

UPDATE OF A FIELD TECHNIQUE FOR IDENTIFYING MARTEN SEX AND AGE CLASS

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At the Fifth Northern Furbearer Conference in Whitehorse in 1989, we reported on a technique to sex and age marten that does not require laboratory facilities. From most uncleaned marten skulls, sex and age class (juvenile or adult) can be determined by 2 or 3 measurements. Additional data collected since 1989 indicate that a minor modification in the technique is necessary. Our purpose in this paper is to review the technique with the new data.

We collected marten carcasses over a 6-year period from four areas of interior Alaska. These areas were separated by as much as 600 km. We measured total skull length (TSL) on 475 female and 530 male marten skulls.

From 99-100% of the female skulls from the four collection areas had $TSL < 82\text{mm}$ with a lower confidence limit (LCL) = 94% and an upper confidence limit (UCL) = 100% (binomial confidence limits at the 95% confidence level). From 97-100% of the males had $TSL > 81\text{mm}$ with $LCL=91\%$ and $UCL=100\%$.

On those skulls for which temporal muscles had not yet coalesced, we measured the minimum width between temporal muscles (WBTM). On those skulls for which temporal muscle coalescence had occurred, we measured the length of the temporal muscle coalescence (LTMC). Our sample size was 386 females and 284 males. Juveniles (<1 year) and adults (1+ years) were identified using tooth cementum analysis. Of females with $LTMC > 0\text{mm}$ ($n=181$), 97% ($LCL=94\%$, $UCL=99\%$) were adults. Of females with $WBTM > 2.5\text{mm}$ ($n=134$), 98% ($LCL=95\%$, $UCL=100\%$) were juveniles. Those females with WBTM between 0 and 2.5mm ($n=71$) were about evenly divided between juveniles and adults (for juveniles, $LCL=34\%$, $UCL=64\%$). This last group of females comprised 13% of 1,065 female marten collected from trappers during the study.

All male marten with $LTMC > 29\text{mm}$ ($n=130$) were adults ($LCL=97\%$, $UCL=100\%$). Of males with $LTMC < 10\text{mm}$ ($n=127$), 97% were juveniles ($LCL=93\%$, $UCL=100\%$). Of males with $LTMC=10-29\text{mm}$ ($n=27$), 37% were juveniles ($LCL=19\%$, $UCL=58\%$). This group of males comprised only 2% of 1,451 male marten collected from trappers during the study.

Our results suggest that our technique can be used to identify sex and age class of most marten harvested in interior Alaska.

However, female marten with WBTM between 0 and 2.6mm should be aged using tooth cementum analysis. In the event that males in the LTMC=10-29mm group comprise a substantial portion of the harvest, this group should also be aged by cementum analysis.

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AGENDA AND ABSTRACTS

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