

What is a lek in the context of animal mating?

- A lek is a location where animals hunt and store food.
- A lek is a site where animals gather for hibernation and shelter.
- A lek is a territory marked for exclusive feeding purposes.
- A lek is a site where animals aggregate to attract mates through displays or calls, with no other purpose than mating.

What is the expected outcome when altruism is present in a population?

- Altruism can result in increased competition and resource depletion within the population.
- Altruism can cause a decline in genetic diversity due to reduced individual reproduction.
- Altruism can lead to decreased survival and reproductive success of unrelated individuals.
- Altruism can lead to increased survival and reproductive success of related individuals, benefiting the population as a whole.

How do plants exhibit social interactions?

- Plants can communicate through root systems to share nutrients, indicating social interactions.
- Plants can have defense responses when neighboring individuals are attacked by herbivores, indicating social interactions.
- Plants can release pheromones to attract pollinators, demonstrating reproductive interactions.
- Plants can alter their growth patterns based on sunlight availability, showing individual adaptation.

Under what conditions do dominance hierarchies form?

- Dominance hierarchies form when group size is small and isolated.
- Dominance hierarchies form when individuals prefer solitary behavior.
- Dominance hierarchies form when resources are ephemeral or when group benefits outweigh the need for territory defense.
- Dominance hierarchies form when resources are stable and territory is easily defended.

What is the Dilution Effect?

- The Dilution Effect describes the enhanced ability of a group to attract predators by increasing their visibility.
- The Dilution Effect refers to the reduced probability of predation for an individual in a group, as the risk is spread out among many.
- The Dilution Effect refers to the increased probability of survival for an individual in isolation due to reduced competition.
- The Dilution Effect relates to the concentration of resources around a single individual in a group.

What is kin selection?

- The process where competition between unrelated individuals is maximized.
- The process where natural selection favors solitary survival.
- The process where indirect fitness through relatives is favored by natural selection.
- The process where individuals select mates based on physical traits.

How is direct fitness favored?

- By helping a brother or half-brother successfully mate, allowing the brother to sire 6.1 offspring.
- Through direct selection.
- Through indirect selection (kin selection).
- Both the donor and recipient experience reduced fitness, which cannot be favored by natural selection.

What roles do sterile castes play in eusocial species?

- They specialize in hunting for their own food.
- They focus on individual survival and reproduction.
- They engage in territorial disputes and mating rituals.
- They specialize in tasks such as defending and foraging for the group or caring for offspring.

What characterizes cooperation in social interactions?

- Only the donor experiences increased fitness.
- Both the donor and recipient experience reduced fitness.
- Both the donor and recipient experience increased fitness.
- The donor loses fitness while the recipient benefits.

What is the average number of offspring for subordinate males?

- 1 offspring on average.
- 5 offspring on average.
- 0 offspring.
- 2 offspring on average.

What is the relationship between resource abundance and territorial behavior?

- When resources are limited, territorial behavior becomes more aggressive.
- When resources are abundant, the benefit of defending a territory diminishes, leading to less territorial behavior.
- When resources are scarce, territorial behavior increases.
- When resources are depleted, territorial behavior intensifies.

How does haplodiploidy affect the evolution of eusociality?

- It establishes equal relatedness, promoting solitary behavior.
- It creates strong asymmetries in coefficients of relatedness, favoring the evolution of eusocial behavior.
- It creates uniform relatedness, favoring individual reproduction.
- It reduces genetic diversity, hindering the evolution of eusocial behavior.

How does socializing improve mating success in animals?

- Socializing decreases mating success by increasing competition among animals.
- Socializing enhances the ability to find mates, as animals may aggregate to attract potential partners through displays.
- Socializing enhances territorial defense, improving access to resources but not mates.
- Socializing reduces the need for mating displays as animals find partners independently.

What is inclusive fitness?

- The sum of an individual's direct and indirect fitness.
- The combination of an individual's personal and environmental fitness.
- The total of an individual's reproductive and survival fitness.
- The sum of an individual's direct and competitive fitness.

What factors influence whether animals maintain a territory?

