Fang

Research Institute of
Chemical Defence
PO Box 1044
Beijing 102205
China
Dec. 27, 1991

Prof. M. Meselson
Dep't Biochemistry &
Molecular Biology
Harvard University
7 Divinity Avenue
Cambridge, MA 02138
USA

Dear Prof. Meselson,

Thank you for your letter and the enclosed photos brought back to my mind Pugwash meeting in Madrid. Indeed, it was a very fruitful meeting and it gave me a deep impression, your presentation and your papers were very informative. I believe, it must be helpful in prohibition of chemical weapons.

Thank you also for "CWC Bulletin", which gave me the recent news of CWC, I like it very much and hope I will get it continually.

Recently, in Chinese journal " China Environmental Science", vol.11, No. 5, pp 396-399, published in Oct. 1991, I read a paper about Chinese "Yellow Rain", written by Chang Zhong-in, a Professor of Nanjing University. In this paper, the arthor further re-confirmed that the so-called "Yellow Rain" is actually the feces of honey bees. I wrote Prof. Zhang and asked him to mail me some photo of his findings. Enclosed in this letter is the abstract of this paper in English and photos of appearances of pollens from Jiangsu's Yellow Rain on Sept. 21, 1984. I think, you must be interested in this paper.

The full-text was in Chinese, but if you need it, please don't hesitate to tell me, I will mail you immediately.

In Prof. Zhang's letter, he said, he has met you in Sept. 1989 in USA and wished to be remembered to you.

With best regards.

Sincerely,

Gao Fang

Gao Fang

RELATIONSHIP BETWEEN YELLOW RAIN IN NORTHERN JIANGSU PROVINCE AND HONEYBEE DEFECATION

Zhang Zhongying

(Department of Earth Sciences, Nanjing University, Nanjing)

Abstract

Samples of yellow rain on leaves collected on September 21, 1984 from the village of Xinxi, Xinfeng, Jingjiang County, northern Jiangsu Province were analyzed using palynological analytical technique. The yellow drops consisted mainly of pollen, in which the most common pollen type is the species of *Ulmus parvifolia* Jacq. (79.4%, 543 grains counted), plus some pollen of Gramineae (9.4%), *Rostellularia*(5.3%), Compositae (4.2%) and others. The pollen composition reflects the main local flowering plants that honeybees often visit to gather honey and pollen in September. On investigation it was found out that there had existed an apiary around the yellow rain site. The bee feces of *Apis mellifera ligustica* Spin. taken at the same time from the apiary, however, bore a strong resemblance both in appearance and in pollen composition to yellew rain. The present study further shows that yellow rain is fecal material released by the honeybees on cleansing flights.

Key words. Yellow rain, Pollen composition, *Ulmus parvifolia* Jacq., Honeybee defecation, Bee feces theory.