

NOTES:

**TESTICULAR CHROMOSOMES OF THE RICE BUG,
LEPTOCORISA ORATORIUS (FABRICIUS)¹**Adelina A. Barrion², M.G. Magbanua², and Ramesh C. Saxena³

The testicular cells and chromosomes of *Leptocorisa oratorius* (Fabricius) (Pyrrhocoridae, Hemiptera) were studied. The squash-technique with lacto-aceto-orcein was employed. Testes of a newly-emerged rice bug contained a mean number of 30 actively dividing meiotic cells and 19 non-dividing cells. The meiotic index of *L. oratorius* was 61%.

The spermatocytes underwent the regular sequence of meiosis. The reductional division of chromosomes was observed in nuclei of primary spermatocytes while the equational division of chromosomes occurred in nuclei of secondary spermatocytes. The nuclei of primary spermatocytes at pachytene stage contained eight homologous chromosomes with varying lengths. The relative mean lengths ranged from 0.082 to 0.178. The shortest chromosome was the X-chromosome while the longest chromosome was the autosome (A) with the nucleolar organizing region (NOR) (Fig. 1a).

At diakinesis (Fig. 1b), the nuclei doubled their size and the chromosomes condensed maximally into countable forms -- 7 bivalent (II) autosomes plus a univalent (I) X-body. *L. oratorius*, therefore, possessed a diploid chromosome complement, $2n = 15$, the karyotype formula being $7IIA + XO$. The XO sex determining mechanism of the rice bug enabled the male species to be heterogametic or yielding two types of sperm cells -- $7IA + X$ and $7IA + 0$.

In addition to the standard genomic chromosomes, a short, open, ring-like fragment was consistently observed near the nuclear periphery. Based on its heterochromaticity and relative dimension (shorter than the shortest chromosome), it was considered as a supernumerary chromosome. It is nonhomologous and does not pair with the standard chromosomes. It is a unique feature of the primary spermatocytes of *L. oratorius*.

The rice bug possesses holocentric chromosomes. At anaphase I, the univalents migrate as intact fragments. There is no differential repulsion. Other autosomal fragments that are formed disjunct normally to their respective poles.

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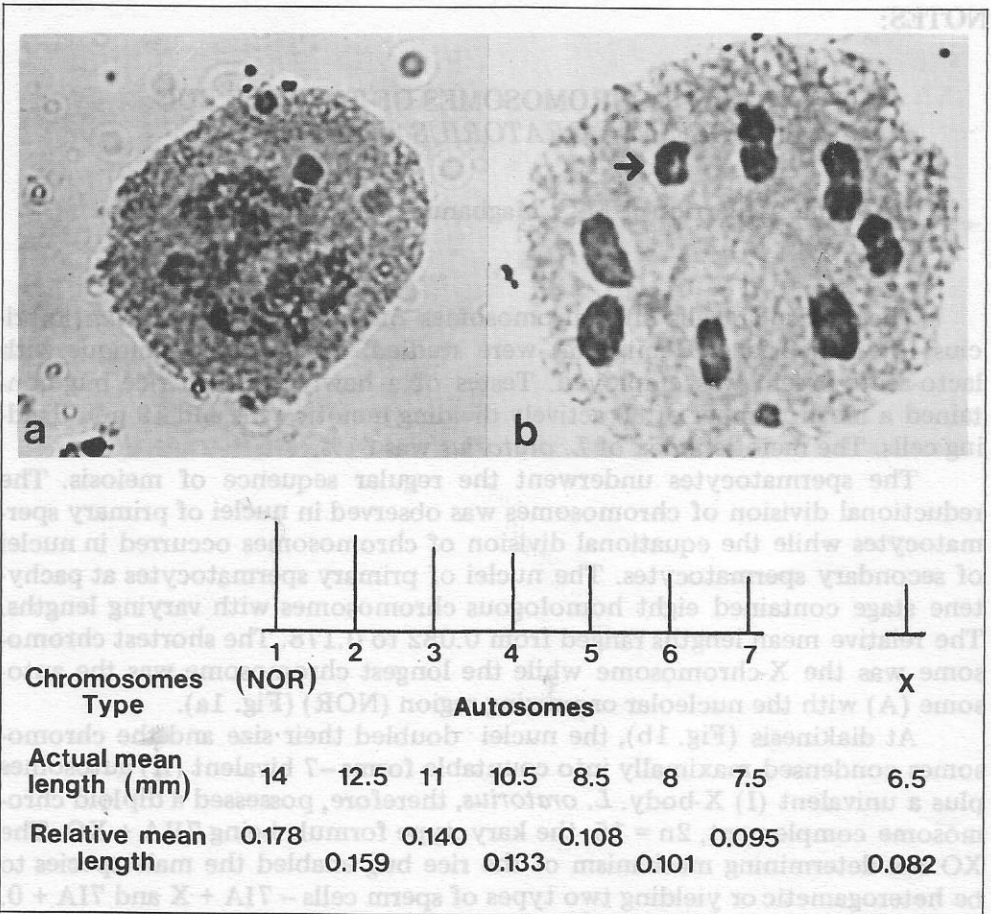


Figure 1. Photomicrographs (top) of meiotic chromosomes of *L. oratorius* at pachytene (a) and diakinesis (b), and idiogram (bottom) of pachytene chromosomes. Sex chromosome indicated by an arrow. Magnification, 1000X (oil immersion). IRRI, 1985-86.

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