

# Four New Natural Hybrids of *Syagrus* from Brazil

KELEN PUREZA SOARES  
*Universidade Federal de Santa Maria,  
Centro de Ciências Rurais,  
Universidade Federal de Santa Maria,  
Av. Roraima, 1000,  
CEP 97105-900,  
Santa Maria (RS), Brazil  
kpsoares@gmail.com*

LUCAS COELHO DE ASSIS  
*Baden-Württembergisches Brasilien-  
Zentrum der Universität Tübingen,  
Wilhelmstr, 113, D-72074 Tübingen,  
Germany*

CARLOS ALEX GUIMARÃES  
*Rua Carneiro da Rocha, 272,  
CEP 45653-560, Ilhéus (BA), Brazil  
piassava@uol.com.br*

AND

AMANDA R. GABRIELLI VIEIRA  
*Rua Nalzira Ribeiro Batista, 68,  
Bairro Filadélfia  
CEP 32670-086, Betim (MG), Brazil*

**In this paper we describe four new natural hybrids of *Syagrus* found between 2007 and 2013 in the states of Minas Gerais and Bahia in Brazil.**

Hybridization between species of *Syagrus* is apparently not an uncommon occurrence in natural habitats where some species grow together (Glassman 1970). Six natural hybrids have been described to date: *Syagrus* × *camposportoana* (Bondar) Glassman, *S.* × *costae* Glassman, *S.* × *matafome* (Bondar) A.D. Hawkes, *S.* × *mirandana* Noblick, *S.* × *tostana*

(Bondar) Glassman, *S.* × *teixeiriana* Glassman. Five others were created artificially or accidentally by man: *S.* × *montgomeryana* Noblick ex Hodel, *S. coronata* × *S. picrophylla*, *S. picrophylla* × *S. romanzoffiana*, *S. romanzoffiana* × *S. yungasensis* and *S. schizophylla* × *S.* × *montgomeryana* (Glassman 1987, Noblick 2010, Hodel 2011, Noblick 2012).

Natural hybrids and artificial hybridization between *Syagrus* species are currently highly valued by growers and gardeners because they expand the landscaping potential of the genus (Hodel 2011); one reason is that the plants generated offer greater adaptability to climate and soil changing and are usually faster growing than pure species.

The Brazilian states of Minas Gerais and Bahia have a great diversity of *Syagrus* species, and the following taxa have been recorded: *S. allagopteroides* Noblick & Lorenzi, *S. angustifolia* Noblick & Lorenzi, *S. botryophora* (Mart.) Mart., *S. campestris* (Mart.) H. Wendl., *S. comosa* (Mart.) Mart., *S. coronata* (Mart.) Becc., *S. duartei* Glassman, *S. evansiana* Noblick, *S. flexuosa* (Mart.) Becc., *S. glaucescens* Glaz. ex Becc., *S. glazioviana* (Dammer) Becc., *S. gouveiana* Noblick & Lorenzi, *S. graminifolia* (Drude) Becc., *S. harleyi* Glassman, *S. itacambirana* Noblick & Lorenzi, *S. kellyana* Noblick & Lorenzi, *S. macrocarpa* Barb. Rodr., *S. mendanhensis* Glassman, *S. microphylla* Burret, *S. minor* Noblick & Lorenzi, *S. oleracea* (Mart.) Becc., *S. pleioclada* Burret, *S. pseudococos* (Raddi) Glassman, *S. romanzoffiana* (Cham.) Glassman, *S. ruschiana* (Bondar) Glassman, *S. santosii* K. Soares & C.A. Guim., *S. schizophylla* (Mart.) Glassman, *S. vagans* (Bondar) A.D. Hawkes and *S. werdermannii* Burret (Noblick & Lorenzi 2010, Noblick 2010).

***Syagrus* × *altopalacioensis*** K. Soares & L.C. Assis **nothosp. nov.** (*S. pleioclada* × *S. duartei*).

Hybrid between *Syagrus pleioclada* and *Syagrus duartei* with intermediate morphologic characteristics. It differs from *S. pleioclada* by tall scale, by its leaflet arrangement, which are inserted in different planes. It differs from *S. duartei* primarily by having fewer leaflets, which are quite spaced. Type: BRAZIL. Minas Gerais: município de Santana do Riacho, Fazenda Alto do Palácio, near to Cachoeira do Coronel, 19°16'19.55"S 43°33'18.34"W, fl., fr., 16 Jun. 2013, K. Soares, L. Assis & A. G. Vieira 57 (Holotype HDCF).

