

Federation University ResearchOnline

<https://researchonline.federation.edu.au>

Copyright Notice

This is the published version of the following article:

Wallis, & Mondon, J. (2021). Henry Watts (1828-1889): 'The pioneer of freshwater phycology in Victoria', *Victorian Naturalist*, 138(3), 93–96.

Copyright © 2021 Field Naturalists Club of Victoria. It is posted here with the permission of the publisher for your personal use. No further use or distribution is permitted.

See this record in Federation ResearchOnline at:

<http://researchonline.federation.edu.au/vital/access/HandleResolver/1959.17/184075>

The Victorian Naturalist

Volume 138 (3)

June 2021



Published by The Field Naturalists Club of Victoria since 1884

Henry Watts (1828–1889): ‘the pioneer of freshwater phycozoology in Victoria’

Henry Watts was a microscopist, botanist, marine biologist and a manufacturer of perfumes made from distilling flowers. Before this latter occupation, he was a bootmaker. The first record we have of Watts was his setting up a boot-making shop in Warrnambool in 1858 and, in the same year, giving a lecture to the Warrnambool Mechanics Institute on ‘The Microscope’. In regard to Watts’ lecture, O’Callaghan (2006: 43) wrote:

Watts had apparently purchased four microscopic photographs from overseas which were no larger than a pin head, but when put under the microscope, revealed such items as the nine members of the Imperial Family of Russia and a tablet four feet long containing 755 letters, every one of which could be read clearly.

Watts was an avid collector of small specimens that he found in fresh and sea water along the coast of Warrnambool. He seemed especially interested in microscopic organisms such as diatoms, and in December 1859 wrote as follows to Professor Quekett of London (Fig. 1):

To Professor Quekett

Dear Sir,

In June last year I sent you a communication containing lists of fresh water Algae and Desmoocea found by me in the Colony of Victoria. I also promised a list of Diatomaceae. Instead of sending a list I have enclosed small packets of prepared Diatomaceae which will I trust furnish a sample of Victorian Diatomaceae. If you could present them to the Secretary of the London Microscopical Society for some competent gentleman to name I should feel greatly obliged, the names of species in each numbered packet. Some of the packets are very rich particularly 30, 48, 33, 31. I have selected you as the medium whereby the enclosed may be properly examined, as from your known professional character they may be skillfully named and also because I do not know the address of the Secretary of the Microscopical Society.

I remain,

Yours sincerely, Henry Watts

At the time, John Thomas Quekett (1815–1861) was regarded as one of the world’s leading microscopists. The Quekett Microscopical Club was established in 1865 in his honour and continues today. A biography of Quekett

(Anon 1972) notes his fondness for natural history when young but as well as in the construction and use of microscopes. He trained as a surgeon, qualifying in 1840 and then completed a three-year studentship in Human and Comparative Anatomy at the Royal College of Surgeons. It was during this stint that he made some 2500 microscopical slides. He published extensively on histology as well as microscopy and received many samples sent to him for microscopical examination—including those from Watts, who asked that they be passed on to members of the Microscopical Club.

We have no idea what then happened to Watts’ letter to Quekett and its contents, but they (the letter and some five packets) appeared somewhat mysteriously at a London auction at an unknown date. The letter had been typed (misspelling Quekett’s name as Quickett) and mounted on stiff card, along with the original letter and the packets of diatoms (Fig. 1). They were purchased for £12 10s by a Miss Edey who was a ‘Melbourne book proprietress’ according to the framed artefact; Miss Edey then donated the objects to the Warrnambool Field Naturalists Club at a meeting in 1976 via Mr Beaton. In 2005, the material was donated to the Warrnambool and District Historical Society (Heathcote 2008). We plan to have the diatoms examined by experts and report on the findings in due course.

But what else do we know of Mr Henry Watts? O’Callaghan (2006) noted that Watts investigated the guano in Warrnambool’s Starlight bat cave, expecting to find microscopic algae but instead, not surprisingly, found arthropod skeletal remains. We also know that in 1861 he sent a collection of more than 100 seaweeds for an exhibition in Melbourne. This was a momentous occasion and the catalogue was prefaced by Baron Sir Ferdinand von Mueller and Professor Frederick McCoy (among others) (Government of the Colony of Victoria 1861).

