A new, cliff-dwelling aloe from south-east Yemen

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First description of *Aloe seibanica* Orlando & El Azzouni. Photography by the authors.

"Khor Seiban or Kawr Seiban?" was a lively argument between Marwan, of Arabic mother tongue, and Giuseppe, the day before we were trying to reach the awesome cliffs of Kawr Seiban in the Hadhramaut region of Yemen. It would not make much sense to spell it Khor, as the word Khor means a floodable valley and this was a mountain, the highest peak in the area. However neither of us could think of a useful meaning of the word Kawr.

These invariably constructive debates never stop, but it was getting late and the sun would have set in a few hours. So we abandoned this argument and started to look for a camping site. There comes a point when a Global Positioning System (GPS) becomes redundant and one has to rely on one's senses. Shortly afterwards, we found a good spot and were about to set up camp and start a fire for dinner when we were approached by two elderly men who had walked at least a few kilometres from a settlement that could be barely made out in the far distance.

Fig. 1 (above) Kawr Seiban. The cliff where the first population of *Aloe seibanica* was found

Fig. 2 (left) The second population of *Aloe seibanica* found in 2006

We invited them for a cup of tea and they insisted that we spend the night with them in their village instead of camping out in the open. We tried promising them that we would join them for breakfast, but Arabs never take no for an

Fig. 3 The first young plant of the new species found growing amongst *Euphorbia balsamifera* ssp. *adenensis*, close to the cliff edge at Kawr Seiban

answer, especially when it concerns an invitation or a chance for them to show hospitality. So we packed up and headed for their village, where we found a fire waiting, fresh water for washing up, delicious mint tea and the smell of dinner lingering on the air, which came from one of the few stone houses that were scattered around the settlement.

We drank, ate, smoked a homemade water pipe, and gazed at the stars. It was a beautiful night, and the next morning we finally took some direction, bade our friends goodbye and headed on our way.

We suspected that Kawr Seiban (2100m), being the highest mountain in Hadhramaut, with spectacular cliffs facing seawards, would probably be able to catch some humidity from the onshore winds, and therefore be a cold, more humid 'island' in the extremely dry

Fig. 4 *A. seibanica* flowers from bud to past pollination

high plateau of the Jol. Although we were not that close to the coast, we hoped that this location might have created a habitat rich in endemic species similar to those in Jebel Arays, Ras Fartaq, and the Dhofar region, all places along the same southern coast of the Arabian peninsula.

After a few hours of driving, we finally reached one of the tracks that might lead us to the cliffs, but we were again so absorbed in resolving the argument about Khor or Kawr that we did not realise that we had arrived at our destination that was just a few metres

Fig. 5 Detail of *A. seibanica* inflorescence, showing the large bracts already dry

away from a drop of more than 800m. What a magnificent place! You actually have to lie down on your belly to approach the cliff, unless of course you happen to be a sky diver. And there it was, a lone aloe, barely emerging from a bush of *Euphorbia balsamifera* ssp. *adenensis*. Giuseppe went down on his knees as if to pray, telling Marwan that it seemed different from any other known aloe that grows in the area! Where did it come from? Marwan rose from his seat, careful not to stumble, and scanned the flat area behind us for a sign of any more specimens, but there was absolutely nothing. It seemed to be all alone, with no siblings in sight.

By that time Giuseppe had come out of his trance and began to be coherent again. There seemed to be only one other place to search and that was on the cliff itself. We continued to explore along the cliff edge when suddenly a few specimens came into view, made visible by a curve in the cliff-top which allowed us to see the rock wall. Giuseppe grabbed Marwan's belt, and our guide Abdallah grabbed that of Giuseppe. Marwan crawled on his belly to look down the cliff, and there they were – a whole population of these 'cliff dwellers'.

Fig. 6 A young inflorescence of *A. seibanica* showing the large, imbricate red bracts. A colourful flame arising from the centre of the rosette

Fig. 7 Erect-ascending habit of *A. seibanica*. The leaves were very dry because of the lack of rains

On a trip to the same region a few years later, we found them again, high on a shady rock face, above the track leading to Bain al Jibal, which means 'Between the Mountains' in English. We also later learned that Kawr Seiban means 'Seiban's country', Seiban being the name of the tribe that lives in the area.

