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IN MEMORIAM
DR PETER WILLIAM ARNOLD



Dr Peter Arnold, Senior Curator, Museum of Tropical Queensland (1949 - 2006)

Dr Peter Arnold died suddenly at the age of 56 years on 7 March 2006. Peter possessed an exceptional knowledge of marine mammals and marine biology. He was loved, respected and admired by all family, friends and colleagues for his kindness, generosity, humility, dedication to his work and eagerness to help everyone at anytime. Everyone who knew Peter remembers him affectionately as a special individual, modest with brilliant intellect: a true gentleman.

Peter was born in Bridgewater, Nova Scotia, Canada on 14 May 1949, the son of John and Nora Arnold (both deceased) and brother of Diane Grant. He demonstrated a great interest in marine biology from an early age, and discomforted his family by bringing home specimens in varying stages of decomposition. Peter's early education consisted of a BSc (with Honors in Biology) at Acadia University, Canada, in 1970 and then a MSc (Aquatic Science) investigating parasites in Harbour porpoise (*Phocoena phocoena*) at the University of Guelph, Canada, in 1973 (Arnold,

1975). Peter moved from Canada to Townsville Australia in 1974, where, at the doorstep to the world's largest coral reef, his future in marine biology was secured. Pete began working on benthic invertebrates upon arrival to Townsville and obtained his PhD in 1979 from James Cook University (JCU). From 1979–1985, Peter was a Marine Biology Research Officer with JCU. Resulting from his impressive, multi-faceted knowledge of marine biology, Peter became an associate lecturer with the Department of Marine Biology at JCU from 1985–1987. Colleagues depended on 'googling' Pete's brain long before the internet offered an alternative.

In 1987, Peter became a Curator (later a Senior Curator) of Tropical Natural History, at the Museum of Tropical Queensland (MTQ). During his work at the museum, he furthered his interest in marine mammals, as well as many other aspects of marine biology. While working at the museum for nearly 20 years, Peter derived pleasure from almost every moment in life. He

would turn up at work every day, year in and year out. Although perceived as a ‘workaholic’, Peter was in fact driven by the inner contentment that came from each day’s new findings. To Pete there were no weekends — only days when the dress-code was relaxed back to his trademark rubber thongs, he could hum over his work bench and maybe linger over coffee-time chats.

Soon after beginning work at the museum, Peter began his interest in the genus *Orcaella*, after initiating collaboration with Dr George Heinsohn, from JCU. George had collected the carcasses of coastal dolphins caught in shark nets off the Queensland coast since the late 1960s. Examination of specimens of what were then considered to be Irrawaddy dolphins (*Orcaella brevirostris*) resulted in the first detailed description of the morphology and taxonomy of this little known species (Arnold & Heinsohn, 1996). Peter quickly became an authority on Irrawaddy dolphins (Stacey & Arnold, 1999; Arnold, 2002), which eventuated into: 1) designation of a new dolphin species, the Australian Snubfin dolphin (*Orcaella heinsohni*) which is thought to be endemic to Australian and probably Papua New Guinea waters (Beasley et al., 2002, 2005), and 2) supervision of the first comprehensive study on the behavioral ecology of Australian Snubfin dolphins by Dr Guido Parra of James Cook University in 2005.

Peter also had a dedicated interest in Minke Whales (*Balaenoptera acutorostrata* sensu lato), which began when assisting in the collection of the carcass of an animal which had died after being trapped for several weeks in a reef lagoon in a region of the Great Barrier Reef (GBR) in the early 1980s. Peter was the first to notice differences in the Southern Hemisphere form of the minke, which resulted in two papers describing the specifics of this potentially new dwarf form in 1987 (Arnold et al., 1987, 2005). This minke population subsequently became the basis of a lucrative ‘swim with minke’ tourism industry in the Great Barrier Reef.

Some of Peter’s most enjoyable moments were when he was out researching the dwarf minke whales on the northern GBR with his close associate and friend, Alastair Birtles, from JCU, along with a host of students and volunteers. Peter was instrumental in guiding the research that provided evidence for the new subspecies of diminutive minke whale (Arnold et al., 2005). He was also a leading member of the team which documented the behavior (Arnold et al., 2005),

distribution (Arnold, 1997) and interactions of minke whales with swimmers. This information provided the science base for developing effective management of swim with minke tourism (Birtles et al., 2002; Valentine et al., 2004).

Peter had more than a decade long involvement with the Great Barrier Reef soft sediment surveys of the JCU Marine Biology Benthic Research Unit (BRU) 1976–1988. After completing his PhD he was a Research Officer for at least six years in the BRU and played a leading role in a decade of sampling along a cross-shelf transect off Townsville, working closely with Professor Michel Pichon and Alastair Birtles. A generation of JCU Marine Biology students were initiated into the mysteries and delights of GBR benthic sampling from the *RV James Kirby* by Peter and his colleagues. These shelf studies were significantly extended by three deep sea expeditions (CIDARIS I, II and III) aboard the CSIRO *RV Franklin* in 1986, 1988 and 1992. Initially funded by MSTGS, the project ‘Deep-sea bottom fauna of the Great Barrier Reef Shelf and adjacent Coral Sea’ collected a wide range of benthos from the GBR continental slope, Queensland Trench and ultimately to bathyal and abyssal depths of over 3,500 metres in the Gulf of Papua. These unique collections are now all deposited in the MTQ.

