



INDIAN INSTITUTE OF SCIENCE
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Dyer

11 July 1983

Dr. Matthew Meselson
Department of Biochemistry and
Biophysics
Harvard University
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Dear Dr. Meselson:

I am a graduate student in Biology at Princeton, at present in India on a Fulbright fellowship studying the behavior and ecology of the Asian honey bees. Recently Tom Seeley wrote asking me to try to collect and send to you feces of Apis cerana and A. dorsata for chemical analysis in connection with the "Yellow Rain" controversy. Although the rainy season has begun I have had no trouble collecting feces of A. cerana from vegetation around two apiaries in Pune (Maharashtra state). I have enclosed these specimens. I have yet to find an aggregation of A. dorsata that is surrounded by vegetation--all that I have visited have been in the city--but I know of one outside the city. When I visit that one I will collect all the samples that I can.

It is unfortunate that Tom did not send his request one month earlier. I came to Pune only one month ago to do experimental studies during the monsoon, but previously I was in a forested area studying wild colonies. There are plenty of bees in Pune, but I worry that since pollen is a major constituent of the feces the abundance of exotic ornamental and agricultural plants here might distort the picture that one would get from analyzing the feces. Of course, if your chemical comparisons of Yellow Rain with bee feces would not be affected by pollen content then there is no problem. Still, I will be visiting the forests again in September, and will do my best to collect the feces of both bees while there.

Most of what I have enclosed consists of bits of Mulberry leaves (both apiaries happen to be on sericulture plantations) bearing feces dropped on cleansing flights. There are also a few leaves of other plants. In addition, at Tom's request, I have collected pollen from colonies in each apiary, as well as the abdomens of hive bees. I was not sure whether you wanted the latter pickled or dried--I sent them dried. There might be a difference between the two apiaries. The one from which I collected on 9 July was recently (15 days earlier) brought from a moist deciduous forest in the hills near here. Therefore the pollen in the feces may represent better the natural flora of this part of India. On the other hand, according to the beekeeper not much pollen had been stored by the bees prior to the move.

Tom did not say how much of any of these specimens to send. Please let me know if I have sent enough, or whether there is anything more I can do to help you out. Since there seems to be plenty of Yellow Rain in Pune, I need spend very little additional time or effort to collect it.

Sincerely,

Fred C. Dyer
Fred C. Dyer

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P.S. Please address letters to the following address: *Central Bee Research Institute*
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