Death by flowers: Giant, suicidal palm has botanists stumped

by World-Science Staff

A biÂ-zarre disÂ-covÂ-ery has botÂ-aÂ-nists puzÂ-zled: a new speÂ-cies of enorÂ-mous palm tree that flowÂ-erâ€™s itÂ-self to death.AlÂ-though itâ€™s not the first type of plant or tree known to do this, itâ€™s mysÂ-tiÂ-fyÂ-ing reÂ-searchÂ-ers for sevÂ-erÂ-al reaÂ-sons. One quesÂ-tion is how such huge trees went unÂ-noÂ-ticed beÂ-fore; anÂ-othÂ-er is how they evolved and got to MadÂ-aÂ-gasÂ-car, where they grow.

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

Not closely reÂ-latÂ-ed to othÂ-er known palms, esÂ-peÂ-cially there, the tree grows some six stoÂ-ries tall beÂ-fore sproutÂ-ing hunÂ-dreds of sucÂ-cuÂ-lent flowÂ-ers, reÂ-searchÂ-ers said in an anÂ-nounceÂ-ment of the find. These drain its nuÂ-triÂ-ents, they added, leadÂ-ing it to colÂ-lapse in a â€œmacabreâ€• deÂ-mise. But the tiÂ-ny flowÂ-ers, which can alÂ-so deÂ-velÂ-op inÂ-to fruit, atÂ-tract swarms of polÂ-liÂ-natÂ-ing inÂ-sects and birds that help enÂ-sure a next generaÂ-tÂ-ion can live. The self-imÂ-moÂ-latÂ-ing plant, givÂ-en the sciÂ-enÂ-tiÂ-fic name TaÂ-hiÂ-na specÂ-taÂ-biÂ-lis, is deÂ-scribed in a paÂ-per pubÂ-lished Jan. 17 in the BoÂ-tanÂ-iÂ-cal JourÂ-nal of the LinÂ-neÂ-an SoÂ-ciÂ-eÂ-ty. The bigÂ-gest palm known in MadÂ-aÂ-gasÂ-car, reÂ-searchÂ-ers said, its fan-leaves alone are as broad as more than half the width of a tenÂ-nis court. As the sciÂ-enÂ-tists told it, XaÂ-viÂ-er Metz, a FrenchÂ-man who manÂ-ages a cashÂ-ew plantaÂ-tÂ-ion in reÂ-mote northÂ-westÂ-ern MadÂ-aÂ-gasÂ-car, and his family were strollÂ-ing nearÂ-by when they stumÂ-bled across the palm with its masÂ-sive, pyÂ-ramÂ-iÂ-dal bunch of flowÂ-ers at the tip. Their phoÂ-tos soon reached botÂ-aÂ-nist John DransÂ-field, honÂ-orÂ-ary reÂ-search felÂ-low of RoyÂ-al BoÂ-tanÂ-ic GarÂ-dens, Kew, U.K.â€œI could hardly beÂ-lieve my eyes,â€• DransÂ-field said. It looked â€œsuÂ-perÂ-fiÂ-cially like theÂ-talÂ-iÂ-pot palm of Sri Lanka, but that had nevÂ-er been recorded for MadÂ-aÂ-gasÂ-car. Clearly this was goÂ-ing to be an exÂ-tremely exÂ-citÂ-ing disÂ-covÂ-ery.â€• He deÂ-terÂ-mined the imÂ-mense plant was not only a new speÂ-cies but a new geÂ-nus, the broadÂ-er catÂ-eÂ-goÂ-ry that can conÂ-tain one or more speÂ-cies. The palm does have an â€œafÂ-finÂ-ityâ€• with palms of an even widÂ-er catÂ-eÂ-goÂ-ry, a â€œtribeâ€• known as ChuÂ-nioÂ-phoeÂ-niÂ-ceae, DransÂ-field added.This tribe â€œhas an exÂ-traÂ-orÂ-diÂ-nary disÂ-triÂ-buÂ-tion,â€• and itâ€™s hard â€œto exÂ-plain how it could evÂ-er have reached MadÂ-aÂ-gasÂ-car,â€• said DransÂ-field. OthÂ-er memÂ-bers of the tribe grow in AraÂ-bia, ThaiÂ-land and ChiÂ-na.

The palm, said DransÂ-field, was hidÂ-den at the foot of a limeÂ-stone outÂ-crop in the rollÂ-ing hills and flatÂ-lands of MadÂ-aÂ-gasÂ-carâ€™s Analalava disÂ-trict. It grows in deep ferÂ-tile soil at the foot of the limeÂ-stone hill in seaÂ-sonÂ-ally floodÂ-ed ground, he conÂ-tinÂ-ued, and is so huge it can be seen in Google Earth. But itâ€™s still noÂ-where near as high as the tallest trees, redÂ-woods, which reach 300 feet (91 meÂ-ters) or more, comÂ-pared to some 59 feet (18 meÂ-ters) for the palm.If the plant esÂ-caped noÂ-tice beÂ-fore, it may be thanks to a very long lifeÂ-span, DransÂ-field sugÂ-gested; this could make its flowÂ-erÂ-ing-and-death act an exÂ-tremely rare event, parÂ-ticÂ-uÂ-larly as sciÂ-enÂ-tists esÂ-tiÂ-mate less than 100 of the palms stand. â€œEver since we started work on [a book] The Palms of MadÂ-aÂ-gasÂ-car in the 1980s, we have made disÂ-covÂ-ery afÂ-ter disÂ-covÂ-ery,â€• said DransÂ-field, a co-author of that book. â€œBut to me this is probably the most exÂ-citÂ-ing.â€•The palmâ€™s scarÂ-city preÂ-sÂ-ents chalÂ-lenges to conÂ-servaÂ-tÂ-ionÂ-ists, esÂ-peÂ-cially as the habÂ-iÂ-tat seems so limÂ-itÂ-ed and flowÂ-erÂ-ing and fruitÂ-ing so rare, he added. â€œIn a way the palm highÂ-lights the conÂ-servaÂ-tÂ-ion chalÂ-lenges for all palms in MadÂ-aÂ-gasÂ-car, many of which are seÂ-riÂ-ously threatÂ-ened with exÂ-tincÂ-tion mostly through habÂ-iÂ-tat loss.â€•MadÂ-aÂ-gasÂ-car is a maÂ-jor

hotspot for bioÂ-diversÂ-ity and unÂ-ique speÂ-cies, inÂ-cludÂ-ing 170 types of palms that are mostly found only there, DransÂ-field said; but this herÂ-itÂ-age is threatÂ-ened, with only 18 perÂ-cent of its naÂ-tive vegetaÂ-tÂ-ion left inÂ-tact.DransÂ-field said he disÂ-cussed ideas for conÂ-serving the palm with the disÂ-covÂ-erÂ-ers and peoÂ-ple from a nearÂ-by vilÂ-lage. They set up a vilÂ-lage comÂ-mitÂ-tee to manÂ-age the projÂ-ect and a paÂ-trol the palmâ€™s arÂ-ea, he added. The group is workÂ-ing with Kew and the MilÂ-lenÂ-niÂ-um Seed Bank in West SusÂ-sex, U.K., sciÂ-enÂ-tists said, to deÂ-velÂ-op ways for vilÂ-lagers to sell seed to raise cash and disÂ-tribÂ-ute the palm to boÂ-tanÂ-ic garÂ-dens and growÂ-ers worldÂ-wide.

Courtesy World-science.net

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