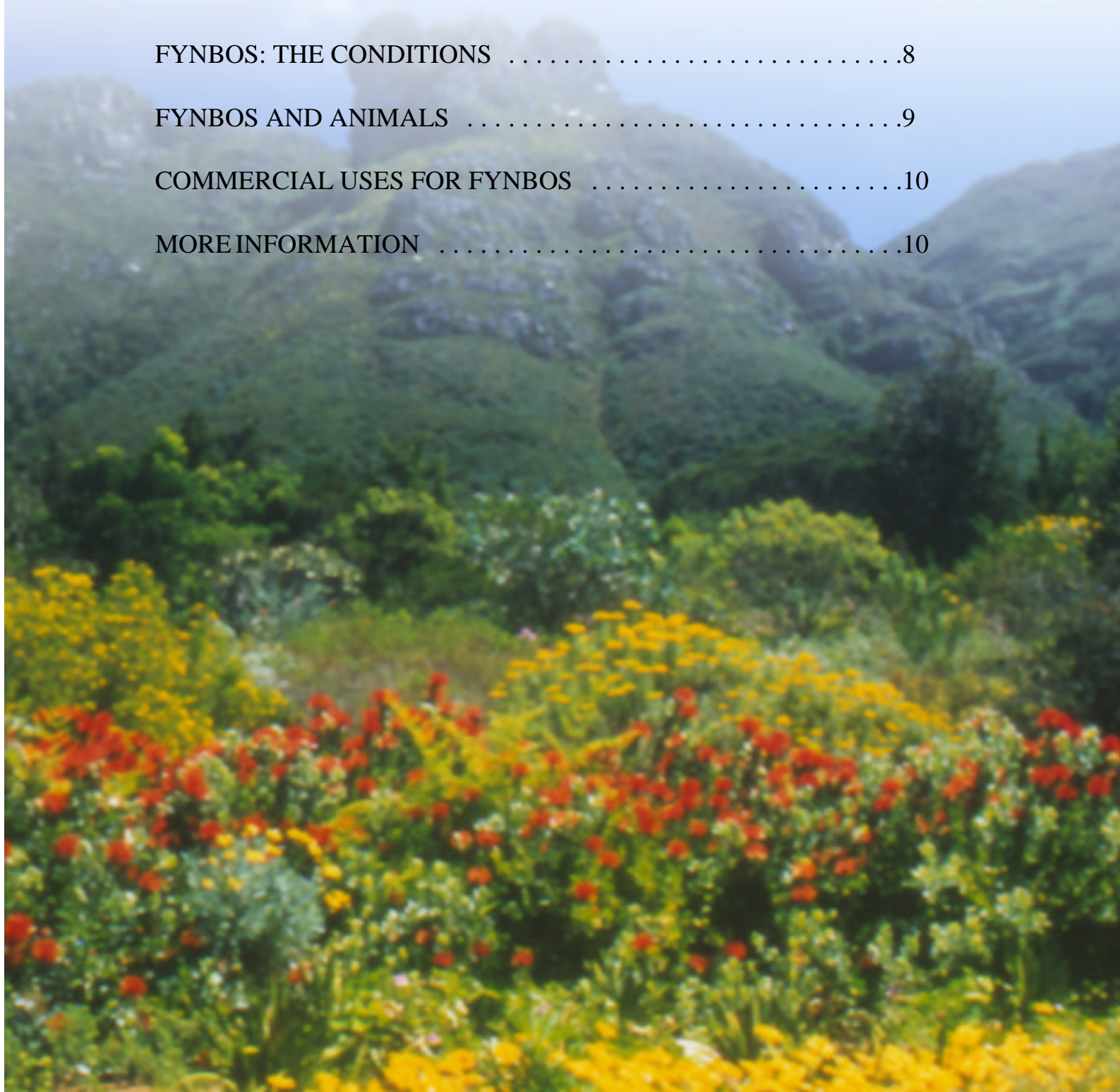


FYNBOS

FYNBOS: WHAT IS IT?	2
CHARACTERISTICS OF THE FYNBOS BIOME	4
VELD TYPES OF THE FYNBOS BIOME	5
FYNBOS: WHERE TO FIND IT?	6
FYNBOS: THE CONDITIONS	8
FYNBOS AND ANIMALS	9
COMMERCIAL USES FOR FYNBOS	10
MORE INFORMATION	10



