coreBio II - genetics: Wed. 2 March 2018

Hand in questions for today

Some new rules:

Please do the assigned readings!!! note on nota bene, and included in your "hand in" questions.

Reflections from OSCAR!!!!

Aidan makes a movie

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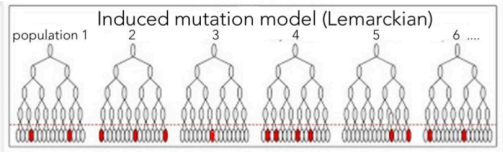
What kind of mutation is involved?

Where do mutations come from?

How do we know that they are “random”?

Luria-Delbruck

What was their question, how did they approach answering it?



Questions to answer:

221. How would increasing the mutation rate influence the outcome of the Luria-Delbrück experiment.

222. What are the advantages (for a geneticist) for choosing an organism with hundreds of offspring per mating event?

223. What is the advantage of studying traits that alter non-essential structures?

224. Why is it not possible to identify every gene involved in the formation of a complex trait by a simple mutagenesis approach?

225. What is responsible for the baseline mutation frequency (in the Ames test)?

226. A compound produces mutations in the Ames test; what factors would influence your decision about whether to worry about exposure to that compound?

Questions to ponder:

- Given the frequency at which phage resistance arises, can you provide a plausible reason for why resistance to bacteriophage is not already a universal trait in prokaryotes?

- How would it change your perspective if mutations occurred because organisms need them, rather than randomly?

- How does the apparent fact that evolution depends upon random mutations to generate new genes and new "types" of organisms, new species, influence your view of the meaning of existence?