Phycological Trailblazer No. 16 A. H. S. Lucas

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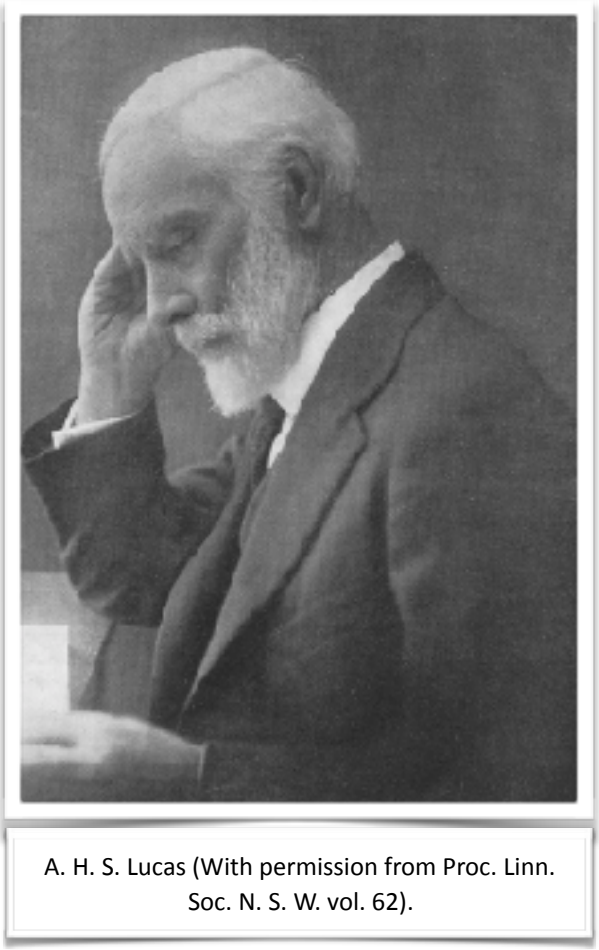
Arthur Henry Shakespeare Lucas was born 7 May, 1853, his third given name reflecting that his place of birth, Stratford-on-Avon in England, was also the hometown of the bard. As a young man, he was sickly and had a long bout with pneumonia, requiring a slow convalescence. The two attending physicians, Dr. Rix and Dr. Ward, consulted one another and announced to his parents that his life would be extremely critical up to the age of twenty-two, but that if he reached that age, then he would be able to look forward to a long life. Their judgment was right on the money. His early schooling had not a single science class. In the "fourth division", he found his life miserable, the Masters being bullies. Lucas recalled being caned for leaving some meat on his plate at dinner. But it was in the next year that he abruptly announced that he was "going to the top of the class". Although his friends laughed at that remark, Lucas soon showed that he was serious and was on his way.



A. H. S. Lucas (With permission from Proc. Linn. Soc. N. S. W. vol. 62).

In his autobiography (1937), Lucas recalled that his introduction to seaweeds came when his older sister Celia took him to the fishing village of Porthleven, near Helston in Cornwall. The tidepools were covered with 'bladderwrack' (*Fucus* and *Ascophyllum*), and even in his old age he remembered the distinctive odor of that maritime scene.

It was from his father, a Methodist minister, that he inherited a deep love for biology and geology (Ducker, 1981). The father supplemented his meager minister's stipend by hunting for fossils and minerals in mines and selling them. The father made a small cabinet for the young Lucas to display the specimens of iron pyrite, serpentine, galena, quartz, and examples of fossiliferous strata of England. He also collected and pressed botanical specimens. Despite his innate shyness and his humble background (being "poorly clad"), Lucas won various academic prizes and scholarships. Eventually, he won the Entrance Science Scholarship at the London Hospital, enabling him to start medical school. But midway through medical school, Lucas' father died, and his brother (with three motherless young children) became very ill. So Lucas dropped out of medical school and began teaching Mathematics and Science at the Leys School, Cambridge, which he did for the next five years. This selfless act was typical of Lucas' spirit that characterized him throughout his life. The other qualities which marked him were his love for justice and his indignation toward cruelty and dishonesty. It was at the Leys School that he founded a Natural History Society and a Museum. He presented to that Museum his family's collection of plants

(which contained 1,200 of the 1,400 described species of flowering plants and ferns then known from England) as well as the valuable collection of fossils. At the Leys School, Lucas played rugby, which is the only record of his having competed in field sports.

In 1883 an appointment came through for Lucas to teach Mathematics and Science at Wesley College in Melbourne. His older brother had emigrated to Australia because he had contracted tuberculosis, and a life 'down under' was considered to be conducive to improved health. The previous year Lucas had married Miss Charlotte Christmas, and so in a belated honeymoon he and his wife traveled across Europe to Naples to join the S. S. *Cuzco* for the voyage to Australia. On this honeymoon trip they saw the sites of Paris, including climbing the towers of Notre Dame, attended the opera, and strolled through the Jardin des Plantes and the Bois. In Rome they "botanized in the Coliseum" and attended half a dozen Masses at once in St. Peter's. In Naples there was time to ascend Mount Vesuvius and tour the surrounding volcanic district and to visit the relatively new Aquarium, built by the German scientist Anton Dohrn. This was later to become the Stazione Zoologica Napoli. Lucas was greatly impressed by the marine animals on display. They then sailed on the long voyage to Australia. Steamships at that time traveling across the Indian Ocean made a refueling stop at the coral island of Diego Garcia lying on the Equator. 'Coaling' was done by Mauritian natives, requiring two days. So Lucas went ashore, exploring and beach-combing, and became oblivious to the ship's imminent departure. The ship's manager, Mrs. Lucas, and some natives paddled in a dug-out to retrieve Lucas and get him back to the ship just in time to leave the island, or he would have been left behind.

