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Bulb- and corm-producing plants that become bushland weeds

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Many people are surprised to learn that freesias and some of the other attractive spring-flowering plants that grow from corms and bulbs in the bush are exotic weeds. In gardens, these plants are grown for their flowers and their hardy, drought-tolerant nature. It is possible to purchase the corms and bulbs of many different plants that readily escape from gardens and invade natural habitats. Gardeners can protect the environment by choosing not to buy these plants, and by preventing invasive plants already growing in their gardens from escaping into nearby bushland.

How exotic bulbs and corms invade and threaten the bush

The ability to die back to an underground storage organ during summer enables a plant to avoid fire or drought and to tolerate nutrient-poor soils. Consequently, certain exotic bulbs or corms thrive in the bush.

Many multiply rapidly by seed, or vegetatively by producing bulb offsets, bulbils, daughter corms, or cormels. This quality, which makes them popular with gardeners, also enables them to spread rampantly through the bush, crowding out native plants on which native animals depend for food or shelter.

By far the commonest way these exotics reach the bush, initially, is through the dumping of garden rubbish that contains their seeds or vegetative parts such as bulbs and corms – the latter being the result of gardeners thinning out large clumps.

Bulbs and corms that should be avoided

The following bulbs and corms are some of the most invasive species that are still readily available, either commercially or privately. In many cases, the factor that may help gardeners decide whether or not to grow a particular plant will be the proximity of their home to bush or farmland.



Australian Quarantine and Inspection Service officers routinely x-ray parcels to intercept deliveries of bulbs, corms or seeds

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***Babiana* or baboon-flower (*Babiana stricta* and *B. disticha*)**

Corms of *Babiana* species are reproduced annually. In addition to these offsets, babianas also seed prolifically. *B. stricta* is a serious weed in the Darling Range, Avon Valley and the Swan Coastal Plain, where it has invaded clay-based woodlands and wetlands from Gingin southwards; it also occurs at Albany. Flowers range in colour from white through lilac and pinkish-mauve to deep violet. *B. disticha* is recognisable by its irregularly shaped lilac or mauve-blue flowers, with two petals having distinctive white markings. Preferring sandy soil, this species has invaded urban bushland and disturbed land from Perth to Busselton.



White markings on petals of Babiana disticha are a diagnostic feature

Black flag (*Ferraria crispa*)

Black flag has not been sold by reputable nurseries for many years, but is still offered at casual sales outlets. Its popularity is surprising, given the unpleasant odour of the black mottled flowers. Outside the flowering season, black flag can be recognised by its unusual succulent-looking bracts and leaves. Its reproductive capacity makes it an insidious invader that can form monocultures. Black flag will seed prolifically, but more sinister is its unusual system of stacked corms, of which only the most recent are susceptible to herbicides. Corms lower in the column remain untouched by chemicals, and have the ability to sprout new corms.



*Succulent-looking bracts and leaves make black flag (*Ferraria crispa*) easy to recognise long after the flowers finish*

Chincherinchee (*Ornithogalum thyrsoides*)

All *Ornithogalum* species are highly invasive and contain toxins, but chincherinchee is the most notorious because it is recorded as having been responsible for poisoning livestock. Gardeners intending to plant chincherinchee – or those already growing it – should consider their location. Farmers, and anyone living in a regional town or in suburbs alongside hobby farms, national parks, or urban reserves, should not acquire it, and should attempt to eradicate existing plants from their gardens. However, inner-city dwellers who live nowhere near sensitive environments can grow these bulbs fairly safely.



*Chincherinchee (*Ornithogalum thyrsoides*)*

Freesia (*Freesia alba* x *leichtlinii*)

There are many freesia cultivars, but this hybrid is the one that has established itself densely in natural habitats, where it spreads by seed, offsets, and corms on the stems. Flowers vary from white through cream to light yellow, sometimes with purple tinges. Freesia is loved for its perfume, so its corms are a favourite subject of exchange between well-meaning gardeners who have no idea of its capacity to escape. Freesia is a serious weed of urban bushland, coastal heath, and woodland and granite areas from Gingin to Israelite Bay.



*Freesia (*Freesia alba* x *leichtlinii*)*

Hesperantha (Hesperantha falcata)

This species of *Hesperantha* is reproduced by an annually renewed corm. The white flowers, which are purplish-brown on the outside of the petals, open in the late afternoon. Generally only one or two flowers on the spike are open at any one time, which makes the ornamental value of hesperantha fairly low. It is a common weed of wetlands and damp grassland on the Swan Coastal Plain and in the Darling Range. In these areas it may be very abundant, although usually it does not dominate other vegetation.

