

Education and dissemination by eukaryotic microorganisms

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Microscopic life forms are everywhere on Earth, and eukaryotic microbes (mostly protists) are no exception. Indeed, they are very common in all fresh- and salt water, as well as in moist soils, and a significant number of species can be found as parasites or symbionts of several organisms. Despite their abundance, their presence in some important ecological activities, and their relevance to human and environmental health, protists are often ignored both by the educational community and the lay public. Nevertheless, in our experience, protists represent unique models to teach fundamental topics of biology, ecology, systematic and evolution, especially to undergraduate students, as they perform all life functions within the small space of a single cell. In addition, protists may help counter popular misconceptions about microbes as “inferior” and less evolved organisms. For these reasons, since several years, we have been offering theoretical and practical experiences on protists for first and secondary grade schools. In particular, we have recently been collaborating with some museums and one zoological park to install permanent “exhibitions” for the observation of some species of protists (especially ciliates) as well as educational trails. These trails will be organized with an appropriate language for the non-scientific community and may serve to show the relevance of protists in various fields, such as evolution, scientific research, and public health applications.