100

EVOLUTION AND BIODIVERSITY IN THE ANTARCTIC: THE RESPONSE OF LIFE TO CHANGE

E Fanta

Universidade Federal do Paraná, Curitiba, PR, Brazil

"Evolution and Biodiversity in the Antarctic: the Response of Life to Change" (EBA) is a program that aims to better understand the evolution and diversity of life in the Antarctic. The life history pattern of an organism integrates the proximate adaptations in response to the variability or stability of both the biological and physical environments. In order to describe the past, understand the present and predict the future, the structure of this program will be based around a series of unifying key questions that are addressed across the realms of marine, terrestrial, and limnetic environments: 1. Evolutionary history of Antarctic organisms; 2. Evolutionary adaptation to the Antarctic environment; 3. Patterns of gene flow within, into and out of the Antarctic, and consequences for population dynamics: isolation as a driving force; 4. Patterns and diversity of organisms, ecosystems and habitats in the Antarctic, and controlling processes; 5. Impact of past, current and predicted future environmental change on biodiversity, and the consequences for Antarctic marine, terrestrial and limnetic ecosystem function. The EBA program will bring together a wide range of disciplines such as plate tectonics, climatology, glaciology, geophysics, oceanography, palaeontology, molecular biology, taxonomy, biogeography, autecology, cellular and organismal-level ecophysiology, and community ecology. EBA will establish links with other international programmes concerned with global physical change and the biological response. Of particular importance are bipolar connections. EBA outcomes shall also be aligned with conservation policy in particular and advice policy makers in general. EBA will make a significant contribution to IPY activities by undertaking a focused initiative elucidating the evolutionary response of organisms, populations and communities to environmental change, and will leave a legacy of evolutionary and biodiversity information.