

## PARODIA SENSU STRICTU IN ARGENTINA, PART II

ROBERTO KIESLING AND OMAR FERRARI\*

2. *Parodia stuemeri* (Werd.) Backbg., Cactus (Belgium) 4:57, 1934 (fide IK, usually cited as valid combination in Kaktus-ABC: 272, 1935) (Figs. 8–10).

*Echinocactus stuemeri* Werdermann, M. DKG. 3(5): 122, 1931.

*P. crucinigricentra* Subik, Skkde. 4:31, 1951 (Arg.).

*P. faustiana* Backbg., Kaktus-ABC: 415, 1935 (Salta; very few ribs: 20, and short central spines: 2 cm).

*P. fricana* Brandt, Stachelpost 9(5):68, 1973 (Jujuy, Tilcara).

*P. gigantea* Krainz, Skkde.: 26, 1957 (N. Arg.).

*P. pseudostuemeri* Backbg., l.c. 3:11, 1963 (Jujuy, Molle Punco).

*P. rubricentra* Backbg., l.c. :415; 1935 (Salta).

*P. schuetziana* Jajo, Zpravi Československo Kakt. Marzo 1947, not seen (normally mentioned as describes in Skkde. :28; 1948, Jujuy).

*P. scoparia* Ritt., l.c. 2:421, 1980 (Jujuy, Humahuaca).

*P. setosa* Backbg., l.c. :12; 1963 (Jujuy).

*P. tilcarensis* (Werd. et Backbg.) Backbg., Kakteen-

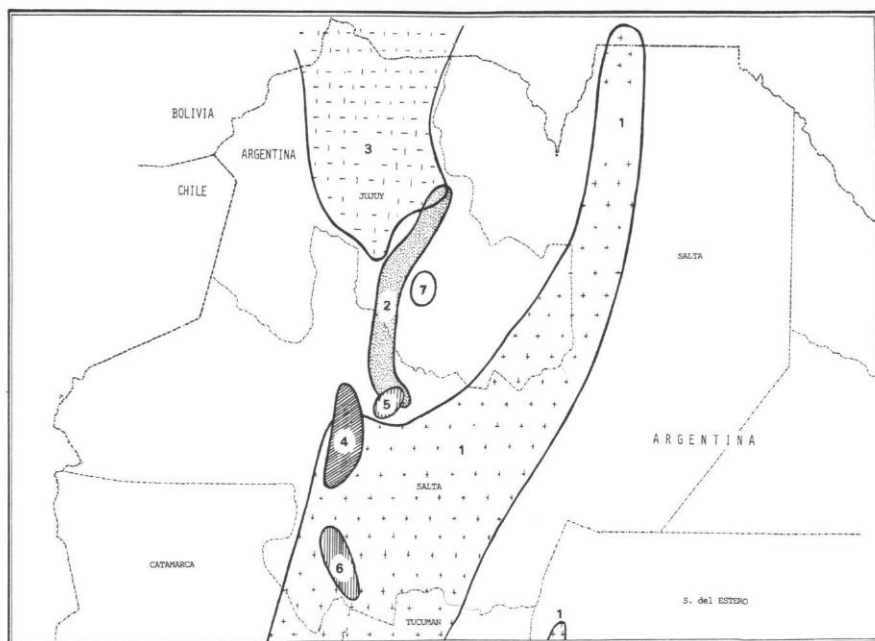
freund: 50, 1935 (*P. steumeri* var. *tilcarensis* Werd. et Backbg., Neue Kakteen: 89, 1931; Jujuy, Tilcara; straight spines).

Body simple, rarely caespitose, subglobose to shortly columnar, 20 cm in height and 10(–20) cm in diameter, center woolly. Ribs ca. 20–40, formed by conical tubercles. Areoles separated by ca. 1 cm. Radial spines ca. 25, acicular, radiant, 2 cm long, white. Central spines 4, rigid,



Fig. 8. *P. stuemeri* in the Quebrada de Humahuaca, together with *Opuntia tilcarensis* and *Blossfeldia liliputana*.

