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Re-evaluation of *Syagrus loefgrenii* Glassman and *S. rachidii* Glassman

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Both taxa mentioned in the title were originally described as new species in the same article (Glassman, 1967). After collecting additional material of *S. loefgrenii* from an area near its type locality, I published an emended description of that species (Glassman, 1968).

When these two taxa were first described, I assumed that they were distinct because of the following differences:

S. loefgrenii

Pinnae up to 32 pairs per leaf. Middle pinnae in loose clusters of 2-3 or single, up to 17 cm. long. Spadix branches up to 6 in number, flowers more or less loosely arranged.

S. rachidii

Up to 50 pairs per leaf. In tight clusters of 2-3, 10-13 cm. long. Up to 12 in number, flowers densely crowded.

In fact, I was so convinced of their being distinct that I placed each species in separate sections of the subgenus *Syagrus* due to apparent differences in clustering of the middle pinnae (Glassman, 1970). *Syagrus loefgrenii* was put in the section CAMPYLOSPATHA Glassman close to *S. campylospatha* (Barb. Rodr.) Becc., whereas *S. rachidii* was placed in the section OLERACEA Glassman, next to *S. duartei* Glassman.

After I had examined collections of *S. loefgrenii* from Itirapina (Glassman & Gomes 8011 to 8016) I began to question whether this species was really different from *S. rachidii* because some of the

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middle pinnae were in tight clusters of two to three, but at the time I did not attach great significance to this. At a later date, however, my doubts about two clear-cut species grew considerably when I looked at other specimens from the Instituto Botanica herbarium in São Paulo. In *Kuhlmann 3964*, presumed to be *S. loefgrenii*, middle pinnae from mature leaves are arranged in tight clusters of two to three, but pinnae from younger leaves of the same plant are mostly in loose clusters. *Kuhlmann 1572*, collected near the type locality of *S. rachidii*, has a spadix with six branches, however, the lowermost branch is only 6 cm. long with closely crowded female flowers measuring about 10 mm. long, while the other branches are up to 12 cm. long with loosely clustered female flowers up to 14 mm. long. In essence, the lower spadix branch has the appearance of *S. rachidii* and the upper branches resemble those of *S. loefgrenii*.

During a collecting trip to Brazil in the summer of 1969, I decided to visit Pirrassununga, the type locality area of *S. rachidii*, to obtain additional specimens in an attempt to solve this problem. Results showed that a number of leaves collected (*Glassman 8748, 8749*) have both tightly and loosely clustered pinnae on the same leaf, whereas, pinnae of other leaves (*Glassman 8750, 8751*) are mostly tightly clustered. In addition to this, many of the plants collected here have larger dimensions than those originally recorded for both *S. rachidii* and *S. loefgrenii*. Some have a short trunk up to 0.5 m. high, leaf rachis 52–70 cm. long, 41–66 pairs of pinnae per leaf, middle pinnae 21–25 cm. long, and 0.8–1.3 cm. wide, expanded part of spathe 20–26 cm. long and 3.5–5.8 cm. wide, branched part of spadix 18–20 cm. long, longest branch 13–18 cm. long, lower male flowers 12–17 mm. long, and female flowers 14–18 mm. long.

I have concluded that, in this instance at least, the kind of pinnae clustering is too variable to be used for specific distinction. Variation in size of certain structures mentioned above can probably be attributed to the type of habitat under which certain populations grow. The holotypes of *S. loefgrenii* and *S. rachidii* and specimens collected near Itirapina (*Glassman & Gomes 8011–8016* and *J. Elias de Paula 117*), and perhaps some of the others cited below, were most likely growing in localities with relatively poor soil conditions and subjected to periodic fires. On the other hand, *Glassman 8748–8751* and *Kuhlmann 1572* were probably collected in areas with better soil conditions and fewer fires.

Since my original concept of two distinct species is now very much blurred, I am combining *S. loefgrenii* and *S. rachidii* under

12260.

PALMAE

LAJIA

Syagrus petraea Mart. & *Syagrus* Drude.

Rio de Janeiro, 1910. 5/4/00.

Ex. Herr. Johs. Geogr. u. Geol. de S. Paul. 14. 075.

Loc. Alb. Lofgren.



