

BCCM/DCG, A NEW AND DEDICATED DIATOM CULTURE COLLECTION INTEGRATED IN THE BELGIAN COORDINATED COLLECTIONS OF MICRO-ORGANISMS

Pieter Vanormelingen¹, Olivier Detongre², Olga Chepurnova¹ & Wim Vyverman¹

¹Laboratory of Protistology and Aquatic Ecology, Department of Biology, Ghent University

²BCCM, Science Policy Office

Diatoms are relatively poorly represented in culture collections, mainly as a result of difficulties for long-term preservation linked to their peculiar size reduction-restitution life cycle. To fill this gap, we are developing a dedicated diatom culture collection integrated in the Belgian Coordinated Collection of Micro-organisms (BCCM) in which long-term preservation of diatoms is achieved via cryopreservation or via the generation of sexual offspring. This diatom collection of diatoms (BCCM/DCG) (<http://bccm.belspo.be/about/dcg.php>) currently contains over 176 well-characterized strains from 23 species of model diatoms belonging to 9 genera for life and cell cycle, speciation, ecophysiological, and trophic interactions research and aquaculture/blue biotechnology. Strains are molecularly and morphologically characterized (including cell size) and, depending on the species, extensive additional ecological, life cycle, physiological and genomics information is available. Current services offered include the public deposition and worldwide distribution of diatom strains. The management system of BCCM/DCG has been assessed and certified as meeting the requirements of ISO 9001:2008 for the accession, control, preservation, storage and supply of diatoms, and related information in the frame of public deposits. Further expansion of the collection will be achieved by (1) improving the collection and (2) offering additional services. For the first, the number of strains and species will be increased, there will be a further integration of genomic and biochemical information, and (cryo)preservation techniques will be improved. Additional services may include the isolation and breeding, and genetic and morphological characterisation of target species upon request, and the distribution of DNA samples for strains which cannot be preserved long-term.