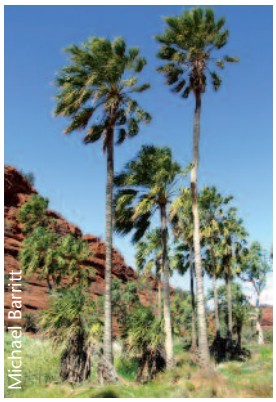
PALM NEWS



Livistona mariae is an endemic palm from arid regions of central Australia, separated by about 1000 km from its closest relative, *L. rigida*. Botanists have long assumed that central Australian populations became isolated from a more widespread ancestor when Australia became drier and less hospitable to palms some 15 million years ago. Now comes research news from T. Kondo et al. (published on-line before print in the Proceedings of the Royal Society. B. Biological Sciences) that DNA markers show that the two species split apart only 15,000 years ago, about the time when indigenous people began settling in central Australia. Kondo and colleagues hypothesize that humans brought the palm to central Australia as a source of food (the terminal bud) or fiber, and that over only 15,000 years, the two species diverged along separate evolutionary paths. ***Livistona mariae* should no longer be called a "relict" palm but is, in fact, a recently evolved species.**

Andrew Henderson has produced an important **monograph of the genus *Pholidostachys***. The new analysis brings the total number of taxa to 12 (11 species and one subspecies). Four of the species are described at new. Although this genus is not common in cultivation, all of the species are handsome palms. Henderson's new treatment should foster interest in this seldom-seen gem. The monograph can be downloaded for free at http://www.mapress.com/phytotaxa/content/2012/f/pt00043p048.pdf. The prolific Dr. Henderson also published **a monograph of *Desmoncus*** in late 2011 in which he recognized 31 taxa, seven of which were newly described species and two were new subspecies. It too is available for free downloading at http://www.mapress.com/phytotaxa/content/2011/f/pt00035p088.pdf.

Also appearing in late 2011 was a report from a research lab in Tunisia where **a procedure for cryopreservation of date palm tissue** was developed. The report, which appeared in the journal Cryo Letters, described how vegetative tissue could be transformed *in vitro* into proembryogenic cell masses, which could be frozen. The cell masses could later be thawed, treated with hormones and used to produce somatic (asexual) embryos, which could be grown under laboratory conditions into small plantlets. The research team did not investigate if their technique could be applied to other palm species. (L. Fki et al. Palm cryobanking. Cryo Letters 32: 451–462. 2011.)

An investigation of palm stem elongation revealed **a novel way by which a palm stem increases in length**. In a recent publication (Amer. Jour. Botany. 99: 607–613. 2012.), Heidi J. Renninger and Nathan Phillips examined *Iriartea deltoidea* in Ecuador over a two-year period. Although the unspecialized cells that make up the palm stem can divide and elongate, the precious water- and nutrient-conducting cells cannot. How, then, does the palm stem elongate without breaking the conducting vessels? The answer lies in the unique way vessels are arranged in palms. The courses followed by vessels are helical, like a coiled springs, and Renniger and Phillips were able to demonstrate that the vessel coils "stretched" as the stem elongated by as much as 12%.