xLytoagrus dickensonii, a New Nothogenus and Nothospecies for the Hybrid from Cultivation of *Lytocaryum weddellianum* and *Syagrus romanzoffiana*

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Although hybrids between two palm genera are uncommon, Bill Dickenson of California has made one between *Lytocaryum weddellianum* and *Syagrus romanzoffiana* that has resulted in an exceptionally handsome and elegant palm. The hybrid's size, cool tolerance and highly ornamental nature make it especially appealing to palm collectors and growers.

Hobbyists, collectors, and growers of palms have frequently turned to hybridization to amplify the diversity of palms suitable for cultivation in marginal growing areas with the development of cool or cold tolerance being a primary objective. The Cocoeae tribe, in particular the Butiinae subtribe, which includes the genera *Allagoptera*, *Butia*, *Cocos*, *Jubaea*, *Jubaeopsis*, *Lytocaryum*, *Parajubaea*, *Polyandrococos*, and *Syagrus*, has been especially exploited for intergeneric hybridization. The genera are fairly closely related and hybridize relatively easily while two of them, *Butia* and *Jubaea*, are among the most cold-tolerant palms.

Collectors and hobbyists have attempted just about every possible intergeneric hybrid in the Butiinae although the most common are *Butia* and *Jubaea*, *Butia* and *Syagrus*, and *Jubaea* and *Syagrus*. One of the first and still most successful intergeneric hybrids in Butiinae is ×*Butiagrus nabonnandii*, a cross between *Butia capitata* (Pindo palm) and *Syagrus romanzoffiana* (queen palm). Although originally probably an unintentional hybrid, it is so popular and highly sought after that collectors, hobbyists and growers now intentionally make this cross. Merrill Wilcox of the University of Florida championed and promoted this hybrid in the 1970s although

1. ×*Lytoagrus dickensonii*: habit, with Bill Dickenson (*Hodel 1970*, holotype).

others have made it since, and it still occasionally arises unintentionally when the two parents are in proximity in gardens and collections.

More recently ardent, long-time International Palm Society member William (Bill) W. Dickenson of Fullerton, California near Los Angeles, has been attempting hybrids between various Butiinae genera to expand the diversity of cool-tolerant palms suitable for cultivation in southern California. His work has resulted in a new, unusually elegant and handsome intergeneric hybrid between *Lytocaryum* and *Syagrus*. Of exceptional ornamental merit, the new hybrid genus name, ×*Lytoagrus*, is formed from the first and last parts, respectively, of the two correct names of the parent genera while the specific epithet, *dickensonii*, honors Dickenson, who not only made the cross but has long contributed in various ways to the activities of the Palm Society of Southern California, a chapter of the International Palm Society.

xLytoagrus Hodel, **gen. hyb. nov.** (*Lytocaryum* Toledo × *Syagrus* Mart.).

xLytoagrus dickensonii Hodel **sp. hyb. nov.** (*Lytocaryum weddellianum* (H. Wendl.) Toledo × *Syagrus romanzoffiana* (Cham.) Glassman).

Palma inter *Lytocaryum weddellianum* et *Syagrum romanzoffianam* quasi intermedia et hybridatione harum specierum orta, magnitudine habitus inter parentes media, ad illud habitu maiore, rachidibus foliorum et petiolis longioribus differt, ad hoc habitu minore et pinnis dispositis ordinate differt.

Typus: CULTIVATED. U.S.A., California, Orange County, Fullerton, garden of William W. Dickenson. *D. R. Hodel 1970* (holotypus K, isotypus BH). Figs. 1–6.

Solitary tree palm. Trunk 1 m tall, 10–13 cm diam., tan, ringed; internodes 5–8 cm, upper part covered with old persistent leaf bases. Leaves 15–18, spreading, slightly arching; leaf

2. ×*Lytoagrus dickensonii*: unusually long petioles with leaf base fibers (*Hodel 1970*, holotype).

Table 1. Comparison of some morphological characters of the intergeneric hybrid *xLytoagrus dickensonii* and its parents *Lytocaryum weddellianum* and *Syagrus romanzoffiana*.

Character	*Lytocaryum weddellianum*[1, 2]	×*Lytoagrus dickensonii*	*Syagrus romanzoffiana*[1, 2]
Trunk	5–8 (15) cm diam.	10–13 cm diam.	25–50 cm diam.
Leaves			
Petiole	5–40 cm long	1 m long	40–90 cm long
Rachis	65–85 cm long	2.1 m long	2.5–4.4 m long
Pinnae	50–60 per side, 20–30 × 0.5–1.5 cm, regularly arranged, in one plane, glossy green adaxially, silver-gray abaxially	80–85 per side, 70 × 2 cm, ± regularly arranged, in one plane, glossy green adaxially, tan whitish abaxially	150–200 per side, 70–85 × 2–3.5 cm, irregularly arranged in groups, spreading in several planes, green adaxially and abaxially
Inflorescences			
Rachis	32–36 cm long	75 cm long	90–125 cm long
Rachillae	40–62	130	80–280
Fruits	1.7–2.3 × 1–1.7 cm, green to orange, mesocarp fibers splitting open along 2 or 3 seams	2.8 × 1.5 cm, greenish, mesocarp fibers not splitting open	2–3 × 1–2 cm, yellow to orange; mesocarp fibers not splitting open

[1]Glassman, S. F. 1987. Revision of the Palm Genus *Syagrus* Mart. and Other Selected Genera in the Cocos Alliance. Illinois Biological Monograph 56. University of Illinois Press, Chicago, IL.

