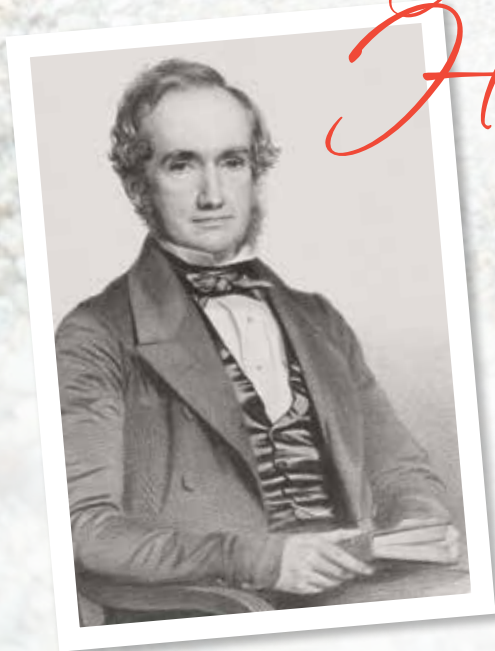


William Henry Harvey



Father of Australian phycology

In the mid-nineteenth century, a curious scientist explored the underwater world off Western Australia's coast. The beloved, congenial William Harvey came to contribute an enormous amount to our understanding of Australian seaweeds. His extensive knowledge of the marine plants he loved so much continues to be a pleasure to read.

story and photos by Dr John Huisman

Touched by nature



Anyone with even a passing interest in seaweeds will have come across the name William Henry Harvey—a passionate Irish phycologist (a person who studies algae, or ‘seaweeds’) with contagious enthusiasm who visited Australia in the mid-nineteenth century for the purpose of “exploring the natural history of the southern coasts of that continent ... and for extensively collecting Marine Algae”.

Harvey arrived at Albany on 7 January 1854, but his first days were disappointing. The calm summer seas cast up very little in the way of drift plants and his dredging yielded little other than a few seagrasses. Towards the end of his stay however, a storm cast up numerous plants and Harvey busily collected and pressed some 700 specimens in a single day.

After a relatively fruitless trip to Cape Riche, Harvey set out for the Swan River Colony, arriving on 13 April. He stayed in Perth for a few days before moving to Fremantle, where he was able to dredge offshore and make three excursions to Garden Island.

He then visited Rottnest Island for six weeks, collecting numerous specimens. Harvey returned to Albany at the end of July, before setting out for Melbourne in



late August, 1854. While at sea he wrote his paper, ‘Some account of the marine botany of the colony of Western Australia’, in which 352 species were catalogued, including 132 that were new to science.

STUDYING SEAWEED

Harvey’s visit to Western Australia not only resulted in one of the more extensive collections of marine plants, but his enthusiasm also inspired others to collect algae for him. William Ayshford Sanford was the Colonial Secretary of Western Australia at the time of Harvey’s visit and accompanied him on several trips to Fremantle.

Sanford subsequently sent specimens to Harvey in Dublin, and, in his honour, Harvey named the red alga *Asparagopsis sanfordiana* (now known as *Asparagopsis taxiformis*).

Sanford also arranged for Harvey to be assisted by George Clifton, then Superintendent of Water Police, during his stay in Fremantle. Clifton supplied boats for Harvey’s trips to Garden and Rottnest islands and became so interested in Harvey’s work that for the next nine years Clifton sent thousands of specimens to Harvey in Dublin. Clifton’s collections included many plants new to science,

and the genus *Cliftonaea* was named by Harvey in his honour.

PHYCOLOGIA AUSTRALICA

After leaving Western Australia, Harvey’s journey took him to Victoria, Tasmania and New South Wales, before returning to Dublin in October 1856. During his travels he had collected more than 10,000 specimens, which formed the basis of what was to become his most significant contribution to the study of Australian seaweeds, the five-volume ‘Phycologia Australica’ (1858–63).

These lavish volumes include colour plates of 300 species of Australian algae, and to this day they remain important references for students of Australian marine algae. Harvey was both the artist and lithographer of the plates included in these volumes. The accuracy, detail and sheer beauty of his illustrations has meant their appreciation endures to this day, and they have been reproduced in numerous books.

