

FIRST DESCRIPTION OF HYBRID BLUE × SAGE GROUSE¹

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Among grouse, intrageneric hybrids are not uncommon especially in *Tetrao* and *Lagopus* (Gray 1958, Johnsgard 1983). In *Dendragapus* (here we follow AOU [1983] in placing *Canachites* in *Dendragapus*), intrageneric hybrids seem to be less frequently recorded than are intergeneric crosses with *Bonasa* (Ouellet 1974, Tufts 1975), *Lagopus* (Lumsden 1969), and *Tympanuchus* (Brooks 1907). The only monotypic grouse genus (sensu Morony et al. 1975 and Johnsgard 1983) is *Centrocercus* and while several hybrids of it and *Tympanuchus* are described (Johnsgard 1983), hybrids with other genera remain undescribed. We report here an instance in which grouse with quite different courtship behaviors have hybridized.

In his summary discussion of grouse hybridization and assessment of ecological and behavioral conditions producing hybridization, Johnsgard (1983:45) stated he received a report of some hybrid Sage (*Centrocercus urophasianus*) × Blue grouse (*Dendragapus obscurus*) from Utah but that "... this hybrid is still undescribed in the literature." Plumage features and measurements of the two hybrid birds mentioned by Johnsgard (one male immature and one female immature based on gonad examination) with comments are given below. We follow Ridgway and Friedmann (1941) in their diagnosis of immature plumaged grouse and comparisons with the adult of the respective species.

MALE HYBRID

Overall pattern of black color on venter and throat is similar to male Sage Grouse. Ridgway and Friedmann (1941) indicate that immature sexes are alike but our male hybrid specimen has a large black area in the lower throat/upper breast like the adult male Sage Grouse but unlike the female hybrid (below). Ventrally the neck lacks white-based cervical features of Blue Grouse and has a white "necklace" above the black breast like a male Sage Grouse. Dorsally, the overall color and pattern is more like a Sage Grouse in its vermiculations although the back of the neck and head

is more solid gray-brown like a Blue Grouse. The bill is intermediate in shape and configuration; the base of the culmen is covered with feathers behind the leading edge of the nostril as in Blue Grouse, not bare as in Sage Grouse. Under-tail coverts are black with a white tip as in Sage Grouse. The tail is shaped and colored like a Blue Grouse with a pale gray tip but is graduated, with feathers longer and more narrow than Blue Grouse. The specimen is mounted with the tail spread so measurements are only approximate but the outer rectrix is about 60 mm shorter than the central rectrix. There are 22 rectrices rather than 18 to 20 normally found in Sage and Blue grouse.

Measurements. Since a large enough sample of Utah-taken Sage and Blue grouse were not available for measurements we compared the hybrid measurements to those given by Ridgway and Friedmann (1941) recognizing that those authors did not separate adult and immature measurements. Measurements are: wing chord—hybrid = 262 mm, Sage Grouse = 303 mm mean (range = 286–323 mm), Blue Grouse = 232 mm (range = 221–243 mm); central rectrix from insertion—hybrid = 188 mm, Sage = 315 mm (range = 297–332 mm), Blue = 168 mm (range = 148–192 mm); central rectrix 12 mm from tip—hybrid = 19 mm wide, Sage = 5 mm, Blue = 32 mm; outer rectrix 12 mm from tip—hybrid = 16 mm wide, Sage = 10 mm, Blue = 24 mm; exposed culmen—hybrid = 19.1 mm, Sage = 40 mm (range = 38–41 mm), Blue = 21 mm (range = 18–23 mm). The specimen is at the Utah Division of Wildlife Resources, Regional Office, Ogden, Utah.

