
TRISHA FIELDING



EXPEDITION TO THE GREAT BARRIER REEF

The story of a ground-breaking scientific mission to
Low Isles, Queensland in 1928-1929,
and an overview of its legacies

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EXPEDITION TO THE GREAT BARRIER REEF: THE STORY OF A GROUND-BREAKING SCIENTIFIC MISSION TO LOW ISLES, QUEENSLAND IN 1928-1929, AND AN OVERVIEW OF ITS LEGACIES

TRISHA FIELDING

SUZIE DAVIES AND LIZ DOWNES

James Cook University
Townsville



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Frederick Stratten Russell b. 1897-1984
Low Isles, from memory 8/7/31 (1931)
Watercolour and pencil on paper, 23cm x 29.4cm
Yonge Ephemera Album, Sir Charles Maurice Yonge Collection
James Cook University Library Special Collections
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ACKNOWLEDGEMENT OF COUNTRY

At James Cook University we acknowledge with respect the Aboriginal and Torres Strait Islander peoples as the first peoples, educators and innovators of this country. We acknowledge that Country was never ceded, and value the accumulation of knowledge and traditions that reflect the wisdom of ancestral lines going back some 60,000 years, and recognise the significance of this in the ways that Aboriginal and Torres Strait Islander peoples are custodians of Country. As a University, we will continue to learn ways to care for and be responsible for Country, and we will collectively seek to build a future that is based on truth-telling, mutual understanding, hope, empowerment, and self-determination.



Kassandra Savage (JCU Alumni), 'Coming Together and Respecting Difference', acrylic on canvas, 2014, 90cm x 90cm. © Kassandra Savage, reproduced with permission of the artist.

CULTURAL SENSITIVITY

Aboriginal and Torres Strait Islander readers are advised that the following material may contain images and voices of deceased persons.

ABOUT THE AUTHORS AND CONTRIBUTORS

Trisha Fielding

Trisha Fielding is a professional historian and writer whose published works include the books: *The Hospital Under the Hill: a History of Mount Isa's Underground Hospital* (2023); *Asleep in the Deep: a Love Lost on the SS Yongala* (2022); *A University for the North: James Cook University 1970-2020* (2021); *Neither Mischievous nor Meddlesome: The Remarkable Lives of North Queensland's Independent Midwives 1890-1940* (2019), *Queen City of the North: a history of Townsville* (2016), and the blogs, [North Queensland History](#); [Women of the North](#); and [Travels in the Sublime](#). Trisha holds a Master of History degree from the University of New England and a Bachelor of Arts with Distinction (with majors in History and Journalism) from the University of Southern Queensland.

Suzie Davies

After completing a Bachelor of Applied Science (Biology), and then a Graduate Diploma in Librarianship, Suzie worked as a Librarian at the Australian Institute of Marine Science (AIMS). Her very first project was to catalogue the recently arrived private library of the famous marine scientist, Sir Charles Maurice Yonge. Suzie worked at AIMS for the next eight years, and then moved to the position of Manager, Library & Image Services at the Great Barrier Reef Marine Park Authority (GBRMPA). Suzie was invited to be the Australasian representative on the IODE Group of Experts on Marine Information Management, a role she held for over 10 years. This work involved developing, supporting and mentoring marine information managers around the world, in order to build and strengthen capacity of marine information networks, especially in the Pacific region. Since retiring, Suzie continued to support this program, as well as undertaking some indexing and editing work. But her great

joy is to be able to volunteer at the JCU Library Special Collections, and again help care for and develop that great treasure that is the Sir Maurice Yonge Collection!

Liz Downes

Liz Downes came to Australia from the UK in 1970. A few years later, with two young children, she began working part-time at JCU Library, later joining the full-time staff while studying for a BA, specialising in English literature and Australian history. After retiring Liz became a Special Collections volunteer, indulging a growing interest in north Queensland history and writing blog posts about collection items. Liz has an enduring love of the natural world and a strong interest in natural history and wildlife conservation. She spent many years on the executive of Wildlife Queensland's Townsville Branch with its aims of raising community awareness about the environment and advocating for better conservation management and care. In acknowledgement of her volunteer work in nature conservation and at the Library, Liz was named Queensland's volunteer of the year in 2020. As well as keeping up with the lives and interests of her teenage grandsons (as much as possible!), Liz enjoys bush and beach walking, bird-watching, and reading – particularly natural history, contemporary Australian fiction and politics. She still occasionally tries to express her life's passions in poetry.

FOREWORD

Stories are powerful. They have been used by all kinds of people to pass on knowledge to future generations for thousands of years. Libraries have always been the keepers of stories, however on this occasion we, James Cook University (JCU) Library, have chosen to tell a story.

The story of the Expedition to the Great Barrier Reef in 1928-1929, as told in a highly engaging manner by Trisha Fielding (Special Collections Library Officer and independent historian and writer), is one of adventure, great accomplishment and legacy. The most immediate legacy for us being the addition of Sir Charles Maurice Yonge's personal library to our suite of Special Collections in 2018, accepted as a generous gift from the Australian Institute of Marine Science.

JCU's journey with the Yonge collection began in the early 2010s when the librarian at the Australian Institute of Marine Science (AIMS) contacted us with the idea of the collection being re-homed at JCU, with a view to broader accessibility and engagement with the material, as well as securing its long-term future. The collection was officially gifted to JCU by AIMS in 2015 and received in June 2016. We express particular thanks to Jon Day (Director of Heritage Conservation at GBRMPA) and Joanna Ruxton (Project Manager – Information Services at GBRMPA) who expressed their support for the idea of the transfer of the collection in writing; and also to Peter Coumbis (General Counsel for AIMS), and Lisa Capps (AIMS Library & Information Services Co-ordinator), who were key to this process and facilitated the transfer with professionalism and an air of collegial cooperation.

Knowing the story behind our collections allows us the privilege of understanding the significance and importance of what we hold here in our JCU Libraries. There is a great deal of work involved in taking donations (large or small), but once they arrive another wave of essential work begins: the work of forming an intimate relationship with what you have, learning all you can about it, processing it and then promoting it. This is essential to connect the works with other collections and institutions and most importantly individual researchers.

Expedition to the Great Barrier Reef: The Story of a Ground-Breaking Scientific Mission to Low Isles, Queensland in 1928-1929, and an Overview of its Legacies has been created for a general audience of readers so that we can share that understanding with you and those who come after us in order to promote the discovery of the Sir Charles Maurice Yonge Collection and protect it for future generations.

The origins of this book can be found in a series of JCU Library blog posts which were written and published prior to the launch of the Sir Charles Maurice Yonge Collection in 2018. Trisha Fielding led on these posts whilst Special Collections volunteers Suzie Davies and Liz Downes also made valuable contributions researching and writing about a few of the beautiful, rare books that form part of the collection. Retired AIMS and Great Barrier Reef Marine Park (GBRMPA) Librarian Suzie Davies has played a key role in inspiring us all with a love of this collection. From day one Suzie has shared all she knows about the collection and Sir Maurice. She was there when the boxes were first unpacked at AIMS

in 1982 and she is here with us now. Liz Downes has contributed many popular posts to our blog over the years, and has an eye for finding the most interesting treasures in our collections.

Trisha has very skilfully redesigned the telling of the story for this eBook and further explored certain aspects of the history particularly in relation to the very important role women played on the expedition.

We hope you enjoy this book and share it with others so they, too, can learn about this important expedition. You can participate in the legacy by visiting the Helen Mays Reading Room in the Eddie Koiki Mabo Library to access the [Sir Charles Maurice Yonge Collection](#). You can also visit our online repository for the Special Collections, [NQHeritage@JCU](#), to explore the digital versions of some of the items.

Helen Hooper and Bronwyn McBurnie

Helen Hooper is the Director, Library Services and University Librarian – James Cook University
Bronwyn McBurnie is the Manager, Special Collections, James Cook University Library

PROLOGUE

The Great Barrier Reef Expedition, led by Sir Maurice Yonge in 1928-1929, proved to be a marvellous adventure for a team of highly talented young scientists from across the United Kingdom. The group specialised in the fields of zoology, biology, hydrography, botany and chemistry, but none among them had ever seen a coral reef up close before. When they arrived in Australia in July 1928, they were feted by the press and treated like celebrities. In Brisbane, they were billeted with some of the city's most influential families, and treated to a lavish welcome dinner held in their honour. By 16 July they had arrived at Low Isles, off the coast of far north Queensland. Their task was to spend thirteen months on a tiny island, gathering as much scientific data as possible about the formation, growth and natural resources of a section of Australia's Great Barrier Reef. Together with a number of visiting Australian scientists (who participated variously in short stints), what they collectively achieved – in terms of scientific output – would turn out to be valuable ecological and geomorphological benchmarks for modern marine science.

The material for this eBook is arranged into two parts. Part One looks at the events that led to the formation of the Great Barrier Reef Committees in Australia and England and the funding and subsequent launch of the expedition; describes the research party's journey to Low Isles; outlines the roles of the excursion's participants (including all of the Australian participants); and provides a brief summation of the significance of the entire undertaking.

In addition, the contribution of women to the success of the expedition is explored, as a significant number of the participants were women. They were not there in a domestic capacity, but as full members of the team. Mattie Yonge, wife of expedition leader, CM Yonge, was the group's medical officer, and she also assisted with practical fieldwork and was a skilled photographer. Several others – zoologists Sheina Marshall, Elizabeth Fraser and Sidnie Manton – were all highly accomplished in their field. Sheina Marshall (together with colleague Andrew Orr – who also participated in this expedition) was responsible for placing the Millport Laboratory in Scotland at the forefront of the study of marine production. Sidnie Manton had completed her university studies at Cambridge at the top of her class, but because women were not considered full members of the university, she was not awarded the University Prize.

Those women who were not scientists themselves also contributed to the expedition's scientific work. This was particularly true of Anne Stephenson, who is credited as co-author with her husband TA Stephenson on two articles resulting from the research at Low Isles (and on another 12 articles with him on subsequent research in South Africa and North America). Gweneth Russell, wife of the expedition's deputy leader, Frederick Russell, had been awarded an MBE for her work during the First World War, organising the labour supply for a munitions factory, indicating her resourcefulness and determination.

Part Two focuses on this story's connection to James Cook University Library. It charts the course of how Sir Maurice Yonge's private scientific library – collected throughout his long and distinguished career – found its way to James Cook University, a world away from Edinburgh, Scotland where its bibliophile owner lived until his death in 1986. This section also delves into a small curated selection of exquisitely

beautiful and fascinating rare books from the Sir Charles Maurice Yonge Collection at JCU Library and encourages the reader to explore the photographic record of the 1928-1929 Expedition, as well as a series of images of Sir Maurice Yonge at Low Isles that were taken 50 years after his first visit.

The tone of the work is aimed at a general readership, though it is hoped that any reader embarking on a journey of discovery of the world of marine science might find something instructive and inspiring within its pages.

Trisha Fielding,

Historian, and Special Collections Library Officer, JCU Library, 2023.

PART I

ANATOMY OF AN EXPEDITION

1.

ONCE UPON A TIDE

Trisha Fielding

In July 1928, a group of British and Australian scientists embarked on an expedition to investigate a section of the largest coral reef in the world – the Great Barrier Reef – off the coast of Queensland. Jointly funded by Australian and British interests, the expedition spent a year at Low Isles, near Port Douglas, investigating the biological and geological complexities of a section of the reef. The expedition was primarily about discovering the conditions under which coral reefs existed and flourished; however it also had an economic objective: to investigate the commercial potential of the Great Barrier Reef's resources.

At this time, there was still much to learn about the Great Barrier Reef. Theories as to the formation of coral reefs, such as those put forward by Charles Darwin and Alexander Agassiz, remained contested.¹ The work of other scientists, including Joseph Beete Jukes, John MacGillivray, William Saville-Kent and Charles Hedley had shed some light on the mysteries of the Great Barrier Reef, but a comprehensive scientific investigation had not yet been attempted. The formation of the Great Barrier Reef Committee in Australia in 1922 marked the start of several years of agitation by Australian scientists and government officials who were eager to see Australia at the forefront of any future reef studies.

A professor of Geology at the University of Queensland – Henry Caselli Richards – believed that Australia should be doing more in the area of scientific research in the Pacific. He had attended the inaugural Pan-Pacific Scientific Conference in Hawaii in 1920, along with four other Australian representatives. It was here that Richards became keenly aware of just how far behind Australia was in the area of coral reef research.² Charles Hedley, of the Australian Museum, presented the only Australian paper at the conference in the section on Biological Research Stations. Hedley's opening remarks were apologetic – Australia “did not have a single marine zoological station in Australia”.³

1. For further general reading on these theories, see James Bowen, and Margarita Jean Bowen, *The Great Barrier Reef: History, Science, Heritage* (Melbourne: Cambridge University Press, 2002); also Charles Maurice Yonge, *A Year on the Great Barrier Reef*, (London: Putnam, 1930).

2. Dorothy Hill, “The Great Barrier Reef Committee, 1922-1982: The First Thirty Years,” *Historical Records of Australian Science* 6, no. 1 (1984): 7, <https://doi.org/10.1071/HR9840610001>.

3. Bowen and Bowen, *The Great Barrier Reef*, 232.



Fig. 1 University of Queensland staff, 1922. At this time, Professor H.C. Richards (who was later Chair of the Great Barrier Reef Committee) was Professor of Geology there. Photographer unknown. Fryer Library University of Queensland Photograph Collection. Copyright expired.

The following year, Richards sought the patronage of Queensland Governor, Sir Matthew Nathan, who was also President of the Queensland branch of the Royal Geographical Society of Australasia. Nathan's support would prove instrumental in the establishment of the Great Barrier Reef Committee. The two men worked well together, and in a complementary manner. Nathan could appeal to decision makers at the government level, while Richards had good connections in the scientific community in his capacity as Queensland Chair of what would later become the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

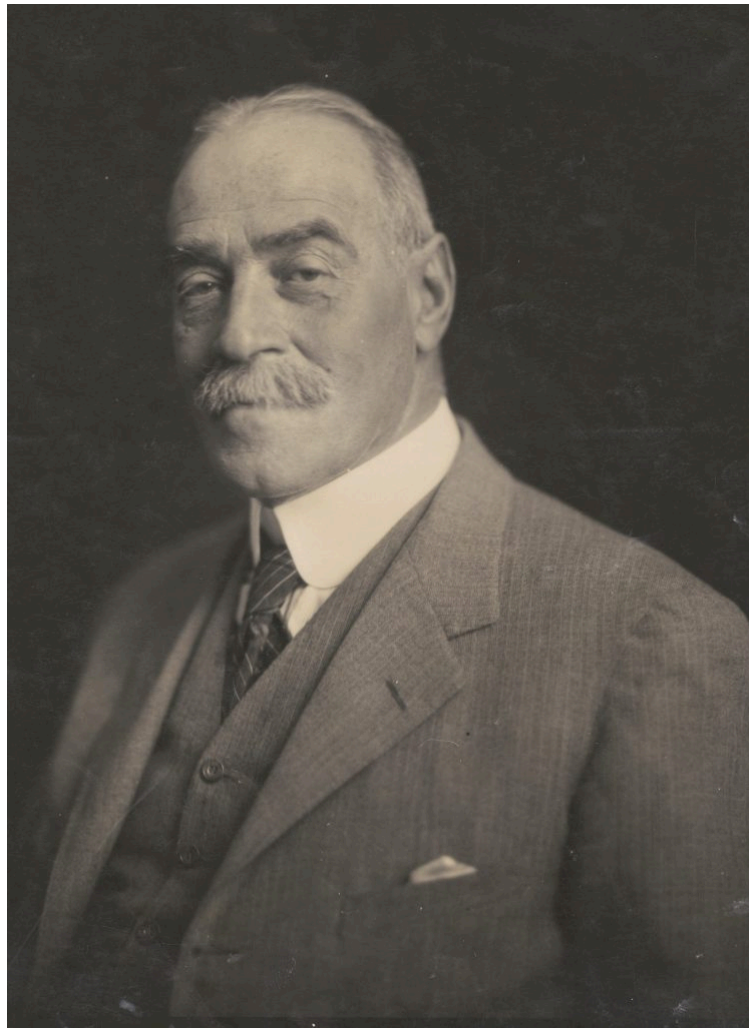


Fig. 2 Portrait of Sir Matthew Nathan, Governor of Queensland and Chancellor of The University of Queensland, c. 1925. Photographer unknown. Fryer Library University of Queensland Archives. Copyright expired.

In 1922, after Richards had made the initial approaches, Governor Nathan invited Australian and New Zealand museums, universities and research societies, as well as several Australian government departments, to nominate representatives to form a committee.⁴ Overseas, the Royal Geographical Society of London and the British Museum (Natural History) were also asked to become member organisations, and to appoint representatives that were either engaged in reef research or interested in promoting reef research.

The first meeting of the Great Barrier Reef Committee was held in Brisbane on 12 September 1922.⁵ Sir Matthew Nathan was elected Chair, and Professor Richards Honorary Secretary. The Committee's primary aim was to investigate the origin, growth and natural resources of the Great Barrier Reef of

4. Bowen and Bowen, 235-236.

5. Minutes No.1, September 15, 1922, Great Barrier Reef Committee Archive, University of Queensland Archives, cited in Hill, "The Great Barrier Reef Committee."

Australia. From its inception, the Committee was very active, holding 60 meetings in its first 11 years of operation, but for the first few years its resources were meagre. The ability to plan any serious research projects proved heavily dependent on the voluntary work of the Committee's scientist members; and on the cooperation of government bodies, such as the Commonwealth Department of Navigation, the Queensland Marine Department, and the Royal Australian Navy (for survey data, and transport aboard survey vessels).

After Nathan's term as Governor expired in September 1925, he retired to England, where he continued to promote both Queensland, and the Great Barrier Reef Committee (he was now Patron of the Committee, and Richards was Chair). Criticism of Richards' bias towards geological reef research, to the detriment of biological studies of the reef, prompted a search for suitable young Australian graduates to participate in longer term projects, though it soon became clear that "very few, if any, young [Australian] marine zoologists [were] available to carry out the desired work on the reef".⁶

In 1926, the Committee asked Sir Matthew Nathan to approach Cambridge University's Professor John Stanley Gardiner to garner support for a "biological expedition" to the Great Barrier Reef. Acting as a representative of the University of Queensland, Nathan met with Gardiner at a conference in Cambridge in July. Gardiner was quick to offer his support and thought that the University of Cambridge might be willing to assist with funding for zoological graduates to participate in such an expedition.⁷ The following year, an English Great Barrier Reef Committee was formed, with Nathan as its Chair, and Gardiner as joint Secretary.⁸ According to scientist Barbara E. Brown, from this point onwards, Gardiner was "closely involved in every detail of the expedition's organization".⁹ Though there was still much planning and negotiating to be done before the expedition would become a reality, Gardiner invested considerable energy into the project. According to Brown, Gardiner contributed to the development of the research program, and ensured funding for an expedition leader and for equipment and a library, from within his own department.¹⁰

6. Bowen and Bowen, 250-252.

7. Hill, "The Great Barrier Reef Committee," 5.

8. Charles Maurice Yonge, "The Great Barrier Reef Expedition, 1928 – 1929," *Reports of the Great Barrier Reef Committee* 3, (1931): 2, <https://www.biodiversitylibrary.org/bibliography/156399>.

