WebWatch

Home for Peroxisomes

Found in virtually all eukaryotic cells, peroxisomes are organelles whose enzymes catalyze a diverse set of reactions, including oxidation of long-chain fatty acids, synthesis of plasmalogens and bile acids, and radical detoxification. Peroxisomes are produced from the endoplasmic reticulum and perform essential cell functions, as witnessed by the fatal disorders that arise when they malfunction. At PeroxisomeDB, visitors can examine the complete human peroxisomal proteome (encoded by 85 genes) and those of 34 other organisms (over 2000 orthologous proteins). Comparative genetics and prediction tools facilitate automatic retrieval of phylogenetic alignments and allow users to determine if input proteins are candidate proteins for the organelle. A list of 22 disorders linked to peroxisomes is also provided.

[www.peroxisomedb.org]

Spawners without Borders

Salmon may be the best example of a species spanning the diverse realms of biology, politics, law, environmentalism, international relations, economics, native peoples, migration, and threatened habitats. As anyone who has watched the battles among environmentalists, fishermen, farmers, loggers, Canadians, and Native Americans in the Pacific Northwest can attest, the decline of salmon populations in Northwest fisheries has enormous implications and there is no clear solution to the problem. Attempting to keep visitors abreast of the issues is State of the Salmon, a nongovernmental site aimed at evaluating and conserving salmon across the entire Pacific range. It supports these goals with excellent coverage of resources, events, and news.

[www.stateofthesalmon.org]

Open for Innovation

Arguably, the greatest strength of science is the openness with which it occurs. The growth of corporate science and proprietary information has raised concerns for many that its very foundation may be destabilized. Attempting to counter these trends is a growing number of efforts to increase openness and information exchange among scientists. An interesting entry in this respect is SciClips, which focuses on stem cells, proteomics, biomarkers, biofuels,

metabolomics, and more. Its well-designed web site boasts sections devoted to these topics, as well as new information (Recent Posts), feedback (Recent Comments), and protocols (Bioprotocols). A Twitter feed is available for anyone needing minute-by-minute updates.

[www.sciclips.com/sciclips]

Biological Bricks

Imagine you are designing a house. You consult an architect, who creates a great blueprint, and then you set out to construct it, but discover that the basic materials you wish to use (bricks, for example) are tied up by patents that restrict their use. Without free access to basic materials, your house would likely either be strongly compromised or never built. Now imagine you are a researcher on the cutting edge of biological science designing new organisms from scratch. The considerations you have would mirror those of the hypothetical builder. Thankfully, the BioBricks Foundation is working to keep these building blocks of biology as available for researchers as bricks are for builders, by way of an open-source registry. Their mission is to ensure that “standard biological parts remain freely available to the public.” A very worthwhile goal, and food for thought for all biological scientists.

[<http://bbf.openwetware.org>]

The Aegis of Discovery

An interesting collection of pages that allow one to easily act on the imperative of its title from the comfort of a browser, Discover Life is nothing else if not a celebration of the diversity of life forms on this planet. Produced by the Polistes Foundation, Inc., Discover Life aims to “assemble and share knowledge about nature in order to improve education, health, agriculture, economic development, and conservation throughout the world.” Their ambitious goals are backed up with significant support, including species identification tools, maps, superb images and an interactive encyclopedia of Life’s 1.3 million-plus species pages. Discover Life is poised to realize its goals and seeks help from people in all walks of life. A worthwhile effort to get involved with, Discover Life deserves a look.

[www.discoverlife.org]

Ceratoma catalpae caterpillars on a catalpa tree leaf.
© 2010 John Pickering, Discover Life.

Nature, Mothered

Everyone, it seems, loves Mother Nature, so it is only natural that she should have her own media outlet. Today, that means a web page, and it comes to us in the form of the Mother Nature Network (MNN), a significant effort spanning news (This Just In), perspectives (Green News Roundup), questions (Ask Mother Nature), and periodicals (Mother Nature, Delivered). As one might expect, the perspective of the site is green and the treatment is mostly light, though the content is serious. Visitors can get tips on home improvements, transportation, food, lifestyle, and green technologies, and the interactive advice section (Q&A for Mother Nature) helps people deal with problems ranging from the humane removal of yard moles to uses for bad vodka.

[www.mnn.com]

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