

# Rediscovery at the type locality and reinstatement of *Euphorbia baliola* N.E.Br., a Namibian endemic

Rolf W. Becker & Alma Möller



Fig. 1: *Euphorbia avasmontana* in the Great Karas Mountains, Namibia

*Euphorbia baliola* N.E.Br. was rediscovered at its type locality, 107 years after Pearson collected it in the Great Karas Mountains in Namibia. The plants at this locality closely fit the original description by N. E. Brown in 1915. We argue that there was insufficient evidence presented to reduce *E. baliola* to synonymy with *E. crassipes* Marloth and therefore *E. baliola* is reinstated as a valid taxon.

## The Journey

In April 2006 we traveled through the Great Karas Mountains during one of our very early, and the first for Namibia, “*Euphorbia* hunting” field trips. Based in Karasburg and after spending a few days in the Warmbad and Orange River area we headed north along the rural D201 which took us through the heart of the mountain range and treated us to some spectacular scenery, beautifully endowed after plentiful rains.

During this trip, we acquainted ourselves with the magnificent *Euphorbia avasmontana* Dinter, which grows in abundance on the sparsely vegetated slopes, as well as the enigmatic *E. cibdela* N.E.Br., occasionally found in the reserve of the winding gravel road and it was not long before we passed a modest sign indicating the entrance to the farm Naruda-Süd. This name was familiar to us, having read about *E. baliola* in White et al. (1941) and we knew that somewhere out there, in the unforgiving terrain, these beautiful dwarf medusoid succulents had been found. Considering the reported size of *E. baliola*, and looking up at the steep mountain slopes and imposing cliff faces, we realised that it would be extremely difficult to find these plants in the intimidating and rugged terrain. We did not try to look for them on that day, but a driving ambition to locate *E. baliola* had been awakened. At that stage, we did not think that it would take thirteen years for this dream to be realised.





Fig. 2: *Euphorbia cibdela* growing in abundance on the slopes of the Great Karas Mountains

In February 2016 I took up the position of Dean of the Faculty of Natural Resources and Spatial Sciences at the Namibia University of Science and Technology

and we relocated from South Africa to Namibia. Living and working in Windhoek, the capital, we were now only 550 km from the Great Karas Mountains. Nev-



Fig. 3: *Euphorbia avasmontana*, with *Euphorbia lignosa* in the foreground and *Cynanchum viminale* (formerly *Sarcostemma viminale*) at the back on the right





Fig. 4: *Aloidendron dichotomum* (formerly *Aloe dichotoma*), commonly known as the Quiver Tree, dots the landscape of the foothills of the Great Karas Mountains.

ertheless, it took another three years before we could make our way to this mountain range to look for the elusive *E. baliola*. During this time we researched the route of the Percy Sladen Memorial Expedition, during which our target plant was found. In the process, we encountered several red herrings that led us astray and complicated our task. The first was courtesy of White et al. (1941). On page 420, they wrote, “This unique little dwarf was discovered by Pearson on the Percy Sladen Memorial Expedition to Great Namaqualand in 1908-09. A single specimen was found, concealed amongst stones at about 5200 feet (1600 m) elevation in the Great Karas Berg range, on the slopes between Naruda Süd and Krai Kluft.”

When reading up on that expedition, we noted that Pearson and his colleagues had traveled from south to north and had made their way from Cape Town to Angola. We could not figure out why they would travel through the difficult mountainous terrain of the Great Karas Mountains if bypassing the mountain range to the west was much easier and faster, considering the

ultimate goal of the expedition. Furthermore, the map accompanying the account (Pearson, 1910) also indicated that they by-passed the Great Karas Mountains. We were confused and decided on another approach.

With the aid of google earth and Tracks4Africa® we tried to plot a route from Naruda Süd to Krai Kluft that could have carried ox-wagon traffic in those days. Given the topography of the terrain it was not easy to envisage where they could have travelled, but some possible routes emerged. Nevertheless, the target area was still too large and not accurate enough to make a realistic attempt to locate the plants at the type locality with a reasonable degree of success. As a result, we parked the project and concentrated on other things. *E. baliola* remained an enigma.