9. Barbara E. Brown, "The Legacy of Professor John Stanley Gardiner FRS to Reef Science," *Notes and Records* 61, no. 2: 213, <https://doi.org/10.1098/rsnr.2006.0176>.

10. Brown, "The Legacy," 213.



The title for this chapter was inspired by one of the books from the Sir Charles Maurice Yonge Collection: [*Once Upon a Tide*](#) by Hervey Benham, 1955.

2.

ADVENTURES OF IDEAS

Trisha Fielding

As momentum for a large-scale British-led Expedition began to build, the Australian Great Barrier Reef Committee continued to lobby for funding to support it. The amount of £1,000 was raised from the Universities of Sydney, Melbourne and Queensland; as well as from individual donors. The Australian Government was persuaded to contribute £2,500 (a sum that was matched by Britain's Empire Marketing Board). Over a period of two years, the Royal Society of London contributed £950. Overall, including smaller contributions from other societies and private donors, a total of £8,580 in funding was secured from British and Australian interests.¹

In 1927, Dr Charles Maurice Yonge, a marine zoologist from Cambridge University, was selected as leader of the expedition. At 27 years of age, Dr Yonge (pronounced Young) had two doctorates from the University of Edinburgh, had completed a research residency at the respected Plymouth Laboratory, and had co-authored a book entitled *The Seas*, with Plymouth colleague Frederick Russell.² When Yonge secured the Balfour Studentship at Cambridge in 1927 (an endowment that allowed the holder to travel to undertake original research in Biology), it made him an ideal candidate to lead the Great Barrier Reef Expedition.

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1. Charles Maurice Yonge, "The Great Barrier Reef Expedition, 1928 – 1929," *Reports of the Great Barrier Reef Committee* 3, (1931): 2, <https://www.biodiversitylibrary.org/bibliography/156399>; Dorothy Hill, "The Great Barrier Reef Committee, 1922-1982: The First Thirty Years," *Historical Records of Australian Science* 6, no. 1 (1984): 7, <https://doi.org/10.1071/HR9840610001>
 2. Brian Morton, "Charles Maurice Yonge (1899-1986)," *Archives of Natural History* 25, no. 3 (1998): 435, <https://doi.org/10.3366/anh.1998.25.3.431>.



Fig. 3 Members of the Great Barrier Reef Scientific Expedition departing England on the RMS *Ormonde*, May 1928. Photographer unknown. Russell Album 1, Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

After many months of meticulous planning and preparation, the core expedition party of ten departed Tilbury, England, on the RMS *Ormonde* on 26 May 1928. Remarkably, none of the ten had ever even seen a coral reef before. Despite this, much was expected of the expedition, and an air of excitement about it prevailed (in both England and Australia), not least because of the youthfulness of the participants. Most expedition members were younger than 30. Yonge was 27, his wife of less than a year, Mattie, was only 24. There was considerable interest from the media in Mattie, who was the expedition's medical officer. The Yonges were still newlyweds, and here they were embarking on a trip halfway around the world, to live and work on a secluded tropical island for a year. To the press, it was the stuff of great romance. Indeed, **Charles Barrett** – a journalist with the *Melbourne Herald* who wrote a series of syndicated articles on the

expedition – described the Great Barrier Reef as “a realm of romance and of beauty,” with “white beaches and blue lagoons, turtles shouldering their way through the sea, and palm fronds sweeping the sky.”³



Fig. 4 Maurice and Mattie Yonge on Low Island, 1928.
Photographer unknown. National Library of Australia. Copyright expired.

Low Isles, Far North Queensland

The site for the headquarters of the expedition – Low Isles, off the coast of far north Queensland – was chosen by the Australian Great Barrier Reef Committee.⁴ Low Isles consists of two separate islands which share a common coral reef foundation. The smaller of the two – an oval-shaped coral cay – is known as Low Island. The larger island is called Woody Island, and is mainly formed of coral and mangroves. Low Island was considered an ideal base for the research because it was a purely coral island surrounded by a large reef formation which formed an excellent harbour. Dunk and Fitzroy Islands were considered

3. Charles Barrett, “Barrier Reef: Isles of Romance.” *The Register*, July 7, 1928, 5, <http://nla.gov.au/nla.news-article57051214>.

4. Yonge, “Great Barrier Reef,” 2.

unsuitable because they were largely comprised of rock. Green Island was a coral island but was already a holiday destination, and since curious tourists might have interfered with the scientists' work, it was ruled out. There was also a lighthouse on Low Island which was manned by four light-keepers, all of whom turned out to be helpful to the expedition, providing practical assistance and allowing the use of the lighthouse boats. Importantly, Low Isles' proximity to the mainland meant that weekly provisions could easily be sourced regularly from Port Douglas (just 11 km away) and any heavy equipment required could be shipped from Cairns (approximately 72km away).⁵



Fig 5. Low Island, far north Queensland, 1928. Photographer unknown. Russell Album 1, Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.



The title for this chapter was inspired by one of the books from the Sir Charles Maurice Yonge Collection: [*Adventures of Ideas*](#) by A.N. Whitehead, 1933.

5. Hill, "The Great Barrier Reef Committee," 1-18.

3.

A NATURALIST'S HOLIDAY BY THE SEA

Trisha Fielding

The members of the Great Barrier Reef Expedition received an enthusiastic welcome upon arrival in Australia, when the *Ormonde* docked at Fremantle. They were also greeted warmly as they called at Adelaide, Melbourne and Sydney, before finally arriving in Brisbane on 9 July 1928. Mattie Yonge, the expedition's medical officer, described the group's reception in Australia as "such that might have been given to royalty".¹ A veritable who's who of Brisbane's scientific community were invited to welcome the group at a gala dinner the following evening, indicating how important the expedition was for Queensland. Guests included members of the executive of the Great Barrier Reef Committee, the Commissioner for Public Health, the Government Botanist and the Director of the Queensland Museum, along with a number of senior university academics. Also present was Mr F.W. Moorhouse, of the Queensland Education Department. Moorhouse had been seconded to the Department of Harbours and Marine by the Premier, and was to join the initial expedition party to Low Isles.

The following day, Yonge's group departed Brisbane and travelled by rail to Cairns, a journey that took two and a half days. The expedition members were accommodated at A.J. Moran's Strand Hotel for a couple of days while the last items of necessary equipment and provisions were purchased. One of the many publications that resulted from the expedition was *A Year on the Great Barrier Reef*, which was written by Yonge and intended for a general audience. In it, Yonge wrote that thanks to A.J. Moran, "we gained our first introduction to the glories of the tropical rainforest in the foothills behind the city."²

1. Mattie J. Yonge, "Log of outward journey to Great Barrier Reef, 28 May 1928-4 July 1928", unpublished journal (Sir Maurice Yonge papers, National Library of Australia, 1928), p. 13 <https://nla.gov.au/nla.obj-1127491484/findingaid#nla-obj-1555316702>

2. Charles Maurice Yonge, *A Year on the Great Barrier Reef*, (London: Putnam, 1930), 24.



Fig. 6 The waterfront, Cairns, 1928. A.J. Moran's Strand Hotel can be seen in the centre of the photograph. Photo: C.M. Yonge. National Library of Australia. Copyright expired.

It was while they were staying at Moran's hotel that Yonge's team experienced their first adventure in north Queensland. Moran took the Yongs and several others from the expedition party out to Freshwater by car to show them the rainforest.³ Although Freshwater is now a suburb of Cairns, at the time of the Yongs' visit much of the area was still relatively untouched by development. At one stage Moran was negotiating a steep incline when the car slid off the dirt track into a creek. Fortunately, no one was injured, and after failing to push the car out, the group walked two miles to the nearest cane farm. Their next challenge was to try and explain to the Italian farmer there (who spoke no English) that they were stranded. Horses were loaned to pull the car out of the creek and the group eventually arrived back in Cairns that night, none the worse for their rainforest adventure.

3. Charles Barrett, "Romance of the Great Barrier Reef '1,000 Miles of Mystery and Wonder.' British Expedition's Researches." *The Advocate*, July 18, 1928, 3. <http://nla.gov.au/nla.news-article67600900>.



Fig. 7 A car crossing Freshwater Creek, near Cairns, 1928. Photographer unknown. Russell Album 1, Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

Most of the team's scientific equipment had already been shipped from England and transferred to Low Isles before their arrival. A volunteer naturalist named **James Edgar Young** had supervised the design and construction of six huts on site at Low Island. These were intended to variously function as a laboratory, married and single living quarters, kitchen, toilets and bathroom. Mr Young also saw to it that the huts were fully equipped with furniture and stores. Dr Maurice Yonge, in his report to the Great Barrier Reef Committee (published in 1931), explained just how important J.E. Young's contribution was, noting:

The expedition owes a great debt to Mr Young. Scientific work was begun almost immediately after arrival, instead of being delayed for many weeks pending the completion of constructional work.

Young later added a small darkroom on the east end of the married quarters. For reasons of practicality,

only a “bare modicum of furniture”⁴ had been built, but extra pieces of furniture and shelving were soon ingeniously adapted from packing crates and empty kerosene tins. In addition to the newly constructed buildings, there was already a lighthouse on the island, and huts for the lighthouse keepers and their families. The buildings constructed for the expedition were not of a particularly permanent nature (being only timber and corrugated iron) because it was expected that in the event of a cyclone, the lighthouse would serve as a refuge for the island’s inhabitants as it had survived many cyclones since its construction in the late 1870s.



Fig. 8 Dr Maurice Yonge, seated at a bench inside the Low Isles laboratory, which also doubled as a dining room, 1928. Photographer unknown. Russell Album 2, Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

Once final preparations were in place, all that remained was for the party to travel the final 72 km of their epic journey to the island that would become their home for the next thirteen months. Yonge wrote of his first impressions of the Great Barrier Reef:

About noon on July 16th we sailed from Cairns on the M.L. *Daintree* on the forty-five mile journey to our final destination. Nothing could have been more perfect than our introduction to these lagoon seas on which so much of our time for the coming year would be spent. The alluvial flat upon which Cairns stands soon disappeared from view. We passed over the calmest of blue waters beneath a clear sky and a vivid sun.⁵

4. Yonge, *A Year*, 27.

5. Yonge, 25.



Fig 9. First day on the reef, Low Isles, 17 July 1928. Photographer unknown. Russell Album 3, Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.



The title for this chapter was inspired by one of the books from the Sir Charles Maurice Yonge Collection: [*A Naturalist's Holiday by the Sea*](#), by Arthur de Carle Sowerby, 1923.

4.

THE EXPERIMENTAL BASIS OF MODERN BIOLOGY

Trisha Fielding



Fig. 10 Members of the Great Barrier Reef Expedition, and visitors, pose for a photograph at Low Isles, 1928. From left to right, back row: H.C. Vidgen, F.A. McNeill, J.A. Steers, A.P. Orr, H.S. Mort, H.A. Longman, E.O. Marks, M.A. Spender, J.S. Colman, G. Tandy, C.E. Marchant, A.A. Livingstone, T. Iredale; front row, seated: F.W. Moorhouse, A.C. Wishart, S.M. Marshall, F.S. Russell, G.K.M. Russell, Professor H.C. Richards, M.J. Yonge, C.M. Yonge, A. Stephenson, T.A. Stephenson, A.G. Nicholls; seated on the ground: Master Iredale, G.W. Otter. Photographer unknown. Russell Album 3, Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

Biological Section

The Great Barrier Reef Expedition was divided into two sections: a biological section and a geographical section. Within the biological section of the expedition, three separate research groups were formed. A boat party, a shore party, and a physiological (experimental) party. The initial boat party comprised Frederick Stratten Russell, of the Marine Biological Association at Plymouth, who had co-authored a book with the expedition's leader, C.M. Yonge, entitled *The Seas*; Scottish chemist and hydrographer Andrew Orr; and Scottish zoologist Sheina Marshall. Russell's wife Gweneth took part in a support role, mainly as his

assistant. The boat party investigated **zooplankton**, **phytoplankton**, the chemistry and hydrography of the seawater, and the conditions over the reef flat and within the mangrove.



Fig. 11 Left to right: A.P. Orr and C.M. Yonge, with crayfish, c. 1928. Photographer unknown. National Library of Australia. Copyright expired.

The shore party comprised Thomas Alan Stephenson, a zoologist and recognised authority on sea anemones from the University College in London; his wife Anne Stephenson, who lacked any science qualifications, but nevertheless assisted with the scientific work; botanist Geoffrey Tandy, of the British Museum; and Frank Moorhouse, a science graduate representing the Queensland Government. The shore party focused on the ecology of reefs and the breeding, development and growth of corals and other reef animals. Moorhouse, in particular, was specifically concerned with “economic products”, such as **trochus**, **bêche-de-mer** and sponges.



Fig. 12 T.A. Stephenson (at right), with an apparatus for photographing corals. Photo: C.M. Yonge. National Library of Australia. Copyright expired.

The physiological party, led by C.M. Yonge, looked at the feeding and digestion of corals and reef molluscs, the significance of **zooxanthellae** in the life of corals, the effect of sediment on corals, the calcium content of the sea, and how corals form their skeletons. This group also included Yonge's wife Mattie as the expedition's medical officer; Aubrey Nicholls, of Perth, Western Australia, who was designated as C.M. Yonge's assistant; and G.W. Otter, an English zoologist.



Fig. 13 The centre of this photo shows a trochus breeding enclosure, Low Isles, 1928. The two women pictured are (from left to right) Mattie Yonge and Gwen Russell. Photographer unknown. Russell Album 1, Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

Two later additions, Miss Sidnie Manton, of Cambridge University and Miss Elizabeth Fraser, of London, joined the expedition for four months and worked with the shore party. Both assisted with observations on the breeding of reef animals, and Manton also looked at the growth of corals. Yonge later wrote of Manton's "exceptional intensity" when it came to her work, observing that as a result, "Sidnie did as much in those few months as the rest of us did in four times that period."¹

Geographical Section

The geographical section of the expedition was independently funded by the Royal Geographical Society. It was led by Alfred Steers of Cambridge University, with Michael Spender, of Oxford University, acting as his assistant. They were later joined by E.C. Marchant, a recent Cambridge graduate, who stayed for six weeks. The section's aim was to advance current knowledge on the origin of reef foundations and to establish the relationship of the coastline to submerged reefs, cays, and continental islands. The Townsville motor launch *Tivoli* was chartered to conduct a reconnaissance of the Queensland coast and adjacent

1. Geoffrey Fryer, "Sidnie Milana Manton: 4 May 1902 – 2 January 1979", *Biographical Memoirs of Fellows of the Royal Society*, 26 (November 1980): 329, <https://doi.org/10.1098/rsbm.1980.0010>.

reefs between Whitsunday Island and Flinders Island, at Cape Melville.² Many high islands, low wooded islands, sand cays, reefs, and parts of the mainland were visited during this excursion of almost 1,500km. Steers also made a journey from Brisbane to Mackay in the Commonwealth Lighthouse Service's *SS Cape Leeuwin*. Bowen and Bowen describe the geographical component of the expedition as "close to a fiasco".³ They argue that Steers' conclusions were based almost entirely on observations. The intention to map the coastline, continental islands and cays from stereo pairs of photographs obtained by photo-theodolite survey, proved impractical.⁴ This equipment was too heavy to carry over steep terrain, and in any case, locations with thick vegetation proved a barrier to establishing clear sight lines.⁵ However, Hopley et. al. argue that the work overseen by Steers was far from a fiasco and provided the "stimulus for much subsequent work"⁶ and Spencer et. al. point out that

Steers was the first scientist to extensively study the reef islands of the Great Barrier Reef, separating out the often highly dissected high or rocky continental islands with their fringing reefs, distinguishing between sand cays and shingle cays and providing the descriptive term 'low wooded island' for the complex reef systems of the inner shelf north of 16° S.⁷

After Steers had returned to England at the end of 1928, and Marchant in January 1929, Spender stayed with the expedition until July 1929, making extensive surveys of Low Isles, and Three Isles, off Cooktown.



The title for this chapter was inspired by one of the books from the Sir Charles Maurice Yonge Collection: *The Experimental Basis of Modern Biology* by J.A. Ramsay, 1965.

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2. J.A. Steers, "The Queensland Coast and the Great Barrier Reefs," *The Geographical Journal* 74, no.3 (September 1929): 232, <https://doi.org/10.2307/1784362>.
 3. James Bowen, and Margarita Jean Bowen, *The Great Barrier Reef: History, Science, Heritage* (Melbourne: Cambridge University Press, 2002), 274.
 4. Tom Spencer, Barbara E. Brown, Sarah M. Hamylton and Roger F. McLean, "A Close and Friendly Alliance: Biology, Geology and the Great Barrier Reef Expedition of 1928-1929," in *Oceanography and Marine Biology: An Annual Review*, eds. S. J. Hawkins and A. J. Lemasson, vol. 59, (Boca Raton: CRC Press, 2021), 106. <https://doi.org/10.1201/9781003138846>.
 5. Spencer, "A Close and Friendly Alliance," 106.



6. David Hopley, Scott G. Smithers, and Kevin Parnell, *The Geomorphology of the Great Barrier Reef: Development, Diversity, and Change* (Cambridge: Cambridge University Press, 2007), 10, <https://doi.org/10.1017/CBO9780511535543>.
7. Spencer, "A Close and Friendly Alliance," 106-107.

5.

DWELLERS OF THE SEA AND SHORE

Trisha Fielding

Although the Great Barrier Reef Expedition was led by British scientists, it was a genuinely collaborative project, and Australia contributed its own expertise to the expedition. As well as the Queensland Government's Frank Moorhouse, who was on Low Isles for the full year, the Australian Museum sent five scientific staff for short periods during the year. These were Tom Iredale, a **conchologist**, Gilbert Whitley, an **ichthyologist**, scientific cadets William Boardman and Arthur Livingstone, and Frank McNeill, a zoologist's clerk. Aubrey Nicholls, a zoology honours student from the University of Western Australia, worked in a volunteer capacity for twelve months as C.M. Yonge's assistant. A highly-regarded naturalist, H.S. Mort, of Sydney, spent six weeks on Low Island, encamped with the Museum personnel.



Fig. 14 H.S. Mort, T. Iredale and A. Livingstone at the Australian Museum encampment on the western end of Low Island, Queensland, 1928. Photographer unknown. National Library of Australia. Copyright expired.

There were other support personnel too, without whom the entire expedition might have failed. As already noted, naturalist J.E. Young's work on setting up and equipping the research station was invaluable. The lighthouse-keepers, Mr Carter, Mr Wilce, Mr Watkins, and Mr O'Meara, assisted with work of a

practical nature, and allowed expedition members to use the lighthouse boats. Aboriginal workers were hired from the Anglican mission at Yarrabah to work at Low Isles. Andy and Grace Dabah were employed as handyman and cook respectively. Later, Claude and Minnie Connolly performed these roles. The Connollys' two children, Teresa and Stanley, accompanied them on Low Isles for the duration of their stay. Yonge wrote that "Minnie was a good cook... [and] was a good worker, and took on practically the entire expedition's washing – a formidable undertaking."¹ Harry Mossman and Paul Sexton, also from Yarrabah, were hired for the full year to crew the research vessel *Luana*. Both men were married but their wives remained on the mainland while they worked at Low Isles (though they were able to make several short visits to see them during the year).

