遗传　2004 26 (3): 377－382　ISSN: 0379-4172　CN: 11-5450/R

群体遗传结构中的基因流The gene flow of population genetic structure

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收稿日期　修回日期　网络版发布日期　接受日期

摘要　群体遗传结构上的差异是遗传多样性的一种重要体现，对群体遗传结构的研究已有较久的历史，而其中的基因流研究近些年来越来越受到重视。它对群体遗传学、进化生物学、保护生物学、生态学有着极其重要的作用。虽然传统的群体遗传学能估测基因流大小，但它的精确性还有很大局限性。随着生物技术的进步，对基因流的研究逐渐向分子水平过渡，应用蛋白质电泳技术、分子标记技术(RAPD、RFLP、VNTR、ISSR、DNA测序等)方法对群体间基因流的流动水平进行了深入细致的研究。本文综述了群体遗传结构的几种模式：陆岛模式、海岛模式、阶石模式、距离隔离模式、层次模式，以及在群体遗传结构的几种模式基础上的基因流的研究方法、作用、地位和近些年来研究者的研究成果，并指出了这些方法的局限性。Abstract: The difference of population genetic structure is one of the important embodiments of genetic diversity. There is a long history of the study of population genetic structure, and the study of gene flow of population genetic structure is aroused more and more importance. It has an important effect on population genetics, evolution biology, conservation biology and ecology. Although the level of gene flow is estimated by traditional population genetics, there is a large restriction in its precision. With the development of biological technology, the methods of the research on gene flow reach the molecular level. Methods of protein electrophoresis and molecular markers (RAPD, RFLP, VNTR, ISSR and mitochondrial DNA) are used to research gene flow among populations. This paper introduces not only some models of population genetic structure: Continent-Island Model, Island Model, Stepping-Stone Model, Isolation-By-Distance Model and Hierarchical Model; but also the study methods, function and role of gene flow is based on models of population genetic structure, research achievements in recent years and the restriction of the methods.

关键词　群体遗传结构　基因流　迁移　邻域 Key words　population genetic structure　gene flow　migrant　neighborhood size

分类号

Abstract

Key words

DOI:

通讯作者