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Comparative genomics of the balanced lethal system in *Triturus newts*

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Stellingen

Behorende bij het proefschrift

Comparative Genomics of the Balanced Lethal System in *Triturus* Newts

1. Despite over 60 million years of independent evolution, the overall genomic structure within the newts (subfamily Pleurodelinae) is rigidly conserved. (*This thesis*)
2. Though the genera *Triturus* and *Lissotriton* are each other's closest relatives, they possess different Y-chromosomes. (*This thesis*)
3. Sex-linked regions in newt genomes are too small to be easily identified based on non-recombination alone. (*This thesis*)
4. The two versions of chromosome 1 that make up the *Triturus* balanced lethal system originated together in a single unequal exchange. (*This thesis*)
5. The persistence of the *Triturus* balanced lethal system can be explained by hybrid incompatibility with the ancestral chromosome. (*This thesis*)
6. Underdominance is an important mechanism by which apparently maladaptive alleles and genotypes may persist.
7. The diverse genomic architectures of naturally occurring balanced lethal systems indicate diverse evolutionary histories.
8. Even with recent advances in long-read sequencing and chromosomal conformation capture, linkage maps remain a useful tool for the investigation of genomic structure.
9. For most research questions, linkage maps based on coding markers are more useful than those constructed via RADseq.
10. In popular communication evolution is too often portrayed as a purely optimising mechanism.
11. Species, phenomena or systems that seem paradoxical are worthy of special scientific attention.
12. Evolution moves in mysterious ways.

James France
3rd April 2025