XII. CHROMOSOME MECHANISM IN *FOLIDIAS ARMATISSIMUS* (REDUVIIDAE)

The genus *Folidias* has so far been known cytologically (Toshioka, 1936 and Banerjee, 1958) by only a single species, *Folidias armatissimus*. The diploid number of chromosomes in this species is twelve which includes a typical XY pair of sex chromosomes in the male. The latter are of almost equal size and behave post-reductionally during meiosis. This chromosome number is the lowest among all the reduviids so far investigated which are otherwise characterised by the presence of a multiple X chromosome and a high number of chromosomes varying from twenty three to thirty two. Only in a few exceptional cases is the X simple. In a large number of chromosomes, the *Folidias* constitutes an interesting material for cytological investigations.

During the studies on the chromosomes of Indian Heteroptera, the author (Jain, 1959a,b and c, and 1960a,b,c,d and e) happened to examine *Folidias armatissimus* which was found to differ markedly in its karyotype from that already described by Toshioka (1936) and Banerjee (1958).

There are present at the spermatogonial metaphase fourteen chromosomes out of which two pairs can be distinguished as rod-shaped from the remaining ten more or less round ones. The eight elements at the metaphase of the first meiotic division form the typical reduviid pattern—the six autosomal bivalents forming a ring, slightly outside which are present the two sex chromosomes, X and Y. The sex chromosomes reveal
only a slight difference in size among themselves. The
metaphase of the second meiotic division also presents
six autosomal elements forming a ring surrounding the centrally
placed 'pseudo-bivalent' formed by X and Y. The two components
of the 'pseudo-bivalent' differ slightly in their size.

Utilising the chromosome data to establish the phylo-
genetic relationship in the various families of Heteroptera
Hanma (1956) and Banerjee (1958) conclude that the number
'12 + XY' represents the primitive karyotype in Heteroptera
and that the evolution of Reduviidae from Lygaeoidea has been
accompanied by an increase in the basic number of chromosomes
and a change from a simple X to multiple X condition. Such
an assumption would point to the primitive nature of the karyo-
type in the genus Polidicus where the '12 + XY' condition
appears to have survived as such. From the facts that in
the various species of the family Reduviidae with multiple
X chromosome, the size of the Y is almost always quite large
as compared with those of the Xs, and that the sizes of the
individual Xs decrease as their number increases, it may be
concluded as already suggested by Troedsson (1944) that the
increase in the number of Xs in the family has been accompli-
shed by the fragmentation of the original X. The more or
less equal size of X and Y in the genus Polidicus, thus, further
supports the primitive nature of its karyotype amongst the
reduviids.