

The MICRO Project at La Brea Tar Pits, Los Angeles, California: Gaining Mega Information From Micro Collections

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Microfossils at the La Brea Tar Pits (LBTP) in Los Angeles, California, United States, are small fossil remains of hundreds of species of Late Pleistocene and modern-day plants and animals that tell the story of their journey through time and location. These specimens are found within the hundreds of tons of matrix surrounding the charismatic, and better-studied, megafauna of our asphaltic fossil deposits that have been excavated for over a century. Even after decades of sorting microfossils from the matrix, we have only a cursory understanding of the relative quantity and quality of these smaller fossils. Plans for extensive redesign of LBTP have provided research, collections, and lab staff the opportunity to consider our long-term requirements for collections space, research needs, lab workflows and opportunities for educational outreach. Further, recent research focused on food webs in the Los Angeles Basin over the last 50,000 years made extensive use of microfossils and provides us with a case study by which to consider specific institutional needs and wants. With renovations in mind, we developed MICRO — Microfossils In Collections for Research and Outreach— to take a deeper look at our fossil-rich matrix and potentially inform on-site infrastructure planning. Here, we focus on the collections management aspects of MICRO. Specimen safety during storage is highly important. Single-height drawers can be used to house hundreds of microfossils, while maintaining even weight distribution, and storing up to sixteen drawers in a single steel cabinet. Depending on the length, width, and fragility of the microfossils, they can either be housed individually or in bulk, in a plastic or glass vial or dram utilizing acid-free, archival materials to ensure long-term preservation. It is likely that research use of microfossils will continue to increase. It is therefore necessary to have a solid understanding of our microfossil resources, the time and materials it takes to prepare them for curation and research, the physical space they require, and the financial investment necessary to make it all possible. Through MICRO, we are gaining insights into the requirements of microfossils that are broadly applicable to other types of natural history collections.
