

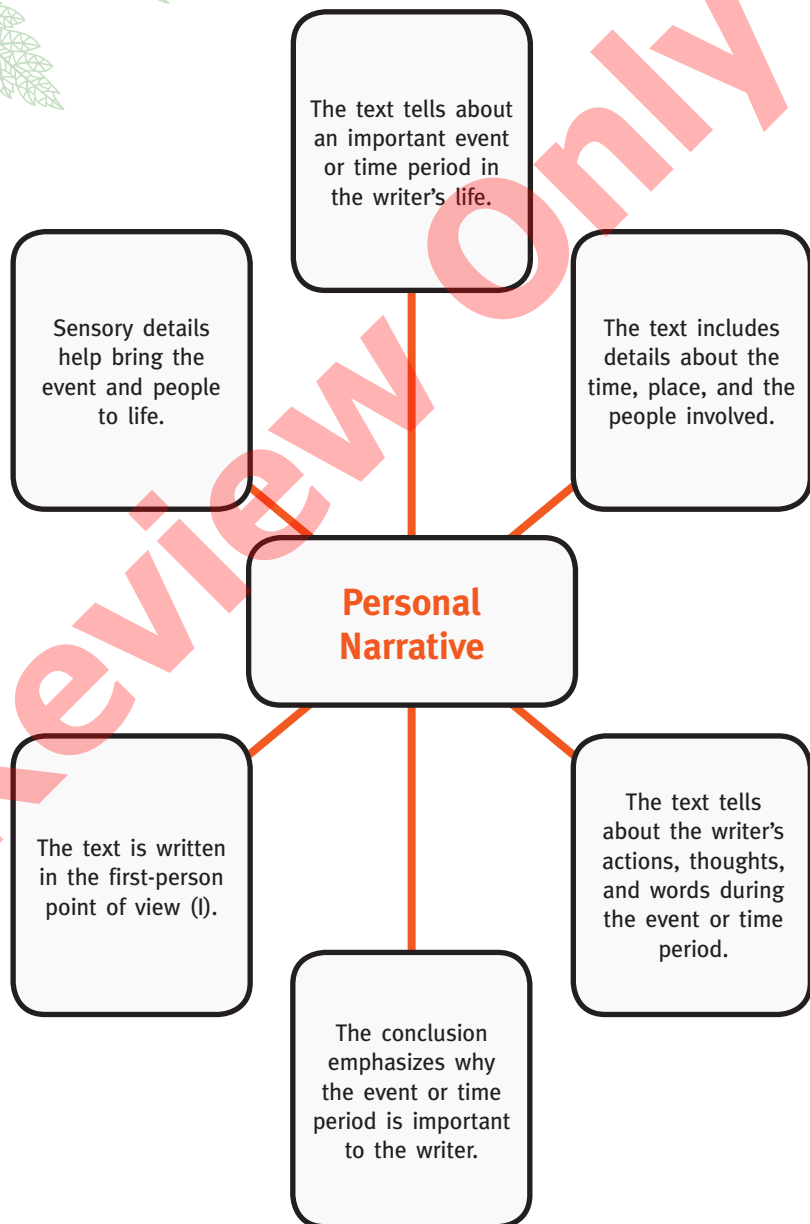
I Am a Botanist

by Nathalie Nagalingum
as told to Kira Freed

What does a
botanist do?

Personal Narrative

Look for the genre features noted below as you read this book. Use the features to help you understand the text.



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A Love of Plants



On April 18, 1906, a huge earthquake struck San Francisco, California. Fires soon spread through the city. Roughly 500 city blocks burned before the fires were put out.

One of the buildings that was destroyed was the California Academy of Sciences. This science museum had many important collections. About one hundred thousand plant samples, or **specimens**, were destroyed. Some specimens were saved, however, thanks to Alice Eastwood. She was a botanist—a scientist who studies plants. She had worked at the museum for many years.



Alice Eastwood
(1859–1953)

It took about three years for San Francisco to recover after the earthquake.





