

What wild chimps want for breakfast

Chimpanzees in the Budongo Forest in Uganda turn out to have a bit of a sweet tooth.

An international team of scientists conducted a taste analysis, collecting forest plants that they had observed the animals eating as well as ones the chimps had ignored. Vernon Reynolds from Oxford University in England and his colleagues then checked the bark, leaves, and fruit for sugars and the mouth-puckering plant chemicals called tannins.

That bitter kick from the tannins did not keep chimps away from the sweetest treats, the team reports in the July *Oecologia*. The chimps, for example, often chewed on bark with a high tannin content that offered significant sugars, the researchers observe. "The chimpanzees did not select foods according to the level of tannins but did so according to the levels of sugars, preferring the higher levels," they conclude. When sugar concentrations were similar, however, the animals rejected bitter, old leaves in favor of young ones, which have less tannin. —S.M.

Leaf spots cause skewed abortions

Who gets to be the dad of the next generation of mountain laurels—showy flowering shrubs that grow in eastern U.S. woodlands—may depend on a pesky leaf fungus.

Pathogens tweak their hosts in odd ways, note Maureen A. Levri and Leslie A. Real, who collaborated at Indiana University in Bloomington. In the July *Ecology*, they report the "novel" effect of the fungus *Cercospora kalmiae* on plant parenthood.

Bumblebees perform most of the pollination of the mountain laurel. Their chunky bodies land heavily enough to release pollen-bearing stamens from a groove in the flower. The stamens bounce up and swat their pollen onto the bee. If no bees have arrived by the time the flower starts to crumple with age, the stamens snap up anyway and dump pollen onto the flower's own female organ. The flowers, however, may later abort some of the seeds that begin to develop.

For laurels suffering various levels of fungal assault, Levri and Real compared the amount of seed produced in bee-pollinated versus self-pollinated flowers. The researchers also mimicked a bad case of fungus by attacking leaves with a hole punch.

Flowers near damaged leaves were more likely to abort seeds developing from self-pollination than were flowers near healthy leaves. Yet, damaged leaves did not cause abortions in bee-pollinated flowers. The net effect, say the researchers, is that the fungus shifts the plant's mating system, inflating the role of cross-fertilization. —S.M.

Are junior boobies always losers?

Among blue-footed boobies, a picked-on little brother or sister stays wimpy for days after being moved to a new home, even when its new nest mate is small. Likewise, the bullying sib continues to bully, even when it's outweighed in a new family.

Boobies offer a great way to test for persisting effects of winning and losing conflicts, according to Hugh Drummond and Cristina Canales from the National Autonomous University of Mexico in Mexico City. The first chick to hatch torments the second one, attacking it every day of the three- to four-month nestling period.

The researchers broke up these sibling rivalries, resettling youngsters in nests that had previously held only one chick. Despite having a size advantage, the former under-chick showed much less aggressive behavior than its foster sibling. The transplanted booby continued to lose scraps for about 10 days.

The former bullies, even though they were smaller than their new nest mates, continued to peck and threaten aggressively. Even after 6 days, half the bullies were still trouncing their nest mates. The experiment marks the first test in vertebrates for winner and loser effects in sibling spats, the researchers report in the June *Animal Behaviour*. —S.M.

Hormone fights fat in humans

Leptin, the so-called obesity hormone, may help overweight people trim unwanted body fat, according to a new study.

Previous research has shown that injections of leptin helped obese mice slim down (*SN*: 7/29/95, p. 68). But would this hormone do the same for overweight people?

Andrew S. Greenberg, an obesity researcher at Tufts University and the New England Medical Center in Boston, and his colleagues decided to find out. The team recruited 70 moderately obese people, dividing them into five groups. Four groups received daily injections of leptin at different dosages, while the last group got inactive, or placebo, injections.

The researchers also put the study participants on a diet that provided them with 500 fewer calories than their estimated daily energy needs. Only 46 of the participants stayed with the study for its full 6-month duration.

The 10 obese people who got the highest leptin dose (0.3 milligrams per day per kilogram of body weight) lost an average of 16 pounds in the 6 months, Greenberg reported in June at the American Diabetes Association meeting in Chicago.

The response to leptin varied greatly from person to person. One member of the high-dosage group actually gained weight while being treated; another lost more than 35 pounds, Greenberg says.

Those individuals receiving a placebo lost an average of 4 pounds, he adds.

The study was too small to answer the question of whether leptin will provide a useful treatment for obesity, Greenberg told *Science News*. The study, however, did indicate that injections of leptin are safe. The participants in this trial reported only minor side effects, such as redness of the skin. —K.F.

Leptin augurs heart attack, diabetes?

Although leptin is known as the obesity hormone, a new report hints that it may play a role in heart disease as well.

Francisco Leyva, a cardiologist at Charing Cross Hospital in London, and his colleagues conducted a study of 74 healthy men. The researchers found that men with the highest blood concentrations of leptin were more likely to suffer from insulin resistance, a silent condition known to increase the risk of type 2 diabetes, a sugar-processing disorder.

Leyva's study appears in the June 12 *Arteriosclerosis, Thrombosis, and Vascular Biology*.

In people with insulin resistance, cells respond sluggishly to insulin's message to sop up blood sugar. The result is an excess of sugar in the bloodstream. Previous research has linked insulin resistance to a toxic process that can lead to clogged arteries and heart attacks (*SN*: 9/16/89, p. 184).

Some researchers believe leptin may have a link to type 2 diabetes. Robert V. Considine of Indiana University School of Medicine in Indianapolis has examined sugar metabolism in human fat tissue. At the June American Diabetes Association meeting in Chicago, he presented preliminary evidence that leptin may help control blood sugar concentrations.

Leyva suggests that leptin measurements might also serve to identify people who are at high risk of heart disease despite having none of the traditional factors associated with it, such as high blood cholesterol.

"Cholesterol is a poor predictor of heart disease," he notes, adding that people with blood cholesterol values in the normal range can have heart attacks. Many times, a heart attack is the first sign of any problem, he adds.

Whether leptin concentrations in the blood will become a useful indicator of heart disease risk remains uncertain. Confirming or disproving an association between leptin and the disease will require further studies, Leyva says. —K.F.