Book review

The Western Woodlands of Ethiopia

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 Sudan and South Sudan. Scientia Danica Series B, Biologica vol. 9. Det Kongelige Danske Videnskabernes Selskab. 521 pp. ISSN 1904-5484, ISBN 978-87-7304-440-7

The *Combretum-Terminalia* woodland zone of western Ethiopia has received much less attention than the forests and grasslands of the highlands that straddle the Ethiopian portion of Africa's Great Rift Valley. Physically, the vegetation zone lies close to the border of Ethiopia with its western neighbours, Sudan and South Sudan. This volume presents evidence to support a high-level classification of these Sudanian woodlands into three geographically distinct vegetation types, whose composition relate chiefly to latitude, altitude, rainfall and soils. Fire regimes and other factors seem less significant. The three weakly defined clusters consist firstly of woodlands which extend from the north of the country in a broad band to just south of the Abay or Blue Nile River, and then as a narrow rim further south along the western escarpment; the second cluster occurs south of the Abay at more elevated altitude than the first; while a third cluster extends further up the Abay and Tacazze River valleys as a depauperate type of dry-woodland. The Omo valley, included in the western woodlands in earlier classifications, is here regarded as a transition zone to Somalia-Masai *Acacia-Commiphora* bushland.

The development of knowledge and understanding of these woodlands is documented from Pichi Sermolli's 1937 dry-season expedition during the Italian occupation of the country (Pichi Sermolli 1940), Negri's vegetation map of the Horn of Africa (Negri 1940), and Harrison and Jackson's vegetation map of the Sudan (Harrison & Jackson 1958), through to the more accessible outputs of the Ethiopian Flora Project (Sebsebe Demissew et al. 2011), regional syntheses such as the Forests and forest trees of Northeast Tropical Africa (Friis 1992) and the Atlas of the potential vegetation of Ethiopia (Friis et al. 2010). Comparisons are made between these studies, and those conducted across the border in colonial-era Sudan. Recent computerised analyses of chorology across Africa by Linder et al. (2012) and Marshall et al. (2020) are judged to lack meaningful resolution for this western woodland zone, as the one-degree scale is too coarse in a region of considerable topographic heterogeneity.

Early chapters of the volume present valuable background information for the region, often reproducing maps published in literature not readily available to readers outside of Italy. The authors also present an interesting commentary on the history of the border zone and its eventual demarcation, with reference, for example, to historic treaties affecting access to the waters of the Nile that have political significance today.

Much of the body of the volume is taken up with descriptive and photographic accounts of the vegetation profiles studied for the volume, and analyses of distribution, ecological range and floristic elements of the woody plants encountered while conducting these transects. While the distribution maps are informative, their presentation could have been much improved by the avoidance of red dots on a green background, which are presumably indecipherable to sufferers of the most common form of colour-blindness. Botanical nomenclature follows that used in the Flora of Ethiopia and Eritrea which leads to some apparent anomalies, particularly as regards current concepts around *Acacia*. However, the traditional usage of *Acacia* retains its usefulness as a descriptor of African vegetation, and the application of modern concepts of *Vachellia* and *Senegalia* have little of value to add in this context, as a quick glance at the species lists presented

in Appendix 1 demonstrates – many of the vegetation profiles contain species referable to both genera. Indeed, recent opinion suggests *Senegalia* may be further subdivided in the near future (Terra et al. 2022).

The authors present a complete review of the western woodlands of Ethiopia in a single volume and place their observations from the field and herbarium into that context. They demonstrate that the *Combretum-Terminalia* woodlands stretching from 5 to nearly 15 degrees north vary little from north to south, as postulated in the 2010 Atlas and counter to expectations based on Humboldt's theories, and is a coherent vegetation type with three weakly defined clusters within it. However, these principal conclusions which are presented most clearly in an informative map, are buried on p. 376 of a 500-page exhaustingly evidence-based volume. I suspect users will benefit most from using the book as a manual, accessing the formerly obscure historic literature referenced in introductory sections, the photographic documentation of the vegetation profiles, the ecological and distributional data presented and the methodology leading to the conclusions in chapter 10.

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