

BULBINELLA

— a neglected garden plant?

by Pauline Perry, Worcester Botanic Gardens



Bulbinella nutans var. *nutans*

It is doubtful whether the German Botanist Kunth envisaged the confusion he was creating when, in 1843, he named a new genus *Bulbinella* because of its similarity to the previously named *Bulbine*. Botanists and plant enthusiasts alike appear to have difficulty in distinguishing between the two genera. A further cause for confusion is the common name, katstert, which has been applied to species of both *Bulbine* and *Bulbinella* — a good example of

the danger of using vernacular names.

Although belonging to the same family Asphodelaceae (recently separated from the older Liliaceae, *sensu lato*) there are many differences separating the genera. Perhaps the one most frequently quoted is that of the stamen filaments which in *Bulbine* are fringed with a ring of fine hairs but in *Bulbinella* are bare. In most cases the inflorescences in *Bulbinella* contain many more flowers than

Bulbine and these may be shades of white, cream or ivory as well as yellow, and in one variety, orange. In *Bulbine*, flowers are invariably yellow with the exception of rarer forms of *B. frutescens*, which have white or orange tepals.

Bulbine is frequently regarded as a succulent due to the fleshy or succulent leaves of many of the species. Several species are also geophytic, passing the adverse season underground in the form of a swollen tuber. The

