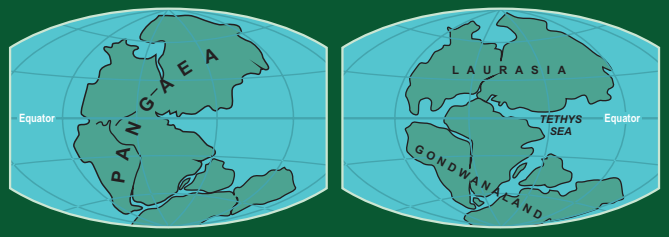
Introduction

Australia's Gondwanan Heritage Garden is an Evolution Garden tracing the evolution of plants from the first photosynthetic bacteria to the modern flowering plants. Emphasis is placed on the Gondwanan component of the plant kingdom and in particular the development of the distinctive Australian "Wet Tropics Flora".
The Wet Tropics Area houses Australia's highest concentration of plant Families and species, in an area comprising of less than 0.01% of Australia's total land mass. There are more than 3,500 named vascular plants including 65% of Australia's Fern species, 21% of Australia's cycad species, 37% of Australia's conifer species and 30% of Australia's Orchid Species. It also contains representatives of thirteen of the nineteen Primitive Flowering Plant families found worldwide.

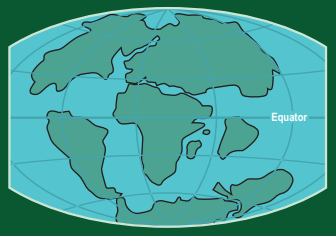
Start the trail at the interpretive shelter, learn how the modern continents evolved, examine the fossil record and trace the changes in plants from the beginning to the present day. Then follow the Zones and meet the survivors of this long journey.



PERMIAN
280 million years ago

TRIASSIC
230 million years ago

JURASSIC
181 million years ago



CRETACEOUS
135 million years ago

PRESENT DAY

CAIRNS BOTANIC GARDENS

Collins Avenue, Edge Hill, Cairns

Gardens open 7:30am until 5:30pm each day, including weekends and public holidays. Guided walks are available. Check times and availability at the Visitors Centre or call **4032 6650**

Gifts and books are available at the Visitors Centre, 10:30am - 3:00pm daily except Public Holidays.

Admission is free; however we invite you to support the Gardens with a donation.

For further information please contact the Botanic Gardens Visitor Centre, **Phone: 4032 6650**
gardens@cairns.qld.gov.au

www.cairnsbotanicgardens.com.au

CAIRNS Botanic Gardens
Cairns Regional Council

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australia's Gondwanan Heritage garden

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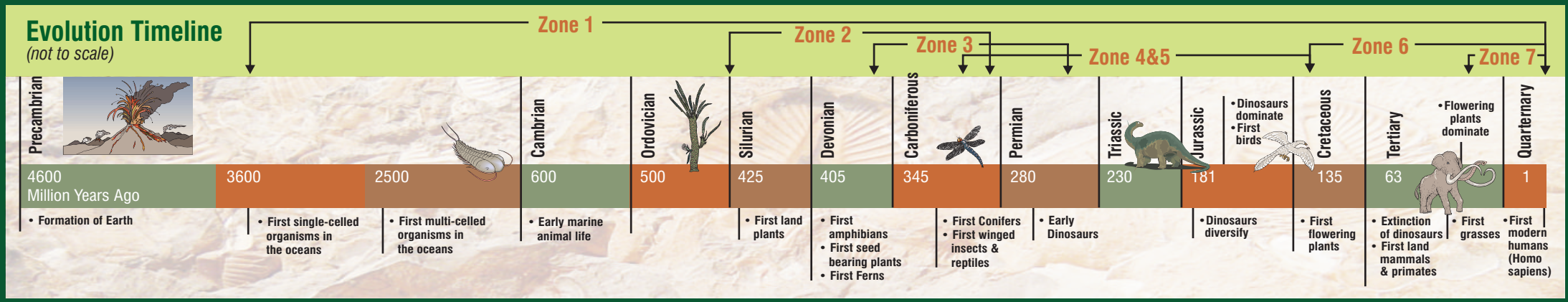
Evolution Timeline
(not to scale)



Zone 1. Photosynthesis begins
About 3,500 mya (million years ago) to the present.
Cyanobacteria (colonial bacteria) become some of the first creatures to use chlorophyll to capture sunlight and convert carbon dioxide and water into simple sugars, the building blocks of modern plant life.

Zone 2. Plants move onto the land
420 mya. Late Silurian to Carboniferous.
Small simple celled Liverworts, hornworts and mosses evolved from marine algae. The first vascular plants, the fork ferns, club mosses and tassel ferns developed from these pioneers and together they colonised the land.

Zone 3. The Age of ferns
360 mya. Carboniferous period.
The first ferns appear and like all plants of the time reproduce by spores. The first seed plants, the seed ferns also appear around this time but later become extinct. Tree ferns similar to those of today dominate the landscape laying down the modern coal beds.

Zone 4. The Age of the Gymnosperms (Naked Seed plants) "The Cycads".
325 mya. Triassic to the end of the Jurassic period.
Although seeds had evolved earlier the change from spores to seeds in the conifers and cycads represented a major evolutionary event in plants.

Zone 5. The age of the Gymnosperms (Naked Seed plants) "The Conifers"
The evolution of both the Conifers and the Cycads together represent the age of the Gymnosperms with the conifers appearing around 325 mya, just before the cycads.

Zone 6. The Age of the Angiosperms (Seed born in a vessel)
The Flowering Plants. 130 mya to the present.
The development of flowers is considered the most significant event in the evolutionary history of plants, giving us most of the plants we know today and creating the conditions responsible for the massive diversification of insects, birds and mammals as active pollinators and seed dispersers.

Zone 7. Continental Collision (The Age of Exchange)
15mya to the present.
Australia's 35 million years of isolation ended 15 mya when the continental plates of Asia and Australia collided. Plants from both continents mingled to create the flora we know today.