not to mention experiencing the crime and licentiousness that went along with the saloons, brothels, and dangerous back streets of San Francisco's 'Barbary Coast.'

But even as he rose through the ranks aboard ship, Stenhouse maintained a fascination with the polar regions, which he had first gained at a young age reading Fridtjof Nansen's classic expedition account, *Farthest north*. Therefore, when he saw an opportunity to explore the Antarctic himself, Stenhouse wasted no time in applying for a position on Shackleton's ITAE. He was turned down, but persisted, and after his second interview with Shackleton found himself chief officer on *Aurora*, which would eventually prove his first command.

After the remaining members of the Ross Sea party were rescued in January 1917 by *Aurora* under the command of John King Davis, Stenhouse, like so many of his contemporaries, rushed to join the war effort as the Great War dragged along. As was his new friend Frank Worsley, Stenhouse initially was assigned to the fleet of Q-ships, or 'mystery ships,' which were designed as armed decoys in the struggle against German U-boats. But it was not long before both Worsley and Stenhouse were reassigned to the far north of Russia, where British, French, and American troops were sent to try to keep open an eastern front against the Germans, who had recently signed a peace treaty with the new Bolshevik government in Russia. At the end of the war, the allied governments decided to continue the front in an effort to resist Lenin's government, which had quickly become an avowed enemy of the capitalist west. Working out of Murmansk, Stenhouse initially oversaw the attempts to establish a safe rail network between that city and Archangel. But he was thereafter placed in command of a small flotilla of gunboats that was designed to work on the rivers and lakes of the region in support of the main allied military efforts against the Bolsheviks.

With his demobilisation in January 1920, Stenhouse returned to England, where he developed a friendship with Mackintosh's widow Gladys. They were married in 1923, the same year that Stenhouse was named to command RRS *Discovery* in a series of oceanographic, hydrographic, and biological studies. Known as the Discovery expeditions, these cruises were made under Stenhouse in 1925–1927, primarily in the region of South Georgia and the South Shetland Islands, and they produced extremely valuable scientific data.

Through the 1930s, Stenhouse tried his hand at a number of different jobs, all the while hoping that he might participate in another Antarctic expedition. He even unsuccessfully tried to launch a pioneering voyage aimed at Antarctic tourism. But the end of the decade saw him back doing what he really loved: commanding ships. At the start of the second world war, he was placed in command of a motley flotilla of tugs to patrol the Thames estuary and keep out German submarines and other raiders. Following the loss of his main vessel to a mine, he was commended for his gallantry in working to save his men. Shortly thereafter, he was reassigned to Massawa in Eritrea. A port of great significance, Massawa had been taken by the allies, but not before the Italian forces had attempted to permanently close it by ruining the docks and sinking many ships *in situ*. Stenhouse was to be in charge of the salvage operation that needed to be undertaken before the port could again be functional. It was while returning to Massawa from a journey to Aden that the ship on which Stenhouse was traveling struck a mine and sank. Along with many others, Stenhouse's body was never found.

As was his previous biography of Frank Bickerton, *Ice captain* is a valuable addition to the polar literature, in that it is the first study of a significant, but little-known, figure in the exploration of the Antarctic. It also goes into excellent detail about the initial Discovery expeditions, which is a great bonus, as many readers will not be as familiar with those voyages as with, say, those of the ITAE. There are a few minor errors; Scott's hut at Cape Evans, for example, was not built in December 1911 (page 36), by that time Scott was approaching the South Pole, but in the first half of January of that year. But such complaints are niggles compared to the great value of the book in taking the reader through the life of a most fascinating, and until now forgotten, hero of Antarctic exploration. The Antarctic community owes a debt of gratitude to Stephen Haddelsey for bringing Stenhouse back to life, and doing it in such a thoroughly enjoyable manner. (Beau Riffenburgh, Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER.)

References

Haddelsey S. 2005. *Born adventurer: the life of Frank Bickerton, Antarctic pioneer*. Stroud: Sutton Publishing.

McElrea R., and D. Harrowfield. 2004. *Polar castaways: the Ross Sea party (1914–17) of Sir Ernest Shackleton*. Christchurch: Canterbury University Press.

Tyler-Lewis K. 2006. *The lost men: the harrowing story of Shackleton's Ross Sea party*. London: Bloomsbury.

THE PRINCE EDWARD ISLANDS: LAND-SEA INTERACTIONS IN A CHANGING ECOSYSTEM.

Steven L. Chown and Pierre W. Froneman (Editors). 2008. Stellenbosch: Sun Press. xvi + 470 p, illustrated, hardcover. ISBN 978-1-920109-85-1. 300 Rand; £20.00; US$37.00.
doi:10.1017/S0032247408008139

The sub-Antarctic islands that encircle the continent are tiny in area, yet have proved fascinating for scientists from the days of the Challenger expedition onwards. Each one is different in its geology and age and, although all are species poor, the similarities and differences in their floras and faunas provide test cases for hypotheses on colonisation, speciation, competition, and the potential to understand and quantify land-sea interactions.

