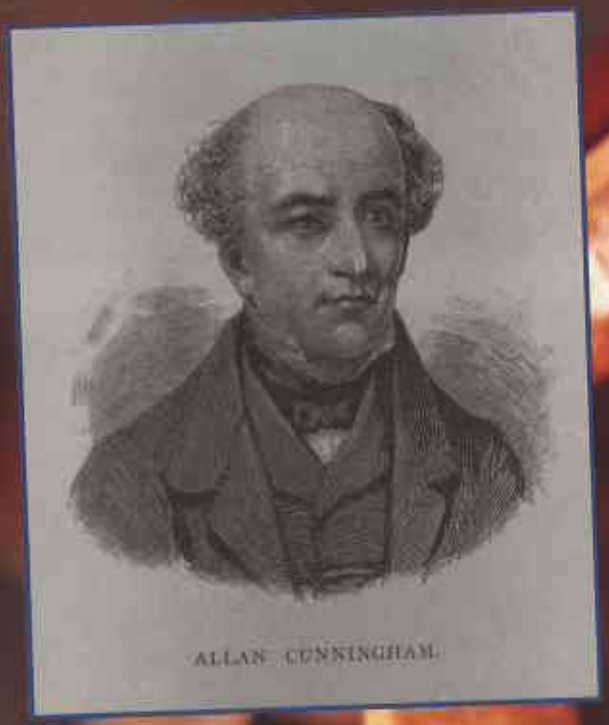
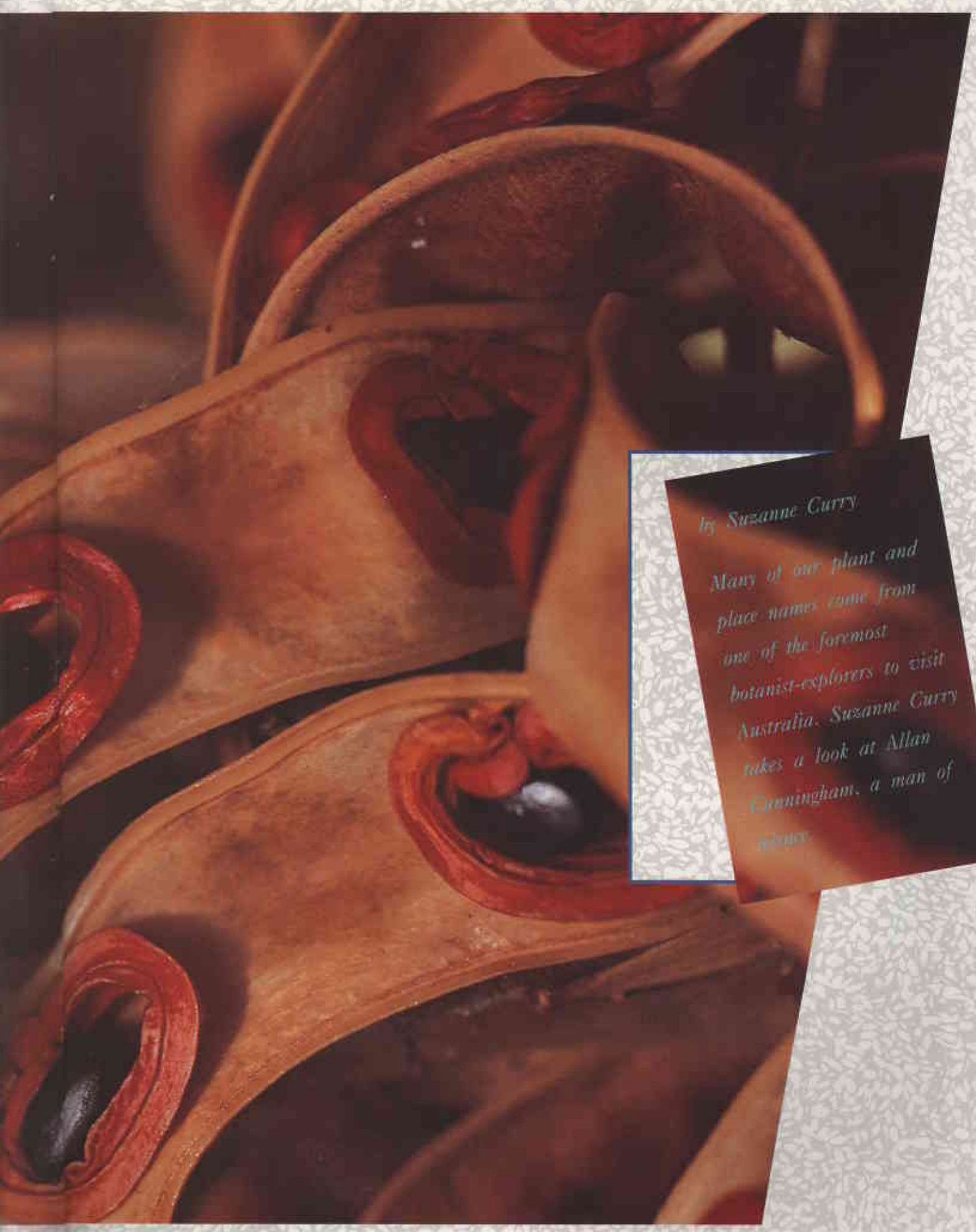
CUNNINGHAM
A MAN OF SCIENCE



