

OBITUARY



Peter S. Meadows (24th March 1936 - 6th January 2023) Peter Meadows in 2005 wearing his Linnean Society tie and showing his Sitara-i-Quaid-i-Azam medal. (Photo: Raymond Stoddart)

The marine biologist Peter Meadows, who has died aged 86, will be remembered as an enthusiastic teacher especially of fieldwork, as a researcher on marine sediments, but also for a late-flowering involvement in sustainable development and community engagement in Pakistan, for which he received awards from the Pakistan government and the U.K.'s Pakistani-origin community.

When I studied Zoology at the University of Glasgow in the mid 1960s, Peter was a recently-appointed lecturer: he was an imposing figure - tall with a bushy auburn beard. We learned to address him as Mr. Meadows, not as Doctor or Professor, his appointment to the academic staff without a Ph.D. degree conferring a kind of prestige, now vanishingly rare in science.

After secondary education at Westminster School in London, Peter initially studied medicine at Cambridge, but then switched to natural sciences, specialising in Zoology. A short period in Aberdeen studying growth in dogfish was followed by three years in Bangor, north Wales, investigating the settling behaviour of larval barnacles with Dennis Crisp. This work impressed the most eminent British marine biologist of the time, Regius Professor of Zoology at Glasgow, Maurice Yonge, who appointed Peter to a permanent lectureship at the University of Glasgow in 1963, aged 27. He remained there until "retirement" in 2001. Like many dedicated academics, formal retirement made little difference to Peter's activities, and he remained an honorary lecturer until his death.

In undergraduate teaching, Peter was the driving force behind the creation of a second-year course in Marine Science, and later of a new degree course in Aquatic

Bioscience which uniquely combined the University's access to the Clyde estuary, including the University Marine Biological Station Millport (UMBSM), with the field station at Rowardennan on Loch Lomond and its abundant freshwater resources. These courses were supported by Peter's successful textbook, *An Introduction to Marine Science* (1978, second edition 1988), co-written with his second wife Jan Campbell, who also collaborated on much of his 1970s and 1980s research. Peter also organised evening classes in marine science, and GNHS member Morag McKinnon tells of how inspirational these were for her.

Peter was also an assiduous supervisor of research students, 30 of whom achieved Ph.D. degrees. One of the first, Robin Bruce, recalls with gratitude the huge efforts Peter made to secure funding for his project on the reef fishes of Aldabra in the Indian Ocean. Many of the students came from North Africa and the Middle East where Peter had developed links. He ensured that these students gained not only from research training but also from becoming fluent in English: his laboratory door bore the warning "Only English to be spoken here". One of these students was Azra Tufail, who became Peter's third wife and collaborator in his later work.

From the 1960s, Peter had collaborated with the University of Strathclyde microbiologist John Anderson on the properties of marine sediments, with Peter's contributions focusing on the ways in which burrowing animals altered these properties. This culminated in a Zoological Society of London symposium on the *Environmental Impact of Burrowing Animals and Animal Burrows* (1990) and this unusual combination of zoology and engineering led to the award of a Geotechnical Medal by the U.K.'s Institute of Civil Engineers in 1995 to Peter and colleagues. The field of so-called "ecosystem engineering" by animals has now become an important feature of modern ecology.

Peter's scientific research output is substantial, over 150 papers in refereed journals, much of the early work being on the small burrowing amphipod, *Corophium volutator*. Fellow amphipod enthusiast Geoff Moore keeps an autograph album for visiting colleagues to sign: Peter's reads "Peter Meadows: a great lover of *Corophium volutator*, the only real animal apart from German shepherds". Peter's main involvement with GNHS was to edit *The Glasgow Naturalist* along with Azra for the four parts of volume 24 (2004-07). He also gave talks to the Society and published several papers in the journal. One of these brought his marine science and dog-loving together. Meadows (2011) describes an incident where his dogs sniffed around some stranded lion's mane jellyfish on Kames Bay beach, Isle of Cumbrae, and became (temporarily) very sick.

It is his later activities in Pakistan, in combination with Azra, that are more likely to resonate with a wider public. The first major output was an interdisciplinary symposium on the *Indus River: Biodiversity, Resources and Humankind*, published in 1999. This was followed by a large-scale expedition, funded by the Royal Geographical Society and supported by the Linnean Society in 1999 to the Chitral Valley in the Hindu Kush mountains of Pakistan. These areas are highly vulnerable to earthquakes and to flooding (as is now all too well known, after the disastrous floods of late 2022), and the community development and education work done by Peter and Azra and their collaborator, architect Yasmeen Lari, includes a manual and workshops on disaster preparedness and food security. Their efforts have been recognised through the award to Peter in 2005, for services to education and the environment, of the Sitara-i-Quaid-i-Azam (= star of the great leader Mohammad Ali Jinnah) medal, one of the highest awards that the Government of Pakistan can award to a foreigner; and then to Peter and Azra jointly the U.K. Pakistan Society's annual medal in 2013 for contributions to the public understanding of Pakistan in the UK. This work has been so influential that Peter's Wikipedia entry currently describes him as a political scientist!

As well as science, Peter had a keen interest in music and the visual arts, was active in the West of Scotland SCUBA diving community, was a regular runner until his back problems proved too much (these started early; undergraduates recall him lecturing supine on a table, rather than cancel a lecture because of back-pain) and more recently Parkinson's disease took hold. Peter was married three times and is survived by his devoted wife Azra, and a daughter and son from his first marriage.

(Peter S. Meadows: born 24th March 1936; died 6th January 2023)

REFERENCE

Meadows, P.S. (2011). The dangers of lion's mane jellyfish *Cyanea capillata* (Linnaeus) to domestic dogs *Canis lupus familiaris*. *The Glasgow Naturalist* 25(3), 29-31.

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