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Abstract

Although the improvement of data loggers has revealed the ecology of a variety of marine creatures, the ecology of deep sea fish has been poorly documented, principally as a result of difficulties in tagging these fish species with data loggers. A new method of tagging fish with data loggers using the Data Logger System (DLS) was developed for *in situ* underwater tagging of deep sea fish. The method is designed to tag fish with data loggers through bait fishing, such as long line fishing, to install an external towed data logger onto the fish. After a certain time, the data logger is automatically released from the fish and floats to surface of the sea to be recovered. Therefore, the data logger can be recovered without capturing the fish. The prototype was tested with some pacific cods (*Gadus macrocephalus*) in indoor water tanks of the Toyama Prefectural Fisheries Research Institute. The DLS successfully attached the data loggers to the cods. The acceleration data obtained by the DLS was compared with data from a directly attached logger. The acceleration data gathered through the DLS suggested to be used for grasping fish movements, which was comparable to the data gathered through the conventional, directly attached data logger.