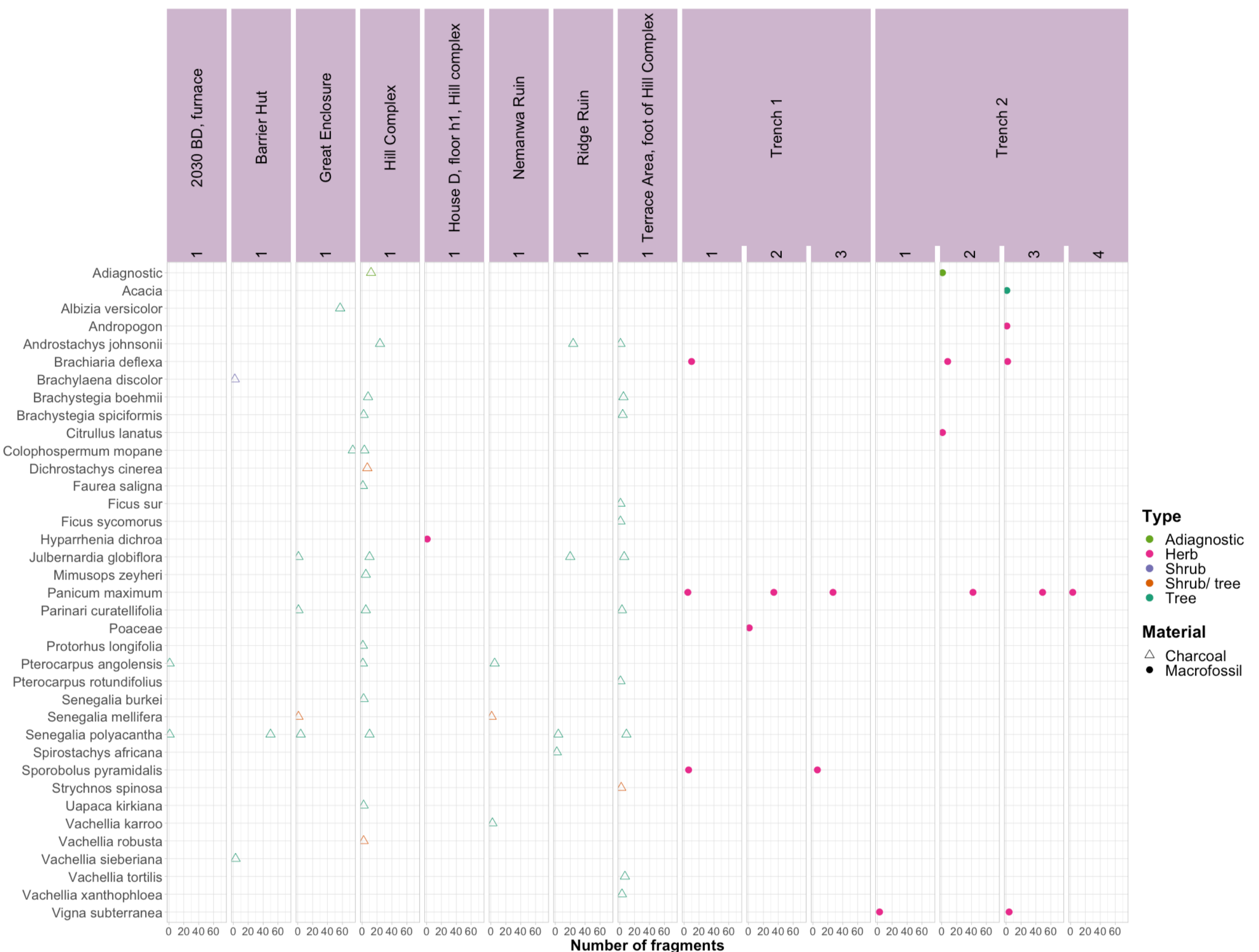


Figure 2 Archaeobotanical assemblage data from Great Zimbabwe. Macrofossil assemblages from Jonsson (1998), and Robinson (1961); charcoal assemblage from Chikumbirike, Bamford, & Esterhuysen (2016).

