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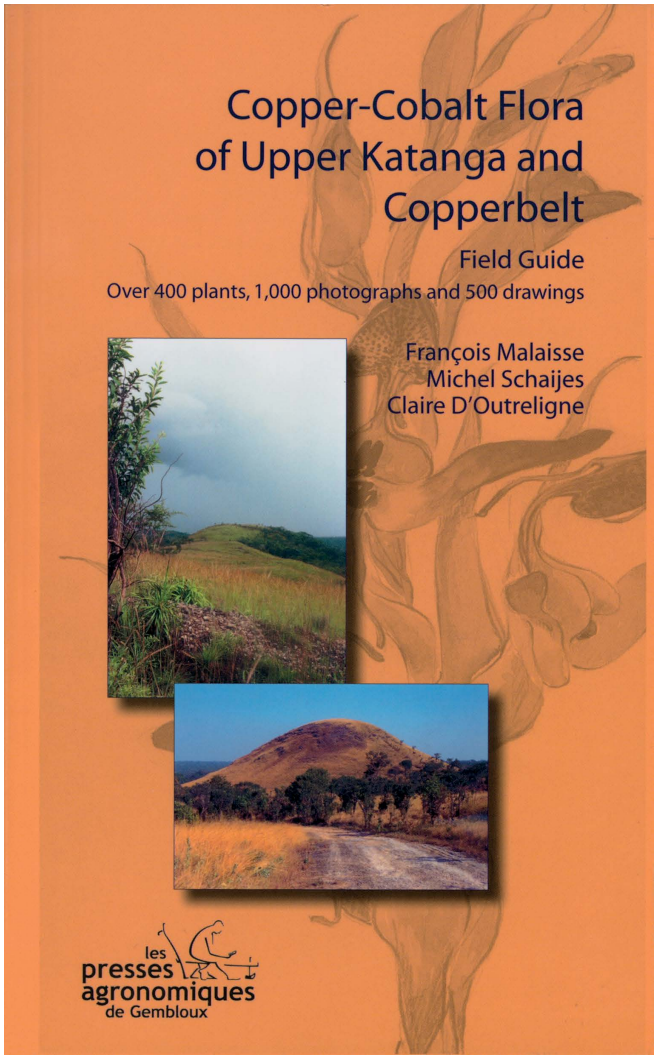
BOOK REVIEW

F. Malaisse, M. Schaijes & C. D'Outreligne (2016)

Copper-Cobalt Flora of Upper Katanga and Copperbelt: Field Guide. Over 400 plants, 1,000 photographs and 500 drawings

422 pp.
Gembloux, Les Presses Agronomiques de Gembloux (Belgium)
ISBN 978-2-87016-080-0



This book is the result of half a century of botanical prospecting and scientific research in the south-east of the Democratic Republic of Congo and north-western Zambia. Several experts in the Katangese flora participated jointly in the writing of this book under the leadership of François Malaisse. From the 1970s onwards, he became interested in the flora of copper deposits in Central Africa. With more than hundred publications on the flora and vegetation of Katanga, François Malaisse is the most renowned scientist in this field.

In 422 pages, this guide is a compendium of valuable information on a still largely unknown flora, with a high rate of endemics of which a substantial part is threatened with extinction. The guide begins with an introductory section where the copper metallurgy in pre-colonial times is briefly discussed as well as the early European geological explorations. Readers can then familiarize themselves with the local climate, geology, phytogeography and vegetation units. Those who want to know more will be interested in the chapter presenting the latest scientific advances in the knowledge of these fascinating plants, where several aspects are addressed, e.g. endemism, (a)biotic factors structuring these communities, copper and cobalt tolerance, and conservation and restoration of these ecosystems. Next comes the main part of the book, where about 400 species are presented in the form of descriptive technical sheets containing various information such as species morphology, ecology, general distribution and distribution in Katanga, richly illustrated with photos and/or drawings.

While the wealth of information provided will impress the reader, there are a number of weaknesses, such as a lack of proofreading and homogenization of the different parts. As a result, some chapters contain many linguistic or typographical errors, and some inconsistencies. For example, we can read twice that about 600 species were recorded on copper-enriched soils, while at two other places in the book the authors cite the figure of 750 species. Surprisingly, the official name of the Botanic Garden Meise has been renamed into "Meise Botanical Garden". The maps presented are either too small to allow an optimal reading or contain elements unexplained in the legend. There is also a lack of logic in terms of references to literature that are put at the end of the book except for the chapter synthesizing the research. Sadly, the IUCN status of the endemic species is not mentioned, while these data are available in a previous publication by the authors. Information about the flowering period of each taxon was also forgotten. The tables showing the copper content of the soils on which each taxon was recorded give values expressed in µg/g, whereas in the introductory part these values are given in mg/kg. Even if it is the same thing, this lack of consistency is quite awkward. Also, these tables are at first glance difficult to interpret. A more judicious layout would have made them self-explanative.

This guide claims to offer valuable support for an easy field identification. In this respect, we can deplore the lack of identification keys that would have helped the amateur botanist in determining taxa. The reader must therefore have a prior knowledge of plant families in order to be able to quickly find an unknown taxon. As a consequence, this guide is more intended for scientists than for a general public, especially since a glossary is missing. Several terms used could

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indeed have been defined. For example, the understanding of the term "oligocuproresistant" could have benefited from a definition. The reader also gets a little bit confused with "cuproresistant" and "cuprophyte". From the tables with Cu-content in the soil, it is also difficult to figure out what is the difference between "eurycuprophyte" and "polycuprophyte".

To conclude, this guide is a reference document intended for an informed public who will find a rich information on the copper-cobalt flora of Katanga. It definitely fills a gap in the literature by combining relevant information on a fascinating and little-known flora. It is, however, unfortunate that a number of flaws, inaccuracies, style mistakes and lack of consistency suggest serious shortcomings in the proofreading job.

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