

Antoni Quetglas, Aina de Mesa, Francesc Ordines and Amàlia Grau, (2010). [Life history of the deep-sea cephalopod family Histioteuthidae in the western Mediterranean.](#)

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Abstract: The life cycle of the two species of the deep-sea family Histioteuthidae inhabiting the Mediterranean Sea (*Histioteuthis reversa* and *Histioteuthis bonnellii*) was studied from monthly samples taken throughout the year during daytime hours by bottom trawl gears. A small sample of individuals found floating dead on the sea surface was also analyzed. Both species were caught exclusively on the upper slope at depths greater than 300 m. Their frequency of occurrence increased with depth and showed two different peaks, at 500–600 m and 600–700 m depth in *H.*

bonnellii

and

H. reversa

, respectively, which might indicate spatial segregation. Maturity stages were assigned using macroscopic determination and confirmed with histological analyses. Although mature males were caught all year round, no mature females were found, which suggests that their sexual maturation in the western Mediterranean takes place deeper than the maximum depth sampled (800 m). In fact, the increase in mean squid size with increasing depth in *H. reversa* indicates an ontogenetic migration to deeper waters. The individuals of both species found floating dead on the sea surface were spent females which had a relatively large cluster of small atresic eggs and a small number of remaining mature eggs scattered in the ovary and mantle cavity. The sizes of these females were clearly larger than the largest individuals caught with bottom trawls. A total of 12 and 7 different types of prey, belonging to three major taxonomic groups (crustaceans, osteichthyes and cephalopods), were identified in the stomach contents of *H. reversa* and *H. bonnellii*, respectively. In both species fishes were by far the main prey followed by crustaceans, whereas cephalopods were found only occasionally. The preys identified, mainly myctophids and natantian crustaceans, indicate that both histioteuthids base their diet on pelagic nocturnal migrators.

Keywords: Histioteuthis; Deep sea; Life history; Diet; Mediterranean