BEHAVIOR

What is a wild chimpanzee?

For more than 14 years Jane Goodall and others have been studying chimpanzees in their natural habitat along the Gombe Stream in Tanzania, East Africa. As a result of these long-term studies some new theories of behavior have been developed and some old ones shattered. Especially interesting have been reports of meat eating, predatory behavior (against baboons) and tool use by the chimpanzees. But the very fact that observers have been at the Gombe station for so long may be more of a hindrance than a help to research. Vernon Reynolds of Oxford University questions whether the Gombe chimpanzees are really wild.

In MAN, the journal of the Royal Anthropological Institute, Reynolds suggests that the feeding of chimpanzees by researchers may have altered the supposedly natural behavior of those animals. Bananas have been put out to attract chimps and baboons for purposes of study. But this feeding leads to high levels of excitement and competition between the animals. Comparison with other studies of chimpanzees in the wild and in captivity indicates that some of the behavior observed at Gombe may have been artificial or induced by the observers. "Indeed," says Reynolds, "everything the Gombe chimpanzees do—their 'tool making' and their use of tools for termite fishing, their use of leaves as 'sponges' or as 'toilet paper'—tends to be seized on rather uncritically by those eager to prove something (what?) about early man." The evidence from Gombe, he concludes, must be kept in perspective.

Preparing proper parents

Licensing parenthood has been suggested, but such a drastic proposal is probably not practical. Teaching parenthood, however, is practical and perhaps even necessary, says the Public Affairs Committee in a recent pamphlet, "Preparing Tomorrow's Parents." Special education for parenting is becoming increasingly important, it says. Parenthood, for instance, is supposed to be learned in one's family, but with today's smaller families fewer teenagers have younger siblings to remind them of their own earlier stages of development. Segregation of peer groups in schools, sports and recreation diminishes the chances of mixing with other age groups. Many children today are being raised by only one parent and therefore have no experience of parental teamwork and no model for the other parent. And many teenagers spend the bulk of their time in activities with their own friends, away from parents. Also, an increased number of parents are still teenagers themselves, with their own development incomplete.

Spreading the revolution

Gloria Steinem, Germaine Greer, Erica Jong—are these women part of a small but vocal group of feminists, or is the women's liberation movement a widespread phenomenon? Karen Oppenheim Mason of the University of Michigan at Ann Arbor says the women's movement is gaining support among women of all ages, education levels and social backgrounds. She examined five national surveys taken between 1964 and 1974 and compared women's responses on 15 identical questions concerning sex roles. Her data show that women are becoming gradually less insistent on the traditional male breadwinner-female homemaker roles, and there is a strong, growing mandate for equal treatment in the labor market. The most striking changes, she reports, took place between 1970 and 1973. Feelings that men should share housework and that women should be considered seriously for executive jobs increased from half to more than two-thirds during that time.

NATURAL SCIENCES

Army ants' march with chemistry

Like General Sherman's forces, army ants march along in great columns and cut swaths of destruction through the undergrowth. They troop along, stumbling after and over each other, munching everything edible in sight. Or so scientists thought.

Two University of Connecticut biologists, Ruth Chadab and Carl W. Rettenmeyer, report a different tactical strategy—chemical command and mass recruitment rather than mindless plundering. In the June 13 SCIENCE, they present field data collected in Ecuador. They found that scout ants leave the nest or column (which can be as long as 100 meters) and forage for food—say, a wasp nest filled with larvae. If a scout finds food, it will make an "antline" for the column, exuding a chemical to mark the path back to the food. When the scout reaches the column, it touches other ants with its antennae and body, releasing a different chemical signal that communicates excitement about the waiting meal. The scout can touch as many as 100 other ants in the first minute. As these are deployed toward the food, the scout continues to stir up the others, sending out a continuous stream of ants.

Chemical recruitment occurs in all major social insects, the team says, including termites, bees, wasps, and ants. Four ant subfamilies exhibit chemical recruitment, and this report adds a fifth subfamily. This behavior is an advantageous trait, the team says, because it enables tiny insects to deploy large attack forces and overtake large, possibly threatening food sources.

That irresistible something about mother

Aquatic creatures, research is revealing, respond to a remarkable array of chemical signals. Chemical receptors help them detect the presence of desirable food, sense shapes and textures in the physical world, measure distances, avoid enemies and find mates. Chemical sex attractants, responsible for mate location and selection, have been reported in lobsters and crabs. Now comes the report of a new kind of chemical attractant—a maternal care attractant in crayfish.

Biologist Edward E. Little, formerly of the State University of New York at Stony Brook and now at Florida State University, reports the maternal attractant in the May 29 NATURE. He found that brooding female crayfish give off a chemical signal that helps their young find them—a characteristic that probably helps the young survive.

A crayfish starts its life as a fertilized egg carried on its mother's abdomen. After it hatches, it spends a few more weeks on the mother's abdomen, leaving occasionally to feed, then returning. Later, it will test its "waterwings" one last time and be on its own. But until this later stage, the fledgling crayfish must find its way back, often at night, in the dim world of logs and rocks at the bottoms of lakes and streams.

Little found that chemical products released by the females could be collected onto filter paper, and would attract larvae. He also built a maze through which larvae crawled and "identified" the chambers in which brooding females had been kept. The chemical cues must be important for larval survival, he says, allowing them to find mother—and her protection.

Soggy warfare in Lilliput

Miniature freshwater relatives of jellyfish called hydra are being sent to tropical style combat. Scientists are planning to dump millions of them from helicopters into a rice paddy in Southern California to control encephalitis-carrying mosquitoes which are growing resistant to insecticides. Howard M. Lenhoff of the University of California at Davis will head the experiment.