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Stapelia gigantea – ‘the goliath of its genus’

Colin C. Walker

Figures see German part.

I was delighted to be asked to contribute to the 100th issue of *Avonia*. I have watched your journal develop through its formative years beginning back in 1983 as *Informationsheft die Anderen Sukkulente* with its A5 format and covers adorned with line drawings, through its next incarnation as *Die anderen Sukkulente* and finally to *Avonia*. Now in A4 format and full colour, *Avonia* is a truly prestigious publication in the world of succulents. My hearty congratulations extend to all who give their time and effort to make *Avonia* such a notable addition to the literature.

My chosen subject is *Stapelia gigantea* since this species has also reached a significant milestone, having been first described 140 years ago, hence reaching another anniversary well worthy of celebration.

Stapelia is now considered to be a modest sized genus with 28 species currently recognised (Bruyns, 2005) and widely distributed throughout southern Africa south of Angola, Zambia and Mozambique, being most diverse in South Africa.

Within this genus the claim to fame of *Stapelia gigantea* is that it is, as heralded by its name, truly a giant. The species was first described in 1877 by the renowned Kew botanist Nicholas Edward Brown, who called it “The goliath of its genus” (Brown, 1877). Brown was a leading student of succulents at Kew where he worked in the herbarium from 1873 until his retirement 41 years later. He never visited succulents in habitat, but his work has lasting value because of his remarkable powers of observation. He was especially interested in stapeliads, euphorbias and mesembs and described many new species, most of which are still recognised today. He wrote up the Apocynaceae (including the Asclepiadaceae) for two of Kew’s major projects: *Flora Capensis (Flora of South Africa)* and *Flora of Tropical Africa*.

The species was first illustrated as a woodcut line drawing (Fig. 1) published in the renowned serial magazine *Gardeners’ Chronicle*, which began in 1844. So impressed was Brown by his new species that in his series of articles describing new stapeliads he included this same woodcut on no less than three occasions (Brown, 1877, 1888, 1908). Brown’s new species was based on material collected in what was then Natal. Robert Plant collected a living plant in 1858 which later flowered in Durban in 1860 and was drawn by John Sanderson. Independently William T. Gerrard collected a specimen between 1861 and 1865 in Natal. All this material was sent to Kew where it became available for Brown to publish his new species (Brown, 1877).

Brown’s accolade of “goliath” is well deserved, since this species has THE largest flower not only of any stapeliad but also of its family the Apocynaceae. It proudly sits amongst the biggest flowers in the whole of the plant kingdom to rival other giants such as *Rafflesia*! Plants of *S. gigantea* are typical of *Stapelia* having robust, prominently 4-angled, erect stems to 30 cm long that are shortly pubescent and green mottled with purple if grown in full sun. In cultivation it grows relatively quickly and branches freely from the base, hence forming clumps up to 1 m – or exceptionally 3 m – in diameter. It presents few problems for the grower but as with all stapeliads mealy bugs can be problematic, so diligence is required to prevent damage from this pest.

The bud has a slender tapering beak (Fig. 2). Its flowers range in size from 20–40 cm diameter, with my plant (Fig. 3) having flowers about 30 cm in diameter. The open flower has long tapering corolla lobes radiating from a very shallow tube. The inner surface is adorned with prominent, irregular, raised reddish ridges and is covered with fine purple hairs which are longest along the margins. As expected for a stapeliad, the scent is unpleasant, being the typical smell of rotten meat or dead carrion. The odour is not as strong as you might expect for such a large flower and many much smaller-flowered apocynads have far more pungent, unpleasant scents compared to this giant.

This species has one of the widest distributional ranges of any *Stapelia*. As mentioned above it was first collected in 1858 in what is now KwaZulu-Natal. It is now known to occur over much of southern Africa: northern South Africa, Swaziland, Botswana, Mozambique, Zimbabwe, Malawi and Zambia (Bruyns, 2005). This makes it the most northerly occurring species of its genus. Leach (1985) in the most recent modern revision of the genus said that “Of all the species in this so very variable genus, *S. gigantea* is probably the most variable. There is more or less continuous variation in almost all characters, with few, if any correlations either morphological or geographical, so that taxonomic recognition of any particular pattern is quite impossible”. Surprisingly for such a widespread and variable species it has accumulated relatively few synonyms but there are some, the most important of which is *Stapelia nobilis*. This latter species was also described by Brown (1901) but its distinction from *S. gigantea* has long been a source of confusion. White & Sloane (1937) struggled somewhat, saying that “The distinctions between the types of the two species are clear enough in living plants and flowers, but in dried material they are not al-

ways so easily recognizable. If *S. gigantea* is primarily a giant, *S. nobilis* is distinctly one of the nobility”. Noble it may be, but sufficiently distinct from *S. gigantea* it is not and Leach (1985) finally resolved the issue by merging them into a single entity using the oldest and most familiar specific epithet.

Stapelia gigantea grows in a variety of habitats including rocky slopes, coastal sand dunes and unusually for a succulent, alongside mangrove swamps. Records for Kenya and Tanzania appear to be garden escapes, so the species is apparently not indigenous to these East African countries (Bruyns, 2005).

The closest relative to *S. gigantea* is *S. unicornis* which has a much more limited distribution and occurs principally in the Lebombo Mountains where South Africa, Swaziland and Mozambique meet. The distribution range of these species overlaps across most of the limited range of *S. unicornis*, but there are apparently no records of hybridisation between the two. The distinctive pale green colour and long hairs of the stems of *S. unicornis* make it easily distinguishable, whilst the flowers are significantly smaller, usually being only 10 cm across – but exceptionally can be up to 13 cm. The slender tapering corolla lobes of our species easily separate it from the other large-flowering species such as *S. gettliffei*, *S. grandiflora* and *S. hirsuta* (Bruyns, 2005), who also says that “Vegetatively, the narrower angles on the stems may separate it from *S. grandiflora* and they clearly separate it from *S. hirsuta*, where the angles are always far more obscure”. *Stapelia gigantea* is, therefore, not unique amongst the large-flowering stapeliads but it is a combination of characters that make it so distinctive. If size is important then this feature alone makes this species stand out from the crowd, well deserving the accolade of “goliath of the genus” as bestowed by Brown 140 years ago.

References see German part.

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