

Butia microspadix, Burret, l. c. 1050.

Small palm, perhaps acaulescent: leaves small and recurved, petiole and rachis tawny-scaly or tomentose; pinnæ narrowly linear, regularly placed, mostly opposite on the rachis, to 37 cm. or less long and 7 mm. broad, narrowly acuminate and bifid: spathe small, on the outside densely fusco-tomentose: spadix rachis about 6 cm. long, the small branches about 25 of which the larger are about 8 cm. long: pistillate flowers small, subglobose-ovate; staminate about 10 mm. long, oblong, acute, the petals densely punctulate on the outside.

Brazil, probably State of São Paulo.

† **Butia paraguayensis**, stat. nov.

Cocos paraguayensis, Barb.-Rodr. Palm. Nov. Paraguayenses, 9, t. ii (1899); Palm. Hasslerianæ, 12 (1900); Sertum Palm. Bras. i, 110, t. 82 (1903).

Butia Yatay var. *paraguayensis*, Becc. in Agric. Coloniale, x, 503 (1916); reprint, p. 53.

Smaller palm than *B. Yatay*, mostly without definite trunk, with all the parts on a lesser scale, pinnæ 13 mm. or less broad: drupe ovoid-attenuate, cherry-like, about 30 mm. long and 20-23 mm. thick, yellow, the deep cupule with only short points or the rim nearly obtuse.

Native in Paraguay, at San Salvador.

This is the only botanical species of *Butia* that was definitely contrasted by its author with another species. Barbosa in his *Palmæ Novæ Paraguayenses* makes the following comparisons, the first column representing *Yatay* and the right-hand column *paraguayensis*:

Trunk tall, 4-5 m. tall, more than than 1 ft. diam.	Acaulescent, rarely 1-2 m., 6 cm. or less diam.
Leaves 2-3 m. long.	Leaves 1.6-1.8 m. long.
Spadices 1.5 m. long.	Spadices $\frac{3}{4}$ m. or less long.
Peduncle 7 dm. long.	Peduncle about 4 dm.
Branches of spadix 150-200 and 3-4 dm. long.	Branches 25-30 and less than 1. dm.
Pistillate flowers 8-10 mm. long.	Pistillate flowers one-fourth or one-fifth as long.

I do not know a plant in cultivation that I would now refer to var. *paraguayensis*. Such plants as I have heretofore referred there are only small-fruited forms of trees as big as *B. Yatay* itself and with broad pinnæ, the dried drupes being 22-30 mm. long. Beccari refers to this variety plants grown in two gardens in southern France.

Whether this small-fruited *Yatay* in Texas and California deserves a varietal name (as I once thought) cannot be answered until we understand the species better and particularly the technical differences between *B.*

Yatay and *B. capitata*. The contrasts between these species must be worked out with trees growing in the wild in their native places, not alone from subjects in cultivation. Beccari remarks he has not discovered characters that enable him to separate juvenile plants of the two species *Yatay* and *capitata*.

Beccari states that *paraguayensis* is only a slender small-fruited form of *B. Yatay*, but I am not convinced of this disposition from Barbosa's description of it; nor am I certain that Beccari's fruits of this palm in his plate vii B are the same as the picture by Barbosa in his *New Palms of Paraguay* (Fig. 22, G herewith).

Butia Poni, Burret, in *Notizblatt Bot. Gart. u. Mus. Berlin-Dahlem*, x, 1051 (1930).

Cocos poni, Hauman, in *Physis*, iv, 604, figs. (Buenos Aires, 1918).

Practically undescribed, but the two small pictures by Lucien Hauman show a little practically acaulescent plant about 1 m. high, with small spreading-arching leaves of perhaps 25 pairs of narrow pinnæ, very short and small spathe and spadix, the half dozen or so ovate-pointed fruits in a head-like cluster on a long peduncle; spathe pointed; branches of spadix about 30. He states that it differs from *C. Yatay* in its dwarfness, foliage and inflorescence much smaller.

Argentina. Known as El yatay poñi.

Butia pungens, Becc. in *Agric. Coloniale*, x, 523 (1916); reprint, p. 73.

Small palm with numerous glaucous very coriaceous and rigid pinnæ produced into a pungent apex even though bidentate or bifid and that are nearly equally placed on the rachis, the main ones to 35 cm. long to 12 mm. broad: major spathe coriaceous and very rigid, acuminate, glaucescent and smooth: spadix rigid, about 60 cm. long: pistillate flowers ovate-conic, 13-15 mm. long and 9 mm. broad.

Argentina.

Butia stolonifera, Becc. l. c. 492 (1916); reprint, p. 42.

Cocos stolonifera, Barb.-Rodr. in *Contrib. Jard. Bot. Rio*, i, 4, t. iv A. (1901); *Sertum Palm. Bras.* i, 89, t. 62A (1903).

Acaulescent and cespitose with long subterranean stolons that send up new plants: leaves slender, erect or nearly so, to 1 m. and more long, 5-7 borne at one place, petiole to 50 cm. long and bearing very short spines; pinnæ alternate on the rachis, very long-acuminate, apex bifid, glaucous underneath, to 50 cm. long; spadix, flowers, fruits not described by Barbosa.

Uruguay in Pan d'Azucar near Montevideo.

Butia Wildemaniana, Burret, l. c. 1050.

Cocos Wildemaniana, Barb.-Rodr. in *Palm. Hasslerianæ*, Nov. 9 (1900); *Sertum Palm. Bras.* i, 101, t. 75A (1903).