ABSTRACT
The biology of some shallow water sabellids
(Sabellidae)

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Taxonomic accounts are given of ten species of shallow water sabellids (Fam. Sabellidae), collected from the Port Royal Cays and the Port Royal Mangroves, Jamaica. Bionomic characteristics are investigated for Sabella melanostigma, Pseudobranchiomma emersoni and Branchiomma conspera from the Port Royal Mangroves (a relatively unstable environment), for comparison with Anamoeba oerstedii, Hypsicomus torquatus, Hypsicomus elegans, Sabella bahamensis, Sabellastarte magnifica and S. melanostigma, found on the relatively stable Port Royal Cays. Niche dimensions such as temporal patterns, (food) resource utilisation and components of the niche habitat are also investigated. Spatial distribution patterns are determined for S. melanostigma, P. emersoni and B. conspera. Dispersion indices used are the variance/mean ratio, Taylor's Power Law and Iwao's Patchiness Regression. A. oerstedii, H. torquatus, H. elegans and S. melanostigma showed characteristics which would place them in the K portion of an r - K continuum. S. bahamensis, B. conspera and P. emersoni appeared to fit in the r portion of the continuum (spectrum). The classification of S.bahamensis as an r strategist underscores the importance of non-climatic factors in conferring instability on populations. The abundance of S. melanostigma in both environments suggests that it is in the role of a generalist and intraspecific competition is occurring in this species.

With the exception of S. magnifica, all species showed non-selectivity

with regards to particle type for tube building and feeding, with smaller species tending to utilise a smaller sized particle range for tube building. Particle size appeared unrelated to species size in feeding. Ecological overlap between species appeared to be along a (dietary) resource dimension with differences in temporal patterns and microhabitats. Aggregation was demonstrated in the 3 species considered, but not in all instances. Taylor's spatial distribution model fitted the data in all instances, unlike Iwao's model, which did not fit in 2 instances. The degree of aggregation from the power b was the same in different habitats for S. melanostigma suggesting aggregation is not a mechanical but biological process. Scale of sample size appeared to be important in detecting aggregation indicating that there is still a dependence on quadrat (sample) size in these models in detecting aggregation, or that aggregation may in fact be a property of density, i.e. density dependent.