

Specimens from the Deep Freeze

By Carol Ann McCormick, Asst. Curator, UNC Herbarium

While the UNC Herbarium specializes in documenting the native vascular plants of the southeastern United States, the collection has specimens from all over the world. However, there has been a glaring hole in the collection—an entire continent was missing. We can now report that Antarctica is represented in our collection!

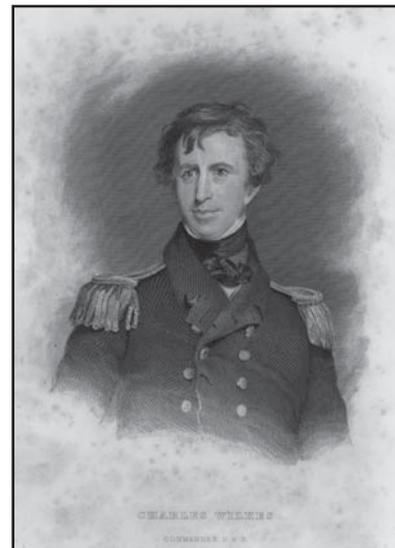
There are only two vascular plants native to Antarctica, and in 2008 Richard LeBlond deposited a specimen of one, *Deschampsia antarctica* (Antarctic hair grass), a diminutive cushion-forming perennial. The grass was collected by his friend, George Shafnacker, a sound designer who travelled to Antarctica in 1990 to work on National Geographic's documentary film "Antarctic Wildlife Adventure."

The British Antarctic Survey (B.A.S.) has its own herbarium located in Cambridge, U.K., and its curator has the wonderfully botanical name, Dr. Helen Peat. According to B.A.S.,

The majority of the Antarctic continent is covered by permanent ice and snow leaving less than 1% available for colonization by plants. Most of this ice and snow-free land is found along the Antarctic Peninsula, its associated islands and in coastal regions around the edge of the rest of the Antarctic continent. Even in the most inhospitable ice-free habitats, such as inland mountains and *nunataks*,¹ life can still be found. The vegetation is predominantly made up [of mosses, liverworts, lichens and fungi] which are specially adapted to surviving in extreme conditions [of] low temperatures and dehydration. There are, in total, around 100 species of mosses, 25 species of liverworts, 300–400 species of lichens and 20-odd species of macro-fungi. The greatest diversity of species is found along the western side of the Antarctic Peninsula where the climate is generally warmer and wetter than elsewhere in the Antarctic continent. Certain species of moss and lichen, however, have a widespread distribution and others specialize in surviving in very extreme conditions . . . [such as] living in cracks and pore spaces inside the sandstone and granite rocks.

I was surprised to learn that the United States National Herbarium, now part of the Smithsonian Institutions, was founded in 1848 with specimens collected by the United States Exploring Expedition (1838–1842). The "Wilkes Expedition" or the "Ex. Ex." as it is sometimes known, was charged by Congress and President John Quincy Adams to survey and explore the Pacific Ocean and Southern seas. "Although the primary object of the Expedition is the promotion of the great interests of commerce [whaling] and navigation, yet you will take all occasions not incompatible with the great purposes of your undertaking, to extend the bounds of science, and promote the acquisition of knowledge," ordered Navy Secretary Mahlon Paulding. The ex-

pedition was led by Navy Lt. Charles Wilkes and included seamen, naturalists, botanists, geologists, taxidermists, and a philologist. After visiting Tierra del Fuego, Chile, Peru, Samoa, and Australia, the expedition sailed south in December 1839 and may have been the first to sight the Antarctic mainland. The Wilkes Expedition followed the margin of Antarctica for over 1,500 miles and provided sub-



stantial proof of its status as continent, rather than just an island. They landed briefly in an area now known as Wilkes Land, but there is no evidence that they made any botanical collections there (though they did collect bird specimens). The expedition then sailed to Fiji, Hawai'i, and up the west coast of the United States, where they explored Puget Sound and the Columbia River. In 1841 the expedition sailed westward to the Philippines and Borneo, to the Cape of Good Hope, and arrived in New York harbor in 1842. The 50,000 botanical specimens (representing 10,000 species) collected by the United States Exploring Expedition were accessioned in 1848 to form the nucleus of what would become the United States National Herbarium.² For a detailed account of Wilkes's voyage, read *The Sea of Glory: America's Voyage of Discovery, the U.S. Exploring Expedition 1838–1842* by Nathaniel Philbrick (Viking, 2003).

If any of our readers are planning South Polar expeditions, we would welcome receiving a specimen of Antarctic pearlwort, *Colobanthus quitensis*, in the Pink Family, so that the UNC Herbarium can possess specimens representing 100% of the vascular flora of an entire continent!

Notes

1. *Nunatak*, noun, from Inuit (Greenland): a hill or mountain completely surrounded by glacial ice. Also, the name of an indie rock band composed of research scientists at the British Antarctic Survey's Rothera Research Station, who played to a sell-out crowd of 17 (the station's entire population) in the 2007 Live Earth concerts to bring attention to the climate change crisis.
2. To view some of the US Exploring Expedition's herbarium specimens, use the "Detailed Search" function at <http://botany.si.edu/types/index.cfm> and enter "Wilkes" in the "Primary Collector" field.