

WildCAM Camera Trap Identification Guide for BC Mammal Species

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In this guide, we highlight some of the characteristics that can be used to classify mammal (and some bird) species when tagging images. We focus on pairs of species frequently detected on camera traps in British Columbia that might be difficult to tell apart. Photos come from various [WildCo Lab](#) projects. Depending on the species in question, you may find it helpful to search online for additional examples of photos from various angles, different sexes, or age categories.

It is also important to become familiar with the location of the project you are working on and species ranges. For example, if you are having trouble distinguishing between two species, find out if both occur in the study area. Note that in some cases, range maps are not always 100% accurate or up to date.



We focus on species identifications, with information regarding sex and age class included in some but not all cases. We encourage feedback and if you would like to contribute images or tips for classifying species, age, or sex, we invite you to contact us at wildco.lab@gmail.com or info@wildcams.ca.

Black vs. Grizzly Bears

Coat colour and size are not reliable traits to use in identification of bear species. Both black bears and grizzlies have large variation in coat colour and overlap in both colour and size.

Sex: Adult with cub(s) = female, otherwise it is best to classify as unknown sex.

Age: Small body size with an adult female = juvenile, otherwise you can classify as Adult.

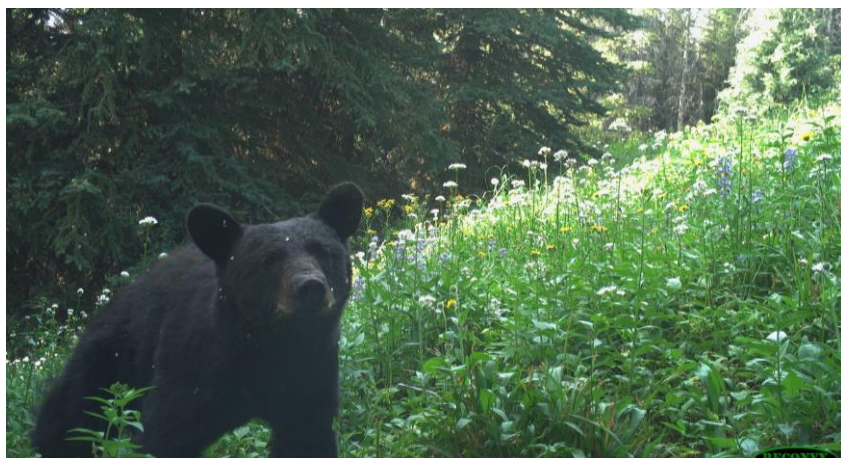
Black bear (<i>Ursus americanus</i>)	Grizzly bear (<i>Ursus arctos</i>)
<ul style="list-style-type: none"> • Tall, prominent ears • Straight face profile • No shoulder hump, rump higher than shoulders • Short, curved claws <p>Distribution: Throughout all of BC</p>  <p>Cinnamon coloured black bear</p>	<ul style="list-style-type: none"> • Small, round ears • Dished/concave face profile • Shoulder hump, shoulders higher than rump • Long claws <p>Distribution: Extirpated from the lower mainland and a portion of the southern interior of BC</p>  <p>Note shoulder hump</p>



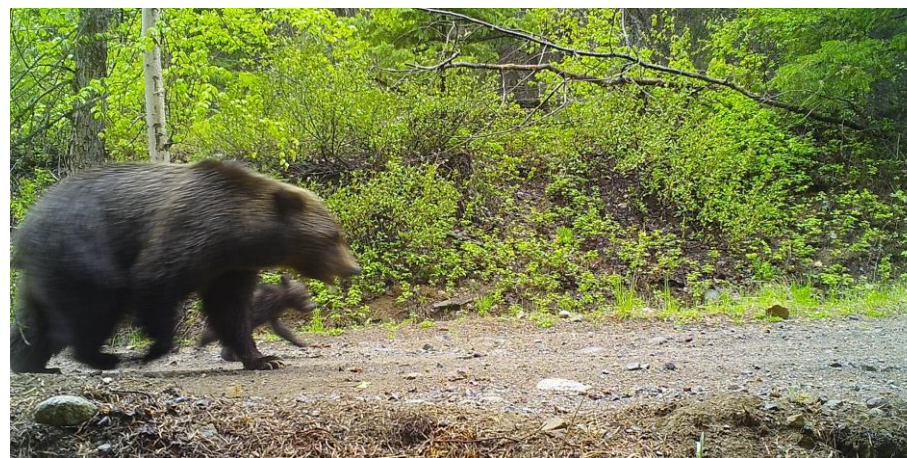
Note straight face profile, high rump, and small claws



