ISWAVLD 2023
International Symposium of the World Association of Veterinary Laboratory Diagnosticians
29 JUNE-1 JULY 2023 Congress Centre Lyon
Towards the veterinary diagnostics of the future

Main topic : One Health

**"One Health" Toxicology: wildlife, environmental and human interactions**

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**Introduction**
Veterinary toxicology is increasingly taking on an interdisciplinary role with a "One Health" strategy, aiming to involve animal, human and environment. In fact, it is becoming part of a now well-defined "One Toxicology", with the purpose to sustainably balance and optimize health from a global perspective.
**Results**
The Toxicology Section of the California Animal Health and Food Safety Laboratory System (CAHFS), University of California-Davis (USA) has effectively applied this multidisciplinary approach. During recent years, CAHFS toxicologists have evidenced the exposure, with primary or secondary poisoning, against anticoagulant rodenticides (ARs), associated to illegal marijuana cultivations on California public lands1, in different non-target wildlife species. More specifically, many studies have focused on the Pacific fisher (*Pekania pennanti*), a middle size carnivorous whose populations have seriously decreased during last years in California. The relevant internal concentrations of some of these ARs could be related to increased susceptibility to other pathologies (i.e. infectious and/or parasitic diseases) or to altered behavior, reproduction, and thermoregulation, being thus a secondary cause of mortality not diagnosed before2.
Similar situations have been discussed in Europe. For example, in Spain, the presence of ARs in different tissues of the Iberian lynx (*Lynx pardinus*) is being evaluated, analyzing the importance of sublethal concentrations in the success of recovery programs for this species classified as "endangered" in the Spanish Catalog of Threatened Species.
In all cases, the need for in-depth studies that allow a better knowledge about the potential effect of ARs on non-target species, as well as the identification of ARs point sources for wild animals, is more than evident.
**Conclusions**
This methodological approach should point the way toward a future trans-disciplinary management through effective prevention, mitigation, and solution strategies of side effects of chemicals affecting wildlife, always from an integrated "One Health" perspective.