

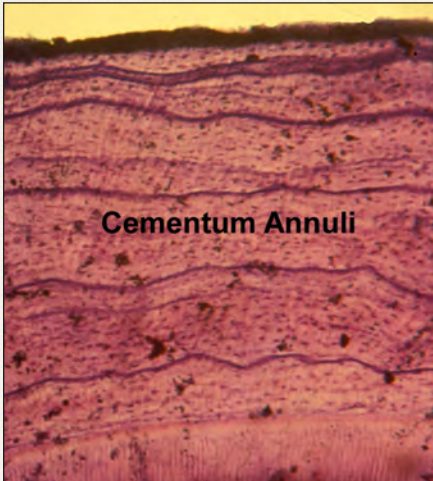
Mule Deer
Working Group

Fact Sheet

USING TEETH TO AGE MULE DEER Fact Sheet #35

Overview

Deer teeth can provide estimates of age in 2 ways. First, changes in tooth replacement and wear of lower jaw teeth are well-correlated with the age of the deer. Second, like many other animals, deer acquire annual rings in the cementum (*cementum annuli*) of their teeth that can be stained and counted under a microscope like tree rings. Aging by cementum annuli is a service available to hunters and biologists through commercial labs. Research shows that counting the cementum annuli is more accurate than tooth eruption and wear (called field aging) for deer more than 3½ years old, but field aging is more accurate for animals that are 3½ years of age or younger. The original work describing aging deer by tooth wear and replacement categorized deer into single-year age classes. More recent research shows that this method is not accurate enough to determine exact years in mature deer so it makes more sense to combine older age classes, which still allows us to look at the age structure of a population for management purposes. Here we combine age classes into 6 categories: fawn, yearling (1½), 2½, 3-5, 6-8, and 8+ years. This guide offers a simple way to age both white-tailed deer and mule deer into these categories.

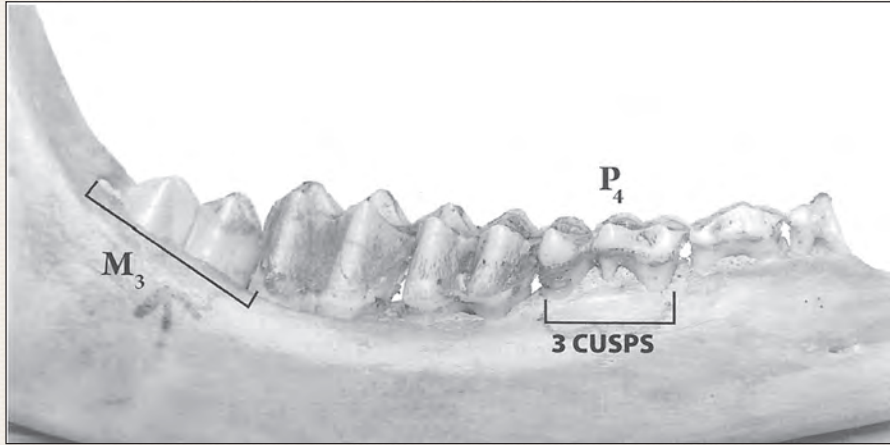


Deer Teeth

Deer have 6 lower incisors which are pressed against a hard upper palate (there are no upper incisors) to bite off plant parts. The lower canines are next to these 6 teeth and look exactly like outer incisors. Upper canines are absent except in rare cases. Deer have 3 Premolars (P2, P3, P4) and 3 Molars (M1, M2, M3) on each side, top and bottom. There is no P1. All 8 lower incisor-like teeth and the premolars are replaced with adult teeth before the age of 2.5 years, but once the 3 molars erupt they are never replaced. The pattern of tooth replacement allows for very accurate aging through the 2½ year-old age class, but after all adult teeth are in, tooth wear on various teeth is used to estimate age.

