Chip Aquadro

Mutation
Drift
Natural Selection
Recombination
Population Subdivision

SPENCER

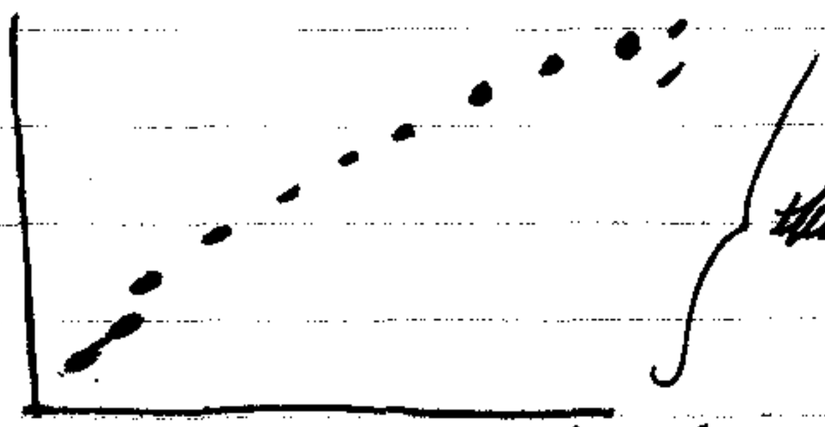
D. melanogaster

- polytene chromosomes allow genome maps
- genetics dense

Recombination

- rate per band varies a great deal
- ~~rate suppressed at telomeres/centromeres~~ some

- rate suppressed at some telomeres
- rate suppressed at centromeres



Why?

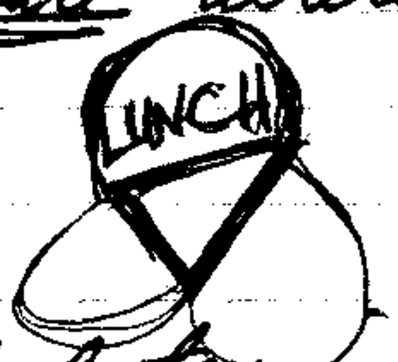
① less ~~fix~~ constraint in high recomb. regions
② [redacted] recombination is mutagenic
③ selective sweeps (reduces variation)
④ deleterious mutations selected against reduces variation

For 1 & 2
predict that there should be a 'x' correlation
between interspecies divergence
and recombination

- this is not the case

Heterozygosity = 4Neu

3) selective sweeps (shorten coalescence time)
- should have overabundance of rare alleles



4) Only chromosomal regions free of deleterious
mutations persist in populations

DOESNT VARIABILITY AFFECT ~~MUTATION~~ RECOMB. RATE

GABA
- mutations resistant to pesticids
- levels of polymorphism v. low around
site of resistance mutations

IF THE PATTERN OF RECOMB, CONSERVED.

Xanthine Dehydrogenase