

USAR dogs and cold conditions

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**European
Civil Protection**

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Contents



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- Coldness
 - physiology
 - searching circumstances
- Maintenance
 - water / food
 - warm-up
 - clothes
 - rest

Warm-blooded

- Regular body temperature is necessary to maintain body function
 - energy



Acclimatization

- Adapting to climate happens slowly and is reversible



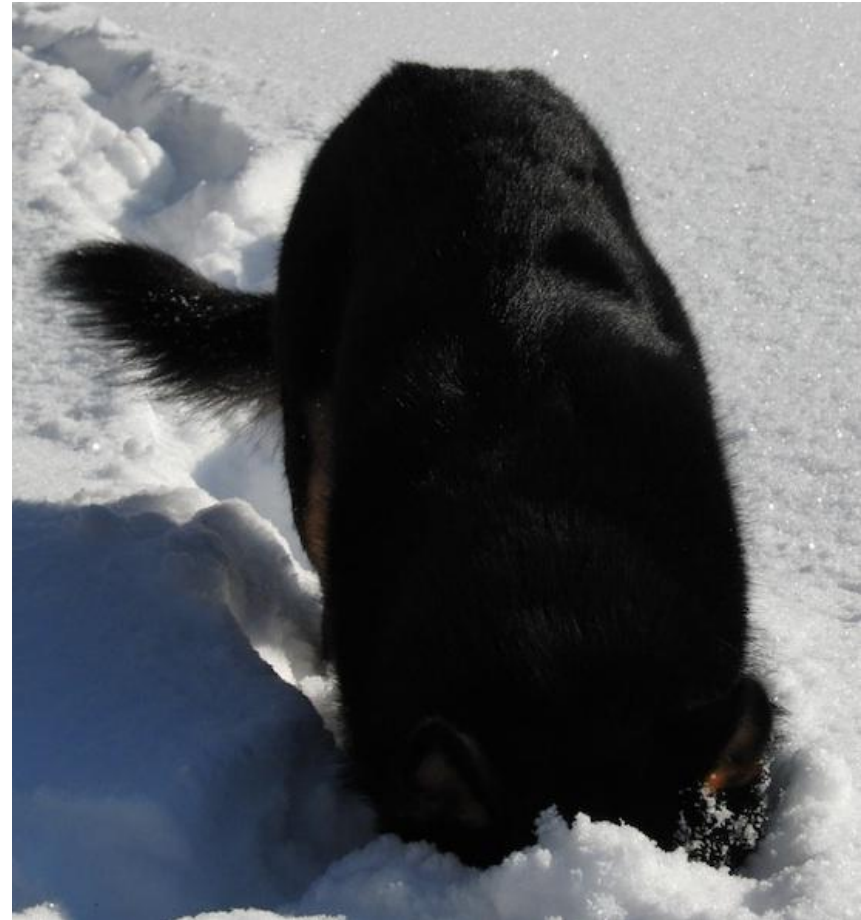
Body heat-economics

- Core: regular temperature
 - abdominal cavity
 - thoracic
 - brain
- Surface: temperature can vary
 - extremities
 - big muscles



Cold conditions

- Wind and humidity intensify the effect of cold
- Moving keeps warm



Cold conditions

- Wet dog freezes easily
 - hypothermia
- Falling sick takes more energy to recover



