

## **Food preference of the giant mudskipper *Periophthalmodon schlosseri* (Teleostei: Gobiidae).**

### **Abstract**

The giant mudskipper (*Periophthalmodon schlosseri*) is one of the commonly found mudskipper species living and it makes a significant biomass value in the mangrove ecosystem. Samples of this mudskipper species were collected and analysed for stomach content and stable isotope ratios ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ) to determine their food preference. The stomach content analysis showed four groups of food items: fiddler crabs (*Uca* sp.), medaka fish (*Oryzias* sp.), juveniles of indeterminate fish species and indeterminate remains of prey items. *P. schlosseri* females prefer to prey on *Oryzias* sp. (57.8%), *Uca* sp. (26.7%) and juveniles of indeterminate fish species (6.7%), while the males prefer to prey on *Uca* sp. (84.6%) and *Oryzias* sp. (7.7%). The indeterminate remaining prey items were 8.9% and 7.7% for respective sexes. The stable isotope analysis showed *Uca* sp. and *Oryzias* sp. being the main food items for *P. schlosseri*. The values of  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  ratios also showed differences in food preference among sexes, where females of all life stages prefer to prey more on *Oryzias* sp. and little *Uca* sp. In contrast, the male *P. schlosseri* prefer to prey only on *Uca* sp. throughout their life, with the exception of juvenile male *P. schlosseri*, which suggested they also consume a small amount of *Oryzias* sp. Behavioural differences among the sexes and life stages were suggested to cause differences in food selection. The size of the food items also influences food preference.

**Keyword:** *P. schlosseri*; Stomach content analysis; Stable isotope analysis;  $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$  ratios; Food preference.