WebWatch

The Green Scene

In contrast to what happens in nature, urban forests don't evolve from natural selection. Rather, they are carefully planned from square one, often using sophisticated computer software. The Urban Forest Management Plan (UFMP) Toolkit web site is aimed at today's "urban foresters" to help them develop appropriate plans for their areas. The Toolkit includes (i) a framework for a management plan, (ii) an organizing process design, and (iii) an online work plan tool. The site's step-by-step organization guides users through the process of making a plan and organizes everything into a check-listed outline that facilitates easy tracking of the project. If you or someone you know needs help managing trees in a concrete jungle, the UFMP is a great place to start.

[<http://ufmptoolkit.com>]

Bio-Dirt

Looking for the latest "gossip" on the biotechnology industry? Then you need to direct your browser to the address below. The site hosted there, Biofind, has several interesting sections including the under-used "Blogs" area, a vibrant news segment, and a collection of press releases. Probably most noteworthy is the section called Rumor Mill, which is packed with juicy tidbits about all of the major players in bioindustry: Novartis, Pfizer, Roche, Beckman, and more. Visitors should recognize, of course, that rumors are just that and the anonymous postings and comments are sometimes as beneficial for spreading misinformation as they are for uncovering company truths. But the breadth of commentary is impressive: some posts have over 1200 replies, and it is in this feedback that the truth may be found.

[www.biofind.com]

Comparative Genomics

The field of comparative genomics is an extension of the attempts to understand the evolutionary relationships among organisms based on protein sequences. The wrinkle here is that entire genomes constitute the datasets. Enter the Microbial Genome Database for Comparative Analysis (MBGD), a website that can generate homologous gene cluster tables, dynam-

Pest Quest

If you're not an entomologist, you may not be interested in insects unless they're chewing, biting, buzzing, infesting, or stinging you, or damaging your property. There are, of course, notable exceptions, but for the most part, people don't tend to pay attention to the tiny varmints until they cause problems. At Iowa State University, the Department of Entomology hosts an outstanding, informative set of pages that assist in identification and management of pests, as well as educational materials (Horticulture and Home Pest News)

and a guide to insects relevant to soybeans. Topic areas include everything from bird mites to earwigs to mold mites. There's even an Insect Zoo outreach program that can travel all over Iowa (Have Bugs, Will Travel?).

[www.ent.iastate.edu]

Spined soldier bug (*Podisus maculiventris*). © 2010 John VanDyk.

cally create orthologous cluster tables using precomputed homology data, and also enable users to create their own groupings. Multiple genomes can be analyzed using global map comparisons, local map comparisons, multiple sequence alignments, and phylogenetic trees can be constructed. Over 500 genomes are currently available.

[<http://mbgd.genome.ad.jp>]

Related Systems

Identifying the relationships between protein sequences is also the aim of the Systems database system. Starting with the Swiss-Prot and TrEMBL database proteins, Systems performs large scale clustering based on sequence similarity. Single linkage trees of protein clusters are generated based on pairwise E-values, followed by construction of distance graphs for every superfamily. Families are then categorized according to their cluster characteristics: Perfect (all sequences connected to all other sequences), Single (a perfect cluster), Nested (at least one sequence connected to all others), and Overlapping (no sequence connected to all others). The current Systems release (4.0) identifies over 158,000 such clusters that can be retrieved by protein ID, keyword, gene name, organism/taxon, Pfam domain, or protein family ID. BlastP and BlastX search options are also available.

[<http://systems.molgen.mpg.de/index.html>]

The Popsi Generation

Along with *Popular Mechanics*, *Popular Science* is one of the two iconic science/engineering publications from the "New Math" era of science that was tremendously inspirational to budding, young scientists. Now in the information era, its online progeny www.popsi.com aims to do the same with an entirely new online audience. While that's a pretty tall order, it is well on its way to meeting the challenge. It has a rock-solid collection of fun-to-read articles on various science topics, and visitors may browse by way of links to five central areas of interest: gadgets, cars, science, technology, and do-it-yourself. Impressively, the entire 138-year archive of *Popular Science* is searchable in an instant. On-the-go options are available for reading on tablets and mobile devices, and up-to-the-minute updates are available via its Twitter feed.

[www.popsi.com]

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