

Can't see the wood for the climbers—the vines threatening our tropical forests

July 22 2016

Instead of taking decades to recover, tropical forests are at risk of taking hundreds of years to re-grow because of lianas, which spread rapidly following extensive tree-felling.

In a new study published in the *African Journal of Ecology*, scientists advocate the temporary removal of [lianas](#) in selected areas to help [tropical forests](#) grow back.

The team, from the University of York and Flamingo Land zoo, reveal for the first time outside of commercial forestry or plantation studies, how lianas are preventing the growth of trees in an African forest.

This observation was not a huge surprise based on previous work elsewhere in the tropics and its established use in forestry.

However, the scientists also reviewed previous scattered studies and have revealed that the impact on tree growth rates is approximately equivalent across the tropics, on average nearly halving the rate of growth.

More sparse data even suggests a net 7-fold decrease in the overall rate of [biomass accumulation](#) (accounting for tree mortality and the growth of new trees).

"The implications for the global carbon sink are profound," said Dr Andrew Marshall from the University's Environment Department and Director of Conservation Science at Flamingo Land.

"No-one has until now compiled data from all over the world to see what the general trend is. What this study suggests is a trend; that lianas are impacting on the tropics but not just in selected sites."

However, Dr Marshall says the lianas also help to promote biodiversity and help sustain an abundance of plants and animals—creating "bridges" across the trees, food for monkeys and other animals, and generally adding to the overall function of forests.

In the paper, the scientists highlight one climber, known locally as "the lion's grasp", because of its claw-like spines.

Dr Marshall said the problem had been caused by commercial logging, which allowed the lianas to flourish.

"We don't want to advocate taking all the lianas out of the forest, that would be terrible. But a temporary removal in some places will help forests grow back," Dr Marshall added.

"Lianas are an important part of the ecology. If we temporarily cut them back the trees start growing more, with new trees sprouting and less mortality, resulting in more and more biomass in the forest."

"We don't have enough data yet to know which species respond well to clearing out lianas, that is the next stage in the research."

More information: Andrew R. Marshall et al. Liana cutting for restoring tropical forests: a rare palaeotropical trial, *African Journal of Ecology* (2016). [DOI: 10.1111/aje.12349](https://doi.org/10.1111/aje.12349)

Provided by University of York

Citation: Can't see the wood for the climbers—the vines threatening our tropical forests (2016, July 22) retrieved 26 June 2024 from

<https://phys.org/news/2016-07-wood-climbersthe-vines-threatening-tropical.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.