

***Pterocactus* in Northwestern Argentina**

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Pterocactus in northwestern Argentina

P*terocactus* is a very distinctive and well-circumscribed genus of approximately nine species (Hunt et al. 2006) of mostly Patagonian opuntoid cacti (Sarnes & Sarnes 2012). A few species such as *P. reticulatus*, *P. valentinii*, and *P. megliolii* grow into Mendoza and San Juan, while *P. tuberosus* has a huge range, from the Patagonian province of Rio Negro all the way north into Salta. We saw *P. tuberosus* in both La Rioja and Catamarca. The only two species that we may have seen in northwestern Argentina were *P. tuberosus* and *P. megliolii*, which are very similar to one another, both largely consisting of a huge taproot, with only a few diminutive, slender deciduous brownish (or sometimes greyish or reddish) stems appearing above ground. Although *P. megliolii* is endemic to the province of San Juan, we saw plants that resembled it in southwestern Catamarca. Alternatively, we may have seen *P. tuberosus* throughout, especially since it is a relatively variable species with such an enormous range.

Pterocactus tuberosus and *P. megliolii* are extraordinarily cryptic plants, much like the North American *Peniocereus greggii*, but much smaller and with flowers and fruits not nearly as obvious as those of *Peniocereus greggii*. Even when growing vigorously and utterly healthy, the above-ground branches of *Pterocactus tuberosus* and *P. megliolii* look like small dead twigs. Usually the shoots are no more than 20 cm tall and 1.5 cm in diameter and unbranched. They have areoles with tiny, tame glochids and wispy-bristly tan-colored spines that are often pressed against the stem. Whether growing on bare rock or amongst shrubs, these plants seem equally cryptic. My guess is that we walked on or over many, without seeing them. Even the one flowering specimen that we saw remained hidden in plain sight, growing right in the middle of small path (probably an animal path) that was at least a meter wide; a plant that several of us passed a few times before spotting it.

Pterocactus are incontrovertibly members of the Opuntioideae. Several of the Patagonian species have



1. *Pterocactus tuberosus* at 200 m at salt flats at Córdoba-La Rioja border.

shoots that resemble those of globose *Tephrocactus* species. Even *P. tuberosus* and *T. megliolii* have shoot shape reminiscent of *T. weberi*, *T. molinensis*, and *Austrocylindropuntia*. The only difference in shoot shape is that *Pterocactus* shoots are terminal—i.e. they usually do not branch above ground and have a terminal flower embedded deeply in the shoot, much like the enigmatic *Opuntia quitensis*—whereas *Tephrocactus* have indeterminate growth, with shoots (stem segments) usually stacked upon one another (Kiesling 1984). *Pterocactus* species all have glochids. *Pterocactus* species all have typical opuntoid flowers. To a naïve observer like me, *Pterocactus* flowers very closely resemble those of *Maihueniopsis*. *Pterocactus* are unique amongst cacti in having winged seeds, for which the genus is named—“*pteron*” is Greek for “wing”. The enormous taproots of *Pterocactus* are also unusual, but not unique, amongst opuntoids.

While unequivocally a distinct genus according to people who study morphology and people who study

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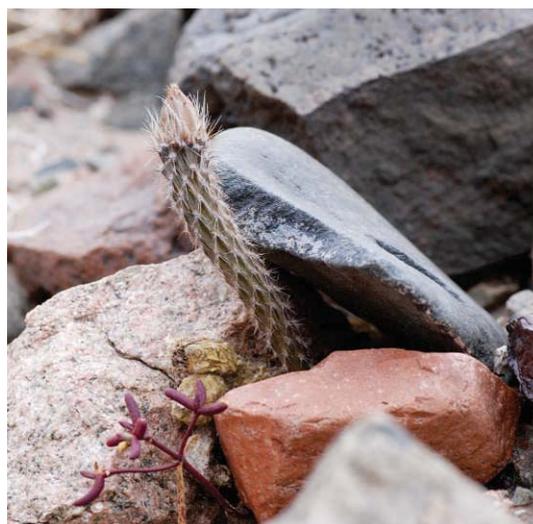
2. *Pterocactus* aff. *meglolii* on rocky slope at 2000 m in Catamarca. Note the six shoots, probably all originating from a single taproot, with three brand new and three older (the left-most one is out of focus).