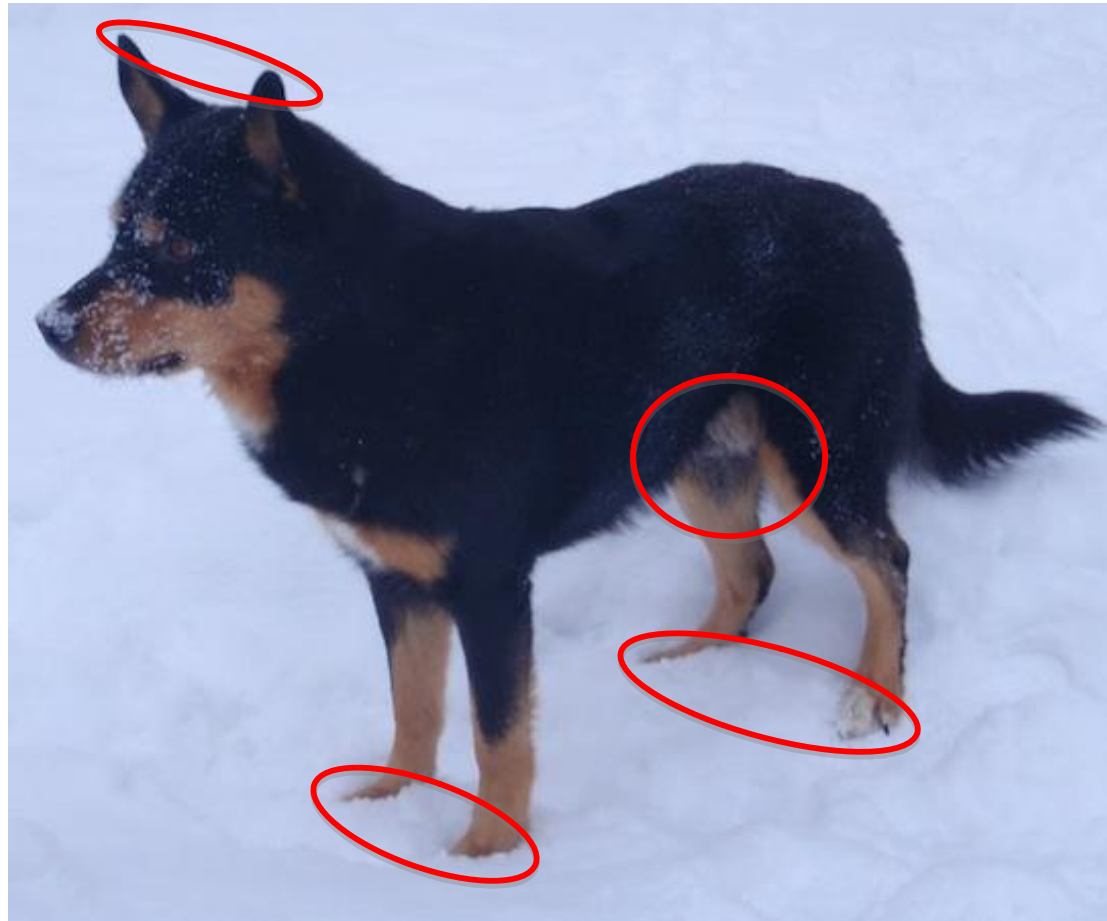
Cold tolerance

- Body size
- Body shape
- Fat layer
- Fur
- Fitness
- Age
- Gender
- Medication
- etc...



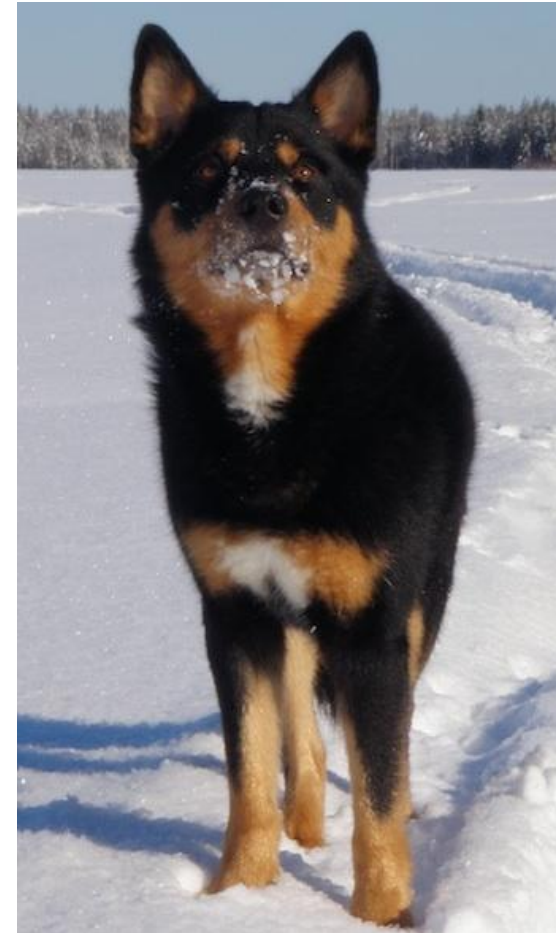
Frostbites

- ears
- paws
- groin
- mamma
- foreskin
- testicles



Challenges

- Cold air is dry
 - impacts respiratory system
 - can decrease optimum function of nose
- Scent behavior can differ



Environment

- Slippery base may lead to musculoskeletal injuries
 - skeletal muscle
 - tendon
 - ligament
 - joint



Snow

- Snow in paws or body harms working
 - short-haired paws more susceptible to frostbites
 - very hairy may collect



Canine features

- Differences between
 - dog breeds
 - individuals



Fur

- Undercoat
 - thick
 - soft
 - downy
- Guard hair
 - stiffer
 - often longer
- Outside / indoors



Water

- Enough unfrozen water available
 - cold increases water consumption
 - thermos flask?



Food

- Cold conditions raise energy consumption



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Maintenance



- warm-up before and after searching
- no full speed searching

Clothes?

- winter coat
 - extra layer
- thin wool blanket
 - helps to dry
- Back on Track
 - recovery
 - maintenance



Resting place

- Warm and dry
 - warm tent
 - insulated bed / cage
 - sleeping bag



Danger!

- Antifreeze poisoning from ethylene glycol
 - dogs find antifreeze quite tasty
 - kidney failure, often fatal



Coldness advantages?

- Less ticks, mosquitoes, snakes, etc



Thank you for your attention 😊