- Animals are likely to maintain a territory if the resources are easily shared and the defense is unnecessary.
- Animals are likely to maintain a territory if the resource can be defended and the benefits of defending it outweigh the costs.
- Animals are likely to maintain a territory if the resources are scarce and difficult to defend.
- Animals are likely to maintain a territory if the costs of defending it are high and the benefits are minimal.

What is the optimal group size for yellow baboons?

- The optimal group size for yellow baboons ranges from 50-75 individuals, which minimizes stress and competition.
- The optimal group size for yellow baboons is 100-150 individuals, maximizing resource use.
- The optimal group size for yellow baboons is 2-5 individuals, reducing social interaction.
- The optimal group size for yellow baboons is 20-30 individuals, promoting solitary behavior.

What is the significance of the term 'ephemeral' in resource availability?

- Ephemeral resources are predictable and maintain consistent hierarchies.
- Ephemeral resources are temporary and can lead to the formation of dominance hierarchies when they are present.
- Ephemeral resources are permanent and lead to stable territories.
- Ephemeral resources are abundant and reduce territorial behavior.

What is the impact of social interactions on fitness?

- Interactions always increase the fitness of both participants.
- Interactions can positively or negatively affect the fitness of both the donor and recipient.
- Interactions have no impact on the fitness of either party.
- Interactions only affect the fitness of the donor.

What is the coefficient of relatedness between siblings?

- 0.25, indicating a 25% probability of receiving the same gene from a parent.
- 0.5, indicating a 50% probability of receiving the same gene from a parent.
- 1.0, indicating a 100% probability of receiving the same gene from a parent.
- 0.75, indicating a 75% probability of receiving the same gene from a parent.

How do plants distinguish between relatives and non-relatives?

- Some plant species can recognize relatives and alter their growth strategies accordingly, often allocating less energy to competition against relatives.
- Plants can recognize relatives through genetic matching and increase resource allocation to them.
- Plants distinguish relatives by size and proximity, favoring non-relatives for resource allocation.
- Some plant species can identify relatives using pheromones and enhance their defense mechanisms.

What is the primary advantage of the Many-Eyes Effect in predator detection?

- The primary advantage is that it enables more efficient communication among group members.
- The primary advantage is that it allows for quicker detection of predators, enabling better evasive actions by the group.
- The primary advantage is that it enhances individual hunting skills for better prey capture.
- The primary advantage is that it allows for better resource allocation within the group.

What is the relationship between group size and parasite infection risk?

- Smaller group sizes can lead to higher parasite infection rates due to increased competition.
- Group size has no impact on the risk of parasite infection.
- Larger group sizes reduce the risk of parasite infection due to isolation.
- Larger group sizes can lead to a higher risk of parasite infection due to easier spread among individuals.

How do social behaviors relate to evolutionary processes?

- Social behaviors are entirely learned and not subject to evolutionary change.
- Social behaviors are fixed and cannot be modified by natural selection.
- Social behaviors are random and unrelated to genetic factors.
- Social behaviors are influenced by genetic factors and are subject to evolutionary modification through natural selection.

What is a linear dominance hierarchy?

- A ranking system based on age rather than dominance.
- A hierarchy where lower-ranked members dominate higher-ranked ones.
- A system where all members share equal status and resources.
- A ranking system where the first-ranked member dominates all others, the second-ranked dominates all but the first, and so on.

What is the role of dominance hierarchies in social interactions?

- Once established, dominance hierarchies are constantly challenged and reformed.
- Once established, dominance hierarchies are determined by random chance.
- Once established, dominance hierarchies are ignored in subsequent interactions.
- Once established, dominance hierarchies resolve subsequent contests based on social ranking.

What is the coefficient of relatedness between an individual and its offspring?

- 0.75, indicating they share 75% of their genes.
- 1.0, indicating they share all of their genes.
- 0.25, indicating they share 25% of their genes.
- 0.5, indicating they share 50% of their genes.

What is the average number of offspring for dominant males?

- 3.2 offspring on average.
- 6.1 offspring on average.
- 10.1 offspring on average.
- 8.5 offspring on average.

What is the significance of sterile castes in eusocial species?

- They do not reproduce but contribute to the colony's success through specialized roles.
- They focus on individual survival without contributing to the colony.
- They compete for resources with reproductive members.
- They reproduce independently and establish new colonies.