

Carpobrotus edulis



Taxon	Family / Order / Phylum
<i>Carpobrotus edulis</i> (L.) N.E.Br.	Aizoaceae / Caryophyllales / Plantae

COMMON NAMES (English only)

Hottentot fig
Freeway iceplant
Cape fig

SYNONYMS

Mesembryanthemum edule L.
Mesembryanthemum acinaciformis L. var. *flavum*

SHORT DESCRIPTION

Succulent, trailing perennial, rooting at nodes and forming large, dense mats. Leaves are opposite, 3-angled. Flowers (8-10 cm in diameter) are large, solitary, yellow, pinkish-purple or purple with numerous petals and stamens. In the Mediterranean basin, *C. edulis* hybridizes with *C. acinaciformis* forming a hybrid complex known as *C. affine acinaciformis*; this is why within an invaded patch flower size and colour can be very variable.



Cape fig hybrid invading a field on the Mediterranean coast

Photo: Corina Basnou

BIOLOGY/ECOLOGY

Dispersal mechanisms

It has non-specific endozoochory. The fleshy, indehiscent fruits provide a water/energy-rich food source for various mammals (e.g. deer, rat, rabbits). Seed germination is enhanced by the ingestion of fruits.

Reproduction

Unspecialised pollination by generalist pollinators; pollination limited in some invaded areas. Flexible mating system: facultative to strict xenogamy, autogamy (fully self-fertile, no inbreeding depression), and facultative agamospermy. Vegetative propagation by runners (rooting at nodes).

Known predators/herbivores

Herbivory by mammals may cause significant seedling mortality, but once established it is not affected by herbivory or competition. Rodents or insects may be important seed predators or secondary dispersers; seeds are damaged by granivorous rodents.

Resistant stages (seeds, spores etc.)

Ungerminated seeds remain viable for at least 2 years, which allows for the formation of a soil seed bank. The uneaten fruits remain on the plants for several years, constituting a type of canopy seed bank.

HABITAT

Native (EUNIS code)

B1: Coastal dune and sand habitats, B2: Coastal shingle habitats, B3: Rock cliffs, ledges and shores, including the supralittoral, H3: Inland cliffs, rock pavements and outcrops, H5: Miscellaneous inland habitats with very sparse or no vegetation, H6: Recent volcanic features.

Habitat occupied in invaded range (EUNIS code)

B1: Coastal dune and sand habitats, B2: Coastal shingle habitats, B3: Rock cliffs, ledges and shores, C3: Littoral zone of inland surface waterbodies, F: Heathland, scrub and tundra habitats, F6: Garrigue, G1: Broadleaved deciduous woodland, G3: Coniferous woodland, H3: Inland cliffs, rock pavements and outcrops, I: Regularly or

recently cultivated agricultural, horticultural and domestic habitats, J: Constructed, industrial and other artificial habitats.

Habitat requirements

Warm temperate to dry climate, sensitive to frost. Resistant to drought. Grows on well-drained acid to alkaline and also saline soils. Can grow on nutrient poor soils but it is N limited. It usually prefers to grow in the sun but can also develop well on the shade. It has inducible CAM metabolism when subjected to drought or salt-stress.

DISTRIBUTION

Native Range

Cape Region of South Africa.

