

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

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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).

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