

Aug 26, 2019

Distribution of aerophilous diatom communities associated with terrestrial green macroalgae in the South Shetland Islands, Maritime Antarctica - PROTOCOL



 [PLOS One](#)

DOI

dx.doi.org/10.17504/protocols.io.6tcheiw

Juliana Ferreira da Silva¹, Maria Angélica Oliveira², Raylane Ribeiro Anunciação³, Eduardo Pereira da Silva¹, Rodrigo Paidano Alves⁴, Adriano Luis Schunemann¹, Filipe de Carvalho Victoria¹, Margéli Pereira de Albuquerque⁵, Antonio Batista Pereira¹

¹Antarctic Vegetation Studies Center. Federal University of Pampa. Antonio Trilha Avenue, 1847, 97300-000, São Gabriel, RS, Brazil;

²Laboratory of Phycology. Federal University of Santa Maria . Roraima Avenue, 1000, 97105-900, Santa Maria, RS, Brazil;

³Laboratory of Phycology. Federal University of Pernambuco. Dom Manuel de Medeiros Street, 52171-900, Recife, PE, Brazil;

⁴Max Planck Institute for Chemistry. Andre Araujo Avenue, 2936, 69067-375, Manaus, AM, Brazil;

⁵National Institute of Antarctic Science and Tecnology – INCT/APA, Antarctic Vegetation Studies Center. Federal University of Pampa. Antonio Trilha Avenue, 1847, 97300-000, São Gabriel, RS, Brazil



Filipe Victoria

OPEN  ACCESS



DOI: dx.doi.org/10.17504/protocols.io.6tcheiw

External link: <https://doi.org/10.1371/journal.pone.0226691>

Protocol Citation: Juliana Ferreira da Silva, Maria Angélica Oliveira, Raylane Ribeiro Anunciação, Eduardo Pereira da Silva, Rodrigo Paidano Alves, Adriano Luis Schunemann, Filipe de Carvalho Victoria, Margéli Pereira de Albuquerque, Antonio Batista Pereira 2019. Distribution of aerophilous diatom communities associated with terrestrial green macroalgae in the South Shetland Islands, Maritime Antarctica - PROTOCOL. **protocols.io** <https://dx.doi.org/10.17504/protocols.io.6tcheiw>

**Manuscript citation:**

Silva JFd, Linton MAO, Anunciação RRd, Silva EPd, Alves RP, Schünemann AL, Victoria FdC, Albuquerque MPd, Pereira AB (2019) Distribution of aerophilous diatom communities associated with terrestrial green macroalgae in the South Shetland Islands, Maritime Antarctica. PLoS ONE 14(12): e0226691. doi: [10.1371/journal.pone.0226691](https://doi.org/10.1371/journal.pone.0226691)

License: This is an open access protocol distributed under the terms of the **[Creative Commons Attribution License](#)**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working

We use this protocol and it's working

Created: August 26, 2019

Last Modified: August 26, 2019

Protocol Integer ID: 27204

Keywords: Algae, Antarctic, Biogeography, Aerophilous diatoms.

Abstract

The establishment of diatom communities depends on environmental factors such as the type of substrate and geographic conditions that influence the dispersal processes of these organisms. The main goal of this study was to evaluate the similarity between diatom communities associated with the macroalgae *Prasiola crispa*(Lightfoot) Kützinger in relation to spatial distance from six sampled sites located in the South Shetland Islands, Maritime Antarctica. The diatom flora associated with *Prasiola crispawas* represented by 23 species distributed in 15 genera. *Pinnularia australoschoenfelder*Zidarova, Kopalová & Van de Vijver, *Luticola austroatlantica*Van de Vijver, Kopalová, S.A.Spaulding & Esposito, *Luticola amoena* Van der Vijver, Kopalová, Zidarova & Levkov, *Pinnularia austroshetlandica*(Carlson) Cleve-Euler and *Psammothidium papilio*(D.E. Kellogg et al.) Kopalová & Zidarova were the most abundant species in our samples, which together represented 68% of the total number of individuals collected. There is a great similarity in composition and abundance of the diatom community among the sampled points., which resulted in the absence of a linear pattern of relationship with the distance between sampling points. We conclude that distance was not a factor of differentiation of Antarctic diatom communities associated with terrestrial green macroalgae. Suggesting that Antarctic environments may have unique characteristics with homogeneous abiotic factors, at least related to this substrate.

Attachments



LABORATORY


PROTOCOLS...


17KB




Materials

MATERIALS

 Potassium permanganate

 GE Polycarbonate Membrane filter **Catalog #MAINE 1216611**

 Hydrogen peroxide

 Naphrax



1