

水温・水深データロガーによるマダイの遊泳行動の長期間記録

光永 靖*1・荒井修亮*2・坂本 亘*3

Abstract

Continuous record of ambient water temperature and depth was obtained for a free-ranging red sea bream using a data logger in the natural sea for over 150 days. The fish (FL 43.0cm, BW 1.5kg) was released on 1 December, 1997 at a point in Wakasa Bay (35° 35' N, 135° 29' E) and recovered on 5 May, 1998 at a point where was 15km far from the releasing point (35° 44' N, 135° 26' E). Temperature record was divided into three typical patterns in accordance with seasonal environmental change; decreasing temperature period from early to mid winter, low and constant temperature period from mid February to early April, and increasing temperature period from early to mid spring, respectively. Swimming activity increased with rising water temperature in the increasing temperature period. The critical temperature for activity to begin was 12° C. This value was equal to the lower limit of optimum temperature of red sea breams which was determined by respiratory trials. Rising up to 12° C ambient water temperature seems to switch the behaviour of red sea bream in the natural sea.