DISTRIBUTION OF AMERICAN GALLINACEOUS GAME BIRDS

CIRCULAR 34
FISH AND WILDLIFE SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

The data contained in this circular, on the geographical and ecological distribution of each species of American gallinaceous game bird, the formation of each species by geographical races, and the habitat requirements of these species, is presented in this form for use by State game technicians working on Federal aid programs to determine the distribution of the species in each State; by State game managers planning introductions or restocking with preadapted stock; and by hunters and bird watchers to locate the birds by areas and types of cover.

DISTRIBUTION OF AMERICAN GALLINACEOUS GAME BIRDS

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CIRCULAR 34

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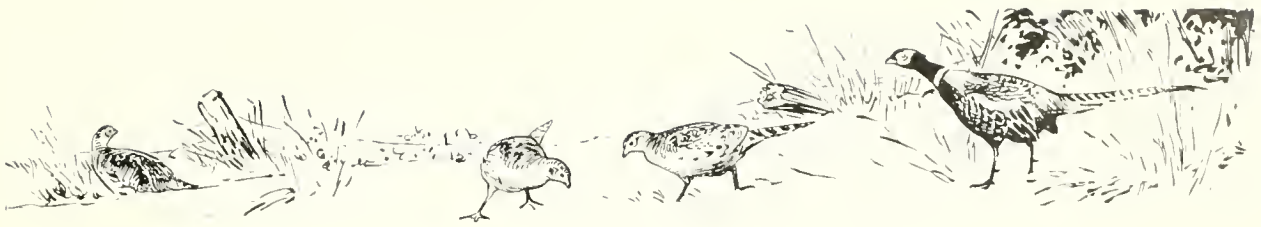


Native gallinaceous or chicken-like birds, the so-called "upland game birds," were originally distributed throughout North America so that one or more species occupied almost every type of natural environment on the continent. A few new types of environment or habitat created more recently by man have also been occupied by additional species brought over from the Old World. There are very few habitat types known for North America that do not support, at least in part, some species of gallinaceous game bird; although there may be certain areas of suitable habitats that these species have failed to reach or where they have been extirpated.

UNOCCUPIED HABITATS

It is simpler to list those habitats in which no species of gallinaceous game bird is found regularly than to list those in which one or more species do occur. Some unoccupied habitats are extremely inhospitable from the standpoint of available water. Others are isolated pockets or islands of a type (like the alpine meadow of California and Oregon) that is occupied by a gallinaceous species in other regions. The following habitats are unoccupied by any species of gallinaceous game bird, at least in certain areas:

1. Grassland belt below oak savannah at west base of the Sierra Nevada in California. (A few California quail occur there in brushy canyons.)
2. Alpine meadows of the Sierra Nevada in California and southern Caseades in Oregon.
3. Pinon-juniper woodland in low southwestern desert ranges (where not in contact with higher mountain forests).
4. Short-grass plains in Arizona.
5. Cold desert scrub (greasewood-shadscale) salt flats in western Nevada (except where rock partridges enter occasionally from higher sagebrush areas).
6. Creosotebush–bur sage in hot dry southwestern desert where not associated with other plant types.

RACES

Just as man produces varieties of poultry, so nature produces varieties of wild species—by selective breeding. Wild varieties are called races or subspecies. Their selective breeding is effected by the impartial hand of their environment. Only the individuals that are adapted to the particular set of environmental factors surrounding them are able to survive and breed more of their kind. Thus a race of an upland game bird species that is successful in maintaining itself in one part of the country under one set of environmental factors may not survive if moved to another region of somewhat different environment, even if another race of the same species has been able to succeed there. This principle has frequently been overlooked in efforts to transplant game birds from one region to another in restocking programs, and many failures of introductions have resulted because of this.

Usually an individual species of upland game bird is restricted in its distribution to the geographical region providing its favored environmental type or habitat, such as deciduous forest, coniferous forest, grassland, or desert scrub. The races of these species may be even more restricted in their distribution by relatively minor climatic differences. These climatic differences are usually indicated by differences in the dominant vegetation. Consequently, geographic races or subspecies, besides appearing slightly different from one another, tend to be limited to definite ecologically defined subdivisions of the species range. This may be noted by comparing the following maps with standard maps of natural vegetation.

In some cases gaps in occupied habitat produced by such physical barriers as large expanses of water or high mountain ranges will separate two subspecies. Whatever the barrier, whether physiographical or ecological, it must be effective in preventing extensive interbreeding between neighboring races. Free interbreeding would tend to mix the racial characters, with eventual obliteration of racial distinction. Such blending often does occur in zones between the ranges of two races, resulting in "intergradation"; individuals of this intergrading population are sometimes so com-

pletely intermediate that they cannot be identified as belonging to either of the component races.

THE PLAN

The distribution of each species of gallinaceous game bird that has an established range either wholly or partly within the United States is shown on a separate map. This shows the all-time range of the species as determined from all records available to us. The distribution of races is indicated by different patterns on the map. For species that presently have much different limits to their distribution than they formerly had, separate maps are included to show present range as compared with that at some time in the past.

