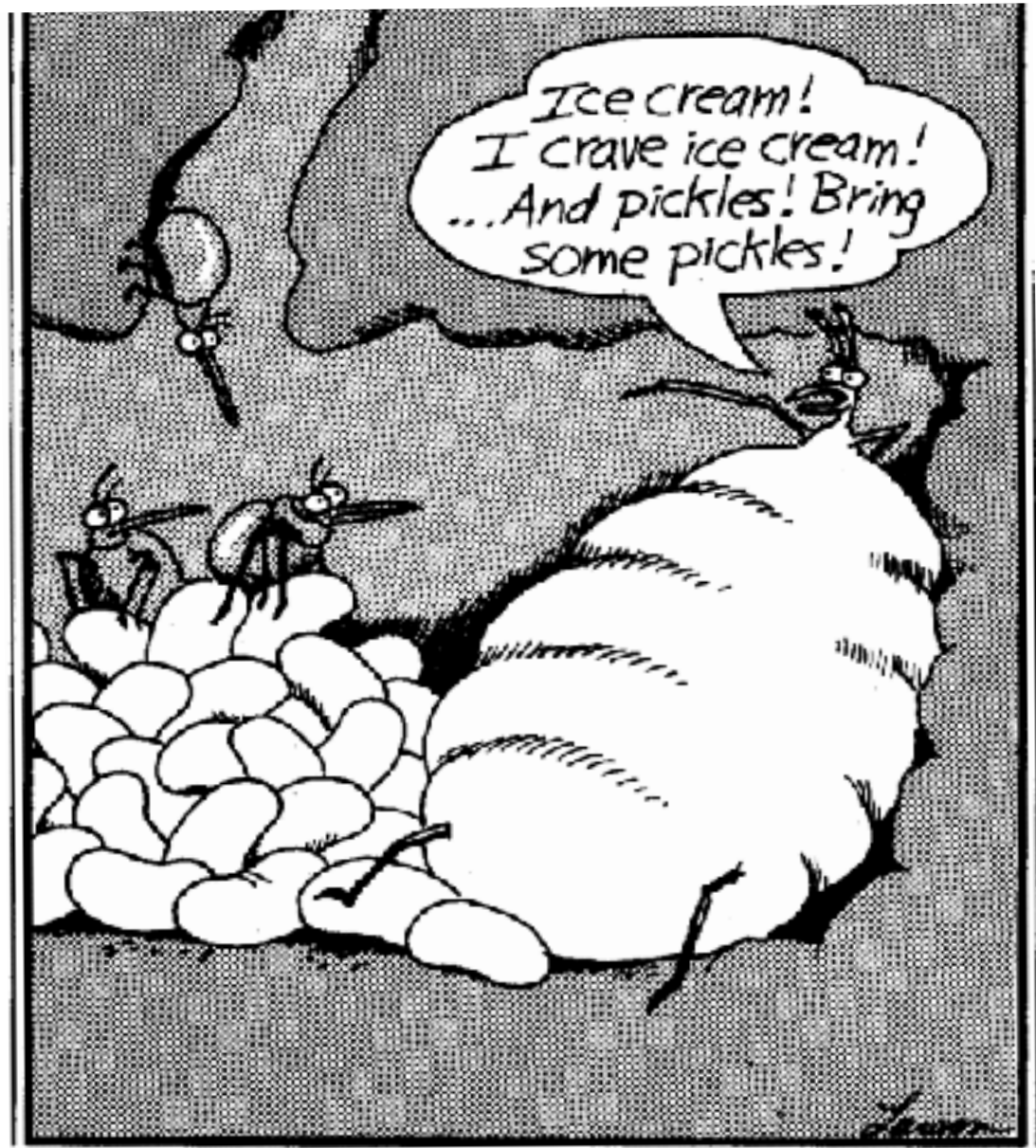


Social behavior, part 1



The termite queen in her egg chamber

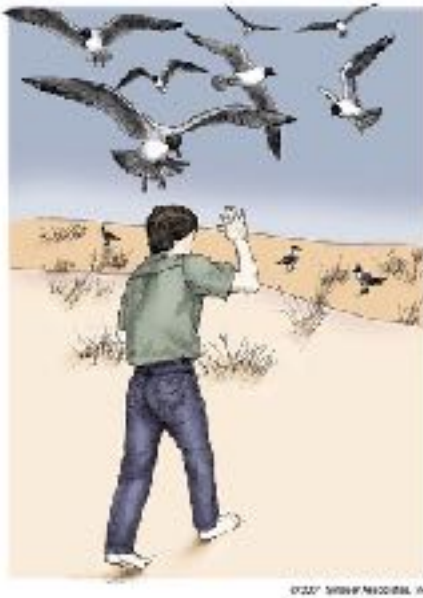
Social behavior

- Intraspecific interactions:
 - Already covered: Competition over resources (Agonistic behavior, Dominance hierarchies, Territoriality)
 - Next to cover:
 - Benefits/Costs of social living
 - Cooperation



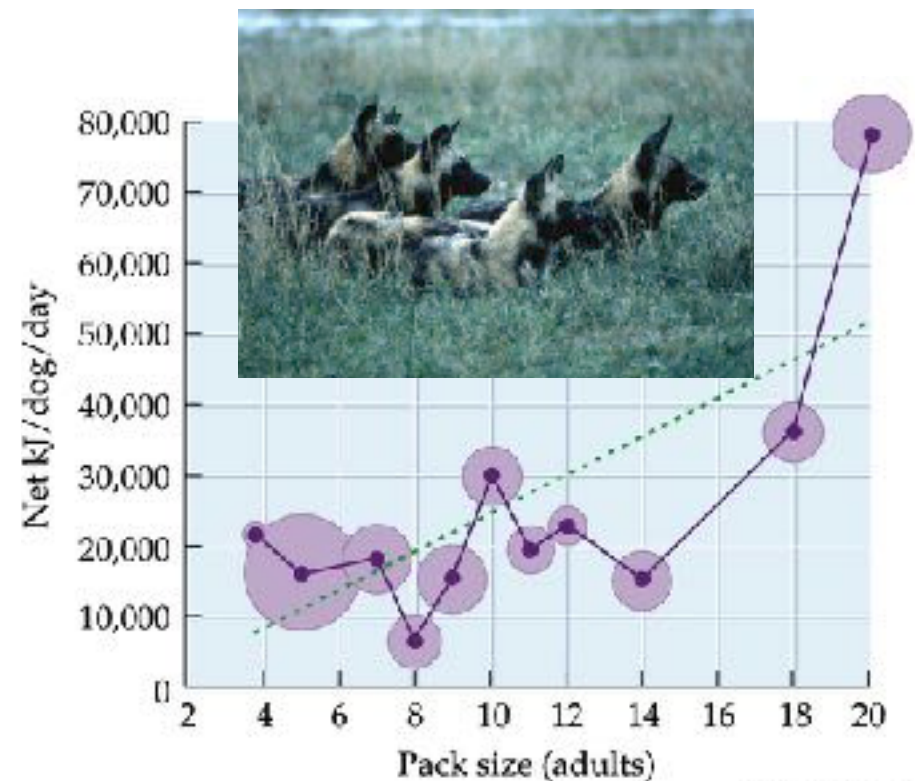
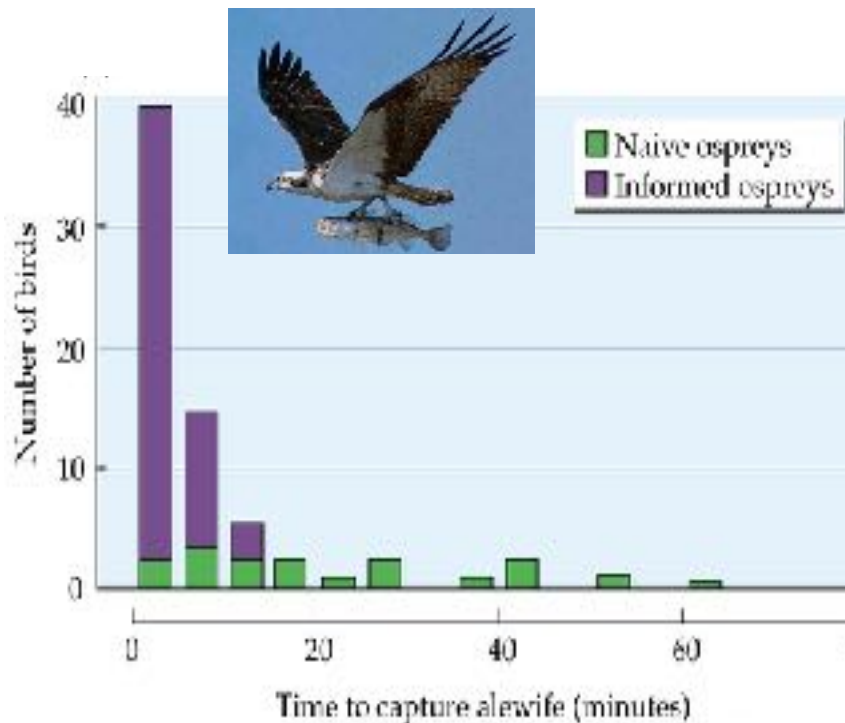
Benefits of sociality