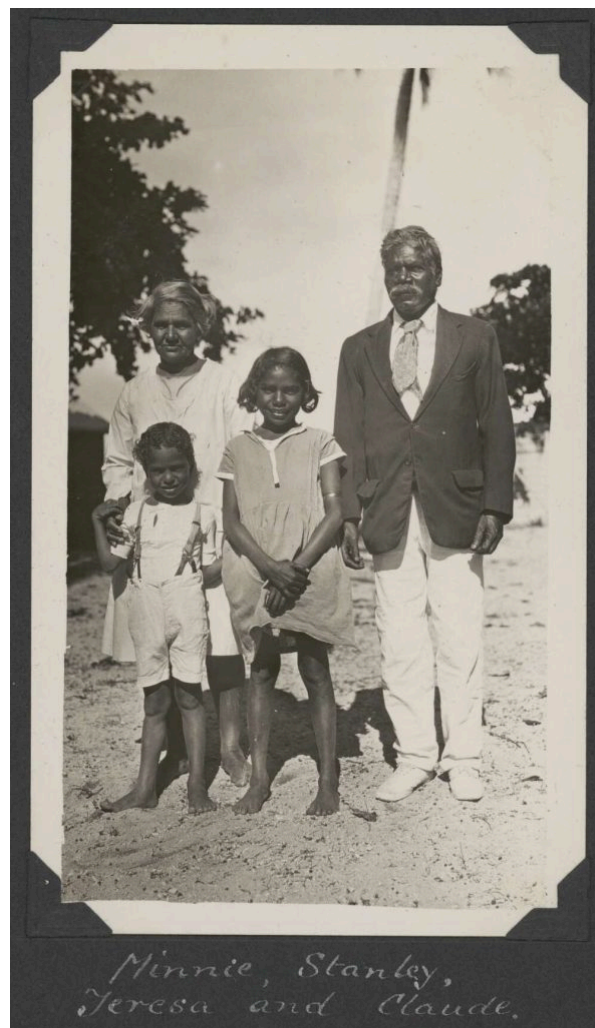


Fig. 15 Minnie and Claude Connolly, and their children Stanley and Teresa. Photo: C.M. Yonge. National Library of Australia. Copyright expired.

1. Charles Maurice Yonge, *A Year on the Great Barrier Reef*, (London: Putnam, 1930), 29.



Fig. 16 Left to right: *Luana* crew members Harry Mossman and Paul Sexton. Photo: C.M. Yonge. National Library of Australia. Copyright expired.

The *Luana* was a 39-foot ketch-rigged yacht with a 26hp auxiliary engine owned and skippered by A.C. Wishart who, together with another volunteer, H.C. Vidgen, sailed the vessel from Brisbane to Low Isles. As well as providing a vital communication and supply link to the mainland, the *Luana* enabled the “boat party” to carry out their scientific investigations both on and in the water. At times, larger boats with more powerful engines were hired to conduct short scientific excursions. These included the motor launches *Merinda*, *Magneta*, and *Tivoli*, all of Townsville; the *Daintree*, of the Daintree River Settlement; and the *Athlone* of Gladstone.² Although the *Luana* had not been built for marine biological work, Yonge felt that it had played a great part in the scientific success of the expedition and therefore its name should go down in history, having helped to advance the science of oceanography. In particular, Dr Yonge was genuinely appreciative of Wishart’s efforts, writing:

2. Charles Maurice Yonge, “The Great Barrier Reef Expedition, 1928 – 1929,” *Reports of the Great Barrier Reef Committee* 3, (1931): 14-15. <https://www.biodiversitylibrary.org/bibliography/156399>.

The greatest of good fortune came our way in the person of Mr A.C. Wishart of Brisbane, who offered the use of his boat, the *Luana*, and his services as skipper for the period of the expedition. We had very limited financial means to serve all our purposes, and the generosity of Mr Wishart and the great work which the *Luana* carried out are one of the principal reasons why this money proved a little more than sufficient for the fulfillment of the work of the expedition.³



Fig 17. The *Luana*, at Snapper Island, 1928. Photo: C.M. Yonge. National Library of Australia. Copyright expired.

Visitors to Low Isles

During the course of the expedition, Low Isles was visited by a steady parade of short-term visitors. Among the more notable guests were Professor Henry Caselli Richards, Chair of the Great Barrier Reef Committee; Miss Freda Bage, Principal of the Women's College at the University of Queensland and a foundation member of the Committee; and Mr Heber Longman, Director of the Queensland Museum. Members of the general public too, were eager to see what was going on at Low Isles. The series of newspaper articles written by journalist Charles Barrett (who was the expedition's first visitor), sparked such fevered interest in the expedition that people began making regular picnic excursions to Low Isles.⁴ This "invasion" of curious onlookers proved to be a bit of a nuisance for the scientists, who had to erect makeshift fences around their experiments on the reef flat so that they would not be interfered with.

3. Yonge, *A Year*, 114.

4. Charles Barrett, "Reef and Lagoon: Lovely Fish – and Snakes. Whale Joins the Party." *The Register*, August 24, 1928, 13, <http://nla.gov.au/nla.news-article57058034>.



The title for this chapter was inspired by one of the books from the Sir Charles Maurice Yonge Collection: [*Dwellers of the Sea and Shore*](#) by William Crowder.

6.

THE SUN, THE SEA AND TOMORROW

Trisha Fielding

Dr Maurice Yonge described the actual work undertaken during the year on the Great Barrier Reef under four general headings. There was “observational and routine work”, which included taking regular hydrographic measurements, recording daily meteorological and tidal data, undertaking topographical and ecological surveys, and monitoring plankton stations. “Experimental work” involved all aspects of feeding, digestion, absorption, excretion and distribution of various corals and common animals on Low Isles and included large-scale experiments on the growth rate of corals. “Collecting work” involved, as the name suggests, collecting specimens, particularly plankton, as well as general dredging and trawling around Low Isles reef.¹ “Economic work” looked at aspects of the reef that had commercial potential.



Fig. 18 Scientists collecting specimens on Undine Reef, Queensland, c. 1928. Photo: C.M. Yonge. National Library of Australia. Copyright expired.

1. Charles Maurice Yonge, “The Great Barrier Reef Expedition, 1928 – 1929,” *Reports of the Great Barrier Reef Committee* 3, (1931): 16-17.
<https://www.biodiversitylibrary.org/bibliography/156399>.

Two Australians, F.W. Moorhouse and A.G. Nicholls, focused on this “economic work”. They studied animals of direct economic importance, completing detailed investigations into the growth, breeding period and habits of trochus and the back-lip pearl oyster, respectively. They also looked at the spawning of bêche-de-mer, and rock and mangrove oysters, and observed fluctuations in edible fish populations around Low Isles and between Cairns and Cooktown. Information was collected about the potential for harvesting turtle and dugong for economic purposes.²



Fig. 19 Moorhouse's aquarium, Low Isles, c. 1928. Photo: C.M. Yonge. National Library of Australia. Copyright expired.



Fig. 20 Green Turtle, Low Isles Expedition, 1928-1929. Photographer unknown. Russell Album 1, Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

2. Yonge, “Great Barrier Reef,” 18.

By modern standards, much of the research was conducted using relatively unsophisticated equipment. The diving apparatus used to explore the sea bed was one example. Yonge thought the helmet resembled “a dustbin with a handle at the top and plate glass windows in front.”³ The diver, dressed only in a bathing costume and canvas shoes, had the helmet lowered over his head, before being weighted down with lead weights. With air being pumped down to the diver using a basic car-tyre pump, it was possible to remain below water for extended periods of time, depending on the stamina of those in the boat above doing the pumping. One of the drawbacks of the diving helmet was that it had two glass viewing panels that were positioned in such a way that made depth perception impossible, making the diver prone to falls.⁴ The [diving helmet used on the expedition](#) is now housed at the Museum of Tropical Queensland, in Townsville.



Fig. 21 A.P. Orr wearing the diving helmet used at Low Isles, c. 1928. Photo: C.M. Yonge. National Library of Australia. Copyright expired.

3. Charles Maurice Yonge, *A Year on the Great Barrier Reef*, (London: Putnam, 1930), 99.

4. Yonge, *A Year*, 101.

Life on a Tropical Island

The expedition party arrived on Low Isles in midwinter. They were surprised at how cold the weather was, having only packed clothing for tropical conditions, and were hammered by winds that regularly averaged 20 to 40 miles an hour, which made working from small boats unpleasant. Before long though, they began to wish for a return of the cool winds and by November tropical thunderstorms heralded the coming summer, which brought with it unbearable heat and humidity. Yonge wrote that between December and April, he estimated they had received about 80 inches of rain:

When the water was not falling, it was rising; the summer sun drew up the moisture from the earth and sea until the atmosphere was saturated... We lived in a perpetual Turkish bath.⁵

Yonge recalled that there was always a feeling that there was not going to be sufficient time to complete all the planned work and consequently the team worked all day and often all, or part, of the night, explaining:

Our work was never finished... Work of this intensity in such a climate was hard; one felt perpetually tired; every action demanded a tremendous initial effort. It was not until I left the island that I realised fully under what a strain we had been living for many months past. At the same time it was work that made life endurable: without that compelling interest, the continuous association of so many people in such an endeavour would have been impossible.⁶

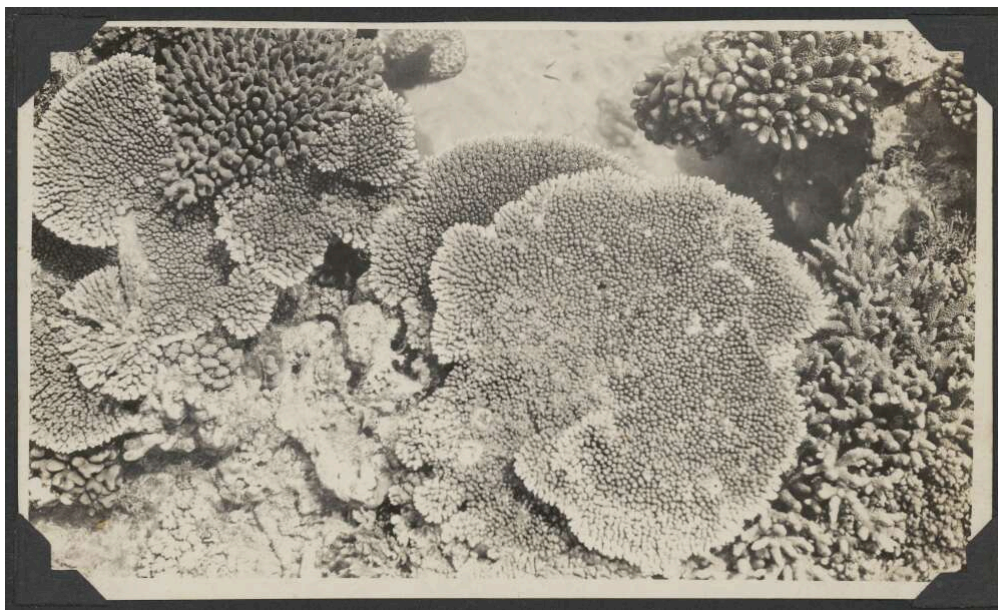


Fig. 22 Exposed corals at Pixie Reef, c. 1928. Photo: C.M. Yonge. National Library of Australia. Copyright expired.

Although there were few mosquitoes, sandflies were a constant trial. Sunburn was common among those

5. Yonge, 35.

6. Yonge, 36.

who joined the expedition later, and frequent cuts and abrasions sustained from contact with corals tended to fester when re-exposed to seawater. Frederick Russell, the deputy leader of the expedition, was stung by a box jellyfish and had to be carried back to camp on a makeshift stretcher. When Frederick lost consciousness, his wife Gweneth was told that the only way to save his life was to amputate his leg.⁷ In what must have been a difficult decision, she refused to consent to an amputation, and thankfully, Frederick made a full recovery.



Fig. 23 Frederick and Gwen Russell. Dr Russell has his foot bandaged after a box jellyfish sting, while Mrs Russell's lower legs are covered in sand-fly bites. Photographer unknown. Russell Album 3, Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

7. Gerald T. Boalch, "Frederick Stratten Russell, FRS (1897-1984): A Distinguished Scientist and Stimulating Leader," *Journal of the Marine Biological Association of the United Kingdom* 90, no. 6 (2010): 1074, <https://doi.org/10.1017/S0025315410000627>.

By summer, the heat and humidity proved physically exhausting for many of the expeditioners, and towards the end of the expedition, both Sheina Marshall and Mattie Yonge required short stays in Port Douglas Hospital.⁸

Despite the difficulties, the mood of the expedition members' remained buoyant. According to Yonge, what had kept them going was

...the thrill of investigating and living amongst animals of which we had read so much but had never expected to see.⁹



The title for this chapter was inspired by one of the books from the Sir Charles Maurice Yonge Collection: [*The Sun, the Sea and Tomorrow*](#) by F.G. Walton Smith and Henry Chapin, 1955.

8. Yonge, "Great Barrier Reef," 12.

9. Yonge, *A Year*, 37.

7.

LADY WITH A SPEAR

Trisha Fielding

One of the notable elements of the expedition, was both the presence and visibility of the female expeditioners. Initially, the British press attempted to trivialise the role of the women who were embarking for Australia, particularly Yonge's "charming young wife", Mattie, who was reported to be mostly concerned with what clothing she would take to Low Isles.¹ However, as well as being the expedition's medical officer, Dr Mattie Yonge assisted with field observations, including monitoring temperature and wind speeds and direction at the research station using a **sunshine recorder** and an **anemometer**.

1. London Correspondent, "Barrier Reef: British Expedition," *Observer*, June 30, 1928, 17. <http://nla.gov.au/nla.news-article164884262>.



Fig. 24 Mattie Yonge on the roof of a hut, checking on Sunshine Recorder, and Anemometer, Low Isles, 1928. Photo: C.M. Yonge. National Library of Australia. Copyright expired.

The Australian press, for its part, viewed the involvement of so many women in such an undertaking as something of a novelty, although one journalist, Charles Barrett, wrote more honestly about the women of the expedition. Far from playing a purely decorative, or even domestic role, the women in the team were highly accomplished in their respective fields, and did not shy away from any of the hard work, either scientific or practical. Zoologist Sheina Marshall was apparently an excellent woodworker and took to building wooden stools with a plane and hammer to supplement the meagre furniture at the research station. Barrett wrote that even out on the reef, the women “played their part” and were “keen on doing

thoroughly the tasks allotted to them.”² Perhaps in an effort to circumvent any frivolous comments about them, one of the women told Barrett: “We are not ornamental... We have come here to work.”³



Fig. 25 Left to right: Sidnie Manton, Sheina Marshall, Maurice Yonge, 1929. Photographer unknown. National Library of Australia. Copyright expired.

Zoologist Sidnie Manton joined the expedition at the end of March 1929, after having spent six weeks in Tasmania researching the freshwater crustacean *Anaspides*. Manton’s expedition diaries and letters home to her family provide a vivid picture of daily life at Low Isles. In her first letter penned on Low Island, she wrote:

The colours of things are marvellous, brilliant corals, clams of huge size – up to two feet, they are big bivalves sitting with wide open mouths the inside all frills of the richest and most brilliant tints imaginable and every one differently coloured and patterned. One has to be careful not to put a foot inside a clam: small coral fish equally brilliant abound and likewise crabs. Sea urchins are lovely – spines of multi colours up to 10” long and so on.⁴

Manton’s genuine enthusiasm for her work is evident when she tells her family that she will be assisting the “reef party” with their work, explaining:

2. Charles Barrett, “Great Barrier Reef: Seeking Coral Secrets: Diving Amongst Sharks,” *Western Mail*, August 16, 1928, 14. <http://nla.gov.au/nla.news-article38377221>.

3. Barrett, “Great Barrier Reef,” 14.

4. Manton, Sidnie, *Letters and Diaries*, p. 59.

At spring tides I shall be out on the reef identifying and counting and mapping the distribution of reef animals in various places of different kinds – also collecting and pickling crustacea for them. During neaps I shall play about with feeding mechanisms and food of reef crustacea, and on starting some work in watching budding in corals.⁵

A few weeks later, after having done “a prodigious amount of pumping” for the more experienced divers, Manton was learning to use the team’s primitive diving equipment herself. On her first dive, she spent 10 minutes in about 15 feet of water, and wrote that:

It was simply marvellous, the water... was clear, and the sun shone down, and swarms of large and small fish, striped and wonderful colours swam about one and in the coral. I find it very difficult to walk about, I can keep upright easily, but it is difficult to get a push off with a foot as you try to walk... Doubtless I shall learn in time.⁶

Those women of the expedition without formal scientific qualifications and roles genuinely collaborated with their husbands in scientific work. This was particularly true of Anne Stephenson, who is credited as co-author with her husband T.A. Stephenson on two articles resulting from the research at Low Isles (and on another 12 articles with him on subsequent research in South Africa and North America).⁷ Charles Barrett noted that:

Mrs Stephenson is out on the reef assisting her husband for hours every day, and in the lab, is seen poring over coral reef charts or consulting learned tomes of some branch of marine zoology.⁸

5. *Ibid.* pp. 59-60.

6. *Ibid.*, p. 67.

7. See for example: Thomas A. Stephenson, Anne Stephenson, Geoffrey Tandy and Michael Spender, “The Structure and Ecology of Low Isles and Other Reefs,” *Scientific Reports: Great Barrier Reef Expedition 1928-29* 3, (1931): 17-112, <https://www.biodiversitylibrary.org/part/183511>; Thomas A. Stephenson and Anne Stephenson, “Growth and Asexual Reproduction in Corals,” *Scientific Reports: Great Barrier Reef Expedition 1928-29* 3, (1931):167-217, <https://www.biodiversitylibrary.org/part/183516>.

8. Barrett, “Great Barrier Reef,” 14.



Fig. 26 Anne Stephenson, described in C.M. Yonge's listing of expedition personnel as "Honorary Zoologist". Photographer unknown. Russell Album 4, Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

It was not without precedent for women to accompany their husbands on scientific field expeditions. Elizabeth Cabot Agassiz accompanied her scientist husband, Louis Agassiz, on trips to Brazil in 1865-1866 and to South America in 1871-1872. Using material from her own journal entries, along with her husband's scientific field notes, Elizabeth published a number of books and journal articles in the latter part of the nineteenth century, including the works: *A First Lesson in Natural History* (1859), *Seaside Studies in Natural History* (1865), and *A Journey in Brazil* (1867). In 1897, Caroline (Cara) David accompanied her geologist husband, T.W. Edgeworth David, on a reef boring expedition to Funafuti, Tuvalu, though Mrs David's role was a purely domestic one.

Therefore, it follows that the 1928-1929 Great Barrier Reef Expedition was ahead of its time for its inclusion of so many women in the research party. And buoyed by the involvement of their British counterparts, some Australian women scientists seized the opportunity to visit Low Isles during the course of the expedition. [Freda Bage](#), biologist and Principal of the Women's College at the University of Queensland (and the only female member of the Great Barrier Reef Committee), and Miss H.F. Todd,

assistant secretary of the Committee, spent a week on Low Island before accompanying some of the expeditioners on a short holiday to the Atherton Tableland in early 1929.⁹

In addition, Welsh botanist [Mary Glynne](#) visited Low Isles in April 1929. Miss Glynne, whose field of specialisation was fungi, was in Australia for a year on a research fellowship, investigating the diseases of wheat. While at Low Isles, Miss Glynne studied marine algae on the reef and collected specimens of fungi and lichens.¹⁰



The title for this chapter was inspired by one of the books from the Sir Charles Maurice Yonge Collection: [Lady with a Spear](#) by Eugenie Clark, 1951.