A description of the habitat occupied by each species is included to help in understanding the limitations of distribution.

METHODS

The distribution maps are based in large degree upon the authors' studies of geographic variation within each species. These studies consisted in comparing large series of specimens in the National collections in Washington. These series of specimens were supplemented by borrowing critical material from museums throughout the United States and Canada. There is difference of opinion about the distinctness of certain races, but the differentiations herein presented seemed to us to show geographic variations in the most logical way, especially when compared with environmental or ecological differences in ranges. Current methods of indicating geographic variation within species by trinomial "scientific names" are crude at best, but it is the only commonly accepted method. The races separated on the maps are identified by legends giving the third or subspecific terms of the trinomials.

The localities of all specimens identified by us are shown by solid dots on the maps. Open circles denote occurrences reported in the literature and in correspondence. No effort was made to include all occurrence records, but only those that helped to fill gaps in ranges from which we had not personally seen specimens.

Preliminary maps showing the distribution of these species, as far as we were able to work them out, were sent to the game departments of all States and Canadian Provinces, as well as to individuals thought to have special knowledge of distribution in the less well defined areas. These persons were also requested to supply information on habitats occupied. The cooperation received from these sources was good and helped greatly to draw the distribution limits more accurately. This was particularly important with respect to present distribution and local habitats occupied.

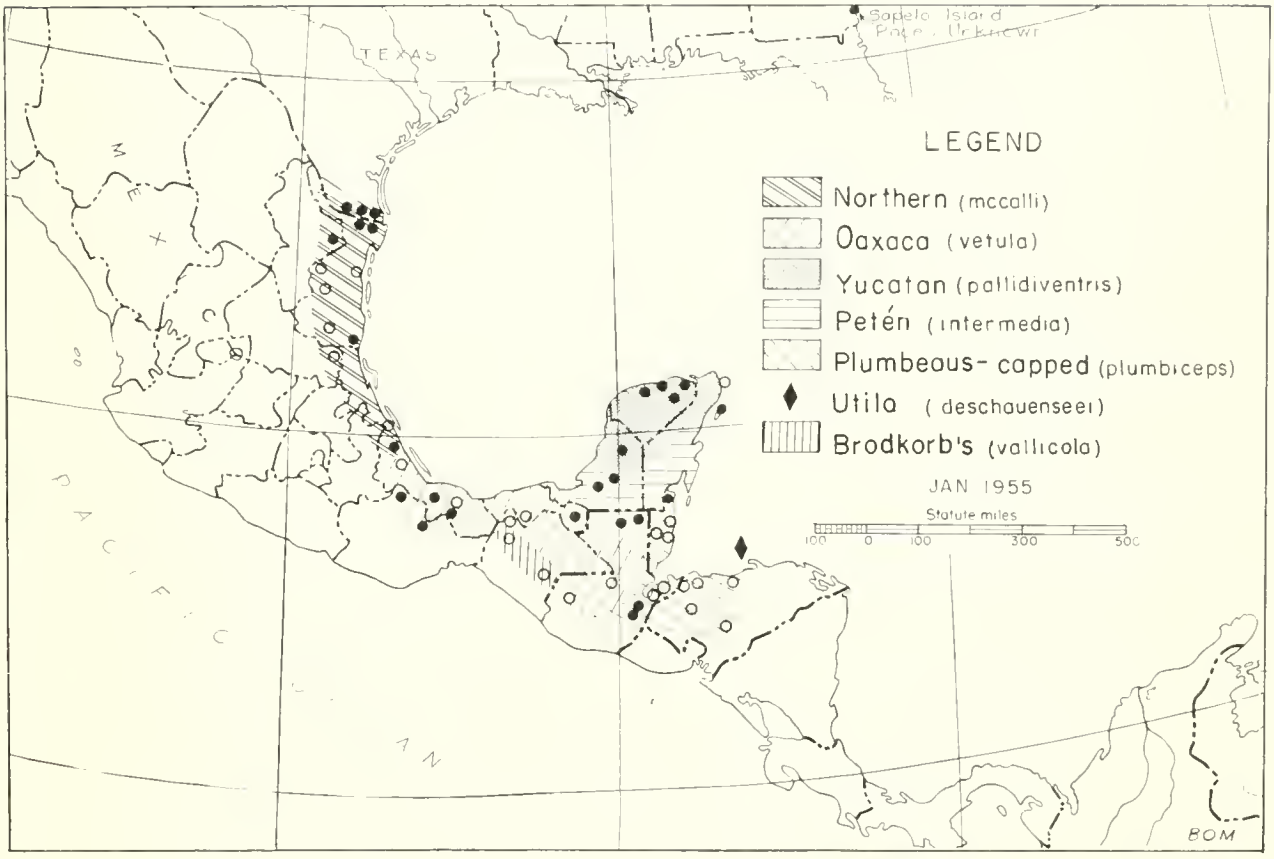
ACKNOWLEDGMENTS

The following supplied valuable advice on preparation of maps and habitat descriptions:

