

A woman with blonde hair, wearing a light-colored sleeveless top and dark pants, is sitting on a large, flat rock. She is smiling at the camera. To her right, there is a small black bag and a white notebook. The background shows a rugged, mountainous landscape with green grass and rocky terrain under a cloudy sky.

Common Threads

OBSERVATION, ACCURACY AND
AN OPEN MIND IN BOTANICAL
ILLUSTRATION

by Sue Wickison

PREVIOUS PAGE: Our 2023 Jill Smythies Award winner Sue Wickison in Lesotho, Southern Africa, looking for the critically endangered Sehlabathebe waterlily *Aponogeton ranunculiflorus*.

OPPOSITE: A living specimen of the Sehlabathebe waterlily photographed, and the final illustration.

Our 2023 Jill Smythies Award winner, Sue Wickison, explains what drew her to botanical illustration, and how her path led her to a book and exhibition at the Royal Botanic Gardens, Kew, on the *Plants of the Qur'an*.

Having been born and brought up in Sierra Leone, West Africa, plants were always a part of my life. I was taught by my father, an amateur botanist, to closely observe, respect and learn the difference between plants, so I was drawn to combining science and art from an early age.

All of this later led to a degree in scientific illustration, specialising in botanical. I then worked at the Royal Botanic Gardens, Kew, over a nine-year period, recording different plant families, grasses, legumes and orchids for publications. A Winston Churchill Fellowship took me to the Solomon Islands to collect orchids for Kew, based up in the Western region of Munda. After years of work and travel into remote areas, 80 black and white plates were published in *Orchids of the Solomon Islands and Bougainville* and I had the honour of a new species, *Coelogyne susanae*, being named after me.

A collaborative process

When recording the characteristics of a species and creating a line drawing of the shape of a petal, leaf, hair or a tiny gland, absolute accuracy is key. Scientific illustration has changed little over the centuries and is the combination of working closely with a taxonomist to understand the characteristics of a species and using one's own skill in meticulous observation to capture a specimen for posterity.

As you might imagine, there are many stages to the work, often spread over weeks of research and, in some cases, years, that involve travel, sketches to understand the plant, composition work and preliminary colour notes from living material, even before starting the final watercolour paintings. Each piece can take months to complete depending on the size and complexity.

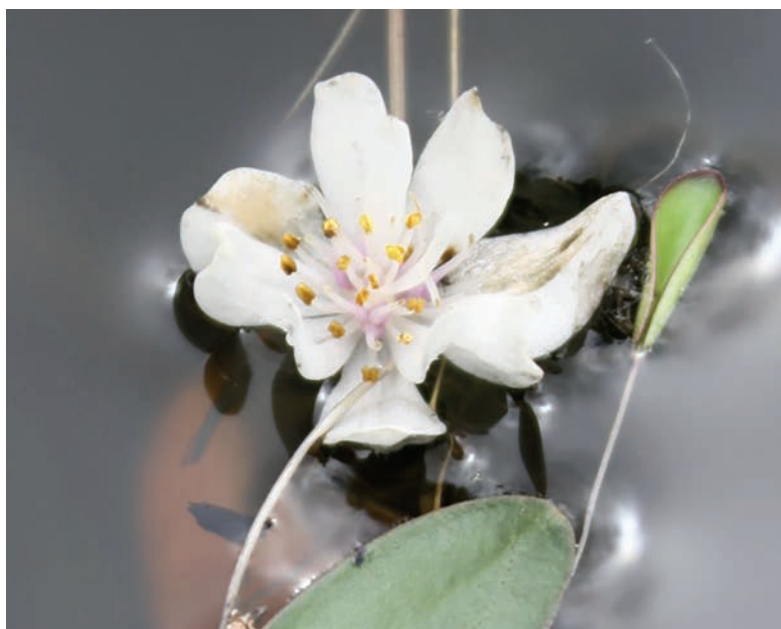
The Sehlabathebe water lily

In February 2012, while living in Lesotho in southern Africa, I had a fortuitous trip to the very remote Sehlabathebe National Park, high in the mountains. It is home to the tiny, critically endangered water lily *Aponogeton ranunculiflorus*, only found in the restricted area of the park and in a few locations in South Africa within a 10 km radius and at an altitude of 2,600–3,200 m.

Journeying from the Lesotho capital of Maseru to Sehlabathebe, the roads gradually reduced to gravel, with rugged rock that hugs hairpin bends and crosses mountain ridges, high above the tree line. The abundant diversity of species within the park's boundaries was impressive, like walking on a colourful bed of tightly packed species, in comparison to the overgrazed land just metres away.

Floating on the surface of the sandstone rock pools, the tiny white puffs of popcorn flowers (12–22 mm) of *A. ranunculiflorus*, were visible. The characteristic spiralled stems revealed the flower's ability to remain on the surface, regardless of the changing level of the water in the pools.

With permission to collect the rare plant and work at the National Herbarium of Lesotho in Roma, I made colour notes and enlarged microscope dissection drawings of the flowers. Unfortunately, I initially collected the wrong leaves floating on the surface beside the flowers. On returning in 2013 the frozen rock pools in Sehlabathebe determined





ABOVE: The symbiotic relationship between the New Zealand short-tailed bat and the parasitic plant the flower of Hades is represented in this illustration.

that instead I made the 1,235 km round trip journey to Grahamstown in South Africa, to meet Herbarium Curator Tony Dold at Rhodes University. Viewing the 1972 holotype when the plant was first described by A. Jacot Guillarmod, I was able to see the spherical 10mm corm and 70mm long leaves. I wish I had viewed the herbarium specimen before the field work, but hindsight is a great teacher. However, looking back at my photographs and specimens from the previous year, I realised that I had actually collected the complete plant after all. Measurements and drawings from the holotype were combined with the previous year's colour notes to work on the colour illustration.