The *Examiner*, Warrnambool’s local newspaper, was very excited by his work, noting it was ‘really refreshing in these degenerate days

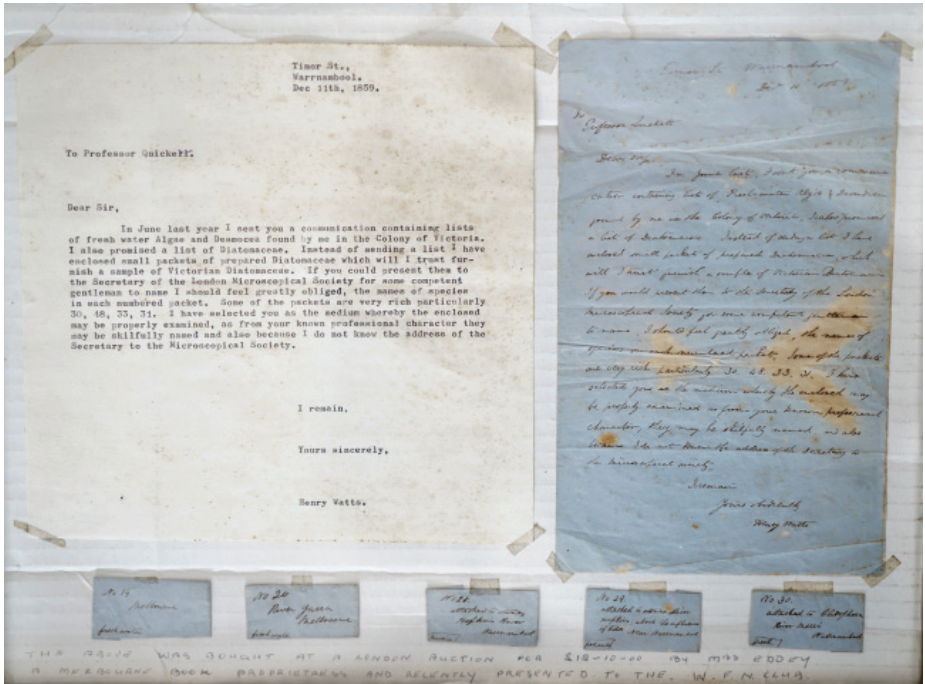


Fig. 1. The framed letter from Watts to Quekett (and a typed version of it) and five packets of diatoms. Item 000185, collection of the Warrnambool and District Historical Society Inc. in Victorian Collections.

to find someone with a soul elevated above mere worldly gain' (O'Callaghan 2006: 43). Watts made further contributions to the study of algae by reading a paper entitled 'Fresh water algae of Victoria' at a meeting of the Royal Society of Victoria (RSV) in Melbourne in 1862 and a year later exhibited fossil polyzoa (now called bryozoa or ectoprocta) at an RSV meeting. In 1863, the *Examiner* also noted that Watts had been made an honorary corresponding member of the Bristol Microscopical Society (O'Callaghan 2006).

Watts and his perfumes

Henry Watts was also very interested in flowers and in 1864 his exhibit at the Warrnambool Horticultural Society Show, of a water plant in flower, generated much interest. His love of flowers spurred him to change occupations from bootmaking to growing flowers for sale from his home in Warrnambool. He then moved into making perfumes, including his 'Warrnambool Posy', which he sold for two shillings: 'a delicious perfume for the handkerchief'.

In 1865 Watts won prizes for his perfumes at the annual Spring Exhibition of the Horticultural Society of Victoria and again at the Ballarat Horticultural Society Show in 1866, where jurors commented that his perfumes were 'superior to the greater portion of the imported perfumers' (O'Callaghan 2006: 44). In the same year he showed 44 perfumes at Melbourne, displayed in a cabinet made by Stelling Bros, Warrnambool. But he had not forgotten his seaweeds and sent these and microscopical specimens to the 1866 Melbourne Exhibition.

The correspondent at *The Leader* newspaper was glowing in praise of Watts' perfumes (Anon 1866a: 7):

Another exhibitor is Mr Henry Watts, of Warrnambool. His attention is devoted almost exclusively to the manufacture of perfumes — and with so much success that his products are growing into great favour, and may very shortly be expected to render any importations of ordinary, perfumes almost unnecessary. Their fragrance, particularly the Dagmar Bouquet is exceedingly powerful, and most agreeable, and they are placed in the market at a figure which

will, with a superior article, enable him to compete with English or French importations.

