

## 中国金色果蝇复合种的染色体研究11. 中国及日本金色果蝇复合种的体细胞同源染色体联会

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**摘要** 对采自北京、上海等7个地区及来自日本的金色果蝇I (*Drosophila auraria*) 和金色果蝇III (*Drosophila sriauraria*) 的三龄幼虫的脑神经节进行核型分析。发现在其有丝分裂的晚前期、中期阶段, 略对同源染色体都在进行联会。联会发生的频率约为34%。XY染色体往往无联会的表现。常染色体联会时, 各对染色体的常染色质区紧密靠拢, 而着丝粒区则彼此稍有分开。本文并提出了以每对同源染色体着丝粒距离的“A' 值作为判断同源染色体联会的数量指标, 通过随机取得的119个细胞的476个Rd值的分析, 发现同源染色体联会频率与在显微镜下所观察的结果相吻合。体细胞同源染色体联会, 在双翅目昆虫的特殊现象和在真核生物及其他高等动、植物中作为一般现象的遗传进化意义, 本文亦作了初步探讨。

**关键词** [同源染色体; 体细胞染色体联会; 平均距离; 相对距离](#)

分类号

## The Studies of Chromosomes in *Drosophida aurarta* Complex Species Found in China and Japans'ii. The Synapsis of Homologous Chromosomes in Mitosis of *Drosophila auraria* Complex Species Found in China and Japan

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### Abstract

In the course of studies of the somatic chromosome configurations of the brain cells of *Drosophila triauraria* and *D. auraria* from \$ areas in China and some from Japan, it was found that in all of the species, the homologous chromosomes were in various degree of synapsis, while the nonhomologues were distributed at random in the nucleus.

There were detestably close synapses between homologous chromosomes during the late prophase and early metaphase in mitosis of somatic cells. The frequency of synapses was about 34%. However, no synaptic pairing was found between X and Y chromosomes in the males. Herein, the so called "Rd values" were suggested (i.e. the relative distances between 2 centromeres of the homologous chromosomes of every pair) as a measure of chromosomal synapses in mitosis, and the visual observations fit well with the mathematical calculations. The occurrence of homologous chromosome synapsis in mitosis found among dipteran insects as an exceptional phenomenon, and in other eukaryotes and even in higher plants and animals, as a general phenomenon, their evolutionary significance was discussed.

**Key words** [Somatic synapsis](#) [Homologous chromosome](#) [Mean distance](#) [Relative distance](#)

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