

# 16.09.23 - 15.10.23 Petrichor Gallery



A TALE OF TWO TREES RED-FLOWERING GUM & RED TINGLE ELIZABETH EDMONDS



As an artist and palaeoecologist, Dr Elizabeth Edmonds explores the southern Australian landscape at different spatial and temporal scales: its history, layers and depths. Her work delves into personal experiences of the wilderness area, the concept of deep time and the human impacts on vulnerable landscapes.

Within this landscape she is especially drawn to the significance of the old, large 'venerable' trees endemic to the area: the tingles and red-flowering gum. Their formation, thigmomorphogenesis - are touched and shaped by history and natural elements. When translated into artworks, the vibrant watercolour red hues symbolise life and vitality creating a striking juxtaposition with the grounding presence of dark charcoal inks.

# DAHL FELLOWSHIP 2023

Elizabeth is a recipient of a Eucalypt Australia Dahl Fellowship 2023 for this exhibition, *The Tale of Two Trees – The Red Flowering Gum and Red Tingle* which explores the environmental narrative of two iconic Australian eucalypt trees through art to raise awareness of the conservation issues surrounding them.

In the lead up to the exhibition a symposium was held on National Tree Day in March 2023. Insights gleaned from expert presentations helped shape the research and creative process of the project, as well as build networks and strengthen community collaborations.

// ToTT //

# THE TALE OF TWO TREES

The Red-Flowering Gum (Corymbia ficifolia or yorgum) and the Red Tingle (Eucalyptus jacksonii or dtingle dtingle) are iconic trees of Western Australia. While the Valley of the Giants Tree Top Walk has afforded millions of tourists the opportunity to wander amidst the colossal Tingle trees, the Red-Flowering Gum has earned international recognition for its ornamental value and is extensively cultivated on streets worldwide. Despite their global prominence, the ecological, biological, and conservation aspects of these species remain poorly understood. These trees, endemic to the Walpole Wilderness Area adjacent reserves, and the intricate ecosystems they foster, are vulnerable to drying climates, altered fire regimes, disease and other human impacts.

The Red-Flowering Gum and the Red Tingle hold significant ecological, cultural, and environmental importance :

#### Endemic Rarity:

The trees are endemic to the high rainfall zone of southwestern Australia and are only found within a 20-30km radius of Walpole with approximately 5,000 to 6,000 hectares of Tingle Forest and Red-flowering Gum woodlands believed to still exist for each type of habitat.

#### Ancient and Majestic Stature:

Among the world's largest eucalyptus trees, Red Tingles are renowned for their grandeur and awe-inspiring size, characterized by their massive girth and unusual, gnarled trunks, which often display hollowed-out sections. Averaging 50m high they can grow up to 70m tall and their girth can be massive often approaching 24m in diameter.

In contrast, the Red-Flowering Gum is typically a small to medium-sized tree up to 10m in height with a base circumference of around 60cm found usually in poor form, within coastal and subcoastal forests and woodlands. It has a broad, spreading canopy with a rounded to slightly irregular tree shape that varies depending on its age and growing conditions. Its defining features are the large and conspicuous clusters of stunning bright vermillion red flowers, adding a splash of colour in the landscape.

Both species are estimated to live for up to 400 years or more and on a evolutionary scale they are regarded as Gondwanan relics. They are considered some of the oldest eucalypts existing for over 14 (C. ficifolia) to 24 (E. jacksonii) million years, based on phylogenetic sequences. Fossil pollen studies at nearby Boggy Lake (Walpole-Nornalup National Park), specifically looking at the two species, show vegetation changes over the last 5000-6000 years before present in response to local environmental influences.



## Ecosystem Keystone:

Tingle forests and Red-Flowering Gum woodlands contribute to the overall biodiversity and ecological balance of the region. These trees are a relic of an ancient, wetter climate supporting numerous unique species of plants and animals.

Tingle giants play a fundamental role in their forest ecosystem; their towering presence ensures they act as keystone species, exerting significant influence on the structure, composition and functioning of the tingle forest. They provide habitat and nesting sites for various wildlife where deep crevices in their bark offer shelter for a variety of invertebrates and small vertebrates. Meanwhile, fallen leaves, bark, and branches provide a steady stream of organic matter that enriches the forest floor, enabling a thriving understory of fungi and other species.

The Red-Flowering Gum woodlands occupy a transitional slope ecotone between forests and lowland heaths or peat landscapes. They play a crucial role in supporting local wildlife with their nectar-rich flowers attracting a wide range of native birds, insects, and pollinators.

## Cultural, Indigenous and Scientific Value:

The trees are a significant part of the cultural and spiritual heritage of the Noongar/Nyungar people, who have lived in the region for thousands of years.

"The dtingle trees hold great spiritual significance for my people. These living beings - dtingle trees - hold the spirits of our Pibulmun Ancestors".

The blossoms of yorgum or bilgie-yutah bunnah (blood red flowering tree) marks seasonal changes to bunuru (February-March) the hottest time of the year when many flowering gums are in full blooms.

