

AQA Examination-style questions

Chapter 15 Evidence for relationships between organisms

- 1 The red grouse is a bird that lives on moorland. Each male fights for, and then defends, a territory into which he attracts females.
- (a) Male grouse vary in how aggressive they are. Suggest and explain **two** possible causes of this variation in aggressive behaviour. (4 marks)
- (b) **Figures 1 and 2** give information about aggressiveness of males, the size of their territories and the number of females they mate with. Use the information in **Figures 1 and 2** to describe how the defence of a territory by a male grouse affects his success in reproduction. (3 marks)

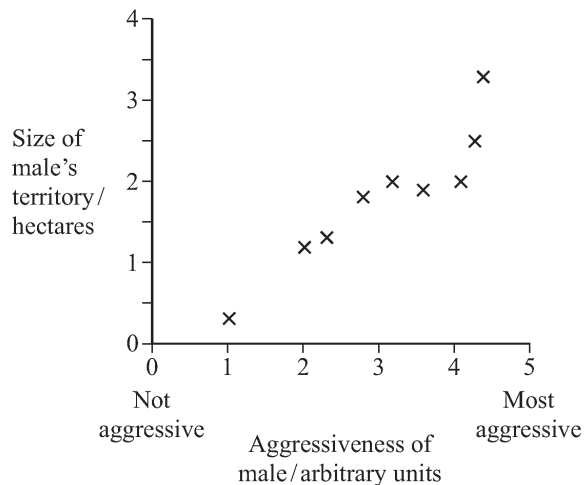


Figure 1

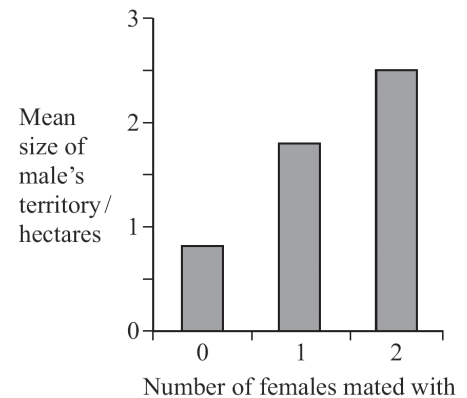


Figure 2

AQA, 2006

- 2 Cytochrome c is a protein with about 100 amino acids and is present in all eukaryotic organisms. It has the same three-dimensional shape in all species, but only 30 of the amino acids are the same in all species. The amino acid sequence of cytochrome c has been used to construct the phylogenetic tree shown in **Figure 3**.

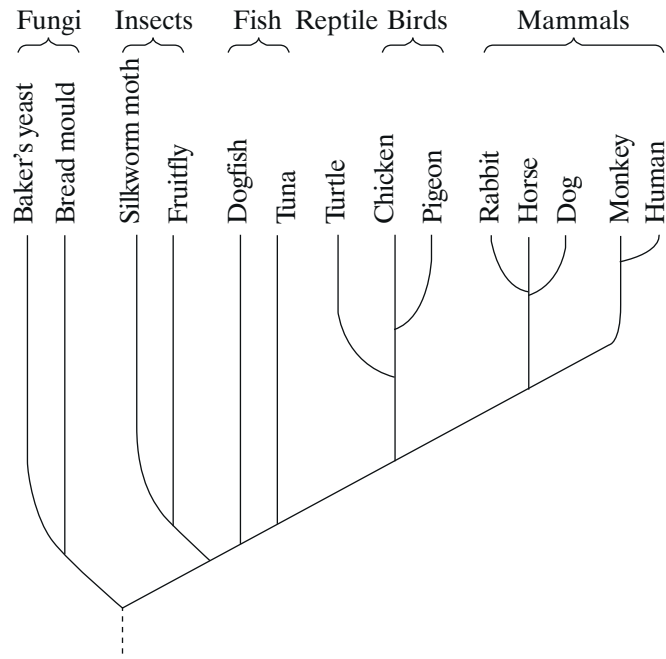


Figure 3

(a) Name the kingdoms represented in this phylogenetic tree.

(1 mark)