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Poster Presentation P42

ORGANOCHLORINE COMPOUNDS AND HEAVY METALS IN NORTH AMERICAN GREY WOLVES (*CANIS LUPUS*)

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Sizeable grey wolf (*Canis lupus*) populations in North America are currently found in Alaska, Canada, Idaho, Wyoming, Montana, Michigan, Minnesota, and Wisconsin. Since the grey wolf is at the top of its food chain, this species may contain high levels of organochlorine (OC) pesticides (e.g., DDT) and metabolites due to biomagnification. Wolves may be exposed to heavy metals (e.g., cadmium, lead, mercury and zinc), which can reach toxic concentrations in areas where minerals have been extracted. However, no studies have documented OC pesticide or heavy metal contamination in grey wolves throughout their North American range, which is the purpose of this collaborative study with the U.S. Fish and Wildlife Service and with state and Canadian wildlife agencies. Wolves were either found dead or were collected via lethal control methods and the presence of OC compounds in wolf kidneys was determined via gas chromatography. The most frequently detected compounds included beta-BHC (present in 43/60 wolves; minimum-maximum levels = 0 - 897.9 ppb), alpha-BHC (present in 40/60 wolves; 0 - 1147.5 ppb) and heptachlor epoxide (present in 35/60 wolves; 0 - 252.5 ppb). There were no significant differences in beta-BHC levels among wolves collected from Alaska (Median (M) = 92.3 ppb, n = 17), Montana (M = 46.5 ppb, n = 24) and Idaho (M = 16.2 ppb, n = 16, X_2= 2.68 , p = 0.26). Likewise, there was no significant difference in beta-BHC levels between adult (Median (M) = 54.9 ppb, n=36) and juvenile (< 1 year old) wolves (M = 50.8 ppb, n = 11, U = 197.0, p = 0.99), or between males (M = 52.0 ppb, n = 20) and females (M = 77.5 ppb, n = 32, U = 306.0, p = 0.79). We are currently working on extraction techniques for heavy metals, which will be analyzed via Inductively Coupled Plasma Emission Spectrometry. The knowledge gained from this study may have implications for managing other top endangered predators in North America [e.g., red wolves (*Canis rufus*), Mexican grey wolves (*Canis lupus baileyi*) grizzly bears (*Ursus arctos*), and polar bears (*Ursus maritimus*)].