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*Vai al contenuto multimediale*

Angelo Mario Olivieri

**Plants of Malawi  
and nearby Countries**

Almost a technical and scientific fantasy  
for a Foreign Tourist

*Classified by and discussed with*  
Edwin S. Kathumba  
Mariacristina Villani  
Victoria Mtambo





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Beauty is nothing other than  
the promise of happiness

MARIE-HENRY STENDHAL



# Index

- 9 *To the memory of Augustin J. Salubeni*
- 11 *Preface*
- 13 *Acknowledgements to the first edition*
- 15 *Acknowledgements to this second edition*
- 17 *Introduction*
- 29 *The Plants in the Wild and in the Fields*

Family Arecaceae (Palmae), 29 – Family Zingiberaceae, 34 – Family Am-  
aryllidaceae, 35 – Family Anthericaceae, 38 – Asparagaceae, 39 – Family  
Asphodelaceae, 40 – Family Aracaceae, 41 – Family Iridaceae, 43 – Family  
Hyacinthaceae, 44 – Family Liliaceae, 46 – Family Costaceae, 47 – Family  
Agavaceae, 47 – Family Orchidaceae, 51 – Family Colchicaceae, 53 – Fam-  
ily Pontederiaceae, 54 – Family Commelinaceae, 55 – Family Taccaceae,  
56 – Family Cyperaceae, 59 – Family Dioscoreaceae, 57 – Family Typhace-  
ae, 60 – Family Poaceae or Graminaceae, 61 – Family Strelitziaceae, 72  
– Family Casuarinaceae, 72 – Family Ulmaceae, 73 – Family Salicaceae,  
74 – Family Moraceae, 75 – Family Proteaceae, 84 – Family Olacaceae,  
88 – Family Annonaceae, 90 – Family Nyctaginaceae, 95 – Family Cac-  
taceae, 95 – Family Lauraceae, 96 – Family Nymphaeaceae, 97 – Family  
Portulacaceae, 98 – Family Papaveraceae, 99 – Family Amaranthaceae,  
99 – Family Polygonaceae, 101 – Family Ranunculaceae, 102 – Family  
Theaceae, 103 – Family Myrsinaceae, 104 – Family Melastomataceae, 104  
– Family Capparaceae or Capparidaceae, 106 – Family Moringaceae, 115 –  
Family Pittosporiaceae, 117 – Family Rosaceae, 118 – Family Cannaraceae,  
118 – Family Chrysobalanaceae, 119 – Family Leguminosae or Fabaceae,  
120 – Legume Subfamily Papilionoidae, 166 – Family Simaroubaceae, 193  
– Family Rutaceae, 194 – Family Burseraceae, 195 – Family Meliaceae, 200

– Family Polygalaceae, 206 – Family Euphorbiaceae, 208 – Family Icacinaceae (White Pear Family), 244 – Family Rhamnaceae, 245 – Family Lorantaceae, 247 – Family Menispermaceae, 249 – Family Vitaceae, 250 – Family Tiliaceae, 255 – Family Malvaceae, 259 – Family Bombaceae, 267 – Family Sterculiaceae, 269 – Family Ochnaceae, 277 – Family Clusiaceae or Gutiferae, 278 – Family Passifloriaceae, 281 – Family Dipterocarpaceae, 282 – Family Flacourtiaceae, 283 – Family Caricaceae, 287 – Family Combretaceae, 295 – Family Onagraceae, 299 – Family Araliaceae, 300 – Family Umbelliferae or Apiaceae, 302 – Family Ebenaceae, 304 – Family Oleaceae, 309 – Family Bixaceae, 311 – Family Loganaceae, 312 – Family Apocynaceae, 316 – Family Asclepiadaceae, 325 – Family Boraginaceae, 329 – Family Cannaceae, 334 – Family Convolvulaceae, 334 – Family Verbenaceae, 336 – Family Labiatae or Lamiaceae, 342 – Family Solanaceae, 345 – Family Scrophulariaceae, 349 – Family Bignoniaceae (Jacaranda Family), 351 – Family Pedaliaceae, 356 – Family Acanthaceae, 358 – Family Rubiaceae, 360 – Family Cucurbitaceae, 377 – Family Campanulaceae, 380 – Family Compositae or Asteraceae, 381



## To the memory of Augustin J. Salubeni

(1940–2011)

Mr. A. J. Salubeni was an expert of plants of Malawi at the Botanical Garden of Zomba City. He shared the idea of Ms. Antonella Pericoli to prepare the book *Plants of Malawi*. He added that it would be useful to Malawian people, mainly to the students of the Faculty of Biology.

Mr. Augustin J. Salubeni passed away during the preparation of the book: He was not able to read the proof of the manuscript. However, thanks to his equipe, namely Dr. Zacharia Magombo, Dr. Monfort Mwanyambo and Mr. Moffat S. Thera, the book was completed.

