ACTA PALAEONTOLOGICA POLONICA

Taphonomic and ecological insights from conspecific bite marks on *Otodus megalodon* teeth

Stephen J. Godfrey, Mark Bennett, and Victor J. Perez
Acta Palaeontologica Polonica 69 (4), 2024: 731-736 doi:10.4202/app.01188.2024

Although there is now good representation of shark-bitten bone in the fossil record, shark-bitten shark teeth are still exceedingly rare. A relatively small number of teeth of the Neogene megatooth shark *Otodus megalodon* (Otodontidae) preserve surface markings that were made when struck by the serrated cutting edge of another *O. megalodon* tooth. The serration marks are consistent with those of the ichnotaxon *Knethichnus parallelum*. That these shallowly penetrating surface trace fossils were made as one *O. megalodon* tooth struck another is confirmed by the preservation of fine parallel gouges made when the serrated cutting edge of one tooth impacted and raked the surface of the receiving tooth. The *K. parallelum* marks on *O. megalodon* teeth could have been unintentionally self-inflicted, the result of one tooth striking another in the opposing jaw during forceful occlusion, collateral damage from feeding, or aggressive *O. megalodon*- on-*O. megalodon* facial biting (i.e., either from active predatory cannibalism, a feeding frenzy during scavenging, or as a result of a territorial dispute to establish a feeding hierarchy).

Stephen J. Godfrey [Stephen.Godfrey@calvertcountymd.gov; ORCID: https://orcid.org/0000-0002-7916-8791], Maryland Paleontology Collections and Research Center, Calvert Marine Museum, P.O. Box 97, Solomons, Maryland, 20688 USA. Department of Paleobiology, National Museum of Natural History, Smithsonian Institution, Washington, DC, 20013-7012 USA. Vertebrate Paleontology, Natural History Museum of Los Angeles, 900 Exposition Boulevard, Los Angeles, California, 90007 USA. Mark Bennett [PaleoMark@aol.com], Maryland Paleontology Collections and Research Center, Calvert Marine Museum, P.O. Box 97, Solomons, Maryland, 20688 USA. Victor J. Perez [vjperez@smcm.edu ; ORCID: https://orcid.org/0000-0002-0041-7151], St. Mary's College of Maryland, St. Mary's City, Maryland, 20686 USA. Maryland Paleontology Collections and Research Center, Calvert Marine Museum, P.O. Box 97, Solomons, Maryland, 20688 USA.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.


Full text (425.6 kB)