ALLAN CUNNINGHAM.



by Suzanne Curry

Many of our plant and place names come from one of the foremost botanist-explorers to visit Australia. Suzanne Curry takes a look at Allan Cunningham, a man of talent.

Have you ever visited Point Cunningham, Western Australia? Have you stopped at Cunningham, New South Wales or Cunningham Gap, Queensland? Perhaps you've admired the beautiful *Crotolaria cunninghamii* commonly known as the green bird flower, and the swamp daisy (*Actinodium cunninghamii*). Who was the man so honoured by these names?

Allan Cunningham was one of Australia's foremost botanist-explorers. He was born in England in 1791. In 1814, under the direction of Sir Joseph Banks, Cunningham was appointed as a botanical collector. After a successful excursion to Brazil he was sent to New South Wales and arrived in Sydney in December 1816.

During his 17 years in Australia, Cunningham was responsible for collecting more than 3 000 specimens of plants and exploring much of New South Wales, southern Queensland and Tasmania.

KING'S VOYAGES

Between 1818 and 1822 Cunningham visited a number of coastal parts of Western Australia. He accompanied Lieutenant Phillip Parker King on five voyages undertaken to survey various parts of the Australian coastline. John Septimus Roe, who later became the first Surveyor General to Western Australia in 1829, was also attached to these voyages.

Four of the five voyages included extensive surveying of the Western Australian coastline. Much of this work was concentrated in the then unknown waters of our northern shores (from King Sound to Brunswick Bay), but other visits included King George Sound, Rottnest Island, the Dampier Archipelago and Dirk Hartog Island.

As ship's botanist, Cunningham collected assiduously, acquiring between 300-400 specimens on each voyage. He kept meticulous journals which he wrote up at the close of each day. It was not unusual for his day to begin at sunrise and finish well after sunset when he would be busy pressing, drying and packaging his collections. It was a remarkable feat considering the cramped quarters in which he

Previous page:
The coastal or red-eyed wattle (*Acacia cyclops*). The name is based on Cunningham's collection made in January 1818 from King George Sound.
Photo - Bruce R. Maslin

Inset:
A portrait of Allan Cunningham.

Above left:
The dyaridany (*Hakea macrocarpa*). The scientific name is based on Cunningham's collection made in February 1822 from Point Cunningham.
Photo - Brian J. Carter

Left:
The swamp daisy (*Actinodium cunninghamii*) was collected by Cunningham. The name was published in 1836.
Photo - Greg Keighery

worked: the *Mermaid*, for instance, was a cutter of 84 tonnes with a complement of 19 crew.

Cunningham also gathered many living collections, bulbs and seeds that were shipped to Kew Gardens, where they were eagerly examined by Banks and the Superintendent of the Gardens, William T. Aiton. Banks wanted to keep one step ahead of the collectors working for Schönbrunn Austria, the only garden that rivalled Kew. A 'Memorandum of New Holland Plants of your introduction to us, taken down on a turn around the Garden this morning', appears in a manuscript at Kew dated 6 April 1827 and signed by Allan's brother Richard. It includes plants he knew as '*Pterostylis gibbosa*' and '*Pterostylis rufa*', both of which were probably collected from Western Australia.