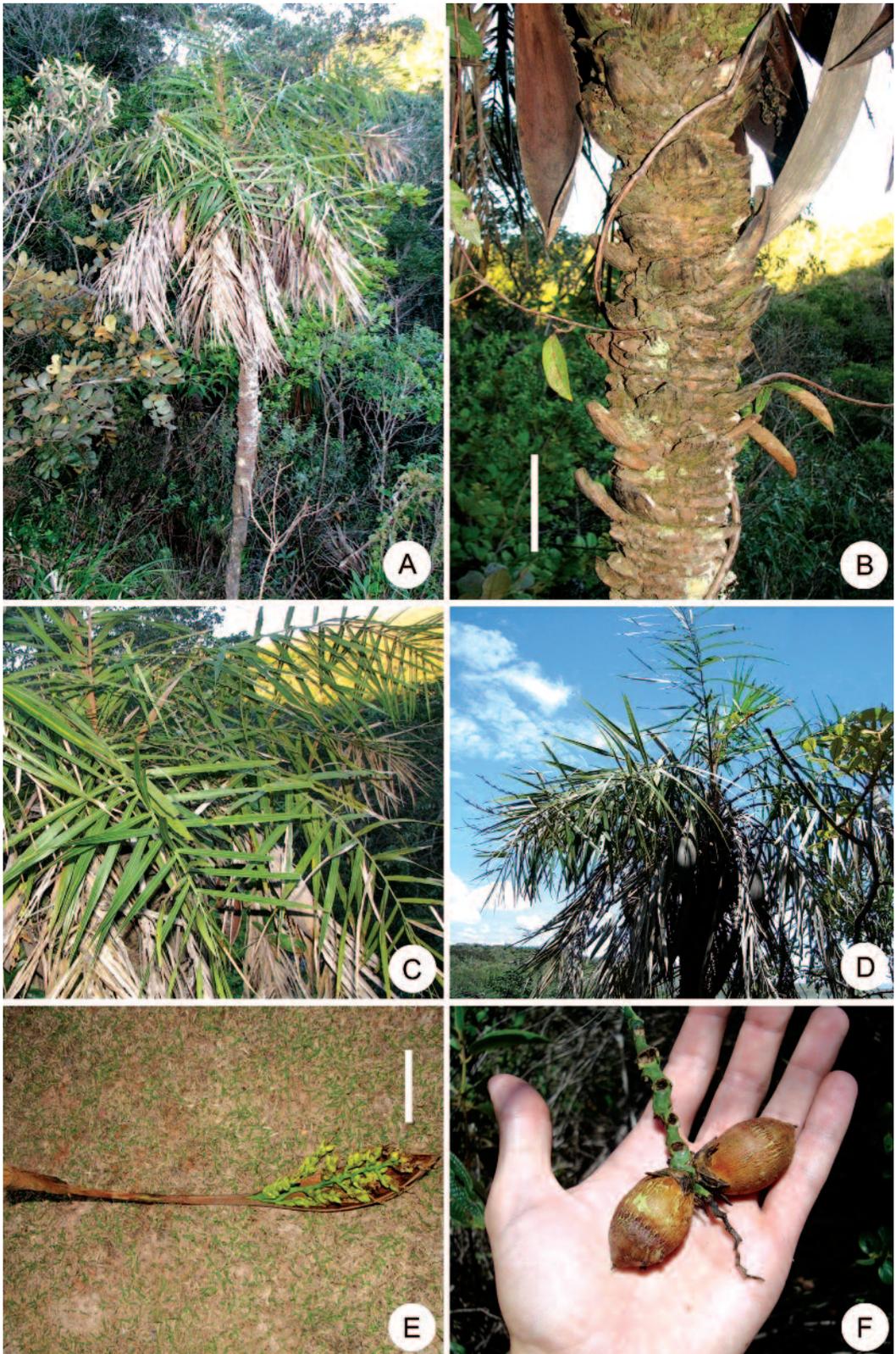
Solitary palm, small, 1.70 m tall (Fig. 1A). **Stem** 10 cm diam., ringed, covered with leaf base remains (Fig. 1B). **Leaves** 10, erect, 0.7–0.8 m long (Fig. 1C and 1D); sheath to 37 cm long, deeply split opposite petiole, margins with hair-like fibers; pseudopetiole 15–20 cm long; petiole 4 cm long, 1.2 cm wide, convex abaxially and slightly channeled adaxially, covered with a ferruginous indument; rachis 65–70 cm long, densely covered with

ferruginous indument, ± flat adaxially near the base progressively becoming angled, costa sharp distally; leaflets 35–40 per side, irregularly arranged, clustered, inserted in 2 or 4 planes, leaflet groups rather distant from each other by 5–8 cm, proximal leaflets to 25–30 × 0.8 cm, mid-blade leaflets 35–40 × 1.5–2.0 cm, most distal leaflets 20–25 × 0.6–0.7 cm, long-lanceolate, rigid, thin-leathery, green, midrib covered with tomentum on the abaxial side. **Inflorescences** interfoliar, 80–90 cm long, branched to 1 order (Fig. 1E); prophyll 30–35 × 3 cm; peduncular bract woody, sulcate, green, total length 85–100 cm, expanded portion 30–35 × 7.5–9.5 cm, bearing a 1 cm beak; peduncle 54–60 × 0.5–0.6 cm, densely covered with tomentum; rachis 15–20 cm long; rachillae 10–12, proximal 10–13 cm long, mid-rachis 7.5–10.5 cm long, most distal 5.0–6.2 cm long, arranged in a spiral around rachis. **Flowers** cream, yellow-green or yellow, arranged in triads at basal portion, with one pistillate flower flanked on either side by earlier-opening staminate flowers, in distal one-fourth of rachillae staminate flowers only; staminate flower 13 mm long, cupular, sepals and petals 3; sepals connate, less than 1 mm long, glabrous; petals valvate, 12 × 3 mm with acute tips, glabrous, stamens 6, ca. 6 mm long, anther 5–6 mm long. pistillate 12–15 × 5–7 mm, pyramidal or ovoid; sepals and petals 3; sepals 12–15 × 10–12 mm; petals imbricate, 10–13 × 10–12 mm; pistil 12–15 mm, ovoid, stigmas 3. **Fruits** 4.5 × 3 cm, ovoid, maturing cream or yellowish green, covered by ferruginous indument (Fig. 1F); endocarp 3.2 × 2 cm, ovoid.

**ETYMOLOGY:** The specific epithet *altopalacioensis* refers to the Alto do Palácio Private Reserve, RPPN (Reserva Particular do Patrimônio Natural), located in Santana do Riacho in the state of Minas Gerais (Brazil), where this hybrid was found.

**DISTRIBUTION AND HABITAT:** This hybrid is not common; to date only two plants were found, both at RPPN Alto Palácio private reserve, one of them being a young plant.

