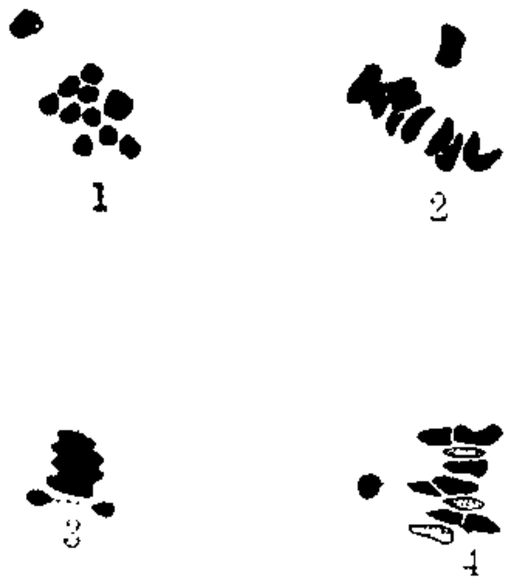
in this species, are on separate individuals, *i.e.*, some individuals will be male, bearing only staminate flowers, whereas other individuals female, bearing only pistillate flowers. Thus this is a typical dicœcious species.

Banerji and Das[1] studied the development of microspore in this species. They could not find any evidence as to the presence of sex chromosomes in mitotic as well as meiotic divisions. They reported somatic chromosome number as $2n = 22$ in both male and female plants.

The meiotic studies reveal that at I metaphase, eleven bivalents are clearly seen (Figs. 1 & 2). In a large number of pollen mother-cells, one of the bivalents was seen lying away from the rest of the bivalents (Figs. 1 & 2) and was in a different plane. It also took a deeper stain. Of the other ten bivalents which tend to remain in a group, one bivalent was the biggest of the lot, also taking a deeper stain (Fig. 1).



FIGS. 1 to 4. Meiosis in *Trichosanthes dioica*.—Fig. 1. I Metaphase (polar view), showing eleven bivalents, of which one is seen lying away from the rest, in a different focus. Note that one of the bivalents, lying in the group is the biggest, × 1500. Fig. 2. I Metaphase (slanting view), showing eleven bivalents, of which one is seen lying away rom the rest, × 1500. Fig. 3. I Anaphase (early), showing the early separation of one of the bivalents, × 1500. Fig. 4. I Anaphase, showing that one of the bivalents has separated earlier, × 1500.

Anaphase stages (Figs. 3 & 4), clearly indicate that one of the pairs pulls apart earlier and the chromosomes move much ahead than in the case of the rest of the bivalents. It seems from the critical examination of the anaphase that the heteromorphic chromosomes which commonly indicate the presence of sex chromosomes are absent; however, the unusual behaviour of one pair of chromosome at I metaphase and I anaphase strongly suggests that this pair, in spite of having morphologically identical chromosomes, is physiologically different from the rest of the bivalents and presumably possesses sex determining genes.

Of the other species of *Tricosanthes*, worked out cytologically, *viz.*, *T. anguina* (Banerji and Das[1]), *T. japonica* (Sinoto[3]) and *T. cucumeroides* (Yamaha[4] & S.), quoted from Darlington and Janaki Ammal,[2] the presence of sex pair of XY type has been reported in *T. japonica* only.

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FOOD PLANTS OF THE DESERT LOCUST

WITH reference to earlier reports[1,2,3] on the food plants of the desert locust, experiments conducted by the present writer both under field conditions and in the laboratory show that the following is their order of preference in regard to plants as food material: (*i*) paddy, bajra and juar, (*ii*) mango (*Mangifera indica*), (*iii*) neem (*Melia azadirachta*), (*iv*) jamun (*Eugenia jambolana*), and shesham (*Dalbergia sissa*). The locusts do not feed on anjeer (*Ficus carica*), and sharifa (*Anona* sp.). It would thus appear that the desert locusts might in course of time become a serious threat to mango plantation in India.

The locusts under observations belonged to both sexes. The females were put in cages with different grades of hardness in soil. This experiment revealed that forced egg-laying is not a remote possibility in locusts under adverse conditions. Clusters of eggs were found on the food plants, as well as on the surface of soil if the latter is impenetrable for the ovipositor.

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