



The Brandberg Lithops and its nearest neighbours

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For field researchers of plants, it is the most remote places hosting elusive species that have always attracted special attention. Of course, the finding of any lithops population in nature is an adventure but there are probably few truly magical places that are difficult to access. One example, however, is the Brandberg Lithops. The history of this taxon is documented here based on literature and letters to and from former Lithoparians, with illustrative photographs.

The Brandberg (or Brandberg Massif) is located in the Erongo Region, in the north-western Namib Desert, some 70 kilometres from the Atlantic coast, and covers an area of more than 500 square kilometres (Figure 1–2). It is basically a mountain with the highest point, the Königstein ('King's Stone'), standing at 2,573 metres. Other major peaks are Aigub, Numas, and the Burfeindthorn. The name of the mountain is most likely derived from Daureb ('Burning Mountain') used by the indigenous Damara people. The Herero people call it Omukuruwaro, or 'Mountain of the Gods' (Viereck, 1968). The latest botanical inventory provided by Craven & Craven (2000) lists almost 490 different plants known to occur on the Brandberg (see also Nordenstam 1974). The upper Brandberg was considered by Irish (1994) to form a unique feature in southern Africa; it is a high-altitude Savanna Biome outlier.

It was 4 June 1955 when a group of scientists started out from Windhoek on their first Brandberg expedition, arriving the next day at the foot of the mountain (Lempp 1956). With the financial support of the Scientific Society of South-West Africa and preliminary explorations by airplane, Karl Ferdinand Lempp (1913–1986), a German farmer, teacher, editor, and publisher in South West Africa and the Federal Republic of Germany, had already investigated the Brandberg in 1953 and 1954. He led the 1955 scientific expedition to the Brandberg.

Lempp was accompanied by Heinrich Roth (1913–2007, farmer and photographer), Albert Viereck (1907–1982, farmer and prehistorian), Hans-Joachim Wiss (1903–1991, Windhoek farmer and naturalist), Mr Kunert (no details known), and finally by Jalmar Rudner (1917–2003, Swedish archaeologist), an invited guest of the expedition (Figure 3). Eight Bergdama porters



Figure 1: Brandberg, the burning mountain, seen from Uis, February 2024



Figure 2: Brandberg, seen from south-west with *Welwitschia mirabilis* in the foreground, February 2024

supported the scientific team (Lempp 1956; Wiss 1956). It should be added that botanist Harry Hall happened to be in Windhoek at the time but declined an invitation to join the expedition owing to his time constraints (Hall, 1956). The very exhausting expedition ended on





Figure 3: Main camp in the upper Brandberg, June 1955, 1900 m altitude, in the background a *Cyphostemma cramerianum (currorii)*. People from left to right: Viereck, Wiss, Kunert, Lempp, Rudner. Source: Namibia Scientific Society

26 June; the fourteen mountaineers had been climbing the Brandberg massif for 21 days.

There is no record of exactly when archaeologist Rudner found a lithops deep in the high mountain valleys. It must have happened in the latter half of June 1955, and by pure coincidence. According to Cole (1986), Rudner was concentrating on studying the ground while searching for prehistoric artefacts. Rudner had immigrated to South Africa from Sweden in 1949. He worked as a town planner for the City of Cape Town and, through his work on San paintings, was appointed honorary archaeologist at the South African Museum in 1956. In the 1950s and 1960s Rudner and his wife Ione had spent their time recording San rock paintings across southern Africa, as far north as northern Angola and Zimbabwe (Figure 4; Jainta, 2017).

Wiss (1956) – the only botanist in the team – reported several succulents including likely the same lithops



Figure 4: Jalmar Rudner during a Brandberg Expedition in 1969. Source: private archive of Ione Rudner, provided by Janette Deacon

found ‘below the Aigub peak’. Lempp (1956) referred to ‘Hochbrandberg’ (upper Brandberg) and 2,350 m above sea level as the lithops’ habitat. It must have taken some time before more lithops were found in ‘fine gravel’, ‘but then we found them in quantities’. The well-known lithops collector Wilhelm Triebner (1883–1957) had been on top of the Brandberg massif three times before the 1955 expedition (first in 1928) without ever finding any lithops (letter from Triebner to Schwantes of 7 March 1957; Viereck 1968).