**NOTE:** This hybrid is easily recognized among the individuals of the “pure” species. It shows characters intermediate between *Syagrus pleioclada* and *Syagrus duartei*. It differs from *S. pleioclada* by tall stems (vs. low stature, seldom reaching 1.5 m), by its leaflet arrangement, the leaflets being inserted in different planes (vs. deflexed leaflets). It differs from *S. duartei* primarily by having fewer leaflets, which are



1. A. *Syagrus* × *altopalacioensis* (*S. pleioclada* × *S. duartei*) habit; B. Stem detail, scale 10 cm; C. Leaf detail; D. Crown of palm; E. Inflorescence, scale 10 cm; F. Fruits.

**Table 1. Comparison between *Syagrus* × *altopalacioensis* and its parental characteristics.**

Characters	<i>S. pleioclada</i>	<i>S. × altopalacioensis</i>	<i>S. duartei</i>
Height (m)	up to 1.5	1.7	up to 2
Leaflet arrangement	deflected in one plane; spaced	irregular in 3 or 4 planes; spaced	irregular in 3 or 4 planes; dense
Leaflet number	18–25	35–40	44–64
Rachillae number	8–20	10–12	5–8

quite distant (vs. more densely and evenly distributed along the rachis) (Table 1).

**OBSERVATIONS:** During the collection of data to describe this new hybrid, including observations of their parents, i.e. the pure species, the authors found some difficulty in clarifying the identity of the taxa in the *Syagrus glaucescens*/*S. duartei* complex. Populations from many locations were analyzed in the Espinhaço (Santana do Riacho, Morro do Pilar, Diamantina, Serro and other municipalities); in all localities the taxa showed great morphological variability, especially in relation to fruit/endocarp size, number of leaflets and rachillae (characteristics that separate *S. glaucescens* and *S. duartei*). Therefore, we have not reached any conclusions about the validity of the species *S. duartei*.

***Syagrus* × *andrequiceana*** K. Soares & L.C. Assis **nothosp. nov.** (*S. romanzoffiana* × *S. flexuosa*).

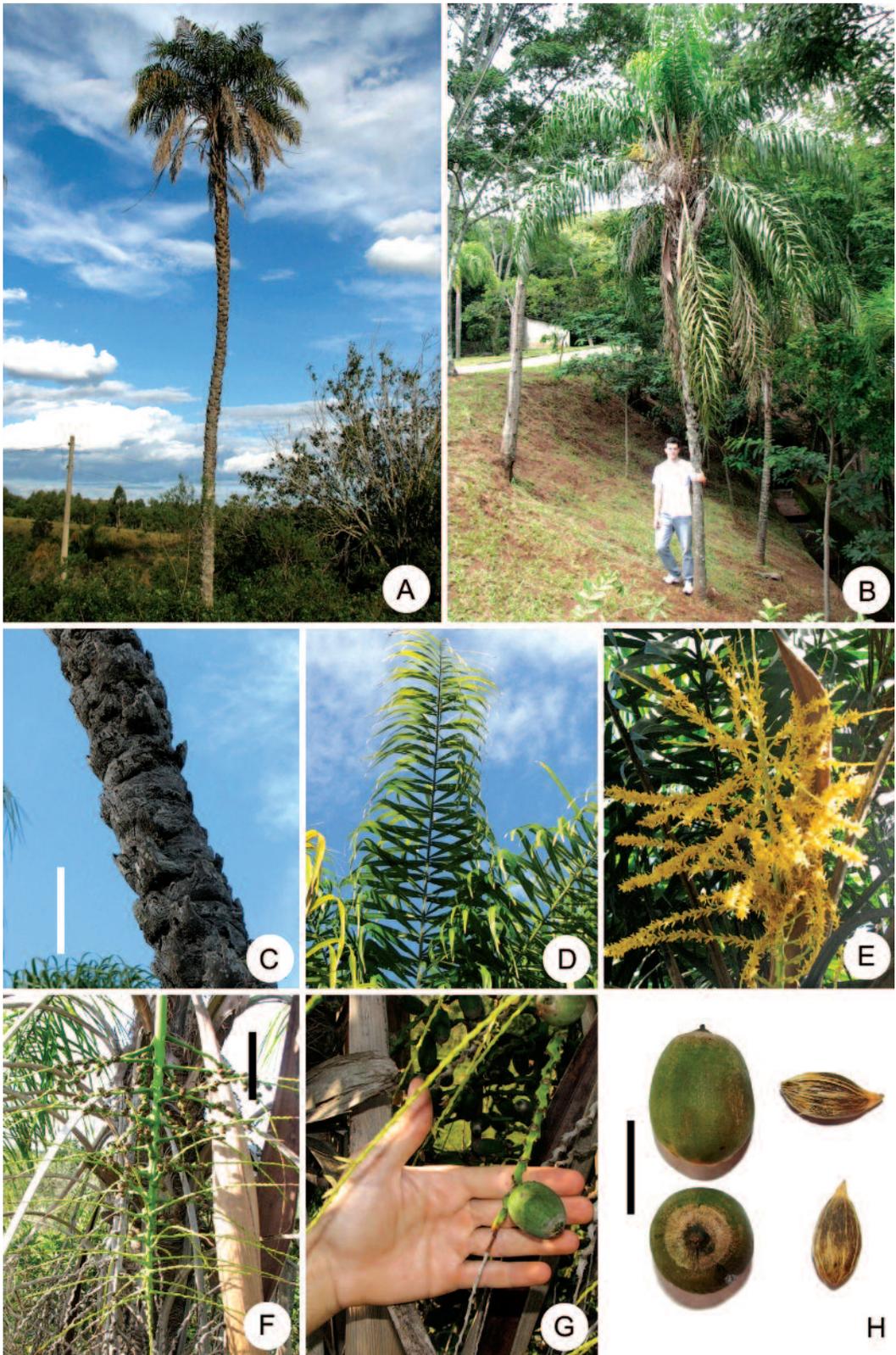
Hybrid between *Syagrus romanzoffiana* and *Syagrus flexuosa*. It differs from its parents mostly by the rachillae arrangement on the rachis, in the first quarter of the rachis length, inflorescence branches are arranged unilaterally, in the remainder of the rachis the rachillae are inserted spirally. Type: BRAZIL.

