

20th. December 1948.

Dear Mr. Haskins,

Thank you for your long and most interesting letter on the proposed ecological experiments with Lobietes in Trinidad. There is one statement which I have from Winge, and have no doubt it is true, but of which I have never seen explicit published evidence, and that is that in the wild population the epigamic sex-linked dominants occur always, or with much higher frequency, in the Y chromosome than in the X. This fact is so important in its bearing on the genetic situation of the wild populations that I am sure it would be worth while to establish it by the direct investigation of the breeding behaviour of a sample of wild males.

If this is so, and if, as one must presume, a small proportion of crossovers from the Y-bearing to the X-bearing chromosome occur in nature as they do in the laboratory, then there must be in nature some mechanism eliminating X chromosomes associated with such dominants, probably through female elimination, with a corresponding compensating selective advantage of males carrying such dominants. I think on theoretical grounds one would have to reject as inadequate the possible explanation that the elimination takes place in homozygous dominant males, though this would be analogous to what undoubtedly

takes place in the autosomal dominants found among the grouse locusts.

You mention preliminary sampling work in the streams in northern Trinidad where you propose to operate. I wonder if you could give me an idea of what such a stream would look like if mapped for the occurrence of different members of the sex-linked and sex-limited dominant series. Are all the dominants fairly rare, as in the grouse locust<sup>f</sup>, compared with a common universal recessive, or does one get cases where passing along the stream one dominant is replaced by another, or a mixture of several different Y-bearing complexes in all parts of the stream? I put these preliminary questions because probably much that you are taking for granted on the basis of your preliminary observations may be unknown to me and naturally they have an important bearing on how one could proceed to an experimental enquiry, and on what particular questions you intend to elucidate experimentally.

Hoping to hear from you again on this interesting subject,

yours sincerely,