Taylor

DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY
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Dr. Orley R. Taylor
Department of Entomology
University of Kansas
Lawrence, KS 66045

Dear Dr. Taylor:

I am very glad to have your letter of August 31. We have tried to distinguish hairs of different honey bee species under the light microscope. I enclose some prints showing the results. We are continuing to take and examine photographs. So far, I cannot make a confident identification. We have made stubs for scanning electron microscopy and will take some pictures in a week or two. Maybe the surface structure will show the specificity we want. We are also going to determine the concentration of uric acid in bee feces and in yellow rain an also in commercially collected pollen (which should have little if any). A third approach for determining whether the yellow rain is bee feces or a preparation containing industrially gathered pollen, is simply to compare the number of bee hairs. As a very rough estimate there are one or two branched hairs per spot of yellow rain. The same is true for cerana and mellifera feces (I have not looked at dorsata feces). The samples of cerana feces on leaves have been provided by Fred Dyer, a Princeton graduate student working in Poona, India. I have yet to look at commercial pollen but if hairs are easily detached as bees pass through the pollen collecting screen it may have many more hairs than does bee excrement. Still another approach is simply to compare the types of pollen in adjacent spots on the same leaf or from the same immediate vicinity. It is my impression, still to be firmed up, that even adjacent spots of bee feces can have quite different pollen compositions. Am I correct to think that

even within the same nest the pollen diet of two bees could be quite different as a result of heterogeneous collections of pollen being stored within the nest? If the yellow rain spots are a cw agent, adjacent spots should have essentially identical mixtures of pollen types. At this point, and even before it, it seems ludicrous to think the yellow rain spots are anything but bee feces. I am enclosing a letter to Science which has not yet been accepted, so treat it accordingly. I also enclose some related items we have assembled which bear on the yellow rain problem. After allowing some time for the U.S. Mail to work I will try to reach you by telephone. I certainly appreciate your interest and your help.

Sincerely,

Matthew Meselson
Professor of Biochemistry
and Molecular Biology

MM/db

Enclosures