**A CRYPTIC NEW SPECIES OF *Stereocaulon*** **FROM SOUTH AMERICA AND MARITIME ANTARCTICA**

Jean Marc Torres1\*, Vanessa Torres1, Adriano Afonso Spielmann1, Aline Gianini1, Neli Kika Honda1 & Aline Pedroso Lorenz1

1Federal University of Mato Grosso do Sul, Brazil; \* E-mail: jean.torresp89@gmail.com

Lichens occur in most terrestrial ecosystems of the world, presenting different patterns of geographic distribution. Species with bipolar distribution occupy high-latitudinal areas of both the northern and southern hemispheres, with intermediate populations at higher elevations in the tropics. For the Antarctic continent, 192 species of lichens are considered bipolar elements. However, DNA-based analyses have demonstrated the occurrence of multiple species, sometimes morphologically and chemically indistinguishable, within several bipolar species. Our goal was to combine morphological, anatomical, chemical, and genetic data of specimens previously identified as *Stereocaulon* *alpinum* Laurer, a hypothetical bipolar species, from South America and Maritime Antarctica. We compared morphological and anatomical characters from the thalli, apothecia and cephalodia. Chemical components were identified with Thin Layer Chromatography, Microcrystallization, Nuclear Magnetic Resonance and Mass Spectrometry. Total DNA was extracted from freshly-collected specimens. We analyzed genetic markers from the main mycobiont (ITS and β-tubulin gene), the cyanobiont (16S), and the chlorobiont (actin gene) using specific primers in the PCR amplifications. The DNA sequences generated were compared to sequences available in GenBank. Bayesian and maximum likelihood phylogenetic reconstructions indicated that the specimens from the Southern hemisphere are very divergent from the Northern hemisphere, being more closely related to *S. saxatile* H. Magn. DNA sequences also confirmed that the photobionts are *Nostoc* (a lineage close to other symbiotic *Nostoc*) and *Asterochloris* sp*.* (closely related to *A. irregularis*). We did not detect phenotypic differences among the specimens from South America and Maritime Antarctica and the descriptions of *S. alpinum* from the literature. Therefore, we are preparing a detailed description, including the photobionts characterization, of this new species of *Sterocaulon* that, seemingly, is exclusive from the southern hemisphere. Funding: PROANTAR (MCTI/CNPq/FNDCT), CAPES (Finance Code 001).