The first point of Australia detected by Lucas at a distance was Cape Leeuwin, the extreme SW point of the continent. He had no idea that many years later he would be scrambling over those same rocks in quest of marine algae. In January, 1883, Lucas and his wife landed at Williamstown, southwest of Melbourne. Once settled in, he began his appointment as mathematical and science master at Wesley College. After 10 years at that post, he was appointed in late 1892 to headmaster at Newington College, Sydney. During the six years he spent at Newington the number of pupils increased by 50%, and the school had considerable academic success. He became senior mathematical and science master at the Sydney Grammar School in 1899 and was acting headmaster there during part of the years of World War I, finally becoming headmaster from 1920 to 1923. His career as a school teacher in Australia was for more than 40 years. It was later said that he could have occupied with credit almost any Chair of Natural Science or Mathematics at any Australian University at that time (Chisholm, 1958), but he was content at being a schoolmaster.

He did not restrict himself to schoolwork. While at Wesley College, he lectured on natural science to the colleges of the University of Melbourne and later lectured on physiography at the University of Sydney. During his Melbourne period he served as president of the Field Naturalists Club of Victoria and edited the 'Victorian Naturalist' for many years. He served as president of the Linnean Society of New South Wales in 1907-09.

Lucas ventured out on some collecting trips. One such expedition he participated on was organized by Joseph H. Maiden of the Sydney Botanic Gardens and was to Mt. Kosciuszko in the 'Southern Alps' and the highest point in Australia. On the very first day Lucas became so enamored of all the flowering world, among the steep granite rocks, that he quickly became lost. Luckily, he was able to locate an observatory hut at the summit, where a blizzard of blinding snow lasted for the next two days. Back at the base camp at the edge of the timberline below, his fellow trekkers became more and more alarmed, and a horseman returning to Sydney carried their concern that Lucas was missing. The Sydney evening papers carried the headline 'Naturalist Lost on Mount Koscius[z]ko', with a photo of Lucas and that of a murderer both on page one! It did not help the

situation that an 'overzealous clergyman' quickly brought the paper to Mrs. Lucas. Lucas had some explaining to do, and so that expedition was short-lived.

Not only was Lucas an English scholar, when called upon being able to present lectures on English literature, but he also showed remarkable linguistic talents. He became proficient in French and German, and on a holiday at Twofold Bay south of Sydney, he learned Spanish. In order to understand DeToni's *Sylloge Algarum*, he taught himself Italian. He even learned Russian, mainly so that he could understand some literature on lizards written in Russian.

Lucas' lengthy list of publications (Carter, 1937) includes papers on hermit crabs, cicada, sharks, freshwater and marine fish, birds (and bird eggs), and numerous papers on lizards. This zoological bent (Lucas, 1909a) occcupied most of his professional career, and it was only in the latter part of his life, particularly in his retirement years, that he turned his attention to seaweeds, becoming the Australian authority (Serle, 1949). His accepting an honorary curatorship of the algae in the herbarium of the Sydney Botanic Gardens (now Royal Botanic Gardens, Sydney) in January 1899 that determined that his scientific interest would turn exclusively toward seaweeds. He collected algae in southern Queensland, New South Wales, Victoria, and Tasmania, where he dredged for algae in the Tamar River with Mrs. Florence Perrin of Hobart. Every January he returned to Victoria to spend time with his friends, Mr. and Mrs. Herbert Brookes, collecting algae at Point Lonsdale, Flinders, Port Fairy, and Warrnambool. Besides working up his own collections, in which he described many new species (1913, 1926, 1931a), he also published (1919b) on the algae from the Mawson Antarctic Expedition. He corresponded with noted phycologists of the day and was delighted when W. A. Setchell visited Sydney and consulted his collections.

Lucas retired at the age of 70, but then he became Acting Prof. of Mathematics at the University of Tasmania for two years. It was rather daring of him to take on these new responsibilities at that age, but the two years in Tasmania proved to be a time of rejuvenation, when he actively worked on algae. With the help of Mrs. Perrin, he also collected algae on the Great Barrier Reef and out at Lord Howe Island (Lucas, 1935). He was commissioned by the Commonwealth Government to explore the economic potential of the seaweeds of Western Australia. This involved his being given special permission to spend some time on Rottnest Island, then reserved as a penal colony. He arrived by tugboat and was met at the wharf by the prisoners' van along with two convicts, who drove him to the Governor's quarters. For the next week Lucas had the use of the prison van to collect at various sites along the coastline, assisted by the two convicts. The convicts were so impressed with Lucas' humane attitude that they continued to make collections for him after he left and stayed in communication with him.

In May of 1936, at the age of 83, Lucas had been working on the rocks in stormy weather at Warrnambool, a port west of Melbourne and contracted a cold, which developed into pneumonia. On the train returning to the city, he collapsed and was hospitalized at Albury, where he passed away on 10 June, 1936. His handbook, Part 1 of "The Seaweeds of South Australia", was published posthumously. Most of the illustrations were based on his own drawings, slides, and photographs. The second part of the handbook, co-authored with Mrs. Perrin, appeared in 1947.

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