Minas Gerais: município de Datas, near Córrego Andrequicé, 18°33'21.44"S 43°38'25.23"W, fl., fr., 17 Oct. 2012, K. Soares, L. Assis & A.G. Vieira 46 (Holotype, paratype HDCE).

Solitary palm, size moderate or high, 5–13 m tall (Fig. 2A and 2B). **Stem** 14–21 cm diam., covered with leaf base remains, at least in the younger part (Fig. 2C). **Leaves** 15–26, spirally arranged, arched, 2–3 m long, bright green (Fig. 2D); sheath 57–93 cm, deeply split opposite petiole, margins with hair-like fibers; pseudopetiole 46–67 cm long; petiole 6–10 × 1.8–2 cm; convex abaxially and slightly channeled adaxially, with whitish or grayish, scurfy, mealy, ± deciduous tomentum abaxially; rachis 164–190 cm long, convex with tomentum, ± flat adaxially near the base progressively becoming an angled, sharp costa distally; leaflets 100–120 per side, irregularly arranged, clustered, inserted in 3 or 4 planes, leaflets groups fairly separate from each other, long-lanceolate, ± coiled, thin-leathery, dark green, with conspicuous transverse nerves on the adaxial side, abaxially the midrib with scarce rammenta, proximal leaflets to 50–55 × 0.9–1.1 cm, mid-blade leaflets 52–58 × 1.8–2.2 cm, most distal leaflets 26–39 × 0.7–0.9 cm. **Inflorescences** androgynous, interfoliar (Fig. 2E), 100–150 cm long, arching in flower,

**Table 2. Comparison between *Syagrus* × *andrequiceana* and its parental characteristics.**

Characters	<i>S. romanzoffiana</i>	<i>S. × andrequiceana</i>	<i>S. flexuosa</i>
Stem diam. (cm)	20–55	14–21	6–15
Leaf sheath retained	no	yes	yes
Rachillae arrangement	spiral	unilateral basally spiral distally	unilateral
♀ flower length (mm)	5–6	8–10	16–20
Fruit size (cm)	1.8–3.5 × 1.4–2.8	4–5 × 2.0–2.5	3.0–5.5 × 3.5–3.2
Endosperm	partially intruded by endocarp	homogeneous	homogeneous



2. A. *Syagrus* × *andrequiceana* (*S. romanzoffiana* × *S. flexuosa*) habit; B. Habit in Mangabeiras Park, Belo Horizonte; C. Stem detail, scale 20 cm; D. Leaves; E. Inflorescence; F. Infructescence showing rachillae, proximal unilateral and mid-rachillae/distal in spiral, scale 20 cm; G. Fuit; H. Fruits and endocarp, scale 2 cm.



3. A, B. *Syagrus* × *andrequiceana* (*S. romanzoffiana* × *S. flexuosa*) (a) growing close to *S. romanzoffiana* (b).

pendulous in fruit, branched to 1 order; prophyll 35 × 6 cm; peduncular bract woody, sulcate, green, total length 103–145 cm, expanded portion 38–100 × 7.5–17 cm, bearing

a 5–6 cm beak; peduncle 38–70 × 1.5–2 cm, densely covered with tomentum; rachis 27–60 cm long; rachillae 42–61, proximal 25–40 cm long, mid-rachis 16–35 cm long, most distal

**Table 3. Comparison between *Syagrus* × *lacerdamourae* and its parental characteristics.**

Characters	<i>S. coronata</i>	<i>S. × lacerdamourae</i>	<i>S. botryophora</i>
Stem surface	sheaths retained, or deeply ringed	smooth, ringed	smooth, ringed
Leaflet arrangement	irregular, in 3 or 4 planes	irregular, in 3 or 4 planes	regular, in "V"
Peduncular bract	shallow grooves	shallow grooves	deep grooves
Rachillae	unbranched	branched	unbranched
Epicarp	covered with indumentum	covered with indumentum	smooth

8–24 cm long, proximal rachillae arranged unilateral around rachis (like *S. flexuosa*), distal and mid-rachillae arranged in spiral (like *S. romanzoffiana*) (Fig. 2F). **Flowers**, cream, yellow-green or yellow, arranged in triads at basal portion of rachillae, with one pistillate flower flanked on each of two sides by earlier-opening staminate flowers, in distal one-fourth of rachillae only staminate flowers; staminate 7–9 mm, sepals connate and cream-colored in proximal 1 mm; petals 6–8 × 3 mm, long-ovate, valvate; stamens 6, ca. 4 mm long, anthers 4 mm long, dorsifixed below middle, pistillode short, 1 mm tall; pistillate 8–10 × 7 mm, ovoid, sepals 8–10 6–9 mm, petals 6–7 × 6–7 mm, imbricate nearly to apex, pistil 8–9.5 × 5 mm, ovoid, stigmas 3. **Fruits** 4–5 × 2–2.5 cm, ovoid, maturing yellow-orange or green-yellow; endocarp ovoid, 2.2–3.2 × 1.2–1.6 cm with homogeneous endosperm (Fig. 2G & 2H).

**ETYMOLOGY:** The specific epithet *andrequiceana* refers to the Andrequicé stream which the first individuals of these hybrids were found living near.

