

THE EVOLUTION OF PRETTY BOYS

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One hypothesis proposes that there is a benefit. If females prefer traits that are pretty but decrease survival chances, then the pretty boys that survive to mate must have a lot of good genes that allow them to evade predation and create a beautiful train at the same time. The more beautiful he is, the more likely he is to be eaten, so he'll have to possess superior genes to stay alive. The peahen would want to pass on these good genes to her offspring. In this theory, when she selects for "beauty" she's also selecting for substance.

(7) Both female mate choice and male competition have interesting consequences on the evolution of a species. One consequence is that it can result in *sexual dimorphism*, which is

where the males and females of the same species begin to look more and more dissimilar. In the case of female mate choice between the peacock and peahen, the males begin to look more colorful and have a larger tail in comparison to the females. Elephant seals use male competition to determine mating opportunities. This has caused male elephant seal bulls (16ft/4.9m long and 6600lb/3000kg) to become three times larger than the female elephant seal cows (10ft/3.0 and 2000lb/910kg). Sexual selection favors the largest bulls because only the largest ones are strong enough to physically fight for and win sole control over a mating territory. This causes the body sizes of males and females to become more dissimilar over time.

Article Questions

- 1) In what situation does natural selection allow for a trait to be passed on when that trait decreases individual survival chances?
Even if the trait decreases survival chances, if it can increase reproductive chances, natural selection can allow for the trait to be passed on to successive generations. (1)
- 2) Describe female mate choice and give an example.
Female mate choice is a type of sexual selection where females are the ones that determine the mating opportunities that occur. An example would be many bird species including peafowl and birds of paradise. (3 & 4)
- 3) Describe male competition and give an example.
Male competition is a type of sexual selection where males fight with one another for mating territory so that they can have sole access to all the fertile females in a given area. An example would be elephant seals. (3 & 7)
- 4) What is sexual dimorphism?
Sexual dimorphism is when the males and females of a species begin to look very different from one another. (7)
- 5) Explain how Fisherian runaway has been exhibited in the evolution of the peacock and the peahen.
The preference of the peahen is for larger and brighter tails. This causes them to choose mating partners which promotes this trait in her male offspring and she also passes on her preference to her female offspring. This exaggeration of female preference and the exaggeration of the male trait causes a Fisherian runaway effect on the evolution of both traits. (5)
- 6) One theory proposes that selecting for "pretty boys" isn't just superficial and can benefit a species. Explain this theory.
This theory proposes that it's beneficial to pick pretty boys because for the prettiest ones to survive, they have to have good genes that allow them to evade predators (despite their bright colors) and gather food resources (to grow the exaggerated male trait). Picking a "pretty boy" also means picking these good genes for your offspring. (6)