WRITING REEFS

Harvey’s scientific writing is a joy to read. Unlike much of today’s dry prose, Harvey was a master at creating a vivid picture of the seaweeds he so obviously

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Main *Anotrichium tenue* growing on the seagrass *Posidonia australis*.

Right *Betaphycus speciosus* as illustrated by Harvey in *Phycologia Australica*, as *Eucheuma speciosum*.

Inset William Henry Harvey.

Photo – c.1840 by Thomas Herbert Macquire (1821–1895), lithograph collection/National Portrait Gallery Canberra

Above A variety of red, green and brown seaweeds at Cape Peron, WA, including the kelp *Ecklonia radiata*.



Hear more about seaweeds

Scan this QR code or visit Parks and Wildlife Service’s podcast.

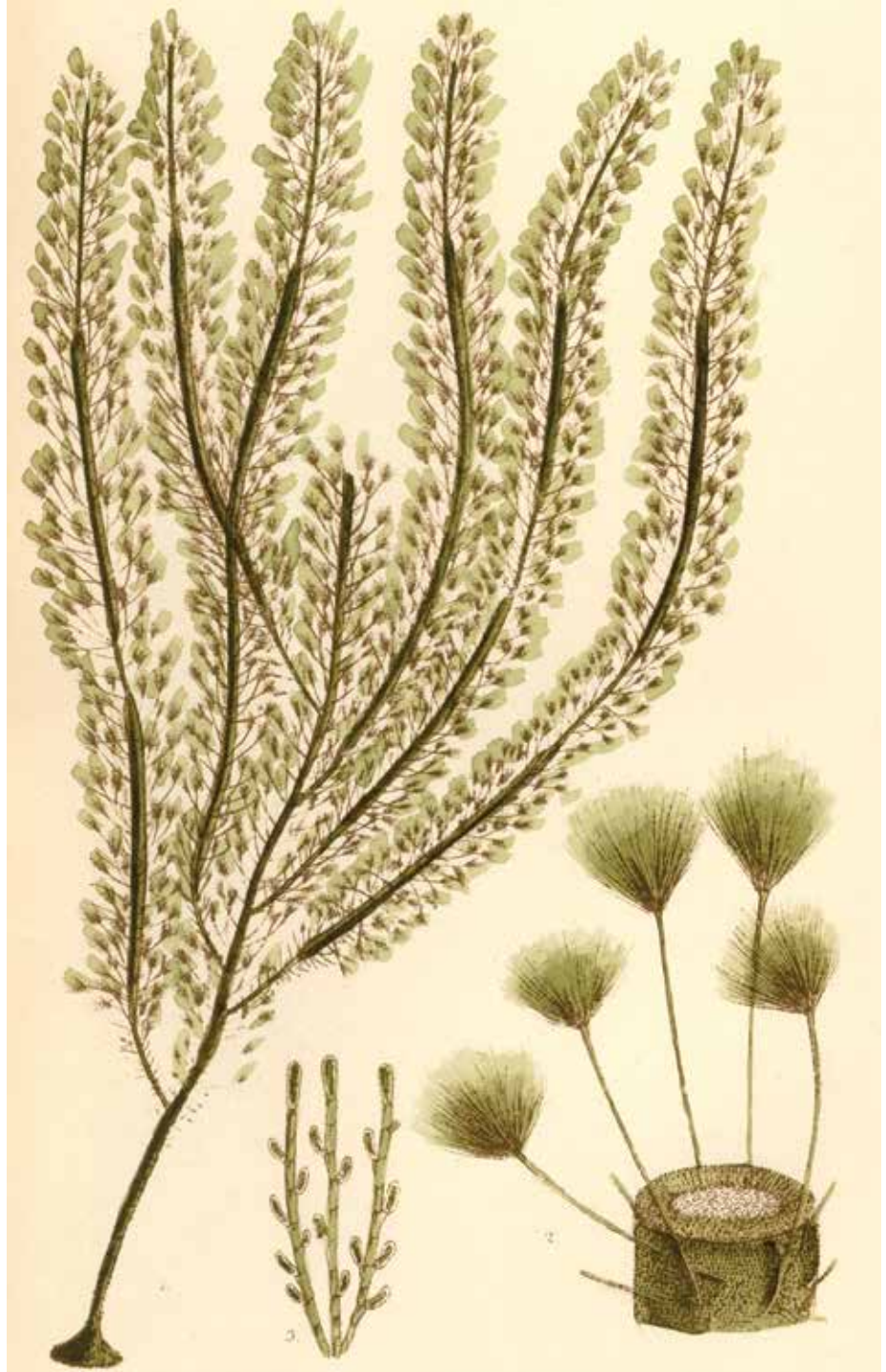




Top The brown seaweed *Encyothalia cliftonii*, named for George Clifton, at Gnarabup, WA.

