



The flora of the Bontebok National Park in regional perspective

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Abstract

Six-hundred-and-fifty plant species from 280 genera and 85 families have been recorded as indigenous to the Bontebok National Park (BNP), which lies 5 km south of Swellendam, in the Western Cape. Twenty-nine of these plant species are globally threatened with extinction and another 23 are species of conservation concern. Three species (*Aspalathus burchelliana*, *Diosma fallax*, *Erica filamentosa*) are endemic to the park. The Asteraceae, Iridaceae and Fabaceae ranked high as speciose families, in line with the Cape Floristic Region (CFR) as a whole, while the Asphodelaceae, Crassulaceae, Poaceae and Cyperaceae were overrepresented, and the Rutaceae, Proteaceae and Ericaceae underrepresented at BNP. The largest genera were *Aspalathus* (19 species), *Crassula* (17), *Pelargonium* (16), *Erica* (15), *Oxalis* (12), *Moraea* (11), *Helichrysum* (10) and *Hermannia* (10). Geophytes were the dominant growth form (23% of species recorded), followed by dwarf shrubs (20%), herbs (16%), graminoids (15%), shrubs (13%), succulents (8%), trees (3%) and climbers (2%). Forty alien plant species were recorded (likely an underestimate of true numbers) with the Poaceae most speciose and arguably the biggest invasive threat at the park. With 20 plant species/km², the flora of BNP is richer than expected based on its location within the south-eastern CFR. Similarity with floras of other lowland and montane protected areas in the region is low (<33% and <20% respectively), demonstrating that a large component of BNP's flora is not conserved elsewhere. Within a landscape context, BNP forms part of a cluster of connected core sites for Renosterveld conservation. This work confirms the high importance of BNP for flora conservation nationally and even globally.

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1. Introduction

The Bontebok National Park (BNP) is a small (3435 ha) protected area, originally established to conserve one of the rarest antelope in Africa, the bontebok (*Damaliscus pygargus pygargus*; Red listed as *Vulnerable*) (Friedmann and Daly, 2004; Skinner and Chimimba, 2005). However, BNP is also located within the internationally renowned hotspot of biodiversity, the Cape Floristic Region (CFR) (Goldblatt and Manning, 2002; Myers, 1990) and conservation of the vegetation in the park has over time become an increasing priority owing to near-complete habitat destruction outside the park (Von Hase et al., 2003).

There is uncertainty around whether the vegetation of BNP represents 'true' Renosterveld which generally occurs on shales

or granites, or is rather a type of lowland Alluvium Fynbos on old boulder terraces (Rebelo, 1992; Theron, 1967). Accordingly, the national vegetation map of South Africa classified the vegetation of BNP as Swellendam Silcrete Fynbos, considering it a poorly known vegetation type exhibiting floristic features of both Fynbos and Renosterveld (Rebelo et al., 2006). Structurally it is described as a medium-tall evergreen shrubland or grassland, with predominantly asteraceous Fynbos, but graminoid Fynbos occurring on summits and northern slopes where disturbed. The national status of Swellendam Silcrete Fynbos is Endangered and it has a conservation target of 30% meaning that >30% of the original extent of this vegetation type needs be protected in order to capture 75% of the species occurring in it. Only 4% is statutorily conserved, largely in BNP, whereas 43% is already transformed (Rouget et al., 2004), largely through cultivation and afforestation with commercial pine plantations (Rebelo et al., 2006). Small areas of Cape Lowland Alluvial Vegetation (Mucina et al., 2006) furthermore occur within the

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