- Anti-predator benefits of grouping
 - Dilution effect (safety in numbers)
 - Selfish herd (get the guy next to you)
 - Many-eyes effect (vigilance)
 - Confusion effect (what happened?)
 - Group Defense (mobbing)



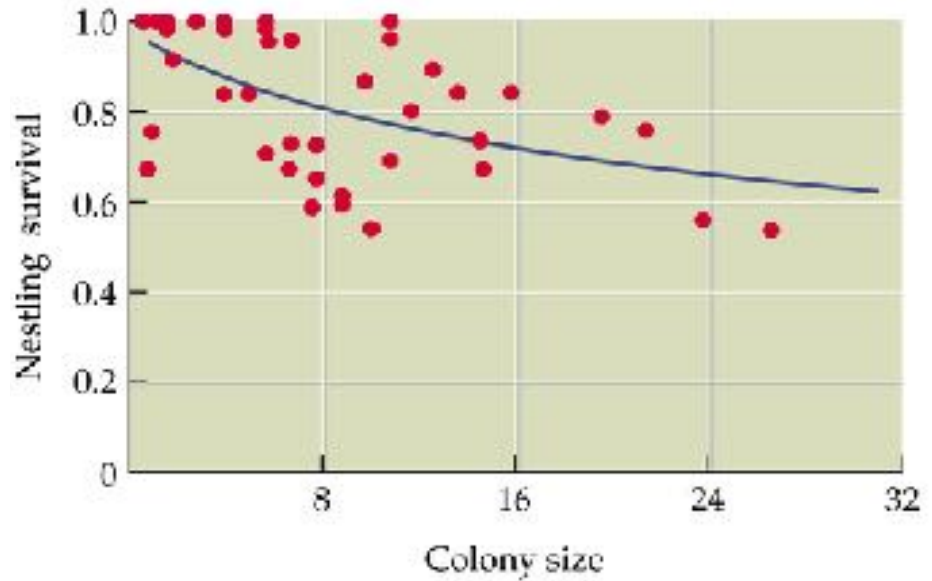
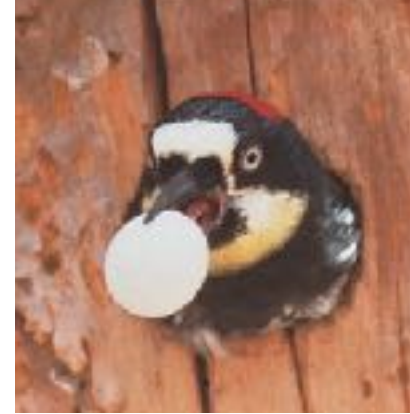
Benefits of sociality

- Foraging efficiency
 - Information center for food location (ex. osprey)
 - Coordination of attacks on large or elusive prey (ex. lions, wild dogs)



Costs of sociality

- 1) Social/Reproductive interference
 - Removal of 1st eggs by acorn woodpeckers
 - Social interaction requires accommodating others
- 2) Competition for food
 - Larger fieldfare colonies have higher nestling starvation (larger groups exploit food faster)



