

New Zealand tooth microfossils extend the ranges of several Late Triassic marine vertebrates and suggest an important role for high-latitude durophages

Lydia Tackett
Annaka Clement

Session: T104. Paleobiogeographic and Paleoecological Trends in the Fossil Record

Very few vertebrate fossils have been recovered from Late Triassic marine sediments in New Zealand, though shelly macrofossils are abundant. This lack of information about fishes has major implications for the known geographic ranges of these important members of marine ecosystems, and limits our understanding of high-latitude predator-prey dynamics during the Early Mesozoic. Bulk sediment disaggregation from volcanoclastic shallow marine sediments from the South Island, New Zealand, and deeper deposits from Kiritehere Beach (North Island) yielded many fish teeth and denticles that contribute important occurrence data for the Norian Stage of the Late Triassic.

Shallow marine sedimentary rocks of Norian age contributed mostly low, broad teeth, either with rounded hemispheric shapes or rimmed, flat teeth. Less-specialized teeth from *Saurichthys* were observed in addition to some unknown actinopterygian jaw fragments. Sharp teeth were rare, and the dental assemblages generally support a community of fish with some specialization for durophagy that persisted for the entire Norian Stage. Further, these observations extend the known geographic and temporal ranges for several taxa and suggest new biogeographic movements during this critical interval for marine predator-prey dynamics.