*Plants of Malawi* was published without his name. It seems a paradox, but one of his daughter refused to add his name as first in the list of the Authors.

The late Mr. Salubeni was a parataxonomist at the National Herbarium and Botanical Gardens (NHBG) in Zomba. On 1975 Augustin Salubeni moved from Chongoni to Zomba, where the Chitedze (Lilongwe), Chongoni (Dedza) and the University herbaria amalgamated in 1977 to form the National Herbarium of Malawi (MAL).

Augustine Salubeni was one of the few Botanists with vast field experience in collection and classification of Malawi flora.



## Preface

Two basic reasons push me, first Author, to issue this Book, a new edition of *Plants of Malawi*: to make few but important corrections; to increase the number of plants observed.

In any case, for the kind and the sources of information still gathered, it remains basically the same subtitle as almost a technical and scientific fantasy for a foreign tourist.

In this book I report species that were excluded in the first book only because they were missing of some botanical future. Infact in the first edition of *Plants of Malawi* the original idea was to give information of the most important traits of each species (plant shape, bark, leaf, flower, fruit, seed); aim that was only partially pursued. Now, even I have worked with expert and willing people, I am realizing that it is difficult to observe some traits in specific time of the year on plants growing into in given areas expecially into the forest. Today electronic devices can be used to record plant data and to improve the observations but I have not the capacity to deal with them.

Thus in this book I present additional species but often with few data. It is better to do little than nothing!



## Acknowledgements to the first edition

A.M. Olivieri owes special thanks to many persons who in Malawi gave him information on local plants: name, features, properties, uses and beliefs. It is for these popular uses and beliefs that we have added the subtitle “almost a fantasy” to the present book. Some of these persons have accompanied him to botanical excursions. Firstly thanks are due to Mr. Ben Masala and Mr. Jack C. Makarijiva connoisseurs of plants for profession. Secondly, thanks are due to many friends with expertise and eager about trees, herbs, flowers: Mr. Alberto Maloya, Mrs. Lucy Julias Mtambalika, Mrs. Olivia Kapachika, Mr. George Iphani, Mr. Christopher Tung’ande, Mrs. Ilaria Allieri, Mrs. Veronica Manyozo, Sisters Serafina, Ornella, Margherita and Francesca, Sacramentine Sisters at Ntcheu, Namwera and Liwonde; F.Sac. Efrem Mkamalisya, Mrs. Annunciata Kanyikaz, Mr. Lucious Kusani, F.Sac. Lorenzo Pege, Mrs. Edith Mungolema, Sister at Mangochi; Mr. Gervasio Nkhoma, Mr. Steven Sinyeka, F.Sac. Andrew Nkhata, Mr. Joseph Sinod Mpaya, Mr. Marco Mwalamba, Miss Victoria Mtambo, Mr. Synod W. Chisamile. All these persons, and many others not mentioned are passionate about the world of plants, livings apparently far away from the human world, but close to whom lives near the nature. They are able to learn, appreciate and exploit the immense treasures given by the plants as food, medicines and renewable energy.

Further thanks go to Prof. Mauro Cagiotti, botanist at Perugia, friend and colleague cooperant of MAE at Maputo, for his enthusiasm to study the African plant species, Mr. Matthew Dindio, Miss Allison Hargreaves both PCV, and Fr. John Matiki for reading critically the introduction of this book. A.M. Olivieri likes to remember

the stimulant talks about plant, nutrition, health and food improvement for African children with Dr. Mark J. Manary, Professor of Pediatrics at Washington University at St. Louis, USA, during their permanences at Namandanje Mission.

This book would not be possible without the encouragement and basic help of Botanists of the NHBG, namely Mr. Moffat S. Thera, Dr. Zacharia Magombo, Dr. Monfort Mwanyambo.

The Authors are grateful to Dr. Maria Cristina Villani of the Botanical Garden of the University of Padua for her information that allow us to review the book.

We would like to express our gratitude to Father Eugenio Salmaso who hosting Antonella Pericoli and Angelo M. Olivieri at the Namandanje Mission, Ntaja, Machinga district, Malawi, has allowed them to carry out this work started many years ago and mostly developed at Mangochi, Malawi.

## Acknowledgements to this second edition

I am indebted to many persons who during my last eight years let me to get a new work. Thanks to them, I had the possibility to learn more about people and plants and to prepare the book *Plants in Malawi*.

I regret the fact that the first edition of the book was issued without the name of Augustin J. Salubeni botanist in Zomba who gave me and Antonella Pericoli basic information. One of his daughters refused to write his father name as a first author.

Beside people mentionated in the first Edition of the book I want to add thanks to F. Joseph Kimu my first host in Malawi and Mr. David Goyder of the Royal Botanic Garden, at Kew, London for kind information.