Towards the middle of 2018, we revisited the possibility of tracking down *E. baliola*. We were putting together our itinerary to visit the region for another project that entails collecting lacewings and thought it may be appropriate to look for *E. baliola* while in the region. When studying all the material anew, we noticed something we had completely overlooked before. The heading of the label on the herbarium sheet of *E. baliola*, depicted in White et al. (1941), i.e. Fig. 423 on page 418, reads “Percy Sladen Memorial Expedition to the Great Karasberg, 1912-1913”. Note, 1912-13!!! Perhaps we had been looking for information from the wrong expedition all along. We then downloaded the sheets of *E. baliola* that are accessible on JSTOR. Interestingly, the sheet kept at Kew, designated “Type!” by N. E. Brown has a label that reads “Percy Sladen Memorial Expedition in South West Africa, 1908-1909”, but careful scrutiny revealed that “08” and “09” had a thin line drawn through them, probably indicating that they should be crossed out because they are the wrong years for the expedition during which *E. baliola* was collected. Just below the caption is the hand written date “26.12.12” which clearly indicates the date of collection. The latter assumption is confirmed by the two sheets retrieved from JSTOR that are housed at the Bolus Herbarium in Cape Town which are labeled “Percy Sladen Memorial Expedition to the Great Karasberg, 1912-1913” with the same collection date (26.12.12). Interestingly, one of the sheets has the designation “Type Specimen”.

So, armed with fresh ammunition we started searching for information on the “Percy Sladen Memorial Expedition to the Great Karasberg, 1912-1913”, and low-and behold the first hit on google led us to a paper by Methuen, published in the Annals of the Transvaal Museum in December 1913, entitled “The Percy

Sladen Memorial Expedition to Great Namaqualand, 1912-1913". In that paper Methuen, a Zoologist, who was invited by Pearson to join the expedition, gave a detailed description of the route that was followed from Cape Town by boat to Lüderitz, then by train to Holoog, followed by oxen wagon to the military station at Naruda Süd. Here the the group stayed for two weeks before they retraced their steps to Lüderitz.

Through this description of the route by Methuen, another anomaly recorded in the treatment by White et al. (1941) was solved. They stated that "..... (*E. baliola*) was found, concealed amongst stones at about 1600 m elevation in the Great Karas Berge range, on the slopes between Naruda Süd and Krai Kluff". This is technically correct, but does give the impression that the travel occurred from Naruda Süd to Krai Kluff, whereas the labels on the herbarium sheets read "Great Karasberg, slopes between 1<sup>st</sup> and 2<sup>nd</sup> outspan between Krai Kluff and Naruda Süd, among stones, suggesting the opposite. This corroborated information now narrowed the area where Pearson found *E. baliola* to a stretch of track no longer than 3-5 km, some 15 km

west of the D201. We were confident that we could find the plants!

It was thus with great excitement that we embarked on the final stage of this adventure – to actually search for *E. baliola* at its type locality. So, on 8 January 2019, we made our way along the D201 again, this time in nervous anticipation. We arrived at the junction where the track into the heart of the mountain meets the D201 and approached the gate. It was locked with a thick chain and huge, imposing safety lock! Fortunately, we were able to locate the farmer at his residence nearby and after explaining our mission he generously unlocked the gate and allowed us free entry onto his farm. We anxiously made our way along the rugged track to the area where we had calculated the type locality to be and then quite easily found the population, right next to the track! What a delightful anti-climax, after having prepared ourselves for an extensive and difficult search, there they were – *Euphorbia baliola* – in all their glory! A healthy population and they were flowering after some sparse summer rain a few weeks earlier. Beautiful, amazing, stunning! What a sensational feeling of joy,



Fig. 5: Satellite image of the Great Karasberg Mountain Range, bordered by the B1 on the west and the C11 on the right. The range covers an area of  $\pm 100$  km (north-south) by  $\pm 75$  km (east-west). Source: ESRI Living Atlas, World topographic map overlaid on a semi-transparent topographic hill shade and natural colour Sentinel-2 images of September 2019. (Map by Carlos Dewassiege)





Fig. 6: Lush looking vegetation on Great Karas Mountains in April 2006, following a good rainy season.

satisfaction and pride. We had rediscovered the type locality of *E. baliola*, some 107 years after Pearson and his expedition collected this species.

## The plants

*Euphorbia baliola* N.E.Br.

**Description: Plant:** dwarf, spineless but with persistent remains of peduncles on branches; **main stem** up to 10 cm high; **branches** covering whole top of stem leaving very small open area, erect or ascending, 2-5 cm long, 4 mm in diameter, tuberculate, marked with rather prominent impressed lines into long shaped areas, prominent white leaf scar at



Fig. 7: The Great Karas Mountains in January 2019 after a poor rainy season, a stark contrast from the conditions in April 2006. *Euphorbia avasmontana* is just behind the fence and *Aloidendron dichotomum* in the distant background.