Peter also shared his encyclopedic knowledge of tropical benthos, benthic sampling, identification and analyses with a large group of international colleagues from Southeast Asia when he and Alastair co-organised the ASEAN-AIMS-AIDAB Soft Bottom Communities Workshops in 1985 and 1987. These formed a significant component of the AIDAB-funded ASEAN-AUSTRALIA Living Resources in Coastal Areas Project (part of the ASEAN-AUSTRALIA Economic Cooperation Program) which began with an intensive three month series of Methodology Workshops held in 1985 and subsequently involved several participants from each of the ASEAN countries in an extended Soft Bottom Communities Workshop in 1987. Peter formed a lasting series of friendships and professional collaborations as a result of his dedicated work for this project which was aimed at developing the scientific and technical expertise within the ASEAN region and established a regional database and an information exchange network throughout the ASEAN countries.

In his role as a ‘guru’ of the soft benthos, Peter most recently lead the MTQ team working on the CRC-Reef funded GBR Seabed Biodiversity

Mapping Project (GBR SBD). Though he did not live to see its culmination, this monumental project dealt with over 72,000 specimens split into at least 10,675 nominal species. Peter's role in processing the Townsville component of this collection was inspirational to all those who worked with him.

Peter took a particular liking and interest in the bryozoans ('lace corals' or 'moss animals'), and devoted much of his spare efforts to their study. He published a number of papers on the taxonomy and functional morphology of tropical soft sediment bryozoans, but also his identification capability met a vital national taxonomic need, and was widely utilised by the Australasian research community. But Peter was building to bigger and better things. Over the decades he and his co-workers had amassed a collection of many hundreds of species of bryozoans, in over 170 genera and in at least 76 families. Peter had done enough work on these collections to be able to say that they contained many new records for Australia, extended the ranges of many known species (many of which were previously known only from single specimens or limited material collected more than 100 years ago), and he had discovered 'a number' of undescribed species and genera. Peter was ready to ramp-up his productivity, and in one of his last communications to the Queensland Museum bureaucracy was that 'the major focus for the Tropical Natural History section at MTQ from mid 2006 will be on collection development and research on bryozoans', and that he was in the process of completing a number of papers on significant collections at MTQ. Although this research was sadly and abruptly halted, Peter and his team leave us a legacy in the form of an internationally significant, well-curated marine invertebrate collection that will without doubt be the basis of ongoing international taxonomic research.

To Peter, there was no question that did not have an answer and he would not rest until that answer was found. He loved to carry others along with him in this quest. One of his greatest pleasures, and a source of modest pride, was to guide and follow the achievements of the many students who joined him at various levels, from gifted high school volunteers to graduate research students. His thirst for knowledge was infectious and his generosity in sharing it was unbounded. Peter gave freely, his time and utmost energy to assist at least 19 students, primarily from JCU, to complete their research degrees

with the careful dedication to precision and quality that characterised all his endeavors.

In 2005, Peter was awarded an adjunct position at the School of Tropical Environment Studies and Geography at JCU, for his dedication to students and their work. Amongst other things his students worked on the sustainable use of ecologically important natural resources by the tourism industry, acoustics, behaviour, and swim-with-whale minke tourism, behavioural ecology of coastal cetaceans in Queensland waters, and research and conservation of the Irrawaddy dolphin population inhabiting the Mekong River.

Despite Peter's primary focus on natural history, he never lost his interest in the day-to-day running of MTQ. Activities as diverse as education programmes, volunteer training, emergency procedures, exhibition content, children's holiday activities, and community resource networks, were based on planning and development by Peter. He was a true museologist and the MTQ is an enduring monument to his efforts.

During his 25 years of contributions to marine biology, Peter authored a variety of scientific publications, with topics ranging from collection of deep-sea fauna and identification of new species, with a particular focus on bryozoans (Arnold & Birtles 1989; Arnold, 1993; Lemmens et al., 1995; Arnold & Cook, 1997; Gordon & Arnold, 1998) to the largest cetaceans, namely the minke whale. An example of Peter's scientific integrity and humility was his reluctance to submit papers for publication until he was completely sure the content and writing was impeccable, or to be listed as coauthor in publications, even though he had a significant input. Throughout all his endeavors, and probably quite unknowingly, Peter captured the admiration and respect of his friends and colleagues.

At his sister's request, Peter's ashes were spread by friends on the waters of his beloved Great Barrier Reef during the 2006 minke whale season from the research and adventure tourism vessel *Undersea Explorer*. It was aboard this boat that Peter had shared over ten years of Minke Whale Project field work - and some of the happiest times of his life. We remember Peter with great affection as an exceptional human being, with astounding curiosity, persistence, intellect, generosity and humility. Peter's integrity and enthusiasm for science remain with his students and colleagues, whose lives were enriched by knowing him.

Vale by Peter's many friends, colleagues and students.

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 5. Curnock, M. To complete. Mechanisms for assessing the sustainability of the swim-with-dwarf minke whales tourism industry on the Great Barrier Reef. PhD, JCU (Associate Supervisor with Alastair Birtles).
 6. Mangott, A. To complete. Encounter / interaction behaviour of dwarf minke whales (*Balaenoptera acutorostrata sensu lato*) associated with the swim-with industry on the northern GBR. PhD, JCU. (Co-Supervisor with Alastair Birtles)
 7. Soltzick, S. To complete. Dwarf Minke Whale (*Balaenoptera acutorostrata sensu lato*) biology and implications for tourism management. PhD, JCU. (Co-Supervisor with Alastair Birtles)

Additional Postgraduate Student Projects
(co-supervised either formally or informally)

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