

AV & Software Reviews

INSECT BIOLOGY

WOWBug. Developed by Robert Matthews. <http://www.wowbugs.com/>.

The life cycle of the parasitic wasp, *Melittobia digitata*, has been studied for more than thirty years by University of Georgia Biologist Robert Matthews. He renamed these bugs WOWBugs™ after the enthusiasm they generated in him. WOWBugs™ are the animal equivalent of Wisconsin Fast Plants™ due to their short life cycle of 24 days.

The Web site **WOWBug** includes a brief description of the bugs, including general body anatomy and differences between males and females. A section called *Why Use WOWBugs?* provides several convincing reasons why teachers should incorporate these organisms in the life science classroom along with purchase information. **WOWBugs in Teaching** provides a link for ordering a handbook of classroom exercises, slide sets, and videotapes, as well as a sub-

scription to a quarterly bulletin.

Several of the activities developed by Matthews and collaborators are for the middle school classroom. For instance, students can learn how to collect and handle specimens, and how to identify the various stages of the life cycle. Activities for high school and college are more involved and are on topics including behavior, natural selection, developmental biology, and genetics modules. For inquiry-based lessons, these modules can be modified so that students can design their own experiments.

The parasitic wasp has a very interesting set of characteristics in its life cycle. For instance, the females can either be long-winged or short-winged. The ease of manipulation and impressive range of classroom exercises in this site could easily turn the WOWBug™ into the next generation's model organism for the classroom.

José Vázquez
General Studies Program
New York University
New York, NY 10003

MAMMALIAN BRAIN BIOLOGY

Comparative Mammalian Collections. Created by Wally Welker, John Irwin Johnson, and Addriane Noe in collaboration with the University of Wisconsin, Michigan State University, and the National

Museum of Health and Medicine. www.brainmuseum.org.

This useful resource for biology teachers provides about 175 images, as well as information on more than 100 mammal species and 17 mammalian orders. Users have permission to use the images, provided that these are identified as from the University of Wisconsin and Michigan State University Comparative Mammalian Brain Collection. The Web site includes various aspects of brain biology such as development, evolution, circuitry, functions, and several useful links.

Under *Explore Collections*, users are told the importance and rationale of the brain collections assembled, along with some history. The subsection "Brain Sections" is broken into the different mammalian orders, making navigation extremely easy. Brain atlases have been prepared for many of the specimens and the links to those are included as well.

The section on *Brain Evolution* is one of my favorites and includes subsections on evidence for evolution, paleoneurology, comparative neurology, and quantitative analysis of brain measurements. There are various links to articles that expand on some of the ideas and provide some indication of the exciting developments that have been taking place in this field. Unfortunately, "Brain Development" is currently under construction.

Brain Circuitry includes brief notes on components, architec-

JOSÉ VÁZQUEZ teaches science in the General Studies Program at New York University. He has been teaching for about 20 years and has taught every level from elementary to graduate school. His particular interests are genetics/cell biology and parasitology. José is also a member of the Test Development Committee for the National Assessment of Educational Progress (*The Nation's Report Card*). His address is: General Studies Program-NYU, 726 Broadway Ave., New York, NY 10003; e-mail: jrv2@nyu.edu.

ture, and connections. The subsection on "Brain Functions" covers general aspects of what the brain does and how it works. Teachers and students will find an enormous range of diverse studies and major developments to view by clicking on related links.

The information provided in this Web site can be easily incorporated in advanced high school biology courses, introductory human anatomy, and physiology, or any comparative biology course. The curators have done a magnificent task of assembling a multitude of brain resources into a convenient site that could facilitate teaching and learning about one of the most fascinating parts of mammalian biology.

José Vázquez
General Studies Program
New York University
New York, NY 10003

ICHTHYOLOGY

American Fisheries Society. Fisheries and Aquatic Resources Education. <http://www.fisheries.org/html/Education.shtml>.

The American Fisheries Society (AFS) is committed to the conservation and sustainability of aquatic ecosystems. AFS has educational resources adequate for various age groups. In particular, the link "Ichthyology Web Resources" will be useful to teachers interested in focusing in aquatic ecosystems. The site, run by the University of Alberta, offers a comprehensive list of links, taxon pages, and places, which will take the user to institutes, museums, public aquaria, and laboratories carrying out diverse projects dealing with fish science.

The *Content* section deals with several aspects of the biology of fishes, such as anatomy, physiology, behavior, biodiversity, pathology,

parasitology, and systematics. I found the subsection on "Pathology and Parasitology" particularly interesting, specifically the hyperlink on *Pfiesteria piscicida*, the toxic dinoflagellate associated with severe fish destruction in mid-Atlantic waters. Several reports, which provide a comprehensive background, can be accessed and downloaded.

For elementary school teachers interested in fun facts on fish and fisheries, the *Just for Kids* section has links to the *Albatross IV's Children's Page*, which includes quizzes and games based on an aquatic theme, and the *Yoto Kids' Fisheries Pages*, perhaps the most comprehensive resource on aquatic ecosystems I have ever encountered. There are

interactive activities, coloring books, and fact sheets. Students and teachers can read, in simple language, the latest on phenomena that affect fish and aquatic life in general. Topics include El Niño, endangered species, northwest salmon, and science project ideas.

I found this Web site very thorough and user-friendly. It addresses various aspects of ichthyology covered on state- and federal-mandated exams. Moreover, there is a wealth of resources and links that can create interest in aquatic science among our students.

José Vázquez
General Studies Program
New York University
New York, NY 10003

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