



## Book review

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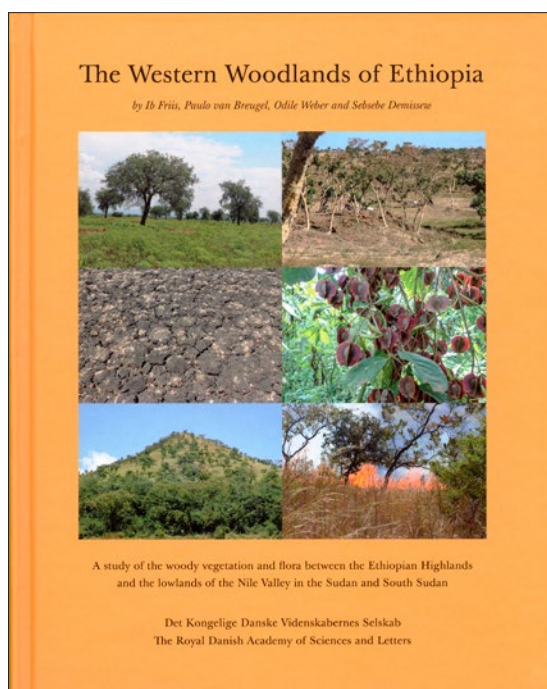
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# Book review



FRIIS, I., P. VAN BREUGEL, O. WEBER & SEBSEBE DEMISSEW (2022). *The Western Woodlands of Ethiopia: A study of the woody vegetation and flora between the Ethiopian Highlands and the lowlands of the Nile Valley in the Sudan and South Sudan*. The Royal Danish Academy of Sciences and Letters, 521 pp.

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Christian Brochmann and co-authors recently published an article (in *Alpine Botany* 132: 65–87. 2022) highlighting the pioneer work of Olov Hedberg (Uppsala, Sweden) on the afroalpine flora and vegetation.

The latter's first contact with this flora was in 1948 when he participated in an expedition to East Africa. The subsequent studies of his own as well as others' plant collections resulted in a monumental work on the afroalpine flora (excluding Ethiopia and Cameroon) in 1957. Later, the exploration of the northern part of the eastern mountain chain led to the publication of "The Flora of Ethiopia [and Eritrea]" (1980–2009),

partly together with his wife Inga Hedberg, Sebsebe Demissew and others.

Ib Friis took part in the field work in Ethiopia. He first visited this country in late 1970, and then in 1972–1973, together with other Danish botanists, i.a. Kaj Vollesen (a later Kew botanist) and Finn R. Rasmussen. The latter expedition went farther to the west and included the western woodlands.

The present reviewer (also a student of Hedberg's at a time) wishes to stress the importance of Ib Friis and co-authors' work on the flora and vegetation of the western escarpment of the Ethiopian Highlands and the lowlands between the Ethiopian borders with Eritrea, Sudan, South Sudan and Kenya.

Ib Friis is the author, co-author or editor of some 340 papers and books mainly devoted to this area. Also it is worth mentioning the remarkable contribution by the Ethiopian botanist Sebsebe Demissew, author and co-author of about 250 articles and books on African plants and vegetation. At a time, he was leader of the "Flora of Ethiopia" project, and also Secretary of AETFAT (Association pour l'Étude Taxonomique de la Flore de l'Afrique Tropicale).

The book presented here, "The Western Woodlands of Ethiopia" is a result of many scientific activities during the last fifty years. It comprises eleven (11) chapters, here called Sections. They treat all aspects of the area involved: topography, geology, soils, climate, fires (an important factor!), history and population, as well as earlier studies of the western Ethiopian woodlands and their classification (e.g. those of E. Pappi, E. Chiovenda, R.E.G. Pichi Sermolli, M.N. Harrison, J.K. Jackson and F. White), and the actual phytogeographical classification. There is an overview of the authors' descriptive field observations presented according to profiles (numbered A through R), and accompanied by photographs taken in the field (unfortunately, the Reader has to search for the captions on a nearby text page). This Section (n° 5) comprises some 80 pages.

The following Section (n° 6) describes on some 125 pages, the woody plants in the sample, covering records for each species made during the field work. They are listed according to family (50 families involved). The classification wisely obeys to the standard floristic works of the region. For each species the following information is given: synonymy, references to literature, a short morphological description, habitat, distribution

and altitudinal range in Ethiopia, general geographical distribution, and chorological classification.

The next Section (n° 7) deals with the local, altitudinal and African distribution of taxa based on the authors' relevés. The text is accompanied by numerous diagrams (in colour).

Section 8 describes environmental adaptations, e.g. survival under unfavourable conditions, fires or means to deter browsers (by thorns and spines). Diagrams in colour accompany the text.

Section n° 9 is devoted to modelled distributions of typical *Combretum-Terminalia* woodland species. Maps of distribution (in colour) illustrate the text. Most models predict a wider or narrower zone right across Africa from Ethiopia to the Atlantic Ocean. The relation between the modelled and the recorded distribution is usually good. This chapter documents the western Ethiopian woodlands as part of the Sudanian region. This matter is further discussed in Section 11, the last chapter of this impressive book. In between, chapter 10 gives details about indicator species and topographic gradients relating to the field work relevés.

The last Section (n° 11) presents, in particular, ideas about the future conservation of the western Ethiopian woodlands. However, the authors stress that there is a lack of floristic data beyond the borders with Eritrea and Sudan. And the northern limit of the study area is "marked by a zone with gradually poorer flora and more intrusion of species from the *Acacia-Commiphora* bushland in Somalia-Masai regional centre of endemism and from the Sahel regional transition zone".

The authors' investigations indicate that the distribution of many *Combretum-Terminalia* woodland species extends to the East of the area involved, but there is no fixed limit to these extensions. The species seem not to grow together to make up a readily recognisable vegetation as in the western Ethiopian woodland. The authors therefore suggest that the eastern limit of the *Combretum-Terminalia* woodland-area in southern Ethiopia is maintained.

The authors conclude that very little has been said generally about the conservation of the western woodlands and their species. However, they express their hope that their work will at least increase interest in this particular vegetation and its conservation. They provide a framework for future work, not only inside Ethiopia but also in the broad belt of Sudanian vegetation from the Ethiopian Highlands to the shores of the Atlantic Ocean.

To complete this extraordinary book, the authors present 7 appendices (on some 80 pages) referring to their field observations with species lists, number of records, information on environmental data, lists of taxa observed, ecological adaptations of these species, the selection of clustering methods and numbers used.

There is a list of acronyms cited, a list of literature references, an index of plant names, an index to geographical names (very much needed for Ethiopian localities so difficult to find on maps and in geographical indices!).

The present reviewer is happy to find a presentation of the authors and their assistants at the very end of the book. But last but not least, she admires this extraordinary work where readers will find an answer to (nearly) every question on the western Ethiopian flora and vegetation. To conclude, it is a monumental work!

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