**DIVERSITY OF *Xanthoparmelia* (Parmeliaceae) SPECIES IN XEROPHYTIC SCRUB VEGETATION, EVIDENCED BY MOLECULAR, MORPHOLOGICAL AND CHEMISTRY DATA**

Alejandrina Barcenas-Peña1\*; Felix Grewe1; H. Thorsten Lumbsch1

1Grainger Bioinformatics Center and Negaunee Integrative Research Center, Science & Education, The Field Museum, 1400 South Lake Shore Drive, Chicago, IL 60605-2496; \*E-mail: a\_barcenas81@hotmail.com

Due to its position including tropical and temperate latitudes and its importance as refugial area for temperate species during Pleistocene glaciations, Mexico has a high biodiversity and is part of the Mesoamerican biodiversity hotspot. Xerophytic scrub vegetation is among the most widespread ecosystems in Mexico, covering about 40% of the country and harboring a high diversity of organisms. Lichens are common in this forest type, especially *Xanthoparmelia* species, which are very abundant due to the presence of numerous exposed rocky substrates. The genus *Xanthoparmelia* is the most diverse genus of lichen-forming fungi and has currently about 800 accepted species. Chemical variation of *Xanthoparmelia* species has played an important role for species identification in addition to morphological characters. In Mexico, about 75 species are known based mainly on studies using morphological and chemical characters. We studied the diversity of *Xanthoparmelia* species from Mexican xerophytic scrubs. The morphology was revised, and secondary substances were studied by HPTLC. We generated ITS, mtSSU and nuLSU data sets and analyzed the data using Maximum Likelihood (ML) and Bayesian Analysis (BA). Eighteen species were identified according to their morphology, chemistry and phylogenetic analysis.