

Research on the Conservation of Fossil Bone: Evaluation of Consolidation Treatments



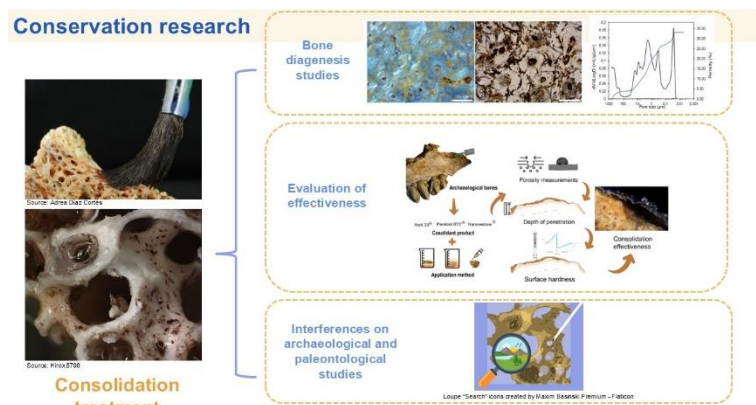
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Conservation-restoration is a discipline aimed at preserving cultural heritage for the future. Bones and fossils remain from archaeological and paleontological collections form part of this heritage, constituting valuable records of past life that must be preserved over time.

In many cases, bone and fossil materials exhibit poor internal stability; in such situations, the application of consolidation treatments becomes essential. Consolidation primarily aims to improve mechanical properties, ensuring proper handling, research, and long-term preservation.



The research line addressed here encompasses several key aspects:

- The application of bone diagenesis studies to assess preservation state and justify the need for consolidation treatments.
- The evaluation of the effectiveness of both traditional products (such as acrylic resins ex. Paraloid®B72) and more recent approaches, including inorganic consolidants such as calcium hydroxide nanoparticles and phosphate-based treatments for hydroxyapatite formation.
- Finally, considering the concept of compatibility, the development of studies that assess whether conservation treatments—particularly those involving the addition of external products—may interfere with biomolecular analyses, such as stable isotope studies.

This research highlights the need to promote further investigation aimed at improving our understanding and preservation of the valuable information contained in bones and fossil remains.