

BIOLOGY

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Biology

PRELIMINARY NOTES ON THE
SCROPHULARIACEAE
OF PERU

GABRIEL EDWIN

NEW SPECIES IN THE PALM GENUS
SYAGRUS MART.

S. F. GLASSMAN

22 1968
TROPICAL AMERICAN PLANTS, VIII

LOUIS O. WILLIAMS

University of Illinois

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NEW SPECIES IN THE PALM GENUS
SYAGRUS MART.

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New Species in the Palm Genus *Syagrus* Mart.

In the process of studying herbarium material of *Syagrus* from various institutions, I have encountered a number of collections which do not fit into the provisional key to the genus proposed by me in a recent article¹ nor do they seem to fit into recognized species. Some of these plants are described below as new species. I am grateful to Josephine Sennet for the line drawings and to the National Science Foundation which supported part of this work.

Syagrus archeri Glassman, sp. nov. Figure 1.

Palma acaulis. Folia ca. 87 cm. longa; pinnis utrinque 28 aequaliter pinnatisecta; spadix ca. 34 cm. longus pars ramosa 19 cm. rachillis ca. 19; flores masculi et 6-7 mm. et 3.5-5.0 mm. alti; flores feminei 6-7 mm. alti.

Acaulescent palm or with short trunk to 0.3 m. long. Petiole 5.5-8.0 cm. long, about 0.6 cm. wide, sheathing base about 13 cm. long; rachis of leaf about 69 cm. long; pinnae 28 pairs, unclustered, mostly subopposite or opposite along rachis, glabrous on both surfaces, middle ones up to 41 cm. long, 0.7 cm. wide, mostly with long acuminate tips; expanded part of spathe up to 29 cm. long and 2.6 cm. wide, glaucous on outside, becoming eglaucous with age; branched part of spadix up to 19 cm. long, branches up to 19 in number, each branch up to 8 cm. long; male flowers 6-7 mm. long and 3.5-5.0 mm. long, sepals 1.5-3.0 mm. long; female flowers 6-7 mm. long, 5-6 mm. wide; fruit (immature) 1.6 cm. long, about 1.0 cm. in diameter, endocarp 0.5-1.0 mm. thick, cavity smooth; seed not seen.

BRAZIL: State of Minas Gerais, Fazenda Morro Redondo, near Lavras, in burned-over pasture, 20 Sept. 1936, W. A. Archer 4048 (A, holotype; BH, NY, MO, US).

Another specimen (*O. Handro 313* [SP], state of Sao Paulo, Casa Branca, 18 Sept. 1952) collected about 130 miles to the west of Lavras, may be the same species; but the spathe is slightly wider (3 cm.), the male and female flowers are slightly longer (both up to 8 mm.) and the spadix branches are slightly longer (up to 9.5 cm.).

Syagrus archeri seems to be related to *S. graminifolia* var. *nana* (Drude) Becc. from Brazil. Both are acaulescent and have very narrow, unclustered pinnae; but the female flowers are slightly shorter

¹ Preliminary Studies in the Palm Genus *Syagrus* and its Allies. Fieldiana, Bot. 31, 147-164. 1965.

