ABSTRACTS

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Chisembe: Shadow Hunters of Malaŵi.
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Mormyrid fishes emit weak electric pulses for object detection and communication. For decades they have served as important neurobiological models for understanding the inner workings of vertebrate brains. Until recently, however, their behaviors in the wild have eluded observation due to their nocturnal activities and turbid habitats. The transparency of Lake Malaŵi provided the first opportunity to capture underwater recordings of any freely-behaving electric fish. Our film provides an intimate view into one night in the life of the mormyrid electric fish known locally as Chisembe (*Mormyrops anguilloides*). In a lake already famous for cichlid fishes, behaviors of this unfamiliar nocturnal predator include electrosensory prey detection, pack hunting, and electrical activity suggestive of communication between pack members. As with many other natural systems used for investigating animal behavior, film contributes to a better understanding of the extraordinary behaviors of *M. anguilloides*. Our reel contains excerpts from a larger body of video data that was analyzed and published in parallel with production of the film (Arnegard and Carlson, 2005. Proc. R. Soc. B 272:1305-1314). Subsequently, the film and paper have been successfully used in conjunction with one another to teach neurobiology and behavior, illustrating the interactive power of science and film.

Settling into an increasingly hostile world: the rapidly closing "recruitment window" for corals.
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Free space is critical for settling larvae in all marine benthic communities. Settling corals, with limited energy to invest in competitive interactions, are particularly vulnerable during settlement into well-developed coral reef communities. This may be exacerbated for corals settling into coral-depauperate reefs where succession in cryptic spaces moves rapidly towards heterotrophic organisms inhospitable to settling corals. To study the effect of benthic organisms (at mm-cm scales) on coral settlement and survivorship we deployed coral settlement tiles at 10 m depth at Carrie Bow Cay, Belize, and monitored them for 38 months. During the second and third years, annual settlement rates declined by over 50% from the previous year. Invertebrate crusts (primarily sponges) were absent at the start of the experiment but increased in abundance annually from 39, 60, to 73% of the plate underside by year three. As succession progressed, substrates upon which spat settled shifted towards organisms inimical to survivorship. Over 50% of spat mortality was caused by overgrowth by sponges alone. This suggests that immediately following disturbances that create primary substrate, a "recruitment window" develops for settling corals. During this time, early succession facilitating-species are present and not yet overgrown by organisms hostile to coral settlement and survivorship.
Grad, oral

EFFECT OF HARD STRUCTURES ON THE SURROUNDING BENTHIC ASSEMBLAGE OF THE SOFT SEDIMENT
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We placed obstacles on unstructured sediment to explain the small-scale difference in benthic assemblages observed close and apart from epibenthic patches (EPs) dominated by barnacles, ascidians and red algae in the White Sea. Previous findings show that five of the ten top abundant macrobenthic taxa (polychaetes *Aricidea nolani*, *Chaetozone setosa*, *Heteromastus filiformis*, *Scoloplos armiger* and oligochaetes) were associated with the cores sampled close to EPs compared to the cores 25-25 cm apart of them (Yakovis et al. 2004). In 2005-2007 we added concrete bricks (30×15×10 cm) to the same habitat

to separate physical and biogenic distant effects of EPs (2 runs × 5 bricks × 2 cores close and apart before and 1 year after manipulations).
Manipulations had no pronounced effect on the whole assemblage of 88 mobile species. Surface deposit-feeding polychaete *Apistobranchus tullbergi* was equally abundant close and apart from natural EPs but responded to the manipulation negatively. This inconsistency might result from artifacts of the manipulation or the difference between experimental bricks and natural EPs. Yet, consistent with the patterns of abundance observed, mobile subsurface deposit-feeders *Heteromastus filiformis* and *Scoloplos armiger* (Polychaeta) were positively affected by the addition of concrete bricks, proving the architectural component of the effect.
Grad, Poster

Assessing an invasive tunicate (*Didemnum vexillum*) epibiont's impact on predator choice and consumption of a native mussel (*Mytilus edulis*).
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Epibiosis is the colonization of one species (basibiont) by another species (epibiont). Such a relationship has been found in several previous studies to affect predation on the basibiont, especially in cases where the epibiont contains, or manufactures, inorganic acids or secondary metabolites. *Didemnum vexillum* is an invasive colonial tunicate in the Gulf of Maine that overgrows many hard-shelled native species, including the common blue mussel *Mytilus edulis*. *D. vexillum* may contain sulfuric acid that it sequesters in great concentrations within its tunic, in addition to producing secondary metabolites. These chemicals are believed to make the tunicate unpalatable to predators. Our study focuses on the prey choice and consumption of overgrown mussels by a common Gulf of Maine predator, *Carcinus maenas*. Using video-taped choice experiments and 24-hour long "free-for-all" feeding studies, we have determined whether *D. vexillum* has any effect on *M. edulis* as prey for *C. maenas*. These results and their ecological implications will be discussed.
Grad, Oral

Using gut content analysis to assess macroalgae importance as a food source for the amphipod community endemic to Western Antarctic Peninsula.
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Recent studies have revealed high abundances and diversities of crustacean mesograzers (especially amphipods) affiliated with benthic macroalgal communities along the Western Antarctic Peninsula. Reported densities have even been estimated as high as 50,000 individuals m^{-2} algal tissue, illustrating the important ecological role amphipods may have in mediating mesograzer-algae interactions. Previous experiments have suggested that two amphipod species, *Gondogeneia antarctica* and *Prostebbingia gracilis*, significantly preferred feeding on the red alga *Palmaria decipiens*, while three species (*Desmarestia anceps*, *Desmarestia menziesii*, and *Plocamium cartilagineum*) were unpalatable in feeding assays. In contrast, amphipod density studies have revealed greater abundances of amphipods, including *G. antarctica* and *P. gracilis*, associated with the unpalatable species of algae. It is possible amphipods use unpalatable, and possibly chemically defended, macroalgae as a refuge from predation. Thus, although associations between amphipods and benthic macroalgae are clearly evident, the exact nature of these associations remains in question. Initial gut content analysis of a suite of amphipods collected on the Western Antarctic Peninsula was conducted and revealed a diverse array of prospective prey including diatoms, macroalgae filaments and thalli, bryozoans, sponge spicules, crustacean parts, and other non-diatom epiphytic unicellular algae. Initial results indicate most species have a mixed diet and many