

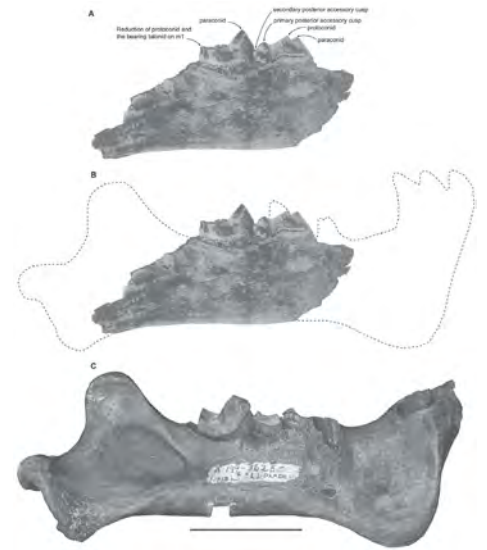
| ACHIEVEMENTS

Presence of Saber-Toothed Cats in the Pleistocene of Taiwan

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Associate Professor Cheng-Hsiu Tsai of NTU's Department of Life Sciences and University of California, Berkeley collaborated on an international paleontology research project. Their findings confirmed for the first time that saber-toothed cats (Machairodontinae) were present in the Pleistocene of Taiwan.

Machairodontinae, including the famous *Smilodon* and *Homotherium*, was an iconic Pleistocene carnivore lineage that occupied a critical paleoecological niche. The species is thought to have exerted a profound impact on the ice-age ecosystem structure. Recent ancient molecular studies on *Homotherium* suggest a wider distribution than that inferred from the extant fossil record, highlighting the need for additional fieldwork, fossil collection, and research in understudied geographic regions. After the original publication 80 years ago that identified a Pleistocene carnivore fossil as *Felis* sp. in Taiwan, the present study revised its identification and demonstrated the presence of the large machairodontine cat, *Homotherium* sp., in the Pleistocene of Taiwan, indicating the eastern-most occurrence of this lineage in Eurasia. The research result also underscores the importance of fossil curation and in-depth research for elucidating hidden regional diversity and lost ecosystem structure for understanding faunal turnover and the origin of modern biodiversity.



A. the first confirmed saber-toothed cat from Taiwan; B. the reconstructed mandible of the saber-toothed cat from Taiwan; C. a well-preserved mandible of a saber-toothed cat from Alaska, USA.



A reconstructed scene in the Pleistocene Park. Three saber-toothed cats preying on a juvenile mammoth. Illustrated by Mauricio Antón.



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