**Abstract**:

Morphological characteristics of the bacula of 62 Gray Wolves (*Canis lupus*) harvested in Wisconsin were related to age estimates generated from cementum annuli analyses. Baculum analysis suggested that 47 of 62 wolves (75.8%) were correctly classified as the appropriate age category (pup, yearling, adult) assessed by cementum analyses; however, this success was limited for yearlings (53.5%) and adults (38.5%). Results could not corroborate future use of this approach for rapid aging of dead wolves. there remains a need for a wolf-aging technique that can be broadly implemented in a timely and cost-effective manner, while also preserving the inherent trophy value of an intact skull.