Costs of sociality

- 3) Conspicuousness to predators
 - Groups can be easily located and attacked



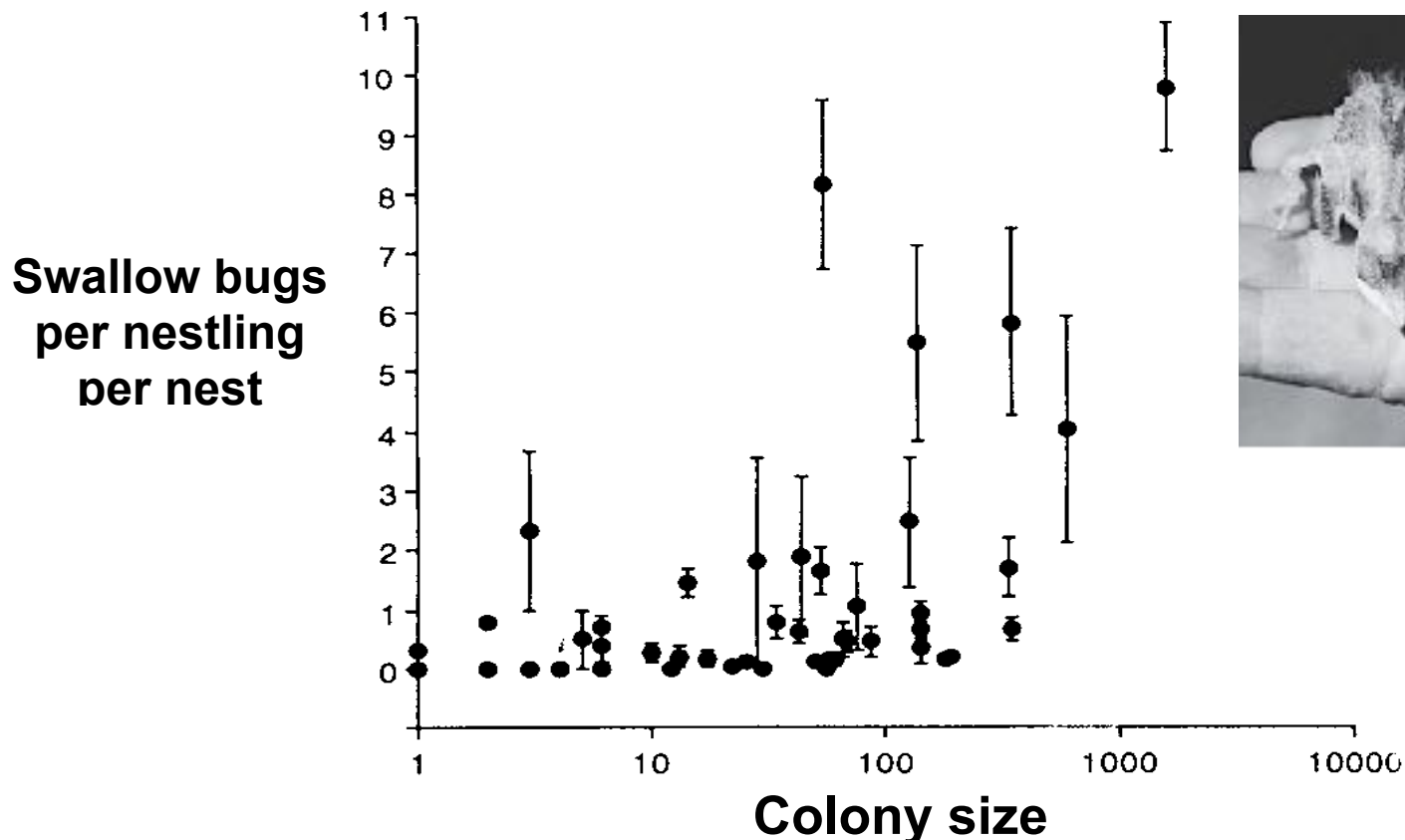
Costs of sociality

- 4) Misdirecting parental care: Increased odds of feeding unrelated individuals
 - e.g., gull adoption



Costs of sociality

- 5) Parasite/disease transmission: Increased odds of contracting something nasty
 - Larger cliff swallow colonies have more parasites/chick
 - Nestlings with parasites have reduced growth



Types of social interactions



**Change in
recipient fitness**

**Change
in actor
fitness**

	+	-
+	mutualism	selfishness
-	altruism	spite

Mutualism

- Inter- or intra-specific interaction in which both interactors benefit immediately
 - Examples
 - Seed dispersal/Pollination
 - Foraging/Grooming
 - Protection