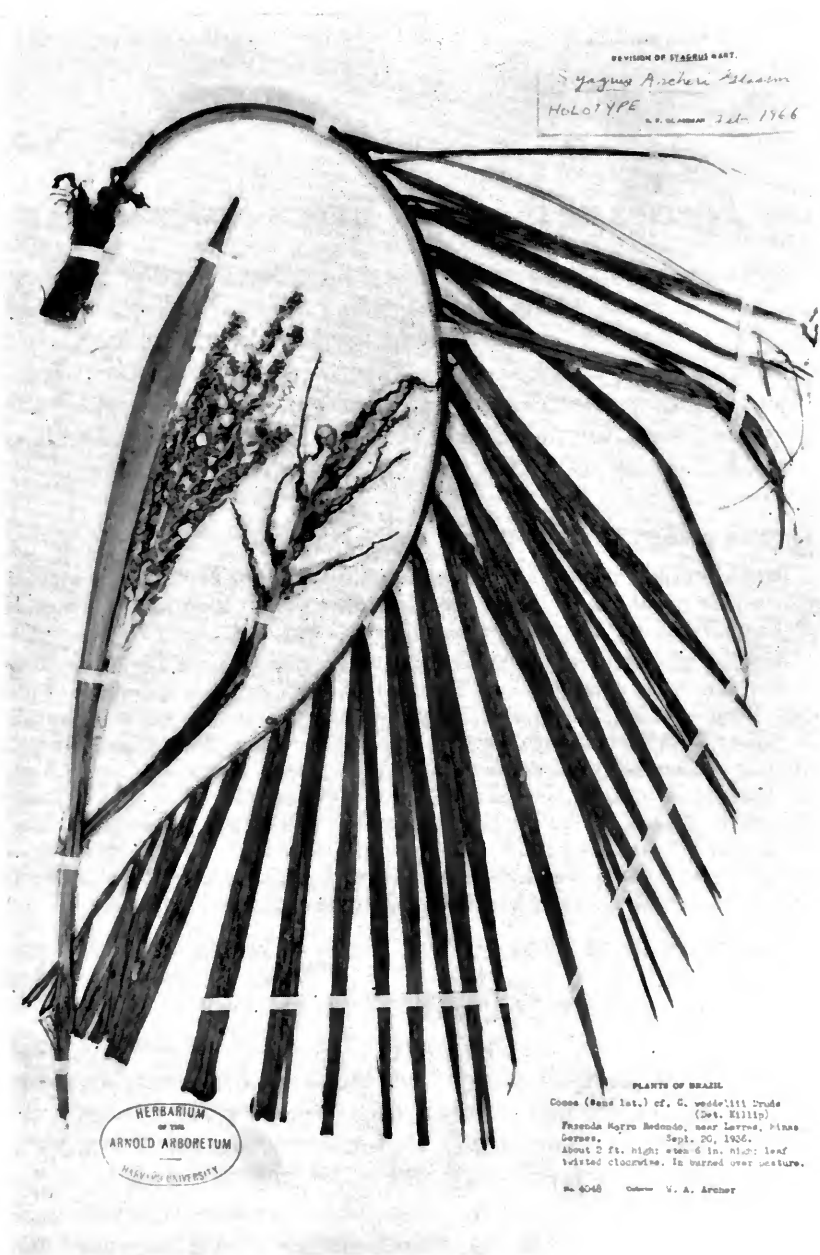


FIG. 1. Holotype of *Syagrus archeri* Glassman. Archer 4048 (A).

(6–8 mm., rather than 8–9 mm.) and wider (5–6 mm., rather than 3.5 mm.), and the spadix branches are shorter (up to 9.5 cm., rather than up to 16 cm.) and more numerous (up to 19, rather than up to 5 in number).

During July 1965, I visited a grassland area about 16 km. north of Lavras and observed about 100 living specimens. I was told that there were similar stands of this species throughout the region. *Syagrus archeri* is fairly common in other grasslands and pastures of Minas Gerais near Paraopeba, Curvelo and south of Diamantina. A number of specimens were collected from palms in these localities, but unfortunately I have only recently received the specimens from Brazil for study.

***Syagrus cardenasii* Glassman, sp. nov. Figure 2.**

Palm 1–2 m. alta. Petiolus 38 cm. longus; pinnis utrinque 32 in gregibus dispositus; spadix ca. 54 cm. longus pars ramosa 27 cm. longa; flores masculi 5–9 mm. alti; flores feminei 7–9 mm. alti; fructus 2.2 cm. longus, 1.6 cm. diam.; semine 1.1 cm. longo, 0.75 cm. lato.

Palm 1–2 m. tall, apparently growing in clumps. Petiole 38 cm. long, about 1 cm. wide; rachis of leaf blade up to 57 cm. long; pinnae 32 pairs, single or in loose clusters of 2–3, grayish-green above, but not waxy, yellowish-green below, middle-lower ones up to 30 cm. long and 0.75 cm. wide, mostly with narrowed oblique tips; expanded part of spathe up to 38 cm. long and up to 3.3 cm. wide, brownish-tomentose to glabrous on outside; branched part of spadix up to 27 cm. long, branches 9–11 in number, each branch up to 22 cm. long; male flowers 8–9 mm. long on lower part and 5.0–7.5 mm. long on upper part; female flowers 7–12 mm. long, 6–8 mm. wide, sepals and petals with more or less acute tips; pistil 5.5 mm. high; ovary densely short pubescent for most part; mature? fruit about 2.2 cm. long, 1.6 cm. in diameter, slightly beaked; endocarp bony, 2–2.5 mm. thick along sides, 3–3.5 mm. thick at extremities, cavity trivittate, smooth; seed about 1.1 cm. long, 0.75 cm. in diameter, endosperm homogeneous, cavity very narrow.

