

# Mystery moss rediscovered

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(Phys.org) —A botanical puzzle more than 150 years old could soon be solved, thanks to a discovery by a second-year botany student in Queensland's far north.

James Cook University student Megan Grixti found a population of *Sorapilla papuana*, an extremely rare moss, growing on a single tree in remote rainforest near Mount Lewis, west of Mossman.

"*Sorapilla* is a mystery to botanists because its features are unlike any other moss," [expedition](#) leader David Meagher of The University of Melbourne said.

"This plant is so rare it's known to us only through a few herbarium specimens, which are too old to yield useful DNA samples, so at the moment we can only guess where it fits in the story of plant evolution," Mr Meagher said.

Ms Grixti was part of an expedition with botanists from James Cook University, The University of Melbourne and the Australian Tropical Herbarium when she spotted something interesting growing on the trunk of a tree about 30 metres away.

"I had seen dried specimens before, but they were so old we didn't even know what colour to look for. I knew we were looking for a moss that doesn't really look like a moss," she said.

"What I saw was a trailing plant with a distinctive blue-green colour that

was catching the light. I was pretty sure it was something special, and other expedition members were able to verify straight away that it was *Sorapilla papuana*.

"As an undergrad student, I was excited just to be included in the expedition," Ms Grixti said. "To be the one who spotted it is a wonderful start to my career as a botanist."

The moss of mystery comes from a family with an intriguing history.

The only other *Sorapilla* species, *Sorapilla sprucei*, was discovered in 1857 in the headwaters of the Amazon in Ecuador by explorer-botanist Richard Spruce, but has never been found again. At that time it had no known relatives.

In 1892 *Sorapilla papuana* was discovered in the Owen Stanley Range, Papua New Guinea. It was later found in far north Queensland.

"This really is a significant and exciting find," Professor Darren Crayn, Director of the Australian Tropical Herbarium, said.

"We know of only two previous finds in Australia, the first in 1936 by the Cairns naturalist Dr Hugo Flecker.

"This new collection, of material suitable for DNA analysis, should finally allow us to fill a longstanding gap in the story of [plant evolution](#), and to assess the conservation status of this apparently exceedingly rare plant.

"This find reminds us of how much more there is to discover about life on Earth."

A team from The University of Melbourne and The University of

California at Berkeley is now working on extracting and sequencing DNA from the newly discovered population. If they are successful, the position of Sorapilla in the plant kingdom will finally be revealed.

"We have many questions about Sorapilla papuana," JCU botanist and expedition member Andi Cairns said.

"Is it a Gondwanan plant, separated from its Ecuadoran relative when the supercontinent broke up millions of years ago? The two are found in areas not considered to have been close before the break-up, but it's an intriguing thought."

Now that the mysterious [moss](#) has been located, Ms Grixti and other botanists plan to return to the area in search of other populations.

Provided by James Cook University

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