[2]Henderson, A., G. Galeano, and R. Bernal. 1995. Field Guide to Palms of the Americas. Princeton University Press, Princeton, NJ.

bases 30 cm long, deeply split, tubular only briefly at base, densely covered with tan tomentum, margins with tan hairy fibers extending on to petiole for 38–50 cm, some of these occasionally coalescing into tan sheets 2–3 cm wide; petiole to ca. 1 m long, 5 cm wide near base, 2 cm wide at apex, ± flattened adaxially, rounded abaxially, margins sharply angled; rachis to ca. 2.1 m long, attenuate, covered with whitish tomentum on margins abaxially; pinnae 80–85 per side, lower middle pinnae the largest, these to ca. 70 × 2 cm, decreasing in size toward apex of blade and there to 13 × 0.3 cm, proximal pinnae 38–64 × 0.3–0.6 cm, ± regularly arranged and spreading flat in one plane, 1.3–3.8 cm distant, only a few pinnae per blade aggregated, glossy green with prominent and elevated midrib adaxially, tan-whitish with only slightly elevated midrib and with a few scattered, tan, medifixed ramenta to 8 mm long near rachis abaxially. Inflorescences 5, interfoliar, arching; prophyll 60 cm long, thick, coriaceous, tan, 2-keeled; peduncular bract 1.5 m long, thick, coriaceous, nearly woody, green and prominently striate with tan tomentum; peduncle to ca. 1 m long, 3.2 cm diameter at base, 1.9 cm diam. at apex, flattened and densely covered with deciduous tan tomentum adaxially; rounded abaxially, margins rounded; rachis to ca. 75 cm long; rachillae 130, simple, spreading at right angles to and evenly distributed around rachis, strongly flexuous, proximal to ca. 45 cm long, distal to ca. 15 cm long, the distal 1/3–1/2 portion of the proximal rachillae and distal 5/6 of the distal rachillae slender and threadlike and with staminate flowers, the remaining proximal portions of all rachillae 5 mm diam. and with pistillate flowers. Staminate flowers on a stalk 1 mm high, 8–9 × 4–5 mm, yellow; calyx 1.25 × 2 mm, triangular-cupular, prominently 3-

3 (above). ×*Lytoagrus dickensonii*: leaf blade with regularly arranged pinnae flat in one plane. 4 (below). ×*Lytoagrus dickensonii*: long, erect peduncular bract (above) formerly enclosed the pendulous inflorescence (both *Hodel 1970*, holotype).

lobed, sepals connate in basal 1/2, lobes narrowly triangular, boat-like, spreading, acute; petals 8–9 × 1.5–2 mm, boat-like, erect, valvate, free to base, acute, faintly nerved when dry; stamens 6, filaments slender, 1–1.25 mm long, anthers 2.5–3 mm long; pistillode slender, 1 mm high. Pistillate flowers 6–7 × 5–6 mm high, conical, yellow; calyx 5 mm high, sepals 5 × 5 mm, triangular, cupular, nerved, imbricate in basal 2/3, tip acute, erect, margins dark; petals 6 × 5 mm, triangular, cupular, prominently nerved, imbricate in basal 5/6 with a free, mucronate, erect, valvate tip 1 mm long; ovary 4.5 × 3 mm, ovoid, densely brown tomentose, stigma 3-lobed; staminodes 1–1.25 mm, tooth-like, membranous. Fruits 2.8 × 1.5 cm, ellipsoid.

For many years Bill Dickenson has attempted intergeneric hybrids in the Butiinae, primarily *Butia* with *Syagrus*, *Cocos* with *Jubaeopsis* and *Lytocaryum* with *Syagrus*. Most of Dickenson's hybrids failed but a cross he made in 1994, using a containerized *Lytocaryum weddellianum* in his own collection as the seed plant and a *Syagrus romanzoffiana* cultivated in Fullerton or nearby Brea as the pollen plant, succeeded and resulted in about 25 seeds. Only three or four of these seeds germinated and all but one of these eventually died, leaving just one good

5 (above). ×*Lytoagrus dickensonii*: nearly mature fruits, portion of rachillae with staminate flowers have been removed to collect pollen. 6. ×*Lytoagrus dickensonii*: pistillate flowers (both *Hodel 1970*, holotype).

seedling. Bill grew this seedling on for several years, eventually planting it out in his garden in 1999. The palm has grown steadily for several years without sustaining any damage from temperatures of 0ºC (32ºF). By 2005, it was about three meters tall overall with 15 centimeters of clear trunk and about a meter of trunk clothed in old leaf bases and fibers.

Although intermediate in size between the smaller *Lytocaryum weddellianum* and the larger *Syagrus romanzoffiana* (Table 1), the handsome ×*Lytoagrus dickensonii* is decidedly more like its former parent in appearance primarily because of its regularly arranged pinnae, glossy green above and tan whitish below. Petioles of the hybrid are longer than those of either parent and are especially long in relation to the leaf blade, giving the palm an open, airy appearance and enhancing its graceful, elegant nature. Being a small- to medium-sized palm makes ×*Lytoagrus dickensonii* particularly appealing for our ever-diminishing yards and gardens.

A curious feature of *Lytocaryum weddellianum* is the manner in which the fibers of the mature fruits split along two or three seams to reveal the naked, brown endocarps. Fibers of the mature fruits of ×*Lytoagrus dickensonii* do not split open, and are more like those of its other parent *Syagrus romanzoffiana*.

There is little doubt that *Lytocaryum* and *Syagrus* are closely related. Several workers in the past have even included *Lytocaryum* in *Syagrus* although recent alignments have kept them separate.