

Smyth ~~10/2~~

Matt Meselson

Damn the Russians,  
but keep the Americans  
honest. I admire  
your persistence. One  
citizen applauds you.

Her Smyth

# Portion of 'Yellow Rain' Riddle Is Linked to Bees, Panel Says

By Philip J. Hilts

Washington Post Staff Writer

DETROIT, May 31—Five noted scientists said today that they believe they have solved a part of the riddle of "yellow rain," which the U.S. government has attributed to Soviet chemical warfare in Southeast Asia and Afghanistan.

The government has said its samples of "yellow rain" are the residue of Soviet toxin weapons, but has been unable to explain why the samples contain bee pollen and are in the shape of droplets.

Today a panel of five scientists said the powdery samples are probably pollen-filled feces dropped by bees.

"We cannot exclude the possibility that a side product of some chemical used in Southeast Asia has affected both people and bees," said Peter S. Ashton, director of the Arnold Arboretum at Harvard University. "What we do have is very persuasive evidence that the best explanation of the yellow rain [spots is] bee excrement."

"We are not saying that chemical warfare is not going on," said Thomas D. Seeley, a Yale University specialist in Asian bee behavior. "We are saying that we are going down the wrong alley if we focus in on the yellow spots."

The panel delivered its report to the annual meeting of the American Association for the Advancement of Science. The other panelists were Matthew Meselson of Harvard, Joan W. Nowicke, pollen specialist at the Smithsonian Institution, and Julian P. Robinson, arms control specialist at the University of Sussex, England.

The report did not dispute that high levels of a fungal poison, *tricothecene mycotoxins*, have been found in six of the nine known rock, leaf and water samples of "yellow rain" and in the blood, urine and tissues of Southeast Asian war refugees who said that they had been in chemical attacks.

But their analysis did show that all nine of the non-human samples contained pollen. One sample that contained mycotoxins and pollen also contained a bee hair, the scientists said.

The scientists suggested at least two theories of how bee excrement could be involved.

• The first theory would support the notion of Soviet

chemical warfare. It supposes that first bees eat large quantities of pollen as usual and excrete it within 50 yards of their hives as yellow droplets on leaves, houses and perhaps food. Then chemical warfare attacks occur in the area, and the toxins adhere to the yellow spots.

The second theory seemingly contradicts the position of the U.S. government. In it, fungus spores land on the yellow spots of feces, take hold and grow, producing the mycotoxins naturally. The poisons are consumed or touched by people, who then become ill.

A third hypothesis was offered by government officials in interviews with The Washington Post. In it, pollen is either an inadvertent contaminant or a deliberate element of a chemical weapon. It could perhaps be used to help the toxin stick to leaves.

The U.S. government has been investigating the presence of pollen in "yellow rain" samples since the phenomenon was discovered by a Canadian scientist in early 1982.

Its position that mycotoxins are being used as a chemical warfare agent in Laos, Cambodia and Afghanistan is not directly contradicted by the bee excrement theory.

Nonetheless, one State Department official said that he is skeptical of the new hypothesis because it leaves open too many questions and ignores too much evidence from both intelligence sources and refugees.

Among the evidence consistent with it, the scientists said, are the yellow color and uniform appearance of the spots, the high pollen count of all the spots, bee hair in pollen spots and the possibility that the pollen comes from southeast Asian plants.

Among the evidence that they said is not explained by the theory are refugee reports of illness and death connected with yellow rain, refugee reports of attacks by plane or artillery and evidence of mycotoxins on gas masks reportedly found in Afghanistan.

Evidence not mentioned by the scientists includes intelligence information from captured pilots and soldiers, pictures of Soviet chemical warfare equipment in Asia and radio intercepts that suggest that Soviet chemical warfare specialists are in Laos, Cambodia and Afghanistan, government sources said.