12. KEYNOTE TALK

New perspectives on seagrass and macro algal biogeography

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The widespread adoption of new methodologies, especially molecular techniques, has made dramatic changes to our understanding of how species of sea grasses and macro algae are classified and distributed. One consequence of this new paradigm is increased skepticism regarding biogeographic studies based on pre-molecular species records. The question of "what is a species?" has changed and requires reconsideration of previous assessments. In some instances, specimens previously regarded as a single species have been shown to represent multiple genetic lineages, an extreme example that of the red alga *Portiera hornemannii*, now thought to include 21 cryptic species in the Philippines alone, and possibly up to 96 species in the Indo-Pacific. Other reclassifications have sunk many species into one, or combined or reorganized genera. These changes in taxonomic concepts have implications for conservation and biogeographical assessments, but our understanding of many groups is still in its infancy and requires further work. How will the necessary research be carried out into the future, with increasing costs and decreasing staff availability?

These changes have legal implications, for example, in the implementation of the Australian Environmental Protection and Biodiversity Conservation Act (EPBC), the maintenance of species conservation programs, and the identification of introduced marine pests, especially cryptic species. How these will be addressed, in view of the practicalities of marine field research, remain to be seen. The scale of number of genera and species in algae and sea grasses are very different and the implications for both groups will be presented.

The Royal Society of Western Australia
Symposium 2018

Landscapes, Seascapes & Biota: Unique WA – Past, Present & Future

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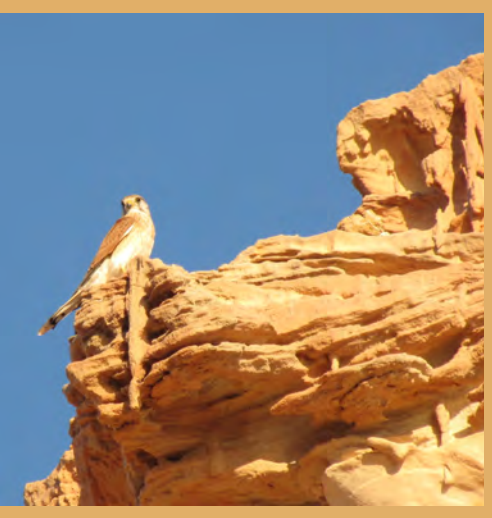


July 27 & 28 2018
University Club, The University of Western Australia

Photographs by Jenny Bevan