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PROGRAMME AND ABSTRACTS

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Poster N. 1

VOCAL REPERTOIRE OF THE MEDITERRANEAN STORM PETREL, HYDROBATES PELAGICUS MELITENSIS

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Since 2007 we studied the Mediterranean storm petrel in the island of Marettimo. During the chick rearing period and in absence of human disturbance, we used infrared cameras to register birds activities in the colony. This allowed us to register normal activity patterns and to analyse adults and chicks vocal repertoire in relation to their activities. Registrations were made using a digital video camera and then digitalised and analysed using the software Avisoft sas lab pro. The vocal repertoire was analysed by identifying structurally distinct sounds emitted during social interactions by individuals of both sexes. Different behavioural contexts were considered as associated to call emission: agonistic context, partner recognition display, aggressive interactions. Calls were analysed for syntactic, temporal and spectral properties. At least three basic acoustical units were recognised: non-harmonic units lasting from 10 to about 400 ms, and composed of damped pulses with energy concentrated around 1.5-2 kHz, harmonic segments lasting few hundred milliseconds with a fundamental frequency of 4 kHz, and multi-harmonic segments with multiple frequencies of the 4 kHz fundamental. The basic units were temporally organised in bouts of variable duration, from 2 to more than 5 seconds, where harmonic and non-harmonic components were often combined, repeated at regular intervals, and yielding stereotyped patterns of temporal organisation. Differences in calls properties were tested between behavioural contexts, sex and individuals, to assess intra-specific variation.

Mhairi Alexander

Poster N. 2

HABITAT COMPLEXITY MEDIATES THE PREDATORY FUNCTIONAL RESPONSE OF THE INTER-TIDAL AMPHIPOD ECHINOGAMMARUS MARINUS

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Predation is a key factor that structures natural ecosystems and may be mediated by habitat complexity. The ability of a predator to regulate the abundance of a prey population can be assessed by its functional response, defined as the relationship between predator consumption rate and prey density. Habitat structure may influence foraging ability causing predator intake rate to vary, resulting in changes to the functional response. We investigated the functional response of a marine inter-tidal amphipod *Echinogammarus marinus* preying on the isopod *Jaera nordmanni* in the presence and absence of habitat complexity in laboratory microcosms. *E. marinus* preyed on *J. nordmanni* in both simple and structurally complex microcosms, but the prey were significantly less vulnerable in the complex habitat with no differences recorded between male and female amphipods. At low initial prey densities in complex habitat, *E. marinus* consumed significantly fewer prey compared to when complexity was absent, however, the difference declined at high initial prey densities. *E. marinus* displayed type II (hyperbolic) functional responses in simple habitats, with a shift towards type III (sigmoid) responses in complex habitats. These results indicate that differences in habitat structure can mediate the predatory ability and impact of *E. marinus*. However, since prey at low densities were consumed even in complex habitats, this amphipod predator may have significant impacts on the distribution and abundance of prey in marine inter-tidal communities.