**DISTRIBUTION AND HABITAT:** this hybrid is relatively common in areas where the species *S. flexuosa* (Mart.) Becc. and *Syagrus romanzoffiana* (Cham.) Glassman grow together (Fig. 3A & 3B), a group of several hybrids was observed in the Datas – MG municipality, including some backcrossing (*S. romanzoffiana* × *S. × andrequiceana*). Other specimens were also seen in the Datas municipality (18°34'8.01"S 43°37'39.02"W), growing in Belo Horizonte in the Santa Rosa Avenue (19°51'10.13"S 43°57'49.85"W) and in Parque das Mangabeiras (19°57'4.19°57'4.20"S 43°54'18.43"W), Vale Verde farm in Betim–MG municipality (19°56'55.79"S 44°16'44.41"W), and Rio Manso–MG municipality, close to the road MG 831 (20°15'46.35"S 44°18'41.46"W).

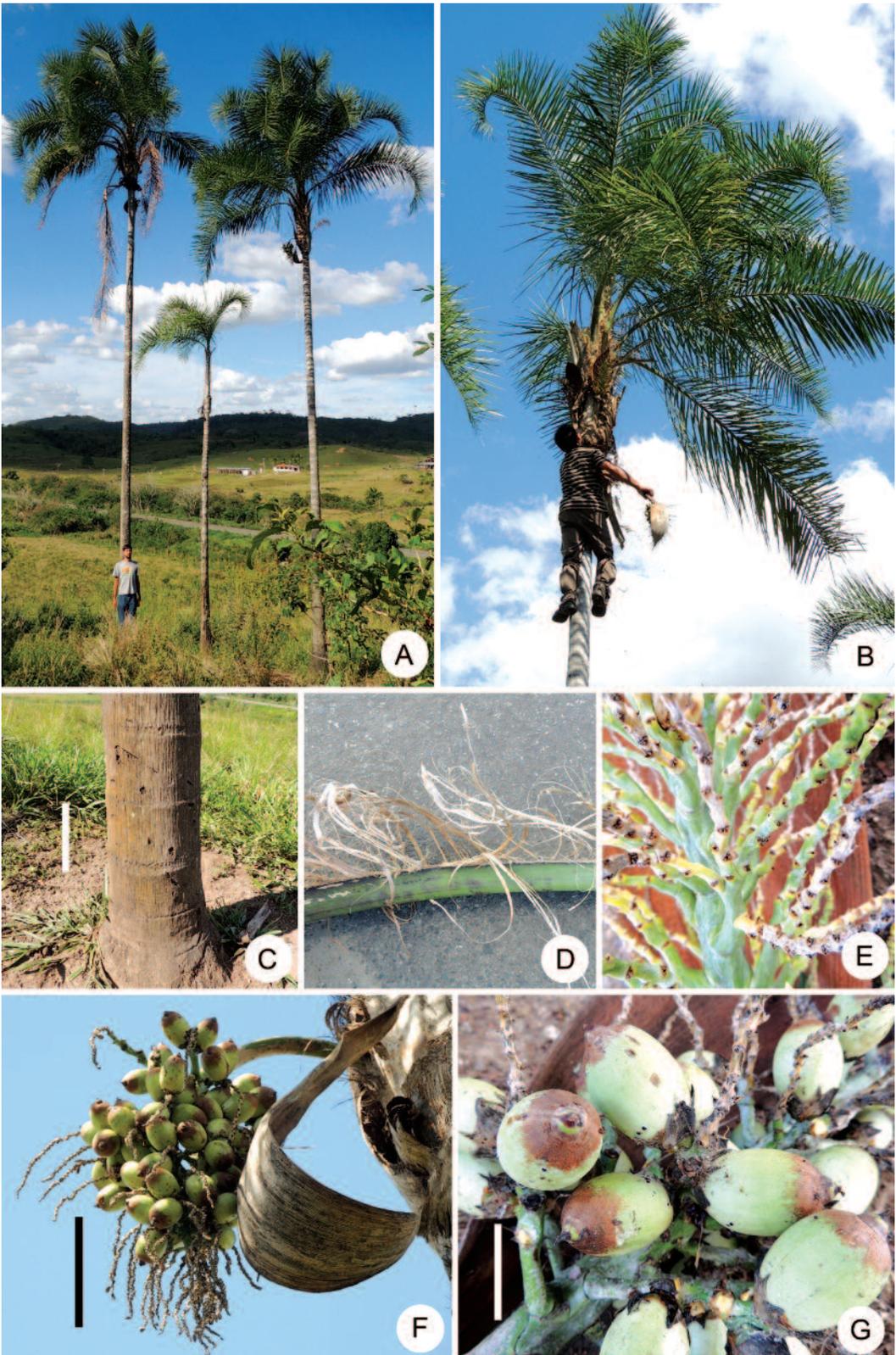
**NOTE:** It has characteristics intermediate between *S. romanzoffiana* and *S. flexuosa*, easily distinguished from the first by a thinner stem, with leaf sheaths adhering for a long time, leaving deep scars on its surface when they fall, by the larger pistillate flowers, by the arrangement of the rachillae on the rachis – in the first quarter of the rachis length, inflorescence branches are arranged unilaterally similar to *S. flexuosa*, and in the remainder of the rachis the rachillae are inserted spirally and by the fruit and endocarp, which are larger than in *S. romanzoffiana* with homogeneous endosperm (vs. irregularly penetrated by the endocarp). It differs from *S. flexuosa* by having larger stems, leaves and inflorescences, with stems always single, and also by the spiral arrangement of the rachillae along most of the rachis length (Table 2).

The palm has a rapid development and is a fertile hybrid. Although it produces fewer seeds per inflorescence, its fresh seeds germinate easily.

