Cacti and agaves at the Grand Canyon's South Rim

Root Gorelick

A record of the succulents encountered on a brief visit to the Grand Canyon in June 2009. Photography by the author.

While living in Phoenix, Arizona, several years ago, it was always a pleasure to take the four-hour drive to the Grand Canyon. Hiking to the bottom and rafting the Colorado River (2005: 44), where *Echinocactus polycephalus* ssp. *xeranthemoides* had been encountered in Marble Canyon, was especially memorable, as was camping just outside the park boundaries at the North Rim during a total penumbral (lunar) eclipse. Much more pedestrian, but still breathtaking, was visiting the South Rim, something that every tourist does and that I typically did only when relatives were visiting. You can see the canyon by walking a mere two minutes from your car. Because almost no sane person visits Phoenix in summer, I never made it to the South Rim between May and September.

For the past several years, I have been living in Ottawa, the coldest federal capital in the world, save for Moscow, and had also not been back to Arizona in that time. During the summer solstice of 2009, I finally did make it back to Arizona for a few days and decided that it was safe to act like a tourist and briefly see the South Rim. What I had not anticipated – although I'm not sure why not – was that I could finally see several cactus species and one agave species in flower at the South Rim of the Grand Canyon (Fig. 1).

Fig. 1 The Grand Canyon at Mather Point. Cliffs on the left are home to some *Agave utahensis*

Fig. 2 ***Coryphantha vivipara*** **at Bright Angel trailhead**

Fig. 3 ***Coryphantha vivipara*** **flowering prolifically in cultivation**

At the top of the Bright Angel Trail, which is immediately adjacent to a tourist development, there were many specimens of *Coryphantha vivipara* in flower (Fig. 2). This species has a remarkable thermal tolerance, growing quite nicely in the oven-like environs of southern Arizona and yet also as far north as Canada. While each stem is usually the size of a ping-pong ball, they can get as large as a tennis ball. What makes this species even more phenomenal is the vibrancy of its magenta flowers (Fig. 3). The flowers certainly made this plant much easier to find at the Grand Canyon!

There were at least two prickly pears in flower in late June at the South Rim (Fig. 4). Although classifying and identifying prickly pears is a nightmare, I believe *Opuntia polyacantha* and *O. engelmannii* are pictured here.

O. engelmannii is an upright plant that seems to grow just below the rim, but never seems to be found on the flat expanse of the surrounding Colorado Plateau (Figs. 5–6). Its flowers are an unimpressive greenish yellow. The clumps that I saw were too old to see the most telltale diagnostic feature of *O. engelmannii*, which is the hair-like spination covering the first and second cladodes of juvenile seedlings.

O. polyacantha, much like *C. vivipara*, does grow on flatter sections of the rim and also has an enormous range, again all the way into Canada. It is a low-growing prickly pear, with lots of variation in the size of the spines and the flower colour. The three *O. polyacantha* flowers pictured here (Figs. 7–9) were from plants growing within a few metres of one another!

Agave utahensis ssp. *kaibabensis* is a diminutive member of the genus and also probably the most cold-hardy. It is quite common at the South Rim, often living seemingly precariously

Fig. 4 Mojave Point is the location of the opuntias shown in Figs. 7 to 9

Figs. 5 (left) & 6 (right) *Opuntia engelmannii* along the Bright Angel Trail

Figs. 7 to 9 (left to right) *Opuntia polyacantha(?)* at Mojave Point

on rock ledges overlooking steep and scenic cliff edges (Fig. 10). While the rosette is usually about two-thirds of a metre in diameter, the inflorescence is often three to four metres tall.

After seeing so much in flower, I had also hoped to see *Cylindropuntia whipplei* in bloom, but this was not meant to be. Regardless, the Grand Canyon is a magical place at any time of year, and even better during the snow-free half of the year when you can see the plants!

LITERATURE CITED:

Gorelick, R (2005) *Echinocactus polycephalus* ssp. *xeranthemoides* in Marble Canyon. *Cactus and Succulent Journal* (US) **77**(1): 44-45.

Editorial note:
The Grand Canyon is a crossroad meeting-place for many opuntias, and *O. engelmannii* and *O. polyacantha* are only two of these. Of the other contenders, Fig. 8 is probably *O. polyacantha* or rather its variety *erinacea* (Mojave Prickly Pear). Fig. 9 might equally well be *O. phaeacantha*, while Fig. 7 could be a hybrid of the two.

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Fig. 10 *Agave utahensis* ssp. *kaibabensis* clings perilously to the rim of the Grand Canyon at Mather Point