

Alaskan rainforests are a global lichen hotspot, new study shows

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Toby Spribille and an international team of researchers have led a new study examining the lichen of Alaskan rainforests. Credit: John Ulan

The rainforest fjords of Southeastern Alaska harbour one of the highest concentrations of lichen diversity found anywhere on Earth, according to

a new study spearheaded by University of Alberta scientists.

An international team of researchers led by Toby Spribille, assistant professor in the Department of Biological Sciences at the Faculty of Science, details the names and habitats of lichens, a symbiosis of fungi and algae in Alaska's Glacier Bay National Park.

The researchers found more than 900 species of [lichen](#), including 27 new, never-seen-before species "This level of novelty biodiversity is usually associated with 'lost valleys' in the tropics," says Spribille, Canada Research Chair in Symbiosis. "To find this in Southeast Alaska really speaks to how little we still know about coastal rainforests. There are so many new species to science that if you know what to look for, you can average one new species to science per day of field work."

The authors compared cumulative numbers of lichens in four different national parks in southern Alaska and found that together, the parks contain more than 1300 species. This work highlights the importance of understanding local biodiversity for nature conservation. Each [national park](#) is home to many species not found in the other parks.

Within Glacier Bay National Park alone, each fjord was different. "Of 950 species, we found only 14 species common to all sectors of Glacier Bay," added Spribille. "It makes you wonder what remains to be discovered in all the areas we couldn't get to."

The research team expresses hope that the insights from Glacier Bay National Park will help guide decision-making in other parts of the coastal rainforest ecosystem.

"At high latitudes, biodiversity is locked up in other groups of organisms—and in Alaska, lichens are clearly one of those groups," said Spribille. "This ecosystem is clearly very old and very diverse for some

[species](#) groups. Each island and valley is different. As ecosystems go, it is definitely one that I'd label 'handle with care.'"

The paper, "Lichens and associated fungi from Glacier Bay National Park, Alaska," was published in *The Lichenologist*.

More information: Toby Spribille et al, Lichens and associated fungi from Glacier Bay National Park, Alaska, *The Lichenologist* (2020). [DOI: 10.1017/S0024282920000079](#)

Provided by University of Alberta

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