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Life and Death in the Jurassic Seas of Dorset, Southern England

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There are very few examples of predatory behaviour by coleoids in the fossil record (e.g., Jenny *et al.*, 2019) and, in the known cases, the victims are always fish. The examples described by Jenny *et al.* (2019) involve *Clarkeiteuthis conocauda* (Quenstedt, 1849) from the Toarcian (Jurassic) Posidonienschiefer of Southern Germany and the capture of fish assigned to *Leptolepis bronni* (Agassiz, 1832). In all the described examples, the fish appears to be held in the arms of the coleoids: arms which are identified by the lines of hooks preserved in the position of the arms.

The Jurassic succession of the Wessex Basin, especially that cropping out along the Dorset Coast, contains important Lagerstätten for squid-like coleoid cephalopods. The Blue Lias and Charmouth Mudstone formations have, since the nineteenth century, provided large numbers of important body fossils that inform our knowledge of coleoid palaeontology. In many of these mudstones specimens of palaeobiological significance have been found, especially those with the arms and hooks with which the living animals caught their prey. This is particularly true in the case of a specimen in the collections of the British Geological Survey (GSM 87477), identified, as *Clarkeiteuthis* sp. cf. *C. montefiorei* (Buckman, 1879), which was found in the nineteenth century from an un-specified location near Lyme Regis. This specimen is seen to have a fish, identified as *Dorsetichthyes bechei* (Agassiz, 1837), being held by two arms that are positioned on each side of the fish which is aligned with the jaws of the 'squid'. The bones in the head of the fish are broken in a manner that suggests a quite violent attack, and not simple crushing during burial and taphonomy. While the fish is damaged in ways that are suggestive of it already being dead, has the 'squid' choked to death, or was its death the result of sinking to the sea floor and being overcome by, for example, reduced oxygen conditions in the water column? Whatever the cause of death this unique specimen and is the oldest that shows a direct feeding attack by a 'squid' on a fish that was ca. 200 mm in length.

Jenny, D., Fuchs, D., Arkhipkin, A.I., Hauff, R. B., Fritschi, B. and Klug, C. 2019. Predatory behaviour and taphonomy of a Jurassic belemnoid coleoid (Diplobelida, Cephalopoda). *Scientific Reports*, 9: 7944, 11pp. [doi.org/10.1038/s41598-019-44260-w].

