

The identity of *Sansevieria bagamoyensis*

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Summary: The caulescent *Sansevieria bagamoyensis* (Asparagaceae) is shown to be distinct from *S. arborescens*, with longer and narrower leaves, and a larger inflorescence. A neotype for *S. arborescens* is designated, superseding an earlier erroneous typification.

Zusammenfassung: Es wird gezeigt, dass die stammbildende Art *Sansevieria bagamoyensis* (Asparagaceae) sich von *S. arborescens* durch längere und schmalere Blätter sowie einen grösseren Blütenstand unterscheidet. Für *S. arborescens* wird ein Neotyp festgelegt und damit eine frühere falsche Typifikation korrigiert.

Introduction

This paper continues my survey of the prominently caulescent species of *Sansevieria* in East Africa. After a preliminary account based on vegetative features only (Newton, 2005), subsequent flowering of plants in cultivation and further observations in the field led to the description of three new species (Newton, 2009, 2010). The identity of *S. bagamoyensis* N. E. Brown vis-à-vis *S. arborescens* Gérôme & Labroy remained to be resolved.

Sansevieria bagamoyensis was described (Brown, 1915) from a herbarium specimen in Paris that had been collected in Tanzania by the French missionary Charles Sacleux (1856–1943). Whilst resident in Zanzibar in the late 19th century, Sacleux sent a number of living *Sansevieria* specimens and herbarium specimens to Paris, where Professor Max Cornu was building up a living collection in the botanical garden attached to the National Museum of Natural History. The collection locality of this specimen (*Sacleux* 672), collected in 1889, was given as “Near Bagamoyo”. In the time of Sacleux, Bagamoyo was an important port for travellers from Zanzibar, and many early journeys of exploration into the interior of East Africa started from there. Consequently it was already a sizeable town, and so “near

Bagamoyo” can probably be interpreted as “within a few kilometres of Bagamoyo”.

The name *Sansevieria arborescens* was published in a less formal paper (Gérôme & Labroy, 1903), based on a living plant from Sacleux, with no citation of a herbarium specimen and no statement of the type locality. A description, compiled from data scattered in the protologue, is: Shrubby; stem rigid, erect to 1 m, leafy throughout; leaves 5-ranked, sheathing, spreading horizontally, 15 cm long, c. 3 cm wide, c. 6 mm thick, apices pungent (Newton, 2009). The inflorescence was not described in the protologue, but plants matching the description have flowered in cultivation (Newton, 2009). They produced an inflorescence to 50 cm long, with up to 15 spreading branches, the lower ones reaching 8 cm long.

Jankalski (2006) decided that *S. bagamoyensis* is a superfluous renaming of *S. arborescens*, apparently on the assumption that Sacleux would have sent both living and preserved material of each species to Paris. As *Sacleux* 672 is the only Sacleux specimen of a caulescent species in Paris herbarium, Jankalski concluded that it must represent the living *S. arborescens* in the garden. He might also have been influenced by the appearance of a young shoot collected near Bagamoyo, illustrated by Newton (2005), with short spreading leaves in contrast to the longer leaves produced as the plant grew (see below). Later he designated the type specimen of *S. bagamoyensis* as neotype for *S. arborescens*, which was originally not typified (Jankalski, 2009).

Observations

In 2004, one of my postgraduate students went to north-eastern Tanzania for some field work, and I asked her to look for sansevierias near Bagamoyo. She brought back some plants collected at two localities near Bagamoyo. The small shoots that were collected for me looked rather like *S. arborescens* (Newton, 2005), but longer leaves were produced as the same plants grew taller



(Figure 1). In my garden most of the prominently caulescent plants have taken a long time to flower, perhaps because of the higher altitude (1,512 m) compared with the natural habitat close to the coast. After having been planted in my garden in 2004, the plants from Bagamoyo have yet to flower. In December 2011 I visited Bagamoyo myself, during a field trip with Bob Webb and Toni Yocum. One of my student's localities was visited, plus a new locality found during the journey. The plants were not in flower, but many dried inflorescences were found (Figures 2 & 3), giving useful information.

Characters of the Bagamoyo plants match the protologue well, apart from having slightly wider leaves (1.69 cm or less in the protologue, possibly because of shrinkage during drying). The leaves that I measured, in cultivation and in the field, are 34–40 cm long and 2.0–2.5 cm wide. The type specimen in Paris (illustrated by Jankalski, 2009) has one complete leaf that is 38 cm long, four cut leaf bases below it, and a couple of smaller leaves below the terminal inflorescence. As the Sacleux

Figure 1. *S. bagamoyensis* in cultivation. Photo: Len Newton. **Figure 2.** *S. bagamoyensis* in habitat, with dried inflorescence. Photo: Bob Webb.