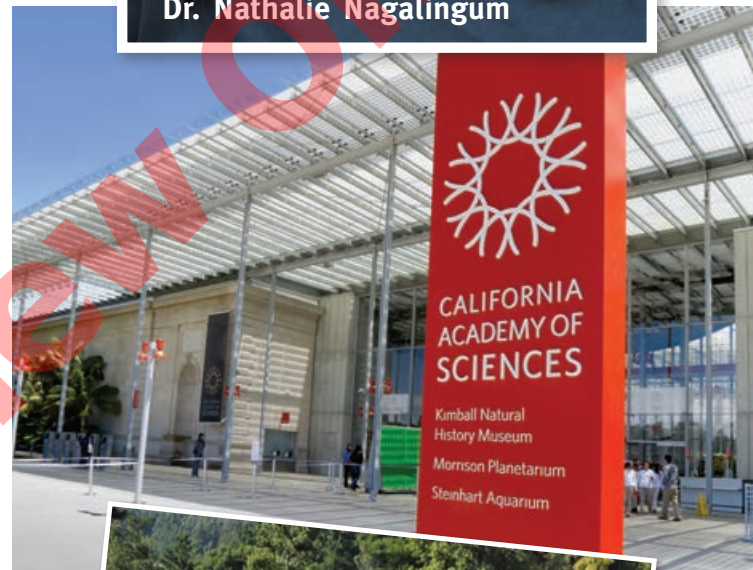
Racing into the museum, Eastwood saw that the staircase was crumbling. She climbed up six flights, using the iron railings, and saved almost 1,500 plant specimens. Eastwood later said that the loss to the scientific world was great. She added, “My own destroyed work I do not [regret], for it was a joy to me while I did it, and I can still have the same joy in starting it again.” Eastwood continued her work. And the museum was rebuilt.

Eastwood's bravery and love of plants are an inspiration to Dr. Nathalie Nagalingum. She now works at the same California museum. Nagalingum is following in Eastwood's footsteps as a female scientist who has a passion for plants. She is also blazing new trails. She uses the latest technologies to increase our understanding of these amazing life-forms.

me with one of my favorite plants, a cycad (SY-kad) ►



Dr. Nathalie Nagalingum



Early Years

I was born in Australia. I grew up in the suburbs of Melbourne, one of Australia's largest cities. When I was young, I had no idea that I'd be a botanist someday. I didn't even know that people could have science careers. I'd never met a scientist, so I never thought of it as a possible path for my own life. However, I've always been eager to learn about the world around me. Over time, I discovered that botany is a perfect fit for my personality and my passion for caring for our planet.

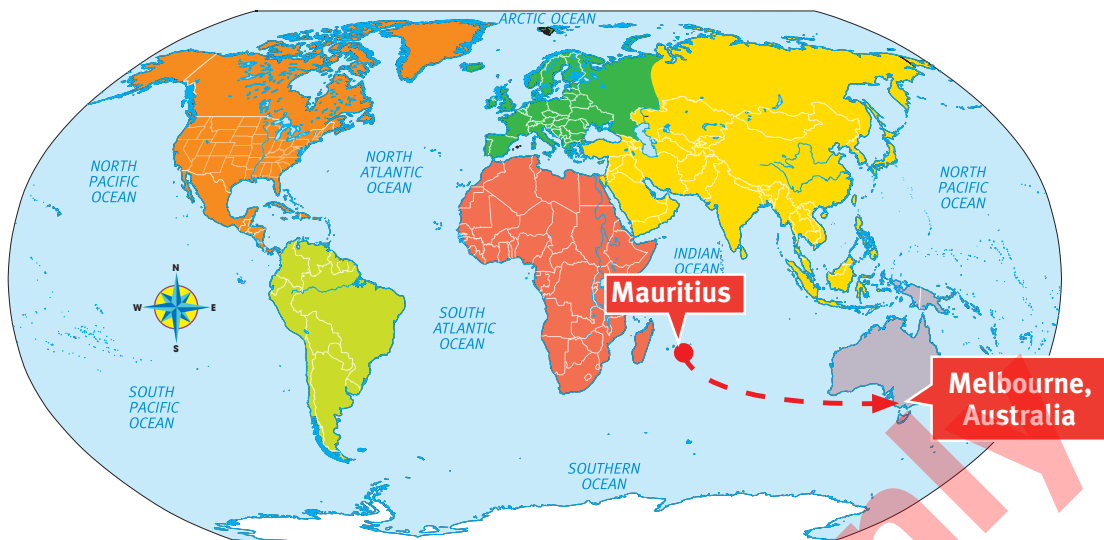
on a family trip to the mountains of Victoria, Australia, in 1977 ►

