

April 18, 1952

Dr. L. M. Black
Brooklyn Botanic Garden
1000 Washington Ave.,
Brooklyn 25, N.Y.

Dear Dr. Black:

Thank you very much for letting me study the enclosed manuscript in advance of publication. As I told you at Cincinnati, I am preparing a review of the genetic implications of symbioses. I was already acquainted with Fukushi's 1940 paper (why doesn't Banden cite it?), and with Maramorosch's work, but was very pleased to see your conclusive account.

There are a couple of points that are mentioned, but not emphasized, in your ms. which are particularly important as genetic phenomena. With clover club-leaf virus, may I infer that crosses of infected males x noninfected females give entirely noninfected progeny (as Fukushi showed with rice-stunt) ? Also, you refer to a heat effect. Can infected females be disinfected with heat, with respect to their progeny as well as the treated generation? Have you noticed any skips, i.e. a non-infectious female mothering an infectious progeny. (I was not clear about table 2 in this regard).

To turn to wound-tumor virus. The transovarian transmission is implied on p.16. Has this been systematically studied? Has the same problem been considered with aster yellows?

I would appreciate it very much if you could let me know whether I may quote your answers as "private communication", or better if you think they are adequately treated in a publication. I shall look forward to the appearance of this review in print, and will be indebted to you for reprints of your forthcoming papers on this subject.

In our work with Salmonella transduction, it is beginning to look very much as if the "FA" particles are actually phage particles. Evidently, under certain special circumstances, "lysogenic" viruses can also transfer fragments of the genetic material of the host cells on which they are grown. Ordinarily, the bacteriolytic effect of virus infection precludes the possibility of detection of such transductions. If you wanted to look at it in a certain way, this is the converse of the transovarian transmission of a virus.

Yours sincerely,

Joshua Lederberg