

果蝇自然群体同工酶遗传多态的研究

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摘要 用凝胶电泳技术我们检测了果蝇(*D. viriulus*) 4个地方群体6个编码酶的基因位点的遗传变异。发现50%的检测位点是多态的。每个个体杂合位点所占的比例为27.13%。遗传变异量在不同位点上相差是很大的, Est- α , Est- β , Amy位点是高度多态的, Mdh, α Gpdh, Acph则几乎是单态的。Mdh在53℃的热稳定性没有差。对一个给定的位点来说等位基因频率在各地地方群体之间是很相似了。测定4个地方群体间的遗传分化, 发现地理距离与遗传距离间没有线性相关性。结果表明自然选择和随机过程都可以造成遗传变异, 而我们所研究的6个基因位点的变异究竟是自然选择造成的, 还是随机过程决定的则有待于进一步的研究。

关键词 [果蝇\(*D. virilis*\)](#), [同工酶](#), [遗传多态](#)

分类号

Study on Genetic Polymorphism of Isozyme in Natural Populations of *Drosophila virilis*

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Abstract

Using techniques of polyacrylamid slab electrophoresis and agarose electrophoresis, we have detected genetic variation at 6 loci which coding for enzymes in 4 local samples from natural population of *Drosophila virilis*. We found 50% of the loci detected are polymorphic, depending on the criterion of polymorphism used. An individual is heterozygotes on the average at 27.13% of its loci. The amount of genetic variation fluctuates widely from locus to locus. At Est- α , Est- β , Amy, most of the individuals are heterozygotes. At the other extrem Mdh, α Gpdh, Acph, few individuals are heterozygotes. For Mdh, we have measured the thermostability at 53℃. No more genetic variation was found. We have measured the amount of genetic differentiation between different local populations. The result showed that there is no relationship between geographical distance and genetic distance. The results are discussed in the light of the continuing controversy over selection and natural theories of genetic variation. We think that both selection and stochastic processes must operate simultaneously in most systems.

Key words [D. virilis](#) [Isozyme](#) [Genetic polymorphism](#)

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