


INTERNATIONAL WORKSHOP ON POISONING AND VULTURES IN ÁFRICA-ANDALUCÍA



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What is and is not considered poisoning

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Poisoning versus environmental exposure

Depends on context and geographic location

- Environmental/Incidental exposure
- Unintentional or 'Negligent' poisoning
- Deliberate poisoning

- All are relevant, especially when populations falter



Exposure to contaminants in the environment

- Incidental, present in the environment due to human activities
- Heavy metals: lead shot in carcasses, leachate from landfills
- Veterinary agents: NSAIDs, antibiotics, euthanasia drugs
- Pesticide residues from past and present agricultural use, improper disposal in landfills (e.g. Ethiopia)

Unintentional poisoning



- Misuse, without intent to harm wildlife

- ‘Legal’ but untenable use, according to the label or other instructions

'Negligent' poisoning

- Diclofenac is now registered for veterinary use in Spain, Italy...
- Despite the known hazard posed to vultures on the Asian subcontinent
- No apparent preventive, monitoring or responsive measures in place where recently registered



Deliberate poisoning



Adults / non-griffons



Small baits



Pre adults / griffons



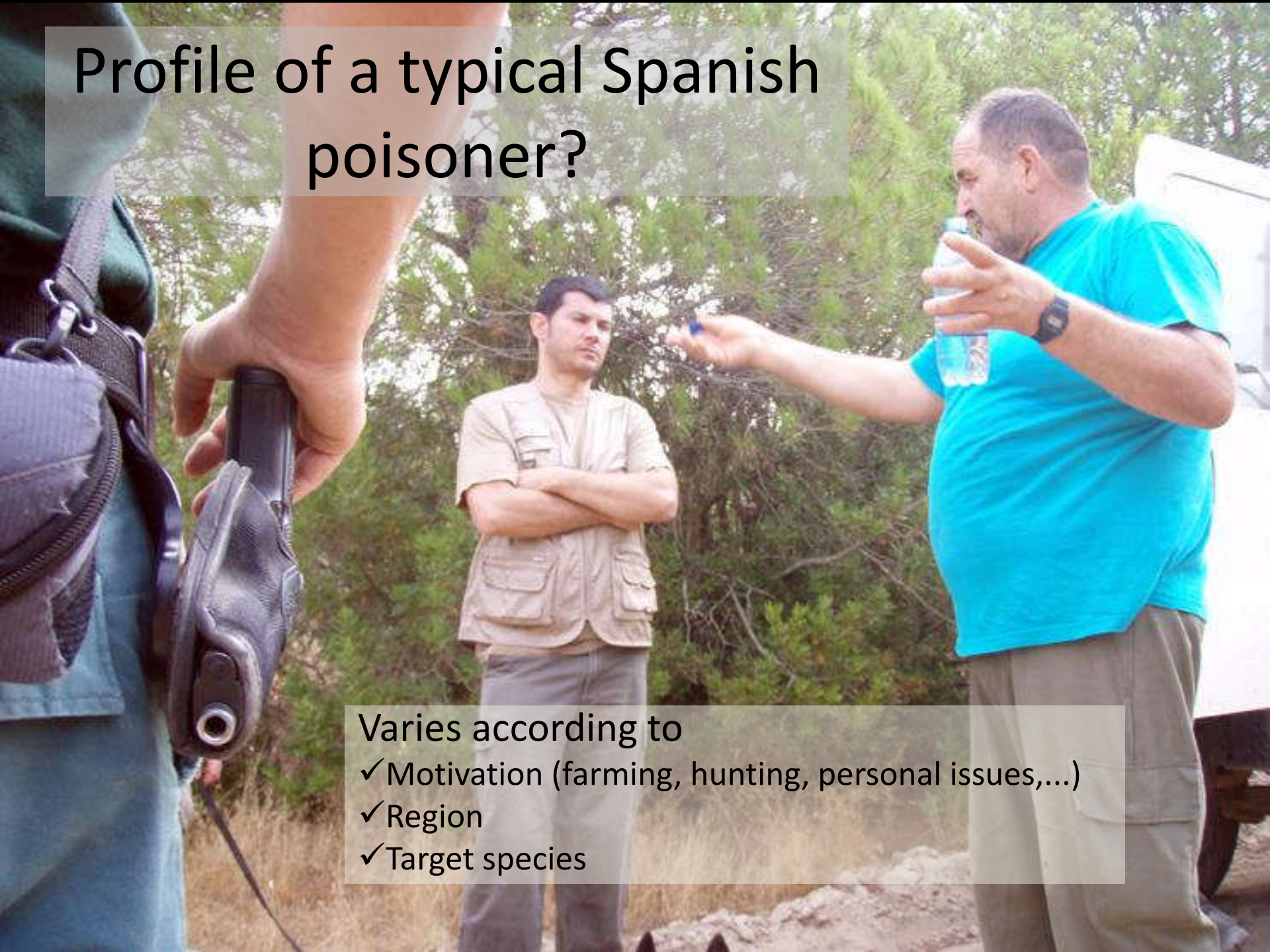
Big baits

Poisoning motivation

Africa Spain

- Retaliation: crop, livestock
 - Against detection (vultures and poachers)
 - Sustenance and livelihood
 - Traditional medicine
 - Cultural beliefs
- Hunting (predator control)
 - Personal revenge
 - Retaliation, livestock protection (vultures also targeted)

Profile of a typical Spanish poisoner?



Varies according to

- ✓ Motivation (farming, hunting, personal issues,...)
- ✓ Region
- ✓ Target species

Profile of a poisoner in Africa...

- Good information is available
- Workshop aim: consolidate and compile