9. "Visiting Scientists: The Low Island Party: Run to the Highland," *Cairns Post*, January 2, 1929, 4. <http://nla.gov.au/nla.news-article40653032>.

10. "Current Events: Women and Research," *The Age*, June 18, 1929, 5. <http://nla.gov.au/nla.news-article205021772>.

8.

SCIENCE OF THE SEA

Trisha Fielding

In the 2013 book *The Reef: a Passionate History*, Iain McCalman described the 1929-1929 Expedition to the Great Barrier Reef as having a “global impact on coral reef science and tropical marine ecology” that can “hardly be exaggerated”.¹ And in the 2002 publication, *The Great Barrier Reef: History, Science, Heritage*, James Bowen and Margarita Bowen summed up the expedition as:

the greatest marine science venture on a global scale since the *Challenger* oceanographic expedition more than fifty years earlier.²

Maurice Yonge’s pioneering work, particularly on coral physiology, was an outstanding contribution to coral science, and the coral reef research conducted under his leadership is still considered as basic reference material. T.A. Stephenson’s work with Tandy, Spender, Fraser, Manton and wife Anne, on the structure and ecology of the reefs at Low Isles, resulted in a detailed ecological survey on a previously unseen scale. In collaboration with his wife Anne, Stephenson also made a major contribution to the then current state of knowledge of the growth and asexual reproduction of corals.³ The geomorphological work accomplished by J.A. Steers, in tandem with E.C. Marchant and M.A. Spender resulted in the first detailed map of a **low wooded island**.⁴ As recently as 2021, Tom Spencer et. al. wrote that Michael Spender was:

a supremely talented surveyor who, at Low Isles and Three Isles, took reef surface mapping to a completely new level.⁵

1. Iain McCalman, *The Reef: A Passionate History* (Melbourne: Viking, 2013), 270.

2. James Bowen, and Margarita Jean Bowen, *The Great Barrier Reef: History, Science, Heritage* (Melbourne: Cambridge University Press, 2002), 281.

3. Charles Maurice Yonge, “Thomas Alan Stephenson, 1898-1961,” *Biographical Memoirs of Fellows of the Royal Society* 8 (1962): 141, <https://doi.org/10.1098/rsbm.1962.0010>.

4. David Hopley, Scott G. Smithers, and Kevin Parnell, *The Geomorphology of the Great Barrier Reef: Development, Diversity, and Change* (Cambridge: Cambridge University Press, 2007), 10, <https://doi.org/10.1017/CBO9780511535543>.

5. Tom Spencer, Barbara E. Brown, Sarah M. Hamylton and Roger F. McLean, “A Close and Friendly Alliance: Biology, Geology and the Great Barrier Reef Expedition of 1928-1929,” in *Oceanography and Marine Biology: An Annual Review*, eds. S. J. Hawkins and A. J. Lemasson, vol. 59, (Boca Raton: CRC Press, 2021), 107. <https://doi.org/10.1201/9781003138846>.

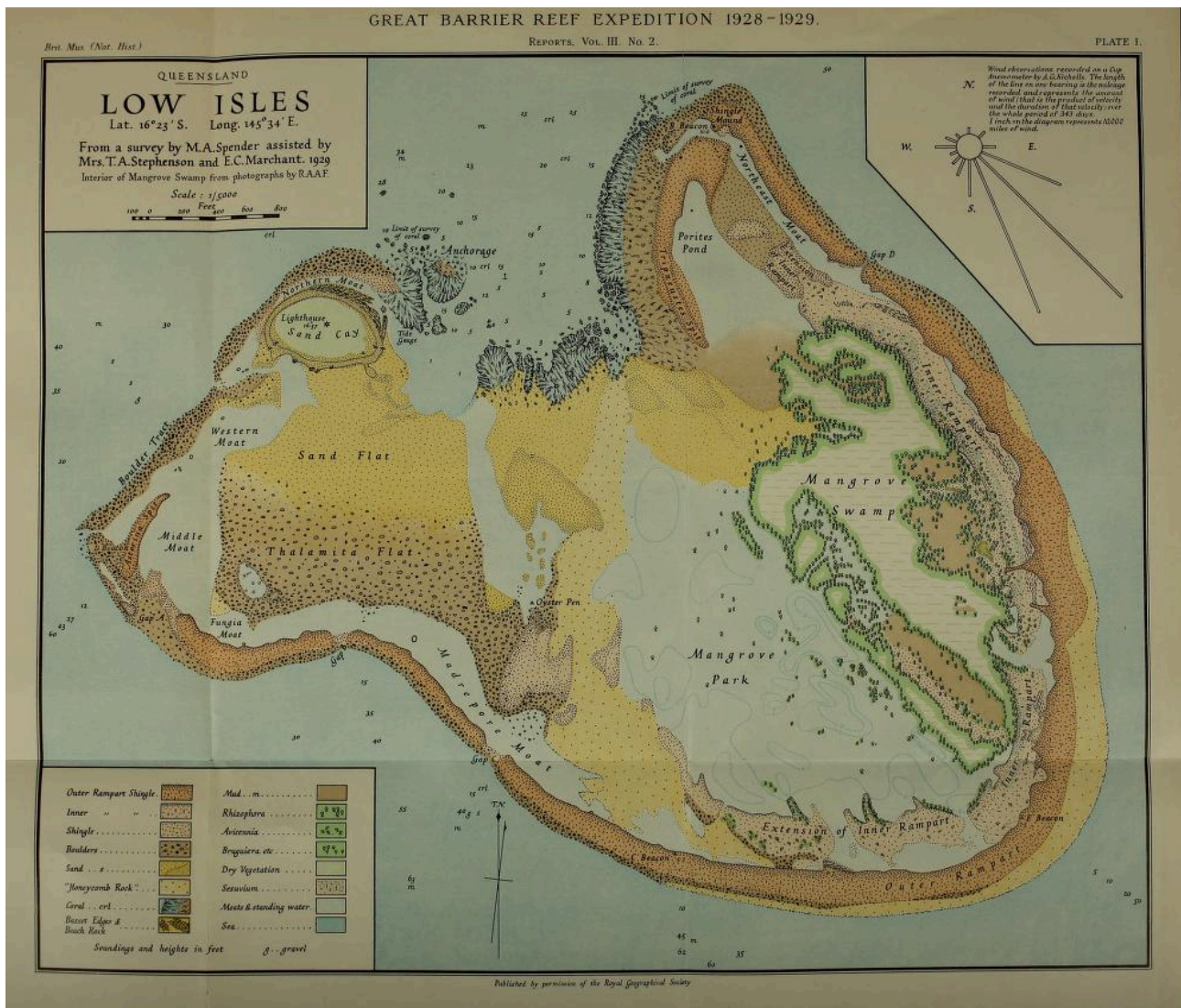


Fig. 27 Low Isles, from a survey by M.A. Spender assisted by Mrs T.A. Stephenson and E.C. Marchant, 1929. Great Barrier Reef Expedition 1928-1929 Scientific Reports, Volume III, No. 2. Royal Geographical Society.

The full extent of the expedition's findings were presented in seven volumes of reports and a plethora of subsequent journal articles and books.



The [Scientific Reports of the Great Barrier Reef Expedition, 1928-1929](#) were published by the

Natural History Division of the British Museum between 1930 and 1968.

The majority of the journal articles were published in the decade following the expedition, however articles reflecting on the expedition continued to appear in scientific journals until the 1980s. Maurice Yonge contributed to, and edited, the first six volumes of the scientific reports and also wrote a popular account of the expedition that was published in 1930. *A Year on the Great Barrier Reef* enjoyed a wide readership, thanks to Yonge's ability to write in such a way that satisfied both general and scientific readers.

But apart from the “pure” (scientific) research that Yonge and his British colleagues had conducted at Low Isles, much groundwork had also been laid for further work to be conducted regarding the economic potential of the Great Barrier Reef. The Queensland Government had long been aware of the commercial wealth (in terms of state revenue) that the north's pearl shell and bêche-de-mer fisheries might hold, and by the 1880s it was taking steps to more closely regulate these industries.⁶ In 1889, [William Saville-Kent](#), whose area of expertise was oysters, was appointed as Queensland's Commissioner of Fisheries.⁷ Saville-Kent believed that these valuable resources would soon be depleted if regulations weren't put in place to govern them.⁸

Yonge, in his post-expedition report to the Australian Great Barrier Reef Committee, also voiced his concerns about overfishing in these industries. He believed that future researchers should give equal weight to conserving established fisheries, as well as to developing new ones.⁹ He expressed particular concern for dugongs, which, although he considered economically valuable both for meat and oil, might easily be “exterminated” if the fishing of these animals were not carefully controlled.¹⁰

While both Yonge and Saville-Kent showed concern for conservation of the reef environment, both wrote popular books that promoted the reef's natural attractions and emphasised the “continuous supply of wealth” and the “mine of wealth” that the Great Barrier Reef contained.¹¹ In his 2022 publication *Saving the Reef*, historian Rohan Lloyd writes that this “enthusiastic promotion of the reef in economic terms” served to reinforce the idea of the reef's commercial value in the minds of the general public.¹² He also

6. For further information here, refer to the Queensland Government *Pearl Shell and Bêche-de-mer Fishery Act. 1881* and amendments to 1931.

7. A. J. Harrison, “Saville-Kent, William (1845–1908),” In *Australian Dictionary of Biography*, Australian National University, published 2005, <https://adb.anu.edu.au/biography/savillekent-william-13185>.

8. Rohan Lloyd, *Saving the Reef: The Human Story Behind One of Australia's Greatest Environmental Treasures* (St. Lucia: University of Queensland Press, 2022), 18.

9. Charles Maurice Yonge, “The Great Barrier Reef Expedition, 1928 – 1929,” *Reports of the Great Barrier Reef Committee* 3, (1931): 20, <https://www.biodiversitylibrary.org/bibliography/156399>.

10. Yonge, “Great Barrier Reef Expedition,” 21.

11. Charles Maurice Yonge, *A Year on the Great Barrier Reef*, (London: Putnam, 1930), 210.; William Saville-Kent, *The Great Barrier Reef of Australia: Its Products and Potentialities: Containing an Account, With Copious Coloured and Photographic Illustrations (The Latter Here Produced for the First Time), of the Corals and Coral Reefs, Pearl and Pearl-shell, Beche-de-mer, Other Fishing Industries, and the Marine Fauna of the Australian Great Barrier Region*, (London: W.H. Allen & Co., 1893), 317. <https://doi.org/10.5962/bhl.title.10161>.

12. Lloyd, *Saving the Reef*, 32.

argues that the many books and articles written about the reef in the decade after the Yonge expedition to Low Isles, “typically fused scientific appraisal with romanticism”.¹³ This in turn prompted a surge in visitor numbers to the reef.



Fig. 28 Married quarters, viewed from the single quarters, Low Island, 1928. Photographer unknown. National Library of Australia. Copyright expired.

The overwhelming success of the Great Barrier Reef Expedition (in terms of its scientific output) prompted the Queensland government to commit to funding further research, and to that end, decided to use the existing infrastructure at Low Isles to found the first Australian marine research station on the reef. The huts, equipment and scientific library on Low Island were reportedly “handed over” to the Queensland Government by the British Great Barrier Reef Committee.¹⁴ Frank Moorhouse, who had been part of Yonge’s expedition, was appointed in a part-time capacity to manage the station. Unfortunately,

13. Lloyd, 32.

14. Charles Maurice Yonge, “The Great Barrier Reef Expedition, 1928 – 1929,” *Reports of the Great Barrier Reef Committee* 3, (1931): 19, <https://www.biodiversitylibrary.org/bibliography/156399>

this venture was short-lived. In March 1934 a cyclone swept over Low Isles, destroying the laboratory and huts.¹⁵

Breaking Camp on Low Island

In July 1929, when it came time to pack up and leave Low Isles, undoubtedly the handful of remaining expeditioners had mixed feelings about leaving their little island home. Sidnie Manton, in a letter home to her father, told of how she had delayed her planned departure date by five days, because when the time came to leave she found she “simply couldn’t do it”.¹⁶ On her last full day at Low Isles (15 July 1929), her diary entry for that day speaks to the close bond she had formed with two of her colleagues:

Last day at Low Isles – I could weep – helped Michael pack in morning – afternoon coffee as usual – J one side and M on the other. So to chores – Vid and George clearing up etc. Printing [photos] in the evening, cocoa with John and Michael. J to his letters and later Michael to his thermometers. Both such dears in their different ways.¹⁷

In his report to the Australian Great Barrier Reef Committee, Yonge gave this succinct summation:

Every member of the expedition left with the feeling that the year on Low Isles had been well spent and that something of real scientific value had been accomplished.¹⁸



The title for this chapter was inspired by one of the books from the Sir Charles Maurice Yonge Collection: *Science of the Sea* by G.H. Fowler & E.J. Allen, 1928.

15. “Low Isles Swept: Research laboratory Demolished: Cottages Unroofed,” *The Courier-Mail*, March 17, 1934, 13. <http://nla.gov.au/nla.news-article1180700>.

16. Sidnie Milana Manton, *Sidnie Manton: Letters and Diaries: Expedition to The Great Barrier Reef 1928-1929* (Independently Published, 2020), 114.

17. Manton, *Sidnie Manton*, 211.

18. Yonge, “Great Barrier Reef,” 18.

PART II

DISCOVERING THE SIR CHARLES MAURICE YONGE COLLECTION

9.

SIR MAURICE YONGE'S PRIVATE LIBRARY

Trisha Fielding

The success of the 1928 Great Barrier Reef Expedition firmly established Maurice Yonge's international reputation as a zoologist, and in 1932 he was appointed the first Professor of Zoology at the University of Bristol. His professional achievements over the course of his long career earned him many accolades, including election as a Fellow of the Royal Society in 1946, the award of a CBE in 1954, the conferment of a knighthood in 1967, and of honorary degrees from four universities.¹ But his personal life was touched by tragedy when his wife Mattie died in 1945. Yonge dedicated his 1949 book *The Sea Shore* to Mattie, evocatively writing: "In Memory – M.J.Y. – Who will walk on no more shores with me".

Throughout his life, Sir Maurice Yonge built up an extensive private library of books, reports and papers relating to all aspects of the sea. When aged in his early 80s (and knowing that his health was failing him), he offered to sell his private scientific library to the Australian Institute of Marine Science (AIMS). A fisheries research institute in Japan had expressed a keen interest in acquiring the library, but in view of his past associations with Australia, Sir Maurice felt the most appropriate home for his library was at AIMS.

Yonge's Return to the Reef

Much of his fondness for AIMS stemmed from a six-week research trip to the Institute that Sir Maurice undertook in 1978. He formed lasting bonds with researchers there and considered his time at AIMS to be the pinnacle of his career in marine biology.²

After his retirement from the University of Edinburgh, Sir Maurice returned to full time marine biology research, with a particular focus on further developing his work on **Tridacnidae**, which he had begun 50 years earlier. He approached AIMS to canvas support for this work, with a view to visiting AIMS and conducting fieldwork at several sites. In correspondence to AIMS, he noted that:

I still have a lot of matters I want to clear up covering all species and, especially with Hippopus, all sizes. Most of all I would love to follow up the post-larval development.³

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1. Brian Morton, "Charles Maurice Yonge (1899-1986)," *Archives of Natural History* 25, no. 3 (1998): 432. <https://www.eupublishing.com/doi/abs/10.3366/anh.1998.25.3.431>.
 2. Charles Maurice Yonge, "Letter from C.M. Yonge to Australian Institute of Marine Science, dated 2 March 1978," Australian Institute of Marine Science Corporate Correspondence File.
 3. Charles Maurice Yonge, Australian Institute of Marine Science, Australian Institute of Marine Science Corporate Correspondence File.



Fig. 29 Sir Maurice Yonge and Ivan Hauri on Low Isles reef flat, 1978. Photographer unknown. Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. © Australian Institute of Marine Science.

Sir Maurice Yonge arrived in North Queensland in early 1978, this time accompanied by his second wife, Lady Phyllis Yonge. With the assistance of AIMS personnel including Martin Jones and Ivan Hauri, the Yongs conducted research at various locations in the Palm Islands Group, north of Townsville, including the reef flat between Brisk and Falcon Islands. During this work, the Yongs were accommodated at Orpheus Island Resort. The trip also included a visit to Low Isles. In a later report to AIMS, he noted his disappointment in the state of the reef at Low Isles:

I had the opportunity of revisiting Low Isles, off Port Douglas and the scene of the expedition I led 50 years ago and which worked there for 13 months. It was sad to find the reef surface, then the site of the richest possible array of living organisms and a natural experimental aquarium, now almost entirely dead. This appears to be the effect of sediment brought down by the Daintree River following the clearance of rain forest.⁴

Sir Maurice concluded his report on a high note though, singing the praises of the Institute and its staff and thanking them sincerely for their hospitality, writing:

It is impossible to conclude this brief report without acknowledging the extent of the hospitality and services that my wife and I have received at AIMS. Beginning in 1921, I have worked in marine laboratories all over the world and have never enjoyed comparable facilities. I wish to record our gratitude to the Director and to

4. Charles Maurice Yonge, "Report by C. M. Yonge," Papers of Sir Maurice Yonge, National Library of Australia, <http://nla.gov.au/nla.obj-2375159028>.

many others, in particular Martin Jones and Ivan Hauri, who have assisted in so many ways. I leave AIMS with my best wishes for what I am certain will be a highly successful future.⁵



Fig. 30 Sir Maurice Yonge, Lady Phyllis Yonge, Ivan Hauri and Peter Saw, Orpheus Island Resort, 1978. Sir Charles Maurice Yonge Collection, James Cook University Library Special Collections. © Australian Institute of Marine Science.

Negotiations for the sale of Yonge's scientific library to AIMS were finalised in late 1982, and shortly afterwards, Sir Maurice wrote to AIMS Director, John Bunt, to tell him that he was pleased that the matter of his private library had been finalised, noting: "It is probably the best marine biological library in private hands in this country and I am happy that it goes to AIMS."⁶



[View the images](#) from Sir Maurice Yonge's Return to the Reef in 1978.

5. Yonge, "Report."

6. Charles Maurice Yonge, "Letter from C.M. Yonge to J.S. Bunt, dated 19 October 1982," Australian Institute of Marine Science Corporate Correspondence File.

JCU Library's Sir Charles Maurice Yonge Collection

Comprising just over 1,600 items, the Sir Charles Maurice Yonge Collection consists of works published from the early 1700s to the twentieth century, many are now rare. The collection focuses on knowledge of the marine world, with **malacology** strongly represented, as that was Sir Maurice's particular expertise. Major subjects covered, include:

- History of biological oceanography, including reports of major marine expeditions of discovery
- Mollusca: taxonomic, ecological and physiological accounts
- Early taxonomic monographs (comprising many of the world's oldest books on marine life)
- Corals and coral reefs
- Fish and fisheries
- Marine mammals
- Crustacea
- Physical oceanography
- Australian marine explorations

Sir Maurice Yonge's library was housed at AIMS for over thirty years. In 2016, to ensure safe, long-term preservation of the collection, it was moved to James Cook University Library and is now housed under archival conditions in Special Collections.

10.