▼ my mum grew orchids and roses



on a family vacation to Adelaide, South Australia ►





Before I was born, my parents lived in Mauritius (mau-RIH-shus), a tiny island east of Africa in the Indian Ocean. My parents were very poor when they lived in Mauritius. They moved to Australia for a better life with more opportunities. My father worked for the post office, and my mother was a government clerk. Neither of them had a university degree. They encouraged my brother and me to make the most of the opportunities in Australia.

My father loved science, so our family watched a lot of documentaries on television. As a teenager, I read popular science magazines and became interested in the environment. I started a garden because I wanted to do my part to help the planet. That's where my love of plants came from.

▼ with my brother and mum on a family trip to Grampians National Park, Victoria, Australia, in 1983



I enjoyed my science classes in high school and did well in them. I especially enjoyed biology, the scientific study of living things. After graduating high school in 1992, I attended the University of Melbourne. I studied plants and **genetics**—the science of how living things pass down **traits** to their offspring. I liked learning about plants because I could apply what I learned to the world around me. I also studied **fossil plants**. It was amazing to hold these ancient plants in my hand.

▼ fossil leaf



Genetics and Flower Color

Different kinds of plants have flowers of different colors. Flower color is one example of a trait that is passed from a plant to its offspring. Scientists experiment with changing the color of flowers, such as turning a red rose blue. They do this by altering part of the plant's genetic code, or DNA. This genetic code is found in the cells of all living things. DNA is how traits are passed down.

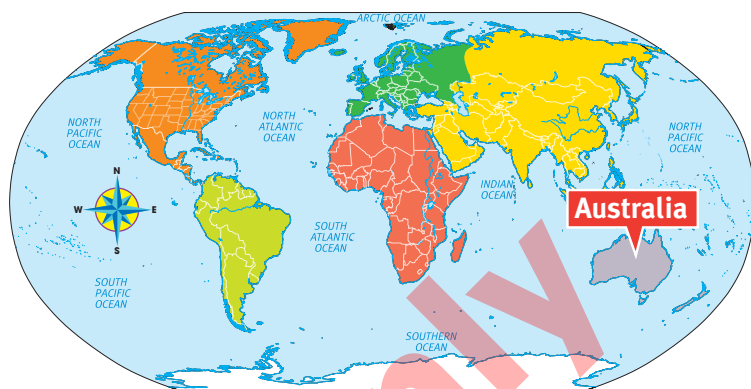


▲ blue rose



▲ red rose

In Australia, it takes three years to earn a university degree. Students can then do a fourth year, called an honors year. This is a full year of **research**. I decided to do research on fossil plants for my honors year, which I really enjoyed. I was awarded a science degree in botany and genetics in 1996. At that point, I decided to continue my studies and get a higher degree.



▲ I named this fossil during my honors year. It's called *Bellarinea*, and it was the first fossil I named.

