CYTOGENETICAL STUDY ON DIFFERENT SPECIES OF SILKWORMS

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SUMMARY

The study of male meiosis in Orsova strain and in the hybrid Orsova x China 29 of Bombyx mori, demonstrated 28 bivalents and a normal disjonction of chromosomes. In a bivoltine Bombyx strain, meiosis is performed with some abnormalities, like multivalents, chromosomes outside of metaphase plate, laggards, micronuclei etc., that lead to an unequal disjonction of chromosomes, reflecting its genetic unstability.

Mitotic and meiotic chromosomes study in Phylosamia ricini and Anthaerea perny was made on eggs, 24 h after deposition, by air dried method using Giemsa coloration or by squash method with feeric hematoxyline coloration. Diploid chromosome number was 28 in Phylosamia ricini and 92 in Anthaerea perny. In meiosis the bivalent number was 4 and respectively 46.

Chromatin organization and synaptonemal complex (S C) during the early stages of meiosis in Bombyx mori and Phylosamia ricini was investigated by transmission electron microscopy. In early meiotic stages of spermatocytes the chromatin has a released appearance forming subsequently several chromatin loops and refflecting a lampbrush type organization. The bivalents became distinct and they are attached to nuclear envelope by mean of SC lateral elements. The nucleolar - SC relationships are also discussed.

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