***Syagrus* × *lacerdamourae*** K. Soares & C.A. Guim **nothosp. nov.** (*S. coronata* × *S. botryophora*).

Hybrid between *Syagrus coronata* and *Syagrus botryophora*. Morphologically similar to *Syagrus botryophora*, it differs from its parents mostly in displaying some branched rachillae (2–4 branches), an uncommon characteristic in *Syagrus* species. Type: BRAZIL. Bahia: Itapetinga, Fazenda Atalaia, 15°10'18.56"S 40°5'4.76"W, fl. fr., 22 Oct. 2013, K. Soares, J. Santos, L. Assis, C. Guimarães 54 (Holotype HDCE).

Solitary palm, moderate to large, 5–16 m tall (Fig. 4A & 4B). **Stem** 4–14 m in height and 18–26 cm diam., tall, ringed with dilated base (Fig. 4C). **Leaves** 10–15, spirally arranged, arched, 3 m long; sheath 120 × 20 cm, deeply



4. A. *Syagrus* × *lacerdamourae* (*S. coronata* × *S. botryophora*) habit; B. Crown of palm; C. Dilated base of stem, scale 20 cm; D. Hair-like fibers of pseudopetiole; E. Branched rachillae; F. Infructescence, scale 20 cm; G. Fruits, scale 3 cm.

split opposite petiole margins with many hair-like fibers (Fig. 4D); petiole 13–15 × 2.5 cm, convex abaxially and slightly channeled adaxially, with whitish or grayish, scurfy, mealy, ± deciduous tomentum abaxially; rachis 280–300 cm long, convex, ± flat adaxially near the base progressively becoming angled, costa sharp distally; leaflets 190–200 per side, irregularly arranged, clustered, inserted in 3 or 4 planes, rigid, dark green, proximal leaflets to 77–86 × 1.4–2.0 cm, mid-blade leaflets 63–84 × 2.5–3.0 cm, most distal leaflets 20–25 × 1.0–1.3 cm, long-lanceolate. **Inflorescences** androgynous, interfoliar, 45–70 cm long, arching pendulous, always branched to 2 orders, the primary rachillae divided up to 4 branches (Fig. 4E); prophyll 37–44 × 6–7 cm; peduncular bract woody, grooved, but not deeply grooved as in *S. botryophora*, total length 85–97 cm, expanded portion 48–56 × 14–20 cm, bearing a 2–6 cm beak; peduncle 38–41 × 2.5–3 cm, densely covered with tomentum; rachis 38–43 cm long; rachillae 59–71, proximal 20–25 cm long, mid-rachis 13–16 cm long, most distal 8–10 cm long. **Flowers** cream or yellow, arranged in triads at the basal portion of rachillae, with one pistillate flower flanked on each of the two sides by earlier-opening staminate flowers, in distal part of rachillae only staminate flowers; staminate 14–17 mm; sepals 1 × 1.5 mm, connate; petals 12–13 × 5 mm, long-ovate, valvate; stamens 6, ca. 5 mm long, anthers 5 mm long, dorsifixed below middle, pistillode short, 1 mm tall; pistillate 17–18 × 10–11 mm, ovoid, sepals 13–14 × 8–10 mm, petals 12–14 × 8–9 mm, imbricate, pistil 12 × 5 mm, ovoid, stigmas 3. **Fruits** 4.5–4.7 × 2.7–2.8 cm, ovoid, 2–5 per rachillae, ice-white or yellowish-green while maturing, with brownish-yellow tomentum at the apex when mature (like a halo) (Fig. 4F & 4G); mesocarp rich in oil; endocarp ovoid, 4.2–5.0 × 2.4–2.6 cm with homogeneous endosperm.

**ETYMOLOGY:** The specific epithet *lacerdamourae* honors the forestry engineer José Inácio Lacerda Moura, expert on pests and diseases of palms.

**DISTRIBUTION AND HABITAT:** To date only eight hybrids were found growing together in the type locality.

**NOTE:** This palm has similar characteristics to *S. botryophora*, such as the tall and slender stem with smooth surface, only slightly ringed and with dilated base, and by short and wide peduncular bract. However, this hybrid has leaflets irregularly distributed in clusters and in divergent planes along rachis, peduncular bract is not deeply grooved (but similar to its other parent *S. coronata*) and the epicarp of the fruit is covered with indumentum (*S. botryophora* has a glabrous epicarp, orange when ripe). Interestingly, this hybrid always displays some branched rachillae (2–4 branches), usually those that are inserted in the middle part of the rachis; this characteristic is not present in any *Syagrus* species (Table 3). It is a fertile hybrid.