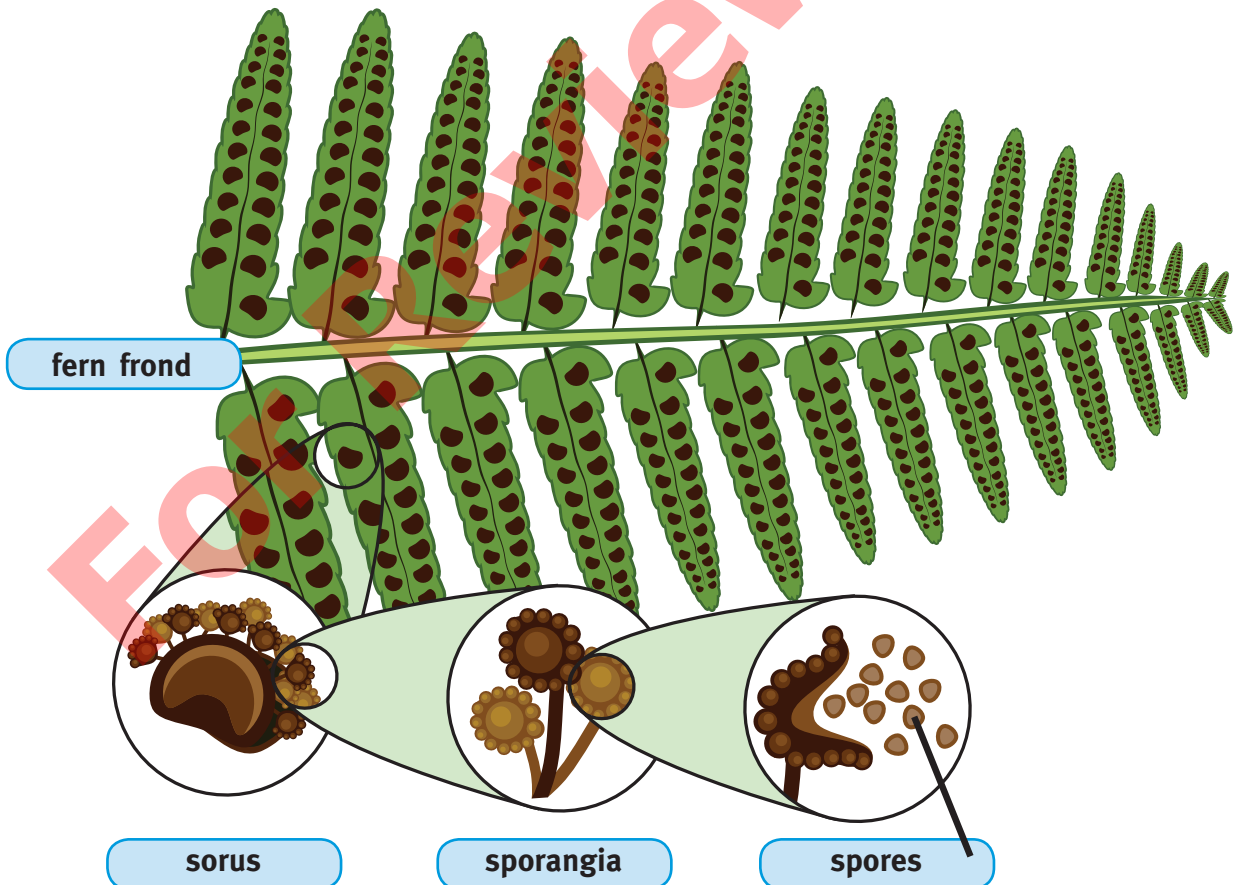
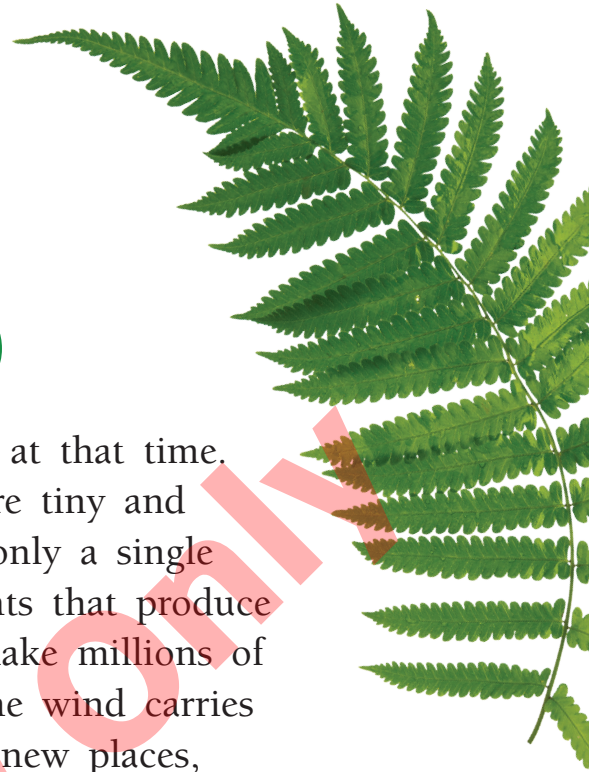