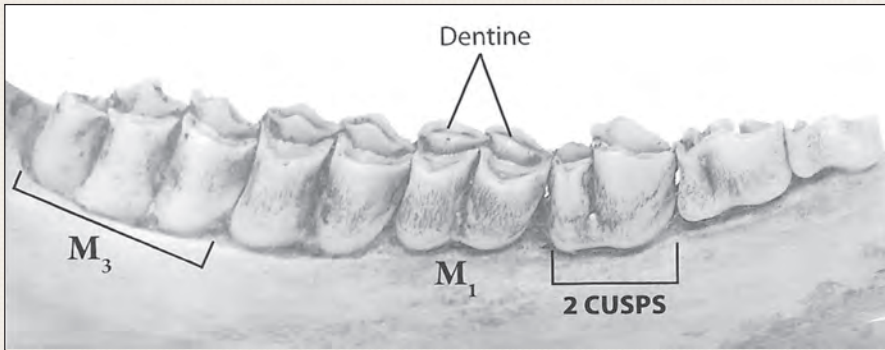
Age Categories

1½ YEARS OLD



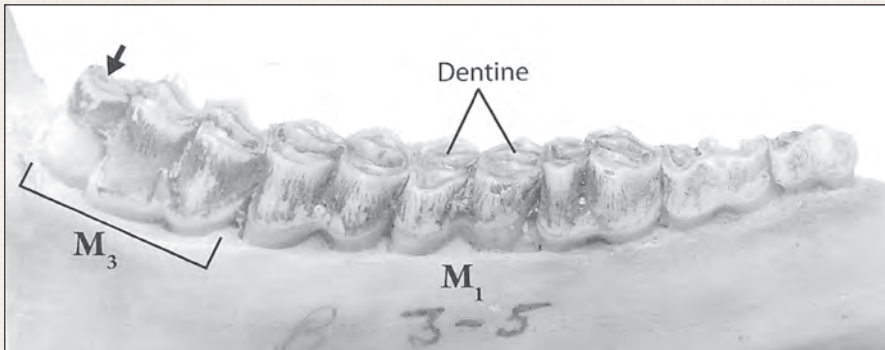
- 3rd tooth (P4) has 3 parts (cusps) and is well-worn.
- Last tooth (M3) not fully erupted out of the gums.

2½ YEARS OLD



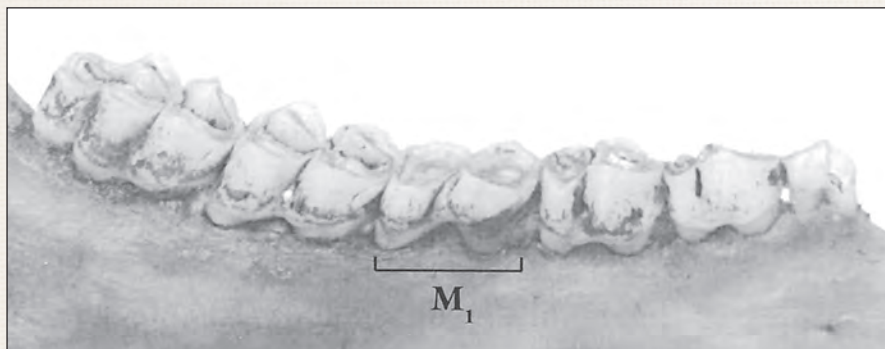
- 3rd tooth (P4) has 2 cusps and less staining than molars.
- Last tooth (M3) fully erupted and has little or no wear on back cusp.
- 4th tooth (M1) not worn. Dentine (brown) narrower than enamel (white) on both sides of the dentine.

3-5 YEARS OLD



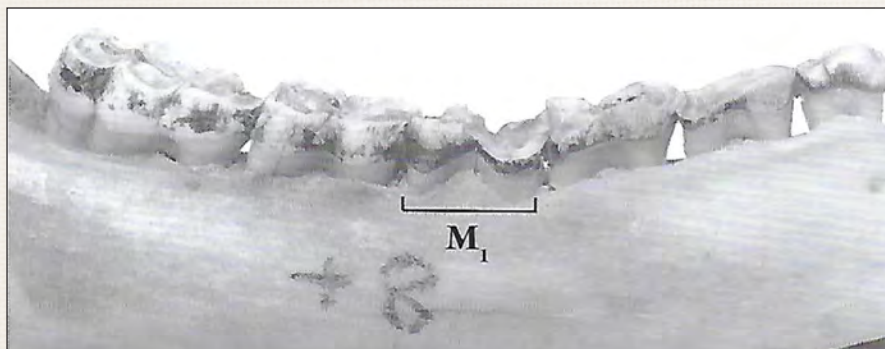
- Back cusp on last tooth (M3) shows obvious wear to the brown dentine (arrow). Usually a brown U-shaped line of dentine is present from enamel being worn away.
- Dentine (brown) wider than enamel (white) on 4th tooth (M1) but taller, tongue-side crests still prominent.

6-8 YEARS OLD



- 4th tooth (M1) worn completely smooth and flat on chewing surface with no evidence of the natural slots that are present in younger deer.
- No prominent tongue-side crests.

8+ YEARS OLD



- 4th tooth (M1) worn to the gumline or below. Some teeth may be missing.

More information on mule deer can be found at www.muledeerworkinggroup.com

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