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39. Chromosomes in three species of Coleoptera (Fam. Bruchidae)

G. P. SHARMA, O. P. MITTAL, and NEELAM KHERA, Chandigarh

The chromosomes of *Bruchus pisorum, Bruchidius augustifrons* and *Bruchidius* sp. have been studied during the process of spermatogenesis. The nuclei of the resting spermatogonia of *Bruchus pisorum* and *Burchidius augustifrons* are found lying in a common syncytium without any true cell membranes. The diploid number of chromosomes for the three species is 22,34 and 22 respectively. *Bruchidius augustifrons* reveals a variation in the number of its chromosomes from 30 to 38, but a vast majority of the cells depict 34 elements. *Bruchidius* sp. also shows 1 to 3 supernumerary chromosomes in about 33% of its cells. All the three species under study are characterized by the possession of an XY type of sex-determining mechanism. In *Bruchus pisorum,* the X and Y constitute a characteristic bivalent at metaphase I, whereas in *Bruchidius augustifrons* they form an unequal bivialent at this stage. In *Bruchidius* sp., X and Y form a parachute type of bivalent at metaphase I. The sex-chromosomes move precociously during anaphase I. Both the autosomes and the sex-chromosomes divide reductionally in meiosis I and equationally in meiosis II. The males of all the three species are heterogametic with regard to the sex-chromosomes. During anaphase I, bridges have been found in *Bruchus pisorum* and *Bruchidius augustifrons.*