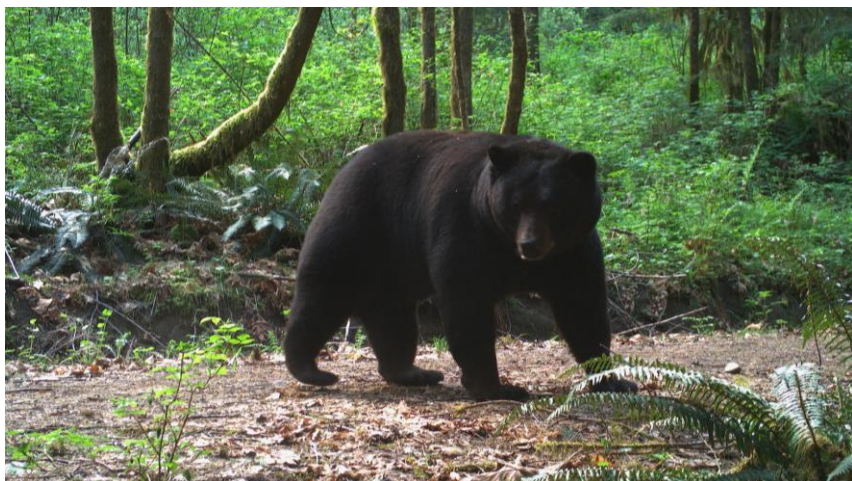
Note the claws, hump, face shape, and small furry ears



Prominent black bear ears (young bear)



Mother bear with cub



Note absence of shoulder hump



Note face shape



Black and cinnamon morph





Light brown/golden colouration

Coyotes vs. Wolves

Sex: Adult with pup(s) = female, otherwise it is best to classify as unknown sex.

Age: Small body size and puppy-like proportions traveling with an adult female = juvenile, otherwise classify as Adult

Coyote (<i>Canis latrans</i>)	Grey wolf (<i>Canis lupus</i>)
<ul style="list-style-type: none"> • Smaller (~½ size of wolf) body size and slighter build, especially in legs • Ears are large compared to face and pointed • Snout is narrow and pointed • Colouration is gray/tan • Often travels alone, but might also travel in family groups • Tail may be nearly as long as body 	<ul style="list-style-type: none"> • Large and solidly built • Ears smaller compared to head and more rounded • Snout is more broad, similar to that of a domestic dog • Colouration ranging from gray to tan/brown to black • Often travel in packs
 <p>Note pointed snout, pointed ears, and thin legs</p>	 <p>Note thick legs and small ears</p>



Small stature and thin legs



Note profile view and face and ear shape



Large ears



Young wolf



Small ears compared to head (has prey in mouth)

Lynx vs. Bobcat

Sex: Usually too difficult to tell apart. Unless the photo is an adult with kittens (which is rare), you can assume it is a female

Age: Also difficult to tell, best to list as Adult (unless the body size is small and accompanied with an adult female, in which case you can list as Juvenile but this is rare)

Canada lynx (*Lynx canadensis*)

- Back legs longer than front, causes rump to be higher than shoulders
- Massive paws
- Less prominent spotting
- Long ear tufts
- Tail shorter with black tip



Slanted back, long back legs

Bobcat (*Lynx rufus*)

- Back and front legs about the same length, rump and shoulders approximately even
- Smaller paws
- More prominent spotting
- Short ear tufts
- Tail longer with black tip on top and white underside

