

## ORGANISMS IN BODY CHAMBERS OF FOSSIL CEPHALOPODS

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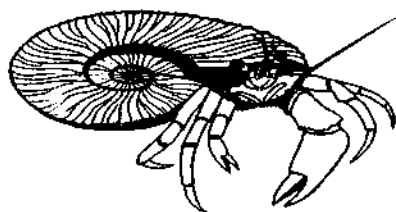
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In 1841 Mary Anning drew H. Strickland's attention to some black substances in the interior of Liassic ammonites from Lyme Regis, UK. She considered them to be inksacs of the ammonite animals. Strickland (1845) described Mary Anning's and some other specimens from the British Liassic and concluded them to be appendages and / or aptychi. Since then fossils occurring in cephalopod body chambers have received only scant attention.

In 1997, Jäger & Fraaye listed all previous data on stomach contents of ammonites and described in detail the diet of the Toarcian ammonite *Harpoceras falciferum* from the Posidonienschiefer of southern Germany. New data on the diet of the contemporary ammonite genera *Dactylioceras*, *Hildoceras*, *Phylloceras* and *Lytoceras* are now under study; preliminary results will be presented. Westermann's (1996) model of *Dactylioceras* as a planktonic drifter seems applicable to juveniles but probably not to adults. *Hildoceras* fed on organisms or parts of organisms lacking hard tissues. Large *Phylloceras* and *Lytoceras* probably were the producers of the phosphatic coprolites full of fish remains.

An ammonite inquilinistic mode of life has been reported for smaller ammonites (Matsumoto & Nihongi, 1979) and for decapods and fishes (Fraaye & Jäger, 1995a, b). Many newly collected specimens substantiate the view that the inquiline use of cephalopod shells by arthropods was a common and important co-evolutionary phenomenon in marine ecosystems from the Ordovician to at least the Eocene.

The first *in ammonite* occurrence of a hermit crab from the Early Cretaceous of Speeton, England is presented. This new find suggests that palaeontologists have looked in the wrong class of the "Mesozoic real estate market" and throws new light on the evolution of Cretaceous pagurids.



Fraaye, R & Jager, M. 1995a: Decapods in ammonite shells: examples of inquilinism from the Jurassic of England and Germany. - *Palaeontology*, 38, 63 - 75.

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Jager, M. & Fraaye, R. 1997: The diet of the Early Toarcian ammonite *Harpoceras falciferum*. - *Palaeontology*, 40, 557 - 574.

Matsumoto, T. & Nihongi, M. 1979: An interesting mode of occurrence of *Polyptychoceras* (Cretaceous heteromorph ammonite). - *Proceedings of the Japan Academy*, 55B, 115-119.

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