Cunningham would spend hours preparing the wooden boxes containing these valuable plants, which needed to survive the six months or longer journey to London.

CUNNINGHAM'S NAMES

Cunningham gave manuscipt names to many plants that he collected that were unfamiliar to him. He also carefully annotated each collection with important details on the plant's distribution, habitat, habit, flower shape and colour, and so on. However, because he spent most of his life as an active botanical collector and explorer, he did not have the time to publish the many new species of plants that he had discovered. Others, such as English botanists Robert Brown and George Bentham, took on this task.

Cunningham collected numerous species unknown to science. Many of these have been named in his honour. Some Western Australian examples include the swamp daisy (*Actinodium cunninghamii*), the Albany woollybush (*Adenanthos cunninghamii*), the coast angianthus (*Angianthus cunninghamii*), and the green bird flower (*Crotolaria cunninghamii*).

Because of the quality and number of specimens Cunningham made from previously uncollected areas of Western Australia many subsequently became the most important collection, known as the 'type'. The type collection is the specimen on which the name of a species is based.

Colourful flowers, sometimes called bachelors buttons (*Gomphrena cunninghamii*) are another Western Australian plant bearing the name Cunningham.
Photo - Jiri Lochman

A sketch from Lieutenant Phillip Parker King's journal of the *Mermaid* at Careening Bay in 1820.

The Department of Conservation and Land Management's (CALM) Western Australia Herbarium houses 16 of these types, donated by Kew Gardens and the British Museum in London. One of these is *Acacia idiomorpha*, a wattle originally published in *Flora Australiensis* by George Bentham in 1854. The name is based on Cunningham's collection made in January 1822 from Dirk Hartog Island.

A MAN OF SCIENCE

Although Cunningham's position on these voyages was that of Colonial Botanist he was very much a man of science with broad scientific interests, as shown by his articulate journals. As an example: in September 1820 the *Mermaid* stopped in a small bay forming the western bight of Port Nelson. There she was careened or tipped on her side to be cleaned and repaired. Nineteen days were spent at this site, subsequently named Careening Bay, which was revisited in July 1821. Cunningham's journal describes the pitching of tents, the discovery of fresh water streams (his attention to detail has allowed these springs to be relocated), comments on land recently burnt by Aboriginal people,

Right:
The green bird flower (*Crotolaria cunninghamii*). Cunningham collected this species at Goodenough Bay, King Sound, in February 1822.
Photo - Brian Carter

Below right:
Cunningham noted the presence of the frilled lizard (*Chlamydosaurus kingii*) at Careening Bay.
Photo - Marie Lochman/Lochman Transparencies

Below:
The wattle *Acacia idiomorpha*. Its name is based on Cunningham's collection from Dirk Hartog Island
Photo - Bruce Maslin

their language and the construction of their huts, the topography of the area, and the collection of a 'curious lizard of extraordinary appearance' (the frilled lizard *Chlamydosaurus kingii*) as well as many other remarks. He paints a remarkably clear picture of our country at that time. On this visit the large boab tree (*Adansonia gregorii*) in the bay was incribed 'HMC Mermaid 1820'. Cunningham recorded its girth as 29 feet (8.8 metres). Today it measures 12.2 metres with the inscription still very evident.

Cunningham was one of the first Europeans to botanise on our shores. Indeed he appears to be the first person to make botanical collections from the Kimberley. These factors, combined with the quality of his specimens and the details of his observations, form much of the basis for our current taxonomic knowledge.

His observations are also used to compare vegetation changes in an area and to assess whether plants still exist in these areas. They can help establish the distribution range of some species. In some cases, when plants are poorly collected, collections can be actively sought from areas mentioned by Cunningham. These observations assist in making sure that poorly known plants are adequately protected.

One of the major difficulties in researching Cunningham is that his journals and specimen listings have never been published. One may find, in numerous publications, very small portions of his work transcribed but these amount to only a fraction of the total. The original journals are not available to the public and are housed in part at the British Museum in London and the Mitchell Library and State Archives in Sydney. Therefore the journals must be examined using microfiche copies. Many painstaking hours are spent interpreting

the old style of writing (including Latin), of England in the 1820s.

