PALM NEWS

An excellent overview of palm horticulture has been published in Horticulture Reviews, vol. 42. Entitled "Ornamental Palms: Biology and Horticulture" by T. Broschat, M. Elliot and D. Hodel, the work covers general aspects of palm biology, propagation, nursery production and landscape and interiorscape management practices. The 120-page article is available as a free download: http://media.johnwiley.com.au/product_data/excerpt/94/11189167/1118916794-19.pdf.

In a recent paper in PLOS One (DOI: 10.1371/journal.pone.0089295), Andrew Cline and colleagues teased apart a **remarkable five-way relationship that underscores the complexity of palm ecology**. They documented the feeding relationships among a sap-feeding scale insect (*Comstockiella sabalis*), a sap beetle (*Brachypeplus glaber*), filamentous fungi, and a yeast, all of which live out their lives on *Sabal palmetto* in the southeastern USA. The beetle lives under the bracts of the inflorescence and feeds on filamentous fungi that grow as epiphytes on the inflorescence, as well as on the shed exoskeletons of the scale insects, which also live and feed among the inflorescence bracts. Finally, the yeast appears to live as an endosymbiont of the beetle and is believed to secrete powerful anti-fungal compounds that protect the beetle from fungal infection. These amazing findings for this one palm species highlight how little we know about palm-animal-fungal interactions in the wild.


S. Zona

The BBC has recently produced a radio series describing the work of the Royal Botanic Gardens Kew. Entitled "**Plants: From Roots to Riches**" and introduced by the Director of Science, Dr. Kathy Willis, the program was aired on BBC Radio 4 as daily, 15-minute installments over 25 days. One episode, "Dynamic Rainforest," was devoted to palms and features our own Dr. John Dransfield telling the story of the discovery of *Tahina*. The episode also includes an interview with Kew's Head of Palms, Dr. William J. Baker, who explains how DNA sequencing has revolutionized our understanding of palm evolution and the time scale on which palms diversified. The full series is available as free downloads at http://www.bbc.co.uk/programmes/b04dm6v3.

In biology class, we all learned that genes are passed from parent to offspring (intergenerational or vertical transfer). Now, M. El Baidouri et al. (Genome Research 24: 831–838. 2014.) published their survey of **horizontal (interspecific) transfer of transposable elements** (so-called "jumping genes") in a large number of plant species, species that are not necessarily closely related. Of interest to us: evidence of a transposable element shared by the date palm, *Phoenix dactylifera*, and the grape vine, *Vitis vinifera*. The authors could not determine the direction or mechanism of the transfer, but pathogens (fungi, bacteria, viruses) and/or insects are likely culprits. Furthermore, the effect of the transposable element on its host genome is not known. This sort of genetic mixing has exciting implications for our understanding of possible causes for sudden bursts of evolutionary change in palms and other plants.


Meg Stewart