Ixia (Ixia maculata and I. polystachya)

Spreading by seed or corm, *Ixia* species tend to hybridise, so sometimes it is difficult to tell whether individuals belong to particular species. Among ixias that have naturalised in Western Australia is *I. maculata*, which has compact spikes of yellow flowers with brown centres, although white, pink, and red forms – possibly hybrids – have been found. Another species, *I. polystachya*, has spindlier growth and smaller pink or mauve flowers, although the population may include white or pale green flowers with blue-green centres that, again, are probably hybrids. *Ixia* has invaded woodlands from Perth to Albany, with contaminated areas often being alongside old settlements.



Ixia (*Ixia maculata*)

Lachenalia or soldiers (Lachenalia species)

Four species of *Lachenalia* have naturalised in urban bushland. *L. aloides*, commonly called soldiers, has tricoloured flowers – usually orange, green, and purple-brown although variations exist. *L. bulbifera* is more robust with red flowers, and it produces many bulbils even from leaf cuttings. Flowers of *L. mutabilis* are pale blue at first, darkening to crimson-brown. *L. reflexa*, which has yellow flowers, is considered a most serious weed, having invaded tuart and banksia woodland and heath in the Perth area.



Commonly called soldiers, *Lachenalia aloides* exhibits many different colour variations, but the form of the flowers is always recognisable

Sparaxis and harlequin flower (Sparaxis species)

Sparaxis species reproduce by seed, offsets and stem cormels. Many of those found in Western Australia are hybrids, but of the species the commonest is *S. bulbifera*, which has large cream flowers. It is a serious invader of clay wetlands on the Swan Coastal Plain and in the Avon Valley, often hybridising with purple or yellow *S. grandiflora*, which occurs in the metropolitan area and wheatbelt. Harlequin flower (*S. pillansii*), with tricoloured flowers – usually red and yellow petals and a black centre – is probably the sparaxis most gardeners know best. It has naturalised around old settlements from Perth to Albany.



Harlequin flower (*Sparaxis pillansii*)

Watsonia (Watsonia bulbillifera and W. marginata)

Bulbil watsonia (*Watsonia bulbillifera*) is the most invasive of the six *Watsonia* species naturalised in Western Australia. Despite the common name, technically speaking it is corms, not bulbils, which form on the stem, giving the plant a distinctive silhouette after the orange flowers have died. Ranging from the size of a rice grain to a large marble, these corms are carried along natural watercourses and in roadside drains. Bulbil watsonia also spreads by seed. It is a serious weed, particularly in damp areas of the south-west and on the south coast. Another troublesome species is lilac flowered *W. marginata* , which occurs around old settlements from the Darling Range south to Albany.



Watsonia (*Watsonia bulbillifera*)

How invasive bulbs and corms may be bought

Some bulbs and corms listed above are no longer stocked by reputable nurseries, but are frequently sold at weekend markets, school fêtes, church bazaars and swap-meets, where gardeners may purchase them without knowing the environmental threat they pose.

Buying from such sources carries other risks, as pests and diseases may be present in the plants and potting mix. The same applies to gifts of bulbs and corms sent by friends or relatives living interstate or overseas – not only may the species be invasive but also the storage organs may contain insect pests or diseases. Fortunately, Australian Quarantine and Inspection Service (AQIS) officers can detect and intercept deliveries of bulbs, corms, and even seeds by x-raying parcels from overseas.

Some bulbs and corms that are invasive in Western Australia are not environmental weeds in the Eastern States, and they may feature in mail order catalogues printed there. If the catalogues are inserted in national magazines, gardeners get the impression that these plants are suitable for growing anywhere in Australia.

Another pitfall for conscientious Western Australian gardeners is access to gardening books that were first written for Europe or the USA. When these are reprinted for publication in Australia, some Australian content is added but unsuitable exotics are not necessarily deleted.

If gardeners cannot obtain the bulbs and corms they have read about from a local nursery, they may be tempted to order them through the Internet. In this case, again, parcels containing bulbs and corms are detected when screened by AQIS. To be safe, gardeners should always check first with AQIS (telephone 08 9447 1111) before ordering from mail order catalogues or the Internet.

Why gardeners have the ultimate responsibility

Occasionally people ask why plants that can become environmental weeds are not simply banned. This is indeed possible with plants that are not already present in Western Australia. AQIS has strict guidelines that exclude the importation from overseas of new plants that may pose a threat to either the environment or commercial crops. But it is impractical to suggest that invasive species, which are already well-established in Western Australian gardens, can be eradicated easily. It is also very difficult to monitor casual sales outlets such as weekend markets.

Gardeners, however, can make a big difference simply by recognising invasive species and opting not to buy, grow, or exchange them, and by never dumping garden waste in the bush.

Acknowledgements

Bushland Weeds – A practical guide to their management, by Kate Brown and Kris Brooks, published by Environmental Weeds Action Network (WA) Inc.

Western Weeds – A guide to the weeds of Western Australia, by B M J Hussey, G J Keighery, R D Cousens, J Dodd and S G Lloyd, published by Plant Protection Society of Western Australia.