Three persons important for their competence and capacity have been involved as Co–Authors. They are:

**Edwin S. Kathumba** Chief Botanist at the National Herbarium and Botanic Garden of Malawi. By him I made basic corrections in plant identification and I was pushed to report new species. In all cases, any mistake remains in charge of myself.

**Mariacristina Villani** botanist at the Botanic Garden of the University of Padova, Italy. She let me remain in contact with the University where I started my study learning basic things of the plants.

**M. Villani** did some basic corrections and classified few African species.

**Victoria Mtambo** nurse at Dedza, Malawi, knowing of plants. She knows how the plants are used on day to day life. She has been my

guide allowing me to contacts people for plant name, uses, beliefs, magic stories, receipts, then to translate those knowledges from Malawian languages in English.



## Introduction

We believe it will be useful for European tourists in Malawi and in this part of sub-Saharan Africa (Mozambique, Tanzania, Zambia, Zimbabwe) to appreciate



the great treasure that still exists: the plants in their environment with their real and putative usefulness; the biodiversity still present there. This book wants to highlight the plants of Malawi where, as in many other parts of the world, there is a drastic reduction of forests justified

by the need for new lands for subsistence agriculture and to increase food production. However it is known that being able to cultivate better the existing agricultural areas it is possible to grow plant food enough for all mankind. Already the quantity of food produced in the world should be sufficient for everyone. Moreover we see that the increase in human population (1.3% per year) can be largely compensated by the increased production through the work of genetic improvement of the actual agricultural species (2–4% per year). Today the biotechnologic breeding approach shows that further improvement can be obtained both by the selection of the actual material and the constitution of hybrid varieties for any local areas of the Earth.

There are many plants that are little or not at all known and even less appreciated by the people living in the richest areas on the world.



Asking visitors, who have been in Africa how many types of animals have seen or known, immediately respond by listing at least a dozen species. But no one or only few of them knows the same number of indigenous plants.

Most people do not remember that plants are our first friends, being living creatures who allow to mineral matter to organize, to breathe, to live like us.

### **Climate and seasons**

Malawi lies in the southern hemisphere so the seasons are reversed compared to the northern hemisphere. Thus the winter in Malawi is the summer in Europe and spring corresponds to autumn and vice versa. However, due to the rainy time, from November to March, the seasons are reduced to three:



- 1) Rainy season with high temperature and insolation (Dina);
- 2) seasons without rain with the ground still wet and temperature and sunshine that decreases (masika);
- 3) the dry season, winter, with low temperature then begins to rise, and the short days that then get longer (chilimwe).

For people living with primary resources (subsistence and commercial farming) these apparently trivial information are important. They are taught to children from kindergarten. Here is an example of mural at the primary school of Kausi in the Mangochi district.



Tourists at the time of rains will notice rapid changes of colours of the vegetation. It is the spring that lasts only few weeks. At the end of the year, everything is deep green for the flourishing of plants with beautiful colour contrasts in relation to the plants and their

development. Long days coupled with maximum temperature, high daily radiation and abundance of rains bode well for farmers who are very active in their gardens.

Arriving in Malawi at the rainy time, a tourist eventually sees the very nice atmosphere: there is a sea of green, the corn is collected and on the edge of the roads baskets are filled with many different fruits and vegetables, often unknown by European people.

### **The vegetation of Malawi**

It is difficult to make a comparison of the vegetation of Malawi with those present in Europe. This is because few species evolved in Africa can live in Europe (if not under glass or in flat) and forms of life present in Africa are immeasurably more and different than those



living in the northern hemisphere. Vice versa all plants arrived in Malawi (many for food interest) grow well even, though they may be somewhat different from those of the place of origin. In fact all living creatures are influenced by environmental conditions and react unpredictably by changing of daylight, terrain, temperature and



humidity. The plants are not industrial engines or cars that perform in the same way to all latitudes.

Of these behaviors plant breeders know something in their plant improvement jobs based on experimental trials in indifferent locations, thus they must wait

years before making available to local farmers a new variety.

In fact plant and crop tests as well product inspections have to be conducted during the seasons even if they use the most suitable genetic material and apply the most advanced and sophisticated technologies such as those based on DNA recombinant.

### **All plants are modified**

Over time changes take place for all living things, as well as to African plants. Man contributes deeply to these changes since – as we will see – all species have some real or alleged interest for those living in close contact with them. Gathering plants as a food and making agriculture means to change the environment where the plants were developed. This alteration of the original plant population affects the progeny itself and this fact produces often unexpected results.

Thus may be that seeds of a good fruit produce plants with different fruit traits. This because any living organism is the expression of its genotype in a given environment.

Starting at the beginning of XX century with the Mendel laws re-discovery, crop plants have improved by crossing and progeny selection. The better knowledges of biology, biochemistry, statistical methods allow getting varieties even more suitable to soil, climatic and agronomic conditions. In this way in each environment