***Aloe seibanica* Orlando & El Azzouni sp. nov.**

Species nova affinis *Aloe rivierei* Lavranos & L.E.Newton, sed caulibus minoribus, valde soboliferis, foliis glaucis viridibus, pallescentibus, brevioribus atque crassioribus, dentibus minoribus et inflorescentia solitaria differt.

Type: Republic of Yemen, Hadhramaut Region, Kawr Seiban on vertical cliffs, alt. c. 2000m; 15 Nov 2004. Orlando & El Azzouni 241504 (FT holo.)

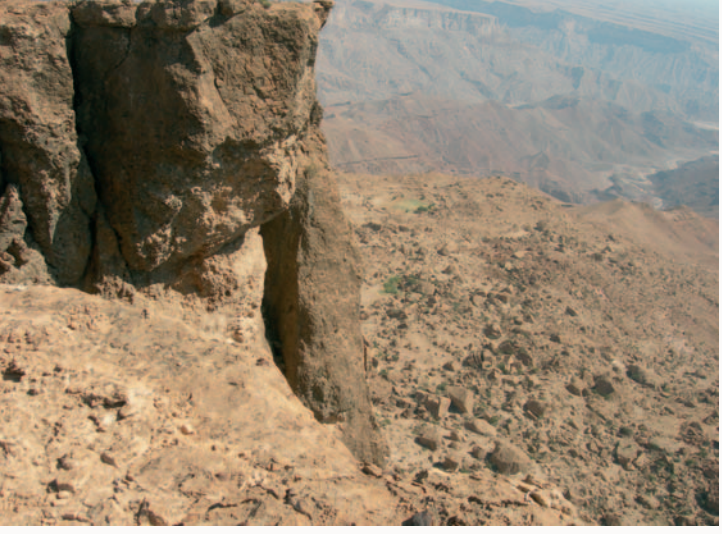

Fig. 8 (left) The cliffs at Kawr Seiban

Fig. 9 (below left) The Hadhramaut plateau, with Kawr Seiban cliffs in the background

Plant growing on cliffs, erect or ascending, forming groups when growing in cracks by means of suckers and underground stolons. ***Branches*** woody towards base, 10–15mm thick. ***Leaves*** fleshy, 4–7 in apical rosettes, 120–260 × 20mm, erect with acute tips, flat above, very convex below, bluish green in colour, and with a pinkish tinge in dry conditions, becoming almost round in cross-section and light green in colour when in full growth under intense light. The paler ***margins*** bear minute deltoid brown teeth, 1mm long, irregularly spaced 2–5mm apart. ***Inflorescences*** simple, 250–400mm tall, bearing up to 60 flowers in a dense raceme up to 160mm long; peduncle reddish, with 5–8 sterile, fleshy ***bracts*** of the same colour, with darker veins, drying before the first flowers start to open; ***flower bracts*** red, lanceolate-acute, 12mm long, 7mm wide at base, with whitish margin and greenish tips, completely hiding the buds at first, contrasting sharply against the light green leaves, then scarious; ***pedicels*** 6–7mm long. ***Perianth*** cylindric, about 24mm long, 6mm wide across the ovary, coral red to pinkish red, the outer segments free for about 10mm, terminating in a slightly recurved and rounded apex; ***filaments*** reddish, bearing cream anthers that become exserted by c. 4mm. ***Stigma*** eventually exserted by 4mm. ***Ovary*** 5mm long, 2mm wide. ***Capsule*** ascending, persistent when dry, 10–16 × 6–7mm. ***Seeds*** brown, roundish, 3 × 2mm, without a wing. ***Exudate*** very light yellow, drying light brown.

Aloe seibanica is endemic to the Hadramaut region of Yemen and has been found in only two localities, 8km apart. Its closest relative is *Aloe rivierei* Lavranos & L.E.Newton, also from Yemen and quite common in the western escarpment, in Ta'izz and Ibb provinces. Nevertheless, the two can be differentiated very easily, *Aloe rivierei* being a much larger plant with very tall, branched inflorescences and large green leaves.

Aloe seibanica is notable for its showy immature inflorescence where the red peduncle and bracts arise like a flame from the light green clump of leaves. Its stoloniferous habit allows it to colonise large cracks and probably helps it to reproduce asexually, gradually colonising the cliffs. The wingless seeds are a possible explanation for its strict endemicity.

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