



Two shrubby Madagascan kalanchoes by Colin C. Walker

Introduction

Kalanchoe is a diverse genus of the Crassulaceae with around 150 species and a wide distribution ranging from Africa through to SE Asia (Descoings, 2003). Madagascar is a centre of diversity with at least 60 species and 50 varieties (Boiteau & Allorge-Boiteau, 1995), many of which are very attractive and hence most desirable for cultivation.

Here I am showcasing just two of the giants of the genus: *Kalanchoe beharensis* and *K. arborescens*. The first of these is fairly common and hence will be familiar to many readers, whereas the second species is rare and may not even be grown in New Zealand. Both belong to a small group of shrubby Madagascan species that includes *K. arborescens*, *K. beharensis*, *K. grandidieri* and *K. dinklagei* (formerly known as *K. brevisepala*) (Boiteau & Allorge-Boiteau, 1995). Both grow into large shrubs but fortunately, at least in my experience of just three or four years in my collection, they are slow growing. Both species are grown for the attractive appearance of the plants and not for the flowers which are apparently rarely produced in cultivation.

Kalanchoe beharensis

Kalanchoe beharensis, common in cultivation at least in the northern hemisphere, was first described as long ago as 1903. It occurs in S and SW Madagascar where Rauh (1998) records it as being widespread.

The name '*beharensis*' refers to its occurrence at Behara from where it was first collected. In habitat it branches modestly to form a large shrub up to 3 m tall, so it is not the largest of the Madagascan species.

My plant (Fig. 1) is a single stem only 40 cm tall and whilst only 1.5 cm diameter at the base it can grow up to 12 cm or more across. It has very prominent leaf scars where the old leaves have died and dropped off. With age the waxy bark splits and peels giving it an attractive roughened appearance. However in its young phase the whole plant, both stem and leaves, have a covering of short dense hairs (tomentose) giving it a velvety feel. Under the microscope these hairs are star-like (stellate). The roughly triangular leaves can get quite large: up to 40 cm long and 30 cm across at the base, being held by stalks (petioles) up to 15 cm long. On young leaves the hairs are whitish but become brownish as they age. The



leaf edges are wavy or undulate with shallow notches giving them a very attractive irregular appearance.

Interestingly, Rauh (1998) reports that "The stem wax layer burns with a sooty flame, giving off an agreeable smell". However, since I only have a single plant I don't intend checking this out any time soon!

Kalanchoe beharensis is a very variable species and there are now several cultivars available: 'Alba' is covered with really dense white woolly hairs; 'Nana' is a very small, monstrous form; 'Rose-leaf' has deeply notched (incised) leaves (Rauh, 1998). There are also forms that are hairless and hence smooth. The only cultivar I have grown so far is 'Fang' which has prominent tubercles on the undersides of the leaves. All of these can apparently be grown from leaf, as well as stem, cuttings.

The flower spike of *K. beharensis* is lateral, i.e. a side branch which does not terminate the growth of the main stem. This can be up to 30 cm tall, intricately branched bearing short yellowish-green tubular flowers. Flowering is rare in cultivation, especially when the plants have restricted growth when pot grown, which my plant is. To encourage the growth of my plant it has just been repotted and I aim to keep potting it on to encourage faster growth. This plant is reported to produce quite deep root systems, so it would certainly benefit from being planted out in a bed to encourage faster

growth. Perhaps in New Zealand in sheltered locations it can be grown outdoors? I confess that on my two visits to your wonderful country I don't recall having seen this species in outdoor plantings

Other shrubby Madagascan species related to *K. beharensis* having similar coverings of short dense hairs include *K. bracteata*, *K. millottii*, *K. orgyalis* and of course the much smaller growing but very attractive and familiar *K. tomentosa*.

Kalanchoe arborescens

Kalanchoe arborescens is very distinctive but uncommon, despite having been first described as long ago as 1933. It occurs in the extreme south of Madagascar where Rauh (1998) records it as "not very frequent in the dry bush between Ampanihy, Itampolo and Tanjona Vohimena". Its name '*arborescens*' meaning 'tree-like' is very apt since this is a large shrub or small tree growing up to 5 m tall that in the wild is very densely branched. This species is a giant in its genus and indeed it is one of the world's largest 'stonecrops', far exceeding the height of the Mexican tree sedums (*Sedum dendroideum*, *S. frutescens* and *S. oxypetalum*).

Kalanchoe arborescens is a rare species not only in habitat but also in cultivation. I acquired my plant (Fig. 2) only four years ago. I have therefore only grown it for a relatively

Fig. 1. (Left) *Kalanchoe beharensis* in an 18 cm diameter pot.

short time but from this limited experience I would describe this plant as being relatively slow-growing, certainly compared to *K. beharensis*. My plant is ISI 2001-36, a rooted cutting from material raised from seed that was originally collected in 1998 SW of Ampanihy. Currently my plant is around 38 cm tall, so it has a lot of growing to do to reach the size of the giants in habitat! The stem is only about 1 cm in diameter at the base, but it can reach 10 cm across when fully grown. It is currently only modestly branched with a slightly roughened surface to the bark which is marked by a few vertical fissures. The terminally-arranged leaves are up to 6 cm long in whorls of three, spoon-shaped (spathulate), smooth, hairless (unlike *K. beharensis*), glossy-green often with a red edge especially when grown in full sun. For such a large-growing plant the flowers are not very impressive and my plant has yet to oblige – but I'm not holding my breath waiting for their arrival! The terminal flower spike is only about 15 cm tall and the flowers are erect or pendent, about 1 cm long with rounded (urceolate) tubes that are pale green outside and with lobes that are purple-spotted inside.

The closest relative of *K. arborescens* appears to be *K. dinklagei*, from which it differs in having smooth, not hairy, stems and leaves. The flowers of *K. arborescens* are also very different with those of *K. dinklagei* being longer, narrower and densely covered in short hairs.

For anyone interested in kalanchoes I highly recommend the book on the Madagascan species by Boiteau & Allorge-Boiteau (1995). This includes reproductions of very attractive watercolour paintings by Dolly Lunais illustrating most of the native species and varieties. The text, however, is in French and unfortunately no English translation has been made available.

References

- Boiteau, P. & Allorge-Boiteau, L. (1995) *Kalanchoe (Crassulacées) de Madagascar. Systématique, écophysiologie et phytochimie*. Karthala, Paris.
- Descoings, B. (2003) *Kalanchoe* in Egli, U. (ed.) *Crassulaceae. Illustrated Handbook of Succulent Plants*. Springer-Verlag, Berlin, Heidelberg, New York, pp.143–181.
- Rauh, W. (1998) *Succulent and xerophytic plants of Madagascar*. Vol. 2. Strawberry Press, Mill Valley, California.
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Fig. 2.
Kalanchoe arborescens
in a 12.5 cm diameter pot.