

### Dr Patricia Mather (1925-2012)

Patricia Mather (née Kott) AO, born and educated in Western Australia, received her early indoctrination into marine science when, with fellow undergraduate Ron Kenny, she had holiday jobs sorting plankton for Keith Sheard of the CSIR Fisheries Division, who then was studying euphausiids. Patricia graduated from the University of WA (1947) and received a first class honours degree (1948) for her work on two families of Polychaeta (Eunicidae and Nereidae). So, with a fairly broad introduction to marine invertebrates and the recommendation of W. Dakin (external examiner of her thesis and the doyen of Australia's early zoology professors), she was appointed plankton officer in the Fisheries Division of CSIR (later to become CSIRO). On New Years Day, 1948, she arrived in Cronulla, NSW and, at the age of 22, became a research officer in the organisation. Leaning heavily on Colefax's plankton studies and Harold Thompson's monographic work on pelagic tunicates, her contributions to plankton studies were the monumental station lists documenting New South Wales coastal zooplankton up to the mid 1950s. She also developed a spinning device to divide N70 plankton net catches into reliable sub-samples. Harold Thompson, the chief of the Division, suggested that 'in her spare time' she should begin taxonomic studies of the Ascidiacea that, in due course, became her life work.



At the end of 1949, as a CSIR overseas student, she spent a term at University College (London University) doing a course on experimental biology of invertebrates (with G.P. Wells) and several months studying the ascidian collections in what was then the British Museum (Natural History). For the next 20 months she occupied a London University table at the Plymouth Laboratory of the Marine Biological Association of the UK, where she did some pioneering work on spontaneous contractions of solitary ascidians and persisted with her taxonomic studies (now on English Channel ascidians). Although she returned to Cronulla and CSIRO as plankton officer, the taxonomy of the Ascidiacea now increasingly occupied her.

She married at the beginning of 1955 and, as one did in those days, left CSIRO - having fulfilled her undertaking to work for the organisation for three years after her studentship. For the next 10 years she alternated some periods of science (as a research scholar in the University of Queensland) with having children. She returned to science and ascidian taxonomy full time when, on a personal service contract with the US Smithsonian Institute (1965-8), she earned a professional stipend that allowed her to pay a full-time daily housekeeper. The US contract (to produce a monograph and a supplement to it on Antarctic ascidians) was followed by an ARGC grant (1969-72) for her salary, and then appointment to the Queensland Museum (1973). During her years as Senior Curator, Higher Invertebrates in the Museum she visited and worked in many of the leading museums and marine laboratories in Europe and the US, spent several months in two successive years as a visiting research fellow in the University of the South Pacific, attended symposia and workshops, participated in and was a leader in many of the Queensland Museum's programmes and activities and published prolifically in her field. These were the years of productive collaboration with Professor Cliff Hawkins of the University of Queensland Chemistry Department (who was investigating the inorganic chemistry of the Ascidiacea); and with botanists and cell biologists of Sydney University (on the newly discovered Prochloron/ascidian symbioses which she did much to advance by describing about 20 of these symbioses and the means by which the symbionts were passed to the next generation).

She became a leader in Australian marine science and internationally she achieved status through her work on the taxonomy of the Ascidiacea. She has published (under her maiden name, Patricia Kott) more than 150 papers including her major monograph on the "Australian Ascidiacea" (in four parts between 1985 and 2001). When she began her work on the Ascidiacea only 140 species were known from the waters around this continent. Now, in 2005, as a result of her work, 710 species are known, of which she has described nearly 500 as new.

During these years of her Museum appointment she also contributed to development of science policies through her membership of the Marine Research Allocations Advisory Committee (MST 1986-7), the Australian Research Council (ARC) Biological Panel (1988-92) and the Australian Biological Resources Study (ABRS) Advisory Committee (1989-94). She was Hon. Secretary (1966-74) and subsequently President of the Great Barrier Reef Committee (1976-7), had a significant role in the operation of the Second International Coral Reef Symposium (1973) and is an elected Life Member of the Australian Coral Reef Society (1985). She was a foundation member of the Great Barrier Reef Marine Park Authority (GBRMPA) Consultative Committee which she actively served for nine years (1976-85). She was a Councillor and a member of the Executive Committee Australian Conservation Foundation (1972, 1973). As a member of the Australian Academy Of Science, Fauna Standing Committee (1973-80) she participated in the establishment of the ABRS; and was a member of its successor, the Australian Academy National Committee for Animal and Veterinary Science-Fauna Subcommittee (1981-96). She has also been involved with the operation of Great Barrier Reef research stations, having been a member of the Board and Executive of the University of Queensland and Great Barrier Reef Committee Heron Island Research Station Board (1970-80) and a member of the Lizard Island Research Station Board of Consultants (1976-79). Her editorial work has included the production of the University of Queensland Research Committee's publication "Research" (1969, 1971), the Queensland Museum National Estate in the Moreton-Wide-Bay Burnett (1975, 1976) and the Queensland Museum's "The Small Museum" (1979, 1984).

She is a strong advocate of the role of museums, funding of taxonomy in Australia, conservation, the Great Barrier Reef (for which she drafted the first legislation) and has published works on these subjects and on science history. She is currently working to reverse the deterioration in the current status of, and lack of career opportunities for recruits to, taxonomy. Although it is universally recognised as the integrative basis of biology, practising taxonomists are aging and not being replaced; and many museums, once the vanguard of taxonomic knowledge and research, are changing their emphases from science to user-pays consultancies and entertainment. An agency to stabilise taxonomic science and ensure long-term careers in this discipline is being actively canvassed with the Federal Government.

Patricia Mather holds the following degrees: PhD (Qld, 1962), DSc (WA, 1970), DSc (hon.caus. Qld, 1990). She is a Fellow of the Australian Institute of Biology (FAIBiol. 1989), a Foreign Member of the Linnean Society London (FMLS, 2001) and was awarded the Australian Marine Science Association (AMSA) Jubilee Prize (1992), a Queensland Museum Medal (1991) and was made an Officer in the Order of Australia (1992). She received a Whitley award for the best book on science history published in 1986 (The History of the Queensland Museum). As senior editor (with Isobel Bennett) she also received a Whitley award for the best natural history book published in 1993 (The Coral Reef Handbook).

Dr. Mather retired in 1990 but continued her writing and research as an Honorary Associate of the Museum. Also, after her retirement, she presented four weeklong workshops (in Townsville, Darwin, Hobart, and New Zealand) to graduates working in the environmental field, introducing them to the Ascidiacea and to techniques used in their study (in order to pass on some of her skills and experience).

She has declared that the years of achievement and satisfaction in her science and in working for causes associated with it have been equalled only by pride and joy in her three sons, their consorts and her six grandsons. Of her science, biology, she believes it is best summed up in Darwin's declamation from the last paragraph of the Origin of Species that "there is grandeur in this view of

life.....that from so simple a beginning endless forms most beautiful and most wonderful have been, and are being evolved".

Pat passed away in 2012 aged 87.