

as just described for semi-solid agar, good growth resulted. Greater depth of medium could probably be used if mechanical agitation were employed. Harvesting and washing procedures were as for other bacteria grown in broth.

After two days incubation in an atmosphere of 10 per cent carbon dioxide we were usually able to prepare a volume of antigen suspension (of opacity 2 on the Burroughs Wellcome scale) a little greater than that of the broth originally inoculated. Incubation for four days generally yields about double the volume, and even five days incubation does not seem to impair the specificity of the antigen.

To date six strains of *V. fetus* (the English 'Longsdon' and '1980', and four local field strains isolated at Glenfield) have been found to grow well in both media. Each of the four local strains did so immediately after primary isolation on blood agar plates. At present semi-solid agar is used for stock cultures and broth for antigen production.

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GENETICS

Inheritance of Asymmetry in a Water-boatman (*Krizousacorixa femorata*)

ASYMMETRY of the abdominal segments in the corixid males is a regular occurrence with the sense of asymmetry, dextral or sinistral, regularly uniform intraspecifically. One finds among the males no intermediate forms, for all the asymmetrical structures of a dextral male are perfect mirror-images of those in a sinistral male and vice versa. More particularly, the sex-limited structures are confined to the body wall, and more precisely, to the last six segments where the exoskeleton and musculature display an asymmetrical pattern, emphasized by an oval black body (the strigil) and a curved genital capsule. In the dextral male the strigil is limited to the right margin of the sixth segment and the genital capsule is directed to the right. These asymmetrical structures are, of course, mirror-images of those in a sinistral male, while in the females bilateral symmetry prevails. Instances of *situs inversus*¹ are rare.

At Lake Zumpango, near Mexico City, I discovered an unusually high frequency of *situs inversus* in a large population of *K. femorata*, or water-boatman. In a sample of 650 males, 475 were dextral and 175 sinistral. Though previous investigators have reported the phenomenon of *situs inversus* in this corixid, I have not found any published account of the inheritance of dextro-sinistral asymmetry in this or any other species of corixid.

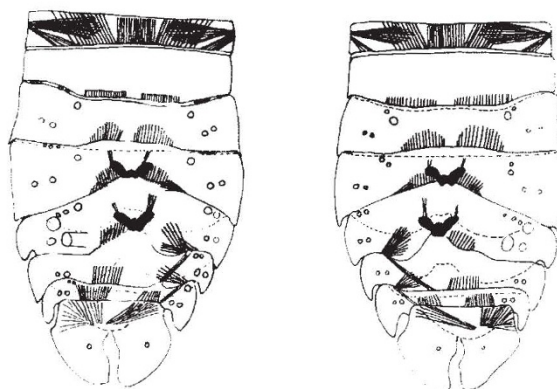


Fig. 1. Ventral view of the abdominal exoskeleton and musculature in asymmetrical males, dextral and sinistral, of *K. femorata*, Guer.

In elucidating the mode of inheritance by means of breeding experiments, single-pair matings in various combinations were made in the laboratory. An all-dextral male line of some ten generations was established. Attempts to produce an all-sinistral line, however, resulted in families containing dextral and sinistral males in different proportions. The results from three single-pair matings of a sinistral male and a virgin female are shown in Table 1, suggesting a 2:1, 1:1, and 1:2 ratio.

Table 1. PROGENIES FROM CROSSES BETWEEN SINISTRAL MALES AND VIRGIN FEMALES

Family 1	52 sinistral ♂♂	49 dextral ♂♂	62♀♀
Family 2	52 sinistral ♂♂	25 dextral ♂♂	90♀♀
Family 3	17 sinistral ♂♂	36 dextral ♂♂	50♀♀

A sequence of experimental matings of dextral and sinistral lines was carried out and the segregation ratios analysed; these will be published in full detail elsewhere. From the results, however, one can conclude *ex hypothesi* that the inheritance of the polymorphic characteristic of asymmetry depends upon an allelomorphous series of three genes, *D*, *D*^s, and *d*, of which *D* (dextrality) is dominant to *D*^s (sinistrality), which in turn is dominant to *d* (dextrality). The intermediate member of the series is lethal as a homozygote.

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Triploid Rat Embryos and Other Chromosomal Deviants after Colchicine Treatment and Polyspermy

Austin and Braden¹ have shown in their classic paper on polyspermy in the rat that dispermy leads to a triploid fertilized egg and that such an egg may cleave normally up to at least the eight-cell stage. These conclusions have been confirmed by the recent investigations of one of us². However, Braden and Austin³ found no instance of triploidy among rats born from delayed mated females in spite of the presence of about 9 per cent dispermic eggs at fertilization stages.

The fate of heteroploid mammalian embryos coming from sources other than polyspermy has mostly been