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Abstracts

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1
Potentialities and Limits of Soil Protozoa as Bioindicators in Field Studies

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Research in most groups of soil protozoa is hindered by methodological inconveniences and the lack of taxonomic guides. Culture (dilution) techniques can at best estimate the abundance of active and cystic cells. Direct counts provide data on active individuals and species, which are – beside a clear experimental design – prerequisites for successful ecological work. Naked amoebae cannot be enumerated reliably at present. Research on flagellate taxocoenoses is restricted by their very small size. Standardized and adequately tested quantitative methods are available for testate amoebae and ciliates. Ciliates must be counted on the day of sampling due to their ability to encyst rapidly, while testacean samples can be conserved. Both are equivalent indicator groups in less evolved soils, namely the litter layer. In evolved natural and cultured soils ciliates are less suited, because they are suppressed by microbial exsudates. Ciliates are better short-time indicators than testaceans due to their rapid division and cystation abilities. Testaceans are more important than ciliates concerning the energy cycle and production studies. Most papers on taxocoenoses show that total individual and species numbers are rarely sufficient to estimate treatment effects. In contrast, these parameters often obscure that some species decrease, while others increase. This clearly illustrates the necessity of identifications at species level. Since few species usually dominate in a particular site, it could be possible to restrict ecological studies on relevant species, i.e. dominance > 2%.

2
Treatment of Amebiasis due to *Entamoeba histolytica* Possibilities. Limitations. Uncertainties

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Little progress has been achieved recently in the treatment of amebiasis due to *Entamoeba histolytica*. The use of imidazoles (Metronidazole and Ornidazole) still prevails as these drugs have replaced the emetine salts, which have recently been withdrawn from the market. In cases of liver abscess, the treatment may be completed by a drainage puncture, guided with the aid of ultrasounds and allowing, if necessary, the *in situ* injection of amebicides. However, cases of resistance to metronidazole, as well as side effects, have been reported. Research work is therefore necessary to develop new tissue amebicides, active against the *histolytica* forms of the parasite. The main problem, on a practical level, is the treatment of healthy carriers eliminating cysts with four nuclei. Indeed, only in case of the presence of *Entamoeba histolytica* is the treatment justified, but not of carriers of *Entamoeba dispar* which cannot, unfortunately, be distinguished from the former with a mere examination under the microscope.

3
Seasonal evolution of *Glugea stephani* (Protozoa: Microspora) Parasitic of Flounders *Platichthys flessus*, from the Western Coastes of Denmark

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The seasonal evolution of *Glugea stephani* in the coasts of west Denmark has been examined. The fish used for this work (the flounder, *Plathichtys flesus*) were commercially reared and the prevalence of the parasite was examined from February 1992 to December 1994, however and due to commercial reasons the best studied period was from October 1992 to December 1993. The origin of these fish was semi-extensive cultures for the beginning of 1992, and wild populations for the rest of the studied period.
The prevalence of this microsporidian ranged between 5% and 53% and was found to be the higher in winter than in summer months, which seemed to be in contradiction with data indicating that *G. stephani* does not develop at temperatures below 15–16 °C (McVicar, 1975), and also in contradiction with data of seasonal evolutions of this parasites found by most authors (McVicar, 1975; Olson, 1976; Takvorian and Cali, 1986), nevertheless our data were similar those of Bekhti (1984). The reasons for these radically different results are both the migratory behaviour of flounders, that migrate to deeper waters in winter, and the cold or warm condition of streams that do influence the temperature of water at the depths where flounders usually live in winter.

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