



Fig. 1.

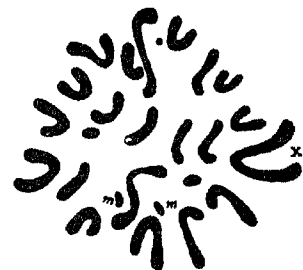


Fig. 2.

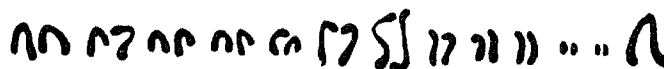


Fig. 3.



Fig. 4.

The spermatogonial complements of *Gryllotalpa*.  
(4000 ×)

### Two Different Chromosome Complements found in *Gryllotalpa* (Orthoptera) from Ahmedabad, Western India.

THE genus *Gryllotalpa* has furnished very interesting material for chromosomal studies to several authors.<sup>1</sup> Taxonomically, it is rather intriguing, as compared with the existing variety of species or forms, about which systematists are often in doubt, the variations in respect of the chromosome complexes found in the forms collected in such diverse regions of the world as America, several localities in Europe and lately Japan and India are indeed striking. On reference to the literature cited below it will be found that chromosomal garnitures of forms so far investigated show remarkable variations not only in the number and size of the elements composing them but in the form and behaviour of their idiochromosomes also.

Some years ago the material on which the present observations are based was collected in the vicinity of the Gujarat College, Ahmedabad. Unfortunately, the individuals, nymphs and adults, from which the gonads were dissected out, were not kept separate. They were regarded as members of one and the same species, *Gryllotalpa africana*, Pal. B. following the observations made by Lefroy.<sup>2</sup> In this material two different chromosome complements are found. In the testes of some individuals 23 chromosomes are found to form the spermatogonial (2N) set (Figs. 1 and 3). This chromosome complex has been so far seen only in the Japanese form of *Gryllotalpa africana*, Pal<sup>1</sup> (Ohmachi). The other garniture seen in our slides is

composed of 25 elements, two more in number than that observed in the previous one (Figs. 2 and 4). These additional chromosomes are represented by the two smallest dot-like elements, shown by 'm' in Fig. 2, while the other elements between these two chromosome complements are quite similar as seen in Figs. 3 and 4. Such a chromosome complex consisting of 25 elements, as noted above, has never been known in any species of *Gryllotalpa* so far studied. It is a matter for further investigation whether these two different sets of chromosomes found in *Gryllotalpa* from this locality are due to the fact that they come from two different forms or species, or they have resulted from the occurrence of two supernumerary chromosomes as is generally found in Hemiptera.

J. J. ASANA.

Gujarat College,  
Ahmedabad,  
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<sup>1</sup> Rath, O. vom., *Arch. f. mikro. Anat.*, 1892, 40.  
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<sup>2</sup> M. Lefroy, *Indian Insect Life*, 1909, W. Thacker & Co., 2, Creed Lane, London.