

MACROBENTHOS OF SHIPWRECKS WITHIN AND AROUND THE BELGIAN WATERS AS A POTENTIAL FOOD RESOURCE FOR RESIDENT FISH POPULATIONS

Crawford Oliver¹, Pattaratjit Kaewnuratchadasorn², William Nyaga Kanyange², Jenny Lynn Fernandez Melgo², Lina Sandra Mino Quezada², Mathias Msafiri², Adi Nugraha², Olivier Harifidy Ralison², Rashid Juma Rashid², Magaly Genoveva Valencia Avellan, Eleni Geropanagioti², Noëlle van der Straaten², Vincent Zintzen³ and Steven Degraer⁴

¹ Ecomama-student (alumni 2005)
Pleinlaan 2, B-1050 Brussels, Belgium
E-mail: ecomama@vub.ac.be

² Ecomama-students second year

³ Royal Belgian Institute of Natural Sciences (RBINS), Vautierstraat 29
B-1000 Brussel, Belgium

⁴ Afdeling Mariene Biologie, Vakgroep Biologie, Universiteit Gent
K.L. Ledeganckstraat 35, B-9000 Gent, Belgium

The stomachs of 26 *Dicentrarchus labrax* (Bass) and 45 *Gadus morhua* (Cod) were collected between September 2004 and March 2005, from the catches of sport fishermen fishing above shipwrecks. Stomach content analysis was performed to ascertain whether or not these fish had, firstly, fed on the macrobenthos of shipwrecks and secondly, how important it was to their diets. Stomach content was quantified by percentage by weight, prey-specific abundance and frequency of occurrence. Univariate and multivariate techniques were then used to determine prey item importance. Fish dominated the Bass diet (95.36%), with only *Trachurus trachurus* identified, whilst a small number of individuals specialised on *Brachyura*. *Pagurus bernhardus* was the only food item identified on shipwrecks but is not exclusive to hard substrates. It contributed minimally to the diet. Thus the macrobenthos of shipwrecks was deemed of little importance to Bass when fish are plentiful. In terms of percentage by weight, fish also dominated the diet of Cod (81.74%). However, analysis at the individual level revealed certain shipwreck macrobenthos to be of interest. Yet to be of importance the prey had to be of either sufficient size (e.g. *Necora puber* *Pilumnus hirtellus*) or of substantial number (*Pisidia longicornis* and *Ophiothrix fragilis*). *Buccinum undatum* was also specialized upon but could not be confirmed as originating from shipwrecks. The most abundant fauna of shipwrecks, *Tubularia indivisa* (Hydrozoa) and *Jassa herdmani* (Amphipoda), proved to be of low importance and their consumption was likely unintentional due to their small size and vast coverage. The near absence of shipwreck macrobenthos in Bass stomachs and relative frequency in Cod stomachs can be attributed to the Cod's greater adaptation to feeding from the bottom. The greater importance of fish compared to crustaceans was likely due to their superior energy content.