

The Chromosome Complements in Eight Species of Locustidæ.

WE have investigated the chromosome complements of eight species of Locustidæ mentioned in the following table. The specimens from which testes were dissected out and fixed were collected from two localities, near Gujarat College, Ahmedabad, North Gujarat and Jogeshwari about 20 miles north of Bombay. Both these localities are situated in the Bombay Presidency, Western India. The accompanying table also contains the main particulars, namely the

TABLE.

	Diploid chrom. Number	No. of V's contained	Shape of X-chrom.
Subfam. Phaneropterinae			
1. <i>Ducetia japonica</i> ..	29	..	R
2. <i>Elimæa securigera</i> ..	27	1	V
3. A sp. of Phaneropterinae	31	..	R
Subfam. Mecopodinae			
4. <i>Mecopoda elongata</i> ..	27	5 (at least)	V
Subfam. Pseudophyllinae			
5. <i>Sathrophyllia</i> sp. ..	35	..	R
Subfam. Conocephalinae			
6. <i>Conocephalus</i> sp. ..	33	5	V
Subfam. Listroscelinae			
7. <i>Hexacentrus mundus</i>	31	1	V
8. <i>H. annulicornis</i> ..	(31)	1	V

R = rod-shaped chromosome : V = V-shaped chromosome.

In *Hexacentrus annulicornis* (No. 8), the diploid number is inferred from the haploid condition observed in the primary spermatocyte.

diploid number, the number of V-shaped elements and the X-chromosome as shown in the accompanying figures of the spermatogonial complexes of the species investigated.

In every species studied the sex-chromosome, the x -element is either V-shaped or has

the form of a rod. And in the first spermatocyte division this X-chromosome exhibits a



FIG. 1.
Duceia japonica.



FIG. 2.
Elimæa securigera.



FIG. 3.
A species of *Phaneropterinæ*.



FIG. 4.
Mecopola elongata.



FIG. 5.
Sathrophyllia sp.



FIG. 6.
Conocephalus sp.



FIG. 7.
Hexacentrus mundus.

All are from spermatogonial metaphases, $\times 1500$.

x: X-chromosome.

conspicuous precession by running towards the pole of its side ahead of other autosomes in course of separation. This seems to be a remarkable characteristic of the chromosomes of the Locustidæ in comparison to those of the Acrididæ, as in the latter group this behaviour of the X-chromosome of primary spermatocytes in division is not so marked.

In other respects too the Locustid chromosome complements show a marked contrast to those of the Acrididæ. The former group displays a wide range of variety in the constitution of its chromosomal garniture even among the members of the same sub-family, while in the Acrididæ the chromosomal complements do not deviate much and are more or less uniform in the various sub-families.

A full account of these observations will be published elsewhere.

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