



Sascha Beißner (left) and Gian-Reto Walther collecting plants on Piz Languard, Bernina Alps.

PLANTS GONE ALPINE

Warmer climate changes Swiss summit flora

THESE DAYS, IT SEEMS LIKE EVERYONE is into fast-and-light alpine climbing—even plants. Now, according to researchers based in Germany, valley plants are racing up the flanks of the Bernina Alps, Switzerland. The range is home to Piz Palü (12,812 feet) and the *Biancogrät* (AD) on Piz Bernina (13,284 feet), the easternmost 4,000-meter peak in the Alps.

In 1905, when record keeping began here, 10 sample peaks hosted an average of as many hardy plant species. Today, a temperature boost from climate change—and the occasional ride from peak-baggers—has raised that number to 28, say researchers. As the species makeup of each mountain becomes more alike, the “beta-diversity,” which compares the breakdown of species from peak to peak, is declining. While climbers probably won’t be too upset by having Alps wormwood underfoot instead of saxifrage, researchers consider the discovery a useful, independent line of evidence that mountain ecosystems are changing.

The long history of observations on these summits makes the study especially valuable, because “if you want to observe recent climate change, you need baseline data from the past,” says Gian-Reto Walther, a geobotanist at the University of Bayreuth, Germany. For five weeks in summer 2003, Walther and other researchers hiked the same summits studied by Eduard Rubel in 1905 and a later group in 1985, cordoning off the top 30 feet and counting plant species. They found newly arrived species from the valley on almost every peak.

Meanwhile, Gerald Jurasinski, the lead author of a recent paper analyzing the results, is “quite sure” similar effects will be found elsewhere in the Alps. The Austrian-led Global Observation Research Initiative in Alpine Environments project has set up observation stations in mountains worldwide as an early warning network for ecological change.

The superguide Ruedi Beglinger wasn’t surprised to hear the news. “When I was a teenager, [the Bernina] was still all ice, but now it’s probably 50 percent rock,” said Beglinger, who also reports seeing trees growing at higher altitudes than during his childhood.

This leads to the question of what should be done. Jurasinski hints that hikers may be carrying valley plants up with them, but Walther disagrees, saying, “the most visited and the least visited mountains had about the same trend.” Regardless, says Walther, “For the next 50 or 100 years, such dramatic change is expected that it will certainly affect all organisms in all areas.”

—Lucas Laursen

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