Bulbinella

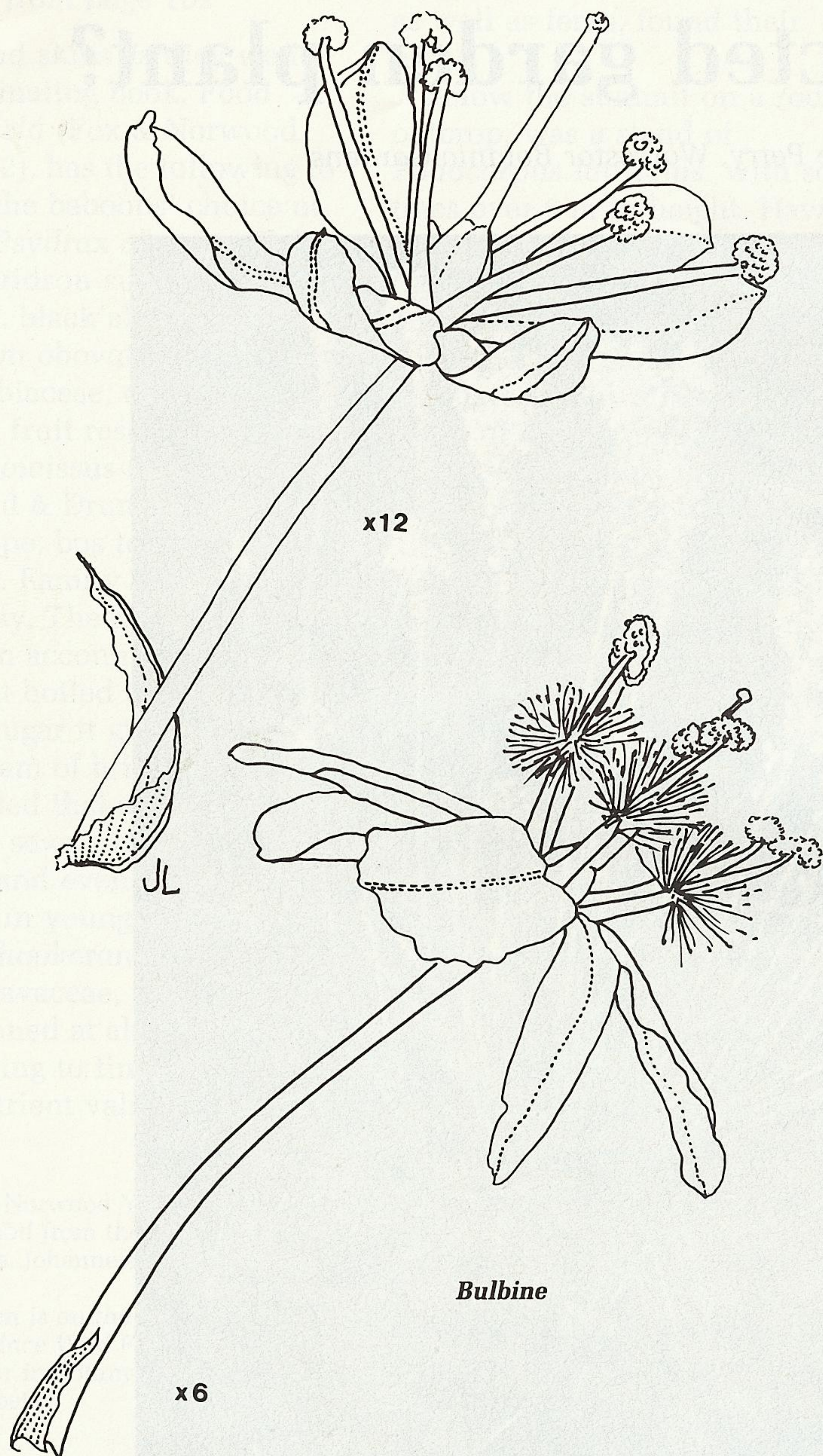


Illustration: J. Loedolff

genus therefore tends to inhabit more arid areas and because of this, plants may easily rot in cultivation if they receive too much water. *Bulbinella* on the other hand is a geophyte which is more frequently found in situations that are wet, at least in the winter growing season. Plants survive the summer dormant season by means of swollen roots. Both generic names are slight misnomers as no member of either genus produces a bulb.

Bulbinella is confined to the

winter rainfall areas of southern Africa, whereas *Bulbine* is a more widespread genus, occurring in both winter and summer rainfall areas of southern Africa and also extending into the rest of Africa. Interestingly, both genera also have disjunct distributions outside Africa. In the case of *Bulbine* more than three species occur in Australia and *Bulbinella* has seven species in New Zealand.

Although one species of

Bulbinella, now named *B. nutans* var. *nutans*, has for some time been known as the florist's *Bulbinella* and occurs in many books on South African garden plants, the genus has not received the attention from gardeners that I think it deserves. A possible reason for this has been a lack of knowledge of the majority of the species and insufficient understanding of its cultivation requirements.

The identification of species has been handicapped by the fact that until recently, no one had made a detailed study of the genus in the field. In fact no detailed taxonomic study had been made this century. Altogether 16 species and two varieties are now recognised in South Africa. These occur naturally in the Cape from the Richtersveld in the north-west to the vicinity of Cape Town in the south and eastwards as far as Avontuur.

After the dormant period, new growth starts largely from food reserves in swollen roots. These roots may be one of three types in the different species. One group has a cluster of 6-12, comparatively short, swollen roots. The smaller species, *B. divaginata* and *B. gracilis* are examples. In the large and more familiar species such as *B. latifolia* and *B. nutans* there is a mass of roots swollen to a width of 4-5 mm for a length of up to 250 mm. In the third group which includes *B. triquetra* and *B. cauda-felis*, a swollen region is situated at the end of a narrow stalk-like region. It will be appreciated that roots in these last two groups in particular can be very easily damaged when digging up plants, especially in heavy ground. Also if plants are left out of the ground in the dormant season, as may be practised with bulbs and corms, drying out and shrivelling of the roots will occur.

The large species of *Bulbinella* are possibly the best known. Of these the large stands of dark orange-flowered plants confined to the red doleritic soils in the



Bulbinella inflorescences 1. *Bulbinella nutans* var. *nutans* from the Caledon area.
2. *Bulbinella latifolia* from the Kamiesberg. 3. *Bulbinella latifolia* from the Matzikamaberg.

Niewoudtville area have received particular attention in recent years. These plants have now been named *Bulbinella latifolia* var. *doleritica*. Although in nature this variety is confined to a very special soil type, it appears fairly adaptable in cultivation. One plant has been growing without any particular attention at the Karoo NBG, Worcester, for at least fourteen years. However, it possibly favours the low rainfall and clay soil. A number of seedlings were planted out three years ago and now make a good show in August-September. A specimen of the yellow-flowered *B. latifolia* var. *latifolia* has also been growing at the Gardens for several years and this has produced a number of seedling plants naturally around the mother plant. This variety will be familiar to those who have visited the Kamiesberg in spring where in most years it can be seen flowering in large numbers in seasonally wet streamsides. In the exceptionally dry winter of 1984, however, flowering was greatly reduced.