Current project plans

As part of the project, 'Archaeometry and social formation in southern Africa', led by Professor Shadreck Chirikure, we are undertaking excavations at the World Heritage site of Great Zimbabwe. The project aims to understand the precolonial urban landscapes of Southern Africa, currently centring on the economy and social networks of Great Zimbabwe.

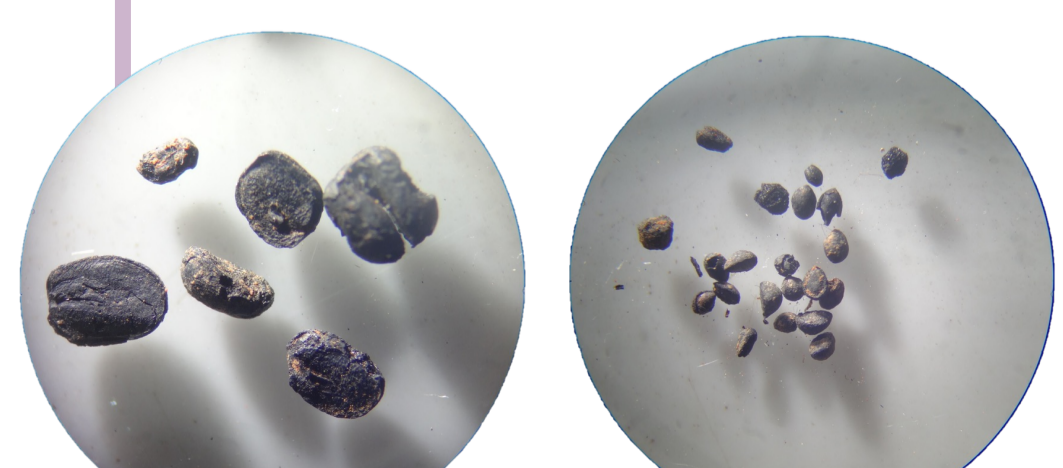
While pottery, metal, cattle bones, and glass beads are abundant at Great Zimbabwe, the archaeobotanical remains are mostly unstudied. We are systematically sampling contexts for macro- and micro-botanical remains. Excavation in August 2022 focused on the outside of Wall 11 of the Hill Complex, and further excavation will be undertaken later this year.

Stage 1: Foundational data collection

- Use flotation to process existing and future samples from excavation (see images to left):
 - 0.3mm mesh/ chiffon
 - 1mm heavy residue mesh
- Collect modern plant samples for comparison with the archaeobotanical material
- Identify macrobotanical remains using modern reference materials and comparison with remains other archaeological sites
- Use archaeobotanical materials for radiocarbon dating levels of excavation, ideally using charred seeds where possible

Stage 2: The Bigger Picture

- What plants species were people using and consuming at Great Zimbabwe?
 - Macrobotanical species identification
 - Phytolith analysis
- Were crops were locally grown or imported from further afield?
 - Analysis of plant assemblage and agricultural artefacts
 - Comparison of plant species with modern distribution
 - Isotope analysis
- What were the wider environmental conditions of Great Zimbabwe?
 - Analysis of plant species present at site and comparison with known growing conditions
 - Pollen analysis
- What was the economy of Great Zimbabwe?
 - Synthesis of archaeobotanical, zooarchaeological, and material data
- Did crops, plant use, or the environmental conditions change during the pre-colonial occupation of Great Zimbabwe? If so, why did these changes occur? Could changes be associated with population migration?
- How does plant use during the Iron Age compare to modern plant use in Zimbabwe?
 - Comparison with modern crops and ethnobotanical studies



Photographs of charred seeds from the Wall 11, Great Zimbabwe Hill Complex (AJW 2023)



Bucket flotation of soil samples from Wall 11 of the Hill Complex, excavated August 2022



Assorted grain being sold at Masvingo market, June 2023