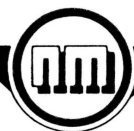


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THE BIOMES OF NAMIBIA, AS DETERMINED BY OBJECTIVE
CATEGORISATION

by

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ABSTRACT

Irish, John. 1994. The biomes of Namibia, as determined by objective categorisation. *Navors. nas. Mus., Bloemfontein* 10(13): 549-592. The biomes of the whole of Namibia are mapped and described, following the objective categorisation method of Rutherford & Westfall (1986). Four biomes occur in Namibia: Savanna, Nama-Karoo, Succulent Karoo and Desert. The border between the latter two, as accepted here, differs from earlier interpretations in including very low winter rainfall areas of southwestern Namibia in the Desert, rather than Succulent Karoo, Biomes. As a consequence previously unrecognised outliers of the Desert Biome are mapped in southern Namibia and adjacent South Africa. Other biome borders in southern Namibia largely correspond to those previously recognised. A large area of edaphic Nama-Karoo Biome occurs in the Etosha Basin of northern Namibia. The previously neglected edaphic effect of sand at biome level is discussed. The definition of the Desert Biome is modified from therophytic dominance to chamaephytic - therophytic codominance. Climatic data used in the study are listed. (biomes, Namibia)

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INTRODUCTION

Rutherford & Westfall (1986) pioneered a method of vegetation categorisation at subcontinental scale (biome level) which satisfies the scientific criteria of objectivity and repeatability. While the methodology of detailed vegetation classification (plant communities or veld types) ensures repeatable results at this scale, past attempts at combining these results into larger units had often suffered from subjectivity, inconsistency and arbitrariness. Rutherford & Westfall (1986) found the zoological component of the biosphere to be theoretically desirable, but in practice valueless, in initially delimiting biomes. However, zoological data do provide *a posteriori* confirmation of the validity of biome borders. Biogeographical analysis of several insect groups has shown a high degree of correspondence with biome limits, certainly more so than was the case with previous vegetation classifications for southern Africa, e.g. Acocks (1988), or Giess (1971). This is especially true for relatively sedentary, non-host or food plant specific insects like Hetrodinae (Irish 1992), Tenebrionidae and Lepismatidae (consideration of published and unpublished distribution maps).

Unfortunately, Rutherford & Westfall (1986) included only southern Namibia in their scheme. The present work expands southern African biome classification to include northern Namibia, too. Implicit in the method's repeatability is the ability for refinement as additional data becomes available, and the opportunity was used to refine the existing biome categorisation for southern Namibia, too.

(Note: This paper was completed in mid 1992. In the second edition of Rutherford & Westfall (1994), it was referred to as being in press in a planned book on Namibian biogeography. Following delays with the book, the manuscript was retracted in late 1994 to be published here. Apart from minor updating, it has remained essentially the same).

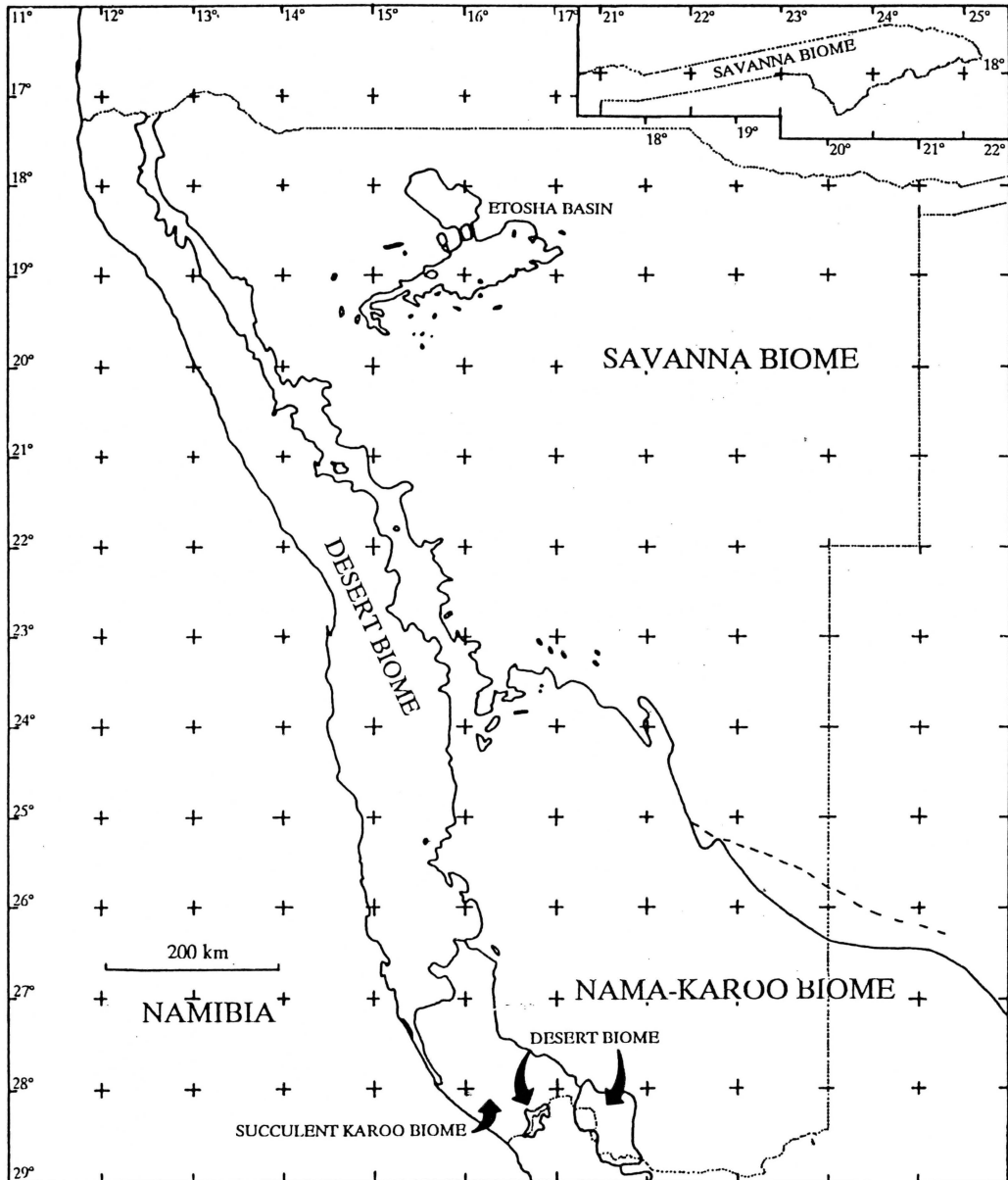


Figure 2: Biomes of Namibia. The dotted line in southeastern Namibia indicates a biome transition zone of false savanna in a Nama-Karoo climate. Final printed scale approximately 1:8 500 000.