

The Baobabs: Pachycauls of Africa, Madagascar and Australia

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Gerald E. Wickens

in collaboration with Pat Lowe



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A Caliban of a tree, a grizzled, distorted old goblin with a girth of a giant, the hide of a rhinoceros, twiggy fingers clutching at empty air, and the disposition of a guardian angel – such is Kimberlley' baobab, friendly ogre of the great North-west. Food for his hunger, water for his thirst, a house to live in, fibre to clothe him, fodder for his flocks, a pot of beer, a rope to hang him, and a tombstone when he is dead – these are the provisions of the baobab for man. In all nature there is no ally so kindly, with the possible exception of the coconut palm.

(Ernestine Hill 1940)

Preface

Although Alexander von Humboldt never saw a baobab, he wrote: ‘Among organic creatures, this tree [*Dracaena draco* (dragon tree)] is undoubtedly, together with the *Adansonia* or baobab of Senegal, one of the oldest inhabitants of our planet’ (Humboldt 1852).

With their enormous size, distinctive and often grotesque appearance, and great age (measured perhaps in thousands of years), baobab trees attract the attention of botanists, amateurs, tourists and passers-by wherever they grow. Old specimens display highly individual, photogenic characteristics which endear them to local people, artists and photographers. European knowledge of the African baobab dates back to Renaissance times.

I first became acquainted with the African baobab in 1952 while working in what was then Sokoto Province, Northern Nigeria. Later I worked in the former Rhodesias (now Zambia and Zimbabwe) and in the Sudan, and was able to further my studies. Although I have written about the African baobab, it was Pat Lowe who, in January 2000, persuaded me that we should pool our knowledge and experiences and write a book on all eight species of this outstanding genus. While I take full responsibility for the final text, I have taken advantage of her knowledge of baobabs in Africa, Madagascar and especially Australia, and of her constructive criticism of the text.

Pat Lowe migrated to Western Australia in 1972 and 7 years later moved to Broome, in the north of the state, where she first became acquainted with the Australian species, known as the boab. Finding that no book had been written about this remarkable tree, she set about researching the subject and wrote one herself: *The Boab Tree* (Lowe 1998).

The baobabs have a fascinating life history, although their origins remain uncertain due to the absence of fossil evidence, but intriguing theories abound. They are pollinated by such diverse fauna as lemurs, bush babies, bats and moths. Large trees, with their deep shade and numerous small cavities, have become island ecosystems, providing shelter for a variety of plants and animals. To study baobabs is to learn a great deal also about the natural world that surrounds them and the species and people that depend on them for their survival.

Although the wood is of no value as timber, the trees are important in the economy of indigenous people for shelter, food, fodder, medicine, fibre and numerous other products and uses. The vitamin C content of the fruit pulp is far greater than that of

oranges and serves as an extremely valuable vitamin source; the pulp also provides a wide range of essential nutrients and minerals, and is now available in European health food markets.

There is a rich folklore and religious culture associated with the baobabs. A number of trees in their host countries are famous because of their historical associations and inscriptions. Others are known for their vast girth or their deep, capacious hollows. Some hollow specimens have served as prisons, flush toilets, pubs and burial places.

There is a very extensive literature on baobabs, more than 1500 items to my certain knowledge. Unfortunately this includes a great deal of second-hand information being propagated; for example, usages are often attributed to cultures where they do not occur. Where possible I have provided primary references in order to overcome this problem.

I have, with the invaluable assistance, encouragement and editing skills of Pat Lowe, endeavoured to make this book a comprehensive survey of our present knowledge of the baobabs, hopefully presented in a manner that will make the book readable to both the scientist and non-scientist. I make no apologies for having uncovered a number of loose ends, which I hope other researchers will seek to tidy up, and so extend our knowledge of this fascinating genus.

Aylsham, Norfolk

Gerald E. Wickens

Foreword

The eight species of baobab have enthralled professional botanists, amateurs and passers-by for centuries and, presumably, millennia by virtue of their prodigious stature and, for lack of a better term, personality. In addition to innumerable pieces of art inspired by baobabs, a substantial body of research has been published in disciplines as diverse as ethnobotany, ecology, physiology and taxonomy. This work has remained scattered in innumerable journals, books and magazines, written in countless languages, posing a major challenge for the researcher. Now, in this ambitious work, Gerald Wickens has collected together all the information he could gather and has organised it into an exhaustive exploration of the history and biology of the amazing baobabs. In its depth and breadth this book rises above the existing literature much as a giant *Adansonia digitata* towers over the African savanna.