BOLIVIA: Province of Chuquisaca, between Monteagudo and Muyupampa, alt. 1800 m., dry forest, slopy soil, "Motzcuchi," May 1959, *M. Cardenas 5500* (BH, holotype; US).

Syagrus cardenasii seems to be related to *S. cocoides* Mart. from Brazil. Both taxa have pinnae which are single or in loose clusters, spadix branches of more or less the same length and number, and female flowers of about the same size and shape. The new species differs from *S. cocoides* in the narrower pinnae (less than 1 cm., rather than up to 2.5 cm. wide), smaller male flowers (up to 9 mm., rather than up to 19 mm. long), and smaller fruits (2 cm., rather than 5 cm.) which are only slightly beaked rather than long beaked.

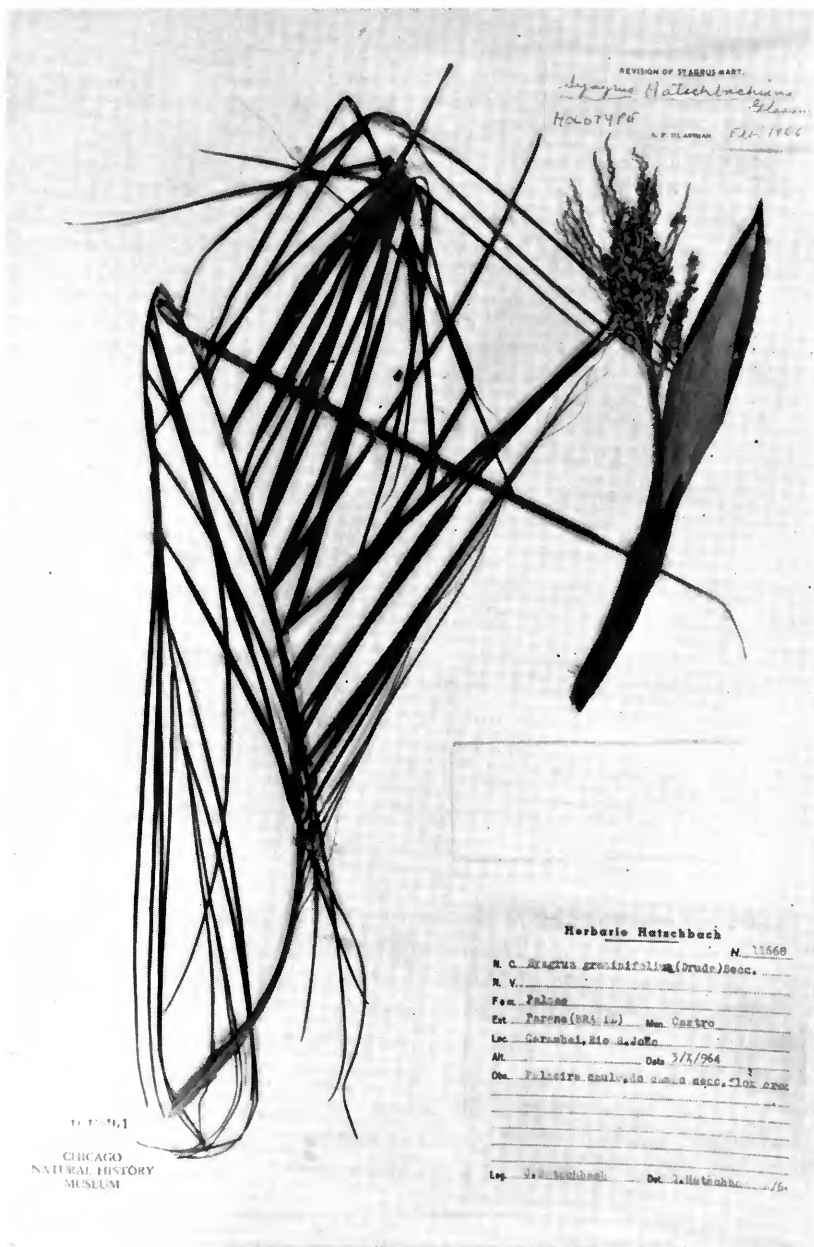


FIG. 3. Holotype of *Syagrus hatschbachii* Glassman. *Hatschbach 11668* (F).

Syagrus hatschbachii Glassman, sp. nov. Figure 3.

