Parasites In Dall's Sheep: What We Can Learn From Historical And Contemporary Collections (Or: Putting Together The Pieces!)

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Abstract: In 1997 we began investigating parasites of Dall's sheep in the Mackenzie Mountains in Canada's Northwest Territories (NWT). During the course of this work we found little in the published literature about parasites in this or other thinhorn species. We did find, however, two in-depth, but unpublished, studies on gastrointestinal parasites of Dall's sheep in the NWT and Alaska done between 1964 and 1973. In the Mackenzie Mountains, NWT, Norm Simmons, Anne Currier and colleagues (Canadian Wildlife Service) collected 24 and 81 sheep in February of 1971 and 1972, respectively. Post mortem examinations, including parasitology, were performed, but detailed examination of the parasites and analyses of the data were not completed. The parasites from these sheep were preserved and deposited as an orphaned collection (the Simmons Collection) at the Canadian Museum of Nature in Ottawa. In November 2000, we resumed the examination of these specimens. In Alaska, a total of 79 Dall's sheep collected from various locations between 1964 and 1973 were examined for gastrointestinal parasites by Carol Neilsen and Kenneth Neiland. The results were reported in an Alaska Department of Fish and Game progress report, 1974. These two studies are unparalleled historical baselines, providing valuable information on the gastrointestinal parasite fauna in Dall's sheep 30 years ago. Together with current research on Dall's sheep in the Mackenzie Mountains, including seasonal collections of fecal samples and periodic whole sheep necropsies, they serve as the basis for understanding the biology and effects of gastrointestinal parasites in wild Dall's sheep. The value of these historical collections and the ongoing research are discussed within the context of monitoring disease in wildlife populations and the possible influence of climate change on host-parasite systems.