Triebner reported that large numbers of plants were taken by several members of the 1955 expedition (letter from Triebner to Schwantes, 21 June 1956). Rudner collected at least two specimens; one went to Kirstenbosch and the other to Bernard Carp. Carp (1908–1966) – a Cape Town-based businessman and collector of biological specimens – subsequently gave his to Gustav Schwantes (Ione Rudner, pers. comm.). Wiss also took plants from habitat and some of them were forwarded to another botanist, Johan Wilhelm (Willy) Heinrich Giess (1910–2000; letter from Giess to Schwantes of 8 July 1956). Giess shared half of the 54 specimens he received with Triebner. Other plants collected by Wiss came to Stellenbosch’s Dr Adolar Gottlieb Julius (Hans) Herre (1895–1979). Further collections also made their way to Schwantes (via Herre), and also to Harriet Margaret Louisa Bolus (1877–1970; Cape Town), Dr Arthur Tischer (1895–2000; Heidelberg), and Harry Hall (1906–1986; Kirstenbosch; letter from Triebner to Schwantes of 23 April 1956). All these recipients were lithops authors who were surely eager to describe the new find. Although he hadn’t been an expedition member, Hall is given as source for the holotype of the Brandberg Lithops in the Bolus Herbarium (Figure 5). Finally, Dr Hindrik Wijbrand de Boer (1885–1970) received ‘adult specimens, bred from the original plants found by Mr Rudner’ (de Boer 1963) without any explicit description of the specific source. It was almost certainly Rudner himself who provided de Boer with either plants or seeds.

During the years following 1955 many botanists visited the Brandberg massif but no one reported seeing the lithops there again. However, in or around 1973 an unknown German mountaineer apparently came across the Brandberg Lithops, but no further details of this find are known (Cole, 1986).

Only 31 years after its discovery did Cole visit the Brandberg Lithops *in situ* on 14 May 1986 (Cole 1986). The Coles took an entirely different route; they were taken to the site by helicopter. Cole’s rediscovery in 1986 (Cole 1986; 2002; Cole N.A. 1988; 2007; Cole & Cole 2012a–b) was made possible by written information about the exact locality and advice that Rudner shared with Cole. Furthermore, Joe (J.J.D.) Walter – a former Namibian surveyor and Brandberg expert – provided maps and additional insights. He had climbed the Brandberg more than 70 times without having seen any lithops there; but a ‘German friend’ of Walter had seen them in 1973. Unfortunately, Walter cannot remember any details of that find or any other findings and his German friend has meanwhile died (Walter, pers. comm.). Finally, Joe Lawson – the helicopter pilot – should be mentioned here because he found the first plant during Cole’s visit in 1986. They touched down to discover forty plants inhabiting a patch only 6x10 metres (collecting number C383). The next day they tried



Figure 5: Botanical illustration of *Lithops gracilidelinata* ssp. *brandbergensis* (de Boer) D.T. Cole. Drawn from a collection made at Brandberg by H. Hall (sub-National Botanical Garden 880/55), 1955. Source: Bolus Herbarium, University of Cape Town

in vain to find a second colony. The Coles list this second unseen population as C394 (see [Cole 1986](#)) and this is possibly also the colony reported by Joe Walter or his German friend as being approximately two kilometres away from C383.

In 2003, and 17 years after the Coles had landed among the lithops, another expedition to the top of the Königstein was arranged, primarily to seek out *Plumbago wissii*, a violet flowering shrub discovered by Wiss on the Brandberg during the 1955 expedition ([van Jaarsveld & Voigt 2004](#)). The joint South African and Namibian team of 13 was headed by Ernst van Jaarsveld and Werner Voigt. They set off on 30 March and within a week climbed to Königstein and back. It was Kirstenbosch scientist Adam Harrower who ‘badly wanted to see the Brandberg beeskloof *Lithops gracilidelinata* subsp. *Brandbergensis*’ ([van Jaarsveld & Voigt 2004](#)). After two days’ hiking they were approaching Königstein when they located a gravel patch harbouring the Brandberg Lithops. I am pleased to be able to present some pictures supplied by members of the 2003 expedition ([Figure 6](#)).

The presumably fifth and most recently reported sighting of the plants was recorded from 2019 ([Earle 2020](#)). A group of five lithoparians finally obtained a permit for another helicopter flight, which took place on 29 April 2019, some 69 years after Rudner’s initial

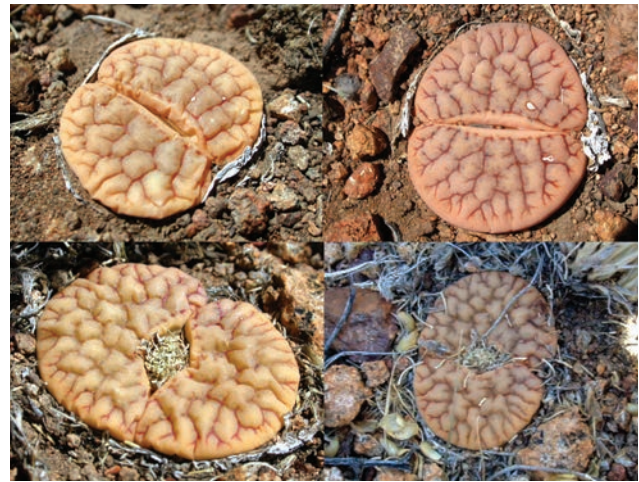


Figure 6: *L. gracilidelinata* ssp. *brandbergensis* in habitat (C383), April 2003. Source: Adam Harrower and Werner Voigt