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Map 2. NW of Argentina with the *Parodia* species distribution. 1. *P. microsperma* (at the S also in La Rioja and San Juan). 2. *P. stuemeri*. 3. *P. maassii*. 4. *P. setifera*. 5. *P. nivosa*. 6. *P. penicillata*. 7. *P. chrysacanthion*.



Fig. 9. *P. stuemeri* at the original locality: Salta, Q. del Toro.

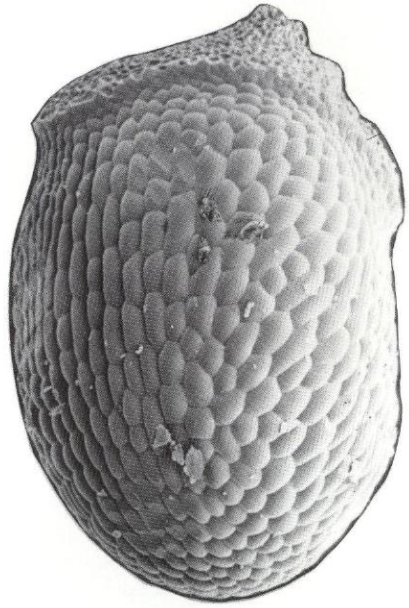
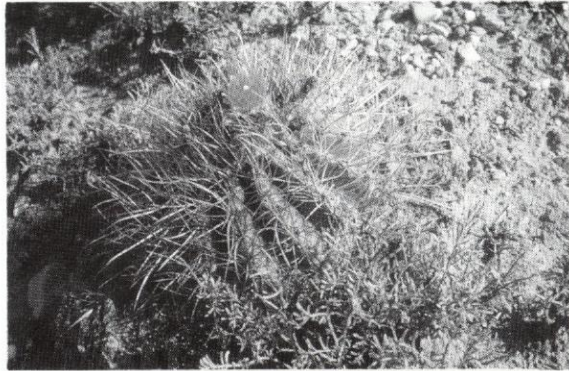


Fig. 10. *P. stuemeri* seed, 0.7 mm long, excluding caruncula (RK IV-89, Tilcara).



Figs. 11, 12. *P. maassii* In Jujuy, N of Humahuaca.

with thickened bases, straight, arched or hooked, reddish, up to 3 cm long.

Flowers yellow-orange, born from the apical woolly areoles, ca. 4 cm long. Receptacle with many scales and brownish woolly hairs. Stigma with 9–11 lobes, pale yellow. Fruits small, 5 mm in diam., pink, woolly. Seeds subovoid, dull, 1 mm long.

From Salta and Jujuy on dry slopes between 2,000 and 3,000 m elevation.

Documented material selected: Jujuy, Tumbaya, R. Kiesling 4017 (SI). Q. de Huachichocana, A. L. Cabrera 15076 (LP).

3. *P. maassii* (Heese) Berger, Kakteen: 314, 1929.—“dala.” (Figs. 11–14).

*Echinocactus maassii* Heese, Gartenflora 57:410, 1907.—

*Echinocactus escayachensis* Vaupel, M.f.K. 26:125, 1916.

Many names described from Bolivia under “subgenus *Protoparodia*” should be treated as synonyms of *P. maassii*:

*P. agasta* Brandt, Franf. Kakt.-Frd. 3(4):6, 1976 (Chuquisaca, Sud Cinti).

*P. algaisma* Brandt, Kakt. Orch. Rundsch. 1:50, 1976 (Chuquisaca, Mendez).

*P. andreae* Brandt, Stach. 8(42):145, 1972 (Tarija).

*P. andreaeoides* Brandt, Stach. 10(50):38, 1974 (Tarija).

*P. camargensis* Buin. et Ritt., Succ. (2):18, 1962 (Chuquisaca, Sud Cinti).

*P. cintiensis* Ritt. Succ. (9):122, 1962 (Chuquisaca, Sud Cinti).

*P. conmutans* Ritt., Succ. 43(3):22, 1964 (Chuquisaca).

