

## Asparagus africanus

*Asparagus africanus*, also known as African asparagus, bush asparagus, wild asparagus, climbing asparagus fern, ornamental asparagus and sparrow grass, is an African species of plant that is found in a variety of habitats. It has multiple medicinal properties and is used to treat various ailments.

*Asparagus africanus* is a spiny shrub up to 1 m (3.3 ft) tall or a climbing plant with stems up to 3 m (9.8 ft) long.[2] Stems of up to 5 m (16 ft) long have also been recorded.[3] These plants have a rhizomatous root system, from which they can reshoot.[2][3] Multiple stems grow from a central crown.[3] Bunches of cladodes (modified branchlets) occur at the leaf scales. Each ends in a sharp point.[2][4] These look fern-like, giving rise to one of this species' common names (climbing asparagus fern).[3]

The plant produces white flowers, which, like the leaves, grow in clusters.[2] They have three sepals and three petals, which are similar in appearance. The six white filaments have yellow anthers.[4] Flowers are present between August and December.[2] The colour and the scent of these flowers attract insects, which pollinate the flowers.[4]

Plants produce round fruits. These are red when ripe and shrivel to reveal a single black seed.[3] These fruits may also be eaten by mammals and birds, aiding in dispersal.[4] Fruits may be present at any time of the year, assuming that conditions are suitable.[4] These berries contain toxic compounds, such as furostanol and may cause pain and vomiting.

*Asparagus africanus* is a widely distributed species. It is found across most of Africa, as well as the Arabian Peninsula and India.[5] It grows in a variety of habitats, ranging from rainforests to grasslands to semi-deserts.[4] The plant can grow rapidly. In its climbing state it can quickly come to dominate the canopy, outcompeting other species.[3] It has also become naturalised in parts of Australia after being introduced as an ornamental plant.[6]

The population is considered to be stable and the species is listed as being of least concern by the South African National Biodiversity Institute (SANBI).[7]

This species is considered to be a problematic weed in Queensland.[6] For example, it is considered to threaten ecosystem functioning in the Boondall Wetlands Reserve.[3] It is listed as a category 3 restricted matter under the 2014 Biosecurity Act, meaning that it can not be gifted, sold or released without a permit in an attempt to reduce its spread.[8] As such, eradication programs are being established to remove it across its range in Australia.[6][3]

The new shoots are harvested and eaten as a vegetable. They are seen as being a good source of fiber and various vitamins. The roots are also boiled and eaten. The fruit are mainly only eaten during times of famine.[4]

The stems and underground components of the plants are used to treat a wide variety of conditions in a variety of cultures.[4] Research has found that they improve the functioning of the immune system in laboratory animals, providing insight as to why this plant is so widely utilised.[9] It is, for example, seen as a valuable medicinal plant by people living in Ethiopia.[10] The Zay people of Ethiopia use the cladodes on their skin to treat skin lesions. They also feed equines the roots and cladodes to treat geregelcha, a disease in which

mucous continuously comes out of the nose of the animal.[11] The root tubers mixed with milk are used after birth to help expel the afterbirth.[4] It is also used as a form of birth control by rural women in Uganda.[12] In South Africa, it is used to treat headaches, STIs, stomach aches, sore throats and malaria, amongst other conditions.[13]

Compounds found in the roots have been found to be an effective anti-parasitic and anti-protozoan, including against *Plasmodium falciparum*, the most deadly form of malaria in humans.[14][15] Methanolic extracts from the roots have also been found to have pain relief and anti-inflammatory properties.[16]