Another problem is determining the currently accepted name of many of Cunningham's collections. Many names that he attributed to plants have since proven incorrect. This is understandable given the vast knowledge of botany that has been acquired since the 1820s. Correct identification of these collections requires close examination of the actual collection and the relevant observations in his journals. As most of Cunningham's collections are not in Australia, research is needed to ascertain where the collection is and a formal request made to borrow the relevant specimens.

Difficulties can also arise when place names used by Cunningham cannot be found on today's maps. Research has been conducted by the author and Bruce Maslin, Principal Research Scientist in the W.A. Herbarium, to establish each collecting site visited by Cunningham with Phillip Parker King and to establish its equivalent contemporary name. Copies of King's charts have been forwarded from the Hydrographic Office in London and are now kept in the Herbarium. In Western Australia, for example, Cunningham's Curlew River is now known as the Ashburton River, and, near Albany, French River is known as the Kalgan River.

Several people in Australia are actively researching different aspects of Cunningham's work. Kevin Kenneally, Principal Research Scientist in the W.A. Herbarium with botanical expertise on the Kimberley area, is transcribing Cunningham's journal entries that concern the Kimberley. The combined work is a long-term project and will eventually result in the transcription of Cunningham's entire journals.

FINAL YEARS

In 1831, after 17 years in Australia, Cunningham was instructed to return to England, where he arrived in ill health. He took up residence at Strand-on-the-Green near Kew and spent his time arranging his collection of specimens in the herbarium and preparing papers for publication.

In 1832 he was offered the post of Superintendent of the Sydney Botanic Gardens. Cunningham declined but recommended his brother Richard, who took up the position in January 1833.

In April 1835 Richard was killed by Aboriginal people and Cunningham accepted the post, hoping the warmer climate would improve his declining health. He commenced duties in March 1837 but quickly became disenchanted with the gardens. They seemed to him little more than a pleasure ground for the public, and he objected to superintending 'the Government Cabbage Garden' where, amongst other things, he was expected to grow vegetables for the Governor's table. He resigned in late 1837 and left for New Zealand to continue his own biological investigations. Included in his collection was a specimen of what Cunningham regarded as 'that rarest of all the birds of New Zealand, the Kiwi'.

Cunningham returned to Sydney in October 1838 in extreme ill-health. His plans to revisit Western Australia with Captain John Wickham were abandoned and on 27 June 1839, at the age of 48, Allan Cunningham died. In 1844 an obelisk to his memory was erected in the Sydney Botanic Gardens. In 1901 Cunningham's remains were placed in this obelisk and a grove of bangalow palms (*Archontophoenix cunninghamiana*) was planted nearby.

Cunningham's industry was boundless. He would take every opportunity either to look for something new or to re-collect a more perfect specimen. Many species that he recognised as new are still recognised as distinct today. We can be thankful that this remarkable man was able to pursue his work in Western Australia.

The bachelors button.
Photo - Jiri Lochman

Copy of Phillip Parker King's chart of the north-west coast of Western Australia from Montague Sound to Cape Londonderry.
Photo - Courtesy Hydrographic Office, London

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LANDSCOPE

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Small and shy and quite unlike their exotic, urban cousins, high climbing rodents live throughout the Kimberley. *See page 10.*

Once it was a traditional battleground for Aboriginal people. Today the competition is between sailboarders while families of picnickers look on. *See page 23.*

The various groups of Aboriginal people around the Swan River lived in harmony with the seasons. *See page 28.*

His name is connected with plants and places around Australia. He was interested in everything from Aboriginal customs to the size of trees. Read about A Man of Science *on page 16.*

Learn about the incredible variety of orchids in the Stirling Range. *See page 36.*

FEATURES

REGULARS

SPECIALS

COVER

*The many coloured orchid (*Caledonia polychroma *) is well named. Aside from the rich pinks there are clumps of lemon yellow and pure white. The orchid is found in the low areas of the Stirling Range, preferring wandoo and sheoak woodlands. While most years its vibrant flowers can be seen, it flowers best after fire. The illustration is by Phillipa Nikulinsky.*

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