*P. echinopsoides* Brandt, Kaktus, Odense 11(2):40, 1976 (Cochabamba, Campero).

*P. elata* Brandt, Cact. Flam. Ausg. 8(3):33, 1976 (Cochabamba, Ayopaya).

*P. exquisita* Brandt, Cact. Succ. Journ. (USA) 49(3):119, 1977 (Tarija, O'Connor).

*P. firmissima* Brandt, Stachelpost 10(51):65, 1974 (Chuquisaca).

*P. haageana* Brandt, Kakt. Orch. Rundsch. 2(4):53, 1977 (Tarija).

*P. idiosa* Brandt, Frankf. Kaktfrd. 3(2):6, 1976 (Chuquisaca, Sucre).

*P. kasuckana* Brandt, KuaS 23(7):179, 1972 (Chuquisaca, Tarabuco) (description; typification in Stach. 8(42), 147, 1972).

*P. lamprospina* Brandt, Frankf. Kaktfrd. 4(2):6, 1977 (Chuquisaca, Sud Cinti).

*P. macednosa* Brandt, Cactus Flam. Ausg. 9(3):42, 1977 (Bolivia, La Paz).

*P. maxima* Ritt., Succulenta 43(2):23, 1964 (Tarija, Mendez).

*P. mendezana* Brandt, Cactus Flam. Ausg. 8(6):93, 1976 (Tarija, Mendez).

*P. minima* Brandt, Frankf. Kaktfrd. 3(3):6, 1976 (Cochabamba, Tarata).

*P. prestoensis* Brandt, Kaktus Hillerod 11(3):54, 1976 (Chuquisaca).

*P. quechua* Brandt, Kakt. Orch. Rundsch. 2(1):4, 1977 (Chuquisaca, Tarabuco).

*P. riograndensis* Brandt, Kakt. Orch. Rundsch. 1(5):76, 1976 (Cochabamba, Campero).

*P. rostrum-sperma* Brandt, Stach. 9(43):2, 1973 (Tarija).

*P. salmonea* Brandt, KuaS 24(5):97, 1973 (Bolivia, Chuquisaca).

*P. separata* Brandt, Cact. Flam. Ausg. 8(5):77, 1976 (Cochabamba, Campero).

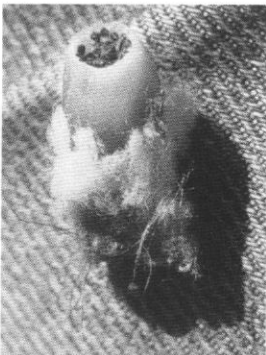


Fig. 13. *P. maassii* fruit, showing the ±thick wall and basal dehiscence (same location).

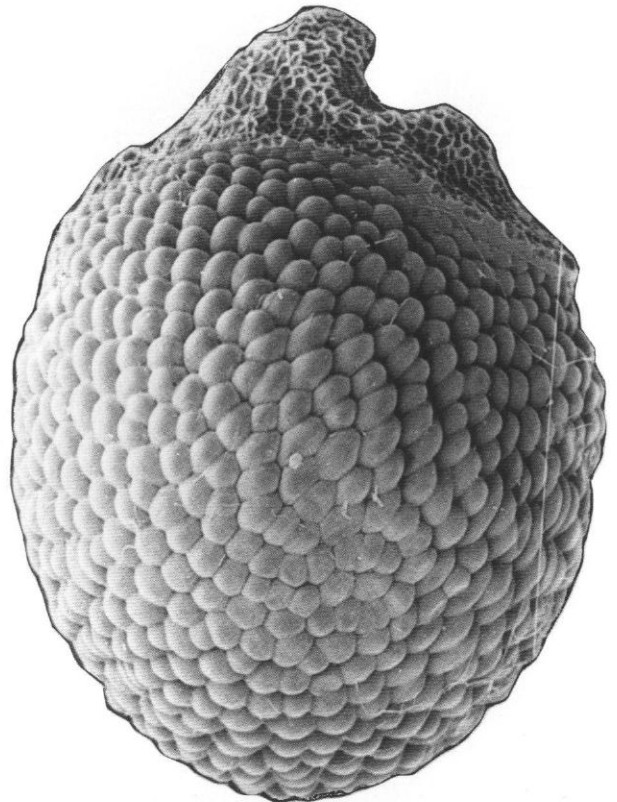


Fig. 14. Seed of *P. maassii*, 0.85 mm long excluding caruncula, with very noticeable cells (RK IV-89, N of Humahuaca). See affinity with *P. setifera*.