- Profile can help identify motivation, offer genuine poisoning alternatives and orient preventive strategies

Different names for the same pesticide

Category	Name/ active ingredient	Brand or Trade name	Chemical name
carbamate	Aldicarb	Temik	2-Methyl-2-(methylthio) propanal <i>O</i> -(<i>N</i> -methylcarbamoyl) oxime
organochlorine	DDT	Anofex	Dichlorodiphenyl trichloroethane
organophosphate	chlorfenvinphos	Haptasol	2-Chloro-1-(2,4-dichlorophenyl)ethenyl] diethyl phosphate
pyrethroid	permethrin	Biomist, Lyclar	3-Phenoxybenzyl (1 <i>RS</i>)- <i>cis</i> , <i>trans</i> -3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane carboxylate

- Make sure the names people give correspond to what they're using
- Sometimes people say they aren't using a compound because they know it by another name

Organochlorines



Stored in fat

Highly persistent in the environment, **bioaccumulate**

Carbamates

- Alidcarb, methomyl, carbosulfan
- First choice in Europe for poisoning
- Very fast acting, kill virtually immediately
- Inhibit cholinesterase enzyme
- No chance for bioaccumulation
- As with OCs, metabolites can be even deadlier (aldicarb sulfoxide)
- Monitoring issue when degrade to other poisons (carbofuran is a metabolite of carbosulfan)

Organophosphorus agents

- Examples: chlorfenvinphos
- Slower onset of poisoning than carbamates
- Very smelly – used to target vultures, not foxes
- Inhibit cholinesterase enzyme



Rehabilitation?





LETHALITY - ASPIRIN INDEX

Aldicarb 709, Carbofuran 64 rats // Carbofuran 2841 AMKEs

People can be poisoned too

- OPs and CMs impact the nervous system
- OCs stored in fat, can be released into bloodstream during illness
- Poisoners can themselves be affected, consumers of poisoned meat



In summary...

Despite the immediacy of deliberate poisoning, let us not overlook the presence of other possible threats and hazardous practices within the environment



And let us keep in mind human health, which may offer unexpected allies, and solutions

