

## Cruise report – Meteor M61-1, 18<sup>th</sup> April – 4<sup>th</sup> May 2004

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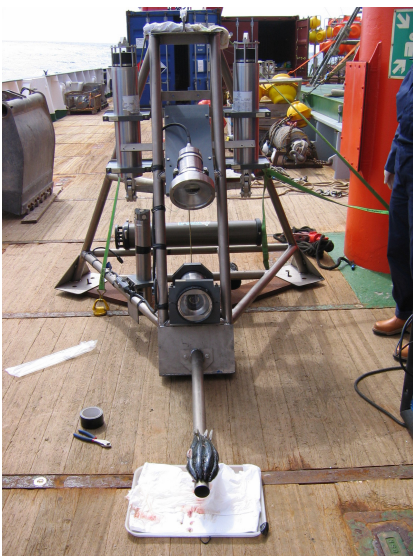
### Aims and objectives

Primary aim: To compare the distribution of scavenging ichthyofauna and invertebrates both on and away from coral mound areas in the Porcupine seabight, and on soft sediment in the region of the Rockall bank.

Secondary aim: To obtain photos for the use of public outreach and publicity purposes.

### Technology

The images were captured using the baited Robust Biodiversity lander (ROBIO) with a Kongsberg digital camera and flash unit. The bait was positioned 950mm in front of the camera lens on a titanium arm. The lander was in “landing mode” using a 3-pointed squat clump ballast.



**Figure 1:** Robust Biodiversity lander (ROBIO).

### Preliminary results

The baited Robust Diversity (ROBIO) lander underwent 3 deployments, 2 in the Porcupine Seabight (PSB) and 1 in Rockall bank region.

#### Deployment 1:

The ROBIO was first deployed at station 202, depth 931m, on soft sediment and recovered at station 220. Digital still images were captured every minute from 6 hrs 24 min on the 22/4/04. The images revealed the dominant scavengers were *Synaphobranchus kaupii*, and lysianassid amphipods. Other organisms attending the bait were several elasmobranchs (Figure 2a.) and teleost fishes, *Mora moro* and *Phycis blennoides*. Baited traps attached on the underside of the lander recovered a number of lysianassid amphipods and potentially other small invertebrates. Bioluminescence was observed within the traps using the Silicon Intensifying Target (SIT) camera, used to detect low light emissions, however the organisms responsible were not identified.

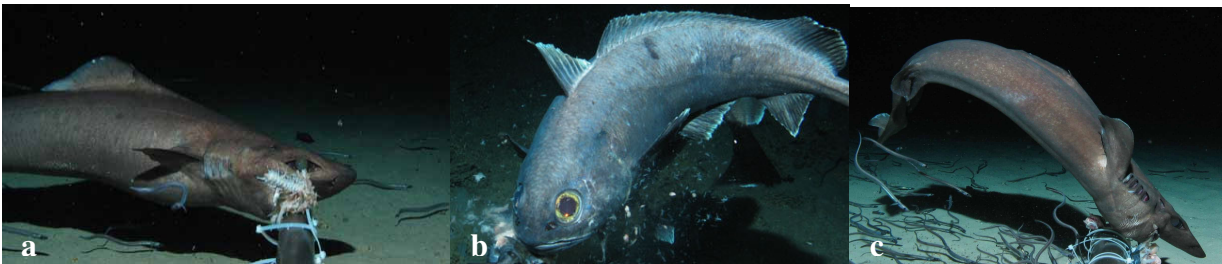
#### Deployment 2:

The second ROBIO deployment (station 246) occurred on the periphery of the Pollux mound, depth 981m. Digital still images were captured for 5 hours 56 minutes on the 25/4/04 leading into the 26/4/04. The ROBIO settled at a 10° tilt, possibly due to resting on an area of coral. *Madrepora* sp., *Acapnella* sp. and unidentified sponge species are clearly visible on the benthos (Lydia Beuck,

personal communication). The dominant scavengers were the teleost fishes, *Mora moro* (Figure 2b.) and lysianassid amphipods. There was a clear reduction in the number of *Synaphobranchus kaupi* attending the bait compared to soft sediment regions. Elasmobranch species visiting the bait were *Galeus* sp. and an unidentified Scyliorhinid. Benthic invertebrate fauna observed were *Bathynectes* sp. and *Munida tenuimana*. Amphipods recovered in baited traps positioned on the underside of the lander did not bioluminesce when positioned in front the SIT camera.

### Deployment 3:

The third ROBIO deployment was at station 286 in the Rockall bank region on an area of soft sediment at the base of the Kiel mount, depth 934 m. The amount of bait placed on the titanium pole in view of the camera was increased and one mackerel was secured inside the pole to prevent early removal of the bait by large scavengers. The dominant scavengers attending the bait were *Synaphobranchus kaupi*, lysianassid amphipods and several elasmobranch species, including *Deania calceus* (Figure 2c.) and *Centrophorus* sp. Teleost fishes *Mora moro* and *Phycis blennoides* were also present at the bait. Invertebrate fauna observed to visit the area surrounding the bait were *Colus* sp. (gastropod mollusc), hermit crabs, a spider crab and numerous ophiuroids. Ostracods appeared to swarm around the bait and be consumed by *Synaphobranchus kaupi*. Both amphipods and ostracods were recovered in baited traps positioned on the underside of the lander. The ostracods were observed to bioluminesce in front of the SIT camera, emitting a pale blue light visible to the naked eye.



**Figure 2:** a) *Synaphobranchus kaupi* and *Centrophorus* sp. b) *Mora moro*. c) *Synaphobranchus kaupi* and *Deania calceus*.