discovery. According to Ronnie Uijs (pers. comm.), he, Roy Earle, Hilde and Frikkie Mouton, Marc Mougín, and a representative from the Namibian National Heritage Council were able to study the locality for a few hours. They had directions, and photographs from Harrower, and Uijs found the first of a total of 38 plants they recorded for C383 ([Figure 7–8](#)). A search for more plants in the surroundings failed.

Because of the sensitivity of the upper Brandberg and the current strict access regulations, another lithops expedition is unlikely to that area in the near future (see [Kinahan, 2000](#)). Referring to the Coles’ 1986 trip, [Craven & Craven \(2000\)](#) commented that, ‘One helicopter landed to collect *Lithops* and this poses a possible threat to endangered species’. Indeed, there is no known record of how many plants the Coles took in order to study the authentic material in their Swakaroo collection. The desire to see the plants in nature is evidently still there, however. ‘There is nothing like a helicopter ride to see some *Lithops* on a mountain’, as [Earle \(2020\)](#) put it.

Triebner was surely surprised by Rudner’s 1955 discovery and encouraged Schwantes to describe the plant as a new species before other botanists did. Schwantes was reluctant to do so due to similarities with *L. dendritica* and in a letter to Giess dated 11 September



Figure 7: *L. gracilidelinata* ssp. *brandbergensis* in habitat (C383), April 2019. Source: Ronald Uijs



Figure 8: Landing site of the helicopter of the 2019 expedition near the locality of *L. gracilidelineata* ssp. *brandbergensis* (C383), April 2019. Source: Ronald Uijs

1956, he named the plants (taxonomically invalidly) as '*L. dendritica* pop. *Brandbergensis*' or '*Lithops dendritica* *Nel population brandbergensis* Schwantes' (Wiss 1956). Most likely Schwantes was no longer keen to differentiate local forms of otherwise morphologically similar taxa (see Jainta 2024). The perceived closeness to *L. dendritica* may be based on *dendritica* plants Schwantes had received from Triebner at the same time. The find from 1955 definitely came too late for Schwantes' monumental work published in 1957 since the taxon is not mentioned therein.

Hendrik de Boer (1963), however, did not side with Schwantes and established *L. pseudotruncatella* var. *brandbergensis* based on comparisons of the Brandberg Lithops with *L. pseudotruncatella* and *dendritica*. To be fair, neither Schwantes nor de Boer ever encountered lithops in habitat and all the descriptions they made were based on imported or cultivated plants. Furthermore, the material from 1955 was the only source for taxonomic investigations for decades and it is at least theoretically possible the plants were subject to hybridisation as well as in-breeding.

Ten years later Cole (1973) confirmed de Boer's taxonomical placement of the Brandberg Lithops but added that it, 'is almost certainly a variety of *L. gracilidelineata* ... not of *L. pseudotruncatella* ... but pending further research no change is proposed'. Even following Cole's site visit in 1986 the plant remained listed as *L. pseudotruncatella* var. *brandbergensis* until 1987, when Cole added: 'Whether this taxon is more appropriately classified as a variety of *L. pseudotruncatella* or of *L. gracilidelineata* remains yet to be determined' (Cole 1987).

Supplemented with a note of it's being a 'somewhat preliminary and not entirely complete' description, Cole (1988) classified the taxon as *L. gracilidelineata* ssp. *brandbergensis*. Eventually this positioning was verified in 2005, when Cole wrote that: 'Study of authentic material collected in May 1986 has confirmed this impression, while examination of the seed leaves no doubt that it belongs in *L. gracilidelineata*. In view of its very distinctive colour and bold rubrications, and its unique ecological situation (see Cole 1986), we consider that it should be accorded subspecific status' (Cole & Cole, 2005).