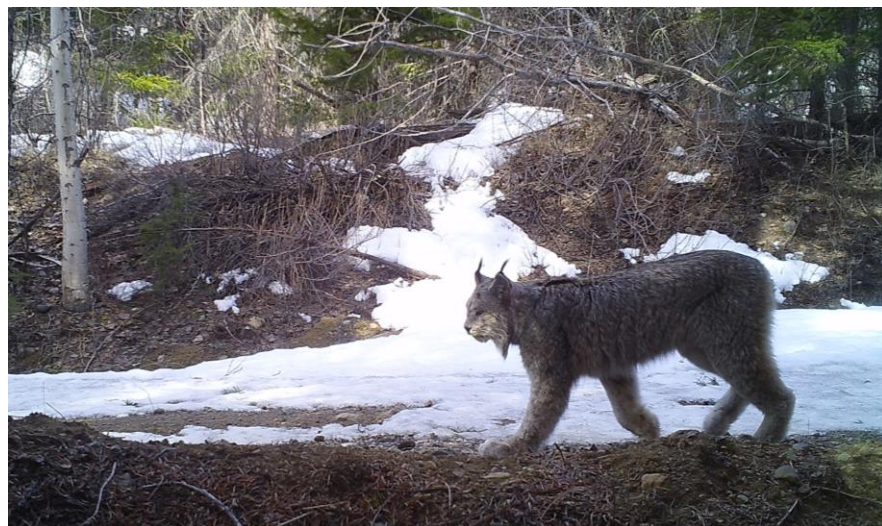




Note ear tufts and subtle spotting



Prominent spotting, longer tail



Ear tufts and big feet



Long tail, strong spotting, lack of noticeable ear tufts, and reddish colouration



Mule deer vs. White-tailed deer

Note: black-tailed deer (*Odocoileus hemionus columbianus*) are a subspecies of mule deer

Sex: Male deer grow antlers during the spring and summer and maintain them through the mating season in the fall, dropping them in the winter. This means that at times in the late winter and early spring neither males nor females will have antlers so we cannot use their absence to determine if an individual is female.

- Antlers present = male
- Antlers absent in April - December = female
- Antlers absent in January - April = unknown
- Antlers absent in January - April, but if has pedicles (this is the base from which the antler grows out of) that are clearly visible = male.

Age: Small body size and white spots = juvenile, otherwise adult

Mule deer (<i>Odocoileus hemionus</i>)	White-tailed deer (<i>Odocoileus hemionus</i>)
<ul style="list-style-type: none"> • Tail is relatively short and white with black tip (can be just tip or top side of tail) • Very large ears with pointed tips • Antlers bifurcating (tine splits into 2 and then those split into 2) 	<ul style="list-style-type: none"> • Tail long with fluffy white underside and brown top • Smaller ears with more rounded tips • Antlers with all points coming off one main tine
 <p data-bbox="407 1409 768 1435">Mule deer: note black tip of tail</p>	 <p data-bbox="1184 1412 1875 1438">Note fluffy white tail with brown top, and juvenile with spots</p>



Black-tailed deer: note black tops of tails and large ears



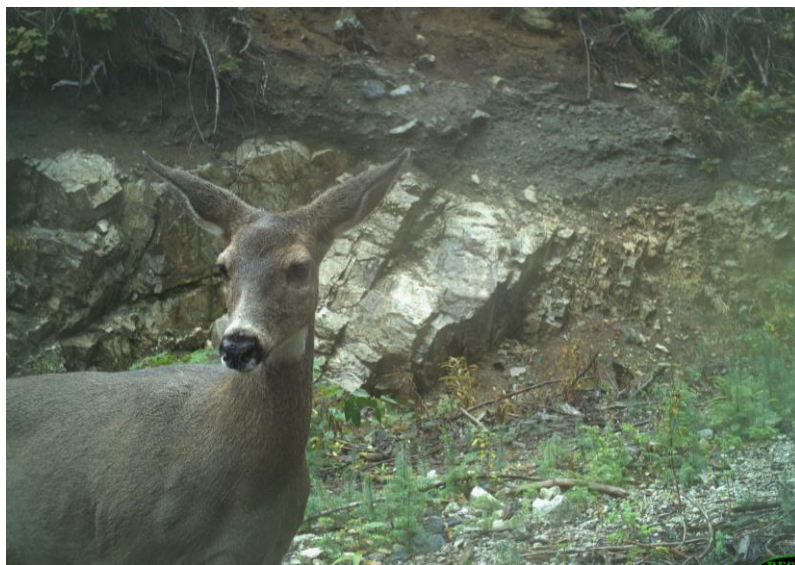
Long tail with brown tops, small ears



Buck with bifurcating antlers



Tail long and top of tail same colour as coat, hard to tell but antlers have one main beam



Note large ears with pointed tip



Tail very long and fluff visible even with tail down



Male black-tailed deer in May with very early stage antler growth



Long tail with fluffy white underside, reddish colouring

Marten vs. Fisher vs. Wolverine

Sex: It is difficult to tell apart the sexes for these species and in the WildCo Lab we classify Sex as Unknown.

