11 The Afromontane Region

F. White*

1. Introduction .................................................. 465
2. Floristics and plant geography ............................. 466
   2.1 Endemism in the Afromontane flora .................... 467
   2.2 Generic geographical elements .......................... 474
   2.3 Non-endemic species .................................... 475
   2.4 Distant satellite populations of Afromontane near-endemic species .. 477
   2.5 Intervals in the Afromontane flora ...................... 480
3. Zonation and the main vegetation types ................. 480
   3.1 Zonation in East Africa ................................. 482
   3.2 Zonation and vegetation in Malawi, Rhodesia and Moçambique .. 483
   3.3 Zonation and vegetation in South Africa ................ 498
   3.4 Afromontane forests in the Cape region ................ 506
4. Summary and conclusions ................................ 507

References ..................................................... 510

* I am grateful to David Mabberley, who made many useful comments on an early draft, and
drew my attention to some publications I might otherwise have missed, and to Ib Friis who freely
placed his knowledge of the Ethiopian Afromontane flora at my disposal.
11 The Afromontane Region

1. Introduction

The vegetation of the highest mountains in tropical Africa is so different from that of the surrounding 'lowlands' that it has attracted the attention of travellers and scientists since the earliest days of botanical exploration. Even to the layman, it is familiar because of the unusual growth-forms of its giant lobelias and senecios. In recent years the flora and vegetation of these high peaks have been regarded by specialists (Hauman 1955, Hedberg 1965) as sufficiently distinct to justify the recognition of a separate phytogeographical 'Afroalpine' Region.

It is not, however, so generally known that the floristically much richer vegetation of the lower slopes of the highest mountains and the upper slopes of lesser mountains, with a few provisos to be made below, is also totally different from the surrounding lowland vegetation. It has even stronger claims that the Afroalpine Region to chorological recognition at the rank of region. Consequently, White (1965) tentatively proposed the recognition of an archipelago-like Afromontane Region, but he was undecided whether the Natal Drakensberg should belong to it. In a later publication (White in Chapman & White 1970) it was concluded that the Afromontane Region extended at least as far as the Knysna forests in the Cape Province of South Africa. Aubréville, much earlier (1949), had already commented on the floristic similarity between the Knysna forests and those of the mountains of tropical Africa.

Some phytogeographers (Lebrun 1947, Monod 1957) regard the flora of the African mountains, both Afroalpine and Afromontane, as representing no more than a series of upland facies of the surrounding lowland phytocoria. This conclusion, apparently, was not based on detailed analysis. The evidence presented in the present review suggests that it cannot be maintained.

The principal objective of this review is to describe Afromontane vegetation as it occurs in southern Africa in relation to that of the Afromontane Region as a whole, and to examine the Afromontane Region in relation to other phytocoria, both adjacent and distant.

The literature on the Afromontane flora and vegetation is voluminous but it is very incomplete and very widely scattered. No comprehensive review has previously been attempted and most publications deal with restricted areas or specialized topics.

Zonation of the Afromontane and Afroalpine vegetation on the high mountains of East Africa has been described by Hedberg (1951) and some aspects are dealt with by Lind & Morrison (1974). For West Africa, Morton (1972) has briefly commented on some general features of the Afromontane flora and made suggestions concerning its history. Chapman & White (1970) have described the montane forests of Malawi in considerable detail, and other montane vegetation more cursorily. They also attempted to place the Afromontane vegetation of Malawi in a wider ecological and chorological context. The main features of distribution of Afromontane vegetation are shown in Figs. 1 and 2, on the

* This term is used purely in a relative sense. 'Lowland' vegetation can occur as high as 2000 m.