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三带喙库蚊精巢发育中染色体行为的研究1）

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摘要 研究蚊类生殖腺发育中减数分裂的染色体行为，对于开展蚊类生态学及遗传灭蚊的研究具有重要的意义。近三十年来,国外已有许多关于蚊类细胞学研究的论文报告，着重放在体细胞核型和按蚊的唾液腺染色体带型方面[3，6，7]。关于生殖腺发育中染色体行为的资料却所见不多。早期有关精子发生研究得最多的是尖音库蚊（Culex pipiens）。此外，还有C.tritaenionrhynchus、Anopheles punctipennis 、An. Maculipennis、An.stephensi、 Culiseta incidens 、Culiseta longiareolata 、Culiseta inornata、Aedes aegypti 等[4，7]。然而，作为流行性乙型脑炎重要媒介的三带库蚊(Culex pipiens)。此外，还有C. tarsalis、Anopheles punctipennis、An. maculipennis、An stephensi、Culiseta incidens、Culiseta longiareolata 、Culiseta inornata、 Aedes aegypti等[4，7]。然而，作为流行性乙型脑炎重要媒介的三带喙库蚊（C. tritaeniorhynchus），迄今却未见对其生殖腺发育中染色体行为的详细报告。为此，作者近年来开展了这项研究工作，先后制作不同发育阶段的精巢压片195张，本文旨在报告这一初步的研究成果。

关键词

分类号

A Study on the Behavior of Chromosomes During Meiosis in Testis of Gdulex tritaeniorhynchus

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Abstract

This paper reports a 3-year study on the behavior of chromosomes during spermatogenesis in Culex tritaeniorhynchus. All the specimens were collected near Guiyang, Southwestern China. Most of the testis were prepared by a modification of the squash technique used previously for studying mosquito brain chromosomes (Breland, 1961). All the photographs reproduced were from squaches stained with aceto-orcein.

All the cells in the testicular cysts of the fourth instar sarvae are either in interphase of in diiferent stages of spermatogonial mitosis. Primary spermatocytes appear from the beginning of pupal life onward. The testis as a whole is nost active meiotically during the first 8-13 hours of pupal life. Spermatids are visible in the posterior cysts of the testis of some pupae as early as 10 hours after pupation. The sperms appear in the pupae from 21 hours onward.

The meiosis in C. tritaeniorhynchus is similar to that in Aedes aegypti reported by Mescher and Rai (1966). The leptotene and zygotene stages are not found. Pachytene occurs in the earliest stage in which chromosomes become visibly discrete. Ddiakinesis is followed by a pro-metaphase stretch. The chromosomes in metaphase I are often clumped and sticky. The chromosomes move individually and not-synchromously to opposite poles during anaphase I During prophase II the centromeres are oriented toward one side of the cell . At metaphase II the chromosomes become maximally contracted. Three chromosomes move as a single mass toward opposite poles at anaphase II After telophase II the cell assumes an elliptical shape. The developing spermatids exhibit what appears to be a spirally arranged band of heteropycnotic material resulting in alternating of dark and light staining areas.

Key words

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