FABACEAE

FIRST DISTRIBUTION RECORD FOR *BRACHYSTEGIA SPICIFORMIS* (CAESALPINIOIDEAE) IN SOUTH AFRICA

Brachystegia spiciformis Harms is a characteristic tree constituent of the so-called miombo woodlands, a colloquial name for a broad vegetation type covering more than 2.7 million km^2 in southern, central and eastern Africa (Millington *et al.* 1994; Campbell 1996). These woodlands form the dominant element of the Zambezian Region, a phytogeographical unit that covers an area of about 3.8 million km^2 in south-central Africa (White 1983). Although the Zambezian Region extends southwards across the Limpopo River Valley to include most of the Northern Province of South Africa, *B. spiciformis* has hitherto been conspicuous by its absence from South Africa. Previously known only from pollen records dating to 19 000 years BP from near Naboomspruit, some 350 km south of its current main distribution area, the absence of *B. spiciformis* from South Africa has been the subject of much speculation (Scott 1982; Frost 1996).

Recent botanical explorations in the remote northeastern Soutpansberg of the Northern Province, a region known as Venda, have now brought to light a relict miombo-like plant community with *B. spiciformis* as the dominant canopy tree. Although the presence of *B. spiciformis* in Venda has hitherto been unknown to botanists, it is well known to the local Vhavenda; its Tshivenda name is *Mutsiwa*. The locality of the newly discovered populations of *B. spiciformis*, the extant distribution of this species elsewhere in southern Africa and the nearest known site of fossil *Brachystegia* pollen, are shown in Figure 11.

This surprising discovery, which extends the distribution range of *B. spiciformis* southwards across the arid Limpopo Valley, is of considerable biogeographical significance. It is believed that during geological times, miombo woodlands have expanded and contracted in response to climatic change (Campbell 1996). The population of *B. spiciformis* in Venda may well be a relict, dating from a once much further southward extension of miombo woodland, thus supporting palaeopalynological evidence suggesting the former presence of this vegetation type as far south as Naboomspruit. In this respect, *B. spiciformis* recalls the occurrence of relict and widely disjunct populations of the tropical African *Brackenridgea zanguebarica* Oliv., *Millettia stuhlmannii* Taub. and *Oxytenanthera abyssinca* (A.Rich.) Munro in Venda. Because of their considerable cultural significance to the local Venda people, it was speculated in the past that the presence of the latter three species in Venda might have been due to human introduction (Netshiungani & Van Wyk 1980). However, with the discovery of *B. spiciformis* in the same general area, it is tempting to implicate one or more natural vicariant events in the establishment of these isolated outlier populations at the southern end of their ranges in Africa.

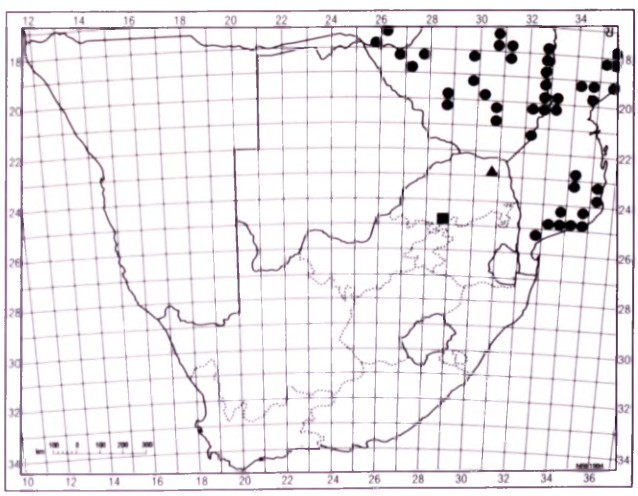

FIGURE 11.—*Brachystegia spiciformis*. New record, ▲; previously known distribution in southern Africa, based on collections at PRE, ●. Site from which fossil pollen attributed to *Brachystegia* has been recorded, ■.

The newly discovered *B. spiciformis* community comprises several thousand trees occurring as fragmented archipelago-like islands within the prevailing Soutpansberg Arid Mountain Bushveld (Van Rooyen & Bredenkamp 1998). Mature trees are 15–20 m tall. The slender, unbranched trunks indicate that they have not been subjected to damage by humans or larger animals in the recent past. Seed dispersal in *B. spiciformis* is by explosive dehiscence of the pod and the seed is seldom dispersed far from the mother tree (Chidumayo & Frost 1996). This is reflected by the age structure of the new *B. spiciformis* community; more mature (tallest) trees are concentrated towards the centre of the vegetation islands. The understorey is conspicuously species-poor and include such taxa as *Lagynias dryadum* and *Leptactina delagoensis*, with suppressed saplings (or suckers) of *B. spiciformis*. Surrounding vegetation is dominated by *Combretum collinum* subsp. *gazense*, *C. vendae*, *Albizia adianthifolia*, *Afzelia quanzensis* and *Burkea africana*.

In view of the localized occurrence of *B. spiciformis* in Venda, the uniqueness of its habitat and the scientific importance of this outlier population, it is hoped that the conservation authorities concerned will afford official protection to the site.

Voucher specimens

NORTHERN PROVINCE.—2230 (Messina): Thengwe, (–DA), *P.J.H. Hurter 124* (PRE, PRU), *E. van Wyk & P.J.H. Hurter 5* (PRE), *E. van Wyk 65* (PRE, K).

ACKNOWLEDGEMENTS

We are indebted to Prof. A.E. van Wyk for confirming the identity of herbarium material and for constructive comments on the manuscript. We also thank Mrs Emsie du Plessis for improvements to the text, Dr Hugh Glen for assistance with the distribution map and Mr Mervyn Lotter for access to literature on miombo woodlands.

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MS. received: 2000-10-04.