



Down in the Swamp

"The Ever Glades [*sic*] are now suitable only for the haunt of noxious vermin, or the resort of pestilent reptiles." That was the verdict of an 1848 report to Congress that recommended draining the vast Florida wetland. It's one of the jewels tucked away in the Everglades Digital Library, created by Florida International University in Miami.

The archive contains more than 400 articles, maps, photos, and other materials about south Florida's history and environment. Offerings range from plant censuses and rainfall analyses to recorded interviews with Marjory Stoneman Douglas (1890–1998), the writer who galvanized efforts to preserve the Everglades. In this 1908 photo, a girl in Miami poses on a stuffed alligator. >>

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Psyching Out the Fruit Fly

Fruit fly brains are useful for studying genes implicated in neurological disorders such as Alzheimer's and Parkinson's disease. Getting at them, however, requires messy dissections that can damage tissue. Now, a new tech-



nique may offer a hands-off peek into the miniature mind of *Drosophila*.

A team led by Leeanne McGurk of the Medical Research Council's Human Genetics Unit in Edinburgh, U.K., takes flies bred with genetic markers that make the nervous systems fluoresce (blue, in photo) and bleaches their exoskeletons, making the bodies translucent. Optical projection tomography reveals the 3D structure of the organs and allows researchers to virtually slice the flies' brains on any axis, the authors report online on 5 September in *PLoS One*. The procedure may one day be automated, collaborator Liam Keegan says, and—with better resolution and longer-lived fluorescence—could make hand-dissection of fruit fly brains a thing of the past.

Farming Good For Health

The worldwide agricultural revolution that began about 10,000 years ago had its downside: Many researchers have found that early farmers were not as healthy as their hunter-gatherer ancestors (*Science*, 9 June 2006, p. 1449). But a new study of teeth from Nile Valley farmers offers the first comprehensive evidence—from data spanning some 10,000 years—that the farming life was better for health in the long run.



Teeth from an early Neolithic farm woman show enamel loss.

Childhood exposure to stress from disease or bad nutrition has a lasting effect on the formation of tooth enamel. So anthropologists Anne Starling of Duke University in Durham, North Carolina, and Jay Stock of the University of Cambridge in the U.K. studied the teeth of 242 individuals who lived in the Nile Valley between 13,000 and 1500 B.C.E. They found that 70% of the Badari people, early farmers who lived between 5000 and 4000 B.C.E., showed signs of enamel loss, compared to only 39% of hunter-gatherers from the same area a few thousand years earlier. But once food stocks became more reliable, health improved markedly: Only 33% of people who lived from 4000 to 3100 B.C.E. had lost enamel. And by 2000 B.C.E., the incidence was down to 21%, the

authors reported online 4 September in the *American Journal of Physical Anthropology*.

Anthropologist Clark Larsen of Ohio State University in Columbus calls the study "especially interesting" because it shows that health improved with the rise of urbanization and the Egyptian state.

He also says it bolsters the notion that hunter-gatherers were initially pushed into farming by population pressures or climate changes.

Bear Facts

Why does a bear rub in the woods? This giant grizzly bear from the forests of British Columbia had his tree-rubbing habits scrutinized as part of a project to get to the bottom of the question. It seems that bears engage in scent marking, rubbing, biting, and scratching the same trees over many seasons. Once a bear has "anointed" a tree, others follow suit—in fact, stepping in the same tracks.

To learn more, Owen Nevin, now at the University of Cumbria in Wales, set up cameras in four bear-rubbing trees and recorded 52 bear events on spring nights in 2005 and 2006. It's mainly adult males that do it, Nevin reported this week at a British Ecological Society meeting in Glasgow, U.K. He says the evidence suggests that dominant males use tree marking to warn off or override the scent of competitors for both territory and females.

It's an unusually thorough experiment, says Barrie Gilbert, who was Nevin's graduate adviser at Utah State University, Logan. But there are still a lot of unknowns—such as why bears choose the trees they do.



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