

CAPE TOWN'S UNIQUE BIODIVERSITY PLANTS AND ANIMALS

8. Threatened species

General: It is a sad reality that Cape Town leads the world in terms of species that are threatened with extinction or extinct. Some 13 plant species that used to occur in Cape Town are now globally extinct in the wild. A further 306 of Cape Town's plant species, and 27 of its animal species, are in immediate danger of extinction. Contrary to what most people think, it is not in the tropics that the greatest concentration of threatened species occurs, but in Cape Town.

What are they? Most threatened species in Cape Town are plants: almost 320 species are threatened with extinction, of which 13 are already extinct. A quarter of the city's frogs and toads (amphibians) are threatened with extinction. Unfortunately, we know very little about the 'creepy crawlies', and Cape Town probably has many threatened invertebrates as well. The table below summarises the statistics of threatened species in Cape Town according to the global IUCN Red List status for these species.

Taxon	Total	EW/X	CR	EN	VU	NT
Higher plants	319	13	85	112	122	67
Birds	9	0	0	2	7	13
Amphibians	7	0	2	2	3	3
Mammals	6	0	0	1	5	9
Reptiles	3	0	1	1	1	3
Fish	2	0	0	2	0	0

EW = Extinct in wild, EX = Extinct, CR = Critically Endangered, EN = Endangered, VU = Vulnerable & NT = Near Threatened.



Winecups (Iris Family) *Endangered*

Note for 'Extinct'. This refers to species that are globally extinct. All mammals over 50 kg were hunted out in Cape Town by the year 1700, but most still survive in southern Africa. Large mammals currently present (such as at Cape Point) have been reintroduced from elsewhere.

What are the Extinct species? The following species that used to occur in Cape Town are now listed in the IUCN Red List as "Globally Extinct". Below, the date and cause of extinction are given for each:

Buchu family: Hairy Buchu *Macrostylis villosa* subsp. *minor* (1960s; vineyards in the Bottelary Hills)

Daisy family: Hairy Boneseed *Osteospermum hirsutum* (1800s; urbanisation)

Heath family – six species:
 Kraaifontein Heath *Erica bolusiae* var. *cyathiformis* (1970s; urbanisation of northern suburbs; in cultivation at Kirstenbosch);
 Showy Heath *Erica turgida* (1970s; housing at Kenilworth; in cultivation at Kirstenbosch and reintroduced to Kenilworth, Rondevlei and Tokai);
 Whorl Heath *Erica verticillata* (1950s; flower picking and wetland destruction; in cultivation and reintroduced to Rondevlei, Kenilworth and Tokai);
 Alexander's Heath *Erica alexandri* subsp. *acockii* (1940s; urbanisation of Kraaifontein);
 Steenbras Heath *Erica foliacea* subsp. *fulgens* (1890s; pine plantations); and
 Pyramid Heath *Erica pyramidalis* (1950s; urbanisation of southern suburbs).

Pea family – two species: Cape Flats Gorse *Aspalathus variegata* (1890s; urbanisation of southern suburbs); and
 Grass Mountain Pea *Liparia graminifolia* (1820s; urbanisation of Mowbray).

Protea family: Wynberg Conebush *Leucadendron grandiflorum* (1800s; vineyards at Wynberg)

Reed family: Table Mountain Window Reed *Willdenowia affinis* (1910s; pine plantations at Kloof Corner)

Sedge family: Green-and-red Isolepis *Isolepis bulbifera* (1950s; urbanisation of southern suburbs)

Snapdragon family: Peninsula Snapdragon *Nemesia micrantha* (date and cause of extinction unknown)

Velvetworm: Lion Velvetworm *Peripatopsis leonina* (1950s; Signal Hill; cause of extinction unknown)



Bearded Disa
(Orchid Family)
Critically Endangered



Violtjie (Hyacinth Family)
Endangered

Other threatened taxa: Apart from plants which have a whopping 85 species in immediate danger of extinction, other groups with Critically Endangered species include amphibians (Table Mountain Ghost Frog and Micro Frog), reptiles (Geometric Tortoise) and butterflies (Dicksons Monkey Blue *Lepidochrysops methymna dicksoni*; these have not been seen for 40 years in Tygerberg). Some species are precariously close to extinction: the Kraaifontein Spiderhead *Serruria furcellata* exists as only a single plant on the commonage. Such 'living dead' species are as good as extinct, unless rescued by conservation authorities.

