

PROTIST WEB ALERT

Memories of Times Past

The Euglenoid Project

(<http://lifesci.rutgers.edu/~triemer/index.htm>)

This site created by Richard Triemer and Mark Farmer is an ambitious attempt to provide a resource for research and teaching for this entire group of protists. As is the case with many protists, the heterogeneity is astounding. Those of you who think that the chloroplast-containing *Euglena gracilis* is the paradigm for this group will be rudely awakened to an extensive diversity of forms and habitats, including the fact that most Euglenoid species do not have chloroplasts. There is a nice Introduction, a discussion of the taxonomy with an historical perspective, a taxonomic key for the aficionados, and the evolutionary relationships. There are also several dramatic quicktime movies of Euglenoids in action.

I must admit that the Euglenoids have always fascinated me and so did this site.

Micro*scope Astrobiology Institute Web Site from the Woods Hole Marine Biological Institute

(http://www.mbl.edu/baypaul/microscope/general/page_01.htm)

I reviewed this site in a previous Web Alert, but it has been revised and updated and so is worth another look. This is now a very useful and comprehensive site, created by David Patterson and collaborators at Woods Hole. It covers an enormous range of microorganisms, and has them classified for searching in terms of habitats, adaptive groups, and taxonomic hierarchy. The habitats include biological habitats: *Zootermopsis*, *Cryptotermes*, *Incisitermes*, *Kalotermes*, *Reticulotermes*, *Xanthophyte*, *Cryptocercus*, *Raphidophytes* and Pitcher Plants; a few selected localities from Woods Hole, Nebraska and even Plum Island: Davis Mine, Eel Pond, Hudson River, Lamont Pond, Little Sippewissett, Prawn Farm, Sapelo Island, Cedar Swamp, Rio Tinto, Plum Island and Alkaline Lake; and those hotbeds of microorganisms: the American Type Culture Collec-

tion, Athens – Georgia and the Katz lab! There is also a novel taxonomic key program called Lucent Guides, but this requires downloading a program and then downloading the key file. I like the bundled button links to NCBI molecular data, ATCC culture Collection (<http://www.atcc.org/>), the fantastic Google search engine (<http://www.google.com/>), and the Madisons' "Tree of Life" web site (<http://phylogeny.arizona.edu/tree/phylogeny.html>).

I am still waiting for some 'out of this world' microorganisms so that this new field can have a bonafide subject matter!

The Amoebae

(<http://www.bms.ed.ac.uk/research/smaciver/amoebae.htm>)

I think it is not overly sentimental to remind practicing protozoologists (or is it protistologists?) that they probably first became interested in protists as a child in school by watching through a low power microscope an *Amoeba proteus* or *Chaos carolinense* moving across a surface. The extensive phylogenetic diversity of cells having the amoeboid form at some point in their life cycles emphasizes that the name 'amoebae' is not a taxonomic or phylogenetic term. Nevertheless it is worthwhile to have a site that attempts to catalog this diversity. The innate fascination with amoeboid movement has been supplanted in recent times with the utility of some of these organisms in facilitating investigation of basic problems in cell and molecular biology. This site created by Sutherland Maciver has information on many different genera of amoebae and uses links to the Protist Information Server (e.g. <http://130.158.208.53/WWW/PDB/Images/Sarcodina/Chaos/index.html>) to provide images of the cells. There is also another link to a nice site on cytoskeletal elements together with an introduction to an interesting group of researchers calling themselves the 'Cytokinetic Mafia' (<http://www.unc.edu/depts/salmlab/mafia/mafia.html>).

I did find several technical problems with the Amoebae site, however, in that there are broken and incorrect links and that references, although highlighted, are not hyperlinked to public databases.

All in all a useful site. It brings back memories!

Antony van Leeuwenhoek (1632–1723)

(<http://www.ucmp.berkeley.edu/history/leeuwenhoek.html>)

Leeuwenhoek was to Microbiology what Newton was to Physics. He single-handedly opened up a new world of "little animals" by a convergence of technical skill in grinding microscope lenses for his single lens microscopes, excellent eyesight and an insatiable curiosity. This excellent web site describes his life and contributions. There is a link to another interesting site by Brian Ford

(<http://www.sciences.demon.co.uk/wavintr.htm>), who discovered several original specimens sent to the Royal Society and examined them using the original Leeuwenhoek microscope as well as a modern microscope. Finally for those of you mechanically inclined, you can reconstruct a Leeuwenhoek microscope yourself, following the directions of Al Shinn (<http://www.sirius.com/~alshinn/Leeuwenhoekplans.html>).

A great site for the historical buff (and who isn't?).

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