FYNBOS

The mountains, valleys and coast of the South-Western Cape are the natural habitat of the largest variety of plant species in the world - the Cape Floral Kingdom. It may be the smallest floral kingdom in terms of area, covering only 0.4% of the earth's surface, but is one of the richest in terms of variety. The other five floral kingdoms are the Holarctic, Palaeotropic, Neotropic, Australasian and Antarctic. The Fynbos region forms part of the Cape Floristic Region (CFR), which covers approximately 90 000 km² with more than 8 500 flowering species and gymnosperms and about 75 species of ferns and non-flowering plants. About 45% of Southern African flora is packed into an area as little as 4 % of the total land surface. 68 % of these plants are found nowhere else in the world. Table Mountain alone boasts 1 400 species of Fynbos. The CFR has more plants than any other area of the same size anywhere in the world.

FYNBOS: WHAT IS IT?

Fynbos is the common name for the fine-leaved thick shrub-like vegetation, characterised by very small, leathery leaves often protected with hairs, which grows in the winter rainfall area of the southern and south-western parts of the Western Cape. (Fynbos is Afrikaans for “fine bush”).

Fynbos consists of the three main plant types, ericoids with fine leaves and bell-shaped flowers, colourful proteoids and leafless reed-like restioids. A variety of bulbous and tuberous plants, legumes and buchus, as well as renosterbos, slangbos and everlastings are also part of the Fynbos family.



Ericaceae

Ericaceae form the lower shrub layer and are heath-like with small leaves. Members of the species-rich genera, *Erica*, *Aspalathus*, *Agathosma*, and *Phyllica* belong to this type. The Proteaceae are usually the tallest and most conspicuous of the Fynbos plants, especially when they are in flower. One of these typically broad- and leathery-leaved shrubs is the King Protea, South Africa's national flower. The Restionaceae are reedy plants and grow in very diverse habitats, ranging from arid salt marshes and sand dunes to mountain slopes and crags in the cloud zone. Different species flower at different times throughout the year, with the highest number flowering between mid-July to mid-October, which is spring in South Africa.

The Cape Floral Kingdom is particularly rich in heathers, with an astounding 600 species. These plants, characterised by needle-like leaves and bell-shaped flowers make popular garden and pot plants. Unfortunately, 1 326 Fynbos species have already been declared extinct, endangered or rare. This includes the lovely snow protea, which only grows above the snow line in the Cedarberg.

There are over 3 000 geophytic species (perennial plants with underground storage organs such as bulbs, rhizomes and tubers plants that propagate through buds below the surface) in Fynbos, the richest concentration of growth-form in world. (Geophytes are herbs.)

Spectacular displays of colourful flowers cover whole mountainsides and marshes after fires prompt them to flower profusely. Many of the Fynbos geophytes, including species of *Freesia*, *Gladiolus*, *Sparaxis* and *Watsonia* are cultivated in gardens worldwide.



Many Fynbos communities do not have trees and trees tend to be confined to certain types of terrain. The common mountain cedar is sometimes found in dense thickets and is more widespread in Fynbos communities than other tree species. The Clanwilliam cedar is particularly area-specific and is only found in the Cedarberg Mountains. Other species of trees, notably mountain maytenus and rockwood, are more widespread but are confined to rocky sites, which offer protection from fire. Forest trees, such as rooiels and real yellowwoods, may cluster to form patches of forest but these are usually confined to boulder screes and deep kloofs (ravines).

The Fynbos region also contains other distinctive vegetation types, including renosterveld (shrubland on clayey soils), patches of Afromontane forest and various types of thicket. This area is characterised by hot, dry summers, high-speed winds, intense recurring fires and soils which are low in nutrients.