Even the most knowledgeable of botanists will find a treasure trove of information about baobabs and their natural history. At the same time the immensity of information included in these pages sets into relief the innumerable gaps in our knowledge. For, despite the ecological importance of baobabs in diverse ecosystems and the large number of researchers that have studied them, there are many unanswered questions. Consequently, this book is sure to promote further scientific research on baobabs, their relatives and the ecological communities in which they live. This could not be more timely. With so much natural diversity being threatened by human activity, the botanical world needs its ambassadors, its charismatic megafauna. And what could be more charismatic than a towering baobab springing into flower as dusk falls on the dry, deciduous forests of western Madagascar?

So, we can only hope that through this inspiring work, more people will come to appreciate these awesome trees and work even harder to protect them and their ecological homes for future generations to enjoy.

David A. Baum
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I am particularly grateful to my old friend Julian J. Smith (Church Stretton, Shropshire) for his erudite Latin and Greek translations, and to my neighbour, Lawrence Smith, for translating the Japanese text of Kondo (1997). My colleague, friend and neighbour, Dr. Roger Polhill, is responsible for drawing the figures. I also appreciate the linguist expertise of Dr. Roger Blench (Cambridge) in editing Appendix 1, and the help of Steve Cordner and Aylsham Computers in keeping my computer running. The helpful editorial assistance of Claire van Heukelom and Melanie van Overbeek of Springer NL is greatly appreciated.

Colour Plates



Plate 1 *Adansonia gregorii*, 'Mermaid Tree' at Careening Bay, Western Australia (Seddon, 2005)



Plate 2 *Adansonia digitata*, 'The Lovers'. The entwined branches of two baobab trunks fused at the base, growing at Chisenga Pool, Zimbabwe (Mullen, 2003)



Plate 3 *Adansonia grandidieri*, L'Avenue des Baobabs' near Morondava (photo by Pat Lowe)



Plate 4 'The Gregory Tree', *Adansonia gregorii* at Depot Camp, Victoria River, Northern Territory (photo by Pat Lowe)



Plate 5 Grown like carrots, the edible roots of seedling *Adansonia digitata* in Senegal (© Baobab Fruit Company, Senegal)



Plate 6 *Adansonia gregorii*, the 'Prison Tree' at Wyndham, Western Australia (photo by Pat Lowe)



Plate 7 Sheets of wood from *Adansonia rubrostipa* drying in the sun (photo by Jonathan Ekstrom)



Plate 8 A roof made from dried sheets of *Adansonia* wood in Madagascar (photo by Pat Lowe)



Plate 9 A Dogon on a baobab rope scanning the 300m high Bandiagara Cliffs for pigeon guano and Tellem artifacts (© José Azel/Aurora Photos)



Plate 10 Ropes made from *Adansonia* bast fibres in the zebu cattlemarket at Morondava (photo by Pat Lowe)

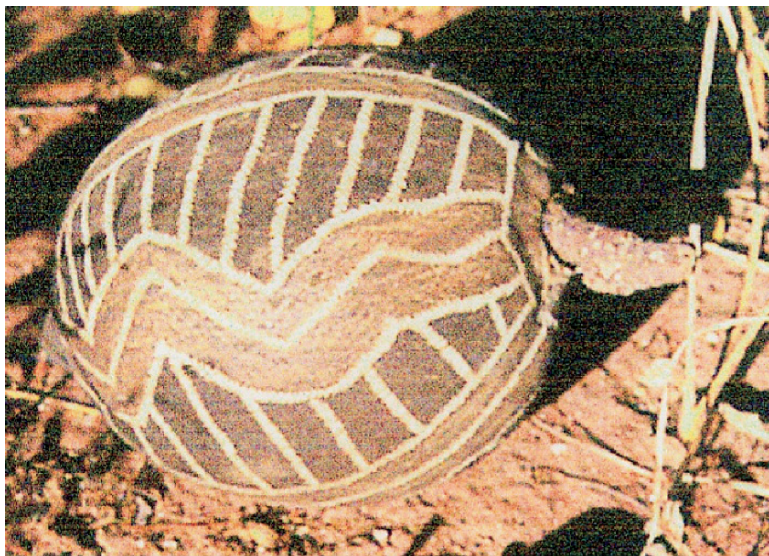


Plate 11 *Adansonia gregorii* pod carved by the late Jimmy Pike (photo by Pat Lowe)



Plate 12 Examples of postage stamps showing *Adansonia* spp.



