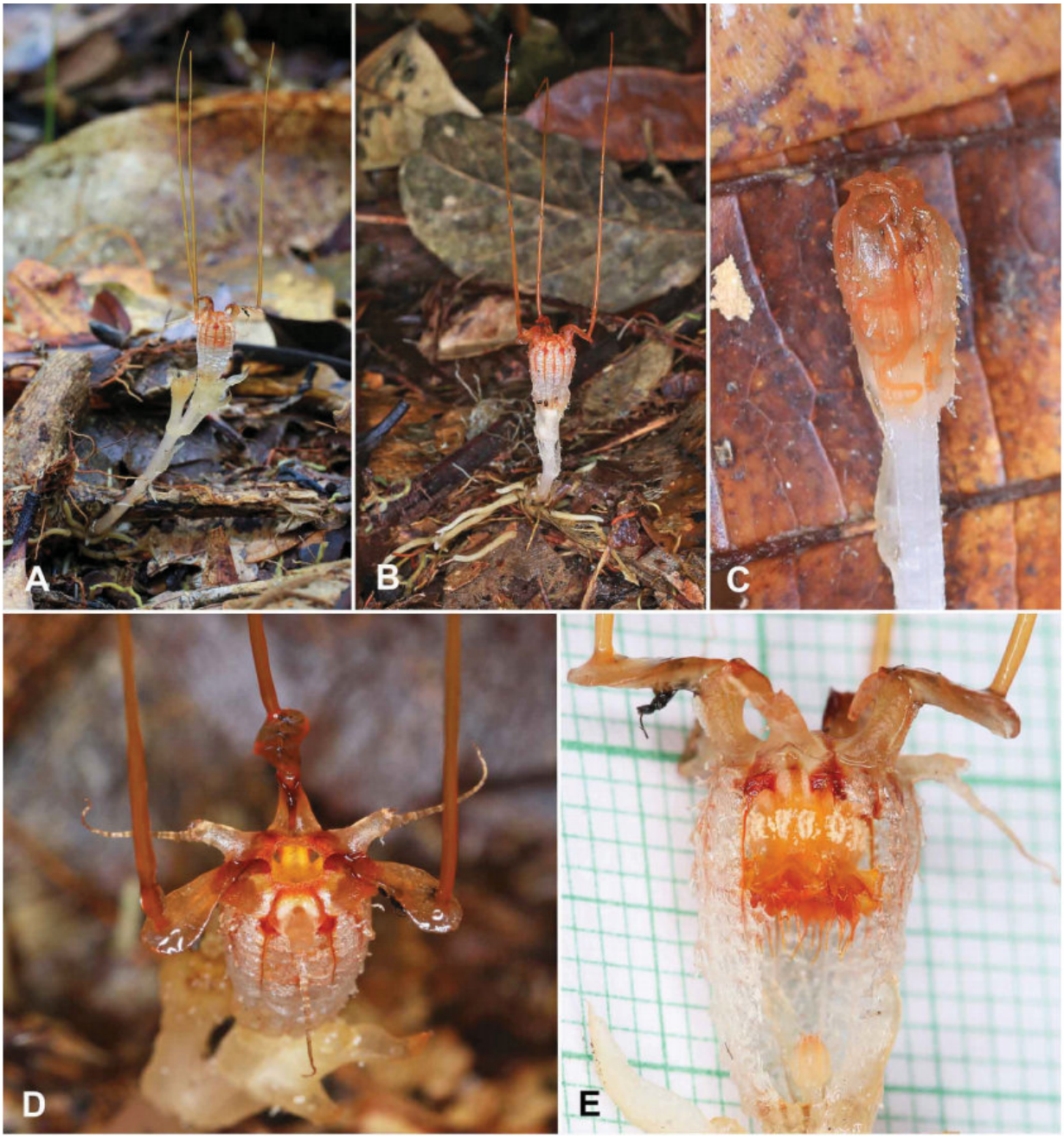
Tropical plant rediscovered after 150 years

March 6 2018, by Bob Yirka



Thismia neptunis: flowering plants (A, B), bud (C), detail of flower (D), section of floral tube and outer view of connective tube (E), detail of inner perianth lobe. Credit: *Phytotaxa* (2018). DOI: 10.11646/phytotaxa.340.1.5

A small team of researchers with the Crop Research Institute and Palacký University, both in the Czech Republic, has rediscovered a plant first (and last) recorded over a century and a half ago. In their paper published in the journal *Phytotaxa* describing their find, Michal Sochor, Zuzana Egertova, Michal Hrones and Martin Dancak describe the plant, a mycoheterotroph called Thismia neptunis.

T. neptunis was first discovered back in 1866 by botanist Odoardo Beccari. He drew pictures of it in his notebook. The plant was not seen by other researchers until the team from the Czech Republic came across it last year, and took what are believed to be the only pictures of it ever captured.

The plant, the team reports, is small, with a flower just 9 centimeters across. It grows in wet dirt along a river in a rainforest in Matang Massif, Borneo. It is also a member of the mycoheterotrophic family, which means it is not capable of photosynthesis, but instead survives as a parasite. It has no leaves, but its flower is unique, shaped like a bulb with three antennae-looking appendages that stick straight up into the air. The bulb itself is described as pale-colored with red stripes and an opening on top. The bulb is suspended on a whitish smooth stem. The plant's features are similar to others in the genus Thismia, which collectively have been given the unofficial name of fairy lanterns. The team reports that they found dead flies inside one of the plants, suggesting a means for pollination. They noted also that Beccari did a remarkably good job of capturing what the plant looks like in his drawings.

Prior research on other mycoheterotrophs has shown that they are tropical plants with more structure underground than above—the flower is, of course, used as a means of reproduction. They survive by absorbing fluids from underground fungi and typically only bloom for a few weeks at a time over the course of a year. They do not always bloom, though, which suggests the find by the Czech team was quite lucky.

Beccarri, the researchers note, also discovered two other plant species in the area—they are hoping to rediscover those as well.

More information: MICHAL SOCHOR et al. Rediscovery of Thismia neptunis (Thismiaceae) after 151 years, *Phytotaxa* (2018). DOI: 10.11646/phytotaxa.340.1.5

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