

Papers in the Biological Sciences
Grouse and Quails of North America, by Paul
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Keys to Identification

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Keys to Identification

*T*HE three following keys can be used to identify unfamiliar species of North American grouse or quails that may be examined in the hand. Unless one is certain that the bird represents either a grouse or a quail, he should begin with the first key. The procedure, as in the use of all such keys, is to choose which of the two initial alternative descriptive couplets (A and AA) best fits the unknown bird. Having chosen one of these, proceed to the choice of couplets (B and BB) occurring immediately below the couplet chosen, without further regard for descriptions listed below the rejected alternative. After making a varying number of such choices in the first key, the reader will have identified his bird as to its major taxonomic group (family, subfamily, or tribe). If it belongs to either of the subfamilies of grouse or quails, the following two keys may be used to identify the specimen as to its species. These two keys operate in the same fashion as does the first, by the reader starting again with the choice of couplets A and AA and proceeding until the bird has been identified as to species. Measurements, where they are given, refer to adult birds, but in general the keys have been devised in a manner that will allow for identification regardless of the specimen's sex or, within limits, its age.

Key 1: The Major Groups of North American Galliformes

- A. Hallux not elevated and more than half the length of lateral toes . . . family Cracidae
- AA. Hallux elevated and less than half the length of lateral toes . . . family Phasianidae
 - B. Head and upper neck naked, larger birds (folded wing over 300 mm, weight over 3,000 grams) . . . subfamily Meleagrinae (two species, excluded from present work)
 - BB. Head and upper neck feathered, smaller birds (folded wing under 300 mm, weight under 3,000 grams)
 - C. Tarsus largely or entirely feathered, nostrils feathered, toes feathered and/or with comb-like (pectinate) margins . . . subfamily Tetraonidae, see key 2 for species identification
 - CC. Tarsus and nostrils unfeathered, toes never feathered or pectinate
 - D. Cutting edge of lower mandible usually with one or more slight indentations, tarsus never with sharp spur, 10–14 rectrices . . . subfamily Odontophorinae, see key 3 for species identification
 - DD. Cutting edge of lower mandible not indented, with or without spur on tarsus, 14 or more rectrices in introduced species
 - E. Larger, tarsus usually spurred, rectrices (12–32) longer than folded wing in most species . . . tribe Phasianini (one introduced species *Phasianus colchicus* with 18 rectrices)
 - EE. Smaller, tarsus little if at all spurred, rectrices (8–22) shorter than folded wing . . . tribe Perdicini (two introduced species, *Alectoris chukar* with 14 rectrices and *Perdix perdix* with 16–18 rectrices).

Key 2: Adults of North American Grouse Species (Tetraoninae)

- A. Rectrices (tail feathers) all sharply pointed, larger birds (folded wing over 250 mm, weight of adults usually over 1,000 grams) . . . *Centrocercus urophasianus* (sage grouse)
- AA. Rectrices not sharply pointed, usually with squarish tips, smaller birds (folded wing under 250 mm, weight usually under 1,200 grams)
 - B. Lower half of tarsus unfeathered, sides of neck with broad, ornamental "ruff" feathers . . . *Bonasa umbellus* (ruffed grouse)
 - BB. Lower half of tarsus feathered to base of toes or beyond, neck feathers not as described above
 - C. Outermost rectrices under 4/5 length of central ones, outer webs of primaries regularly patterned with white or buff spots . . . genus *Tympanuchus*
 - D. Central pair of rectrices considerably longer and different in color from others . . . *T. phasianellus* (sharp-tailed grouse)
 - DD. Central pair of rectrices not markedly different from others, neck with tapered, erectile pinnae . . . *T. cupido* (pinnated grouse)
 - CC. Outermost rectrices over 4/5 length of central ones, outer webs of primaries irregularly mottled or uniformly colored
 - D. Upper tail coverts not extending to tip of tail . . . genus *Dendragapus*
 - E. Rectrices 16 (rarely 18), underparts heavily barred . . . *D. canadensis* (spruce grouse)
 - EE. Rectrices 18–20 (rarely 16), underparts mostly grayish . . . *D. obscurus* (blue grouse)
 - DD. Upper tail coverts extending to tip of tail, normally with 16 rectrices . . . genus *Lagopus*
 - E. Lateral rectrices white . . . *L. leucurus* (white-tailed ptarmigan)
 - EE. Lateral rectrices dark brown or black
 - F. Bill black and heavier (usually over 9.5 mm high at base), folded wing over 195 mm . . . *L. lagopus* (willow ptarmigan)
 - FF. Bill slighter (usually under 8.5 mm high) and grayish at base, folded wing under 195 mm . . . *L. mutus* (rock ptarmigan).

