STUDY ABOUT VETERINARY DRUG RESIDUES PRESENCE IN RED KITE'S BLOOD

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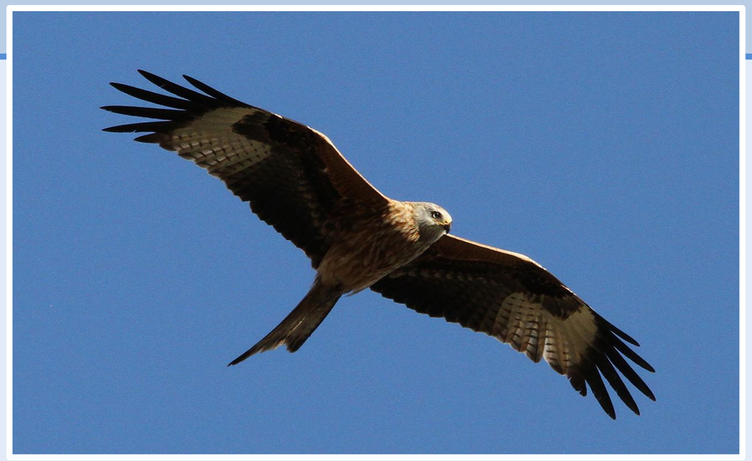


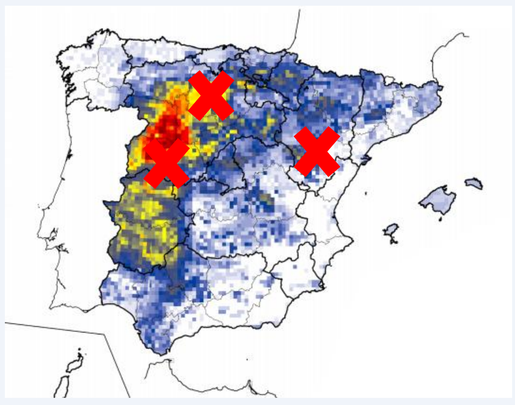
Red kites *(Milvus milvus)* are migratory raptors who spend the breeding season in Central Europe and migrate to Spain during the winter.

UICN Red list classifies them as *Near threatened* as consequence of overall decline in population of 50% since 1994 due to poisoning.

It takes a wide range of food, but feeds mainly on carrion and small mammals and birds.

HYPOTHESIS: Red kites are liable to be exposed to veterinary drug residues due to their diet composition.

OBJECTIVE: Analyze blood samples of wild red kites searching anti-inflammatory's and antibiotic's residues.



Red kite's population densities (blue: low/ red: high). Marked with X the 3 capture zones.

MATERIALS AND METHODS:

1. Red kites were captured during winter of 2019 in three zones from Spain: 10 individuals in Huesca, 11 in Segovia and 11 in Alava.

2. The animals were ringed and blood samples (1 – 3 ml) were obtained from braquial vein.

3. Every sample was analyzed with a chromatography method, checking the presence of residues from anti-inflammatory and antibiotic veterinary drugs.

Antibiotic tested: Trimethoprim, Sulfadiazine, Ciprofloxacin, Oxytetracycline, Enrofloxacine, Tetracyclin, Sulfadimidin, Ampicilin, Erythromycin, Nalidixic Acid.

Anti-inflammatory tested: Diclofenac, Flunixin, Meloxicam, Nimesulide, Suxibuzone, Carprofen, Indomethacin, Ketoprofen, Naproxen, Phenylbutazone, Tolfenamic Acid.

RESULTS AND DISCUSSION: Residues from antibiotic or anti-inflammatory drugs are not found in any of the analyzed samples.

These results could be explained for three main reasons:

- **Differences in diet and feeding habits between red kites and other scavengers:** More than 50% of red kite's diet is carrion, but they use to eat small portions of food without stop flying. In consequence they could have lower drug exposition, but more extended in time.

- **Blood's short time detection sensibility:** Veterinary drug residues can be detected in blood during less time than in tissues. Further studies analyzing also tissues should be done.

- **Small sample size:** 31 individuals/55.0000 individuals from winter population

One **black kite** (*Milvus migrans*) was captured by coincidence with the rest of red kites, and blood sample was obtained too. This individual did not present residues of veterinary drugs in blood even though black kites had more scavenger feeding habits than red kites.

CONCLUSIONS: The red kites sampled did not present antibiotic's or anti-inflammatory residues in blood. However, owing to their diet composition, there is high probabilities for them to be in contact with veterinary drug substances, as happens with other scavengers who are feed in similar places. Further investigation is needed in order to verify their exposition to drugs.

Studies to determine presence of drug residues in black kite's blood could be interesting too in order to monitor drug residues contacts with all the scavenger birds of Spain.

Knowing the presence of drug residues in kites and the consequences for the specie, could allow to regulate the carrion from feeding points or even regulate the veterinary drugs allowed in practice.

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