

Chromosome studies have been included in Usinger's long-term research programme on the bed bugs and are reported here in chapters by Ueshima and McKean. The monograph includes much of what is known about the biology of the insects including topics of applied interest such as control and disease transmission. No geneticist would doubt that the cytology and cytogenetics of a group of organisms represents one of their most fundamental attributes. Neither is there question about the great usefulness of having most of what is known about a group of organisms neatly reviewed between two covers. Correlations between ecology, life cycle and genetic system, taxonomic status and chromosome number and so on become readily apparent. There is always the danger, however, that such information will be missed by those not directly concerned with the group reviewed.

Ueshima describes the chromosomal cytology of over thirty species from nineteen genera and six subfamilies; his work is illustrated with over two hundred and fifty beautiful photographs and drawings fully verifying his descriptions. Haploid numbers of autosomes range from 4 to 18 and the sex chromosome garniture in the male ranges from XY to 9 X's and a Y. In addition to the reports on the species and their taxonomic relationships, Ueshima's chapter includes details of numerous hybridisation experiments. The most important results from the latter are the clear demonstrations of co-orientation and reductional separation of the bivalents at anaphase I and the appearance of unexpected heterochromatic elements at prophase I.

Of special interest is the exhaustive analysis of the control of the number of X chromosomes in strains of *Cimex lectularius* and *C. columbarius*. Crosses and backcrosses were maintained for four generations in extensively replicated series. An analysis of the results by McKean indicates no simple explanation. The number of supernumerary X's may be determined by the cytoplasm or by factors on the X chromosomes themselves or by some combination of these and other factors.

In conclusion, this work should not be overlooked by anyone interested in the evolution of chromosome systems.

SPENCER W. BROWN.

BOOKS RECEIVED

- THE CHROMOSOMES OF THE ALGÆ. Maud B. E. Godward. Edward Arnold Ltd., London, 1966. Pp. 212. 55s.
- DEVELOPMENTAL GENETICS. Frederick J. Gottlieb. Chapman and Hall Ltd., London, 1966. Pp. 118. 10s. 6d.
- THE BIOCHEMICAL GENETICS OF VERTEBRATES EXCEPT MAN. I. E. Lush. North Holland Publishing Company, Amsterdam, 1966. Pp. 118. 36s.
- PROTEIN BIOSYNTHESIS AND PROBLEMS OF HEREDITY, DEVELOPMENT AND AGEING. Zhores A. Medvedev. Oliver and Boyd Ltd., Edinburgh, 1966. Pp. 584. £5. 10s.
- MODERN GENETICS 2. J. A. Serra. Academic Press Inc., London, 1966. Pp. 616. 135s.
- GENETIK UND ZYTOLOGIE VON *ANTIRRHINUM* L. SECT. *ANTIRRHINUM*. Hans Stubbe. Veb Gustav Fischer Verlag, Jena, 1966. Pp. 421. £7. 5s.
- RESEARCH ON GENETICS IN PSYCHIATRY. W.H.O. Technical Report Series No. 346. Geneva, 1966. Pp. 20. 3s. 6d.
- CONGENITAL MALFORMATIONS. A Report of a Study of Series of Consecutive Births in 24 Centres. W.H.O., Geneva, 1966. Pp. 127. 12s.
- GENETICS. 3rd Edition. A. M. Winchester. Constable & Co. Ltd., London, 1966. Pp. 504. 60s.
- HÆMOGLOBINOPATHIES AND ALLIED DISORDERS. Report of a W.H.O. Scientific Group. W.H.O. Technical Report Series No. 338. Geneva, 1966. Pp. 40. 5s.