CHARACTERISTICS OF THE FYNBOS BIOME

- **Fynbos includes a great variety of plant species.**
- **A very small area may be host to a wide variety of plant species.**
- **Evolutionary adaptations have enabled Fynbos to survive and thrive after veld fires.**
- **Fynbos grows in vastly different climates.**
- **Fynbos may be found in very different landscapes.**
- **Fynbos can grow in poor and infertile soil.**
- **Fynbos is always characterised by a restioid element, i.e. reedlike plants growing in leafless, evergreen clumps.**
- **Fynbos is always characterised by an ericoid element, i.e. evergreen plants growing small, hard leaves.**
- **Fynbos is always characterised by a proteoid element, i.e. shrubs growing tough, hard leaves.**

Fynbos is normally without trees but may include other plant families such as Asteraceae (daisies), as well as bulb, rhizome and corm plants.



VELD TYPES OF THE FYNBOS BIOME

The Fynbos biome includes four veld types:

Mountain Fynbos is found on sea level hills and mountain slopes, in winter rainfall areas. Trees are scarce but heather and reeds often grow together.

Lowland or Coastal Fynbos grows along the western and southern Cape coast at altitudes of up to 150 m above sea level.

Strandveld (Beachveld) is characterised by spring flowers and is normally found on the lower parts of the western coastal plains. The white milkwood is a common plant in the region and includes large varieties of succulents. The plants that grow in these areas have to get used to dry conditions and loose dune sands.

Renosterveld (Rhinocerosveld) is an area along the coastal lowlands. The dominant renosterbush is an evergreen fine-leaved shrub. There are few trees but many spring flowers. Unfortunately, this veld type has largely been replaced by wheat fields.



FYNBOS: WHERE TO FIND IT?

The term Fynbos is often used to describe an entire area where it is the predominant and characteristic plant species. These regions are the mountains and coastal lowlands of the southern and western Cape, stretching from the town of Nieuwoudtville in the northwest to the Cape Peninsula in the southwest and to Port Elizabeth in the southeast. The most enticing area for botanists, gardeners and walkers is the slender strip of Cape coastline stretching inland in the west to as far as Clanwilliam, down around the Cape Peninsula and then eastwards as far as Port Elizabeth.