The flower of Hades

Another fascinating puzzle to document was the symbiotic relationship between the endemic New Zealand short-tailed bat (*Mystacina tuberculata*) and the endemic parasitic plant, the flower of Hades (*Dactylanthus taylorii*). I worked closely with experts, particularly David Mudge, with a year's worth of trips into the bush collecting information, as well as observing video footage and museum specimens of the bat. From this, I was able to produce a large, wholly accurate painting of the plant's life cycle,

and the bat feeding at night on the male flowers that produce the nectar. Pollen from the flowers is transferred from the animal's face to female flowers as it moves through the clumps. I also included certain insects like the Wellington tree wētā (*Hemideina crassidens*) as it is another species that is attracted to the plant. The finished painting is in the Auckland Museum Collection.

Plants of the Qur'an

Travel has been a rewarding part of my career, not least with a recent eight-year journey to record 'Plants of the Qur'an'. The initial inspiration came during a visit to the Sheikh Zayed Grand Mosque in Abu Dhabi in 2015. The mosque was breathtaking, with extensive botanical motifs on the floors, columns and walls, and I wanted to find out what they represented.

Very little information existed, and following enquiries with with a friend, Dr Gwilym Lewis at Kew, a serendipitous introduction was made to senior botanist Dr Shahina Ghazanfar FLS, who was researching the plants of the Qur'an. So, from an idea as small as a mustard seed a collaboration grew, where Shahina would write about—and I would paint—all the plants

mentioned in the Qur'ān. This culminated in the publication of the book *Plants of the Qur'ān, History and Culture* and a successful five-month solo show at Kew, with millions of views on social media...all very overwhelming and humbling!

Mannas, date palms and cultural heritage

Each plant has its merits and challenges. One example is a plant associated with manna (*Haloxylon salicornicum*) found in Sharjah in the United Arab Emirates. At first glance, the plant seemed to me to be insignificant and that it would be very boring to work on. But when I put it under the microscope (x25 magnification), the incredible beauty and intricacy of the tiny 1 mm flowers, with the elegant pink-to-orange-to-white colour change in the winged fruit, taught me a valuable lesson in not taking things at face value. By enlarging the tiny details, we can enable others to share and appreciate something not often seen.

Counter to the tiny manna flower, when I illustrated the date palm (*Phoenix dactylifera*),

the image was over 1.2 m in height and appeared over two paintings. It showed the flowering stages and dissection of the tiny male and female flowers, as well as the mass of hundreds of flowers and dates in the fruiting stage. The process took two years, flying from New Zealand to Sharjah to collect and carefully record each stage.

During this undertaking, heritage in faith really resonated with me after speaking to a friend, Jameela, about the date palm seed. Her Muslim faith has strong links with the species; she told me about the relevance of the 'Fateel', the thread or funicle that joins the seed to the inner side of the fruit, and the 'Qitmeer', or protective sheath around the seed. Both are used as a unit of measurement in the Qur'an to judge your deeds, good or bad. She also mentioned an even smaller aspect of the seed, the 'Naqeer' or dimple in the seed, and a 'measure of good deeds', which I was not aware of. So, in the name of science, I had to eat a few more delicious dates and, sure enough, the small dimple was there—how had I missed something so important? It taught me

BELOW: Sue Wickison visiting the Sheikh Zayed Grand Mosquein Abu Dhabi, 2015.





ABOVE: Sue in her workshop illustrating a banana plant; having been inspired by many artists herself, like Ferdinand Bauer, Marianne North and Margaret Mee, she encourages others to follow their passion.

to look even more carefully, and that regardless of creed or culture, close observation is the common thread between us all.

Inspiration

Apart from the plants themselves, I have found great inspiration in the work of many artists, both historical and contemporary. Ferdinand Bauer (1760–1826) spent much time in the field and as you will have seen in the previous issue of *The Linnean* (issue 2(39): Sept 2023), developed a unique shorthand system of covering drawings mapping colours for each species colour, relating to his own colour chart of up to 1,000 different colours and hues. Sydney Parkinson (1745–1771) accompanied botanist Joseph Banks on James Cook's first voyage to the Pacific in 1768 and was the first to illustrate plants from Australasia. Marianne North (1830–1890) was a prolific English biologist and botanical artist, notable for her plant and landscape paintings and her extensive foreign travels alone, with 834 of her paintings held at Kew. Then there is Margaret Mee (1909–1988), celebrated for her work in the Amazon, and more contemporary artists like Pandora Sellars (UK), Eunike Nugroho (Indonesia), Macoto Murayama (Japan) Ursula Romero (formerly Jess Shepherd) (Spain) Beverly Allen (Australia).

Should you want to pursue the path of botanical illustration, or any area of natural history illustration, *follow your passion*. There are courses, mentors and resources that can help. Katherine Tyrell's website has a wealth of information on it as a starting point. (<https://tinyurl.com/botanyart>)

A fruitful year

This has been an extraordinary year for me; 2023 brought with it the completion of the Quranic plant illustrations, a five-month solo exhibition at The Shirley Sherwood Gallery at Kew and the publication of *Plants of the Qur'an, History and Culture*, with Dr Shahina Ghazanfar and Kew Publishing. Then to receive the Linnean Society's Jill Smythies Award was so humbling. It was particularly special to me as a career pinnacle, but as with every piece of work you complete, it is about collaboration. The award reflects the knowledge, encouragement, inspiration and calibre of the various people I have been lucky to work with over the years, people like Shahina, Dr Gwilym Lewis and Dr Philip Cribb, to name just three.

Sue Wickison (www.suewickison.com)