

June 22, 1939

Dear Hill,

I judge from the covering letter that I ought to take up the enclosed captious report with you; but, if it will save time, perhaps you will send this letter on to Gray. I do not know whether the referee's actual report throws any light on the question which the summary naturally raises. Of the suggestions which are sufficiently tangible to discuss I can make the following comments: I believe Jackson has already published some applications of the method to ^{the}tsetse flies, and I was, in any case, trying to get from him the reference in order to add it. It is now more than ten years since Jackson started work on the problem as a voluntary worker in my laboratory at Rothamsted. He has used this and other suggestions of mine a good deal, but the problem of an exhaustive statistical examination of the kinds of data that can be collected is still scarcely ripe for discussion. My paper with Dowdeswell and Ford does, however, give an expeditious method of drawing inference from data of their kind, rather than of the kind which

Jackson has, which may be, I hope, an encouragement to others in a position to try out the possibilities of sampling wild populations in the field.

The second point worth considering is that of the publication in full of the capture data, so that one could trace the history of butterflies which have been frequently marked. This, I think, Ford and Dowdeswell would like to do, if the Society desired to give the rather considerable space needed for such individual treatment. The additional detail cannot, I think, affect any of the estimates made from the data, though it would be of use if anyone were to attempt a really thorough examination of the precision of these estimates. This, however, would require an amount of rather difficult statistical research, which I do not think is likely to be accomplished unless, and until, any really urgent question requires it.

The other comments of the referee are so vague and so obviously desirous of finding fault as to be mostly unanswerable. The calculations of Section V involve no more than the rule of three, and must, I think, be clear to any careful reader.

I am sure Ford would gladly give any information about the life history and habits of the butterfly on any point which seemed relevant, but the referee does not make

clear what information of this kind would bear, in fact, on the discussion. On p. 3 I can see no point in putting the last date first, and it would seem merely idiotic to place symbols for North, South, East and West on a diagram concerned with time.

The referees have missed the definite evidence against immigration provided by the disappearance of the island population at a time when the species was still abundant on a neighbouring larger island.

I do not know what remarks "seem to limit very seriously the significance of the results obtained". I myself think it advantageous if authors do sometimes guard their readers against overrating the decisiveness of the evidence submitted, but I do not know what passage is referred to.

The referee does not think the separation of birth and death rate as factors governing change of population to be of much use. It is, however, a step further than has been achieved in previous attempts to estimate wild populations.

Yours sincerely,