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Microscope – Microscopy as a hobby or profession

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Members: 2869
Category: Biology
Founded: Mar 11, 99
Language: English

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< Previous

Next >

Swamp Water

Posted By: edwilli Sun Oct 24, 2004 9:51am

For almost a year now I have been following the behaviour of a variety of amoebas and flagellates in a 20 cm diameter crystallization dish half full of gunk (and topped up from time to time with distilled water) taken from the swamp on our property...

- 5 The first interesting micro-organisms to draw my attention were amoeboid flagellates of the genus *Naegleria*. No proof of this identification is offered, but I did spend a couple of years investigating them in South Africa long ago. Now and again a few grains of rice are dropped in around the edges. At one stage a few dozen small nematodes hatched and were to be seen crawling up the glass. They died down after a while but probably bred and there may be eggs ready to hatch later.
- 10

[...]

- 15
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- Soon after the slide is prepared large numbers of sulphur bacteria (coiled, one turn, with numerous granules) are to be found in close proximity to the Vaseline¹ seal. There are also helical organisms large and small. One had escaped notice because of its minute size and has now been tentatively identified as *Leptospira biflexa*. They also proliferate at a rapid rate, also close to the Vaseline, and can be found in large numbers clustered round encysted amoebae. This particular Spirochete is very easy to culture and all it needs is fatty acids and a few vitamins.

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- The Vaseline is a very important part of this micro-environment, not only as a nutrient. Many small bays and completely enclosed chambers are formed in which, sometimes, almost pure "cultures" of some bacteria appear. Isolated as they are from the rest of the chamber they are very interesting to watch. Sometimes these little chambers become completely filled with cells and population density halts further growth.

These micro-environments, that seem to go on indefinitely, make it very easy to understand the fascination of the early microscopists who must have been amazed, if not shocked and horrified by what they saw in their 30 water samples. But I doubt many kept the slides for long. I have some that are at least nine months old and still going strong...

These preparations are fascinating and keep me busy when I'm not building contraptions for the microscope, such as electronic flashes and Halogen lamp holders. I have become as enthusiastic, mainly due to 35 interaction with members of this group, as I was when using my own beautiful Zeiss Winkel² (mainly on bovine blood³ slides) at the tender age of 21 in Rhodesia.

Reply

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¹ Vaseline: brand of petroleum jelly

² Zeiss Winkel: brand of microscope

³ bovine blood: blood from cattle