

Flowering *Dracaena sambiranensis* in the Zurich Collection of Succulents / Switzerland

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Abstract

Until recently the extremely rare and disputed *Sansevieria sambiranensis* was considered to be extinct in the wild. It is hard even to find cultivated plants. There is hardly a botanical garden in Europe where it is still kept. However, a plant cultivated for many years in the Sukkulenten-Sammlung Zürich (Zurich succulent plant collection) flowered now for the first time. This article is about this event and about more recent findings of the species which is now re-combined as *Dracaena sambiranensis*. The article describes historic and morphological peculiarities.

Introduction

Between 1892 and 1933 Henry Perrier, a French botanist (1873-1958) whose full name was Joseph Marie Henry Alfred Perrier de la Bâthie, collected plants for many botanical gardens on the island of Madagascar in the Indian Ocean in front of the East coast of Mozambique. This is the reason why he acquired the reputation of being the leading expert for this island's flora. Because of a special geological structure and the fact that it is an island Madagascar has many animals and plants that can be found nowhere else on earth. (Mansfeld 2014)

In May 1909 Perrier found on Madagascar east of Ambanja in the Sambirano basin at the foot of the Manongarivo Massif a to that date undescribed plant with 4-5 brightly carmine red, very dense inflorescences on a short stem appearing directly from the rhizome and remaining open also in daylight. In 1935, that is 26 years later, Perrier described the unknown plant and named it *Sansevieria sambiranensis* H. Perrier. (Perrier 1935, 1938) Although Perrier himself stated that he had gathered plants of this species several times in shady, moist locations at the foot of the Manongarivo Massif and also on the mountains Galoko and Kalabenono in the Sambirano Basin they were hardly found in any collections later on. (Rauh 1998) For many years it was even believed that the plant had become extinct. This was attributed mainly to the extending agricultural land use in their natural habitat. In July 1987-78 after its discovery by Perrier Peter B. Phillipson (# 2023 [MO]) found a flowering plant in the western part 10 km south of Ankaramibe at an altitude of 1000 m. This is also where the only photographs of these flowers were taken. In June 1998 Laurent Gautier, N. Messmer and Sebastian Wohlhauser (# 3299, [G, P]) found another flowering plant 10 km south of Ambanja at an altitude of approximately 650 m. On 31/03/2019 Anton Sieder found another population near Ambanja at sea-level on a rock in bright sunshine (Fig. 2–4). (Mansfeld & Weiss 2019)