Watts certainly captured the interest of *The Australasian's* correspondent during the Exhibition. The paper subsequently noted (Anon 1866b: 7) that Watts was Victoria's only regular manufacturer and trader in perfumes and that at the Exhibition he gave samples freely to ladies who 'are thus carrying away with them from the Exhibition evidences of his success'. This was followed by a detailed description on how the perfumes were made, stressing the care Watts devoted to using flowers with delicate colours, like roses and wattles. Here he

adopts a more elaborate and searching system, by means of maceration. The flowers are placed in oil thirty or forty hours, and after pressure, replaced by other flowers till the oil is full of the required colour. Pure Warrenheip spirit is then mixed with the oil till it is charged with the colour, and a simple extract forms the scent. As might be expected, Mr Watts makes the extract of the wattle the basis of them all. The material is abundant at Warrnambool, and during the flowering season as many as twenty boys are engaged gathering the blossoms for 6d per lb.

The article also notes the many awards Watts had received for his perfumes, including a £50 grant to help establish his business. O'Callaghan (2006: 44) indicates this was from the Victorian New Industry Commission that noted Watts was employing himself, his wife and child in the perfumery venture and that he also employed children to gather blackwood and wattle blossom from the surrounding bush.

Watts must have also exhibited his previously mentioned polyzoa and apparently agreed to a request by the Director of the National Museum to donate the collection to that institution. Watts' perfumes also generated a humorous article in the *Melbourne Punch* that noted (Anon 1865: 2):

MR. HENRY WATTS, of Warrnambool, has introduced a new industry, by making perfumes from native flowers. He has made experiments upon the flowers of rhetoric of some of our Victorian orators, but, as he found they contained no scents (sense) whatever, he does not intend to investigate them any further.

Watt's contributions to science

Watts was an active member of the Field Naturalists Club of Victoria from its inception. He was the Club's first librarian, from 1881–82, then its Vice-President for one year, and a member of the Club's Committee for a further

year (Anon 1890). He also published in the first volume of *The Victorian Naturalist* (Maiden 1908), eventually writing a further three papers for the Club's journal over the next three years.

Whilst Watts' published works were somewhat modest, with only six papers published (see Appendix), his contributions to science were nevertheless important, especially in terms of some significant collections of algae. Watts collected marine and freshwater algae from around Warrnambool, and later collected freshwater algae from Ballarat and aquatic environments in the Yarra River basin. The marine algal specimens were sent to Dublin University's Professor William Henry Harvey, and the freshwater algae to Ferdinand von Mueller, who passed them on to Friedrich Kutzing and C F Otto for identification (Wikipedia 2019). Furthermore, von Mueller named a species of wattle after him (*Acacia wattsi*) and Harvey named two algal species in his honour—*Wrangelia wattsii* and *Crouania wattsii*. Harvey included the marine algae sent to him by Watts in his *Phycologia australica* (1858–1863).

Harvey met von Mueller when he visited Melbourne in the spring of 1854 and in early summer of that year collected seaweeds along the Victorian coastline from Phillip Island to Port Fairy (Willis 1990). It is not known whether Watts actually met Harvey in 1854 as it is uncertain where Watts was living at the time. Nevertheless, the fact that Watts sent the specimens to Harvey directly (rather than via von Mueller) suggests that Watts possibly knew Harvey personally.

Despite Watts being described as the 'pioneer of freshwater phycology in Victoria', by Entwisle (1990), that same author has noted Watts' work had some severe limitations. These included the inability of workers in the field to determine or verify the species; and the loss of many of the materials Watts used. Indeed, most of his specimens were apparently lost while he was ill (Anon 1890) although the National Herbarium of Victoria does possess some dry voucher specimens (Entwisle 1990).

Overall, there was a lack of authorities provided for names of species Watts identified. It seems that while Watts had some freshwater species identified by authorities in the field

(Kützing, Otto, Norstedt), he identified most himself using published accounts from Europe and North America—which Entwisle (1990) considers inappropriate in many cases.

Financial woes

Despite the popularity of his perfumes, Watts failed to generate sufficient income to stave off his creditors, and in 1867 lost his equipment to the Sheriff and was declared bankrupt in the Geelong court (Anon 1867). A year later Watts moved to Melbourne where he set up another perfume distillery (even advertising in Warrnambool for a supplier of *Bursaria spinosa*), but it seems that business also fell apart (O’Callaghan 2006). In 1868 Watts was again mentioned in court, but this time as the innocent buyer of stolen perfume bottles (Anon 1868). Two years later Watts appealed against a court order sending him to gaol as he failed to pay his wife maintenance of 15 shillings a week following their separation. The appeal was upheld on the grounds Watts genuinely could not pay the sum, although costs of £3 3s were awarded against him (Anon 1870).

Watts was eventually discharged from insolvency in 1873 (Anon 1873).