*P. stereospina* Brandt, Kaktus Vilag (1):10, 1977 (Chuquisaca, Tarabuco).

*P. suprema* Ritt., Cactus 76:51, 1962 (Tarija, Mendez).

*P. thieleana* Brandt, Kakt. Orch. Rundsch. 1:80, 1976 (Chuquisaca).

*Body* depressed-globose to shortly columnar, 5–20(–30) cm tall and 20–25 (12–30) cm in diameter, clear to dark green, with woolly center. *Ribs* 13–21, straight or spiralled, low and broad, 2 cm wide. *Radial spines* ca. 15, unequal, (5–)15–20 mm long, white to yellowish; *centrals* ca. 4,



Fig. 15. *P. setifera*, environment near Molinos, Salta.



Fig. 16. *P. setifera*, near Cachi.

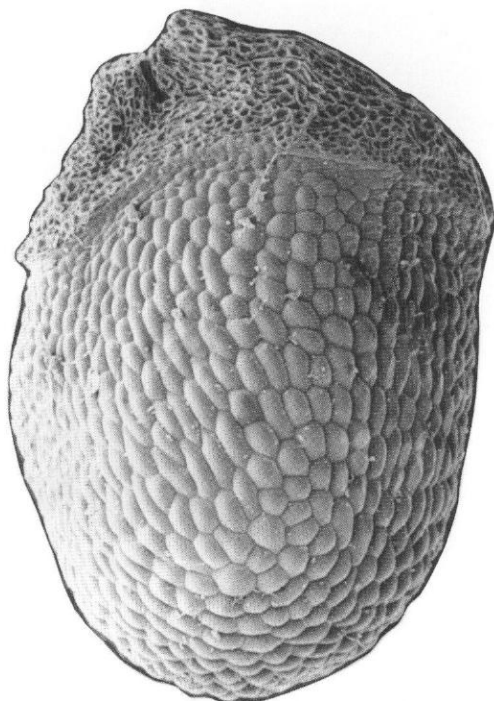


Fig. 17. *P. setifera* seed, 0.7 mm long excluding caruncula (RK XI-75, near Cachi).

stronger, 3–5 cm, arched, rarely straight, yellowish or somewhat brown.

*Flowers* ca. 3 cm long, orange to yellowish to reddish. *Fruit* covered by yellowish to reddish wool. *Seeds* ca. 1 mm long and 0.8 mm in diam., ovoid, with a small caruncula.

South and center of Bolivian high plateau and N. Argentina (in Jujuy) reaching Humahuaca, in the geobotanic regions of Prepuna and Puna.

Documented material selected: Jujuy, Abra Pampa, A. L. Cabrera 9432 (LP); Humahuaca, A. Schinini 22527 (SI), A. L. Cabrera 31807 (SI) and R. Kiesling 7 (LP); Yavi, A. L. Cabrera 17641 (LP) and R. Kiesling 49 (LP). Bolivia, Iscayachi bei Tarija, 27-III-1904, K. Fiebrig 3199 (SI, isotype of *E. escayachensis* Vpl.)

4. *P. setifera* Backbg. (as "setifer"), Blätt. f. Kakt. 68/3, 1934-7 (Figs. 15–17).

*P. auricentra* Backbg. l.c.: 416, 1935 (Salta, 3,000 m).

*P. muhrii* Brandt, Kakt. u. Orch. Rundsch. 3(1):14, 1978 (Salta, Payogasta).