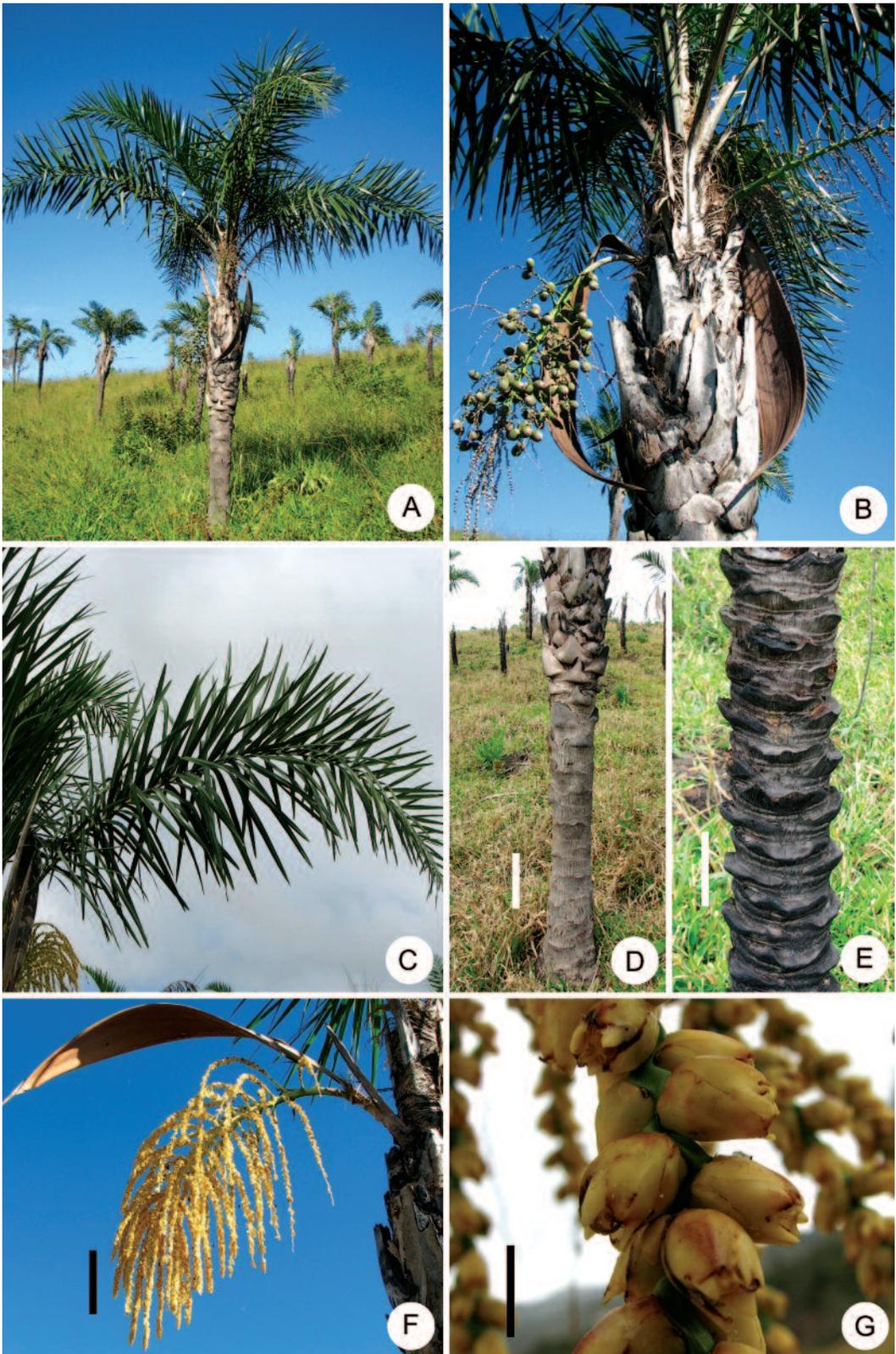
***Syagrus* × *serroana*** K. Soares & L.C. Assis **nothosp. nov.** (*S. glaucescens* × *S. romanzoffiana*).

Hybrid between *Syagrus glaucescens* and *Syagrus romanzoffiana* with intermediate morphological characteristics mainly in the consistency of the leaflets, in the surface of the stem and overall size of the leaves, inflorescence rachis and stem. Typus: BRAZIL. Minas Gerais: Serro, próximo ao Rio do Peixe, 8°38'16.73"S 43°24'33.82"W, fl., fr., 26 Apr. 2012, K. Soares, L. Assis & A.G. Vieira 48 (Holotypus, HDCF).

Solitary palm, size moderate, 4–7 m tall (Fig. 5A). **Stem** 17–22 cm diam., covered with leaf base remains in the younger part, vertically spiraling rows (Fig. 5B), when the sheaths fall, the scars that remain on the stem less marked than in *S. glaucescens* (Fig. 5D & 5E). **Leaves**

**Table 4. Comparison between *Syagrus* × *serroana* and its parental characteristics.**

Characters	<i>S. glaucescens</i>	<i>S. × serroana</i>	<i>S. romanzoffiana</i>
Stem diam. (cm)	8–12	17–22	20–55
Persistent leaf sheaths	present	present on younger part	absent
Leaf rachis (cm)	55–118	220–250	170–440
Leaflet consistency	rigid	rigid	soft
Inflorescence rachis (cm)	5–16	45–55	30–110
Rachillae number	5–17	60–70	40–330



5. A. *Syagrus* × *serroana* (*S. glaucescens* × *S. romanzoffiana*) habit; B. Stem with spiraling rows of leaf bases; C. leaf detail; D. Stem detail, scale 20 cm; E. *Syagrus glaucescens* stem detail, scale 10 cm; F. *Syagrus* × *serrana* inflorescence, scale 20 cm; G. pistillate flowers, scale 10 mm.



6. A. *Syagrus* × *serroana* (*S. glaucescens* × *S. romanzoffiana*) (a) among *Syagrus glaucescens* (b); B. *S. romanzoffiana* (a) and *S. glaucescens* (a) growing together (parental species).

9–12, possibly more, little arched, 2.5–3 m long, dark green, bright, (Fig. 5C); sheath 47–53 cm, deeply split opposite petiole,

margins with hair-like fibers; pseudopetiole 30 cm long; petiole 7–8 × 2.2–2.5 cm, convex abaxially and slightly channeled adaxially,



7. *Syagrus glaucescens*.



