

Rocks and the *Euphorbia schinzii* complex

Bruce J. Hargreaves

5817 Pryor St. Bakersfield
California, USA

The April 2009 Euphorbia World shows an unnamed *Euphorbia* species south of Polokwane in South Africa which belongs to the *Euphorbia schinzii* complex (van Veldhuisen, 2009). It is suggested that it might be *E. venteri* L.C. Leach ex R.H. Archer & S. Carter. This is possible, but without the flowers, it is difficult to be certain. The photo also shows a pebbly soil which appears to be quartzitic. A second picture of a similar *Euphorbia* species from northwestern Sekhukuneland is shown in the September-October 2003 issue of the Cactus and Succulent Journal (U.S.) (Craib, 2003). The soil shown in this picture (and described in the article) is calcrete. Again, the plants resemble *E. venteri*, but the flower color is not shown.

E. venteri is known from the area of Botswana stretching from Foley siding to Tshesebe (Fig. 2; Carter and Leach, 2001). It is found in gypsum soils and is distinguished by the chocolate brown nectar glands. It, too, is part of the *E. schinzii* complex. In fact, when I first photographed it at Tshesebe in 1969, I labeled the pictures *E. schinzii*. A later visit to Foley siding found no euphorbias surviving. All three of these plants are distinguished by narrower stems with more defined striping than is normal in *E. schinzii* Pax.

There is a fourth *Euphorbia* species which has the narrow stems and obvious striping of *E. venteri* 24 km

north of Molepolole in Botswana. It was discovered by stopping to observe a population of *Aloe littoralis* Koen. ex Baker which is unexpected this far south. The plants were in bloom and the nectar glands are the more usual bright yellow. The rocks here form a pavement of cobblestones which are doloritic.

This volcanic soil immediately made me think of Serowe which is much further north and has plants belonging to the *E. schinzii* complex which have been included in *E. limpopoana* L.C. Leach ex S. Carter (Carter and Leach, 2001). They differ, however, in having rhizomatous roots, a shorter growth form and a basaltic substrate. (*E. limpopoana* grows in calcrete). I have suggested that these are *Euphorbia aeruginosa* Schweick., but I am not happy with this (Hargreaves, 1995).

On 13th Jan. 2005, I stopped 22 km north of Molepolole and found a tuberous rooted member of the *E. schinzii* complex in sandy soil. It had a wider stem than plants 2 km north. As a working hypothesis, I think these plants begin with tuberous roots which support thicker stems and later spread out with rhizomes which support thinner stems.

Euphorbia schinzii proper grows from Kanye east to Ramotswa and on into South Africa. At Ramotswa there is a tendency toward tuberous roots. A population



Fig. 1: Specimen of *Euphorbia venteri* from Foley Siding



Fig. 2: *Euphorbia aeruginosa* in the field



Fig. 3: *Euphorbia spec. cf schinzii* north of Molepolole in cultivation.



Fig. 4: *Euphorbia spec. cf schinzii* north of Molepolole



Fig. 5: *Euphorbia spec. cf schinzii* found north of Molepolole with dolorite cobblestones



Fig. 6: *Euphorbia limpopoana* is growing on calcrete



Fig. 7: *Euphorbia limpopoana* south of Soa Pan



Fig. 8: *Euphorbia limpopoana* at Serule



Fig. 9: *Euphorbia limpopoana* at Serule, the type locality of *Euphorbia malevola subsp. bechuanica* which is synonym with *Euphorbia limpopoana*



Fig. 10: *Euphorbia spec. cf venterii* east of Moremi



Fig. 11: *Euphorbia schinzii* from Ramotswa growing in quartzite

35 km north of Lobatse has more typical rhizomatous roots. Just west of Mankhodi there is a population of the *E. schinzii* complex with much more robust stems. It grows near *E. griseola* Pax, suggesting that there might be some hybridization. This and all of the *E. schinzii* proper grow on quartzitic soils.

Just west of Tsamaya there is a basalt outcrop* and a plant like the nearby *E. venteri* is found in the sandy



Fig. 12: *Euphorbia schinzii* north of Lobatse growing in quartzite

plain next to it. However, it has yellow nectar glands. There are more populations further west, but I have not seen them in flower. There is also a large population west of Moremi Village on the north side of the Tswapong Hills. The flowers on these also remain unknown.

This is just a brief look at the *E. schinzii* complex in and near Botswana. A lot more needs to be done here and further north. It is indeed complex.

*This rock outcrop is the only place in Botswana where I have seen *Euphorbia espinosa* Pax, a plant which I knew previously from Malawi.

References

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Fig. 10: Map of Botswana with localities mentioned