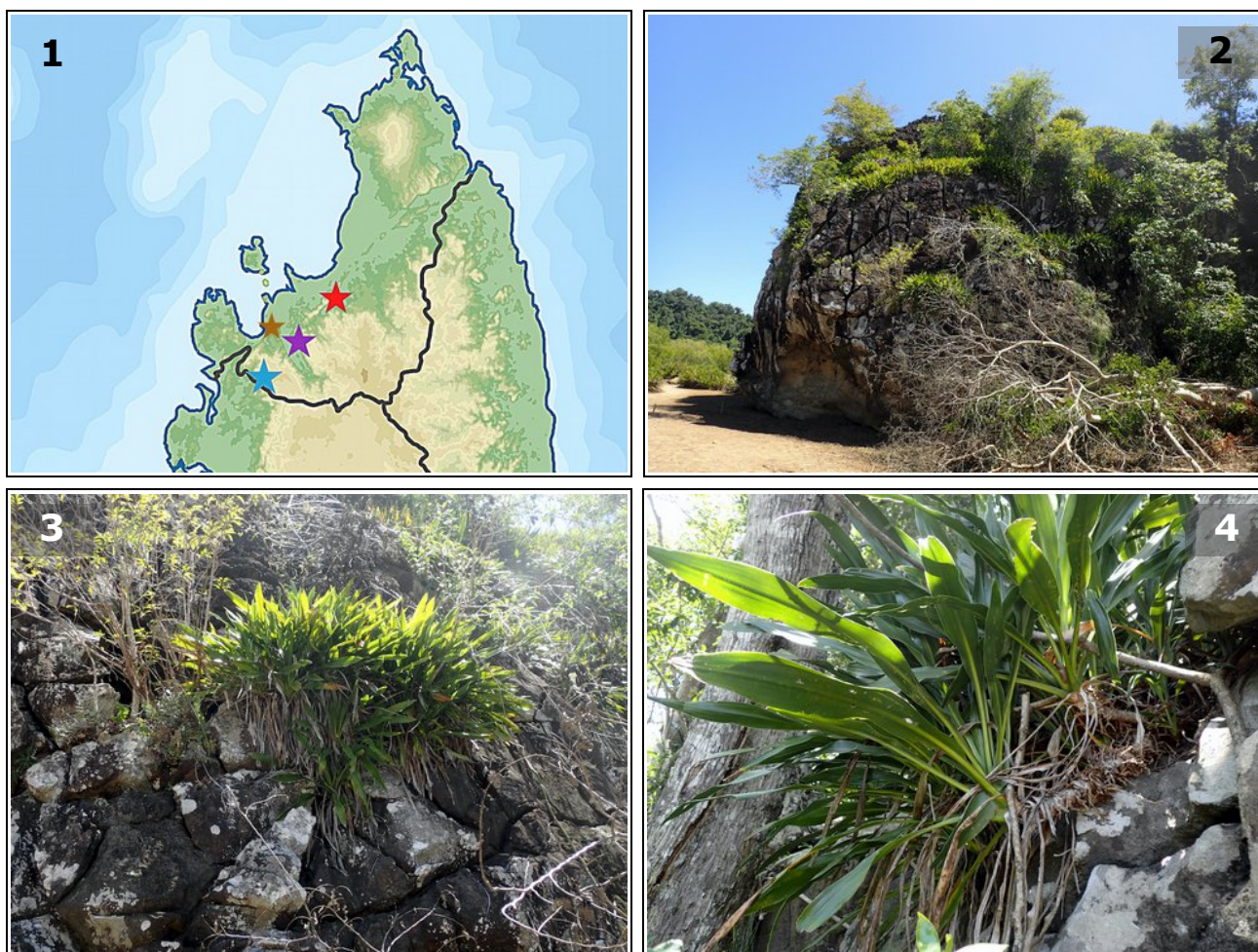


Fig. 1 – Locations of *Sansevieria sambiranensis* - **Red** = Perrier (1909) (Typus); **Blue** = Phillipson (1987); **Purple** = Gautier, Messmer, Wohlhauser (1989); **Brown** = Anton Sieder (2019)

Fig. 2-4 – Most recently (31/03/2019) found location near Ambanja on a rock in bright sunshine (Photographs: Anton Sieder)

Material and Methods

With exception of individual plants in very few private collections *Dracaena sambiranensis* (the new name for *Sansevieria sambiranensis*) can be found only very rarely in botanical gardens. In Europe I know only of the gardens in Paris, France, and in Meise, Belgium, to have them. In Germany an adult plant was discovered in 2018 in the botanical gardens of Friedrich-Wilhelm university in Bonn at the river Rhein after six years of searching. The plant was not in optimum condition. It had come to Bonn from the Meise botanical garden in Belgium only in 2014 through an exchange programme (**Fig. 5**). Its condition has much improved since the plant was removed from the pot and planted in the ground in the greenhouse. In 2013 a juvenile plant was discovered in Zurich in the collection of succulent plants. (**Fig. 6**) *Dracaena sambiranensis* requires conditions for cultivation that are totally different from those required by *Sansevieria*. Its most fundamental needs are light shade with moderately changing temperatures between 18 °C and 30 °C with a relatively constant, high air humidity. In addition to this, the water used for watering should be as soft and free from lime as possible. Since *Dracaena sambiranensis* is hardly or not at all able to store water it is better to water it regularly.



Fig. 5 – *Dracaena sambiranensis* - The only plant in Germany to be found in the botanical gardens of Bonn university. It came to Bonn only in 2014 from the Meise botanical garden in Belgium through an exchange programme. (Photograph: Jörg Weiß)

Fig. 6 – *Dracaena sambiranensis* Juvenile plant in 2013 in the Zurich succulent plant collection.

Fig. 7 – the same plant as in Fig. 7 in the greenhouse in November 2021. (Photograph: Johann Kammerhofer)

Fig. 8 – *Dracaena sambiranensis* (adult cultivated plant) (Photograph: Johann Kammerhofer)

Results

After eight years of obviously optimum care the team at the Zurich succulent plant collection achieved something that has never before been achieved in the European moderate climate as far as I know. In late October, early November 2021 an adult plant of *Dracaena sambiranensis* from Madagascar flowered for the first time. The inflorescence is approximately 2 - 8 cm high, monochlamydeous, capitate and it grows directly out of the rhizome. Other than in *Sansevieria* the perianth is of a beautiful carmine red (**Fig. 8**). The flowers are arranged very densely; bracts show a lovely pink carmine. The stamens are slightly shorter than the perianth; the inner stamens are a bit longer than the outer ones (**Fig. 9**). (Budweg 2018)



