LENScience Senior Biology Seminar Series

Student Update Number 8 – August 3rd 2009

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Seminar 4—Challenges

Choose your challenge and post your ideas about how to answer the questions to .....

http://lens.auckland.ac.nz/index.php/Climate_Change_and_Evolution_Discussion_Page

Challenge 1

The team analysed the samples from the populations using molecular biotechnologies. This evidence allowed them to **infer** what had happened to the populations in the last glacial period.

*What does the term **infer** mean and why is it used in this context?*

Unpack....

Go back and look at the paper – where do you see the word INFER

Look at the context

Answer in THIS CONTEXT

*What does the term **infer** mean and why is **it used in this context?***

Challenge 2

Explain why the evidence suggests that the populations dominating the subantarctic have colonised this area recently (in terms of geological time).

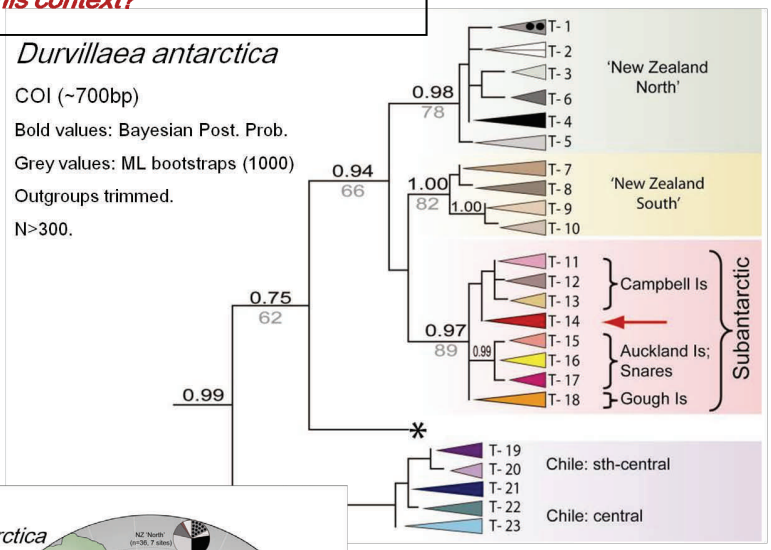
Unpack....

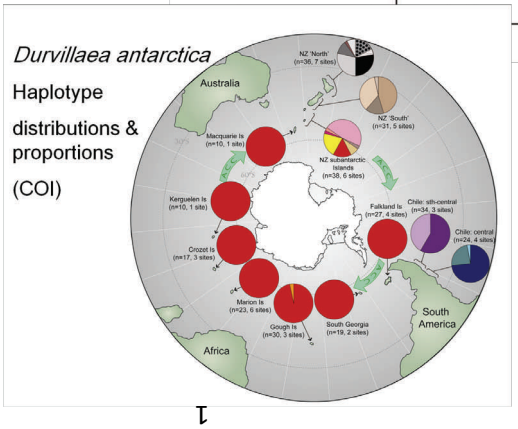
What does GEOLOGICAL TIME mean?

Look for evidence from the paper.....

Give a reason WHY using the evidence.....

Explain why the evidence suggests that the populations dominating the subantarctic have colonised this area recently (in terms of geological time).





Challenge 3

Mitochondrial DNA is used in the analysis of the samples because it is abundant and easily accessible. However there are other advantages of using mitochondrial DNA over using nuclear DNA.

Discuss possible reasons for these advantages.

Unpack....