The type locality on top of the Brandberg massif, C383, is situated approximately 2,335 metres above sea level, hence it is the highest lithops locality recorded so far. The second highest is likely *L. pseudotruncatella* syn. *alpina*, on top of the Ruschberg, south of Windhoek, at some 2,200 metres high (J610). The other upper Brandberg Lithops, C394, is the closest lithops population to the type location and is likely the colony the unknown German mountaineer saw in 1973 (see above). Although a C number has been assigned for C394, the Coles never visited this population. The same is true for the second closest lithops spot, C367 (*L. gracilidelineata*, 150km NW Usakos; see Cole & Cole 2011). Craven & Craven (2000) mention *L. gracilidelineata* from the base of the mountain referencing Cole (1988) and this population could be C367, which must be located some 30km north-east of the type locality of *L. brandbergensis*. It remains unknown who actually supplied the Coles with plants or seeds of C394 and C367, both of which are still propagated since respective seeds are available. Cole also writes about a colony of *L. gracilidelineata* 'on the lower slopes of the mountains, about a third of the way up on the SE side' (Cole & Cole, 2005); however, no Cole number is mentioned and it is unclear whether this is C367 or another distinct colony. Remarkably, the plants on the slopes or at the base of the Brandberg are considered to be *L. gracilidelineata* and not the subspecies *L. brandbergensis*.

My wife and I certainly have no chance of flying to the top of the Brandberg by helicopter owing to permit and financial constraints. However, we believe there is no need for such an undertaking. A local guide from Uis told us of lithops growing just beside the Brandberg massif. In December 2013 we took the opportunity to inspect the small colony J239 just a few kilometres south-east of the Brandberg slopes, on the plains and 15km south-east of the type locality of *L. brandbergensis* (Figure 9–10). We could find only five specimens, survivors of what was formerly a bigger population as indicated by the typical holes left by removed plants. After two additional visits it was eventually in February 2024 that the plants were in the best condition for a comparison with C383.

The plants at J239 somehow display the reddish opaque-beige and the pronounced dark rubrications which are the major distinguishing attributes of *brandbergensis* C383. We therefore decided to call these *L. gracilidelineata* aff. *brandbergensis*.

Brandbergensis displays the same delicate lines and channels along the leaves' outer margins that are seen in typical var. *gracilidelineata* or *waldroniae*. The majority of the plants are single-headers with a beautifully symmetric appearance. Another major difference noted by the Coles is that *brandbergensis* grows in brown



Figure 9: *L. gracilidelineata* aff. *brandbergensis* (J239) in habitat, February 2024, 20km W of Uis



Figure 11: *L. gracilidelineata* (J515) in habitat, April 2022, 95km ESE of Swakopmund, 215km SSE Brandberg



Figure 10: Near the habitat of *L. gracilidelineata* aff. *brandbergensis* (J239), February 2024, 20km W of Uis, SE of Brandberg



Figure 12: *L. gracilidelineata* syn. *streyi* (J240) in habitat, December 2013, 25km SE of Fransfontein, 115km NE Brandberg

gravel, not in white quartzite (Cole & Cole, 2012b). It can only be speculated that the reddish substrate has contributed in some adaptive way to the special colouration of the Brandberg Lithops. We have seen the same sort of morphological adaptation to red substrates in other species such as *L. karasmontana*. Lithops also vary in fruit and seed size since their morphology is influenced by nutrition or local conditions (Hammer, pers. comm.) and such variation in capsule size of C383 was noted by Earle (2020) who comments, 'large seed capsules (7-9 merous) were seen in habitat while these sized capsules are much less common in cultivation'. It should be added that morphological differences within 'typical' *L. gracilidelineata* (Figure 11, see Jainta 2024) and especially comparing the syn. *streyi* (Figure 12) often appear greater than differences between ssp. *gracilidelineata* and ssp. *brandbergensis*. For us, all forms, subspecies, or varieties belong to the same variable swarm of *L. gracilidelineata*.

Schwantes, who believed *brandbergensis* to be a form of *L. dendritica*, was most likely influenced by the red dendritic lines which are especially vibrant in cultivated material and which are also seen in the wild when the plants are in a turgid state following rains (Figure 13). However, the distribution range



Figure 13: *L. dendritica* (J632) in habitat, February 2024, 75km SW of Rehoboth, 360km SE Brandberg

of *dendritica* starts some 300 kilometres away from the Brandberg. De Boer's linkage to *pseudotruncatella* appears even more obscure since the morphology of the closest population (250km SE of Brandberg) is



Figure 14: *L. pseudotruncatella* (J365) in habitat, April 2018, 105km WSW of Windhoek, 250km SE Brandberg

completely different (Figure 14). The same is true for the unrelated *L. ruschiorum* which grows 75 kilometres SW and SSE of the Brandberg. In any case, the area on and around the Brandberg remains a valuable area for more extensive field research.

Acknowledgement

I wish to thank Mrs Maike Manske of the Schleswig-Holsteinische Landesbibliothek Kiel for kindly allowing me to use manuscripts from the archive. Some photographs were reproduced from external sources as indicated and with the permission of the photographer. No plant material was collected and no unpublished details about the sites have been shared. I thank Catherine Arthur for reviewing the manuscript.

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