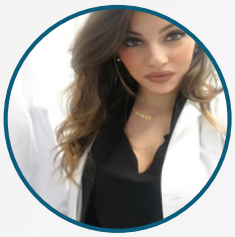
GLOBAL MEET ON CLIMATE CHANGES AND SUSTAINABILITY



Viviana Maresca[a]; Alessia Postiglione[b]

[a]Department of Life Sciences, Health and Health Professions, University of Rome "link Campus",Rome, Italy
[b]Department of Biology, Universita di Napoli "Federico II" - Complesso Universitario Monte Sant'Angelo, Via Cinthia 4, 80126, Napoli, Italy

Biological responses from environmental pollution by heavy metals in the "land of fires" (Italy) assessed using the biomonitor liverwort species Lunularia cruciata L. (Dum)*

Abstract: The liverwort Lunularia cruciata was collected from the town of Acerra, in the heart of the so-called 'Land of Fires' a large area in the eastern part of Campania region of Italy affected by burning of waste and fraudulent dumping and one of the vertices of the "Italian Triangle of Death" so said for the high incidence and mortality from tumors. The data obtained from these samples were compared with samples collected in two other sites representing two different environmental conditions. The soil below the samples, and gametophytes, were collected and analyzed for the concentration of Al, As, Ba, Cd, Cr, Cu, Fe, Hg, Mn, Ni, Pb, Se, V. DNA damage, Reactive Oxygen Species production and localization, activity of antioxidant enzymes and presence of chelating molecules were investigated. All biomarkers provided an answer closely related to the pollution conditions at the 3 sites. We discuss the data considering the possibility of using these biological changes as environmental pollution biomarkers. Finally, it is underlined the importance of phytochelatins due to of their specificity for metal pollution.

Biography: Associate Professor at the University of Rome Campus Link. Graduated in Biology from the University of Naples Federico II in 2015 and obtained her PhD in 2020. Her research focuses on the study of bioactive molecules extracted from plants with antitumour, antibacterial, antifungal and antioxidant activities. She studies the biological responses of toxin-tolerant plants to heavy metals. Author of 43 scientific publications and 1 book chapter, with 670 citations and an H-index of 17. She has publications in Q1 and Q2 journals, many of them as first or corresponding name, and is Guest editor of several Q1 journals.

ISBN: 978-1-0685851-8-0