

Opuntia chaffeyi

Elton Roberts

Opuntia chaffeyi is a fun plant to grow, as it does not get too much out of hand. That is to say the above ground portion doesn't get out of hand but the roots are another thing all together. Here in part is the description of the plants I guess in habitat. 'Roots large fleshy, deep in the ground, to 35 cm long, 4 cm thick; stems to 15 cm long, ---- often flaccid, prostrate, freely branching'. The roots are deep in the ground; I have to wonder how deep in the ground they are. For me deep would mean like a foot or so down. I do not think this is how deep they are. I would have to think that they might be several inches, as the plant seems to grow new stems every year. In cultivation: the plants grow stems that can be 1.5 cm in diameter and to 26 cm long (Fig. 1). As this is an *Opuntia* it is not a plant you want to snuggle up to! It has one main spine at the areoles and can have one or two smaller spines. Even though the spines are no more than 3 cm long at the most and the glochids are not much to look at they are nasty and quite irritating. I know for I have had several broken off in my fingers and they have been a bother all night long. After I got up and washed dishes the water seems to have either dissolved them or softened my skin enough so that they came out. The flower is about 4 cm in diameter and is a shallow bowl shape. All the flowers on my plants have been a pale yellow (Fig. 2). One description calls for lemon yellow flowers but I do not think that is right. The plant will bloom several times a year in cultivation.



Fig. 1. *Opuntia chaffeyi*. Britton & Rose.



Fig. 2. Flowers of *Opuntia chaffeyi*.

The stems are annual and die after the plants set seed. When the monsoon rains come the plant again grows stems. I think the most interesting thing about this plant is the roots. In the photo of the dead stems (Fig. 3) is a plant that is in a 10-inch pot. I took the plant out of a 6-inch pot and put it in the 10 inch because the plant was falling out of the pot. The roots are quite large compared to the stems. They can be to about 4.5 cm in diameter and fill a pot. I have to wonder about the size of habitat plants and their roots. In cultivation the roots will grow round and round in the pot and lift the plant right out of the pot. The roots in the photo were pushed up 5 inches above the pot and the reason it is up like it is because there is that much root below the soil and it could not be potted any lower. I have had the plants in 12 inch pots and they still grow so much root that in about a year something has to be done. I usually take some of the roots apart. Some seem to break off the main roots anyway and become separate plants. There are what looks like two kinds of roots, one kind is smooth and the other has soft glochids covering them. You can see this in the photograph (Fig. 4) as the main roots are in the most part smooth and the roots at the top right are covered with fine glochids. There are several places on the main roots that have some glochids also. I do not remember these root glochids ever bothering me. They are not nasty like the glochids on the roots of *O. pulchella*.



Fig. 3. Dead stems of *Opuntia chaffeyi*.



Fig. 4. The roots of *Opuntia chaffeyi*.

If watered regularly in the summer the stems will not die back and the roots also will not shrivel. In the photo of the dead stemmed plant it is easy to see the roots that are shrivelled. They are not dead as they still have moisture in them and when given a good drink the roots will fill out again. I have seen several show plants with the roots raised and have to admit they can make a handsome plant. The plants have lived through temperatures in the teens. I have not paid that much attention as to whether the roots suffer frost burnt or not. I give the plants my regular soil mix and keep the plants dry over the winter. The plants do not like alkaline water and so need the acidic water or in time they will just wither and die.

Alan Hill

Opuntia chaffeyi was named by Britton & Rose in 1913 and was named after Dr Chaffey who collected it from the type locality on the Hacienda de Cedros, near Mazapil, Zacatecas, Mexico in 1910. They gave the distribution of the species as the state of Mexico. In their book "The Cactaceae" Vol. 1 P213 they place it as the only species in their series 29, Chaffeyanae, stating that it differs from all the other *Opuntia* in having an annual stem which

arises from a large fleshy root or rootstock. (However, on p 30, when discussing *Pterocactus*, they remark on similarities of growth with *Opuntia chaffeyi*.) The NCL entry for the taxon accepts it as a valid separate *Opuntia* name.

The species was offered for sale by the ISI as number 1237. The propagations originated from material collected by Glass & Foster in 1974 under their number 4038 from near the type location. Mention was made in the catalogue that the taxon developed a caudex. This was an obvious encouragement to collectors to purchase an unusual plant and at least two of us in Sheffield succumbed to the temptation. Although I persevered for a long time with my plant my friend soon disposed of his, remarking that he was very disappointed in that no caudex was formed. My experience was that my plant produced what I can only describe as thick knobbly roots and I too was disappointed about no caudex appearing. At that time I did not possess a copy of Britton & Rose. However, I now realise that the roots that were produced by my plants are what are illustrated by Britton & Rose on page 213. Their description of the taxon simply states "caducous" without any descriptive details given of what to expect. I would not use the word caudex to describe the roots illustrated by Britton & Rose. However, Elton is to be congratulated that his cultivation of the taxon has produced what can be regarded as a good caudex.

My plant did produce the fine glochids (mentioned by Elton) on the exposed roots which sometime appeared above the soil surface and at least once through the drainage hole of the pot. I don't think that I ever tried to touch them but in appearance the exposed roots looked to be covered in a grey velvet. I do not recall any glochids on the subterranean roots. The appearance of the glochids must have been a reaction on roots exposed to light. If I had read the information in Britton & Rose I would have had more success with the cultivation of *Opuntia chaffeyi*. The original description mentions "stems normally annual". I did not realise this and when the very few stems on my plant began to go yellow and wither I frantically tried to save them, not realising my cultivation was not at fault. Eventually I threw away the few knobbly roots that were in the pot thinking that I should recognise my failure. One can imagine my surprise on read Elton's opening remarks about *Opuntia chaffeyi* being a fun plant to grow. I am grateful to Elton for sharing his knowledge on how to grow the taxon. I can now see that I could have thought of it as a fun plant instead, in my ignorance, finding it caused me so much worry. I now regret that I disposed of the plant. Does any one have a cutting for sale?

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