The living rocks of Mexico do not die that easily

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Do not despair if your *Ariocarpus* suddenly collapses in a heap. You can still save the plant by propagating from the tubercles. Photos by the author except where otherwise indicated.

Ariocarpus, which are at home in Mexico as well as the neighbouring southern states of the USA, are treasured by cactus collectors because of their unique plant form which makes them look like living rocks (Fig. 1).

If these plants are overwatered or the roots are damaged during repotting, they can suddenly turn a greyish brown colour and the whole body becomes a soft mess (Fig. 2), indicating that rot has set in.

Do not despair as these plants can regenerate from unaffected tubercles as well as from the underground body even if the top part dies. If there are living tubercles which remain after say a month or so after the plant has succumbed (Fig. 3), then it is worthwhile trying to plant these and, in time, a few identical plants to that one lost can again be back in one's collection.

The process begins with the swelling at the base of the tubercle (Fig. 4). The swelling progresses from the root primordia without any additional moisture and eventually one or more roots will push out from this swelling (Fig. 5). The roots develop further and become quite thick within the first year.

Fig. 1 ***Ariocarpus retusus*** **(Photo: David Quail)**

Then what happens is unique: the root develops a swelling and a new plant just pops out from this

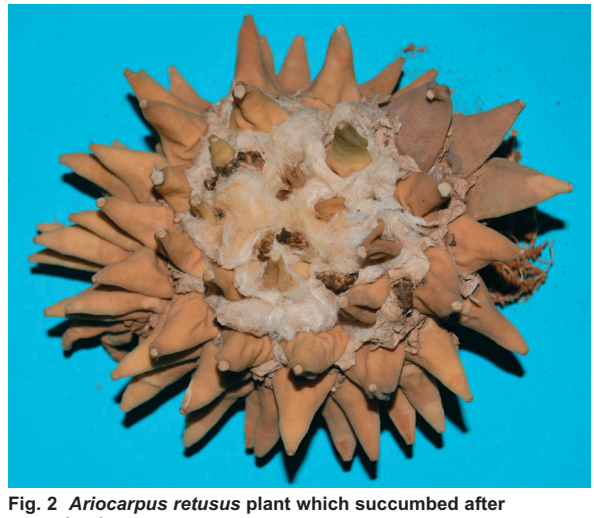

Fig. 2 ***Ariocarpus retusus*** **plant which succumbed after transplanting**

Fig. 3 A few tubercles that are still alive and healthy

Fig. 4 Note the swellings at the top of these tubercles. These are the root primordia developing from meristematic tissue

Fig. 5 The emerging small roots grow from the root primordia at the base of the tubercles

Fig. 6 The developing new plant growing from the base of the tubercle

thickened area (Fig. 6). In the photo this has emerged from the underside of the tubercle, but these can appear from the top as well.

In another scenario, if you look at Fig. 2, there are three tubercles at the one o'clock to two o'clock position which are still a greyish green colour and which have escaped the fungal attack. When turned over these tubercles can be seen clearly and there is already a separate root system originating from the base of the three tubercles (Fig. 7). Where the new plant will originate is uncertain, but could be from between these tubercles, and only time will tell.

The unique rejuvenation properties of these plants can also be seen where the apex was somehow damaged. The next stage will be a swelling of the underground plant body and then the new heads just burst through

Fig. 7 The underside of the dead plant showing still living tubercles and the roots originating from these

the side of the body and result in a multi-headed plant (Figs. 8 & 9).

Fig. 8 Side shoots pushing out from the underground root

From these observations, it is clear that *Ariocarpus* has meristematic tissue in roots as well as in the tubercle tissues which can develop into new heads. Do not just throw away a rotten plant but check to see if there are still any living tubercles. These can be fun to watch as they develop again into identical clones of the original plant.

Fig. 9 The two side shoots which burst out from beneath the original head after it was damaged

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