DNA, *Pterocactus* is probably most closely related to *Maihueniopsis* or maybe *Tephrocactus* and *Austrocylindropuntia* (Stuppy 2002; Ritz et al. 2012).

Taylor & Iliff (1996) sorted out the history of the name *Pterocactus tuberosus*, which was first described as *Opuntia tuberosa* by Pfeiffer in 1837 from a plant in Mendoza. Sixty years later, Schumann erected the genus *Pterocactus*, in which he also described *P. kuntzei*, albeit apparently using the same plant material that Pfeiffer had earlier used in describing *O. tuberosa*. Taylor & Iliff (1996) argued that *P. kuntzei* was not a legitimate name, relegating it to synonymy with *P. tuberosus*, and neotypifying *P. tuberosus*.

Pterocactus tuberosus was named for the tuberous taproot, which all members of the genus have. *Pterocactus meglolii* was named for Silvio Meglioli who worked with Roberto Kiesling and Omar Ferrari on the plants of Argentina (e.g. Kiesling & Meglioli 2003).

We saw *Pterocactus* at a few very different habitats. We first saw *P. tuberosus* in a shrubby salt flat at the Córdoba border with southeastern La Rioja, at a very low elevation of about 200 m. This was a hot dusty place, with lots of small thorny mesquite (*Prosopis* spp.). Other than maybe some of the *Stetsonia coryne* plants, nothing here was very picturesque. But, this was my first sight of a *Pterocactus* in habitat, so I was overjoyed. While some of the plants had the typical short chocolate-colored shoots (Fig. 1), one was an atypically tall shoot, around 40 cm long and rose-colored, with a pair of short branches. This was the only



3. *Pterocactus* aff. *meglolii* at base of rocky slope at 2000 m in Catamarca. Note *Suaeda* sp. (Chenopodiaceae) at the base of this plant indicating slightly wetter conditions than in Figure 2, which was just up the hill.

tall, branched specimen of *Pterocactus* that we saw.

A few days later, near Highway 60 in Catamarca, from Fiambala to the Chilean border, we saw *Pterocactus* specimens at two localities. The plants at both places resembled *P. meglolii*, but were more likely an unusual form of *P. tuberosus* because this was so far from the province of San Juan (Figs. 2 & 3). The localities were at approximately 2000 and 2900 m, both very rocky places with little vegetation in which all plants (not just cacti) were usually under 10 cm tall, except at the very base of hills where slight amounts of water must have accumulated. At the 2000 m elevation site, this *Pterocactus* looked somewhat bedraggled when growing up the rocky slope. But, at the base of the scree, where the *Pterocactus* was growing with a highly succulent chenopod (which has been tentatively identified as a *Suaeda* sp.) and a flowering specimen of *Lobivia bonnieae* (synonyms: *Lobivia famatinensis* subsp. *bonnieae*, *Echinopsis famatinensis*, *Reicheocactus bonnieae*, *Reicheocactus famatinensis* subsp. *bonnieae*), the *Pterocactus* specimens were in gorgeous shape, some with flower buds. At the 2900 m elevation site, some plants were in bud, while some were not, growing on a gradual slope with lots of specimens of *Tephrocactus geometricus*.

The next day, while still in Catamarca, but not far south of Cafayate (Salta), we stopped for lunch at about 2200 m elevation at a locale with several trees and lots of shrubs, but seemingly no cacti other than the few specimens of the ubiquitous *Echinopsis*



4. A cute pair of new shoots, undoubtedly arising from a single taproot.

leucantha. That is, until Susan Mahr alerted us to the presence of *Pterocactus tuberosus*. We quickly found healthy specimens on this single shrubby hillside, some amongst thick shrubs and some out in the open (Fig. 4). Many had multiple shoots arising from a tuberous root (Fig. 4). A few were in bud (Fig. 5), and one was in full flower (Fig. 6).

Pterocactus tuberosus and the plants that we saw that resembled *P. megliolii* were delightful. They also seemed like very tolerant plants, being able to grow at a wide range of elevations (200–2900 m), both in the open and in densely shrubby environs. They should be quite cold-hardy, at least if kept dry. *Pterocactus* are supposedly easy in cultivation (Sarnes & Sarnes 2012). They can be propagated by seed or stem cuttings, and they take almost no bench space. Plus, with only nine species recognized by *The New Cactus Lexicon*, it should be simple to grow all species.

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5. *Pterocactus tuberosus* flower bud.



6. *Pterocactus tuberosus* flower.

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