A LIBRARY OF EXQUISITE TREASURES

Trisha Fielding

In correspondence with AIMS about the sale of his private library, Sir Maurice Yonge remarked that he was pleased that the books would remain together, and on the North Queensland coast, not far away from Low Isles, the site of his first major research expedition. Sir Maurice highlighted notable volumes contained in the collection, including Beete Jukes' *Voyage of HMS Fly*, published in 1847, an [author's copy of Saville-Kent's now-famous work on the Great Barrier Reef](#), published in 1893, and [an album containing the original prints of Saville-Kent's photographs](#) taken for that publication. He noted that Saville-Kent's work was one of the books he took with him to Low Isles in 1928.

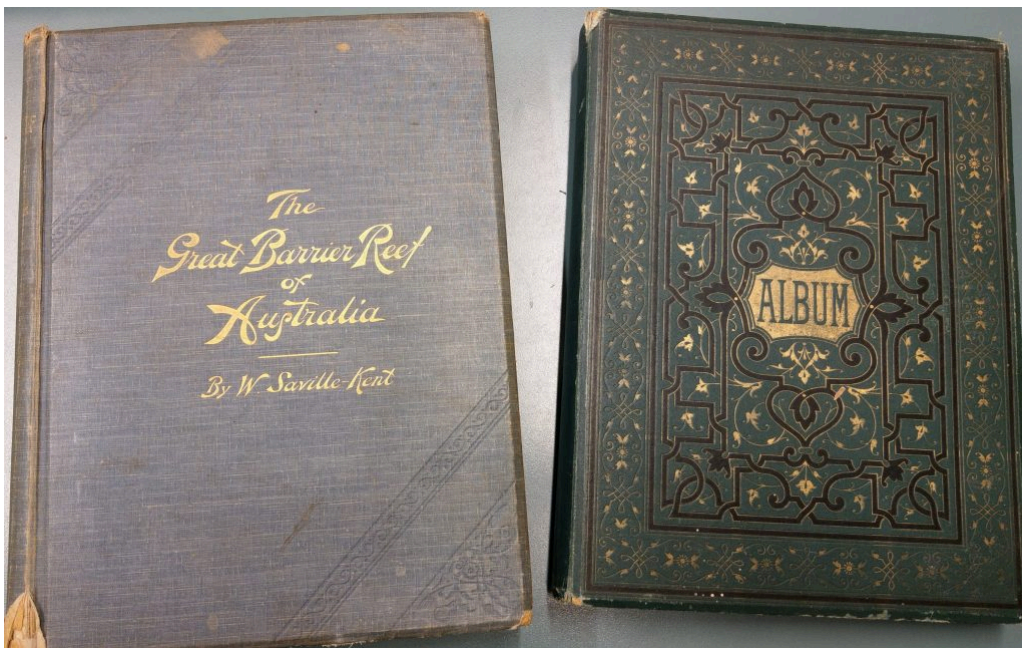


Fig. 31 *The Great Barrier Reef of Australia*, by William Saville-Kent, and an album containing Saville-Kent's original photographs are now part of the Sir C.M. Yonge Collection. Copyright James Cook University Library Special Collections.

The acquisition of Sir Maurice Yonge's library proved to be something of an administrative challenge for the library staff at AIMS, who faced the enormous task of sorting and cataloguing the collection. Suzie Davies, now one of JCU Library's Special Collections volunteers, began working with the Sir Maurice Yonge Collection not long after it arrived at AIMS. And although Suzie never met Sir Maurice Yonge, for eight years of her professional life, she read his books, letters, Christmas cards, and saw dozens of photos

of his life. Suzie was surrounded by the professional life and times of Sir Maurice Yonge and can recall the impact that his library had on her personally, as well as professionally. Suzie said:

I got my first ‘proper’ professional job as a librarian in early 1983, when I went to work as a cataloguing librarian in the science library at the Australian Institute of Marine Science, Cape Ferguson, North Queensland.

AIMS was and still is a stunningly impressive scientific facility, set in a national park, on the shores of the Coral Sea. In 1983, the AIMS library was the largest marine science library in the Southern Hemisphere. To say that I was somewhat in awe of and intimidated by working there was an understatement. On my first day in my new job, I was shown around by Inara Bush, the AIMS Library Manager. Inara had just recently started her job at AIMS, after a long and extremely distinguished career in academic & research libraries. She was an exceptional librarian, and I was terrified!

On my first day, Inara walked me into an office filled with large cardboard boxes. She waved her arms across them all and said “Suzie, these boxes contain the personal scientific library of Sir Maurice Yonge, the most famous marine scientist in the world. And it’s your job to catalogue them. Oh, by the way, some of them are hundreds of years old, so be careful.” No pressure...¹

1. Personal communication with the author, 6 September 2018



Fig. 32 Suzie Davies, at work in the library at AIMS, c. 1987.
Photographer unknown. © Australian Institute of Marine Science.

Over the next months, Inara and Suzie opened box after box of books, discovering treasure after treasure, and in the process, Suzie found herself getting to know Sir Maurice Yonge through the collection he had spent a lifetime building. She recalls:

I chipped away – cataloguing, cataloguing, cataloguing. We gradually began to know the collection, and to understand the depth and breadth of Sir Maurice’s scientific interests. Even though Sir Maurice was a malacologist, we found books on every aspect of marine science and technology. We found maritime histories, anthologies of poetry of the sea, we found cookbooks on oysters. We even found *Moby Dick*!

We also found several hundred very old and rare books from the 1800s and 1700s – books filled with the most exquisite illustrations of marine life. Books written during the French Revolution, books written by history’s greatest thinkers: Darwin, Solander, Banks, Rumphius, Sowerby – the list is vast.

As the years went by this beautiful collection gave up its secrets to Inara, who was then able to help the AIMS scientists use this amazing resource for their own scientific research. For me, a new librarian learning the ropes, this was a unique and wonderful experience – one that influences my life still. Inara taught me much over those years. I formed a bond of huge respect and regard for her knowledge, professionalism, patience, and for the excellent library service that she constantly gave the AIMS scientists.

Sir Maurice Yonge passed away in 1986. On hearing the news, I can remember feeling a sadness that this great man’s huge life had ended. As I had worked my way through this outstanding record of a life so well

lived, I had formed a warm, personal regard and respect for this giant of the marine science world. And by the end of my time working on Sir Maurice's scientific library, I felt that, even though I had not met him, maybe this wonderful collection had allowed me to know something about this quiet, humble man. And for that privilege, I will always be grateful.²

2. Personal communication with the author, 6 September 2018.

11.

ELLIS AND SOLANDER'S NATURAL HISTORY OF MANY CURIOUS AND UNCOMMON ZOOPHYTES

Suzie Davies

Ellis, John and Solander, Daniel (1786), [*The natural history of many curious and uncommon zoophytes, collected from various parts of the globe*](#) by the late John Ellis ... ; systematically arranged and described by the late Daniel Solander ..., Benjamin White & Son, London.

About the Authors

John Ellis was recognised as the first modern marine biologist and won a number of prizes from the Royal Society during his life. *The natural history of many curious and uncommon zoophytes* clearly and finally established the animal nature of marine animals such as corals, gorgonians and starfish; permanently separating them from the taxonomy of marine plants. The work clearly identified the topic of marine zoology and also laid the foundation for accurate marine botany in England.



Fig. 33 Illustration from *The Natural History of Many Curious and Uncommon Zoophytes*. Artist J. Barnes. James Cook University Library Special Collections. Copyright expired.

Daniel Solander is widely known as the botanist who accompanied Sir Joseph Banks on James Cook's first voyage of discovery on the *Endeavour*.¹ He inspired the naming of Botanist Bay (later to become Botany Bay). Unfortunately, Solander died quite young, but he still produced a series of major groundbreaking publications emanating out of the scientific collections from his numerous voyages. Solander and Ellis undertook many scientific collaborations during their lives, publishing major works at the Royal Society. Both John Ellis and Daniel Solander were greatly regarded by a giant of eighteenth century science, Carl Linnaeus. This regard is clearly shown in the 1758 compliment Linnaeus paid Ellis:

You in these minute and almost invisible beings, have acquired a more lasting name than any heroes and

1. "Daniel Solander," Wikipedia, accessed March 22, 2018, https://en.wikipedia.org/w/index.php?title=Daniel_Solander&oldid=822120273.; Roy Anthony Rauschenberg, "Daniel Carl Solander: Naturalist on the 'Endeavour,'" *Transactions of the American Philosophical Society* 58, no. 8 (1968): 1-66, <https://doi.org/10.2307/1006027>.

kings by their cruel murders and bloody battles. I congratulate you on this, your own stupendous victory, over the barbarous ignorance which hitherto has held the philosophic world in subjection.²



Fig. 34 Illustration from *The Natural History of Many Curious and Uncommon Zoophytes*. Artist unknown. James Cook University Library Special Collections. Copyright expired.

About the Book

From its first publication, *The natural history of many curious and uncommon zoophytes* set a new standard in taxonomic excellence, and went on to become a standard work in many branches of taxonomic zoology and botany for the next two hundred years.³ The book was one of the first fruits to flow from the

2. Roy Anthony Rauschenberg, "John Ellis, F.R.S.: Eighteenth Century Naturalist and Royal Agent to West Florida," *Notes and Records of the Royal Society of London* 32, no. 2 (1978): 150, <https://www.jstor.org/stable/531725>.

3. Paul F. S. Cornelius, and John W. Wells, "Ellis & Solander's 'Zoophytes', 1786: Six Unpublished Plates and Other Aspects," *Bulletin of the*

establishment of the world-famous British Museum. *The natural history of many curious and uncommon zoophytes* was the last major work authored by both Ellis and Solander, with neither scientist living to see the completed publication. It was finally published by Ellis's daughter, Martha Watt with the financial support of Sir Joseph Banks in 1786.⁴ The book begins with a sincere dedication by Watt to Sir Joseph Banks:

President of the Royal Society, the liberal patron of science, and the enlightened cultivator of natural knowledge ... inscribed by his most obedient and much obliged servant, the daughter of the author, Martha Watt.

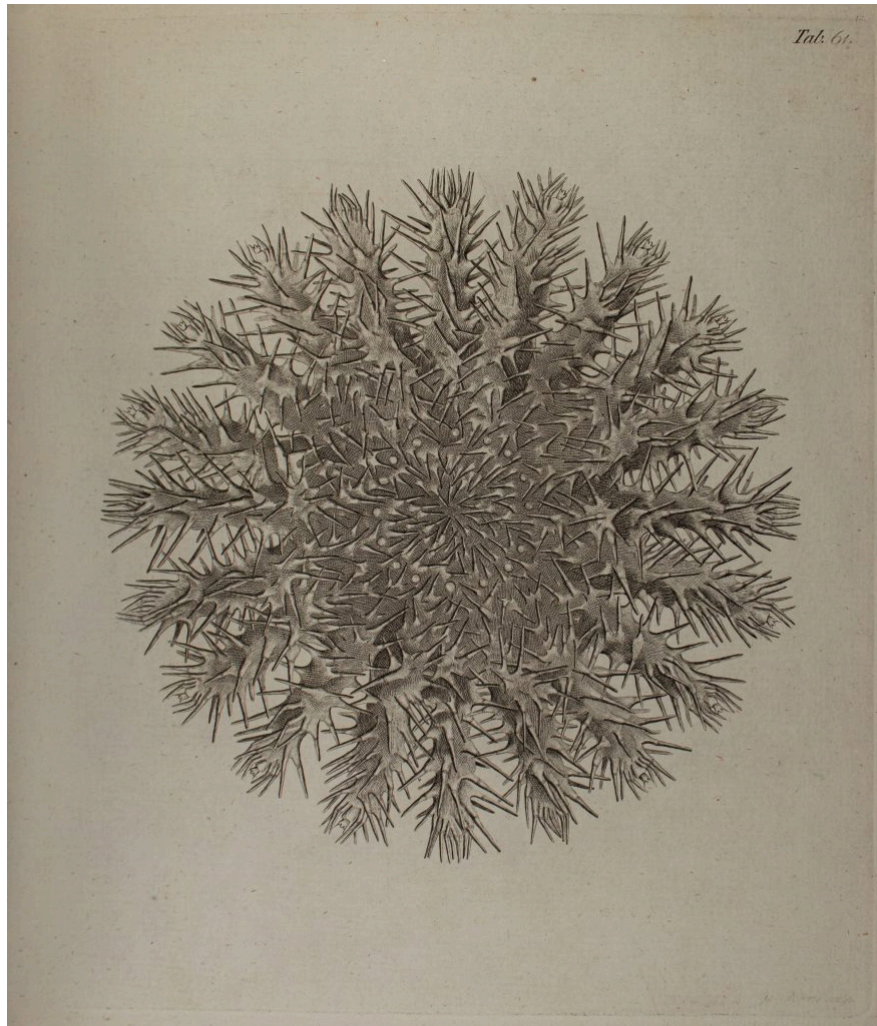


Fig. 35 Illustration of *Acanthaster planci* (Crown-of-thorns Starfish), in *The Natural History of Many Curious and Uncommon Zoophytes*. Artist unknown. James Cook University Library Special Collections. Copyright expired.

British Museum (Natural History) Historical Series 16, no. 1 (1988): 17-87, <https://www.biodiversitylibrary.org/item/19488#page/133/mode/1up>.

4. Roy Anthony Rauschenberg, "John Ellis, Royal Agent for West Florida," *Florida Historical Quarterly*, 62, no.1 (1983), Article 3, <https://stars.library.ucf.edu/fhq/vol62/iss1/3/>.

A feature of the work is its 63 exquisitely-engraved plates. It includes possibly the first recorded illustration of the crown-of-thorns starfish (*Acanthaster planci*), then known as *Asterias echinites*.⁵ Almost exactly 200 years later, this particular illustration was used as the logo for a range of publications coming out of the 1985 Crown-of-Thorns Study undertaken by AIMS, based in Townsville, North Queensland.

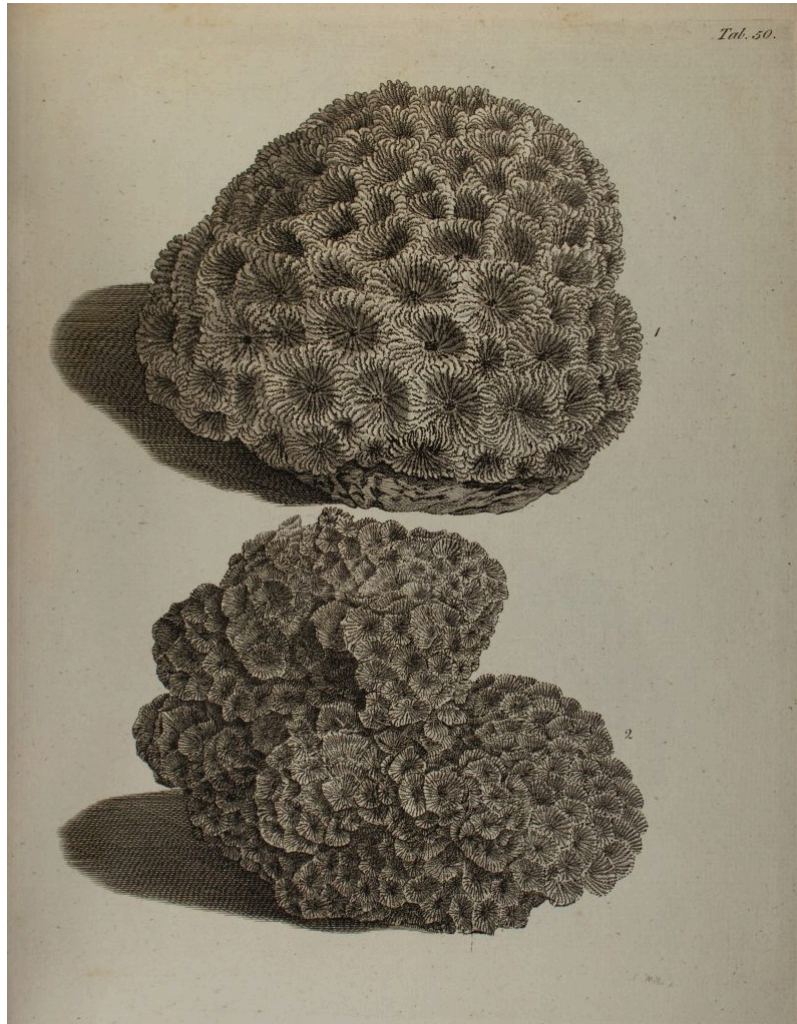


Fig. 36 Illustration from *The Natural History of Many Curious and Uncommon Zoophytes*. Artist unknown. James Cook University Library Special Collections. Copyright expired.

The publications recorded the scientific and administrative results of the Crown of Thorns Study, as well as the biology and ecology of the crown-of-thorns starfish. Twelve monographs were published in the series [Crown-of-thorns study report](#). The publication [Crown-of-thorns starfish: questions and answers](#) by Peter Moran provided answers to commonly asked questions about the starfish, presenting scientifically accurate

5. WoRMS Editorial Board, *World Register of Marine Species*, accessed September 28, 2022, <https://doi.org/10.14284/170>.

information in an easily accessible style. The full colour publication proudly displayed Ellis's illustration on the front cover.⁶

A major scientific review of the starfish, *The Acanthaster phenomenon* by Peter Moran, was published in *Oceanography and Marine Biology: An Annual Review*, Volume 24, pages 379-480.⁷ This work then 'spawned' separate monographs such as *Acanthaster planci: An annotated bibliography* by Peter Moran and Suzie Davies.⁸ The bibliography contained the full citations of the previously published review, as well as additional material. Three editions of this work were published as part of the Crown-of-Thorns Study, and all showed Ellis's starfish illustration on the front cover. Moran's major review was republished in 1988 as *The Acanthaster phenomenon* (Volume 7 of the Monograph Series by the Australian Institute of Marine Science). This volume contained the previously published works.⁹

Ellis's excellent book and its finely engraved illustrations of the crown-of-thorns starfish were first identified by Inara Bush, the AIMS librarian, as she diligently worked through the book stock of the recently arrived Sir Maurice Yonge collection during 1983.

6. Peter John Moran, *Crown-of-thorns Starfish: Questions and Answers* (Townsville: Australian Institute of Marine Science, 1988).

7. Peter John Moran, *The Acanthaster Phenomenon* (Townsville: Australian Institute of Marine Science, 1988).

8. Peter John Moran and Suzie Davies, *Acanthaster Planci: An Annotated Bibliography*, 3rd ed. (Townsville: Australian Institute of Marine Science, 1989).

9. Peter John Moran, "The Acanthaster Phenomenon," In *Oceanography and Marine Biology: An Annual Review*, ed. Harold Barnes (London: CRC Press, 1986) 24:379-480.

12.

RUMPHIUS' AMBONESE CURIOSITY CABINET

Suzie Davies

Rumphius, Georgius Everhardus (1711), *Thesaurus imaginum piscium testaceorum: cancri, echini, echinometra, stelle marine, etc ut & cochlearum ... conchylia ... conchae univalviae & bivalviae ... mineralia*, Petrum vander AA, Lugduni Batavorum.