Above William Ayshford Sanford.
Photo – c.1900 by ECA Sanford/State Library of WA Image 262B

Right *Encyothalia cliftonii*, as illustrated by Harvey in *Phycologia Australica*.



loved. Take for example this passage describing the reefs of Rottneest Island, taken from Harvey's 1855 paper, which was written at sea after he left what was then the Swan River Colony and was en route to Melbourne.

"Almost all of them offer good harvests to the algologist; and beautiful pictures to anyone who can appreciate the loveliness of living vegetable forms. The surfaces of most are well clothed with the smaller Rhodospirameae and thickly studded with a Caulerpa with

short stems, clothed with brilliant club-shaped leaves, resembling miniature clusters of grapes.

At every few yards, deep basin-like hollows, of greater or lesser size, break the surface of the reef, and afford well-sheltered nooks for a variety of beautiful Algae. The water in these basins is always intensely transparent; the bottom frequently of white sand; and the steep and craggy sides clothed with algae vegetation, in which the brightest tints of green, purple, carmine, and olive, and the

most graceful waving forms, are mingled in rich variety.

*There is the favourite locality of some eight or ten species of Caulerpa, of several very distinct forms, and every one a beautiful object. All these are green; but the tints vary from the darkest bottle-green to the pale, fresh green of an opening beech leaf. Some resemble soft ostrich feathers; others, branches of the Norfolk Island pine; others, strings of beads; others, squirrels' or cats' tails; and *C. scalpelliformis* is like a double saw.*



travels to Australia and the Pacific was collated by University of Melbourne botanist and historian Sophie Ducker in the book 'The Contented Botanist'. The book gives an insight into Harvey's extensive knowledge of all plants, not just seaweeds.

In a letter to botanist W.J. Hooker in 1854, regarding the Western Australian Christmas tree *Nuytsia* he writes that it is 'highly probable that there is underground attachment to the roots of other plants', correctly appreciating the species. He noted its hemiparasitic nature well before this was conclusively demonstrated by the botanist Desmond Herbert in 1919.

A more complete account of his life and letters is included in the 'Memoir of W.H. Harvey, M.D., FR.S.', collated and edited by his cousin Lydia Fisher. In the preface, Fisher wrote 'The following Memoir was originally intended for Dr. Harvey's personal friends only; but the number of these was so large, he was

himself so universally beloved, and his character—as exhibited in his letters—so peculiar, and in many ways so interesting to the ordinary student of biography, that it has been decided to publish it'.

Here you can read about Harvey's early life, and his uncanny ability to relate even the most mundane to his beloved seaweeds, such as when describing insect bites while in Ceylon (now Sri Lanka), "You should see my forehead. Since I came to dear Belligam, it looks, from mosquito bites, like the frond of *Iridaea radula* in full fruit". Harvey's correspondence continued until his premature death from tuberculosis on 15 May 1866, aged just 55, on the day prior dictating a letter to Thomas Fisher that sadly included, "I do not think that I shall last very much longer" and signed in pencil, faintly.

In his short lifetime Harvey named more than 800 species of marine algae, and he has been commemorated in

the names of numerous genera (e.g., *Harveyella*) and species. For his enormous contribution to our understanding of Australian seaweeds, in 1990 Sophie Ducker bestowed on him the well-deserved title, the 'father of Australian phycology'.

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Above left The *Mucilaginosa Helminthocladia australis* at Cape Peron.

Above *Helminthocladia australis*, as illustrated by Harvey in *Phycologia Australica*.

Inset *The Contented Botanist*, edited by Sophie Ducker, collected Harvey's letters.

"In his short lifetime Harvey named over 800 species of marine algae, and he has been commemorated in the names of numerous genera (e.g., *Harveyella*) and species."

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Editors notes: William Harvey uses the term 'algologist' which is an older term for 'phycologist'.

Scans from Phycologia Australica used in this article were kindly provided by Frederik Leliaert and Olivier De Clerck.