Bulbinella nutans is another of the well known larger species. The yellow form is also a familiar sight in the Niewoudtville area but it extends eastwards as far as Calvinia and southwards to the Ceres area. Perhaps not quite so well known is the creamy-white form which occurs around Caledon, in the Worcester-Robertson valley and in the Tygerberg Nature Reserve near Cape Town. It was possibly once much more frequent in parts of the Cape flats. A good population at Gordon's Bay has had to give way to housing development. A planting of the yellow form must have been seen by spring visitors to Kirstenbosch for many years. Both colour forms grow well at the Karoo NBG. The other variety of *B. nutans* var. *turfosicola* is very similar to the cream form in appearance, but flowers later in the year, from October to December. It grows at high altitudes and in peaty seepage areas. It may be found on Table

Mountain (see cover) and other mountainous areas to the north as far as the Cederberg, and eastwards to the Langeberg mountains. It may often be seen in large stands of several thousand plants. Because of its more specialised habitat this variety appears to be difficult to cultivate.

Information from herbarium specimens indicates that in nature, *Bulbinella* flowers have been found in every month of the year. This may be due to differing climatic conditions in the large variety of habitats in which it occurs. In cultivation it is less likely that flowers will be produced in quantity during the summer months. However, several species are distinctly autumn-flowering, producing their flowers at an early stage of leaf development. Particularly worth growing is the yellow-flowered *B. divaginata*. This is a comparatively widespread and common species growing in a variety of habitats and therefore offers few problems in cultivation. Usually flowering a month or two later in the year is another yellow-flowered species, *B. gracilis*. This is a dainty plant with fleshy, terete leaves found in northern Namaqualand. It requires rather drier conditions than the other species. A small collection planted in a rockery at the Karoo Gardens several years ago has multiplied freely. *B. trinervis* is a similarly small species but with white flowers appearing mainly in March or April.

The vernacular name, cat's tail, could refer to the long and narrow, rather fluffy, pinky-white inflorescence of *Bulbinella cauda-felis*. This species has a wide distribution covering most of the range for the genus. It appears to favour humus-rich, sandy or clayey soils and grows in clumps amongst shrubs. Flowering time varies according to habitat from August to November. Other medium-sized species worthy of attention are *B. elegans* with either lemon-yellow or white flowers, depending on locality in nature,

and *B. eburniflora* with a broad head of ivory coloured flowers. The smaller yellow flowered *B. triquetra* is probably the best known of all the species.

As is the case with many other genera, the species which are confined to fynbos vegetation have so far proved more difficult in cultivation, although as yet little seed has been obtained for trials. *B. punctulata* is a plant with normally only two long leaves and a long, narrow inflorescence of yellow flowers. It may be seen quite frequently in the Cederberg in spring. A small collection of this species has been doing well in the nursery at Kirstenbosch.

All the large species are seen to best advantage in large plantings in an herbaceous or shrub border. The smaller species are more suitable for a rockery or for pot culture. Altogether thirteen of the sixteen species of *Bulbinella* may be seen growing outside at the Karoo National Botanic Gardens with a fourteenth rare species under cover. Eight of these have so far been propagated from seed. At Worcester, seed of the larger species is sown in 15-17.5 cm pots and the smaller species in 12.5 cm pots. The comparatively large-sized pots are necessary for the development of storage roots. Seed is sown in April and the seedlings transplanted into black plastic bags during the first dormant season. They are then ready for planting in the garden at the beginning of the third season, by which time all plants should have reached flowering size. Plants sometimes produce flowers in their second season. Our plants are in many cases now seeding themselves freely in the garden amongst the parent plants. Fortunately the different species do not hybridise.

Pauline Perry (M.Sc.) is a horticulturist at the Karoo Botanic Gardens. Originally from England, she has clearly become "naturalized" in South Africa. Recognised as the leading expert on karoo geophytes, her specialities include *Bulbinella* and *Eriospermum*. Pauline has also discovered many new taxa and interesting species in the karoo.