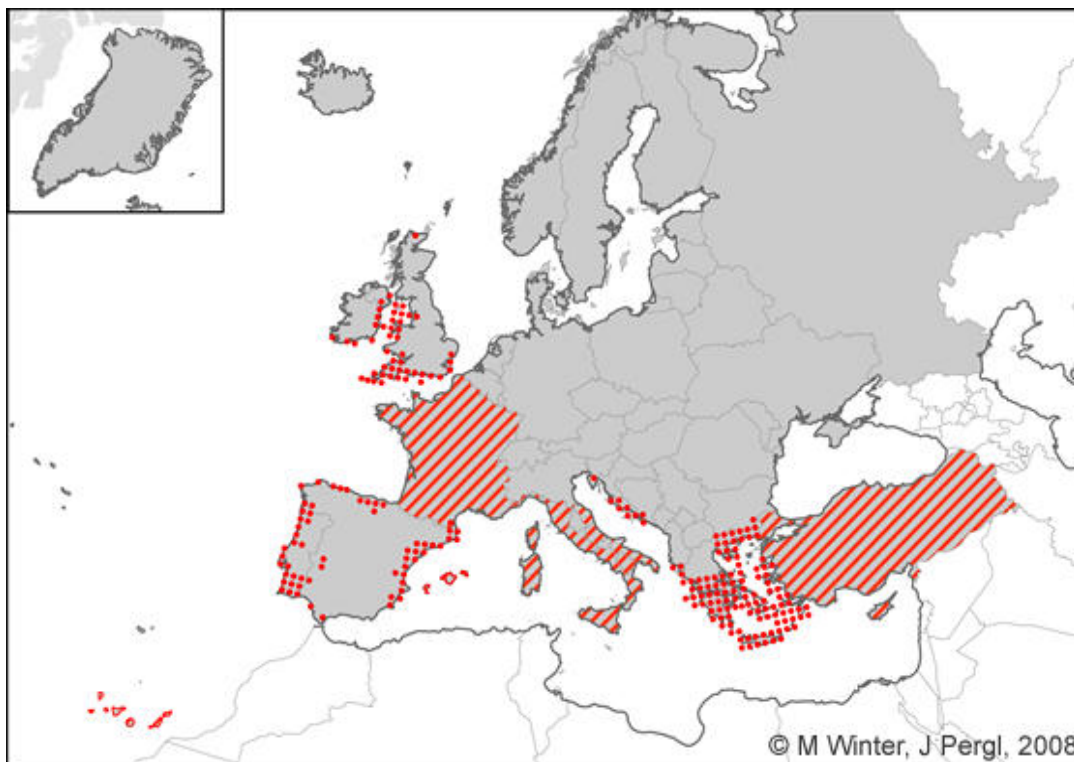
Known Introduced Range

Northern Europe (Great Britain, Ireland); Southwestern Europe (Balearic Islands, Gibraltar, Spain, Corsica, Sardinia, France); Southeastern Europe: (Italy, Sicily, Malta, Albania, Greece); West Temperate Asia: (Cyprus, Turkey, Lebanon-Syria, Israel-Jordan); Northern Africa (Algeria, Morocco, Libya, Macaronesia); Africa Middle Atlantic Ocean (St. Helena); Northern America (California, Florida); Southern America (Mexico, Chile, Argentina); South-Central Pacific (Pitcairn Is., French Polynesia); Australasia (Australia, New Zealand).




Trend

Apparently increasing due to increasing landscape use.

MAP (European distribution)



Legend

	Known in country		Known in CGRS square		Known in sea
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INTRODUCTION PATHWAY

Intentionally introduced by man, mainly as an ornamental or landscaping plant, also as a medicinal plant. Widely used for erosion control on sandy habitats or loose rocks. Widely planted along highways, in open sites and gardens.

IMPACT

Ecosystem Impact

It forms impenetrable mats and competes aggressively with native species, threatening rare and endangered species. Can modify soil properties by increasing soil N and organic C and by reducing soil pH. In dune habitats it prevents sand movement, hindering the natural processes of the disturbance regime. Hybrids are very vigorous and may lead to intensified invasion.

Health and Social Impact

Unknown.

Economic Impact

Unknown.

MANAGEMENT

Prevention

Avoid planting as ornamentals and dumping plant debris in the wild. Prescribed burnings ($T^a > 100\text{ }^\circ\text{C}$) can reduce the seedbank.

Mechanical

Manual eradication (hand-pulling and buried stem removal) appears to be the most effective and cost-efficient method. Plant remains should be removed because they become an active part of regeneration. After removal, secondary invaders may take advantage of the opened areas. For sand dunes, seeding native grasses has not been effective.

Chemical

Broad spectrum herbicides such as glyphosate kill this plant. Chlorflurenol has been used along roadways.

Biological

Intense herbivory may suppress seedling establishment and slow invasion of sand dunes and burned sites.

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