Dr Wayne 'wonitji' Webb, Pibulmun-Wadandi Traditional Elder



They also spark scientific interest. The Red-flowering Gum was first formally described in 1860 by Ferdinand von Mueller who gave it the name *Eucalyptus ficifolia* from a type specimen collected from around the Broke Inlet by George Maxwell. It's Latin name was chosen before its flowering brilliance was realised and was based on the similarity of the leaf shape to Ficus trees. Eventually when von Mueller travelled to Walpole in 1877 he wrote:

"Hardly anything else can be more imagined than the forest about February when the brilliant trusses diffuse a rich red over the green foliage of the whole landscape...."

Its distribution was more widespread then, extending west from the Irwin Inlet to the Shannon "constituting a distinctive forest belt". In 1995, the plant was reclassified and the name changed to *Corymbia ficifolia*.

In 1912, while exploring the area, naturalist Sydney Jackson recognised the Red Tingle tree as its own distinct species. Jackson sent samples for botanical description to New South Wales botanist Joseph Henry Maiden, who described it as a *'noble tree*.'

Early state forestry records show an interest in the tingles potential for industry however soon recognised that the timber was difficult to season, warped easily and had a low recovery rate. To local settlers the tingles were used in various ways including the construction of the Deep River, Walpole and Frankland bridges.

### **Conservation Priority:**

Red Tingle and Red-Flowering Gum trees and the ecosystems they inhabit, face various threats, including climate change and altered fire regimes. Ongoing research, protection and management is essential to ensure their future survival.



## ART PROCESS

Trained to use small bits of information to piece together a bigger picture, Elizabeth's works depict expansive wild spaces in its broadest and simplest tones as well as detailed drawn subjects. They are often atmospheric and minimalistic in style, using economical brush strokes or layering techniques using various mediums.

For this work, wood from Red Tingle and Red-Flowering Gum trees from her family property were used to make charcoal and inks for drawing and watercolour washes. The inclusion of 'tingle inks' and 'RFG inks' adds a new dimension, imbuing the works with a sense of connection to country by weaving an environmental story into the artwork narrative. Sealed with encaustic wax, ensures the preservation and conservation of the pieces while creating a sense of depth and imbue the piece with an ethereal, mist-like quality.

The use of charcoal and wax echoes Elizabeth's research as a palaeoecologist looking at fossil pollen records from peat records that reveal an environmental history over thousands of years. Charcoal is used as marker for chronological age and wax is used to seal pollen samples for analysis under the microscope.





Boggy Lake Fossil Pollen Sequence (after Pickett & Newsome (1997))



# ACKNOWLEDGEMENTS

The artist respectfully acknowledges the Noongar/Nyungar traditional custodians of the land from which inspiration is drawn, the Menang, Murrum and Pibulmun, as well as other First Nations people connected with these areas. We wish to acknowledge and pay respect to their ancestors and for their continuing culture and care of this land.

Elizabeth would like to thank the following people for their support and inspiration: Eucalypt Australia and the Dahl Fellowship, David Edmonds, Nate Anderson, Keith Bradby, Joe Fontaine, Andrea Gaynor, Mark Harvey, Stephen Hopper, Melissa Howe, Lynette Knapp, Janine Liddelow, Alison Lullfitz, Jane Newsome, Katrina Syme, Grant Wardell-Johnson, Zac Webb, Karl-Heinz Wyrwoll, Joanna Young, Walpole-Nornalup National Parks Association, family and friends.



### REFERENCES

Cunningham, I., (1998) *The Trees that were Nature's Gift*, Environmental Printing Company Maylands WA French, M. & Nicolle, D., (2019) *Eucalypts of Western Australia, the south-west coast and ranges.*, Scott

French, M. & Nicolle, D., (2019) *Eucalypts of Western* Print, Perth WA

Pickett, E. J., & Newsome, J. C. (1997). Eucalyptus (Myrtaceae) pollen and its potential role in investigations of Holocene environments in South Western Australia. *Review of Palaeobotany and Palynoloby*, 98, 187-205.

Thornhill Andrew H., Crisp Michael D., Külheim Carsten, Lam Kristy E., Nelson Leigh A., Yeates David K., Miller Joseph T. (2019) A dated molecular perspective of eucalypt taxonomy, evolution and diversification. Australian Systematic Botany 32, 29-48.

von Mueller, F., (1825-1896) Fragmenta phytographiæ Australiæ Vol. 2.

Walpole-Nornalup National Parks Association (2023) Walpole Wilderness Bioblitz 2022 Discover the Diversity Report, unpublished report.

Wardell-Johnson G (2000) Responses of forest eucalypts to moderate and high intensity fire in the Tingle Mosaic, south-western Australia: comparisons between locally endemic and regionally distributed species. *Austral Ecology* 25, 409–421.

Wardell-Johnson G, Coates D (1996) Links to the past: local endemism in four species of forest eucalypts in southwestern Australia. In *Gondwanan heritage: past, present and future of the Western Australian Biota*. (Eds SD Hopper, JA Chappill, MS Harvey, AS George) pp. 137–154 (Surrey Beatty and Sons: Chipping Norton, NSW)