Age: This is often difficult to tell as well. We usually assume the individuals seen are adults, but we are very interested to see camera trap photos of juveniles if you have them!

American marten (*Martes americana*)

- Smaller (18-25 inches long)
- Ears pointed and larger in proportion to head
- Reddish colouration with lighter face and chest patch
- Tail is proportionally shorter and thinner, end of tail is blunt and rounded



Note large ears and reddish colour

Fisher (*Martes pennati*)

- Larger body size than marten (20-40 inches long)
- Ears are smaller and more round
- Brown colouration with lighter brown head and neck
- Tail proportionally longer, comes to a point at the end



This is a nice view of the fisher's typical colouration, note small round ears and curved back with raised rump



Red colouring with cream chest patch, short tail with rounded end



Fisher with snowshoe hare, note colouration and very long tail



Ears are prominent





Relatively short tail with blunt end



Wolverine (*Gulo gulo*)

- Larger body size that is also stockier than marten or fisher
- Thick body and short, bushy tail compared to marten and fisher
- Small rounded ears
- Coloration is dark brown with light markings on chest, face, and around sides and rump



Short, bushy tail



Stocky body and light markings on face and around side





Small ears, thick body, and light markings

Moose (*Alces alces*) – Male vs. Female

The characteristics below pertain are for **adult** moose. Young males may have small bells (the fold of skin under the chin) similar to those of females.

From November to April, if you cannot confirm the presence or absence of the traits below, particularly the pedicles, we suggest classifying the individual as Unknown for Sex.

Age: Small body size, short face, no antlers, and with adult female = Juvenile, otherwise we suggest classifying as Adult

Male Moose (Bull)	Female Moose (Cow)
<ul style="list-style-type: none"> • Antlers generally present in various stages of growth from May to November • If antlers are present at any point in the year, this is a male • Pedicles are often visible after antlers have dropped in the fall or winter around November and before they have started regrowing in the spring (usually around May) • Bell is wide, long, and prominent • No white patch on hindquarters 	<ul style="list-style-type: none"> • No antlers • No pedicles • Bell is shorter and narrower • White vulvar/rump patch on hindquarters • Travels with calf or calves
 <p>Clearly visible pedicle</p>	 <p>Absence of antlers in June</p>



Close up of early antler growth in May



Absence of pedicles in March



Further progressed antler growth in May



White vulvar patch on female (front), male behind with visible pedicle



Even further antler growth in June



Small bell, no pedicles



Fully growth antlers with velvet shed in September



Cow with calf, note small bell on cow



Antlers still present even in January



No antlers, bell very small/absent. May be a young individual.

Caribou (*Rangifer tarandus*) – Male vs. Female

Unlike deer and moose, both male and female caribou grow antlers. Depending on the time of year, you may be able to distinguish the sexes by the presence of antlers. [Check out this guide produced by the Alaska Government](#) that discusses traits that can be used to classify the sexes.

If you are trying to tell the sexes apart, it's best to do so based on multiple characteristics, rather than just the presence of antlers. Older females can also grow a long, bull-like mane so this is not a reliable sex identification characteristic. For the most part, the sexes can be reliably distinguished based on their genitals, though this can also be difficult if obscured by fur.

Below we include some example photos. If you have any tips for classifying caribou by sex in camera trap images, please let us know so we can include them here!

Age: Small body size, short face, and no antlers or tiny antlers = Juvenile, otherwise adult

Male Caribou (Bull)

Female Caribou (Cow)



One antler has dropped in October



No penis sheath visible with clear view of lower abdomen



Testicles visible



Dark vulva patch (this individual has very small, early-stage antlers)

Bird species

Grouse Species: Sooty, Dusky, Spruce, Ruffed, and Sharp-tailed

Although mammals are often the focus of most camera trap studies, grouse are important game species and are large enough in body size that they can be reliably detected by cameras. Identifying species from camera trap images can be very difficult, and in many cases it may not be possible to tell apart the sexes. If classifying specific species is not a focus of your study and you are unsure of species identification, you may wish to simply classify as *Grouse spp.*

Sooty and Dusky grouse used to be considered as a single species, Blue grouse. Because of difficulties distinguishing between species, in areas where ranges overlap you may wish to classify as “Blue grouse” for females and non-displaying males.