8. A. *Syagrus* × *camposportoana* (*S. coronata* × *S. romanzoffiana*) habit; B. leaves with spiral insertion on stem; C. stem detail, scale 20 cm.

with dense brownish, mealy, ± deciduous tomentum; rachis 220–250 cm long, convex, abundantly tomentose, ± flat adaxially near the base progressively becoming an angled, sharp costa distally; leaflets 115–120 per side, rigid, irregularly arranged, inserted in 3 or 4 planes, clustered 3–4 leaflets, proximal leaflets to 50–55 × 1.7–1.8 cm, mid-blade leaflets 55–65 × 2.8–3 cm, most distal leaflets 19–25 × 1.1–2 cm, long-lanceolate, straight, thin-leathery, dark green, abaxially the midrib with scarce ramenta. **Inflorescences** androgynous, interfoliar, 80–100 cm long, pendulous, 1-branched; prophyll 59 × 6 cm; peduncular bract woody, sulcate, green, total length 120–130 cm, expanded portion 76–81 × 11.5–15 cm, bearing a 3 cm beak; peduncle 45–500 × 2.0–2.3 cm, densely covered with tomentum (Fig. 5F); rachis 45–55 cm long; rachillae 60–70, proximal 39–55 cm long, mid-rachis 35–50 cm long, most distal 20–30 cm

long, arranged in spiral. **Flowers**, cream or yellow, arranged spirally in triads (1 pistillate and 2 staminate) on the lower portion and in dyads or singly (only staminate) on upper portion of the rachillae; staminate, 9–10 mm long, cupular, sepals and petals 3, sepals connate, less than 1 mm long, glabrous, petals valvate, 8–9 × 3 mm with acute tips, glabrous, stamens 6, ca. 4–5 mm long, anther 3–4 mm long, filaments 1–2 mm long pistillode 1.0–1.5 mm and trifid; pistillate flower 10–12 × 5–6 mm, ovoid; sepals and petals 3; sepals 10–12 × 6–10 mm, petals imbricate, 8–10 × 6–9 mm, pistil 10–11 mm, ovoid, stigmas 3 (Fig. 5G). **Fruits** 4.2–4.5 × 2.5–3.2 cm, ovoid, maturing yellowish green; endocarp fusiform, 2.8–3.5 × 1–1.3 cm, homogeneous endosperm.

**ETYMOLOGY:** The epithet *serroana* refers to the Serro municipality in Minas Gerais (Brazil), the first locality where this hybrid was found.

**DISTRIBUTION AND HABITAT:** Natural hybrids between *S. glaucescens* and *S. romanzoffiana* seem to be infrequent, only two individuals were found, of the type locality (Fig. 6A) and another on the road from Diamantina to Milho Verde (18°17'23.93"S 43°33'9.00"W).

**NOTE:** This hybrid has intermediate characteristics between the species *S. glaucescens* (Fig. 7) and *S. romanzoffiana* (Fig. 6B) mainly in the consistency of the leaflets, in the surface of the stem and overall size (size of the leaves, inflorescence rachis and stem), it is easily recognized among pure specimens (Table 4).

***Syagrus* × *camposportoana*** (Bondar) Glassman, Fieldiana (Bot.) 31: 392. 1968. (*S. coronata* × *S. romanzoffiana*).

This natural hybrid was described in 1942 (Bondar 1942) as *Cocos camposportoana* Bondar, from a plant in the Poçoões municipality grown from a seedling brought from the Itabuna municipality, in the state of Bahia. In his review of the genus *Syagrus*, Glassman (1987) questioned the hypothesis of this hybrid being natural ("...It is uncertain if two parents actually hybridize under natural condition"), because since having been described, there has never been any other botanical material collected or other record pointing to the natural occurrence of this hybrid, even during expeditions that Glassman made to the natural habitat where the species *S. coronata* and *S. romanzoffiana* grow together. Noblick (1991) reported not having seen a confirmed specimen of this hybrid in cultivation or in its natural habitat.

In this paper we are confirming the natural presence of *S. × camposportoana* because a specimen was found in a remote place, "alto do Rio Gongogi," in the Iguai municipality of Bahia, where also the aforementioned species grow together. Botanical material has been collected and photos have been taken (Fig. 8 A–C).

Given its morphological characteristics (2-m long inflorescences with up to 45–60 kg of oily fruits), Bondar (1939) reported its great potential for the oil industry.

**SELECTED MATERIAL:** BRAZIL. Bahia: Iguai municipality, alto do Rio Gongogi, 14°49' 37.78"S 40°6'5.89"W, fl. fr., 22 Oct. 2013, K. Soares, C.A. Guimarães, L. Assis, J. Santos 55 (UDESC).

### Acknowledgments

We would like to acknowledge Mr. João Eduardo dos Santos for his help during field work in Bahia, Jorge and Josette Davis, owners of Alto do Palácio natural private reserve, for allowing us to collect botanical material on their property and Arthur von Seckendorff for English corrections and suggestions and, finally, the reviewers of this paper.

### LITERATURE CITED

- BONDAR, G. 1939. Palmeiras na Bahia do gênero *Cocos*. Inst. Central de Fomento Econômico da Bahia. Salvador, Tipografia Naval, 19 p.
- BONDAR, G. 1942. New palms of Bahia. Field Mus. Nat. Hist. 22: 457–463.
- GLASSMAN, S.F. 1970. A new hybrid in the palm genus *Syagrus* Mart. Fieldiana – Botany 32: 241–257.
- GLASSMAN, S.F. 1987. Revisions of the palm genus *Syagrus* Mart. and other selected genera in the *Cocos* alliance. Illinois Biological Monographs 56. University of Illinois Press, Urbana, IL.
- HODEL, D. 2011. Hybrids in the genus *Syagrus*. Palms 55: 141–154.
- NOBLICK, L.R. 1991. The indigenous palms of the state of Bahia, Brazil. Thesis. University Illinois, Chicago. 523 p.
- NOBLICK, L.R. 2010. *Syagrus* Mart. In: LORENZI, H., L.R. NOBLICK, F. KAHN AND E. FERREIRA. Brazilian Flora: Arecaceae. Instituto Plantarum de Estudos da Flora Ltda., Nova Odessa SP, Brazil. p. 304–360.
- NOBLICK, L.R. 2012. *Syagrus* × *mirandana*, a naturally occurring hybrid of *S. coronata* and *S. microphylla*. Palms 56: 57–60.
- NOBLICK, L.R. AND H. LORENZI. 2010. New *Syagrus* species from Brazil. Palms 54: 18–42.