

Death by flowers: Giant, suicidal palm has botanists stumped

by World-Science Staff

A bizarre discovery has botanists puzzled: a new species of enormous palm tree that flows itself to death. Although it's not the first type of plant or tree known to do this, it's mysterious, requiring researchers for several reasons. One question is how such huge trees went unnoticed before; another is how they evolved and got to Madagascar, where they grow.

t. spectabilis, leaving only a thin skeletal structure at the top. (Courtesy J. Dransfield)

Not closely related to other known palms, especially there, the tree grows some six stories tall before sprouting hundreds of succulent flowers, researchers said in an announcement of the find. These drain its nutrients, they added, leading it to collapse in a "macabre" demise. But the tiny flowers, which can also develop into fruit, attract swarms of pollinators and birds that help ensure a next generation can live. The self-immolating plant, given the scientific name *Tahina spectabilis*, is described in a paper published Jan. 17 in the *Botanical Journal of the Linnean Society*. The biggest palm known in Madagascar, researchers said, its fan-leaves alone are as broad as more than half the width of a tennis court. As the scientists told it, Xavier Metz, a Frenchman who manages a cashew plantation in remote northwestern Madagascar, and his family were strolling nearby when they stumbled across the palm with its massive, pyramidal bunch of flowers at the tip. Their photos soon reached botanist John Dransfield, honorary research fellow of Royal Botanic Gardens, Kew, U.K. "I could hardly believe my eyes," Dransfield said. It looked "superficially like the talipot palm of Sri Lanka, but that had never been recorded for Madagascar. Clearly this was going to be an extremely exciting discovery." He determined the immense plant was not only a new species but a new genus, the broader category that can contain one or more species. The palm does have an "affinity" with palms of an even wider category, a "tribe" known as *Chuniophoeniceae*, Dransfield added. This tribe "has an extraordinary diversity" and it's hard "to explain how it could ever have reached Madagascar," said Dransfield. Other members of the tribe grow in Arabia, Thailand and China.

The palm, said Dransfield, was hidden at the foot of a limestone outcrop in the rolling hills and flatlands of Madagascar's Analava district. It grows in deep fertile soil at the foot of the limestone hill in seasonally flooded ground, he continued, and is so huge it can be seen in Google Earth. But it's still nowhere near as high as the tallest trees, redwoods, which reach 300 feet (91 meters) or more, compared to some 59 feet (18 meters) for the palm. If the plant escaped notice before, it may be thanks to a very long life span, Dransfield suggested; this could make its flowering-and-death act an extremely rare event, particularly as scientists estimate less than 100 of the palms stand. "Ever since we started work on [a book] *The Palms of Madagascar* in the 1980s, we have made discovery after discovery," said Dransfield, a co-author of that book. "But to me this is probably the most exciting." The palm's scarcity presents challenges to conservationists, especially as the habitat seems so limited and flowering and fruiting so rare, he added. "In a way the palm highlights the conservation challenges for all palms in Madagascar, many of which are seriously threatened with extinction mostly through habitat loss." Madagascar is a major

hotspot for biodiversity and unique species, including 170 types of palms that are mostly found only there, Dransfield said; but this heritage is threatened, with only 18 percent of its native vegetation left intact. Dransfield said he dismissed ideas for conserving the palm with the developers and people from a nearby village. They set up a village committee to manage the project and a patrol the palms' areas, he added. The group is working with Kew and the Millennium Seed Bank in West Sussex, U.K., scientists said, to develop ways for villagers to sell seed to raise cash and distribute the palm to botanical gardens and growers worldwide.

Courtesy World-science.net

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