

Vultures and Veterinary products

There is no exaggeration in talking about an **African Vulture Crisis**. Whether vultures are killed for animal parts destined for traditional medicine markets or because poachers are attempting to avoid detection is irrelevant to the fact that across Africa and in Namibia even our common African White-backed Vulture is today ranked in the Endangered category on the IUCN's red-data list.

The “Asian Vulture Crisis” was a real wake-up call to the field of medicine when it was discovered that renal failure and visceral gout could form within hours of a vulture eating from a carcass previously treated with the NSAID diclofenac. For Asian vultures the die-off was traumatic with more than 90% of Gyps vulture species disappearing from many areas. Further research conducted on NSAIDs has found only Meloxicam as safe to vultures. (*Naidoo, V., Wolter, K., Cromarty, A.D., Bartels, P., Bekker, L., McGaw, L., Taggart, M.A., Cuthbert, R., Swan, G.E. The pharmacokinetics of meloxicam in vultures, 2008, Journal of Veterinary Pharmacology and Therapeutics, 31 (2), pp. 128-134.*).

Vulture deaths on farmlands was in the past connected to mammalian predator control, sometimes legal – historically strychnine and cyanide were prescribed – but often illegal with organophosphate and carbamates products used “off-label”. Eight of the nine southern African vulture species are currently recognized as globally threatened. Two species have undergone very rapid declines in the past few years, the African White-backed and the Hooded Vultures. These once common throughout West Africa have had counts of zero birds in most transects surveyed in Cameroon, Burkino Faso, Mali, Niger and Sub-Saharan West Africa. In East Africa the survey on African White-backed Vulture populations is currently counted at only 50% of its former size. In southern Africa, the recent events exposed in Botswana, Zambezi province in Namibia and Zimbabwe have enormous population impacts and hence the up-grade to endangered status.

All veterinary professionals can be of enormous assistance by recognizing the products that are known to be highly toxic to vultures, by using products that are safe for our endangered vultures and by suggesting to clients on how to dispose of contaminated carcasses.

Before posting out this list, I asked Dr V Naidoo of the Onderstepoort Veterinary Institute some questions:

1. With some of the listed unsafe treatments can we not find shorter withdrawal periods?
1. **With sufficient funding, this will be possible. Food safety for people and safety to vultures are most likely unrelated. However the medical data is already available while we'll have to generate vulture specific information**
2. What about the antibiotics, specifically fluoroquinolones?
2. **We've not found any unsafe antibiotics. The one article on enrofloxacin in the vulture chicks from Spain was shown to be a false finding. The researcher in question was dismissed for unethical behaviour**
3. The "dips" ; again issues on withdrawal periods as well as is it perhaps mostly the organophosphates and abamectins that will cause toxicity?
3. **No idea. To me amitraz is also of concern. Doubt the macrocyclic lactones would be a problem as doramectin is used to treat mites on vultures**
4. With M99 deaths ; can removing the injection site/muscle not render the carcass safe?
4. **Unlikely. We've gotten reports of lions and crocodiles being anaethetised after eating the meat of animals.**
5. With the mentioned treatments for babesia/redwater ; can the removal of liver and kidneys or all internal organs render the carcass safe?
5. **No idea. We dont know the safe levels. As diclofenac proved, muscle concentrations are just as dangerous as those in the liver and kidney. We have a report of vultures dying after a horse with pentobarbitone was fed to them. The person involved thought the same and removed the kidneys and liver before placing out the carcass.**

Liz Komen
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The African Vulture Crisis – all southern African species are endangered.

<i>Product / Trade Name</i>	<i>Active Ingredient</i>	<i>Safe or lethal to Vultures and or other scavenging birds</i>
Meloxicam ® Metacam ® Mobic	Meloxicam	SAFE- the only safe NSAIDs are those with active ingredient Meloxicam
Diclofenac	Diclofenac Sodium	LETHAL
Ketofen ®	Ketoprofen	Lethal
Tomanol ®, Phenylarthrite ®, Equipa-lazone ® or Fenylbutazone ®	Phenylbutazone	UNSAFE can be lethal
Finadyne ® Cronyxin ® Pyroflam ® Hexasol ®	Flunixin	UNSAFE can be lethal
Qaudrisol	Vedaprofen	UNSAFE can be lethal
Rimdayl Aquous	Carprofen	Limited tests have been done to date
Euthanase ® and Euthapent	euthanasia	Pentobarbitone will kill secondary consumers directly or create a high risk if the secondary consumer lies comatosed in the veld. UNSAFE can be lethal <i>Incinerate chemically euthanized carcasses</i>
Lead bullets	euthanasia	Lead ingested is highly toxic. UNSAFE can be lethal Alternative bullets are copper- coated or lead free.
M99 ®, Zoletil ® Dormicum ®	immobilizing	Secondary victims are at high risk. UNSAFE can be lethal
Berenil ® Dizene ® Veriben ® Forray ® Imizol ® Imidox	Treatment of tick-bite fever (Redwater)	All treated carcasses are lethal to vultures – UNSAFE can be lethal See response on withdrawal periods from Dr V Naidoo, Onderstepoort Institute, University of Pretoria.
Any Dip: Plunge, spray, jetting, line spot or injectable	External parasite control	Generally unsafe – UNSAFE can be lethal See response from Dr V Naidoo, Onderstepoort Institute, University of Pretoria.