

Andrew S. Brierley (1967–2024)

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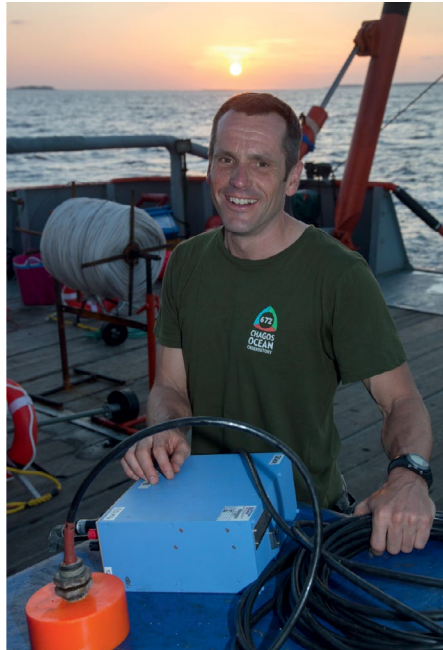
Quantitative field ecologist who contributed to the fundamentals of polar science and pelagic ecology.

The death of Professor Andrew S. Brierley at the age of 56, following an aggressive brain cancer, came as a shock to those that knew him. His life was shaped by an incredible hunger for adventure, which he channelled into his research pursuits and athletic interests.

Andy was a big personality, who wore his heart on his sleeve and had an eagerness to challenge. As his PhD students (including some of us authors) can testify, Andy gave brutally honest feedback. A compliment from him was cast in gold.

During his career, Andy made extensive contributions to polar research and to pelagic ecology (the study of species interactions in the water column), first at the British Antarctic Survey (BAS), and then at the University of St Andrews, UK.

Andy's most famous scientific impacts concerned the ecology and behaviour of Antarctic krill (*Euphausia superba*). Much of this work was initiated after Andy joined BAS in 1994, soon after the arrival of the polar research vessel RRS *James Clark Ross*. Andy was one of a front-line team brought in to extend krill research for the successful Off-shore Biological Programme. From the outset it was clear that he wanted to get projects completed as quickly as possible so that he could move on to others. With astonishing speed, he threw himself into the work – any failings in understanding being rectified by noisy interaction with those who thought they knew better. This work proved critical in establishing the intimate association that exists between krill and its sea-ice habitat (A. S. Brierley et al. *Science* **295**, 1890–1892; 2002). He had a key role in planning how BAS could undertake multiple surveys of krill biomass during the summer at South Georgia by replacing the need for krill from net hauls with data on krill lengths from predator diets, something that his more traditional ship-based colleagues found somewhat controversial (K. Reid and A. S. Brierley. *CCAMLR Sci.*, **8**, 155–163; 2001).



Andrew S. Brierley in 2015, during fieldwork in the Chagos Archipelago, Indian Ocean.

After moving to the University of St Andrews in 2001, Andy indulged a wider variety of ideas and research channels, all continuing to make significant contributions to pelagic ecology. This included contributing to the Census of Marine Life programme through the ECOMAR project (I. G. Priede et al. *PLoS ONE*, **8**, e61550; 2013), work on the influence of the moon on migratory behaviour in Arctic zooplankton (J. Berge et al. *Biol. Lett.* **5**, 69–72; 2009), improving resolution of biogeography and biomass estimation (R. Proud et al. *Curr. Biol.* **27**, 113–119; 2017), as well as identifying the fundamental trade-offs at the origin of animal schooling dynamics (A. S. Brierley & M. J. Cox *Curr. Biol.* **20**, 1758–1762; 2010).

Andy's research involved innovative applications of biological echosounders for studying pelagic species, as seen in the accompanying photograph. Andy was an early adopter of autonomous platforms, deploying echosounders from remote underwater vehicles, long-term moorings and, one time, even a makeshift raft in a tropical lake in Palau. Neither did he shy away from studying taxa that are unconventional for echosounders,

such as seabirds and jellyfish (C. P. Lynam et al. *Curr. Biol.* **16**, R492–R493; 2006).