Palma acaulis. Folia ca. 60 cm. longa pinnis utrinque 20 aequaliter pinnatisecta; spadix ca. 20 cm. longus pars ramosa 9.5 cm. longa rachillae ca. 13; flores masculi 4–6 mm. alti; flores feminei 4–5 mm. alti.

Apparently acaulescent palms. Petiole (partly cut off) about 9 cm. long, 0.5 cm. wide; rachis of leaf blade about 41 cm. long; pinnae 20 pairs, unclustered, mostly subopposite or opposite along rachis, intervals between pinnae 1.5–2.0 cm., glabrous on both surfaces, middle ones up to 26 cm. long, 0.4 cm. wide, mostly with long acuminate tips; expanded part of spathe up to 12 cm. long and up to 2.5 cm. wide, densely dark brownish-tomentose on outside; branched part of spadix about 9.5 cm. long, branches up to 13 in number, each branch up to 6 cm. long; male flowers 4–6 cm. long, sepals with acuminate tips, unequal in size and shape, 1–4 mm. long; female flowers 4–5 mm. long, about 3.5 mm. wide.

BRAZIL: State of Paraná, Castro, Carambei, Rio S. João, campo seco, 3 Oct. 1964, *G. Hatschbach 11668* (F).

Another specimen (*G. Hatschbach 8091* [RB], Paraná, Ponta Grossa, Parque Vila Velha, Rio Arroio Guavirova, campo limpo, 30 July 1961) collected in a nearby locality and consisting of a leaf, flowers and fruiting material may be the same species. The leaf rachis, however, is about 74 cm. long and the intervals between the pinnae are mostly 2.5–3.0 cm. apart. The following description of the fruiting stage from this specimen is added: expanded part of fruiting spathe about 17 cm. long and 3.5 cm. wide; branched part of fruiting spadix 13 cm. long, branches 15 in number, each branch up to 11 cm. long; fruit (immature?) about 2 cm. long, 1.1 cm. in diameter with beak 4 mm. high, exocarp and mesocarp fibrous, endocarp woody, about 1 mm. thick, endocarp cavity smooth, trivittate; seed apparently destroyed by insects.

Syagrus hatschbachii seems to be most closely related to *S. lilliputiana* (Barb. Rodr.) Becc. from Paraguay. Both are acaulescent, have narrow (4–6 mm. wide) and unclustered pinnae, and have male and female flowers approximately the same size. The new species differs from *S. lilliputiana* mainly in the larger flowering spathes (12 cm. long and 2.5 cm. wide, rather than 4 cm. long and 1.5 cm. wide), larger spadices (9.5 cm. long, rather than 4 cm. long), and longer and more numerous spadix branches (up to 6 cm. long and 13 branches, rather than up to 3 cm. long and 3 branches).

Syagrus lofgrenii Glassman, sp. nov. Figure 4.

Palma acaulis. Folia ca. 62 cm. longa, pinnis utrinque 32 in gregibus dispositus; spadix (pars ramosa) ca. 13 cm. longa; flores masculi 8 mm. alti; flores feminei 13 mm. alti.



FIG. 4. *Syagrus lofgrenii* Glassman (from *Lofgren 573*). Leaf blade (left) and spadix (right) $\times 1$; female flower (top) and male flowers (bottom) $\times 4$.



FIG. 5. Holotype of *Syagrus rachidii* Glassman. Rachid 53520 (SP).

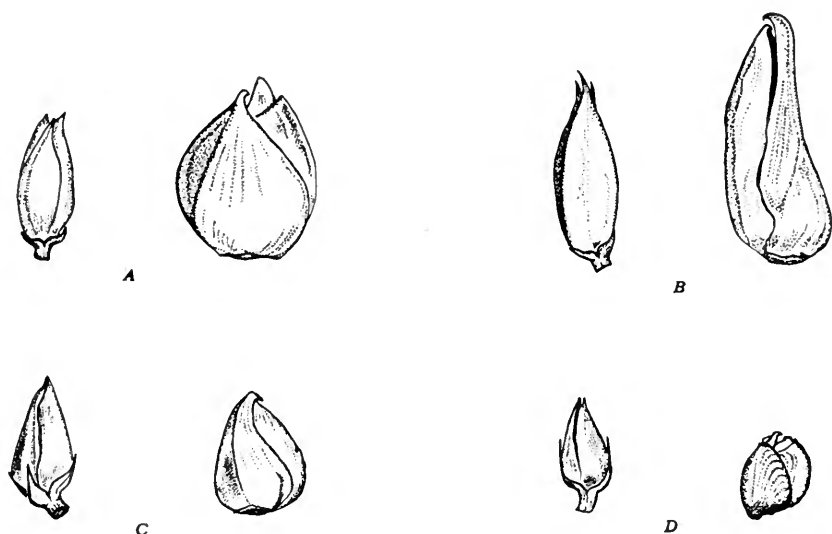


FIG. 7. *Separate Flowers*—all $\times 4$. Male—left, Female—right. A. *S. cardenasii*; B. *S. rachidii*; C. *S. archeri*; D. *S. hatschbachii*.