Threats: Urbanization is the largest threat to the plants and animals in Cape Town. Historically, cultivation was the main cause of species loss (mainly wheat in the Renosterveld, and pines and vines in Granite Fynbos). Currently, the second-greatest threat is invasive alien plants (such as wattles, pines, hakeas and gums). There are many other threats, such as fire, grazing, picking, climate change and dumping. However, these threats are minor compared to the big three, which result in habitat transformation. Through this transformation, natural ecosystem processes become compromised, with fire ecology changing, water tables being abstracted, wetlands destroyed, and water, soils and air polluted.



Chris Burgers

Klapmuts Conebush (Protea Family) *Critically Endangered*

In which ecosystems do they occur? Within Cape Town the following veld types have more than 20 Red List plant species:

Veld type	EW/EX	CR	EN	VU	NT	Total
Cape Flats Sand F	4	28	34	32	10	108
Swartland Shale R	2	19	28	21	10	80
Peninsula Sandstone F	1	14	24	30	7	76
Atlantis Sand F	1	8	18	14	4	45
Cape Flats Dune S		9	9	8	5	31
Kogelberg Sandstone F		3	5	7	13	28
Lourensford Alluvium F		2	9	9	7	27
Peninsula Granite F	1	2	13	7	4	27
Cape Winelands Shale F			7	4	12	23

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For more information, an explanation of terms, a list of threatened species, and copies of fact sheets, visit www.capetown.gov.za/environment; go to "Publications", and select "Brochures, booklets and posters".



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As can be seen the most Extinct, Critically Endangered, Endangered and Vulnerable species within the city occur in the southern and northern suburbs in what used to be Cape Flats Sand Fynbos, followed by Renosterveld (which was converted to wheatlands and vineyards). Note that the Sandstone Fynbos of the Cape Peninsula also has lots of species, and most of these are threatened by invasive alien plants and inappropriate fire management. The ecosystems most affected by extinction are the Renosterveld types, as their large herds of game (hartebeest, zebra, eland, ostrich and rhinos) were shot out by the 18th century, resulting in a change from a grassland to a shrubland, followed by a large-scale conversion to wheatland in the 20th century. Although the large mammals are local extinctions, their loss has contributed to the threats affecting local Renosterveld species, which are now globally threatened with extinction.

Is there any hope? Of course there is, but not if we continue in the same old way. We have to deal with disasters happening in our own backyards (tropical forests and coral reefs, notwithstanding), and take responsibility for the amazing plants and animals that live in Cape Town. Urban sprawl must be converted to densification. We need nature reserves that are big enough and properly managed. Natural fire regimes must be maintained in nature reserves. Threatened species must be rescued from extinction. This rescue must be done locally in nature reserves – species cannot just be moved somewhere else, as many occur in specialised niches, which do not occur elsewhere, and must be conserved for the species to survive. There is still time to prevent the situation from getting much worse, but we have to act now. It is estimated that we have ten years before the situation becomes hopeless. We need to do something immediately, and you can help.

Benefits: An extinct species is lost forever. Many species have cultural, medicinal and aesthetic value, and many support many other species, such as parasites, predators and symbionts. Some species are keystone species, and maintain entire food webs. Lastly, species have a right to exist, just as much as we have a right to exist – this is called 'intrinsic value'. Species that occur nowhere else on earth have a right to exist in their habitat in Cape Town! Capetonians have a responsibility to conserve their unique natural heritage.

What you can do: Kirstenbosch National Botanical Garden and the Millennium Seed Bank have a plant rescue programme which saves plants, bulks them up, and reintroduces them into the wild. The Custodians of Rare and Endangered Wildflowers (CREW) monitors rare species, so that we know when we need to act. Many nature reserves have Friends groups, who help with reserve management and maintenance. Some groups focus on certain species, such as those that prevent road deaths of the Western Leopard Toad during its spring breeding season, when thousands of toads migrate to and from their mating pools. Join these groups, and help to conserve our wild life.



Ismail Ebrahim

Erect Ericoid Amphithalea (Pea Family) *Critically Endangered*



Nigel Forshaw

Flats Conebush (Protea Family) *Critically Endangered*