

Regular talk

**“CAUGHT IN THE ACT”; POSSIBLE STARFISH PREDATION ON PLESIOSAUR
(*ELASMOSAURUS*: PLESIOSAUROIDEA) CARCASSES FROM THE UPPER
CRETACEOUS OF HOKKAIDO, JAPAN**Aaron W. HUNTER¹ and Kazuhiko SAKURAI²

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We report the unusual occurrence of a starfish (Asteroidea) preserved within the metapodials bones (flipper) of a plesiosaur. Not only is this specimen one of the few asteroids reported from the Late Cretaceous of Japan, it also appears to be very well preserved with many of the marginal plates found intact. A number of long necked *Elasmosaurus* (Plesiosauroidea) have been found across the Upper Coniacian to Campanian of northern and central Hokkaido, Japan. At Hobetsu Museum, the majority of *Elasmosaurus* skeletons are found in soft clastic sediments as semi-disarticulated post-cranial skeletons preserving just one part of the animal. Many examples show preserved limbs, paraxial section and the vertebral column. However, our example only preserves the metapodials and phalanges (centre part of the flipper). These remains occur within lithofacies interpreted as inner-shelf, a relatively deepwater substrate. We suggest that, like many plesiosaur skeletons found in Hokkaido, either the limb became detached from the post-cranial skeleton shortly after death or in early necrosis and sank to the seabed, or it became detached during the subsequent benthic activity. Nevertheless, after death the plesiosaur would have become a “fall” community, similar to post-Cenozoic whale falls. The preserved semi-articulated asteroid appears to resemble the Late Cretaceous genus *Recurvaster* (Goniasteridea) found in the White Chalks of England and Denmark. *Recurvaster* are rarely preserved articulated; this is normally a result of exceptional preservation within soft sediments such as chalks and is seldom seen in the more clastic sediments of Hobetsu, which preserve very few articulated multi-element taxa such as isocrinid crinoids. We suggest that this starfish was either feeding on the carcass or preying on neighbouring organisms within the nutrient-rich benthic island community on the seabed. The asteroid itself was subsequently entombed, by a rare influx of soft sediment, with its marginal plates being held in place by the weakly disarticulated metapodials of the *Elasmosaurus*, thus exceptionally preserving both organisms together within the same concretion.

