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Exposure to organochlorate pollutants and lead weakens animals bones, according to a study

Published: Monday, December 1, 2008 - 10:02

A new methodology developed by a researcher of the University of Granada will permit to determine the toxicological effects caused in animals which have been exposed to organochlorate pollutants and lead analysing their bones. This work has studied the effects of lead toxicity in the long term in wild birds populations, determining how this heavy metal causes bone weakening and fracture, provoking therefore a fall in the individual survival of the affected species. This work has been carried out by **Pedro Álvarez Lloret**, of the Department of Mineralogy and Petrology of the University of Granada, in collaboration with the University of Georgia (USA), the Karolinska Institute of Stockholm, the Research Institute for Hunting Resources (CSIC) and the Biological Station of Doñana (CSIC). The research work has been supervised by Professor **Alejandro Rodríguez Navarro**.

An ideal record

According to Álvarez Lloret, in the light of his work, we can conclude that animals' bones are an ideal record to elucidate the toxicological effects in the long term produced in populations exposed to lead, as part of the lead absorbed by the organism accumulates in bones.

The researcher has also worked with polychloro-biphenyl (PCB) and TCDD, two organochlorate pollutants used in industrial manufacture processes of plastic and insecticides. Álvarez Lloret has tested the effects of such substance in the bones of wild bird populations of Georgia (USA), for the presence of one of such companies, and has found out that PCB provokes a higher bone maturity if the affected birds, this is, it makes their bones more crystalline, increasing their fragility and making them weaker.

Source: Universidad de Granada

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