*P. rauschii* Backbg. l.c.: 11, 1963 (Salta, Q. del Toro).

*P. uhligiana* Backbg., l.c.: 12, 1963 (Salta, Q. del Toro).

*P. varicolor*, Ritt., Taxon 13(3):117, 1964 (Salta, N. Cachi).

*Stems* simple, depressed-globose, to 10–50 cm tall and 20–25 cm in diam. *Ribs* ca. 15. *Areoles* woolly when young, separated by 1 cm. *Radial*



Fig. 18. *P. nivosa*, cultivated.

*spines* 25–40, setose, very thin, 1–2 cm long, interlacing; *centrals* 3–8, stronger, 2–3(–4) cm, one or more hooked, pink to yellow to brown, with bulbous base. *Flowers* 4 cm long, yellow to orange. *Fruits* dry, cylindroid, 2 cm long and 5 mm in diam., red-brown, semi-dry, dehiscent at the base. *Seeds* ovoid, 0.5–0.6 mm in diam, black to dark brown.

Grows in Salta, between Molinos to La Poma, Cachipampa and Amblayo, around 2,000–3,000 m.

Documented material selected: Salta, Cachipampa, R. Kiesling 137 (LP). Valle Calchaqui, Churcal, A. Castellanos 6-II-1943 (BA 48882).

5. *P. nivosa* Backbg., Blätt. f. Kakt. 68-5, 12-1934 (Figs. 18–19).

*Stems* globose, 10–15 cm in diam., elongated in the shade. *Ribs* near 22, dissolved into tubercles. *Spines* straight, thin, many; *radials* 25–60,



Fig. 20. *P. penicillata*, environment near Cafayate (photo Richard).

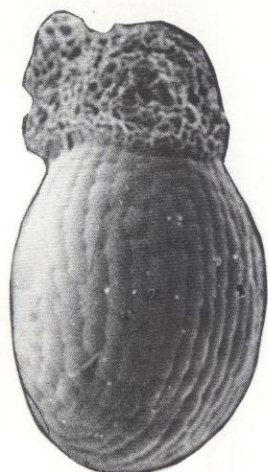


Fig. 19. *P. nivosa* seed, 0.45 mm long, excluding caruncula, showing affinity with the next two species and also with *P. microsperma* (OF 46-83).

pure white, crystalline; *centrals* 4, stronger, a little darker, 3–5 cm long.

*Flowers* born from the central areoles which at flowering time produce woolly hairs; bright red or a little orange, campanulate, ca. 4 cm in



Fig. 21. *P. penicillata* at the same place.



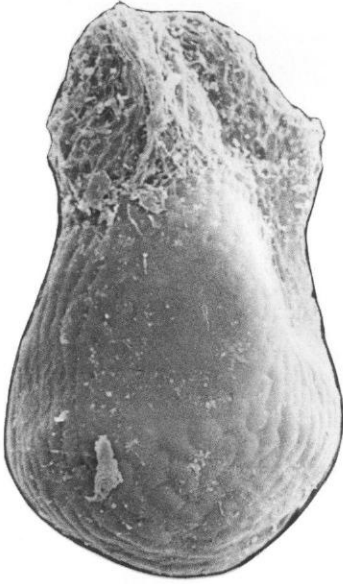


Fig. 22. *P. penicillata* seed, 0.5 mm long, excluding caruncula.

diam., 3–5 cm long. *Seeds* 0.5–0.7 mm, dark brown to black.

From Salta, at the Quebrada del Toro, near 2,000 m altitude.

Documented material: Salta, Q. del Toro, O. Ferrari 46/83 (SI and cultivated OF).

6. *P. penicillata* Fechner et Van der Steeg, *Succulenta* 29(7):77, 1960.—“Cardoncito santo” (Figs. 20–22).

*Plants* globose to cylindric, 7–12 cm diam. *Ribs* 17–18, strongly tuberculate but continuous. *Areoles* 12–15 mm apart. *Spines* 40–60, golden yellow to brown or white, in young areoles all similar, in old ones longer and differentiated in radials of 1–3 cm and 4–7 centrals of ca. 3 cm in length.

