



RESOURCES

Seeking Cnidarians

Who needs a brain? The cnidarians—corals, jellyfish, sea anemones, and their relatives—have stuck around for more than 500 million years without one. Researchers intrigued by these animals will find everything from stunning photos to genomic data at these two sites. Anthozoa.com,* run by German zoologist Vreni Häussermann, focuses on the group that includes corals and sea anemones. You can connect with fellow researchers by browsing a directory or joining a discussion forum. The site also

includes a taxonomy of the group; species lists for Hawaii, the Mediterranean Sea, and other places; and several bibliographies. At left is the rare blue form of *Phymactis*, an anemone found from Peru to Chile.

Although the work lags behind genomic studies on nematodes and fruit flies, molecular biologists have been amassing data on sea anemones and their kin. At the Cnidarian Evolutionary Genomics Database, or CnidBase,[†] from Boston University, users can track down and compare summaries of gene expression studies gleaned from the literature for more than 20 species. The site, aimed at exploring cnidarian biodiversity, also lets you search for particular sequences in cnidarian DNA and find the latest genomics papers.

*www.anthozoa.com

[†]cnidbase.bu.edu

FUN

The Mathematician's Literary Companion

Every bookstore has a science-fiction section, but good luck finding the aisle devoted to "math fiction." Yet satirist Jonathan Swift, mystery writer Dorothy L. Sayers, macho filmmaker Sam Peckinpah, and many others have integrated math and mathematicians into their creations. Mathematical Fiction from Professor Alex Kasman of the College of Charleston in South Carolina lists more than 450 novels, short stories, comic books, and other works that feature math themes, characters, or examples.

As brief descriptions show, math can be tangential or fundamental to the pieces, and the portrayals of mathematicians range from sympathetic to scathing. For example, in *Gulliver's Travels*, Swift derides the hyperintellectual, math-obsessed residents of the flying island of Laputa: "in the common actions and behaviour of life, I have not seen a more clumsy, awkward, and unhandy people. ... Imagination, fancy, and invention, they are wholly strangers to." Visitors can comment on the choices or rate their literary quality and mathematical accuracy.

math.cofc.edu/faculty/kasman/MATHFICT/default.html

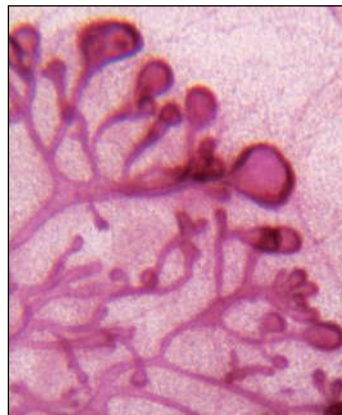
RESOURCES

Inside the Milk Gland

The eclectic Biology of the Mammary Gland site is aimed at developmental biologists, cancer researchers, and physiologists. The site, from Lothar Hennighausen's lab at the National Institute of Diabetes and Digestive and Kidney Diseases, includes everything from technical tips to pathology slides, mainly on mice.

A histology atlas brims with images of normal and unhealthy tissues. Visitors can track development of the mammary glands in mice from birth to pregnancy and compare the process in, say, mice lacking the estrogen receptor. Pages on techniques explain how to prepare and stain tissue, insert genes into mammary cells, and more. The reviews section includes slide shows, short backgrounders, and audio lectures on topics such as the physiology of milk secretion and breast cancer diagnosis. Above, branching milk-producing ducts from a 4-week-old mouse.

mammary.nih.gov

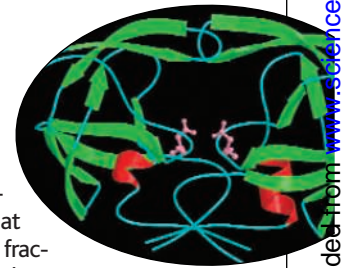


DATABASE

Protein Scissors

Up to 5% of proteins are peptidases, enzymes that split proteins by fracturing the bonds between amino acids. Peptidases perform many vital tasks, such as triggering blood clotting, but they also help viruses set up house inside their hosts and may promote illnesses such as Alzheimer's disease. MEROPS, hosted by the Sanger Institute in Hinxton, U.K., holds data on peptidases from more than 2300 viruses, bacteria, animals, and other organisms. The site organizes the entries into evolutionary lineages. Search for a peptidase such as HIV's retropepsin (above), which hews newly made viral proteins into usable lengths, and you'll get basic data on its classification and function. You can call up the enzyme's structure, the proteins it attacks, the organisms that make it, and a raft of references. MEROPS also boasts a database of mirror-image molecules that block peptidases.

merops.sanger.ac.uk



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