EIDENTS BY CATHERINE ARNST

INNOVATIONS

Of Lice and Sleeping pills

Scientists have identified the genes in blood-sucking body and hair lice that control how they break down human blood into energy and waste. After screening 1,152 louse genes, researchers from Purdue and Harvard universities say they have also pinpointed a gene that helps lice fight off potentially deadly infections. Interfere with such genes, and you may get a new method for controlling the disease-spreading insect.

The first long-term study of a new sleeping pill has found that it is just as effective in helping chronic insomniacs get some shut-eye after six months of use as it was in the first week. In addition, study participants developed no major side effects. Doctors generally discourage long-term use of sleeping pills on the grounds that many such medications, even when nonaddictive, tend to lose their efficacy over time. But patients taking the experimental drug Esperatol, made by Sepracor, slept an average of 30 to 40 minutes longer per night than those on placebos, both at the beginning of the study and after six months. The longest study of a sleeping pill prior to this was five weeks. Doctors at Duke University carried out the Esperatol study. The treatment will be reviewed by the Food and Drug Administration in 2004.

DISEASE

GUAM’S FLYING FOX BAT: A DEADLY DELICACY?

Scientists have long tried to learn why the Chamorro people of Guam develop a brain disorder called ALS-PDC—closely linked to Parkinson’s, Alzheimer’s, and Lou Gehrig’s disease—at 50 to 100 times the incidence elsewhere. The answer could lie in the diet of the flying fox bat, say researchers led by Paul Alan Cox of the National Tropical Botanical Garden Institute. Their discovery may shed light on the development of some neurodegenerative diseases. Guam’s flying fox bats are a prized food of the Chamorro. And the bats are known to eat cycad seeds, which contain a neurotoxin called BMAA. The amount of toxin in the seeds is too small to be dangerous to humans. But the researchers found that BMAA accumulates and becomes more potent as it moves up the food chain—a process called biomagnification. When autopsies were performed on Chamorro patients who died of ALS-PDC, high concentrations of BMAA were found in their brains.

DRUGS

A NEW WAY TO FIGHT HEPATITIS C

More than 170 million people worldwide are infected with hepatitis C, a virus that can cause liver cancer. Patients are commonly treated with a drug called ribavirin. But it’s less than ideal, triggering anemia in more than 20% of patients, and leaving some so debilitated they are forced to abandon treatment.

An experimental drug called Viramidine may eventually provide an alternative. It is a close chemical cousin of ribavirin, but while the older drug can pool destructively in red blood cells, Viramidine is better at bypassing the blood cells and going straight to the liver. Valiant Pharmaceuticals, formerly ICN Pharmaceuticals, developed both drugs. And it announced in early November that results from a Phase 2 clinical trial had shown that Viramidine may be as effective as ribavirin against hepatitis C but can slash the patients’ risk of developing anemia in half. The company will begin late-stage trials this year, hoping to have the drug on the market by 2007. —Arlene Weintraub