Canine Olfaction and Scent Chemistry

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Canine Olfaction and Scent Chemistry
Tracking and Shed Hunting

By Jo Karr and Brittany Smith
Canine Olfaction

- 220 million olfactory sensory neurons - 5x greater than humans
- Respirates 3x more than humans
- Dogs have 1 neuron from the olfactory nerves to the brain
- Sniff rate between 3-7Hz
- Overall 120x better than humans
- Dogs in working situations look for Volatile Organic Compounds (VOC’s)
- The human body has over 400 VOC’s coming off
The Tracking Dog

- Dogs detect more than just skin cells
- 85% of the scent band is from genetics of person
- Diaminobutane is given off by plants
- How scent moves outside
  - Clings to vegetation
  - Moves downhill
  - Moves with the wind
  - Clings to moisture and cool
Training Jasper

Don’t Lead the Dog, let the Dog Lead You
Shed Hunting

- Antlers - extension of the animal's skull
  - Shed and re-grown each year
- In the US, sheds cost around $10 per pound
- Labradors and the other retrieving breeds are naturally good at finding sheds because of their innate desire to please and their instincts for finding things on the ground by sight as well as scent
What is the dog smelling?

- The velvet skin of the antler (where it falls off the head) contains the highest concentrations of oil-producing glands
- Deer antler velvet from tip to base is composed of:
  - 53% proteins
  - 34% minerals
  - 3% lipids
  - 10% water
- The dog is keening in on the VOC’s that are produced by the proteins, minerals, vitamins and water
Training Aspen
Future Goals:

- Jasper
- Aspen
  - Training always continues
  - Harder circumstances and situations
  - Real life scenarios
Questions?