

The identity of *Austrocylindropuntia weingartiana*

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In general, the Cactaceae are poorly represented in herbaria. This is due on the one hand to the difficulty of drying the plants and the poor results obtained; and on the other to the failure of many authors (e.g. Backeberg, Buining, Rausch, Ritter . . .) to understand the true significance and usefulness of herbarium specimens in general and type specimens in particular. Britton, Rose and their collaborators carefully preserved this kind of documentary evidence, so that it is possible to check or amplify their descriptions and even to correct their mistakes.

The example which follows shows that a species which has remained unknown for many years can be identified by examination of the type specimen and a careful reading of the original description.

In 1919 Britton & Rose gave the first description of *Opuntia shaferi* from N. Argentina (prov. Jujuy):

'Plants in clusters of 2-4, erect, about 3 dm. high; joints terete, 2.5 to 3.5 cm. in diameter, elongated, very spiny; tubercles low, often indistinct; leaves deciduous, 6 mm. long; areoles 1 cm. apart or less, circular, white-felted; glochids numerous, whitish from the upper margin of the areole; spines about 6 at an areole, brownish, acicular, often 4 to 5 cm. long and associated with long white hairs; flowers not known; fruit globular, about 2 cm. in diameter, bearing numerous large areoles, the areoles white-felted, with glochids and hairs but no spines; seeds turgid, pointed at base, 4 mm. long.

'Collected by J. A. Shafer among stones between Purmamarca [Purmamarca] and Tumbaya, Argentina, February 6, 1917 (no. 90).

'Nearest *O. vestita* but less caespitose, taller and larger, and with fertile fruit.'

A duplicate (isotype) of *Shafer* 90 is in the Kew Herbarium (fig. 1).

In August 1935, Backeberg (Blätter für Kakteenforschung 1935 pt. 8) described another new species, *O. weingartiana*, and illustrated it with a photograph:

'Erect, candelabrum-like, young shoots conical, becoming reddish grey below and up to 5 cm. diam. New growths 1.5-2.5 cm. diam., fresh green, slightly tuberculate. Ca. 3-5 stout central spines, up to 6 cm. long, red to pale brown, usually bent sideways or upwards. Glassy white glochids from the round, white-felted areoles, glochids later yellow. Height of groups up to 50 cm. Shoots later resembling *Op. Rauppiana*, but at first white-haired. Flowers unknown. Fruit carmine. Occurrence: South Bolivia at ca. 3000 m.'

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Backeberg did not preserve type material, but the photograph (fig. 2) is very clear. Later, he transferred both *O. shaferi* and *O. weingartiana* to *Cylindropuntia* and finally to *Austrocylindropuntia*.

In my opinion, *A. shaferi* and *A. weingartiana* are one and the same species. I have twice collected material in the province of Jujuy which matches Britton & Rose's type and description and Backeberg's photograph. I have also collected material of another Backeberg species, *A. humahuacana* (Backeb.) Backeb., from its type locality in Jujuy, and believe it to be just an ecological form of *A. shaferi*. When the three species are united, we are able to establish the following key and synonymy, completing the description with floral data from my collection:

KEY

1. Stems completely covered with hairs; spines less than 15 mm. long ***A. vestita***
1. Stems with some hairs on the juvenile growth only; spines 10-50 mm. long:
 2. Spines up to 15, covering the stems, 3-5 cm. long, usually reddish ***A. shaferi* var. *shaferi***
 2. Spines few, weak, up to 1 cm., usually whitish ***A. shaferi* var. *humahuacana***

Austrocylindropuntia shaferi (Britton & Rose) Backeb. in Cact. Succ. J. Amer. 23:14 (1951).

Opuntia shaferi Britton & Rose, The Cact. 1: 72 (1919).

Type: Argentina, Jujuy, between Purmamarca and Tumbaya, 6 Feb. 1917, *Shafer* 90 (US, holo.; K, iso.!).

Cylindropuntia shaferi (B. & R.) Backeb., in Backeb. & F. M. Knuth, Kaktus-ABC, 119 (1935).

Opuntia weingartiana Backeb., Blätter f. Kakteenf. 1935 pt. 8, sine pag. (1935). Type (not preserved): S. Bolivia, 3000 m., collector not stated.

Cylindropuntia weingartiana (Backeb.) Backeb. in Backeb. & F. M. Knuth, Kaktus-ABC, 119 (1935).

Austrocylindropuntia weingartiana (Backeb.) Backeb., in Cact. Succ. J. Amer. 23:14 (1951).

var. *shaferi*

DESCRIPTION. Plants forming mounds up to 30 cm. high and 15 cm. diam., stems 2-20, branching near soil level, ascending cylindrical, 2.5-3 cm. diam., dark green; tubercles low, frequently indistinct, irregular; areoles 1 cm. or less apart, circular, white-felted; glochids numerous, prominent, whitish, from upper edge of areole. Leaves conical, 6 mm. long, dark green, caducous. Spines numerous, 10-15, unequal, varying from 1-5 cm. long at one areole, acicular, flexible, reddish brown to whitish; hairs few to several (5-20), 0.5-2 cm. long, white, caducous.