*Flowers* widely campanulate, borne from non-woolly areoles near the apex, ca. 3–4 cm in diam. and length, deep red. *Fruits* globose ca. 0.8 cm in diam. *Seeds* globose-elongate, carunculate, 0.8 mm long, 0.4 mm in diam., testa with the marked cells.

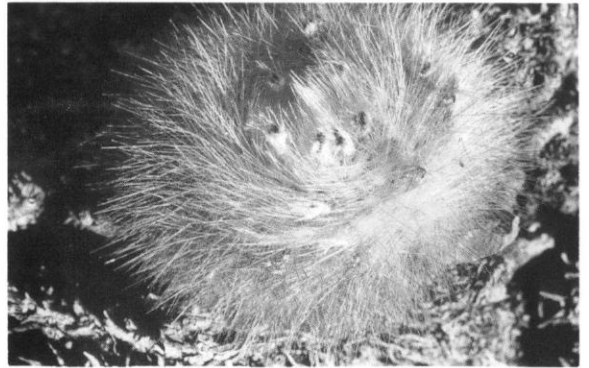


Fig. 24. *P. chrysacanthion* at the same place.



Fig. 23. *P. chrysacanthion* in Jujuy: Volcán, on vertical slopes.

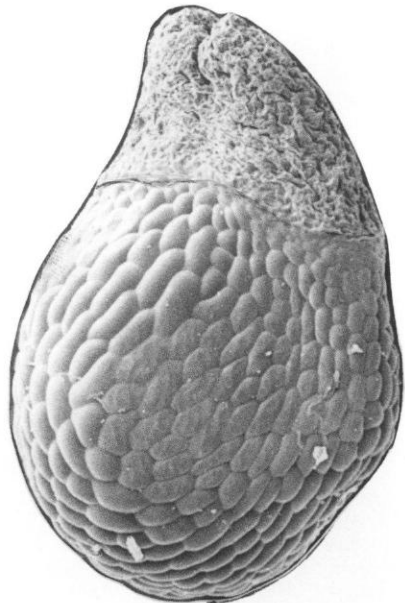


Fig. 25. *P. chrysacanthion* seed, 5.5 mm long, excluding caruncula (OF, cultivated, from Volcán).



Fig. 26. *P. chrysacanthion*, cultivated plant.

From Salta, near Cafayate, in crevices of rocks, in several narrow valleys with permanent water. It is very abundant, but near towns is intensively collected to be used as ornaments for the Christmas *pesebre* (crib, rack/manger).

We decided, after considerable hesitation, to keep this species separate from *P. nivosa* for the morphological difference mentioned in the key and for the different flowering times. In cultivation in La Plata *P. penicillata* flowers in November and December and *P. nivosa* flowers in February.

Documented material: Salta, Cafayate, A. Castellanos et H. Lelong 10-I-1943 (BA 46899 & 46900).

7. ***P. chrysacanthion*** (Schum.) Backbg., Blätt. f. Kakt. 68-8, 3-1935 (Figs. 23-25).

*Echinocactus chrysacanthion* K. Schumann., Gesamtb. Kakteen: 396, 1898.

*Plant* globose-discoid, elongate and cylindroid when growing in the shade, 5-25 cm in diam. *Ribs* many: (20-)30-50. *Spines* very dense, straight, completely covering the stems, golden yellow, 1-2 cm long.

*Flowers* only yellow, several, born from the center, about 1.8 cm long, nearly tubular, perhaps because the spines hinder the aperture. *Fruits* small, ovoid. *Seeds* 1 mm, dark brown.

It lives in Jujuy, from Barcena to Volcán, at 1,800-2,500 m elevation, on nearly vertical mountain slopes, sometimes associated with *Abromeitiella lorentziana*.

Documented material: Jujuy: Maimará, Marsoner XI-1940 (BA 34659). Volcán, A. Castellanos II-1937 (BA 19244). Valle de Humahuaca, Stümer 6131 (BA).

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