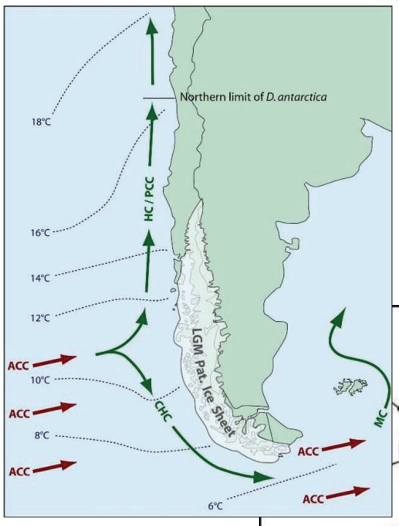
DESCRIBE	mt DNA – what?
EXPLAIN	mtDNA – how it is different to nuclear DNA Possible advantages arising from this difference (note also what you have been told!)
DISCUSS	Possible reasons for the advantages that you have stated Compare to using nuclear DNA

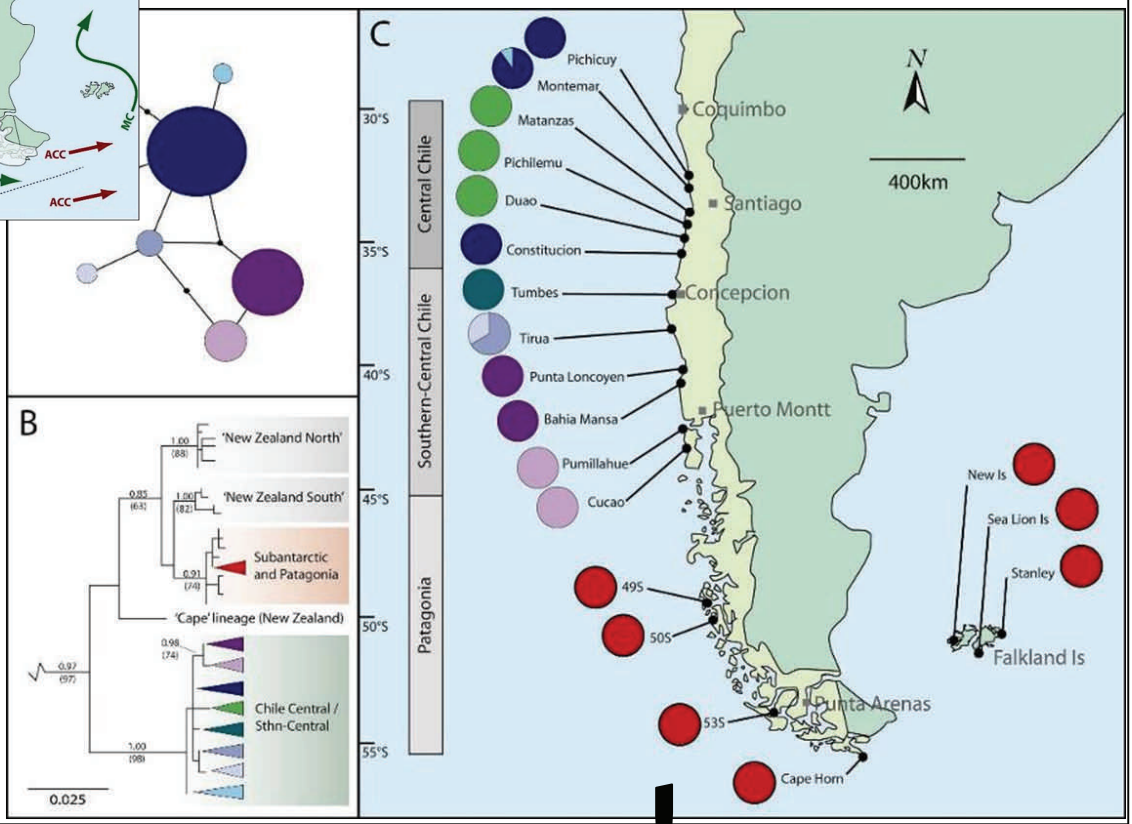
Challenge 4

Fig 1 below shows data from Ceridwen's study relating to Bull Kelp populations in southern Chile. Fig 2 (left) shows the currents in this area.

Using this information:

- can you suggest a hypothesis to explain the species distribution pattern
- what evidence did you use to form this hypothesis?
- what further questions do you need to answer to support your ideas?





Take up the challenge!