# Genetic diversity of Nostoc microsymbionts from Gunnera tinctoria revealed by PCR-STRR fingerprinting

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The cyanobacteria belonging to the genus Nostoc fix atmospheric nitrogen, both as free-living organisms and in symbiotic associations with a wide range of hosts, including bryophytes, gymnosperms (cycads), the small water fern Azolla (Pteridophyte), the angiosperm genus Gunnera, and fungi (lichens). The Gunnera-Nostoc symbiosis is the only one that involves a flowering plant. In Chile, 12 species of Gunnera have been described with a broad distribution in the temperate region. We examined the genetic diversity of Nostoc symbionts from three populations of Gunnera tinctoria from Abtao, Chiloé Island, southern Chile, and microsymbionts from other two species of Gunnera from southern Chile, using PCR amplification of STRR (short tandemly repeated repetitive) sequences of the Nostoc infected tissue. To our knowledge, this is the first report of PCR fingerprinting obtained directly from symbiotic tissue of Gunnera. Genetic analyses revealed that Nostoc symbionts exhibit important genetic di