His hunger for adventure came early on. Precluded from participating in sports as a child due to asthma, Andy's formative years in the town of Rugby instilled in him a competitive spirit and a strong drive to seize life's opportunities. His condition did not prevent him from becoming an incredibly accomplished triathlete as an adult, competing in the Ironman World Championship five times.

Andy's career in marine biology began at the University of Liverpool, based at the now-closed Port Erin Marine Laboratory on the Isle of Man. His PhD research focused on the biochemical population genetics of squid and he could be found at all hours in the genetics laboratory pondering over his gels, earning him the nickname 'Squidman'. During this time, he took every opportunity to scuba dive either for leisure or helping other students with their fieldwork, resulting in the co-authorship of a guidebook on local dive sites (*Dive Sites and Marine Life of the Calf of Man*; 1994).

Andy's later scientific endeavours took on aspects of human health. His most recent initiatives involved ecological investigations in Lake Victoria, where he explored the link between the parasitic disease schistosomiasis – a neglected tropical disease – and overfishing. Catfish eat snails and snails host schistosomiasis so Andy proposed, in typical unconventional fashion, to raise catfish in Uganda, load them onto lorries and drive them for two days cross-country to Tanzania for a tag-and-release study. As Andrew Whiston noted: 'Well, that trip was a Jeremy Clarkson Grand Tour with fish'. This research is likely to still produce many papers and higher degrees, and exemplified Andy's ability and keenness to interact with local scientists at all levels (C. S. Nyamweya, *J. Great Lakes Res.* **49**, 531–544; 2023).

Andy was also highly critical of Japan's stance on 'scientific' whaling (A. S. Brierley & P. J. Clapham, *Nature* **529**, 283–283; 2016). His broad experience in pelagic ecology provided valuable input to the European Marine Board's study on deep-sea science for the 21st century.

Spending time at sea with Andy was always thought-provoking – he was a curiosity-driven innovative thinker, who was reluctant to

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simply accept the notion of 'that's how it has always been done'. When he organized and hosted the Third International Symposium on Krill in June 2017, there was a session on new approaches to 'bust the myths' about krill (his choice of session title) and also an industry-sponsored workshop on krill fishing to allow a dialogue between fishers and researchers. At the symposium, it became clear that there was a great deal of krill science that was not included in the discussion on krill fishery management. As a direct result of this, the Scientific Committee on Antarctic Research (SCAR) created the SCAR Krill Expert Group (SKEG) to act as a more inclusive conduit between the scientific community and management of Antarctic krill fisheries.

Andy's legacy stands as testimony to a life lived with a love for adventure and dedication to scientific inquiry, and as champion to his students: many of Andy's former students are now established research scientists. His enthusiasm is perhaps best captured by his willingness to jump overboard (as well as

encouraging many companions to join in) to get a closer look at whatever creatures were swimming under the echosounders. His outside appearance belied a sensitive soul who not only wanted colleagues to succeed, but also often provided support in the background (for example, through helping overseas workers to navigate administrative hurdles).

Andy will be remembered a man who was noisy, loud, honest, always in a hurry but supportive and loyal, with a formidable knack for turning a phrase.

He is survived by his long-term partner Kirsti and his daughters Abi and Laura.

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Additional information

T.B.L. did his PhD with Andy in the late 2000s. Since then, they have remained friends and collaborated on several projects including two expeditions to the Chagos Archipelago. M.J.C. studied for a PhD with Andy in the 2000s and stayed on for a post-doc. They continued to work together, including many adventures in the field, engaged in boisterous rows and endured occasional mishaps at meetings. I.E. knew Andy from time at sea on the *James Clark Ross*. They later collaborated on work in East Africa, which was initiated by an interesting tour around Lake Victoria. I.E. was fortunate enough to accompany him on several subsequent visits and was always impressed at the extent of his input, both scientifically and physically. K.R. worked with Andy at BAS in the 1990s, including sharing a cabin for a month in the Southern Ocean. They co-convened the Third International Symposium on Krill in 2017; argued, collaborated, drank whisky and remained great friends. A.D.R. shared an office with Andy during our PhD days on the Isle of Man. He subsequently worked with him in co-supervising a student, P. Boersch-Supan, on the pelagic ecology of seamounts in the southern Indian Ocean as well as on the European Marine Board report on deep-sea science for the 21st century.