Plate 13 Three fused trunks of *Adansonia gregorii* at Newry, Northern Territory (photo by Diana Mayne)



Plate 14 The unusual sight of the erect trunk of a dead baobab, on a farm near Messina, South Africa, which has shed its bark (photo by Diana Mayne)



Plate 15 A clump of *Adansonia gregorii* showing the ‘mother tree’ with what appears to be one, two or possibly several generations of young trees growing beneath its canopy (photo by Pat Lowe)



Plate 16 Regeneration from the fallen trunk of *Adansonia gregorii* (photo by Martin Sands)



Plate 17 *Adansonia gregorii* with regrowth from a broken trunk (photo by Pat Lowe)



Plate 18 A fruit bat visiting a flowering of *Adansonia digitata* in Kenya (photo by David Baum)



Plate 19 A fork-marked lemur (*Phaner furcifer*) visiting a flower of *Adansonia grandidieri* (photo by David Baum)

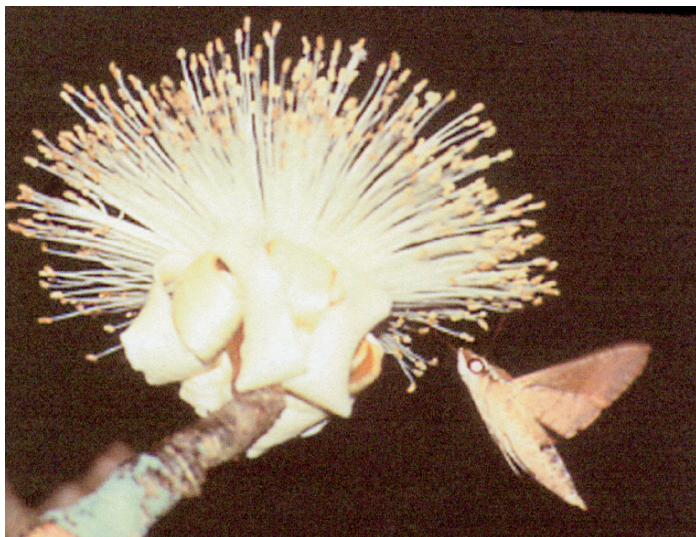


Plate 20 A hawk moth (*Nephele comma*) visiting a flower of *Adansonia grandidieri* (photo by David Baum)



Plate 21 A sunbird (*Nectarinia* sp.) visiting a flower of *Adansonia grandidieri* (photo by David Baum)



Plate 22 A fat-tailed dwarf lemur (*Cheirogaleus medius*) visiting a flower of *Adansonia rubrostipa* (photo by David Baum)



Plate 23 A hawk moth (*Coelonia brevis*), visiting a flower of *Adansonia za* (photo by David Baum)



Plate 24 A pale fork-marked lemur (*Phaner furcifer palleescens*) visiting a flower of *Adansonia za* (photo by David Baum)



Plate 25 A hawkmoth (*Agrius convolvuli*) visiting a flower of *Adansonia gregorii* (photo by David Baum)



Plate 26 'Love Tree', *Adansonia gregorii* and *Eucalyptus* sp. at Derby, Western Australia (photo by Pat Lowe)

Plate 27 'Turn-round Tree', *Adansonia digitata* infected with sooty mould, Falls Road, 318.5 km from Bulawayo (photo by Geof Calvert)



Plate 28 A stand of *Adansonia grandidieri* near Morondava at risk of water-logging from neighbouring rice fields (photo by Pat Lowe)



Plate 29 A monster pod of *Adansonia digitata* from Senegal (© Baobab Fruit Company, Senegal)



Plate 30 Flower of *Adansonia madagascariensis* (photo by Pat Lowe)



Plate 31 *Adansonia suarezensis* at Antseranana, Madagascar (photo by David Baum)



Plate 32 A lorry load of *Adansonia digitata* fruit pulp destined for Europe (© Baobab Fruit Company, Senegal)

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