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Nota di contenuto	Part1. Concepts, Technical Advances and Challenges -- Chapter1. Technical Advances and Challenges in Genome-Scale Analysis of Ancient DNA -- Chapter2. Paleoproteomics: An Introduction to the Analysis of Ancient Proteins by Soft Ionization Mass Spectrometry -- Chapter3. Ancient RNA -- Chapter4. Ancient Epigenomics -- Part2. -- Chapter5. Ancient Pathogens Through Human History: A Paleogenomic Perspective -- Chapter6. Paleovirology: Viral Sequences from Historical and Ancient DNA -- Chapter7. Reconstructing Past Vegetation

Communities Using Ancient DNA from Lake Sediments -- Chapter8. Archaeogenomics and Crop Adaptation -- Chapter9. Herbarium Genomics: Plant Archival DNA Explored -- Chapter10. Paleogenomics of Animal Domestication -- Chapter11. Paleogenomic Inferences of Dog Domestication -- Chapter12. Of Cats and Men: Ancient DNA Reveals How the Cat Conquered the Ancient World -- Chapter13. An Ancient DNA Perspective on Horse Evolution -- Chapter14. Primate Paleogenomics -- Chapter15. Structural Variants in Ancient Genomes -- Chapter16. Genomics of Extinction.

Sommario/riassunto

Advances in genome-scale DNA sequencing technologies have revolutionized genetic research on ancient organisms, extinct species, and past environments. When it is recoverable after hundreds or thousands of years of unintended preservation, “ancient DNA” (or aDNA) is often highly degraded, necessitating specialized handling and analytical approaches. Paleogenomics defines the field of reconstructing and analyzing the genomes of historic or long-dead organisms, most often through comparison with modern representatives of the same or similar species. The opportunity to isolate and study paleogenomes has radically transformed many fields, spanning biology, anthropology, agriculture, and medicine. Examples include understanding evolutionary relationships of extinct species known only from fossils, the domestication of plants and animals, and the evolution and geographical spread of certain pathogens. This pioneering book presents a snapshot view of the history, current status, and future prospects of paleogenomics, taking a broad viewpoint that covers a range of topics and organisms to provide an up-to-date status of the applications, challenges, and promise of the field. This book is intended for a variety of readerships, including upper-level undergraduate and graduate students, professionals and experts in the field, as well as anyone excited by the extraordinary insights that paleogenomics offers. .