PALM NEWS


J. Dransfield

Reproductive biology of the endangered *Johannesteijsmannia lanceolata* was the subject of a recent paper by Y.M. Chan, A.L. Lim and L.G. Saw (Journal of Tropical Forest Science 23: 213–221. 2011). Studying both cultivated and wild individuals of this spectacular palm, the authors found that small flies (Phoridae and Cecidomyiidae) and stingless bees (*Trigona* spp.) were the most abundant visitors and likely pollinators. The palm is self-compatible, which means that even isolated individuals have the ability to produce seeds in cultivation or in fragmented or isolated environments. However, seed set was very low, possibly as a result of pollinator inactivity. Pollen viability and stigma receptivity lasted just one day, so the opportunities for pollination are short-lived.


Neil O'Halloran

J.M. Fedriani and M. Delibes examined the **contradictory forces acting on the evolution of fruit dispersal in *Chamaerops humilis***. In its native habitat, the palm is dispersed by Eurasian badgers (*Meles meles*), which eat the flesh and defecate the seeds. The seeds are subject to predation by curculionid weevils. The seeds will not germinate until the flesh is stripped off the endocarp (by badger consumption), at which time the seeds are vulnerable to predation by weevils. Consequently, there are two conflicting selective forces: fruit pulp removal hastens germination, but fruit pulp retention protects the seed from predation. A balance is struck by the fact that seeds removed far from other palms by well-traveled badgers are much less likely to be predated by weevils. The study was published in Ecology (Washington DC) 92: 304–315. 2011.


Sean Long

Eman K. Al-Dous and co-workers based in Qatar have been working on the genomics of the date palm (*Phoenix dactylifera*). Selection and breeding of improved varieties and genetic analysis are complicated by the long generation time (5–8 years) and dioecy (separate male and female trees). In the course of research reported in "*De novo* genome sequencing and comparative genomics of date palm (*Phoenix dactylifera*)" (Nature Biotechnology 29: 521–528. 2011), a draft **genome sequence for a female 'Khalas' date palm was assembled**, the first genome sequence for any palm. Further sequencing of other female date palm varieties and backcrossed males identified a huge number of polymorphic sites. A small number of these polymorphisms can be used to distinguish varieties (via genetic fingerprinting). The workers identified a region of the genome linked to gender and found evidence that date palm employs an XY sex-determination system, similar to that of humans. The ability to identify and eliminate male seedlings from breeding stocks is expected to be a boon to date palm breeding programs.