



The first appearance of monothalamous foraminifera and the molecular clock, state of the art

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When did foraminifera appear in the geological record? The traditional paleontological approach put the first occurrence of Foraminifera in the Paleozoic, however the architectural complexity and design displayed by Lower Cambrian foraminiferal assemblages joint to the low fossilization potential of soft-walled taxa, indicate that the fossil record should not be interpreted so literally (Langer, 1999).

In literature interpretations based on molecular sequencing data (molecular clock), which use the genetic distance to estimate divergence times between lineages, suggest that the initial appearance of foraminifera should date back to 1.1 Billion years (Pawłowski, 2003). Finally recent paleontological data have found also several evidence of taxa similar to soft walled saccamminids back in the post Sturtian deposits of Namibia and Mongolia (Bosak et al 2011). Other similar putatively organic structured organisms are described in many other articles (Marti Mus and Moczydlowska, 2000; Porter et al 2003; Maloof et al 2010) and also Late Ediacaran Agglutinated foraminifera have been found by Pazio (2012) in Northern Norway, evidencing that this topic deserve to be approached deeply, joining all the efforts in order to find new sites and fossils.

Aim of this presentation is to point out recent findings of organic walled forms which prove that a different approach in the preparation of samples and the study of this early forms needs to be adopted.