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*The Gabonionta: A new perspective
in understanding the emergence of
multicellularity*

Monday, 9th May 2022 @ 14h

online: <https://ent-services.ens-lyon.fr/entVisio/quickjoin.php?hash=e77e029dfb2d19e4382a8765a26c4c5f4888f7b37005616ae290b561053d537b&meetingID=8776>

on site: Amphi L, ENS-lyon

The emergence of complex life more than five hundred million years ago marked the beginning of a change in the Earth's biosphere during the so called "Cambrian Explosion". However, several studies have reported that scattered fossils of large individual multicellular macro-organisms that use cells as building blocks existed during most of the Proterozoic Eon. The recent discovery of centimetre-sized fossils of more than 1500 specimens from the 2.1 Ga Paleoproterozoic black shales in Gabon reveals growth of macro-organisms in a coordinated manner. The biogenicity of the fossils resemble irregularly shaped cookies with split edges and a lumpy interior. X-ray tomography revealed their structures that are too complex to be simple products of inorganic processes. Some of these species showed evidence of organism motility in oxic shallow marine waters and provide support for presence of multicellular life about 2.1 billion years ago. The evolution of the Gabonese biota represents an early step toward large-sized multicellularity and may have become possible by the first boost in oxygen during the GOE. Why it took around 1.4 billion years for the multicellular organisms to take over is currently one of the great unsolved mysteries in the history of the biosphere.