Fig. 9 – *Dracaena sambiranensis*
Adult cultivated plant in the Zurich succulent plant collection.
(Photograph: Johann Kammerhofer)

Discussion

Already the first description of *Sansevieria sambiranensis* shows that the species has major morphological differences compared with all known *Sansevieria* and that the obviously monopodial

lateral inflorescence of this species does not belong with the genus of *Sansevieria*. (Jankalski 2009) A recent phylogenetic examination also showed that *S. sambiranensis* is much closer related with *Dracaena*. (Lu & Morden 2014), (Mansfeld 2021) Another morphological examination of the pollen of various *Sansevieria* species showed that the distal pollen surface of *S. sambiranensis* is covered with warts (verrucose exines) and thus differs obviously from other species of the genus. (Klimko et al. 2017) The recent synonymization of *Sansevieria* with *Dracaena* (Byng & Christenhusz 2018) creates lots of questions and I don't think it is entirely justified. I'm fully in favour of the re-combination of *Sansevieria sambiranensis*, however, in particular since recent investigations showed that also the microanatomy of *S. sambiranensis* is considerably different from that of other *Sansevieria*. (Mansfeld & Weiss 2019)

Acknowledgements

Although it was hardly noticed by the public the flowering of such a rare and disputed plant in the succulent plant collection in the urban greenhouses in Zurich is quite an impressive event. It is an expression of greatest competence in gardening and I thank the entire Zurich team on behalf of our editing board and our worldwide readership. Let the names of Urs Eggli, Balz Schneider and Johann Kammerhofer stand for all the team. The latter provided the wonderful images of the blossom. My thanks also go to Anton Sieder and Jörg Weiss for supplying their photographs. Thanks to Regina Baumert for translating this article into English.

References

- BUDWEG, H.-G. (2018): *Aus historischen Erstbeschreibungen (2)* in: *Sansevieria Online*, vol.6 (2) 38-43.
- BYNG, J.W. & CHRISTENHUSZ, J.M.M. (2018): *Asparagaceae*. in: Christenhusz, J.M.M., Fay, F.M. & Byng, J.W. (ed.) *The Global Flora. A practical flora to vascular plant species of the world. Special Edition. GLOVAP Nomenclature 1 (4)*, Gateway Ltd., Bradford, p. 64–67.
- JANKALSKI, ST. (2009): *The Sansevieria Inflorescence and New Sections Proposed*. in: *Sansevieria*. 19, p. 8–10.
- KLIMKO, M., NOWINSKA, R., WILKIN, P., WILAND-SZYMANSKA, J. (2017): *Pollen Morphology of Some Species of the Genus Sansevieria Petagna (Asparagaceae)*. in: *Acta Biologica Cracoviensia Series Botanica* 59, no. 2, p. 63–75.
- LU, P.-L. & MORDEN, C. W. (2014): *Phylogenetic Relationships among Dracaenoid Genera (Asparagaceae: Nolinoideae) Inferred from Chloroplast DNA Loci*. in: *Systematic Botany*, vol. 39, number 1, p. 90-104.
- MANSFELD, P. A. (2014): *Madagaskar und seine Sansevierien*. in: *Sansevieria Online*, vol. 2 (1) 32-37.
- MANSFELD, P. A. (2021): *The genus Sansevieria (Asparagaceae): An Update*. in: *Sansevieria Online*, vol. 8 (1) A2.
- MANSFELD, P. A. & WEISS, J. (2019): *Dracaena sambiranensis (H.Perrier) Byng & Christenh.* - ein neuer Name für eine fast vergessene Art. In: *Sansevieria Online*, vol. 7 (1) 36-45.
- PERRIER DE LA BATHIE, H. (1935): *Sansevieria sambiranensis sp. nov.*, In: *Not. Syst. V-2 (Paris)* 5, p. 154.
- PERRIER DE LA BATHIE, H. (1938): *Sansevieria Thunb.* in: H. Humbert (ed), *Flore de Madagascar (Plantes Vasculaires) - 40° Famille - Liliacees*, p. 15–17.
- RAUH, W. (1998): *Succulent and Xerophytic Plants of Madagascar*, vol. 2, Strawberry Press.
- SCHRÖDER, C. N. & MANSFELD, P. A. (2013): *Die Sansevieria-Aufsammlungen von Werner Rauh*. in: *Sansevieria Online*, vol. 1(1) 13–24.