

## Chapter 4

# BEHAVIORAL ECOLOGY: EVOLUTION IN ACTION

### IN THE NEWS

If a newspaper headline read 'Babysitters critical to survival,' everyone would sit up and take notice. In the case of African wild dogs (*Lycaon pictus*), such a headline would be true. These dogs were once common across much of southern Africa, but, because of habitat loss and extermination by ranchers, their numbers have decreased to fewer than 1,000. Biologists have been trying to determine why wild dog populations continue to decline despite active measures to reduce mortality.

The key seems to be a change in the dogs' behavior. Wild dogs are highly social, living in large groups that hunt and care for young collectively. Hunting success increases with the number of hunters, so a large group is critical to maintaining the food supply. However, a wild dog cannot hunt and care for young at the same time. In groups that have fewer than five adults, all adults hunt and none guard the pups, which are then vulnerable to predation by lions and hyenas. This trade-off between hunting and pup guarding leads to very low reproductive success in small groups. As the population of wild dogs has declined, the average group size has decreased from 40 to 100 individuals to fewer than 10. Thus, wild dogs appear to be trapped in a positive-feedback cycle in which population decline results in low reproductive success, which, in turn, causes further population decline. Baby-sitters may be critical for this social species' survival.



An African wild dog (Photo courtesy of Calvin Jones)