

1541

Who were the collectors of Antarctic microbial samples for the Smithsonian Institution (US National Herbarium, National Museum of Natural History)?

Dr Annick Wilmotte¹, Dr Igor Pessi^{1,2}, Prof. David Velazquez³, Prof. Dail Laughinghouse⁴

¹University of Liège, Liège, Belgium. ²Syke, Helsinki, Finland. ³Universidad Autonoma Madrid, Madrid, Spain. ⁴University of Florida, Fort Lauderdale, USA

Abstract

During the FNRS HERBA project, the past diversity of cyanobacteria s was studied in Antarctic cyanobacterial samples preserved in the Drouet herbarium, Smithsonian Institution, USA. Amplicons based on the 16S rRNA gene V3-V4 segment were used for High-throughput sequencing. The diversity of 4 Antarctic samples was characterized and biographic information on their collectors revealed strong scientific personalities and adventurous lives.

Two samples from Cape Royds (Ross Island) were taken by David C. Nutt on 29 January 1948 during the US Navy Antarctic Expedition 1947-48. The molecular diversity matched the labels, as *Phormidium autumnale* and *Nostoc commune*, and *Phormidium autumnale*, respectively. David C. Nutt (1919-2008) was a Navy Officer who fought during the WWII and was Commander during the Antarctic Expedition. After leaving the Navy, he became oceanographic researcher and teacher at Dartmouth University. His team made the first measurements of the composition of ancient air in Greenland ice in the 1950s.

On 9 January 1964, south-east of Lake Penny, Victoria Land, E Schofield collected a sample that he labeled as '*Rivularia*'. However, the herbarium sample appears dominated by *Nostoc* sequences, and *Rivularia* sequences represent only 0.8% of the reads. Edmund A. Schofield, Jr. (1938-2010) was a very active botanist, ecologist, but also educator, editor, writer, and conservationist. As president of the Thoreau Society and of Walden Forever Wild, he fought for the conservation of the ecosystems around Walden Pond, the retreat of the famous writer Henry Thoreau.

Another sample was collected on 10 March 1960 at Cathedral Crags, Deception Island (Antarctic Peninsula) and the label mentions '*Microcoleus vaginatus*', matching the 16S rRNA sequence obtained 60 years later. The collector, Robin E. Leech (1937-2016) was a student interested by arthropods, invited by J.L. Gressitt of the Bishop Museum to participate to the Antarctic expedition (1959-60) sponsored by the National Science Foundation.