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COMISSÃO DE COLEÇÃO DE TIPO
A 573 FAM PALME

Syagrus petraea Mart. & Drude

FIG. 1. *Syagrus loefrenii* Glassman. Holotype, Lofgren 573 (SP).



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Syagrus palmata (Jacq.) Cass
 Paracouranga / Santos 5/9/47
 Campos secados de São Paulo
 Leg. Herculano Rachid /
 Sed. Jm F. Toledo

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 V. 1. Palmaceae
Syagrus palmata (Jacq.) Cass
 (cf. *Syagrus rachidii* (H. B. K.) Burret)
 com material de São Paulo, 5.9.1947
 No. Inv. 16 7 1947 101 1/1

FIG. 2. *Syagrus rachidii* Glassman. Holotype, M. Rachid 53520 (SP).



FIG. 3. *Syagrus rachidii*. Paratype, Toledo and Gehrt 43184 (SP).



FIG. 4. *Syagrus loefgrenii*. Three views of spathes and spadices. Left, old flowers setting fruit; center, mature flowers; right, young fruit. *Glassman 8750*.

Opposite:

FIG. 5. *Syagrus loefgrenii*. Whole mature leaf. *Glassman 8750*.

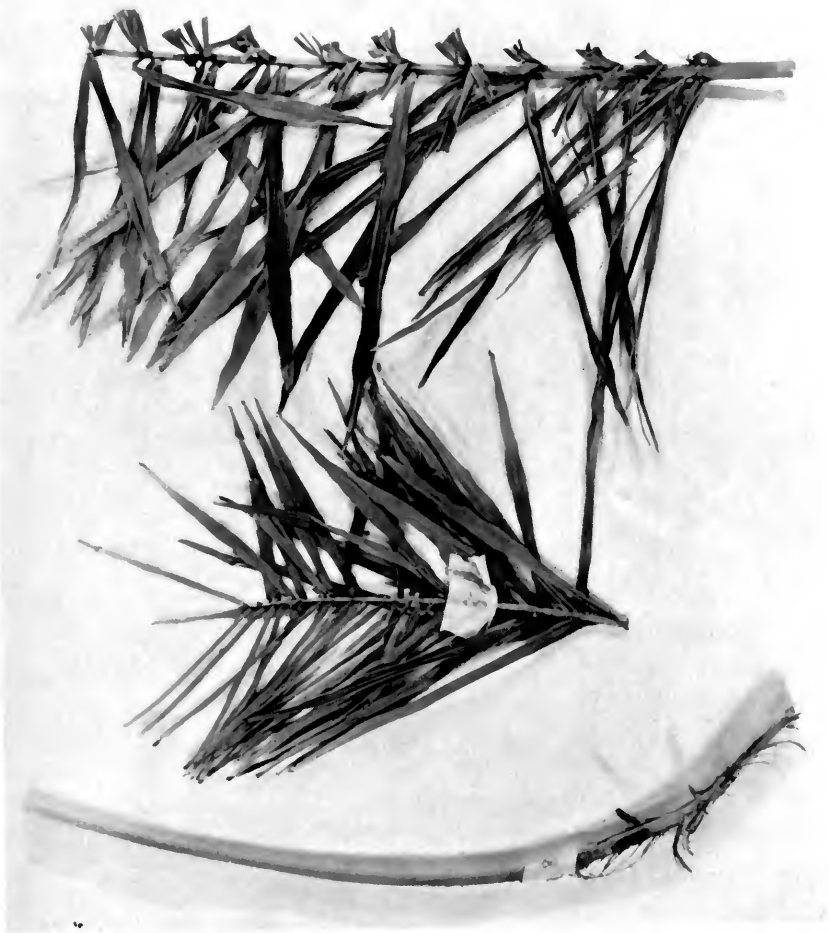




FIG. 6. *Syagrus loefgrenii*. Whole juvenile leaf showing long sheathing base and petiole. Glassman 8751.



FIG. 7. *Syagrus loefgrenii*. Longitudinal section and external view of short trunk. Glassman 8749.



FIG. 8. *Syagrus loefgrenii*. Part of leaf and two spathes and spadices showing small female flowers. Elias de Paula 117 (SP).