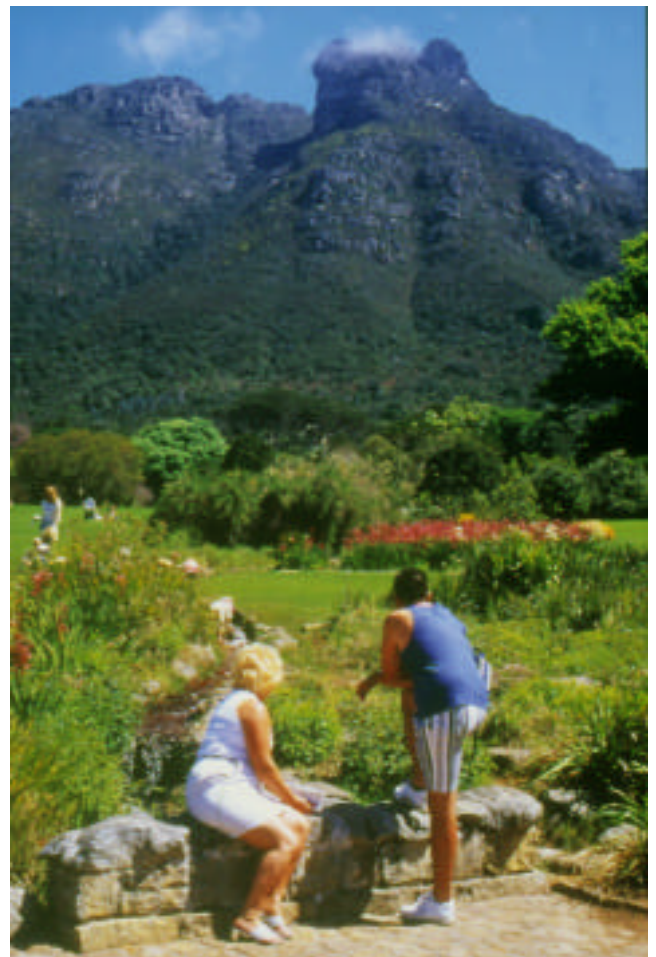
Kirstenbosch Botanical Garden in Spring

The Kirstenbosch Botanical Garden in Cape Town is one of the best places to see Cape Fynbos displayed in a dramatic wild mountain habitat. The Karoo National Botanical Garden in Worcester concentrates on plants from semi-desert areas of country and the beautiful secluded Harold Porter National Botanical Garden at Betty's Bay has one of the densest concentrations of Fynbos in the country.

The beauty of the Fynbos biome is enhanced by the undisturbed wilderness of the majestic mountains and dramatic coastlines on which the plants are found.



Karoo National Botanical garden



Kirstenbosch Botanical Garden in Summer

FYNBOS: THE CONDITIONS

Fire and nutrient-poor soils are the major driving forces in the evolution of Fynbos communities. Fynbos has evolved several traits in response to the recurrent fires characteristic of the areas in which they grow. Seed release is stimulated by fire, while seed germination and flowering may also require fire as a trigger. Many Fynbos plants rely entirely on seeds for reproduction after being killed in fires, while others survive fires by regrowing from beneath fire-resistant bark or from below ground. If, however, fires are too frequent or out of the natural summer/autumn fire season, they can be devastating for Fynbos communities and could lead to species extinction and the invasion of areas by alien vegetation. The invasion of alien shrubs is a major threat to the long-term survival of Fynbos because they could destroy the ecological balance of the habitat. Fynbos both protects steep mountain slopes against erosion and is frugal in use of water, making the Cape mountains highly efficient water catchments.





FYNBOS AND ANIMALS

Very few large mammals roam the Fynbos areas. The scarcity of nutritious food and the constant threat of fire favour small animals that can exploit scarce resources and are able to move over large areas. The few large mammals are all specialised feeders, for example browsing antelope such as the grysbok and klipspringer or grazing antelopes such as the endemic bontebok and Cape Mountain Zebra. The large predators require large home ranges as their prey is scattered over large areas. Leopards in Stellenbosch have been found to have home ranges of about 400 km², ten times the area of the average home range of leopards on the African savannas.



Small mammals are fairly common and they have a marked influence on the balance of the ecosystem. Seed feeders such as striped mice, vlei rats and Namaqua rock mice pose a threat to seeds if they are released at the wrong time. If seeds are released in spring, they will lie on the ground waiting for the start of the winter rains. The burial of seeds by ants and the release of seeds by canopy-held cones after scorching fires has evolved to prevent too many seeds from being eaten.



There are 250 species of land and freshwater birds in the Fynbos biome. Many of these birds play significant roles in the Fynbos ecosystem, as birds are important pollinators and regulators of insect and small mammal populations. The scarcity of resources, particularly insects, is probably the reason for the small number of birds.

The Fynbos habitat houses many lizards, tortoises, snakes, frogs, toads and insects of all shapes and sizes.





COMMERCIAL USES FOR FYNBOS

The commercial uses of Fynbos vary from flower cultivation to thatching reed and teas such as rooibos or honeybush. The flowers stay fresh for a long time, which is ideal for export purposes. The dried flowers also make lovely flower arrangements. Rooibos tea is a popular and healthy beverage and many people believe in the medicinal qualities of this plant, either taken as tea or as an ingredient in facial products. Honey tea comes from the Swartberg area. In contrast to standard teas, these two teas do not contain any stimulants.

Many plants of the Fynbos species have been used for medicinal purposes since the time of the earliest inhabitants and continue to be used for this purpose today.

Thatch reed is used to fashion thatched roofs, a traditional method where reed strands are bound together and fastened on a network of wooden slats. This method has also been adopted with great success for various European architectural styles.

MORE INFORMATION

For more information, try the following websites: <http://www.uct.ac.za>, written by Dave Richardson from the Institute for Plant Conservation at the University of Cape Town or <http://www.wcape.school.za/subject/biology/fynbos/veld>.