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## **Luc Ector, a distinguished diatomist, a unique human being.**

Carlos E. Wetzel<sup>1</sup>, Ingrid Jüttner<sup>2</sup>, Bart Van de Vijver<sup>3,4</sup>

<sup>1</sup> Luxembourg Institute of Science and Technology (LIST), Observatory for Climate, Environment and Biodiversity (OCEB), L-4422 Belvaux, Luxembourg

<sup>2</sup>Amgueddfa Cymru – Museum Wales, Department of Natural Sciences, Cathays Park, Cardiff, CF10 3NP, UK

<sup>3</sup>Meise Botanic Garden Meise, Research Department, Nieuwelaan 38, 1860 Meise, Belgium (correspondence: bart.vandevijver@plantentuinmeise.be)

<sup>4</sup>University of Antwerp, Department of Biology – ECOSPHERE, Universiteitsplein 1, B-2610 Wilrijk, Belgium

Luc Ector, born on 17 October 1962, in Uccle (Belgium) was a distinguished Belgian scientist with a profound expertise in the taxonomy and ecology of diatoms. His work encompasses both fundamental and applied aspects in phycology, diatom biodiversity, biogeography, and the development of water quality indices. Luc has played a fundamental role in implementing the European Water Framework Directive (WFD) in the early 2000s on the use of diatoms as bioindicators in freshwaters, particularly in European rivers and lakes. As senior Researcher at the Luxembourg Institute of Science and Technology (LIST), he has dedicated his professional life to diatoms in all its aspects. He has been one of the world's most prominent specialists of freshwater diatoms in the last decades as shown by the number of publications, but also by the number of international colleagues that relied on his advises, exchange of information and cooperation. His academic journey began at the Université Catholique de Louvain in Belgium, where he earned his Master in Botany (Sciences Botaniques) in 1986. He furthered his education at the Université Paul Sabatier in Toulouse, France, obtaining a Master in Terrestrial and Aquatic Ecology (D.E.A.) in 1988. With a passion for education, Luc has been imparting knowledge in plant biology and phycology since 1997, serving as a teacher of botany (algae, fungi and higher plants) at the Université du Luxembourg. Luc 's commitment to the scientific community extends to his role as a journal reviewer for numerous prestigious publications and his expertise and critical eye have significantly contributed to the advancement of diatom research. For a long period, he was involved as Secretary, Vice-President, and eventually President of the Association des Diatomistes de Langue Française (ADLaF) from 1998 to 2014, where he played a pivotal role

in steering the association through the several annual meetings held in French-speaking communities. Luc 's prolific writing has resulted in an impressive array of publications and collaborations, including 9 books, 18 edited books or congress proceedings. As an active reviewer and diatom contributor, Luc described hundreds of diatom species in more than 300 publications and collaborated with more than 400 researchers worldwide: he would often be the bridge linking these researchers.

Every year, dozens of researchers around Europe would gain knowledge and be updated on the latest taxonomic changes by taking part in the diatom training courses he offered in Luxembourg. In different European countries (mainly in Belgium, Germany, Italy, Spain, Portugal and France), he would participate as expert in intercalibration exercises on diatom taxonomy. Luc's proficiency in taxonomy was undoubtedly linked to an excellent visual memory and flawless rigour and excellent knowledge of diatom bibliography. He has collected every publication possible about diatom taxonomy related to freshwater, soil and marine environments, going back to the XIX<sup>th</sup> century literature or requesting the original version of microscopic slides containing type material of species described long ago.

Luc embodied the true essence of perseverance and tenacity, dedicating himself wholeheartedly to his work with diatoms, almost on a daily (and very often nightly) basis. He was not just committed to his research; he was deeply invested in it. The concept of 'transmission' held a special place in Luc's philosophy. He was passionate about sharing not only his extensive knowledge but also his fervor and commitment to scientific inquiry. Luc served as a guide and inspiration for both beginners and experienced scientists. He invested remarkable energy in nurturing young researchers, facilitating their journeys to Luxembourg or abroad, to collaborate and delve into the flora of their respective countries. His mentorship extended beyond the realm of diatoms, as he generously shared his expertise in science also to those outside his immediate field of study. Luc's legacy is marked by his unwavering dedication to fostering a community of learners and researchers, enriched by his wisdom and passion. Science becomes an all-embracing activity when it is linked to human qualities. Luc's qualities were numerous, but the prominent ones were generosity and sincerity. With a strong sense of putting people together, Luc was often the driving force of a good team atmosphere. Luc's generosity was well illustrated by one of his favourite activities: gardening. During summer he usually woke up early in the morning to take care of his vegetable garden before coming to work. These efforts were always rewarded by large

quantities of vegetables which he distributed to everybody happy to cook them. The garden could sometimes turn into an experimental field when he was collecting slugs to see what kind of diatoms they ate, inventing a highly original diatom sampling methodology.

Beside all scientific activity, Luc was the glue of so many lives and friendships in the diatom world; he was humble and always ready to help. Always ready to tell a joke or a story to cheer someone up. The diatom community has lost one of its main, and most generous protagonists. A researcher of legendary efficiency who has never ceased to be of service with his incredible ability to find the rarest documents and spectacular working power. With a career marked by significant contributions to the understanding of diatoms, their ecology, and their role in aquatic ecosystems, his dedication to teaching, research, and service has left an indelible mark on the scientific community and continues to inspire future generations of scientists. On the morning of 28<sup>th</sup> of April 2022 the community of diatomists worldwide lost one of its most active and charismatic members with Luc's death. Luc has opened so many



doors in science and in our hearts. Now is the time to rest and to live on in our memories and work. He is survived by his children (Sophie, Michel and Marie) and grandchildren (Isaac, Romane et Elias). This volume is dedicated his life and legacy. Through these pages, we aim to celebrate his contributions to diatom research, his unwavering commitment to education, and his profound impact on the scientific community.

*Luc just grabbing a leaf of Brassica (“chou portugais”) from his garden after a field trip in 2021. Gardening was one of his passions. Photo: Carlos E. Wetzel.*



*Luc on the margins of the upper “Rio Negro” (Brazilian Amazon) during a diatom field trip in 2005. The mountains known as “Serra do Curicuriari”, Amazonas state, are seen in the background. Photo: Carlos E. Wetzel.*