About the Author

Georgius Everhardus Rumphius (originally Rumpf, 1627-1702), also known as the “Indian Pliny”, was one of the great tropical naturalists of the seventeenth century. Born in Germany, he spent most of his life in the employ of the Dutch East India Company, stationed on the island of Ambon in eastern Indonesia. Despite extensive personal tragedies, including the loss of his sight, Rumphius persevered to produce the definitive work of natural history on the region. Circumstances began to conspire against Rumphius in his efforts to understand the rich fauna and flora of his tropical paradise. Working in the glare of intense sun during the day and writing and drawing at night by candlelight, his eyesight began to fail. By 1670, Rumphius was blind, probably from glaucoma. His wife and children may have assisted Rumphius in taking his scientific notes and collecting specimens. On 17 February 1674 a powerful earthquake struck Ambon. A falling wall killed his wife and daughter.¹ Despite these personal losses Rumphius continued to compile his notes about the fauna and flora of this fascinating portion of Indonesia. By 1680, his manuscript was ready for publication. His record of the medicinal value of the local flora was unique. Fortunately the value of Rumphius’ work was recognised by a VOC official who obtained a copy of the manuscript before it was shipped to Europe for publication. When the ship transporting the original manuscript was sunk by a French vessel (France and the Netherlands were at war at the time), the existence of a copy meant that Rumphius’s work was not lost.²

1. Georgius Everhardus Rumphius and E. M. Beekman, *Rumphius’s Orchids: Orchid Texts from the Ambonese Herbal* (New Haven: Yale University Press, 2003), xxxiv, ProQuest Ebook Central.

2. “Georg Eberhard Rumphius,” Wikipedia, accessed February 20, 2018, https://en.wikipedia.org/w/index.php?title=Georg_Eberhard_Rumphius&oldid=826657993



EFFIGIES
GEORGIÏ EVERHARDI RUMPHII, HANOVIENSIS ÆTAT^s LXVIII.

*Caculus habens oculos tam gravae mentis acutos,
Ut nemo melius detegat aut videat:
Rumphius hic vultu est Germanus origine, totus
Belga fide et calamo: ceterum dicet opus.*
ex tempore posuit

Dr. G. G. Amb.

Fig. 37 An engraved portrait of G.E. Rumphius, in *Thesaurus Imaginum Piscium Testaceorum*. Illustrator Paulus Augustus Rumphius, engraver Jacob de Later. RB0136 Sir Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

Rumphius was elected as a member of what is now the oldest science society in the world, the Academia Naturae Curiosorum of the German Roman Empire (founded in 1657, today known as the Leopoldina). Members were given nicknames, his was “Plinius”, a most honorific title which referred to the Roman administrator Gaius Plinius Secundus (23-79 AD), one of the founders of European natural sciences.³

Rumphius undertook foundational work in Melanesian botany, zoology, geology (including the study of fossils), history, pharmaceutical, ethnological, linguistic, historical and religious matters, including astrology and magic. In addition to his major contributions to plant systematics, he is also remembered for his skills as an ethnographer and his frequent defence of Ambonese peoples against colonialism. To botanists, he is best known for his work *Herbarium Amboinense*, which was a seven volume folio work with extensive descriptions and discussions in Latin and Dutch of about 1200 species with over 800 full page illustrations. Decades after his death, the work was finally published in Amsterdam.⁴⁵

About the Book

Thesaurus imaginum piscium testaceorum is the first edition in Latin of Rumphius' *Ambonese curiosity cabinet*, a groundbreaking work on the natural history of the Molucca Islands and the Indonesian Archipelago with engraved plates after Maria Sibylla Merian. Rumphius' *Ambonese curiosity cabinet* was first published in Dutch in 1705 (titled *Amboinsche Rariteitkamer*), the Latin edition followed in 1711. His greatest work, the seven volume *Herbarium Amboinense* was published between 1741 and 1755. Rumphius' texts remain a significant record of the flora of Ambon.⁶

Rumphius may have lived and worked in a faraway isolated region of the world, but his impact on science continued to be enormous for centuries after his death. Centuries later, this pioneering influence was picked up by twentieth century malacologists such as Sir Maurice Yonge and S. Peter Dance. In his book [*Shell collecting: An illustrated history*](#) (which includes a fine foreword by C.M. Yonge), Dance describes Rumphius as a “remarkable man”:

The *Amboinese Curiosity Cabinet*, despite its unpromising title, is full of accurate and detailed observations on the invertebrate animals encountered by him and mollusks are given special attention... First and foremost he was a brilliant field naturalist... In the consistent and accurate recording of locality data, Rumphius was far ahead of his time and no less noteworthy is his attention to molluscan ecology, in which field he must be considered a pioneer.⁷

3. Veldkamp, “Georgius,” 1-15.

4. Veldkamp, “II. 15 June 2002,” 7-21.

5. Wikipedia, “Georg Eberhard Rumphius.”

6. Veldkamp, “Georgius,” 1-15.

7. S. Peter Dance, *Shell Collecting: An Illustrated History* (London: Faber & Faber, 1966), 48-49.

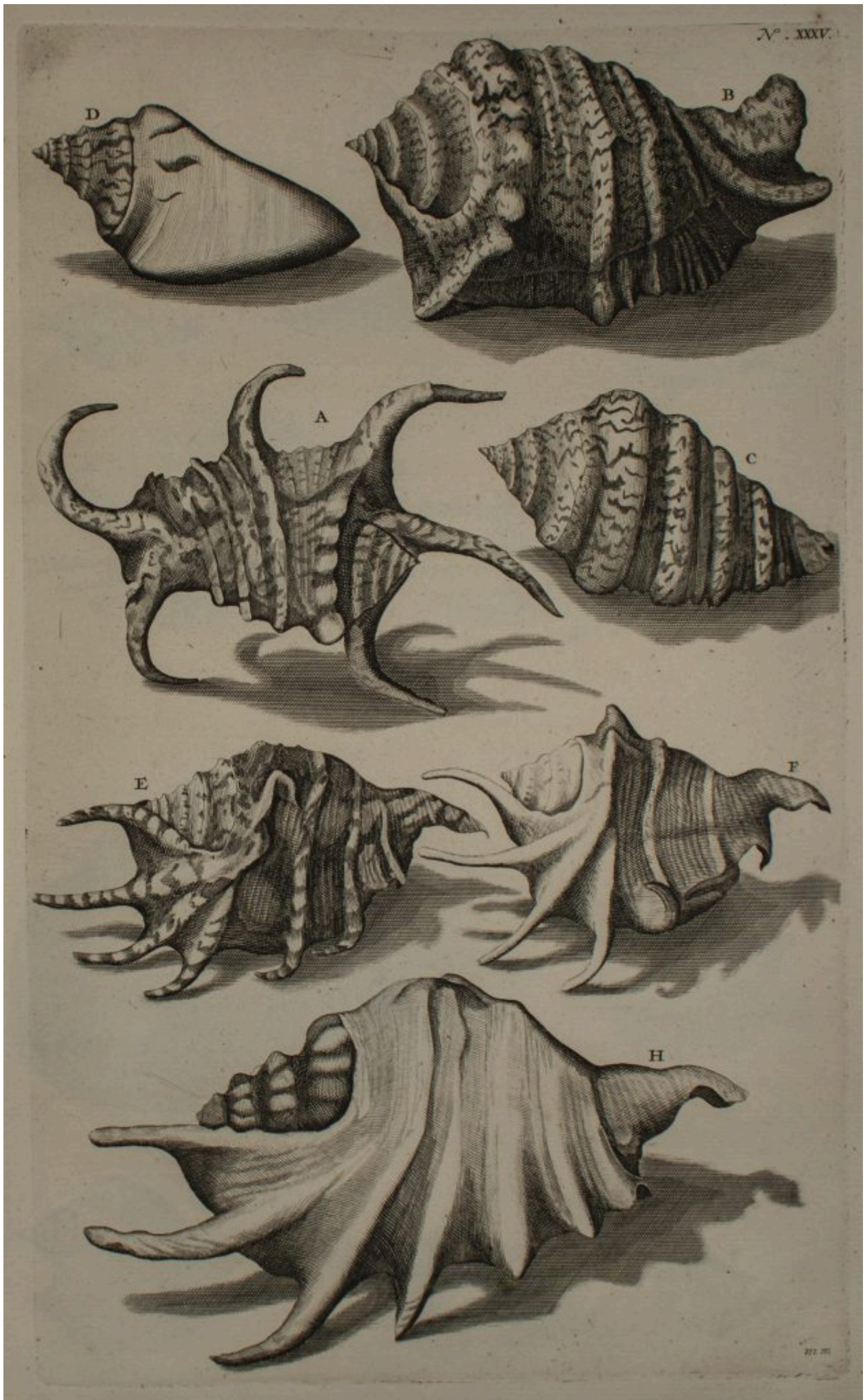


Fig. 38 Plate XXXV, from *Thesaurus Imaginum Piscium Testaceorum*. Illustrator Maria Sybilla Merian, engraver unknown. RB0136 Sir Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

Rumphius' original drawings were destroyed in a fire on Amboina in 1687, and by that point his blindness prohibited him from drawing new specimens himself. The plates in the posthumously published work were engraved after drawings by Maria Sybilla Merian, commissioned expressly for the work. Merian's original drawings are in the Archives of the Academy of Sciences in St. Petersburg.⁸

The copy of *Thesaurus* held at JCU Special Collections includes interesting notations on the verso pages of the front and back covers. The names of members of the Irish Cleland family (Richard Rose Cleland, and Ja. Cleland) are inscribed on the front pages, showing dates 1736, and 1806. Bookplates from James Cleland or Ja. Cleland, of Rathgill or Rath Gael House, near Bangor Island, are also present. James Cleland was a well-regarded naturalist in the 1790s, with a strong interest in conchology. While having no publications to his name, he was an avid shell collector, providing many species to James Sowerby for inclusion in the British Museum of Natural History.⁹

8. Veldkamp, "II. 15 June 2002," 7-21.

9. R. MacDonald and N. McMillian, "James Dowsett Rose Cleland (Cleland): A Forgotten Irish Naturalist," *The Irish Naturalists' Journal* 13, no.3 (1959):70-72. <https://www.jstor.org/stable/pdf/25534641.pdf>.

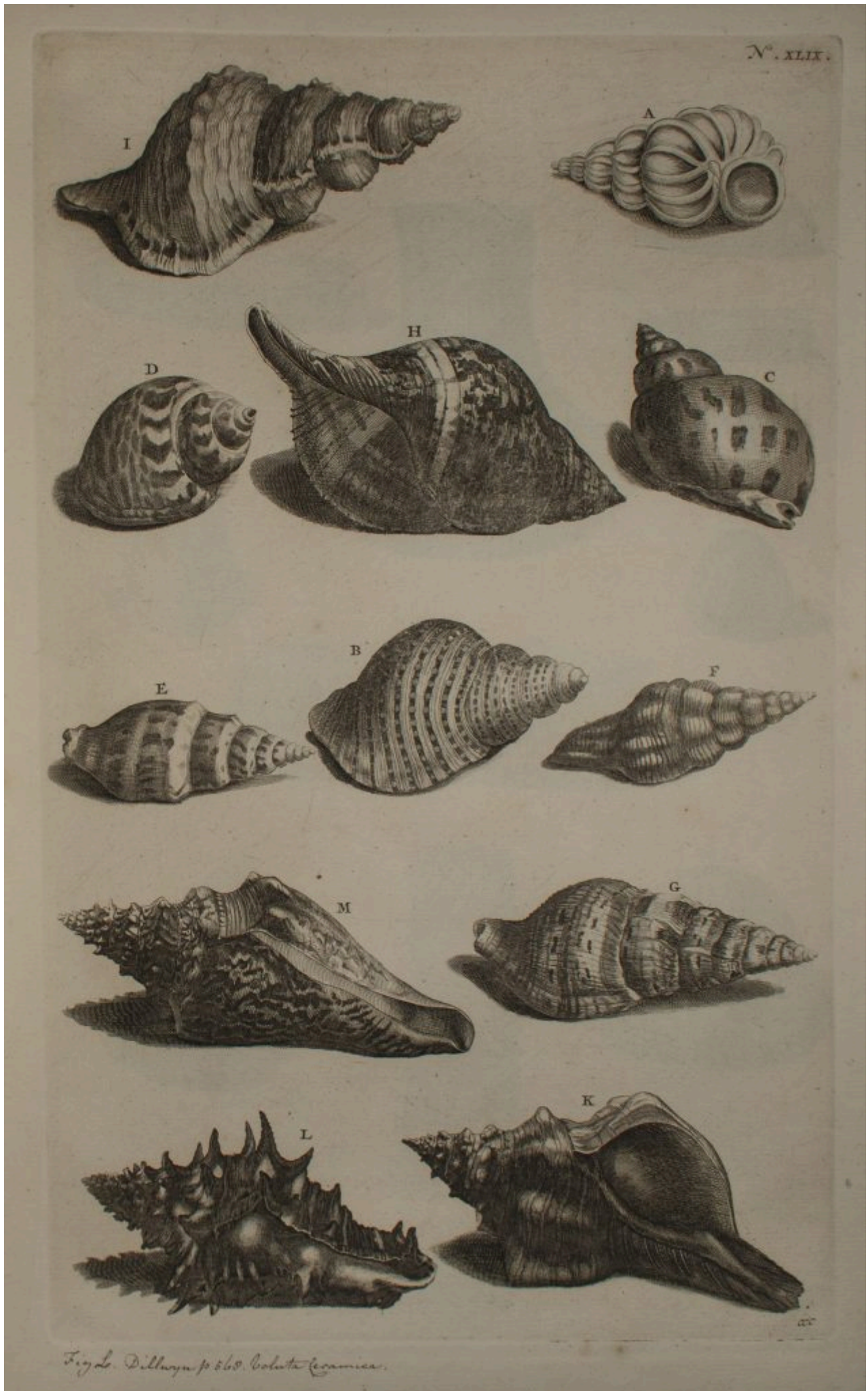


Fig. 39 Plate XLIX, from *Thesaurus Imaginum Piscium Testaceorum*. Illustrator and engraver unknown. RB0136 Sir Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

The *Thesaurus* holds some 60 magnificent copper engravings which can be separated into the following categories: crabs (12), sea-urchins & starfish (4), snails & muscles (33), and petrifications and minerals (11). The engravings are all large (20 x 32 cm) and exquisitely detailed. The very front page of the *Thesaurus* includes a full page portrait of Rumphius at age 68, by his son Paulus. Rumphius sits, clearly blind from glaucoma, but surrounded by his many plant and animal specimens. It is a very fine and remarkable illustration indeed, and creates an impressive introduction to an outstanding work of science.

13.

CUBIÈRES' ABRIDGED HISTORY OF SEA SHELLS

Suzie Davies

Cubières, Simon Louis-Pierre, (1798), *Histoire abregee des coquillages de mer, de leurs moeurs, et de leurs amours*, De L'Imprimerie de PH-D, Versailles. An VI.

About the Author

Simon Louis-Pierre, Marquis de Cubières, was born on 12 October 1747, in Roquemaure (Gard), France, and died on 10 August 1821.¹

Cubières was a squire (or equerry) for Louis XVI and remained devoted to the king and continued to serve him at risk of his own life throughout the years of the French Revolution. Even as the Revolution became more violent, Cubières refused to leave France. He was briefly imprisoned in 1794 but was released.²

He devoted his time to the study of science and literature and wrote the *Histoire des coquillages de mer* published in 1799. He also composed poems and comedies, including comedies such as the *Charlatan*.

Passionate about botany, Cubières had a substantial garden at Versailles and was the neighbour of Marie-Antoinette before and during the Revolution. He published several scientific memoirs through the Agricultural Society of Seine and Oise at Versailles of which he was president.³

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1. "Conchology for Women, With 21 Engraved Plates," *Antiquariaat Forum*, accessed October 4, 2022, https://www.forumrarebooks.com/item/cubieres_simon_louis_pierre_histoire_abr_eacute_g_eacute_e_des_coquillages_de_mer_de_leurs.html; "Shellers From The Past and Present: Cubières, Simon Louis Pierre de (Marchese)," *Conchology*, accessed October 4, 2022, <https://conchology.be/?t=9001&id=16522>.
 2. "Simon Louis Pierre de Cubières," *Geneanet*, accessed October 4, 2022, https://gw-geneanet-org.translate.goog/garric?lang=en&p=simon%20louis%20pierre&n=de%20cubieres&x_tr_sl=fr&x_tr_tl=en&x_tr_hl=en&x_tr_pto=sc.
 3. "Louis Pierre de Cubières," *Wikipedia*, accessed May 24, 2018, https://en.wikipedia.org/w/index.php?title=Louis_Pierre_de_Cubières&oldid=714628172.

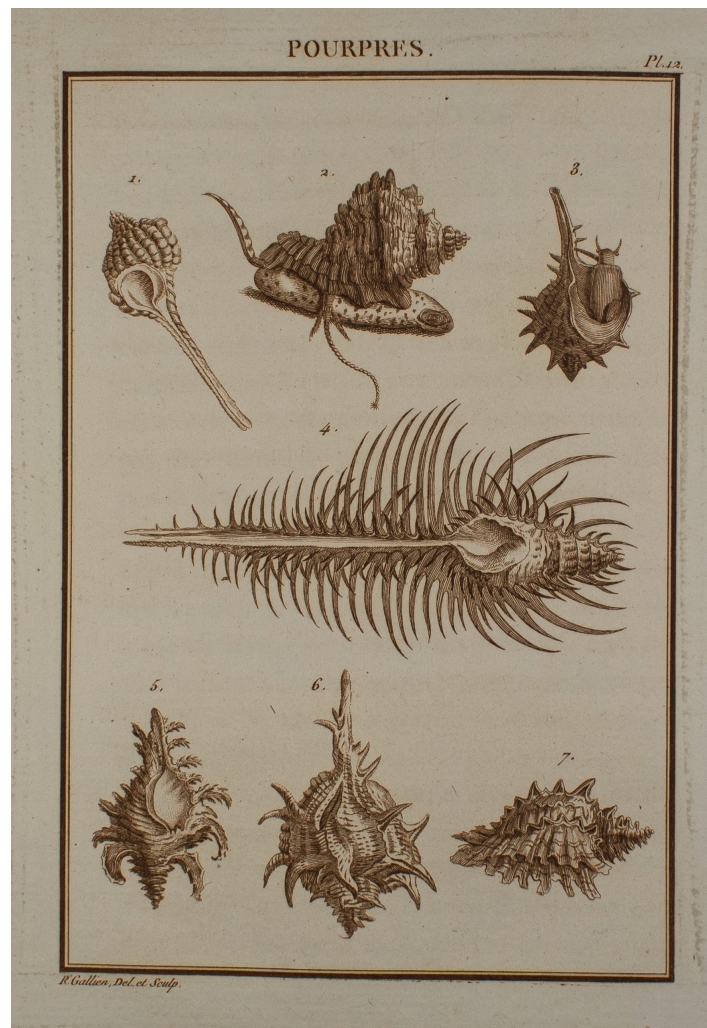


Fig. 40 Plate 42, from Cubières *Abridged History of Seashells*. Illustrator and engraver R. Gallien, RB0055, Sir Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

About the Book

This small but finely illustrated book of shells (measuring 19 cm x 24 cm) features 21 illustrations drawn and engraved by R.G. Gallien, a famous artist of the time. The book is an inventory of current knowledge and research on the topic of conchology with each chapter featuring a different shell family (univalve, bivalve and multivalve). Each illustration is labelled, with the illustrator Gallien's name shown at the bottom. All 21 plates are simply beautiful, with particularly stunning images of gastropods such as Rochers (plate 8) and Pourpres (plate 12). Cubières' comment about Pourpres refers to the shell's role in the production of purple dye, a colour worn down the ages by the Phoenicians, Alexander the Great, Roman

magistrates, rulers of the Roman and Byzantine empires, Roman Catholic bishops, and emperors, kings and queens of Europe.⁴



Fig. 41 Plate 13, from Cubières *Abridged History of Seashells*. Illustrator and engraver R. Gallien, RB0055, Sir Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

The book opens with a curious preface entitled ‘Aux Femmes’, which is a letter in which the Marquis de Cubières offers a romantic vision of conchological studies, addressed to women. The preface dedicates the work to women, ending with:

It is for you alone that I undertook this work; and I will find myself well paid, if the story of the shell people, which will be read, may be worth to me a smile of your gratitude.⁵

4. Mark Cartwright, “Tyrian Purple,” In *World History Encyclopedia*, World History Publishing, 2009, article published July 21, 2016, https://www.worldhistory.org/Tyrian_Purple/.