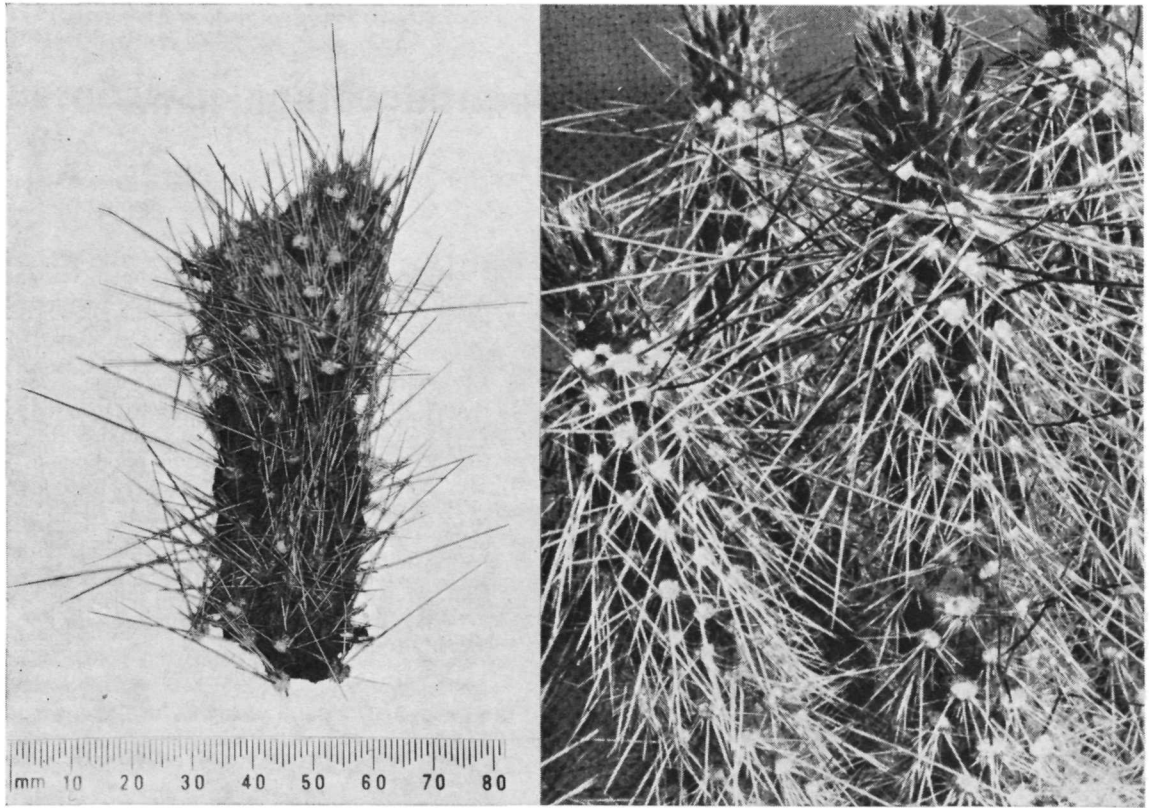


Fig. 1 (left), part of the isotype specimen of *Opuntia shaferi* (Shafer 90) in the Kew Herbarium. **Fig. 2** (right), a reproduction of the original illustration of *O. weingartiana* Backeb. in *Blätter f. Kakteenf.* 1935[8].

Flowers arising at upper areoles. *Receptacle* globose, 1.5–2 cm. long and in diam., green, with numerous areoles bearing hairs and glochids but no spines. *Perianth* rotate with few (c. 20) segments, the outer smaller, greenish red, the inner 2 cm. long, broad, shining deep red. *Stamens* relatively few (20–30), 1.6 cm. long, filaments and anthers yellow. *Ovary* globose, 0.8 cm. diam.; *style* cylindric, a little longer than the stamens, creamy yellow; *stigma* with about 4–5 short, obtuse, papillose, green lobules.

Fruits globose, 2 cm. diam., half-dry, carmine red, caducous when ripe; *umbilicus* flat, clear light brown; *pulp* white. *Seeds* 10–30, pyriform, 2 mm. long, 1.3 mm. diam., smooth, yellow-brown, with apical hilum and a prominent slightly paler dorsal line.

FURTHER MATERIAL STUDIED. Argentina, prov. Jujuy: Churqui Aguada, Dec. 1967, *Kiesling* 28 (LP); depto. Santa Catalina, Quebrada de Toqueros, Jan. 1969, *Kiesling* s.n. (LP).

DISTRIBUTION. In S. Bolivia and N. Argentina (Jujuy), from the Quebrada de Toqueros to Cajas in the north to Puramarca, between 1500–3500 m.s.m.

The fruits are not dehiscent, except insofar as they break up as they rot on the ground. I have not seen the seeds carried away by ants, as is common with other fruits.

var. **humahuacana** (Backeb.) *Kiesling*, **comb. et stat. nov.**
Cylindropuntia humahuacana Backeb. in Backeb. &

F. M. Knuth, *Kaktus-ABC*, 119, 411 (1935). Type (not preserved): 'In regione limitanea Argentino-Boliviana, in vallibus', collector not stated.

Austrocylindropuntia humahuacana (Backeb.) Backeb. in *Cact. Succ. J. Amer.* 23:13 (1951).

Differs from var. *shaferi* only in the stems 3–4 cm. diam. and fewer (up to 5), shorter (1 cm. long) and less dense, whitish spines.

MATERIAL STUDIED. Argentina, prov. Jujuy: near Humahuaca at c. 3000 m.s.m., Feb. 1978, *Kiesling* 2514 (SI).

Known only from the environs of Humahuaca, usually in the shade of thickets formed by *Prosopis ferox*. In cultivation, the variety retains its character, unlike the type variety which produces somewhat smaller spines, though otherwise readily distinguishable.

Acknowledgements

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A revision of the genus Pterocactus by Dr. Kiesling will be published in the Journal next year.