▲ me with my family at my college graduation in 1996

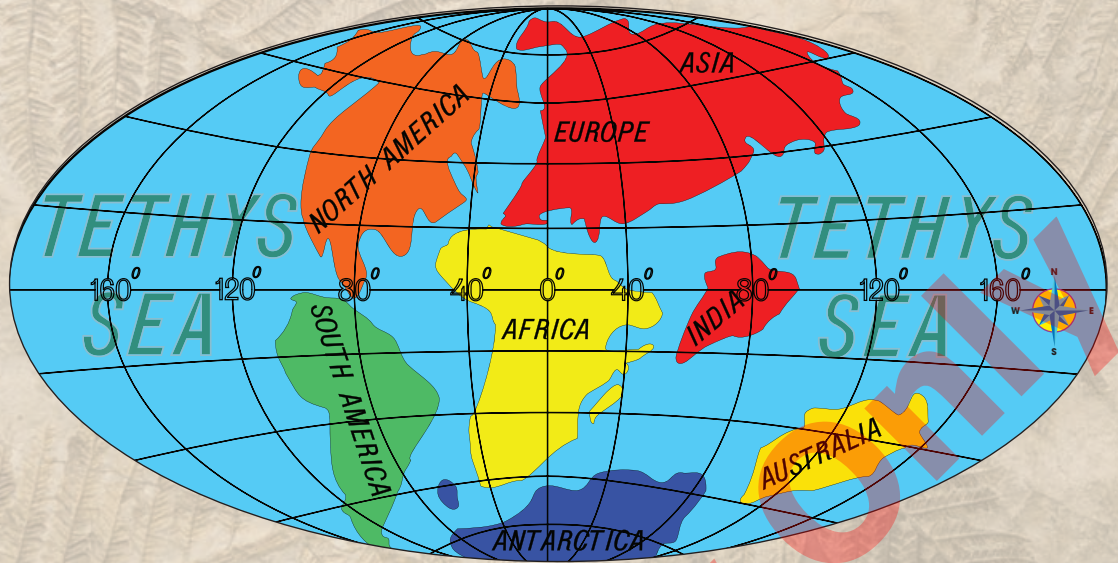
Studying Ferns

In 1997, I began my research for a higher degree at the University of Melbourne. I studied fossil ferns from the time period when dinosaurs roamed Earth. Ferns, a group of plants that produce spores instead of seeds, were very

common at that time. Spores are tiny and contain only a single cell. Plants that produce spores make millions of them. The wind carries them to new places, where they grow.



Continents During the Time of the Dinosaurs



Living things change over very long periods of time. New traits appear and others disappear. In addition, new groups of plants and animals show up, and others die out. The first flowers appeared during the time of the dinosaurs. Over time, flowering plants took over the world's forests, and many kinds of ferns became **extinct**. However, some ferns started to grow on flowering trees. That led to many new types of ferns.

Earth's surface is constantly changing. Scientists think that Earth's seven continents were once part of one huge land mass. Over time, they separated and began to move apart. South America and Australia were close to Antarctica during this time. Because the continents were once connected, it wasn't surprising to find that the ferns growing on the continents were related. Because of fossils, we know that Antarctica had ferns that were like the ferns in Australia and South America.



◀ This is a fossil that I named during my Ph.D. work. It's called *Gleicheniaceaphyllum acutum*. Its relatives are still alive today.