In part after Ridgway and Friedmann, 1946.

Key 3: Adults of North American Quail Species (Odontophorinae)

- A. Tail long (over 105 mm), considerable bare red skin present behind eye . . . genus *Dendrortyx*
 - B. Chin and throat gray, tail under 120 mm . . . *D. barbatus* (bearded tree quail)
 - BB. Chin and throat not gray, tail over 120 mm
 - C. Chin and throat white . . . *D. leucophrys* (buffy-crowned tree quail)
 - CC. Chin and throat black . . . *D. macroura* (long-tailed tree quail)
- AA. Tail under 95 mm, little or no bare skin evident behind eye
 - B. Tail less than half the length of the folded wing, a bushy crest of soft, broad feathers usually present at nape, tips of extended feet reach beyond tail
 - C. Claws elongated, tips of lateral claws extend beyond base of middle claw
 - D. Tail feathers soft, narrowing toward tips, crest located at nape . . . genus *Cyrtonyx* (two closely related species, see p. 462)
 - DD. Tail feathers firm, broad, and with rounded tips, crest located at top of head . . . *Dactylortyx thoracicus* (singing quail)
 - CC. Claws not elongated, tips of lateral claws not reaching base of middle claw
 - D. Tail over 60 mm long, 12 rectrices present . . . genus *Odontophorus* (*O. guttatus*, spotted wood quail, only North American species)
 - DD. Tail under 50 mm long, with 10 rectrices . . . genus *Rhynchortyx* (one extralimital species)
 - BB. Tail longer than half the length of the folded wing, virtually crestless or bearing a distinct crest near front of head, tips of extended feet not reaching the end of tail
 - C. Scapulars and tertials spotted, tail under 70 mm long
 - D. With an erect, barred crest; sides and flanks vertically barred . . . *Philortyx fasciatus* (barred quail)
 - DD. Virtually crestless (except in extralimital species not covered by key), not vertically barred on flanks . . . genus *Colinus*

In part after Ridgway and Friedmann, 1946.

- E. Chin and throat black or mostly black (males only)
 - F. Breast and abdominal feathers with black edges, producing a scalloped appearance . . . *C. nigrogularis* (black-throated bobwhite)
 - FF. Breast and abdominal feathers not as above . . . *C. virginianus* (bobwhite)
- EE. Chin and throat not blackish (males or females)
 - F. Throat white, limited ventrally by a black band . . . *C. virginianus* (bobwhite)
 - FF. Throat buff-colored, little or no black present on neck or head (females)
 - G. Crown and nape feathers edged with gray or grayish white; breast feathers with two terminal white spots . . . *C. nigrogularis* (black-throated bobwhite)
 - GG. Crown and nape feathers edged with pale brown to buffy white; breast feathers lacking terminal white spots . . . *C. virginianus* (bobwhite)
- CC. Scapulars and tertials unspotted, tail over 70 mm long
 - D. Crest of two narrow, black plumes; folded wing over 120 mm . . . *Oreortyx pictus* (mountain quail)
 - DD. Crest not as above, wing under 120 mm . . . genus *Callipepla*
 - E. Crest of brown or black feathers that curve forward and are enlarged toward the tips
 - F. Abdomen feathers edged with darker color in a scalloped pattern, flanks marked with olive brown . . . *C. californica* (California quail)
 - FF. Abdomen feathers extensively blackish, or buffy with mottling or streaking, flanks marked with chestnut . . . *C. gambelii* (Gambel quail)
 - EE. Crest feathers neither recurved nor enlarged toward tips
 - F. Crest bushy and buff-colored, body feathers marked with dark scallops . . . *C. squamata* (scaled quail)
 - FF. Crest pointed and brownish or cinnamon-colored; pale, rounded spots present on sides and abdomen . . . *C. douglasii* (elegant quail)