Below we include some example photos. If you have any tips for telling these birds apart or photos you’d like to share that are helpful for identification, let us know (info@wildcams.ca) and we can include it in this guide. For more information about grouse, [check out Cornell University Bird Lab’s guide](#).

Sooty grouse (<i>Dendragapus fuliginosus</i>)	Dusky grouse (<i>Dendragapus obscurus</i>)
Male <ul style="list-style-type: none"> Dark gray coloration Tail tipped with broad band of light grey Yellow air sacs and yellow/orange comb (eyebrow skin patch) Female <ul style="list-style-type: none"> Difficult to tell apart from Dusky grouse where ranges overlap! Dark and mottled overall Lack of strong barring, though there may be some white speckles on the wings and flanks Range map for Sooty Grouse in BC	Male <ul style="list-style-type: none"> Brown coloration, colour is lighter than Sooty Tail tipped with very narrow band of light grey red/purple air sacs and yellow/orange Female <ul style="list-style-type: none"> Difficult to tell apart from Sooty where ranges overlap! Dark and mottled overall Does not have a strong barring, though there may be some white speckles on the wings and flanks Range of Dusky Grouse in BC



Displaying male with yellow air sacs and comb



Displaying male, note red air sacs and yellow comb



Blue grouse



Displaying male, note more prominent comb and slightly lighter grey tail band



Female Blue grouse



Blue grouse

Ruffed grouse (*Bonasa umbellus*)

- Mottled red or brown overall
- Tail with broad dark band near end and tipped with white
- No air sacs or comb
- Black ruff around neck and crest on head
 - Crest not always visible
- Bold barring on flanks
- Longer tail, same color as body, but with dark tip

Sex: Difficult to tell apart unless you get a good look at the tail (see below)

[Broad range map for Ruffed Grouse in North America](#)

Spruce grouse (*Falcipennis canadensis*)

Male

- Brown/gray overall with black chest patch prominent white patterning on sides of chest
- Tail black with white spots
- No air sacs and red comb

Female

- Barring on flanks, but finer than Ruffed
 - Short, dark tail, sometimes with orange tip
- [Range map for Spruce Grouse in BC](#)



Note crest



Female, light brown overall colouring



Nice bold barring on the flanks and longer tail



Male, black neck and chest patch with adjacent white patterning



Displaying male, note black band on tail and black neck ruff



Male with red combs and black tail with white spots



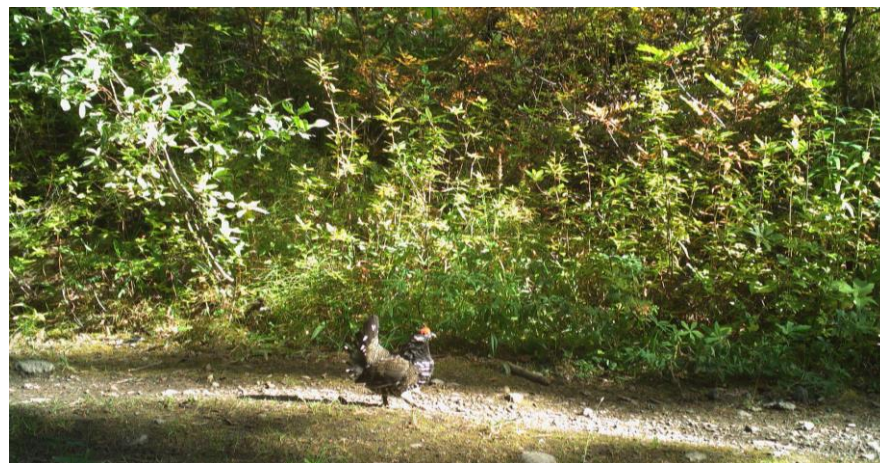
Long lighter tail with dark tip and bold streaks on the flanks



Male with white patterning on chest and tail



Displaying male



Bold flank streaking and long, light tail with dark tip