

## World Summit on ORGANIC AND INORGANIC CHEMISTRY

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**Evaluation of the effectiveness of some volatile oils and chemical insecticides were added to Silver Nanoparticles used for the treatment of infected dyed woolen textile with museum insect pests *Anthrenus verbasci*****Dina Yehia Mahmoud Ahmed***Conservator in Museum of Islamic Art, Cairo, Egypt*

*Anthrenus verbasci* (L.) Commonly called varied carpet beetle, which is one of the most common species of carpet beetles which were found in museums. The varied carpet beetle is one of the dangerous pests whose larvae cause serious damage to antiquities inside museums especially which made of organic materials, such as, wool, silk, fur and feathers. Pest control is still largely based on using chemical pesticides, the excessive usage of these pesticides is to control insect pests can raise insects resistant. Those chemicals may react adversely with museum materials and can be toxic to the public and harmful to the environment. The most common chemical insecticide is Carbon disulfide (CS<sub>2</sub>) which is a colorless and liquid organic solvent at room temperature. In its pure state, it has a sweet, pleasing and ethereal odor. Exposure to CS<sub>2</sub> concentrations of several hundred ppm for several days may cause headache, dizziness, vomiting and local irritation. While for its effect on the insect, it causes a toxic effect on the insect's nervous system. Another example of chemical insecticides is Paradiolobenzene which is a solid material that is difficult to sublime at high temperature can affect dyes and colors. It is often used in textile storage cabin as a protective material to keep textiles from insect infestation. Exposure to Paradiolobenzene may cause headache, vomiting, eye irritation and rhinitis. Due to the long term toxicity of chemical insecticides, we need to select a new highly environmental friendly pesticide that reduces this problem. Natural products are an excellent alternative to synthetic pesticides as a mean to reduce negative impacts to human health and the environment. Volatile oils have attracted attention in recent years as a pest control agents due to their insecticidal effect. There are substances with insecticide effect, as the one obtained from Cinnamon belonging to the genus *Cinnamomum* (Lauraceae) and includes more than 250 aromatic evergreen trees. It is a very important spice and very useful substances in medicines, industry and food, it is found in Southeast Asia, China, and Australia. Eucalyptus (family Myrtaceae), an Australian native including 700 species, is a genus of tall, evergreen and magnificent trees cultivated world over for its oil, gum, pulp, timber and medicine.

**Biography**

Dina Yehia has completed her Master degree at the age of 30 years and completed her PhD at the age of 36 years from Cairo university, faculty of Archaeology, Department of Restoration and Conservation, Egypt. She is a Conservator in Museum of Islamic Art which one of the most important Museum in Egypt and one of the members in organic group in faculty of Archaeology, Cairo university. She published 4 papers and now she prepare 3 papers and prepare a book with Lambert academic publishing.