FIG. 9. *Syagrus loefgrenii*. Spathe and spadix showing short lower branch with small female flowers and longer upper branches with larger female flowers. Kuhlmann 1572 (SP).



FIG. 10. *Syagrus loefgrenii*. Whole plant showing subterranean stem, flowering spathe and spadix, and leaves. *Glassman and Gomes 8011*.



FIG. 11. *Syagrus loefgrenii*. Three views of spathes and spadices. Left, in fruit; center, mature flowers; right, old spadix with most of the flowers fallen off. *Glassman and Gomes 8012*.

one taxon. I have selected *S. loefgrenii* as the valid name because it was the first one of the two described in the same article.

Synonymy, an emended description, and cited specimens are given below:

Syagrus loefgrenii Glassman, *Fieldiana Bot.* **31**: 240. 1967; l.c. **31**: 364. 1968 (corrected from *lofgrenii*). *S. rachidii* Glassman, *Fieldiana Bot.* **31**: 245. 1967. Figures 1–11.

Acaulescent palm, occasionally with trunk up to 0.5 m. high. Petiole 15–27 cm. long (up to 50 cm. long in juvenile leaves) and 0.6–0.8 cm. wide, margins smooth or fibrous, sheathing base 15–26 cm. long (up to 33 cm.—juvenile); rachis of leaf 35–70 cm. long, pinnae 26–66 pairs, in loose or tight clusters of 2–4, occasionally single, middle ones 10–25 cm. long and 0.5–1.3 cm. wide, glaucous or eglaucous, mostly with oblique tips; expanded part of spathe 11–27 cm. long and 2.0–5.8 cm. wide, deeply plicate-sulcate, brownish tomentose, becoming glabrous with age; branched part of spadix 8–20 cm. long, branches 4–12 in number, each branch 6–18 cm. long; male flowers 7–17 mm. long on lower part, 4–10 mm. long on upper part; female flowers 8–14 mm. long and 5 mm. wide in some populations, 14–18 mm. long and 6–7 mm. wide in other populations; immature fruit with beak up to 4 mm. long, up to 2 cm. long and 1 cm. in diameter, endocarp about 0.5 mm. thick, cavity smooth, trivittate; seed not seen.

Flowering from May to November.

Type.—Brazil, São Paulo, Rio Claro, Löfgren 573 (SP).

Distribution.—Endemic to Brazil in state of São Paulo.

Cited specimens.—BRAZIL: São Paulo—Rio Claro, Campo, June 5, 1888, Löfgren 573 (SP, holotype); Anhembi, Fazenda Barreiro Rico, October 5, 1956, M. Kuhlmann 3964 (SP); Campo Alegre, September 25, 1940, Toledo and Gehrt 43184 (F, SP); Pirassununga, Campos Cerrados da Boa Vista, September 5, 1947, M. Rachid 53520 (SP, holotype of *S. rachidii*); Pirassununga, November 11, 1947, M. Kuhlmann 1572 (SP); 9–11 km. N.W. of Pirassununga, cerrado, July 14, 1969, Glassman 8748, 8749, 8750, 8751 (CHI); Itirapina, May 22, 1965, J. Elias de Paula 117 (SP); Sertão de Itirapina, 12 km. N.W. of city, in burned-over savanna, July 2, 1965, Glassman and Gomes 8011, 8012, 8013, 8015, 8016 (CHI).

Syagrus loefgrenii seems to have its closest affinities with *S. campylospatha* from Paraguay. Both taxa are acaulescent with a leaf rachis approximately the same size and have middle pinnae single or in loose or tight clusters, and these are relatively narrow (0.5–1.3 cm.) with oblique tips. The latter species differs from *S. loefgrenii* mainly in the longer middle pinnae (24–38 cm. rather than 10–25 cm.), which are appressed white-brownish pubescent on the upper

surface rather than glaucous, a greater number of spadix branches (up to 20 rather than 4-12), and shorter male and female flowers (up to 8 mm. and 6-8 mm., rather than up to 17 mm. and 8-18 mm.).

It appears that previous alignment of *S. rachidii* with species of section *OLERACEA* is now incorrect because in members of that section the middle pinnae are consistently tightly clustered.

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