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7-10-2010

Distribution and Trophic Ecology of Bathylagus euryops (Teleostei: Microstomatidae) Along the Northern Mid-Atlantic Ridge

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Sweetman, Christopher J. and Sutton, Tracey, "Distribution and Trophic Ecology of Bathylagus euryops (Teleostei: Microstomatidae) Along the Northern Mid-Atlantic Ridge" (2010). *Oceanography Faculty Proceedings, Presentations, Speeches, Lectures*. Paper 257.
http://nsuworks.nova.edu/occ_facpresentations/257

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0508 Poster Session III, Exhibit Hall D, Sunday 11 July 2010

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Deep-Sea Fishes of the Mid-Atlantic Ridge: Results of the 2009 Henry Bigelow Expedition

As part of an ongoing study of the northern Mid-Atlantic Ridge biodiversity and ecology (CoML field project MAR-ECO), a detailed survey of the pelagic and demersal fishes in the region of the Charlie-Gibbs Fracture Zone (~ 600 n.m. south of Greenland) was conducted. A total of 17181 pelagic fishes (92 spp., 35 families) were sampled from 0-3000+ m, with the Myctophidae the most species-rich. The bristlemouth *Cyclothone microdon* was by far the dominant species in numbers (82% of total), while the sawtooth eel *Serrivomer beani* dominated biomass (27%). A total of 441 deep-demersal fishes (28 spp., 13 families) were sampled from 1872-3527 m, with the Macrouridae and Alepocephalidae comprising half of species numbers. The abyssal halosaur *Halosauropsis macrochir* was most abundant, while the abyssal grenadier *Coryphaenoides armatus* contributed the most biomass. Remarkable among the pelagic fish data were routine shallow catches of bathypelagic fishes (see A.B. Cook et al., this volume), and among the demersal fishes were the large size of the individuals, above or near the maximum known for many species. The high species number relative to sample number portends the enhanced deep-sea biodiversity about abrupt topographic features, while the lack of asymptote of species number versus sampling effort underscores our incomplete inventory of this biodiversity.

0579 Fish Ecology, Morphology & Physiology, 556 AB, Saturday 10 July 2010

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Distribution and Trophic Ecology of *Bathylagus euryops* (Teleostei: Microstomatidae) along the Northern Mid-Atlantic Ridge

The assemblage structure and ecology of meso- and bathypelagic fishes are poorly known in general, particularly over mid-ocean ridges. In June 2004, the month-long MAR-ECO (Census of Marine Life) research expedition aboard the R/V G.O. Sars sampled the deep-pelagic fauna over the northern Mid-Atlantic Ridge with the objective of quantitatively assessing the nekton associated with the ridge from Iceland to the

Azores. A total of 115 discrete-depth trawl samples were taken from the surface to depths of 3000+ meters using two different double-warp midwater trawls, one of commercial fishing size (a large 'Akra' trawl) and one of oceanographic research size ('Macroplankton' or 'Krill' trawl). Catch data revealed the deep-sea smelt *Bathylagus euryops* to be the biomass dominant species, accounting for over 28% of total biomass, as well as being the 3rd most abundant species along the MAR. Further distributional analyses elucidated a trend in decreasing biomass from north to south with a biomass maximum around 1500-2000 meters. Understanding the food-web structure and organic cycling of deep-pelagic ecosystems is critical for increasing our knowledge of the distributional patterns of deep-sea fishes. Preliminary results indicate that gelatinous zooplankton represents a significant component of the diet of *B. euryops*. Molecular probes are currently being developed to identify these prey items in this, and other fishes that consume gelatinous zooplankton.

0098 Poster Session III, Exhibit Hall D, Sunday 11 July 2010

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Finding a Perfect Match: Female Choice on Male Traits in Eastern Fence Lizards, *Sceloporus undulatus*

What makes a desirable mate? Understanding how animals select their mates can offer insight into which traits confer fitness benefits. However, reliably determining if female selection on male traits exists can be challenging. Especially in reptiles, female choice can be confounded by female selection of quality territory, or by the result of male contests. We designed an experiment using eastern fence lizards (*Sceloporus undulatus*) to uncover if females select their partners based on specific traits. We conducted 68 female choice trials in which one female lizard was presented with two males possessing identical territories. We quantified the time females spent associating with both males. Although females preferred to associate with the larger male in their arena, if females were presented with males of identical size they nevertheless exhibited a clear preference for one male over the other. This suggests that additional male traits, such as genetic makeup, may be important in female choice. Future research is planned to examine factors that influence mate choice and mechanisms by which individuals may compensate for pairing with a suboptimal mate, using both fence lizards and wood frogs, *Rana sylvatica*, as model systems.