5. *Antiquariaat Forum*, “Conchology for Women.”

An item of interest in the book is its publication date. The book's title page shows its place of publication to be Versailles, and its publication date to be 'AN VI'. This date style reflected the newly adopted French Republican Calendar. To mark the advent of the new age of liberty, in October 1793, the revolutionaries replaced the old Gregorian calendar with a new republican calendar. Henceforth, the year of the official proclamation of the Republic (1792) would become Year One. In this secular calendar, the twelve months of the year were named after natural elements, while each day was named for a seed, tree, flower, fruit, animal, or tool, replacing names referring to saints and Christian festivals. The Republican calendar was abandoned by Napoleon on January 1, 1806. The publication date of AN VI for this book translates into the period 22 September 1797 to 21 September 1798. This meant that Cubières published this work as the French Revolution raged about him.⁶

6. Andre Munro, "The 12 Months of the French Republican Calendar," In *Encyclopaedia Britannica*. Encyclopedia Britannica Inc., accessed July 5, 2018, <https://www.britannica.com/list/the-12-months-of-the-french-republican-calendar>; "French Republican Calendar," Wikipedia, accessed July 4, 2018, https://en.wikipedia.org/w/index.php?title=French_Republican_Calendar&oldid=846042129.



Fig. 42 Plate 11, from Cubières *Abridged History of Seashells*. Illustrator and engraver R. Gallien, RB0055, Sir Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

This book may not be the most spectacular rare book in the Sir Maurice Yonge Collection as it is quite small and modest in its size and number of fine illustrations. But, to hold in one's hand a book that was produced during the chaos and brutality of the French Revolution, which then survived to be passed through the hands of so many readers and librarians over the centuries since, is truly a special privilege indeed.

14.

BARBUT'S THE GENERA VERMIUM

Suzie Davies

Barbut, James. *The Genera Vermium: Exemplified by various specimens of the animals contained in the orders of the Intestina et Mollusca Linnaei: Drawn from nature.* (Les Genres des Mers exemplifiées par divers échantillons des Animaux contenus aux Ordres des Intestins et Mollusques de Linne D'après Nature). London: James Drixwell, 1783.

About the Author

James (sometimes Jacques) Barbut, (1711?-1791?) was a British naturalist and painter, specialising in still life paintings/images.¹ He exhibited many paintings at the Royal Academy of Arts in London from 1777-1786, with shells and marine themes reoccurring in his works. Despite his fine work and obvious recognition in his field, there seems to be very little substantial biographical material available about Barbut. His death is reported in *The Literary and Biographical Magazine, and British Review, for January 1791*. His birth date, however, is unverified.²

Barbut published *The Genera Vermium... Intestina et Mollusca* in London in 1783. He then went on to publish a second part in 1788, describing more examples from the Genera Vermium: *Testacea*, *Lithophyta*, and *Zoophyta Animalia*. Copies of both works are held in the Sir Maurice Yonge Collection (RB0040 (1783), RB0127 (1788)). Barbut's other published works are: *The genera Insectorum of Linnæus exemplified in various specimens of English insects drawn from nature. Les genres des Insectes de Linné; constatés par divers échantillons d'insectes d'Angleterre, copiés d'après nature.* London: Dixwell, 1781, and *The genera Vermium of Linnæus part 2d. Exemplified by several of the rarest and most elegant subjects in the orders of the Testacea, Lithophyta, and Zoophyta Animalia, accurately drawn from nature. With explanations in English and French.* London: White, 1788.

1. David M. Damkaer, *The Copepodologist's Cabinet: A Biographical and Bibliographical History* (Philadelphia: American Philosophical Society, 2002), 96-98.

2. Jerry Stannard, "Pliny the Elder: Roman Scholar," In *Encyclopaedia Britannica*. Encyclopedia Britannica Inc., accessed June 19, 2019, <https://www.britannica.com/biography/Pliny-the-Elder>.

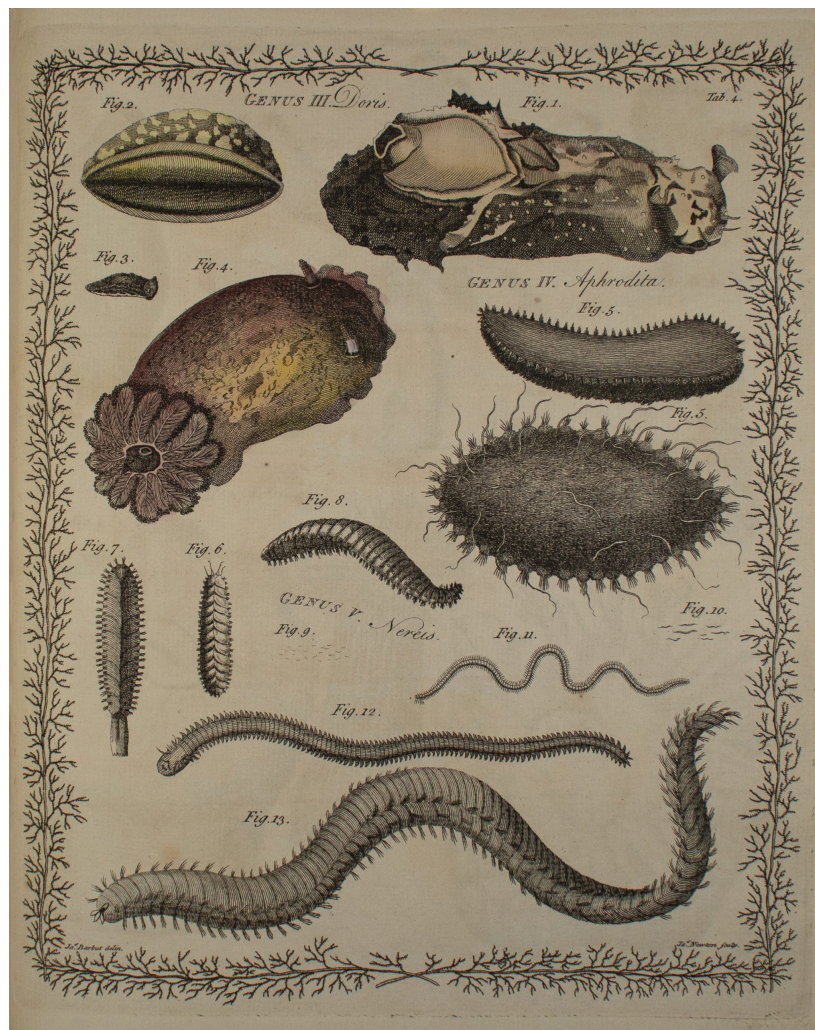


Fig. 43 Tab. 4, from James Barbut's *The Genera Vermium*.
Illustrator James Barbut, engraver James Newton. RB0040, Sir
Maurice Yonge Collection, James Cook University Library Special
Collections. Copyright expired.

About the Book

James Barbut published this work in London in 1783 (RB0040), with a second part (sometimes described as a second edition) released in 1788 (RB0127). This smallish attractive 1783 book holds 11 coloured plates of great detail showing representatives of animals from Linnaeus's *Intestina* and *Mollusca*. The title page is shown in English and French, and the full book text follows in English and French throughout.

Barbut was not a wealthy man. He financed his book through a long list of subscribers, including Sir Joseph Banks, President of the Royal Society.³ Barbut showed a pioneering spirit and optimism for his studies, with powerful quotes throughout his works, such as:

3. Stannard, "Pliny the Elder."

In the museum of that excellent naturalist the late learned Doctor Solander, was an animal of most beautiful pale violet blue color, taken in the South Sea... (Last page of “Animal Descriptions”, page 94)

So prolific is nature in all her works, sporting with her amazing powers, over all the creation, and proving the vast source of wisdom, from whence her operations flow. (At end of “Preface”, page xv)

Pliny the Elder is quoted on the Title page:

While I contemplated nature, She wrought in me a persuasion, that I should look upon Nothing as incredible that related to her. Plin. II 3.

Running through this work is Barbut's enthusiasm for Carl Linnaeus (1707-1778), the Swedish botanist who formalised binomial nomenclature, the modern system of naming organisms, which is still used today.⁴ At times, Barbut's enthusiasm for his subject matter went from merely embracing the Linnaean system to fanaticism:

When we consider the station of animals which inhabit the deep, we need not wonder that this part of nature has not been thoroughly illustrated.... The immortal Linnaeus with infinite judgement, has exhibited an arrangement of the testaceous animals... which is certainly the most scientific method... and though certain persons have taken the liberty to criticize the works of this wonderful man, they are much inferior to him in brilliancy of wit and fidelity of judgement, as a glow worm is to the evening star. (page iii)

This work contains illustrations by Barbut, who was a well-regarded artist. It also includes work by several other notable illustrators and engravers, as does the second edition. Two of those represented in this work, Henry Mutlow and Thomas Woodman, worked in partnership, being major engravers of banknotes and maps.⁵ Mutlow was also Engraver to the King. Engraver, James Newton, was well known for his portraits, genre scenes and landscapes. Newton produced several portraits of important members of the Royal Society in the late 1770s. His most famous was a portrait of Sydney Parkinson, the brilliant young Scottish botanical illustrator and natural history artist who accompanied Sir Joseph Banks and James Cook on the voyage of the HMS *Endeavour*.⁶ Newton's portrait is only one of two known portraits of Parkinson to exist.⁷

4. Damkaer, *The Copepodologist's Cabinet*, 96-98.

5. “Henry Mutlow,” The British Museum, accessed October 17, 2022, <https://www.britishmuseum.org/collection/term/BIOG159615>.

6. William P. Howey, “Sydney Parkinson (1745-1771),” *Scone Vet Dynasty*, October 17, 2022, <https://sconevetdynasty.com.au/sydney-parkinson-1745-1771/>; “Portrait of Sydney Parkinson,” The Royal Society Picture Library, accessed October 19, 2022, <https://pictures.royalsociety.org/image-rs-9203>.

7. Rex Rienits, “Parkinson, Sydney (1745–1771),” In *Australian Dictionary of Biography*, Australian National University, published 1967, <http://adb.anu.edu.au/biography/parkinson-sydney-2537/text3445>; “A Journal of a Voyage to the South Seas,” Wikipedia, accessed October 19, 2022, https://en.wikipedia.org/w/index.php?title=A_Journal_of_a_Voyage_to_the_South_Seas&oldid=1108907747.



Fig. 44 Plate 10, from James Barbut's *The Genera Vermium*.
Illustrator and engraver James Barbut. RB0040, Sir Maurice Yonge
Collection, James Cook University Library Special Collections.
Copyright expired.

All of the book's 11 plates (apart from the added title plate) are hand-coloured, with the engravers' names being shown at the bottom of each illustration. Plate 10 is signed as drawn and engraved by Jas. Barbut. All others are signed as drawn by Jas. Barbut and engraved (or sculpted) by James Newton, apart from the added engraved title plate, signed as engraved by T. Woodman and H. Mutlow, and Plate 6, signed as engraved by J. Taylor.

This particular volume has leather binding, with the front and back covers embossed with a gold coat of arms called 'The Society of Writers to the Signet (WS)'. The WS Society is a private society of Scottish solicitors, dating back to 1594, when it was formally established by the King's Secretary.⁸ Historically the Society had considerable power and major privileges and freedoms not afforded to other

8. "Society of Writers to Her Majesty's Signet," Wikipedia, accessed June 13, 2019, https://en.wikipedia.org/w/index.php?title=Society_of_Writers_to_Her_Majesty's_Signet&oldid=894410377; "Home Page," WS Society, accessed May 8, 2019, <http://www.wssociety.co.uk>.

professional groups. Today, the Society maintains the Signet Library, part of the Parliament House complex in Edinburgh. The library building is a classical masterpiece with a Category A Heritage Listing. It still functions as a working centre for legal research.



Fig. 45 Tab. 11, from James Barbut's *The Genera Vermium*.
Illustrator James Barbut, engraver James Newton. RB0040, Sir
Maurice Yonge Collection, James Cook University Library Special
Collections. Copyright expired.

A second part of Barbut's work appeared in 1788 entitled *The genera Vermium of Linnaeus part 2d: Exemplified by several of the rarest and most elegant subjects in the orders of the Testacea, Lithophyta, and Zoophyta Animalia*. The second edition includes an Apology, in which Barbut states that, unable to procure some animals, he has turned to literary sources, and acknowledges the assistance of T. Pennant, Dr Bohadsch, Seba and Mr J. Clancy, Master in the Royal Navy. The second edition holds 14 plates, all different to the previous work, with all plates being hand coloured quite beautifully.

A concluding quote from Barbut's shows his dedication to his work and his belief in a higher purpose behind scientific description of the natural world:

Let us take a nearer view of them, and our admiration will increase as our ignorance wears away; and the

mind shall become illumined, and in the holy exultation of our hearts, we shall cry aloud, O God, how wondrous are thy works! (page v-vi)

15.

DU MONCEAU'S THE GENERAL TREATY OF FISH

Suzie Davies

Duhamel du Monceau, M., and M. De La Marre. *Traite general des pesches, et histoire des poissons quelles fournissent, tant pour la subsistance des hommes que pour plusieurs autres usages qui ont rapport aux arts et au commerce*. Paris: Saillant & Nyon Libraries, 1769.

About the Author

Henri-Louis Duhamel du Monceau (sometimes known as Hamel, Duhamel, du Hamel, or Monceau) (1700-1782) was one of the pre-eminent scientific investigators of the French Enlightenment period. He was a proponent of the French Enlightenment and wrote a large number of books on a wide range of topics of scientific and economic interest.¹

In his youth, Monceau developed a passion for botany, which took him into studies of horticulture, agriculture and forestry. He first achieved scientific recognition when he was requested by the French Academy of Sciences to investigate the cause of a blight that was attacking the saffron plant industry in the 1720s. His comprehensive and conclusive study showed that the disease was caused by a plant parasitic root fungus.² This thorough investigation and report led to his election to the French Academy of Sciences in 1728.

Following this, he was appointed to the position of Inspecteur général de la marine in 1732. He undertook studies into the cultivation of hemp, rope making and wooden boat building. This led further into sail-making, boat building and various other maritime topics. He also published major works on

1. "Henri-Louis Duhamel du Monceau," Wikipedia, accessed April 21, 2018, https://en.wikipedia.org/w/index.php?title=Henri-Louis_Duhamel_du_Monceau&oldid=820167599.

2. Jon Eklund, "Duhamel Du Monceau, Henri-Louis," In *Complete Dictionary of Scientific Biography*, Encyclopedia.com, accessed October 22, 2022, <https://www.encyclopedia.com/science/dictionaries-thesauruses-pictures-and-press-releases/duhamel-du-monceau-henri-louis>; Bret Payne, "Henri-Louis Duhamel du Monceau, 1700-1782: Biography of Henri-Louis Duhamel du Monceau," Oak Spring Garden Library, accessed April 19, 2018, <http://www.mobot.org/mobot/osgl/author.asp?creator=Henri-Louis%20Duhamel%20du%20Monceau>.

the construction of naval ships. His detailed description of the construction of naval ships, *Elémens de l'architecture navale, ou traite pratique de la construction des vaisseaux* was published in 1752.³

In 1741 Monceau founded a school of marine science, which became the Ecole des Ingenieurs-Constructeurs, the forerunner of the modern Ecole du Genie Maritime. He was also involved in the foundation of the Academie de Marine de Brest, still one of France's most prestigious marine research institutes.⁴ In the 1980s, scientific studies of the Great Barrier Reef instigated collaboration between the French marine science community and AIMS. Connections between AIMS and the French marine community were further strengthened in 1987 by the visit of Jacques-Yves Cousteau's RV *Calypso* to AIMS. Such collaboration continues to this day.

From the year 1740 Monceau made meteorological observations, and kept records of the influence of the weather on agricultural production.⁵ Throughout his life he continued to write on such diverse topics as naval architecture, botany, rope making and meteorology.⁶ His research on fruit trees resulted in probably his most ambitious works, *Trait des arbres fruitiers* in 1768. Today, he is recognised as one of the forerunners of modern agronomy.

Monceau died in Paris in August 1782. At the time of his death, his forests in Vrigny and Denainvilliers contained no fewer than 692 species of trees.⁷ His work has been of use to many amateurs and professional scientists.

About the Book

The General Treaty of Fish, known in French as *Traité général des pesches*, was written by Henri-Louis Duhamel du Monceau and Jean-Louis De La Marre between 1769 and 1782. It focuses largely on the boats, equipment and techniques of fishermen in France during that period. While the text covers mainly France there are also descriptions of areas of economic importance such as the Grand Banks.⁸

3. Eklund, "Duhamel Du Monceau, Henri-Louis."

4. Wikipedia, "Henri-Louis Duhamel du Monceau."

5. Wikipedia.

6. Payne, "Henri-Louis Duhamel du Monceau."

7. Payne.

8. Alyssa Hamer, "Explore Open Collections: Traite General des Pesches," *Digitizers' Blog* (blog), April 23, 2018, <https://digitize.library.ubc.ca/digitizers-blog/explore-open-collections-traite-general-des-pesches>.



Fig. 46 Figure 3 from Du Monceau's *The General Treaty of Fish*. Illustrator unknown, engraver Cors. RB0146, Sir Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

The *Traité général des pesches* is an important historical work that provides unique insight into the practices around fishing in France during the mid-to-late eighteenth century. This work deals extensively with the species of fish found in waters readily accessible to Europeans, their habits and habitats, techniques and equipment used in fishing and fish processing, and many other aspects of these endeavours.

The book is particularly large, with dimensions being 29cm (width), 45 cm (height), and 6 cm (depth), with illustrations being up to 32×22 cm. Roughly 185 engraved plates illustrate the text. The copy held in the Sir Maurice Yonge Collection at JCU Library comprises three parts bound into one volume.