The Prince Edward Islands were ceded to South Africa by the UK and formally annexed by a party from HMSAS *Transvaal* in 1947. The South African

government established a meteorological station in 1948, but there was little immediate enthusiasm for science until E.M. van Zinderen Baaker, a palaeoecologist with good political connections, raised government interest in establishing some basic data on geology, biology, and climatology. The resulting book (van Zinderen Baaker and others 1971) proved the key to unlocking a continuous scientific presence there, leading in due course to the designation of the island as a national nature reserve. This new multi-authored volume synthesises the scientific progress on both land and the surrounding sea since van Zinderen Baaker's pioneering expedition, providing a new benchmark for sub-Antarctic science and establishing clearly the value of these islands for investigations of questions of global importance.

Marion Island has clearly attracted a number of very able South African scientists (as well as some key international visitors), and seems to have exerted a remarkable hold on them throughout their research careers. The chapter authors are without doubt the foremost authorities on the islands and have provided us with a fitting successor to the van Zinderen Baaker volume, with a direct link back to it in the foreword by Brian Huntley, the plant ecologist on that early expedition.

The structure of the volume is interesting, with the first four chapters setting the scene in a global context, providing a summary of the oceanography, climate, and geology and geomorphology. The remaining nine chapters are on oceanography and marine biogeochemistry, pelagic predators, primary production on land, vegetation dynamics, spatial variation in the terrestrial system, biogeography, conservation and management, human history, and a final synthesis chapter. Each chapter provides an excellent overview of the relevant field, often organised to deliberately juxtapose groups usually dealt with separately (like seals and birds in a single chapter). Every chapter has a section dealing with climate change, emphasising the importance of this phenomenon in understanding a particular aspect of the biology of the island.

Chapter 10 on spatial variation is really a case study on *Azorella selago*, a keystone species in the Marion flora and an excellent basis for studying changes at a variety of scales from a single clump to the whole island landscape. I believe the approach by McGeoch and others has considerable merit and could be used successfully on other islands with other key species.

Perhaps the most unusual chapters are those dealing with conservation and human history. In describing the progress from commercial exploitation of seals in the early nineteenth century to the present national nature reserve (which is also being considered as a world heritage site), De Villiers and Cooper provide one of the most detailed accounts I have seen of the legal protection afforded to a sub-Antarctic island and the way in which major conservation concerns were identified and tackled. Alien species (both plant and animal) have been a major concern for a considerable time, and their account provides a great deal of new information. Their chapter also deals with disease and quarantine, ethics for animal research, and the practical management of impacts on the islands. This chapter links very closely to Cooper's history of humans where his inimitable style ('Seal tongues for breakfast and seal skins for shoes') makes it one of the most readable chapters in the volume. Whilst John Marsh's book (1948) provided a useful account of some of the early history, Cooper not only adds to that but also provides the post-annexation history and shows just how much more there is to write in this field, from the problems with race, gender, and servants in staffing the station through to the 'nuclear flash' recorded from nearby in the Southern Ocean.

Chown and Froneman contribute the final chapter on change in terrestrial and marine systems. In most cases these authors are forced to speculate on what might happen, as there are few experimental data available on which to base a model and yet this is now the best researched sub-Antarctic island. What enormous potential exists on the other sub-Antarctic islands, the terrestrial ecosystems of which are at present hardly being researched at all! Sadly, this seems unlikely to change on South Georgia and Macquarie Island under the present governance regimes.

Apart from these individual chapters there are 12 appendices providing up-to-date lists of species for many groups — diatoms, hepatics, mosses, phanerogams, lichens, invertebrates, plankton, benthos, fish, birds, and mammals. Since these also include all the known non-native species, the lists demonstrate very clearly the remarkably undamaged nature of Prince Edward Island, surely the largest sub-Antarctic island still remaining in almost pristine condition. What they also demonstrate is the areas lacking detailed research. Whilst we have lists of benthos collected, there are no data on community structures or species frequency, the list of fish is not linked in any way to fishing or to abundance around the islands, there has been little research on the freshwater bodies, and, although we have excellent lists of mosses, hepatics, and lichens, the botanical research has concentrated on the flowering plants.

The book is very well produced by South African publishers, with a high standard of copy-editing and printed on heavy weight paper. It deserves an international audience, which national publishers often find hard to reach, and indeed you cannot buy it through Amazon, only direct from the publishers web site (www.sun-e-shop.co.za). At 300 Rand it is very good value indeed. The plates, many of which are in colour, are gathered at the end. I was surprised not to find a Google Earth view of the island to illustrate photographically the 'down-stream' effect on the eastern sides of the islands and the localised effects of cloud generation.

