

ICEFISH: Closing the gaps in the knowledge of sub-Antarctic notothenioid fishes

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Since the 1957-58 IPY research on Southern Ocean fishes, particularly the dominant suborder Notothenioidei, increased dramatically. Throughout this period sub-Antarctic notothenioid fishes received significantly less attention than their continental Antarctic relatives. Moreover the limited work that was done, mostly by British, French and Russian ichthyologists, involved mostly biodiversity surveys and studies relating to fisheries biology. The International Collaborative Expedition to collect and study Fish Indigenous to Sub-Antarctic Habitats (ICEFISH) is a programme designed to fill gaps in the knowledge of sub-Antarctic notothenioid fishes in order to improve our understanding of their relationships (*sensu lato*) to their Antarctic relatives. The programme strives to achieve this goal through international collaboration in a variety of studies investigating the systematics, evolution, population dynamics, physiology and biochemistry of sub-Antarctic notothenioid fishes. Scientists of the South African Institute for Aquatic Biodiversity (SAIAB) contribute to the ICEFISH objectives by through studies on the systematics and freezing avoidance properties of wide ranging notothenioid fish species. Two SAIAB scientists participated in the first ICEFISH cruise (2004) to the Atlantic sector of the Southern Ocean. Notothenioids and other fishes were collected at various stations between Punta Arenas, Chile, and Tristan da Cunha. These included a new carapid species, *Echiodon atopus*¹ and two specimens of the rare ophidioid fish, *Holcomycteronus brucei*². In addition, several new records of fishes were found at Tristan da Cunha³. A large number of ICEFISH specimens and tissue samples were lodged with the National Fish Collection at SAIAB. Additional cruises are planned to Pacific and Indian sectors of the Southern Ocean. SAIAB is also using the ICEFISH programme for launching this year a revision of its authoritative book *Fishes of the Southern Ocean* first published in 1990.

1. Anderson, M.E. Description of a new species of *Echiodon* (Teleostei: Carapidae) from the South Atlantic Ocean. *Zootaxa* **809**, 1-5 (2005).
2. Anderson, M.E, Stein, D.L. & Detrich, H W. Additions to the ichthyofauna of the Tristan da Cunha Group, South Atlantic. *Zootaxa* **1072**, 27-33 (2005).
3. Anderson, M.E. & Stein, D.L. Redescription of the rare ophidioid fish, *Holcomycteronus brucei*, from two new specimens from the Southern Ocean. *Pol. Biol.* **29**, 640-642 (2006).