FEMALE HYBRID

Venter is similar to hybrid male but is like female Sage Grouse in that it lacks a large black spot on upper breast/lower throat of male (Fig. 1). Dorsally it is more like female Sage Grouse than Blue Grouse in appearance but is also similar to Sharp-tailed Grouse (*Tympanuchus phasianellus*) in color and markings. Bill is like hybrid male. Under-tail coverts have 15-mm white tip and are barred with black and tan. Tail (20 rectrices) square tipped with pale gray and graduated with outer rectrix about 34 mm shorter than central pair. Measurements are: wing chord—hybrid = 239 mm, Sage = 260 mm (range = 251–273 mm), Blue = 212 mm (range = 197–229 mm); tail from insertion—hybrid = 160 mm, Sage = 198 mm (range = 188–213 mm), Blue = 142 mm (range = 123–153 mm); outer rectrix 12 mm from tip—hybrid = 19 mm wide, Sage = 10 mm, Blue

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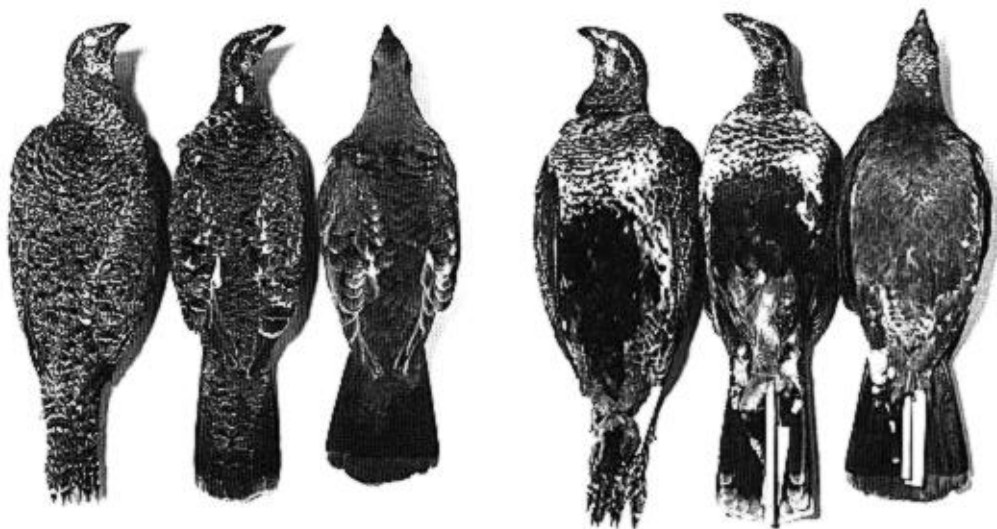


FIGURE 1. Dorsal (left) and ventral (right) views of a Sage Grouse, female hybrid Sage \times Blue grouse, and Blue Grouse. In each view the hybrid is the center bird. Note length, shape, and graduated nature of rectrices and nature of back color and markings.

= 20; exposed culmen—hybrid = 15.2 mm, Sage = 35 mm (range = 33–37.5 mm), Blue = 18.9 mm (range = 16–23.5 mm). The specimen was given catalogue number 22,481, Utah Museum of Natural History, University of Utah, Salt Lake City, Utah.

The two birds were believed to be from the same brood as they were together when taken 23 October 1976 on Red Cedar Canyon ridge, Lost Creek drainage, about 12 miles NNE of Henefer, Morgan County, Utah. They were in Sage Grouse habitat, but Blue Grouse frequently also occur on sagebrush (*Artemisia* sp.) covered ridges. When a Sage Grouse lek in nearby Pine Canyon area was checked by personnel of the Division of Wildlife Resources in the spring of 1977, another bird of a similar description to the two above was seen. Because of the complex nature of the habitat there, three species of grouse breed in adjoining ranges, Sage Grouse on the sage covered ridges and meadows, Blue Grouse in the adjacent conifer and mountain brush habitat, and Ruffed Grouse (*Bonasa umbellus*) in the aspen (*Populus tremuloides*), maple (*Acer* sp.), and streamside areas at the edges of mountain brush or mixed with it.

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