

## **INDIGENOUS POPULATIONS AND ENVIRONMENT IN ANCIENT AMAZONIA: a paleoenvironmental approach**

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### **Resumo**

After the 1990s, with increasing scientific evidence for widespread human interference on Amazonian landscapes, a new paradigm has been developed for Amazonia, the Earth's largest tropical rainforest region. Once viewed as a pristine and untouched ecosystem, the Amazon is now regarded as home to former urban processes, and cultural activities, among which stand out a long history of plant domestication, in synchrony with significant landscape alterations. Monte Castelo site lies in a strategic geographic position, i.e., in southwestern Amazonia, where macro- and archaeobotanical evidence suggest was one of the important centers for early crop domestication. In this context, a multi-proxy approach, including sedimentary facies, pollen analysis, and carbonized particles, was performed on a sediment core from an oxbow lake that covers the last ~3000 cal yr BP. The deposits represent a succession of sediment accumulation in an active channel (>850 BCE), abandoned channel/floodplain (>850 BCE to 43 BCE), oxbow lake (43 BCE to 515 CE), and swamp environment (515 CE to modern). In these settings, low-energy subaqueous conditions were developed, favoring the preservation of a pollen assemblage composed mostly of herbaceous vegetation, forest formation (terra firme and riparian forest), and some taxa of edible plants represented by *Annona* sp. (soursop genus), *Ipomoea* sp. (sweet potato genus), *piper* (pepper genus), and palms (*Euterpe* sp., *Mauritia/Mauritiella* sp.). The herbs persisted throughout the time interval covered by the pollen record, while terra firme and riparian forest taxa declined by 40 CE. Changes in vegetation cover are followed by an abrupt increase in the concentration of carbonized particles, evidencing enhanced fire events between 32 BCE and 749 CE, under relatively stable climate conditions. Edible plant taxa become frequent from this interval onwards, which suggests the management of food resources by the ancient populations that inhabited the Monte Castelo region. Here we show that the occurrence of edible plant species in the fossil oxbow lake record may be associated with their manipulation by pre-Columbian occupation. Our findings have important implications for future debates regarding anthropogenic land use and the exploitation of food resources in lowland Amazonia.

**Palavras-chave: Amazonia; paleoenvironment; plant domestication; pollen analysis**