

Nov. 21. 26

Cripps's Corner. Forest Row. Sussex.

Dear Fisher.

Here is a letter to read at your leisure,
or never!

In my pamphlet on organic Evolution, p
27, I allude to you in regard to The evolution
of sterility, and I hope I have done so correctly;
for again thinking the matter over, I do not see
my way as clearly as I did. When the hybrid is
inferior to both parents, I see clearly that
selection will produce an unwillingness to mate.
This is, however, not sterility. I see also that if
the female is quite sterile when cross mated,
and if in consequence she is more quickly
ready to mate again, this is a racial
advantage in these circumstances. But if the
female is partly sterile, i.e. has a small family,
and, as is probable, is no more quickly ready
to mate again than if she had a big family,
then ^{this partial} sterility to cross breeding is no advantage.
My father could not see how sterility could
be gradually increased, and nor do I now.

Chromosome numbers seem to vary much
in different species, and here is a case where
it looks as if evolution must go by jumps.

If a different number of chromosomes makes for sterility, sterility may be a quality acquired in one jump, and then I see how it may have arisen been varieties where the mongrel is inferior to both purebreds.

Gorse bushes have no young trees growing up near them. I have a theory, founded on no other facts, that they secrete poison and protect themselves from competition from their own relatives by this means. Is it conceivable that sterility with other species can be favoured in somewhat the same way? I only see the idea vaguely.

If you come to look at these questions mathematically, can the question of selection not producing one type but rather a differentiated range of types be so treated? Just a species have two forms, A & B. Form A may be better in one stage of development, and form B in another, & the advantages thus derived by the two forms may be equal. The same may be true as to adaptation to surroundings. Then ever species will contain some

heterozygous elements, and if these are equally superior to the homozygous elements, we shall also get ~~it~~ a tendency for a series to be formed of not one type. But I have not fully thought this out, and what is more I won't.

Yours sincerely

L. Darwin

When partial sterility means an improbability that the mating will be effective, I suppose this improbability could be increased; that is if failure to be effective led to a more rapid second mating.