Later life

Henry Watts spent the final year of his life (1889) in the Yarra Bend Lunatic Asylum, suffering from dementia and paralysis. Following his death in 1889, an obituary was published in *The Victorian Naturalist* (Anon 1890). It mentions that, in his later years, he spent much time microscopically examining botanical, zoological and geological materials and had accumulated a large quantity of specimens and slides. As mentioned above, when he became increasingly ill many of these materials were lost—a great pity as they may well have proved useful for examination by later scientists and naturalists.

References

- Anon (1865) Perfumery. *Melbourne Punch*, 31 August 1865, p.1.
Anon (1866a) The Intercolonial Exhibition. Manufacture of essential oils, perfumes etc. *Leader (Melbourne)*, 10 November 1866.
Anon (1866b) Oils, Gums and Perfumes. *The Australasian*, 29 December 1866.
Anon (1867) Geelong insolvent court. Certificate meetings. *Geelong Advertiser*, 29 March 1867, p.3.
Anon (1868) City Police Court. *The Age*, 21 November 1868, p. 3.

- Anon (1870) A case of maintenance. *The Herald*, 29 October 1870, p. 6
Anon (1873). Insolvent court. *The Age*, 15 February 1873, p. 6.
Anon (1890) The late Mr. Henry Watts. *The Victorian Naturalist* 6, 138–139.
Anon (1972) John Thomas Quekett. *Journal of the Quekett Microscopical Club* 30, 55–59.
Entwisle TJ (1990) The lean legacy of freshwater phycology in Victoria. In *History of Systematic Botany in Australia*, pp. 239–246. Ed PS Short. (Australian Systematic Botany Society: Melbourne).
Government of the Colony of Victoria (1861) *Catalogue of the Victorian Exhibition 1861: with Prefactory Essays Indicating the Progress, Resources and Physical Characteristics of the Colony ...* (Government Printer: Melbourne). <http://digital.slv.vic.gov.au/view/action/singleViewer.do?dvs=1579338720758~50&locale=en_US&metadata_object_ratio=10&show_metadata=true&VIEWER_URL=/view/action/singleViewer.do?&preferred_usage_type=VIEW_MAIN&DELIVERY_RULE_ID=10&frameId=1&usePid1=true&usePid2=true> [accessed 15 September 2020].
Heathcote J (2008) Warrnambool Field Naturalists Club 1958–2008. *Celebrating 50 Years of Investigating and Conserving Nature*. (WFNC: Warrnambool).
Maiden JH (1908) Records of Victorian botanists. *The Victorian Naturalist* 25: 101–117.
Museums Victoria (undated). Victorian Collections. Henry Watts (1828–1889) <<https://victoriancollections.net.au/items/53634be12162ef0e7cc6f973>> [accessed 9 September 2020]. (Museums Victoria: Melbourne).
O’Callaghan E (2006) *Men of Yesteryear*. (Warrnambool & District Historical Society: Warrnambool).
Wikipedia contributors (2019) Henry Watts (botanist). In *Wikipedia, The Free Encyclopedia*. <[https://en.wikipedia.org/w/index.php?title=Henry_Watts_\(botanist\)&oldid=899053781](https://en.wikipedia.org/w/index.php?title=Henry_Watts_(botanist)&oldid=899053781)> [accessed 9 September 2020].
Willis JH (1990) Melbourne: a focal point for early botanical activity. In *History of Systematic Botany in Australia*, pp. 1–3. Ed PS Short. (Australian Systematic Botany Society: Melbourne).

Appendix. Publications by Henry Watts.

- (1865) On the freshwater algae of Victoria. *Transactions and Proceedings of the Royal Society of Victoria* 6, 67–68.
(1883) A trip to Mt. Macedon in search of freshwater algae. *Southern Science Record* 3, 252–253.
(1884) On a species of freshwater algae from near Berwick. *The Victorian Naturalist* 1, 21.
(1886) Pond life around Oakleigh. *The Victorian Naturalist* 3, 80.
(1886) Town gathering of micro-objects. *The Victorian Naturalist* 3, 107.
(1887) Some recent additions to our knowledge of microscopic natural history. *The Victorian Naturalist* 3, 133–137.

Robert L Wallis

Office of the Deputy Vice-Chancellor
(Research and Innovation)
Federation University
PO Box 663, Ballarat, Victoria 3353.
and
Warrnambool Field Naturalists Club
Warrnambool, Victoria 3280.

Julie Mondon

School of Life and Environmental Sciences
Deakin University
Warrnambool, Victoria 3280.