

Evolution of Canis pedatus

1. Could the species could have survived after being allowed to roam in the wild, given their characteristics and lifestyle. Why or Why not?
2. Examine the traits the dog population began with. Describe how each trait might be influenced by natural selection. Record every change that could have occurred and why.
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3. Provide a written description of the animal and its lifestyle. What it eats and it's predators if any, nocturnal or diurnal, habitat etc.
4. Include a colored sketch that shows your "new and improved" appearance for this animal. The animal should appear in its ecosystem.

5. Briefly look at the descriptions of the other habitats. The dogs began as a single species but they were then reproductively isolated. What effect do you think this had on the individual populations on each island after 800 years?
6. Explain how the adaptations and evolution of this species is influenced by the number of dogs that were introduced to the island. In other words, how does genetic variation affect a species ability to adapt to a changing environment?
7. How are the forces of natural selection different than selective breeding of dogs and the practices used in agriculture?
8. What role does mutation and recombination play in the evolution of this species?
9. How would the evolution differ if this were an asexually reproducing bacteria instead of a sexually reproducing mammal?
10. Is this modern animal still a *Canis pedatus*? Remember that a species must be able to reproduce viable offspring!