This is a scientific monograph and so not likely to appeal to the general public, but it does provide an excellent basis for someone to write a popular natural history, as was recently published for Gough Island

(Hänel and others 2005). There have been books on the other sub-Antarctic islands, but the only one that bears any comparison with the present volume is Selkirk and others (1990) on Macquarie Island, again a volume that provided an important synthesis of all available scientific data. Looking at bibliographic listings for South Georgia, Crozet, and Kerguelen, it is clear that all would benefit greatly from such a treatment, but there seems to be a lack of enthusiastic volunteers willing to undertake the considerable work necessary. Perhaps this excellent volume will stimulate some French and British scientists to bring their islands up to this remarkable standard of synthesis. (David W.H. Walton, British Antarctic Survey, High Cross, Madingley Road, Cambridge CB3 0ET.)

References

Hänel C., S.L. Chown, and K.J. Gaston. 2005. *Gough Island: a natural history*. Stellenbosch: Sun Press.

Marsh J. 1948. *No pathway here*. Cape Town: Timmins.

Selkirk P.M., R.D. Seppelt, and D.R. Selkirk. 1990. *Subantarctic Macquarie Island: environment and biology*. Cambridge: Cambridge University Press.

Van Zinderen Baaker E.M., J.M. Winterbottom, and R.A. Dyer (editors). 1971. *Marion and Prince Edward Islands: report on the South African Biological and Geological Expedition 1965–1966*. Cape Town: Balkema.

ANTARCTIC FISHES: ILLUSTRATED IN THE GYOTAKU METHOD. Mitsuo Fukuchi and Harvey J. Marchant. Illustrations by Boshu Nagase. 2006. Dural, NSW: Rosenberg Publishing. 136 p, illustrated, hardcover. ISBN 1-877058-46-7. £23.99.
doi:10.1017/S0032247408007882

As a member of the scientific team on the 2004 ICEFISH cruise from Punta Arenas to Cape Town, I had heard that the present volume was in preparation, and I was anxious to see the finished product, especially since our efforts contributed to the collection of some of the specimens of sub-Antarctic fishes depicted in it. The book does not disappoint. Its eye-catching artwork, displayed in coffee-table format, brings the relatively little-known Southern Ocean ichthyofauna out of the formal technical literature and into the 'light of day,' where the true colours and textures of the fishes may be appreciated by all. It is gratifying to see such a book aimed at the general reader.

Antarctic fishes is the result of collaboration between two well-respected authors and a distinguished artist, intended to create a folio of selected fish species celebrating the twenty-fifth anniversary of the first meeting of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). As stated in the authors' Preface, this book is not meant to compete with comprehensive scientific works such as *Fishes of the Southern Ocean*. Rather, it is a showcase for Nagase's unique illustrative technique known as gyotaku (literally, 'fish rubbing'), in which an image is created by applying pigments to fine paper pressed against, and moulded to, the fish's body. Nagase employs the polychromatic indirect method of gyotaku, developed by gyotaku master Kouyou Inada, under whom he studied. The resulting images are lifelike and delicate, befitting the elegant subjects depicted. These are not gaudy, tropical reef fishes but, rather, subtly marked denizens of frigid seas, the understated tones of which provide camouflage against sombre or icy substrates.

Given the primarily artistic, rather than scientific, purpose of this book, the minimal introductory text is useful without being overwhelming. Comprising eight pages, it is succinct, accurate, current, and informative, and consists of three sections: the Southern Ocean (including a full-page map) and its biology, evolution of its fish fauna, and the role of CCAMLR in regulating commercial exploitation of its fish stocks. The last section arguably contains information of most significance to a wide audience. Considering the tenuous state of the world's marine fisheries, the Commission's dual approach to the problem of managing stocks, both precautionary and ecosystem-based, is laudable. A glossary listing 27 terms and a bibliography citing 13 references (five of them art-related and eight scientific) provide basic information for non-scientists. Specialists will forgive the lack of extensive, detailed information and simply relish the captivating art.

A well-illustrated section on the art of gyotaku, showing the master craftsman Nagase at work, indicates the painstaking steps necessary to create the delicate and accurate paintings for which he is well known and highly respected. While the overall quality of the art is exemplary, some of the renditions are more convincing than others, perhaps owing to body shape or condition of the specimen. For example, the illustration of the robust marbled plunderfish *Pogonophryne marmorata*, a species with which I am very familiar, seems a bit off, although that of its close relative, the sailfin plunderfish *Histiodraco velifer*, is more convincing (except for lack of a terminal expansion on the mental barbel that may have been missing from the specimen). It must be more difficult to apply paper to an irregular, rounded body than to a smooth, flat one, which presumably lends itself better to the technique. Frankly, I am mystified by Nagase's skill in accomplishing this feat, while minimising distortion, as consistently and as beautifully as he has over the range of body types represented here. (I guess that is why he is the master!)

Brief accounts of 54 species (representing 15 families), with an emphasis on notothenioids, offer just the right amount of information (comprising, for most species, classification to order, suborder, and family; scientific and common names and their origins; size; geographical and depth distributions; spawning habits; egg diameter; diet; and selected points of interest) to satisfy most readers. While the total length and year of illustration are provided for each specimen, it would have been helpful to know the provenance of each, since