Figure 3. Dried inflorescences of *S. bagamoyensis*, with one leaf 38 cm long. Photo: Len Newton.

specimen was the only material available to Brown, he must have included measurements of the smaller leaves in stating that the leaves are 7–15 inches (c. 18–38 cm) long. This is misleading, as the two terminal leaves are clearly not fully grown foliage leaves. The inflorescence is determinate, i.e. it terminates the growth of the shoot, and so any immature leaves present at the apex when the inflorescence starts to appear remain small. On the type specimen the inflores-

cence is 39 cm long, with 11 branches, the lowest of which is 19 cm long. Dried inflorescences found in the wild near Bagamoyo (Figures 2 & 3) were up to 50 cm long, with up to 17 branches. On larger ones the lower branches were up to 25 cm long, with 3–4 secondary branches.

Discussion and conclusion

The observations presented above suggest that *S. bagamoyensis* and *S. arborescens* are two

Table 1. Main differences between *Sansevieria arborescens* and *S. bagamoyensis*.

	<i>S. arborescens</i>	<i>S. bagamoyensis</i>
Leaf orientation	spreading horizontally	spreading, recurved
length	15–22 cm	34–40 cm
width	c. 3 cm	1.6–2.5 cm
thickness	c. 6 mm	2.5–3 mm
Inflorescence length	to 50 cm	to 50 cm
no. of branches	to 15	to 17
length of lower branches	to 8 cm	to 25 cm
secondary branches	none	on 3–4 lower branches of larger inflorescences

distinct species, with significant differences between them (Table 1). Their ranges of leaf length do not overlap, as would be implied by the protologue of *S. bagamoyensis*. After recognition that the upper two leaves on the type specimen are immature, it is necessary to amend the description of *S. bagamoyensis* slightly to correct the statement of mature leaf length. This should now read as follows: Leaves 34–40 cm long, 1.6–2.5 cm wide.

It seems that Jankalski, who is known for his (admirable) meticulous attention to details in protologues, was misled by Brown's failure to realise that the two upper leaves on the type specimen of *S. bagamoyensis* are immature. Mature leaves are always longer than those of *S. arborescens*. Consequently the choice of *Sacleux* 672 as neotype for *S. arborescens* was an error, and can be superseded under Article 9.17(b) of the International Code of Botanical Nomenclature. Accordingly, a specimen closely matching the protologue is now designated as neotype for the name *S. arborescens*.

Sansevieria arborescens G r me & Labroy, *Bull. Mus. d'Hist. Nat.*, Paris 9: 170, 172–173 (1903). **Neotype (here designated):** KENYA, Coast Province, 36 km south of Malindi, edge of Aruboko Sokoke Forest, 8 August 2004, *Ngwiri sub Newton* 5884 (EA).

Sansevieria bagamoyensis N. E. Brown, *Bull. Misc. Inform., Kew* 1913: 306 (1913). TANZANIA, near Bagamoyo, *Sacleux* 672 (P, holotype); c. 7 km west of Bagamoyo Ferry (Bridge) on road to Msata, 6°27'S, 38°46'E, shrubby, in large clumps, to 3 m tall, July 2004, *Wabuye* s.n. sub *Newton* 5880 (cult.); c. 50 km west of Bagamoyo, 6°21'S, 38°26.8'E, 194 m alt., in dense shade in a thicket of trees and shrubs, 26 December 2011, *Newton & Webb* 6139 (cult.); c. 5 km off Dar es Salaam to Bagamoyo road, 6°32'S, 39°05'E, July 2004,

Wabuye s.n. sub *Newton* 5881 (cult.), 26 December 2011, *Newton & Webb* 6140 (cult.). Voucher specimens of the plants in cultivation will be prepared after flowering and deposited in the National Herbarium of Tanzania, Arusha (NHT).

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Identification key for caulescent species of *Sansevieria*

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|--|------------------------|
| 1. Inflorescence simple..... | <i>S. caulescens</i> |
| Inflorescence branched | 2 |
| 2. Leaves mostly strictly distichous..... | <i>S. powellii</i> |
| Leaves always spirally arranged..... | 3 |
| 3. Leaves < 25 cm long..... | <i>S. arborescens</i> |
| Leaves > 30 cm long | 4 |
| 4. Leaves at least 17 mm thick..... | <i>S. powysii</i> |
| Leaves < 17 mm thick | 5 |
| 5. Inflorescence branches ascending..... | <i>S. ascendens</i> |
| Inflorescence branches spreading | 6 |
| 6. Leaves 40–45 cm long, 3.0–3.5 cm wide | <i>S. dumetescens</i> |
| Leaves 34–40 cm long, 1.5–2.5 cm wide | <i>S. bagamoyensis</i> |