

Biology

From Lewisburg, Pa., at the annual meeting of the Animal Behavior Society

Africanized bees make better shoppers

Part of the secret to world domination—in the honeybee realm, at least—may involve collecting more pollen than nectar.

Jennifer H. Fewell and Jon F. Harrison of Arizona State University in Tempe were studying local wild honeybees when Africanized bees buzzed in during 1995. Chronicling the rapid takeover, Fewell and Harrison noted that Africanized bees swarmed to start new colonies two or three times faster than the resident European bees did.

To figure out how the newcomers reproduce so quickly, the researchers set up glass-sided observation hives for both Africanized and European bees. Each started with 1,000 marked bees, and researchers tracked activity bee by bee.

Africanized bees were more likely to collect pollen—a high-power baby food—while European bees were more likely to bring home nectar—a good ration for winter. In a climate like Arizona's, the pollen-skewed colonies did not suffer in cold weather.

In the Africanized colonies, and much less so in the European ones, worker metabolisms revved up when bees got old enough to forage. Thus they worked harder than their European counterparts. The Africanized bee baby boom, Fewell and Harrison propose, comes in part from extra effort and extra pollen. —S.M.

Do monkeys check each others' blues?

A male vervet monkey may use the shade of blue on another male's scrotum as a clue to status, according to new observations of monkey encounters.

Sexually varied body colors in birds, fish, lizards, and amphibians have inspired a lot of analysis, remarks Melissa S. Gerald of the University of California, Los Angeles. Primates also flash some outrageous colors. Yet, except for the bright colors of mandrills, they've attracted little research, she says.

Scrotal color in vervets varies considerably, from cornflower blue to a chilly white. Gerald linked darker color to higher concentrations of a metabolic product of serotonin, a brain chemical suspected of influencing dominance.

She arranged encounters between males that had not met. In 23 pairs, males with darker scrotums usually behaved as dominant over the pale guys.

The blue cue might tell a monkey whether he has a fighting chance or is hopelessly outclassed, Gerald speculates. When she paired males with similar shades, she found them more likely to fight than males with mismatched scrotal blues.

With spray paint, Gerald upgraded some of the pale males to powder blue. The color-enhanced monkeys did not manage to achieve dominance over true blues, so Gerald speculates that the interaction involves multiple cues. Yet she did see a familiar pattern in aggression. The same-color pairs fought more readily than mismatched pairs—even though one male was just a wimp with misleading make-up. —S.M.

Show-off crickets have a shy side

Male field crickets that take big risks for love seem to make up for their folly by hiding a lot.

Female crickets prefer males that chirp extra-long songs, sometimes for up to 3 hours, explains Ann V. Hedrick of the University of California, Davis. However, serenading can attract hungry toads and other predators. "The prevailing wisdom has been that more calling means more risk [of getting eaten]," she says.

Hedrick collected male crickets from a California soccer field and sorted them according to their singing habits, which are inherited. When she tucked them into little containers in her laboratory, the marathon singers tended to take a long time to venture out. However, the short-chirpers popped out to explore more readily.

"I have shy and bold crickets," Hedrick says. Those reckless, crooning dreamboats have a cautious side, after all. —S.M.

Biomedicine

Is beauty more than meets the eye?

Women find a masculine face—with a large jaw and a prominent brow—more attractive when they are most likely to conceive, according to a study published in the June 24 *NATURE*. Before, during, and just after menstruation, however, they seem to be drawn to less angular, more "feminine" male faces, the researchers report.

"Other studies of female preference, mainly for odors, show changes across the menstrual cycle," says lead author Ian Penton-Voak of the University of St. Andrews in Scotland. "We thought it would be interesting to look at visual preferences and see if they changed also."

The researchers showed 39 Japanese women composite male faces that emphasized masculine or feminine facial features to differing degrees. The women preferred images with more masculine features when they were in the fertile phase of their menses but favored more feminine features during their less fertile phase.

The type of face women find attractive also seems to depend on the kind of relationship they wish to pursue, according to another experiment. The cyclic preference for masculine faces was evident among 23 British women asked to choose the most attractive face for a short-term relationship, Penton-Voak says. The 26 women asked to choose an attractive face for a long-term relationship, however, preferred the more feminine features throughout their menstrual cycle.

Another 22 women who were using oral contraceptives did not show monthly changes in the faces they preferred even for short-term relationships, indicating that hormones might play a role in determining attractiveness, Penton-Voak says.

Men whose faces have some feminine softness are perceived as "kinder" men who may make better husbands and partners, he adds, while macho features may be associated with higher testosterone levels and good genes. He cautions, however, that research hasn't yet shown a link between a woman's preferences in such tests and her actual behavior. —D.C.

Pesticide exposure begins early

Contaminants from pesticides and industrial chemicals are present in the amniotic fluid surrounding fetuses, according to a small study in California.

In tests on 53 pregnant women, researchers found that one-third of their future offspring were being exposed in the womb to detectable amounts of DDE—a byproduct of the pesticide DDT, which has been banned in this country since 1972. The pesticide and its byproducts block the action of the male hormone testosterone. Studies have linked DDT exposure to the demasculinization of alligators in Florida (SN: 7/15/95, p. 44).

Concentrations of DDE ranged from 0.1 to 0.63 nanograms per milliliter of fluid, roughly comparable to the amounts of natural sex hormones in these fetuses, says Warren G. Foster of the Cedars-Sinai Medical Center in Los Angeles. He reported the results last month at the annual meeting of the Endocrine Society in San Diego.

The researchers also found traces of the industrial chemicals known as polychlorinated biphenyls and the byproducts of the pesticide lindane in the amniotic fluid of the women, who were 16 to 20 weeks pregnant.

"We've shown for the first time that these environmental pollutants are indeed present in amniotic fluid and the developing fetus is exposed to them," says Foster. "The question of whether or not these chemicals have effects remains to be seen, although we are certainly concerned they might."

Foster and his colleagues plan to study 1,000 pregnant women in the United States and Canada and follow their infants for several years to see if pollutant exposure correlates with sex-organ abnormalities or other problems. —D.C.