

Short Communications

A Simple Aid to Assessing Cryptic Succulents in the Field

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By virtue of their very nature, cryptic succulents present a challenge to workers trying to assess populations in the field. They are difficult to spot (e.g. Figure 1) and, once spotted, are easily missed again if you take your eyes off of them. They may also be counted or assessed more than once by mistake, particularly if several people are involved in the work. Regularly faced by this challenge, we came up with a cheap and simple tool that we have generally found to be useful, as well as easy to carry and use.



Figure 1: *Lithops ruschiorum* in situ.

We obtained several hundred brightly coloured plastic balls of the type used in children's playground equipment. These are the kind that children "swim in". We cut them in half and now use them to temporarily mark the location of plants in the field (Figure 2).

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These markers are light and easy to carry. They are not excessively bulky because they slot into one another. Although they tend to be blown around in high winds, due to their “cup” shape they can easily be weighted down using sand or pebbles. They are easy to see (Figure 3) and can be numbered or counted beforehand if this is considered necessary. In very undulating terrain pre-counting can be useful so as to know at the end whether all the markers have been found and the plants they are marking assessed. To reduce the time spent calculating how many markers have been set out, ziplock bags each containing a given number can be pre-packed, or the markers can be threaded onto a loop of wire with separators such as large beads or plastic discs at given intervals.



Figure 2: Once individuals have been spotted the markers make it easy to move from one individual to the next for assessment, preventing duplication and unnecessary damage. They can be weighed down if necessary.



Figure 3: The extent of a population of *Lithops ruschiorum* made visible by temporary markers.

Besides making it easier to know whether or not an individual has already been assessed, we find that marking in this way reduces trampling of the area and thus damage to the plants. It is also easy to establish the periphery of the population, walking from one marker to another with a GPS, easily seeing which plants are the outermost. The lightweight and temporary nature of these markers ensures minimal disturbance to the habitat.

One risk of using this method is that substrate important for the plants, such as pebbles, may be disturbed. The necessity to avoid this must be impressed upon all workers involved in the assessment. Obviously, to avoid pollution, all the markers must also be found and removed once the work is finished.

We have found this tool to be less useful where grass cover is dense as well on very steep slopes or in areas where there are numerous large boulders. However, once plants on a steep segment have been counted the requisite number of markers can be slotted together and placed at the slope base to obviate any unnecessary recounting.

The balls are sold in bags of mixed colours. In our work in Namibia we find the most visible colours are red, royal blue, bright purple and bright pink. Yellow and pale colours are less easy to spot, especially on quartz fields and as distance increases. These latter colours can, however, still be used in small areas, in the very first part of a population, or in dense populations in a small area.

These markers are extremely durable, although some are better quality than others. We have used them to increase speed and accuracy in assessments of genera such as *Avonia*, *Dinteranthus*, *Lapidaria* and *Lithops*, and they would probably work just as well for many more, including *Anacampseros* and *Conophytum*. We think other workers may find them equally useful.