pages, notes on taxonomy and ecology, a line drawing (full- or half-page) and colour photographs. For *Codia* several artists have contributed the drawings, but their styles are very compatible. Some of the photographs would have benefited from a scale object.

Some fair time ago now an older botanist raised a courteous eyebrow on learning that I had not been to New Caledonia to see the plants I was studying. My thesis supervisor should have blushed too, though possibly he was acquainted with the island's distractions: the ORSTOM herbarium far too close to the beach at Anse Vata, the mind-blowing scenery, the balmy subtropical evenings.

But away with these regrets, and with those for the old orange FNCs too. In the first paragraph of his account of what every good Flora should contain, *Taxon* reviewer Rudi Schmid (1979) said of multivolume productions:

"I can hardly expect the long-running [works like FNC] to change course significantly. After all, an ocean liner or aircraft carrier does not readily turn, let alone make a U-turn."

But in Océanie, where nearly all botanical things are possible, a cruise ship has. *Bon Voyage*! to its helpful crew, and *Long Life*! to all its pretty passengers.

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Wollastonia and *Youngia* (Asteraceae): how they got their names

Rhys Gardner

Towards the end of my Dictionary of Fijian higher-plant genera (Gardner 2017) there stand two giants of eighteenth century science, William Wollaston (1766–1828) and Thomas Young (1779–1829). They knew each other well and were fellow-secretaries of the Royal Society under Joseph Banks' long presidency (see Note 1, p. 123). They overlapped in their interests mainly in the field of physics, and share the glory of a major advance there, the realization that 'energy' is the crucial quantity in equations concerning heat, motion, etc.

Their busy, useful, and well-regulated lives are examined in the biographies of Robinson (2006) and Usselman (2015). The latter, on Wollaston, is particularly detailed, and anyone without a lingering fondness for school chemistry might find it rather gruelling revision.

In my Dictionary Young gets an adequate tribute but Wollaston certainly does not. To regain a balance, then, here is a very incomplete account of his scientific life.

First, we have Wollaston's youthful interest in botanical matters, culminating in his elucidating the nature of fairy rings (Notes 2 & 3). In these early days, as a doctor, he made discoveries in animal physiology too (Note 4).

Chemistry became Wollaston's focus. Using *platina* ore smuggled out of Spanish Colombia he made a long, arduous and secret exploration of its properties, and eventually found a way to bring its chief component, platinum, into a workable state. Metallurgy was the cutting-edge technology of the day, and platinum soon found use in the production of wires, crucibles, and (the inevitable military use) musket touch-holes that did not corrode. In this way Wollaston became quite adequately wealthy — rather to the annoyance of Banks, who felt that a Royal Society member should not have been so secretive.

In the later part of his career as a chemist Wollaston was able to provide accurate quantitative values for the combining of many of common substances, thus helping lay the basis for the atomic theory of chemistry.

From the sublime to the ridiculous: despite the stature of these men, botanical authors have commemorated them just in the names of two negligible daisies. It seems that no artist of any note has been tempted by *Youngia*, and for my Dictionary I had to make my own sketch (which does I think capture the essential scrappiness of the plant). Things are better with respect to *Wollastonia*. Fig. 1 here is an illustration from one of the incomplete, ambitious and erudite works of the Viennese botanist Stefan Endlicher. Wollaston's love of precision would surely have been satisfied by this beautiful drawing, made by someone equally blessed with a sure hand and eye, the great Ferdinand Bauer, who saw the plant during his stay on Norfolk Island in 1804–5.

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Fig. 1. *Wollastonia uniflora* (Willd.) Orchard. Endlicher, Iconographia Genera Plantarum. (1839) t. 88, as *W. forsteriana*. Like the very similar *W. biflora* of the central Pacific Ocean region (e.g. Tonga), the Norfolk Island plant is a small, weakly woody, sprawling shrub, usually seen on limestone cliffs at the coast. In northern Australia it is said to sometimes be a sand-binder, when it roots at its nodes. It belongs to the sun-flower (*Helianthus*) tribe, and its yellow flowerheads are yellow and sunflower-like but only c. 2 cm wide. Its achenes (fruitlets) have no obvious means of dispersal but presumably are buoyant in seawater.

Note 1. "Wollaston's career was to become even more entwined with that of Thomas Young ... they served together as secretaries of the Royal Society, on various scientific committees, and on the Board of Longitude ... although they rarely interacted socially ... undoubtedly they probed one another for facts and opinions ... a question was posed at one of Joseph Banks' Sunday evening soirees to someone who replied, I cannot answer your question myself, but there stand Young and Wollaston, and between them they know everything." Usselman (2015: 64).

Note 2. "[Wollaston exhibited] always the same quickness and keenness of observation; he was fond of *Botany*, and soon knew the habitat of every rarer plant of which in this neighbourhood there are several. Nothing escaped his eye. When we were crossing a heath at a smart trot, I remember his suddenly pulling up, and exclaiming 'there's the Linum radiola', a plant well known, but so *minute* that his companion, when alighting from his horse, and looking close to the ground, could scarcely at first descry it." Usselman (2015: 20), quoting Wollaston's lifelong friend Henry Hasted.

We all have had similar experiences, even with larger plants. For the minute *L. radiola* in New Zealand (now *Radiola linoides*, a single record only, from Northland), see *Auck. Bot. Soc. Jnl.* 67 (2012) 102.

Note 3. "At Bury he became interested in the rings of darkened grass and barren soil commonly found in country pastures, known, then and now, as fairy rings. After five years study, he determined that at least five species of fungi produced fairy rings in the same general manner ... [e.g.], the inner circumference of the barren ring was marked generally by the decaying spawn of the outwardly expanding mushroom circle." Usselman (2015: 32).

Note 4. In the early part of his career (he had become a doctor) Wollaston made biochemical discoveries, including the composition of gout deposits and urinary stones, where he discovered cystine (the oxidized dimer of the amino acid cysteine). The study of inborn errors of metabolism may be regarded as starting here.

There was also some zoology much later, relating back to that earlier time of microchemical investigation. In 1821, the geologist William Buckland investigated a large collection of bones, teeth and other remains of 'pre-diluvial' animals found in a cave in Yorkshire. He sent samples of preserved dung to Wollaston, who found in them "the ingredients that might be expected in faecal matter derived from bones" (Usselman 2015: 36). This finding supported Buckland's conclusion that the dung was from a species of hyena which had in ancient times used the cave as a den.