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W146: Genomics Illuminates the Origin and Dispersal of Citrus

ABSTRACT

Saturday, January 14, 2017 01:30 PM - 01:50 PM

Pacific Salon 6-7 (2nd Floor)

The center of origin of citrus has been matter of discrepancy during almost a century. The elegant but general pioneer visions of Vavilov identified two centers of origin for citrus, the Indo-Burma center (Assam and Burma; oranges, mandarins and citrons), and the Indo-Malayan center (Indochina and the Malay Archipelago; pummelo). This vision was reformulated by Tanaka that in subsequent work concluded that the primary center was placed within northeast India and northern Myanmar, from where citrus dispersed to a secondary center located in Indochina and Southeast China. Our genomic, biogeographic and phylogenetic analyses indicated that the ancestral citrus experienced a relatively fast radiation giving rise to all major citrus species in a short period of time which is consistent with a unique initial area of diversification. Rapid biological radiations in this region have been reported for practically all major groups of organisms including insects, fishes, crabs, amphibians, reptiles, birds, ferns and plants. This information offers solid insights on the origin, dispersal and domestication of citrus, revealing a new evolutionary paradigm for the genus *Citrus*, the subject of this presentation.

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