

Decay process of sea turtle-falls and their related ecosystems

Midori SUZUKI, Robert JENKINS, Shouzo OGISO, Masahiro MATADA, Nobuo SUZUKI

Kanazawa University; green.s.tat.711@gmail.com

Molecular studies on some organisms included in the whale-fall community suggested that the origin of the vent- and/or seep-restricted animals have come from through environments formed around such organic-falls. In this point of view, the reptile-falls would be more important than the whale-falls because of its longer fossil record than the marine mammals. The ecosystem on the reptile-fall hasn't been studied in details. Thus, we examined the decaying process of four sea turtles deployed on shallow sea floor (11 to 14 m in depth) in Tsukumo Bay, Noto Peninsula, Japan. Two small carcasses were observed by scuba, and some bones of the carcasses were recovered time to time to examined organisms which lived on/in the bones. As a result, 5 days after deployment, the sea turtle carcasses were covered by white microbial mat (*Beggiatoa* spp., of sulphophilic stage). 21 days after deployment, the carcass was eaten by fish (mobile scavenger stage). *Zoothamnium* sp. (sulphophilic stage) was observed on the carcass. 36 days after deployment, dorvilleid and nereidid polychaetes (opportunistic stage) lived in the bones and barnacles (Crustacea; reef stage) were attached to the bone. Thus, all four stages of ecological succession observed on whale-falls have also been observed on the sea turtle falls within 36 days after deployment. It is noteworthy that the sea turtle-fall sustained chemosynthetic community as same as whale-falls. We also document opportunistic and sulphophilic stages occurred simultaneously but in different places, i.e. inside and surface of the bone respectively.