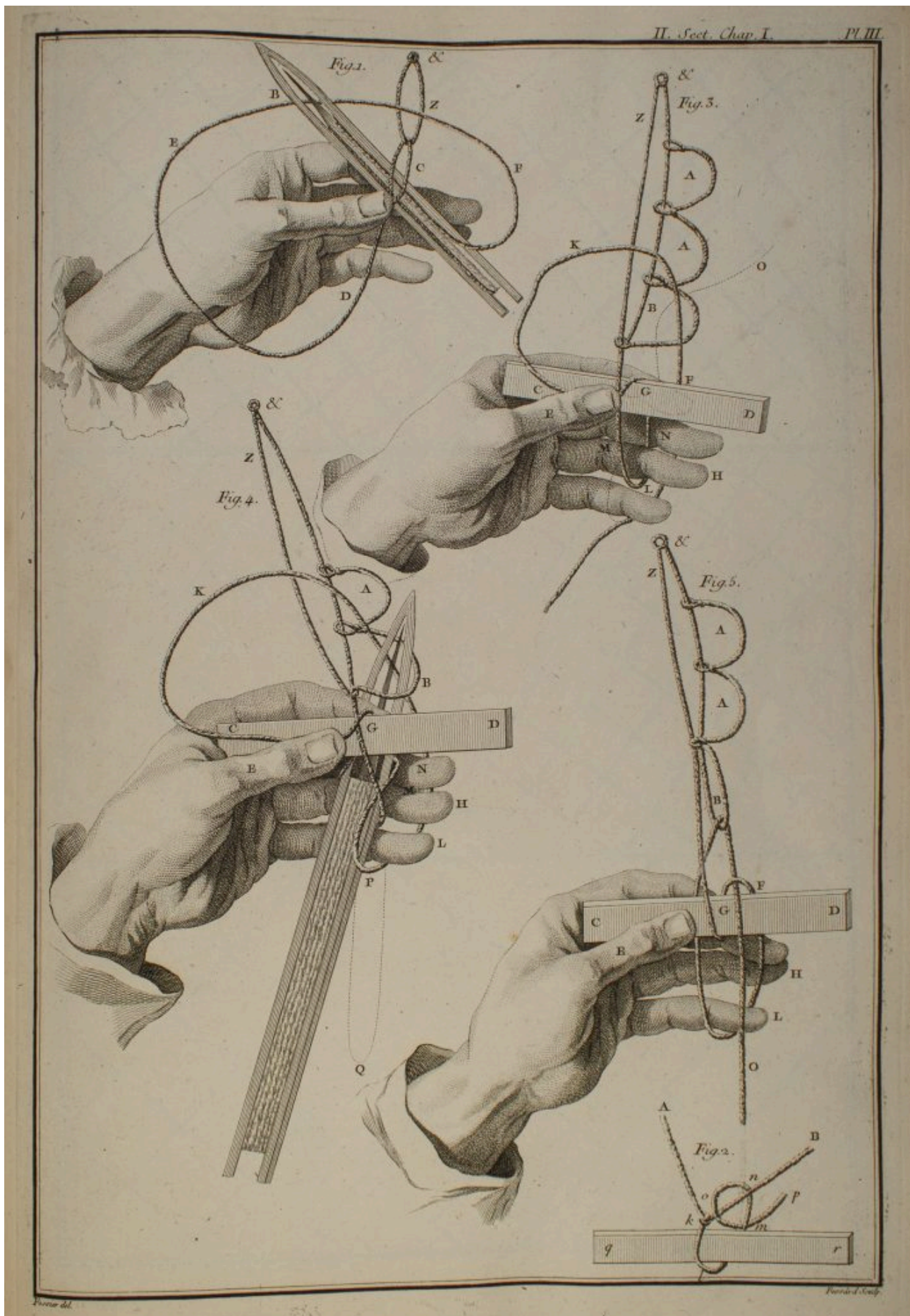


Fig. 47 Plate III, from Du Monceau's *The General Treaty of Fish*. Illustrator unknown, engraver Fessard.

RB0146, Sir Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

Considered one of the finest extant works on fishing and fisheries, the book's plates show both fresh and saltwater fish, fishing boats, fishing equipment and fishers.⁹ Particularly fine drawings are included, showing great detail of fishing nets and fishing hooks, with beautiful illustrations of hands tying and knotting nets. Great illustrative detail is also provided of both wooden and netted fish traps, as well as people working in fishing boats, and neighbouring villages. Many of the detailed technical drawings are placed in beautiful landscape and seascape settings, providing lovely historical records of coastal areas, often also showing large sailing and fishing boats.



Fig. 48 Plate XL, from Du Monceau's *The General Treaty of Fish*. Illustrator and engraver unknown. RB0146, Sir Maurice Yonge Collection, James Cook University Library Special Collections. Copyright expired.

9. Hamer, "Explore Open Collections"

16.

SLADE'S BRITISH MARINE ALGAE

Liz Downes

Slade, Annie. (1884). *British Marine Algae*, Paignton, UK (Unpublished)

About the Compiler

Annie Slade was born in 1860. In 1874 her father, Samuel, variously described as “a high-class Torquay grocer” or a “tea merchant”, acquired the coach-house “Simla” in Paignton, Devon, following the death of its first owner, John Bailey.¹ The Slade family reportedly lived here for the next ten years and it seems to have been towards the end of their residence that Annie compiled the album of pressed seaweeds which she gave to her friends, the Slatters. Within a few years Annie had married William Dawson Ainger and moved to Surrey, living first in Croydon and then Epsom. Four sons were born between 1890 and 1902.² All had varied and successful careers and survived service in either the First or Second World Wars. From a 1929 announcement of the youngest son’s marriage, we know that Annie was back in the west-country, living with her husband in Blagdon, Somerset. In fact, she outlived William and, in January 1951, Annie passed away at the age of ninety, at the Gorselands Nursing Home in the town of Clevedon, on the north Somerset coast.

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1. Richard Farrow, “Simla: The Coach House on the Hill,” *Paignton History* (blog), August 1, 2019, <https://paigntonhistory.home.blog/2019/08/01/simla-the-coach-house-on-the-hill/>.
 2. Clive Orton, “Band of Brothers: The Ainger Brothers of Epsom,” *The Past on Glass & other Stories* (blog), March 2, 2017, <https://pastonglass.wordpress.com/2017/03/02/band-of-brothers-the-ainger-brothers-of-epsom/>.



Fig. 49 *British Marine Algae*, compiled by Annie Slade. Photo: Michael Marzik, 2019. RB0130 Sir Maurice Yonge Collection, James Cook University Library Special Collections. © Michael Marzik.

About the Album

It is interesting to speculate where and when Sir Maurice Yonge acquired *British Marine Algae*, an album of pressed seaweeds collected from England's Devonshire coast towards the end of the nineteenth century. A clue might be found in the fact that, as a young man, Yonge spent several years at the Marine Biological Association's laboratory in Plymouth.³ He was known to be a passionate bibliophile, who frequented antiquarian bookshops⁴ and, since Plymouth is less than 60km from both the home of the album's compiler, Annie Slade, and the sites where the seaweeds were collected, it is quite likely that Yonge discovered the album while he was in Devon early in his career.

Viewing this album today brings an element of surprise—the collection and preservation of marine algae seems an unlikely pastime for Victorian ladies. Middle- and upper-class women were generally expected to develop their skills in music, or the domestic and decorative arts. But the spread of industrialisation brought a growing appreciation of outdoor activities in the healthy air of countryside or seaside. In turn,

3. Brian Morton, "Charles Maurice Yonge: 9 December 1899 - 17 March 1986," *Biographical Memoirs of Fellows of the Royal Society* 38, no. 38 (November 1992): 383-386, <https://doi.org/10.1098/rsbm.1992.0020>.

4. Morton, "Charles Maurice Yonge," 409.

this gave women opportunities for less conventional pursuits; 'sea-weeding' became quite a fashionable pastime, with the added spice of adventure as the women contended with waves, tides or slippery rocks.⁵



Fig. 50 *British Marine Algae*, compiled by Annie Slade. Photo: Michael Marzik, 2019. RB0130 Sir Maurice Yonge Collection, James Cook University Library Special Collections. © Michael Marzik.

But for some women there was a more serious purpose. In Britain the nineteenth century saw a flourishing of interest in the natural sciences, yet women were largely excluded from the scientific societies that sprang up around the country. Seaweed collection and examination provided an avenue for women to participate actively in scientific discovery and, in some cases, brought recognition from men working in the same field.⁶ Slade's album speaks to a relationship between women and science which had been quietly, if tentatively, developing throughout the century. To set the album in context it is instructive to consider the work of some of these collectors.

Several decades before Slade was roaming the shores of Torbay, Amelia Griffiths (1768-1858), a parson's widow with several children, had also collected algae in the same location. She often assisted male colleagues with species identification, becoming a valued friend and collaborator of leading British botanist William

5. Cara Giaimo, "The Forgotten Victorian Craze for Seaweed Collecting," *Atlas Obscura*, November 14, 2016, <https://www.atlasobscura.com/articles/the-forgotten-victorian-craze-for-collecting-seaweed>.

6. Giaimo, "The Forgotten Victorian Craze."

Henry Harvey.⁷ In her lifetime Griffiths collected and preserved 250 different seaweed species and was among the first women to have her work recognised by the scientific community. Her seaweed albums are held in several museums, including at London's Kew Gardens. The *Griffithsia* genus of red algae was named in recognition of her work.⁸

One of Griffiths' former servants, Mary Wyatt (1789-1871), often accompanied her mistress on collecting trips, eventually setting up a shop selling marine specimens including seashells, fossilised corals and pressed algae. The two women collaborated in producing books on seaweed identification, which were sold in Wyatt's shop, helping to spread the popularity of 'seaweeding' at coastal holiday resorts.⁹

On the Sussex coast, children's author Margaret Gatty (1809-1873) took up seaweed collecting during a period of convalescence. It was to become a lifetime passion. Her two-volume *British Sea Weeds* took 14 years to complete, described 200 species and contained 86 coloured plates.¹⁰ The Australian alga *Gattya pinnella* is one of several species bearing her name.¹¹ In mid-century, Anna Atkins (1799-1871) used the new medium of photography to create striking cyanotype photogenic images of seaweeds. Between 1843-53 she published the three-volume *Photographs of British Algae* which pioneered photography as a means of botanical illustration.¹²

7. William Henry Harvey, *A Manual of the Marine British Algae: Containing Generic and Specific Descriptions of all the Known British Species of Sea-weeds* (London: John Van Voorst, 1841), <https://doi.org/10.5962/bhl.title.137927>.

8. Philip Strange, "The Queen of Seaweeds: The Story of Amelia Griffiths, an Early 19th Century Pioneer of Marine Botany," *Philip Strange Science and Nature Writing (blog)*, August 19, 2014, <https://philipstrange.wordpress.com/2014/08/19/the-queen-of-seaweeds-the-story-of-amelia-griffiths-an-early-19th-century-pioneer-of-marine-botany/>.

9. Strange, "The Queen of Seaweeds."

10. Mrs Alfred Gatty and William H. Harvey, *British Sea Weeds: Drawn from Professor Harvey's "Phycologia Britannica"* (London: Bell and Daldy, 1863), <https://library.si.edu/digital-library/book/british-sea-weeds-drawn-professor-harveys-phycologia-britannica-gatty-alfred>.

11. Giaimo, "The Forgotten Victorian Craze."

12. Hunter Oatman-Stanford, "When Housewives Were Seduced by Seaweed," *Collectors Weekly*, November 7, 2013, <https://www.collectorsweekly.com/articles/when-housewives-were-seduced-by-seaweed/>.



Fig. 51 *British Marine Algae*, compiled by Annie Slade. Photo: Michael Marzik, 2019. RB0130 Sir Maurice Yonge Collection, James Cook University Library Special Collections. © Michael Marzik.

Annie Slade was thus quite a latecomer on the scene. On completing her album she inserted a bookplate with the date February 21, 1884 – she would have been 23 years old – along with her name and the names of Mr & Mrs Edmund Slatter, who were to be the lucky recipients of this unusual gift.

Given that Paignton also lies on the shores of Torbay, it is possible that Slade knew of the pioneering work of Amelia Griffiths and Mary Wyatt many decades earlier. Might she have used their books for identification or modelled her album on those of Griffiths? Certainly the Slade album resembles the description of one of the leather-bound Griffiths volumes held in Exeter's Royal Albert Memorial Museum, in which each sample is “mounted on stiff white paper and annotated with the name and location in ... neat handwriting”.¹³

The Slade album contains 35 seaweed specimens each identified by its contemporary botanical name and place of collection. All three groups of macroalgae (red, green and brown alga) are represented and all but two specimens were from locations in Torbay. Slade's consistency in providing exact details of each collection site, and the absence of this information for the two specimens simply labelled ‘Scotland’, suggest the latter were either purchased or received as a gift.

What is so remarkable about this, and similar albums from the Victorian era, is how well the specimens have retained their colour, shape and clarity of detail after so many decades. The process of preservation was painstaking but not difficult. It was outlined in detail by the American A.B. Hervey in his 1881

13. Strange, “The Queen of Seaweeds.”

book, *Sea Mosses: A Collector's Guide*.¹⁴ The equipment required was simple: pliers, scissors, wash bowls, blotting paper, cotton cloth and mounting cards. A stick with a needle inserted in one end was used to gently separate the various parts of the plant to display its finer details. Seaweed-pressing had one key advantage over flower-pressing: no fixative was needed to secure the specimen to its mounting board as Hervey explained: “there is sufficient gelatinous matter in the body of the plant to make it perfectly adhere to the paper without other aid”.¹⁵ The Slade album, where each specimen seems to have become one with the mounting paper, is proof of the enduring properties of this seaweed glue.



Fig. 52 *British Marine Algae*, compiled by Annie Slade. Photo: Michael Marzik, 2019. RB0130 Sir Maurice Yonge Collection, James Cook University Library Special Collections. © Michael Marzik.

Within a few years of the album's date, Slade had married and moved to the land-locked county of Surrey in south-east England where the couple raised four sons. It is unlikely that her new life and location would have allowed much, or any, opportunity for seaweed-collecting ventures to the coast and there is no evidence that she pursued her earlier interest. Nonetheless, no matter how or where Sir Maurice Yonge came across her album, it is easy to see why he was drawn to it. While some compilers liked to arrange their collections in decorative patterns, or even accompanied by snatches of poetry, Slade has presented her specimens with care, precision and an appealing simplicity; each species displays its intrinsic beauty and structure in the finest detail but without any further embellishment. No doubt Yonge also appreciated

14. Alpheus Baker Hervey, *Sea Mosses: A Collector's Guide and an Introduction to the Study of Marine Algae* (Boston: S.E. Cassino, 1881), 19 – 28, <https://doi.org/10.5962/bhl.title.64258>.

15. Hervey, *Sea Mosses*, 26.

how, by correctly identifying each species and adding only its scientific name and the exact site of its collection, this young woman was following basic scientific practice.

British Marine Algae represents one woman's venture into the field of marine botany when, notwithstanding the pioneering work of some remarkable women earlier in the century, female participation in scientific study was much more the exception than the rule. The Slade album celebrates both the beauty of nature to be found between the tides, and the human desire to investigate, record and understand natural phenomena, which is at the root of scientific endeavour.



View the full digitised version of [British Marine Algae](#) in NQHeritage Repository.

17.

GREAT BARRIER REEF EXPEDITION PHOTO ALBUMS (1928-1929)

Trisha Fielding

The [Great Barrier Reef Expedition Photo Albums](#) were generously donated to James Cook University Library's Special Collections by the Great Barrier Reef Marine Park Authority, in 2018. The 370 photos contained within the four small albums document six months of the expedition at Low Isles, and were mostly taken by the expedition's deputy leader, Frederick Russell, or his wife, Gweneth Russell MBE.

The members of the Great Barrier Reef Expedition party left England in May 1928 and photos at the beginning of the first album chart their sea voyage from England to Australia. They broke their journey at the ports of Naples, Colombo and Perth, before arriving in Brisbane. From there, the group travelled by train to Cairns, before being transferred to Low Isles at the end of July.

The 1928-1929 Great Barrier Reef Expedition made an outstanding contribution to coral science, and the research conducted under Yonge's leadership is still regarded as basic reference material. Importantly, the albums document the day-to-day activities of the members of the expedition and illustrate living conditions at the research station. There are images of station buildings, laboratories, equipment and scientific experiments, as well as photos of coral specimens and other marine life. The unspoiled natural environment of Low Isles and surrounding reefs, along with other locations throughout north Queensland, feature heavily.



Fig. 53 Great Barrier Reef Expedition Photo Albums (1928-1929). Photo: Michael Marzik, 2019. Sir Maurice Yonge Collection, James Cook University Library Special Collections. © Michael Marzik.

Each photo is captioned in Frederick Russell's handwriting and many photos are precisely dated. The inclusion of descriptive captions and dates adds significantly to the value of the albums as primary source records for researchers of early reef exploration. In December 1928, the Russells left Low Isles and began the long journey home. They continued to document their adventure, photographing every port of call along the way, including Townsville, Brisbane, Sydney, Adelaide, Ceylon (now Sri Lanka), and Pompeii.

The Great Barrier Reef Expedition Photo Albums were featured in the 2020 Exhibition: *50 Treasures – Celebrating 50 Years of James Cook University*; and all four photograph albums can be viewed online in NQHeritage repository.



[Great Barrier Reef Expedition Album 1](#)

[Great Barrier Reef Expedition Album 2](#)

[Great Barrier Reef Expedition Album 3](#)

[Great Barrier Reef Expedition Album 4](#)

EPILOGUE

This eBook began its life in 2018 as a series of blog posts written for a general audience to provide interpretive context and background information on the Sir Charles Maurice Yonge Collection, which was launched in October of that year. At that time, this Collection had only recently become part of JCU Library's Special Collections. The fascinating story surrounding the Great Barrier Reef Expedition of 1928-1929, released in staggered instalments via the JCU Library News blog, proved to be a popular series that attracted a large readership. Promoting this new Collection through the medium of blog posts attracted a worldwide audience.

The evidence for the true effectiveness of the series only became evident when one of the original expedition participants' descendants (who lives in the UK) contacted me for advice on how to go about publishing a cache of original documents from the expedition. The documents, held privately in family hands (and which were now almost 90 years old) were diaries, compiled over a period of several months in 1929, and a series of letters to family, sent by Sidnie Manton – one of the women scientists on the expedition. This treasure trove of primary source material had hitherto never been seen by scholars/researchers of the expedition. The material seemed all the more remarkable because it contained documents written from the perspective of a woman working in the arena of scientific research at a time when men dominated the field. These documents are now available in book form in the 2020 publication: [*Sidnie Manton Letters and Diaries: Expedition to the Great Barrier Reef 1928 – 1929*](#), edited and compiled by Elizabeth Clifford and Jeanie Clifford.


Trisha Fielding

APPENDIX: MEMBERS OF THE EXPEDITION

Members of the Great Barrier Reef Expedition 1928-1929.

Name	Official Title	Nature of work	No. of months on GBR Expedition
CM Yonge	Expedition Leader	Physiologist	12.5
FS Russell	Deputy Leader of Expedition; and Leader, Boat Party	Zooplankton worker	5
JA Steers	Leader, Geographical Section	Geographer	4
TA Stephenson	Leader, Shore Party	Zoologist	11.5
AP Orr		Chemist and hydrographer	12.5
SM Marshall		Phytoplankton worker	12.5
FW Moorhouse		Economic Zoologist	12.5
AG Nicholls		Assistant to Mr Yonge	12.5
GW Otter		Zoologist	11
G Russell		Assistant to Mr Russell	5
A Stephenson		Honorary zoologist	11.5
G Tandy		Botanist	5
MJ Yonge		Medical Officer	12.5
JS Colman		Zooplankton worker	10.5
EA Fraser		Zoologist	4
SM Manton		Zoologist	4
CE Marchant		Geographer	3
MA Spender		Geographer	11

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While most of these sources and additional readings are freely available, some are not. The lock icon  beside an entry indicates that the source may be available from your library.

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IMAGE CREDITS AND RE-USE INFORMATION

The Cover Image

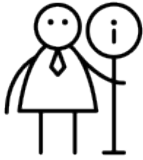


Frederick Stratten Russell b. 1897-1984
Low Isles, from memory 8/7/31 (1931)
Watercolour and pencil on paper, 23cm x 29.4cm
Yonge Ephemera Album, Sir Charles Maurice Yonge Collection
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