Acaulescent palm. Petiole (incomplete) 14 cm. long, 0.5 cm. wide; rachis of leaf blade (apical part missing) about 47 cm. long; approximately 32 pairs of pinnae, mostly in loose clusters of 2–3, middle ones up to 17 cm. long and 0.5 cm. wide, mostly with narrowed oblique tips, scattered cottony-pubescent to glabrous on both surfaces; expanded part of spathe up to 17 cm. long and up to 2.5 cm. wide, cottony-pubescent to glabrous on outside; branched part of spadix up to 13 cm. long, branches about 6 in number, each branch up to 8 cm. long; male flower (only one observed) 8 mm. long; female flowers 13 mm. long, about 5 mm. wide; fruit not seen.

BRAZIL: State of São Paulo, Rio Claro, campo, 5 June 1888, A. Löfgren 573 (SP).

Syagrus lofgrenii seems to be related to *S. graminifolia* (Drude) Becc. from Brazil. Both are acaulescent, have narrow pinnae, apparently the same number of spadix branches, and female flowers of approximately the same size. The new species differs from *S. graminifolia* in the shorter pinnae (up to 17 cm., rather than up to 40 cm. long) which are in loose clusters of 2–3, rather than unclustered and it has tips which are oblique, rather than acuminate. The branched part of the spadix is up to 13 cm. long, rather than up to 26 cm. long.

During July 1965, I collected what appears to be this species in the vicinity of Itarapina, about 25 km. N.W. of Rio Claro. Further study of these specimens is necessary before exact determination can be made.

Syragus rachidii Glassman, sp. nov. Figures 5 and 6.

Palma acaulis. Folia ca. 73 cm. longa, pinnis utrinque 44–46 in gregibus dispositis; spadix (pars ramosa) ca. 15 cm. longa, rachillae ca. 13; flores masculi et 10–12 mm. et 7–8 mm. alti; flores feminei 12–13 mm. alti.

Apparently acaulescent palms. Petiole about 16 cm. long, 0.6 cm. wide; rachis of leaf densely whitish-tomentose, 46 cm. long; middle pinnae mostly glabrous above, scattered brownish-tomentose below, in clusters of 2–3, up to 13 cm. long and 0.8 cm. wide, mostly with oblique tips; expanded part of spathe up to 16 cm. long, about 3.5 cm. wide, outer surface densely brownish-tomentose on lower half, glabrescent on upper half; branched part of spadix up to 15 cm. long, branches about 13 in number, each branch up to 8.5 cm. long; male flowers 10–12 mm. and 7–8 mm. long; female flowers 12–13 mm. long, about 5 mm. wide.

BRAZIL: State of São Paulo, Pirassununga, campos cerrados da Boa Vista, 5 Sept. 1947, *Mercedes Rachid 53520* (SP).

Another specimen (*J. Toledo & A. Gehrt 43184* [SP, F], São Paulo, Campo Alegre, 25 Sept. 1940) appears to be the same species, but the leaves are smaller (rachis is only 23 cm. long and pinnae are up to 10 cm. long); however, these appear to be the innermost leaves which are generally smaller in size. This specimen has an underground stem 8 cm. long and about 3 cm. thick, and the spadices have fruits in various stages of development. The fruits (immature?) are covered with a brownish tomentum and are up to 2 cm. long and 1 cm. in diameter, with a distinct beak about 4 mm. long.

Syragus rachidii seems to be related to *S. apaensis* (Barb. Rodr.) Becc. from Paraguay because both are acaulescent, have narrow, clustered pinnae, have spadices approximately the same size with the same number of spadix branches, and both have tomentose spathes. The new species differs from *S. apaensis*, however, in the longer male and female flowers (10–12 mm. and 7–8 mm., rather than 7–8 mm. and 5–6 mm.; and 12–13 mm., rather than 8 mm.), shorter leaflets (13 cm., rather than 23 cm.) and shorter spadix branches (8.5 cm., rather than 13 cm.).



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