G. A. Ammann, Michigan Department of Conservation; John M. Allen, Indiana Department of Conservation; Lester Bagley, Wyoming Game and Fish Commission; Thomas S. Baskett, Missouri Cooperative Wildlife Research Unit; D. A. Benson, Nova Scotia Department of Lands and Forests; William R. Bergeson, Montana Game and Fish Commission; Pierce Brodkorb, University of Florida; John L. Buckley, Alaska Cooperative Wildlife Research Unit; Ralph G. Carpenter, 2d, New Hampshire Fish and Game Department, Floyd B. Chapman, Ohio Department of Natural Resources; John Chattin, Fish and Wildlife Service; D. M. Christisen, Missouri Conservation Commission; Jim Coats, Kansas Forestry, Fish, and Game Commission; P. M. Cosper, Arizona Game and Fish Commission; H. T. J. Cramer Wisconsin Conservation Department; T. Stuart Critcher, North Carolina Wildlife Resources Commission; Paul D. Dalke, Idaho Cooperative Wildlife Research Unit; Geo. W. Davis, Vermont Fish and Game Commission; L. Irby Davis, Harlingen, Tex.; E. W. Dahlgren, Oklahoma Game and Fish Department; Eugene H. Dustman, Ohio Cooperative Wildlife Research Unit; Arnold B. Erickson, Minnesota Department of Conservation; O. E. Frye, Jr., Florida Game and Fresh Water Fish Commission; Larry R. Gale, Kentucky Department of Fish and Wildlife Resources. D. R. Gascoyne, Fish and Wildlife Service; John C. Gatlin, Fish and Wildlife Service; William E. Ginn, Indiana Department of Conservation; W. Earl Godfrey, National Museum of Canada; Clifton M. Greenhalgh, Utah Fish and Game Commission; Gordon W. Gullion, Nevada Fish and Game Commission; W. J. K. Harkness, Ontario Department of Lands and Forests; T. A. Harper, Saskatchewan Department of Natural Resources; R. D. Harris, Canadian Wildlife Service; J. Hatter, British Columbia Game Commission; Arnold O Haugen, Alabama Cooperative Wildlife Research Unit, C. G. Hixon, Alabama Department of Conservation; T. H. Holder, Arkansas Game and Fish Commission; Carl Hunter, Arkansas Game and Fish Commission; Neil Hotchkiss, Fish and Wildlife Service; Albert E. Hyder, Tennessee Game and Fish Commission; J. H. Jenkins, University of Georgia; William S. Jennings, Texas Game and Fish Commission; Ferd C. Kleinschnitz, Colorado Game and Fish Commission; Roger M. Latham, Pennsylvania Game Commission; J. Burton Lauckhart, Washington Department of Game; Levon Lee, New Mexico Department of Game and Fish; A. Starker Leopold, University of California; Jessop B. Low, Utah Cooperative Wildlife Research Unit, Alexander C. Martin, Fish and Wildlife Service; W. V. Masson, Oregon Game Commission Donald D. McLean, California Department of Fish and Game Howard L. Mendall, Maine Cooperative Wildlife Research Unit; Wilford L. Miller, North Dakota Game and Fish Department; Paul Moore, Ohio Department of Natural Resources; Henry S. Mosby, Virginia Cooperative Wildlife Research Unit; Russell E. Mumford, Indiana Department of Conservation; David Munro, Canadian Wildlife Service; Arnold Nelson, Fish and Wildlife Service; Frank P. Nelson, South Carolina Wildlife Resources Department, Johnson Neff, Fish and Wildlife Service; Alex J. Reeve, Manitoba Department of Mines and Natural Resources; Chandler S. Robbins, Fish and Wildlife Service; W. R. Salt, University of Alberta; Robert L. Salter, Idaho Department of Fish and Game; J. Henry Sather, Nebraska Game, Forestation, and Parks Commission; William G. Sheldon, Massachusetts Cooperative Wildlife Research Unit; Eldon H Smith, South Dakota Department of Game, Fish, and Parks; Ralph H. Smith, New York Conservation Department, L. L. Snyder, Royal Ontario Museum; Lyle K. Sowls, Arizona Cooperative Wildlife Research Unit, E. B. Speaker, Iowa Conservation Commission Paul Springer, Fish and Wildlife Service; A. M. Stebler, Oklahoma Cooperative Wildlife Research Unit; W. E. Stevens, Northwest Territories Northern Administration and Lands Branch; Robert E. Stewart, Fish and Wildlife Service; Harold V. Terrill, Missouri Conservation Commission, Donald R Thompson, Wisconsin Conservation Department, Ernest A. Vaughn, Maryland Department of Game and Inland Fish; Oscar Warbach, Michigan Department of Conservation; Angus M. Woodbury, University of Utah; Lee E. Yeager, Colorado Cooperative Wildlife Research Unit, and R. E. Yeatter, Illinois Natural History Survey Division.

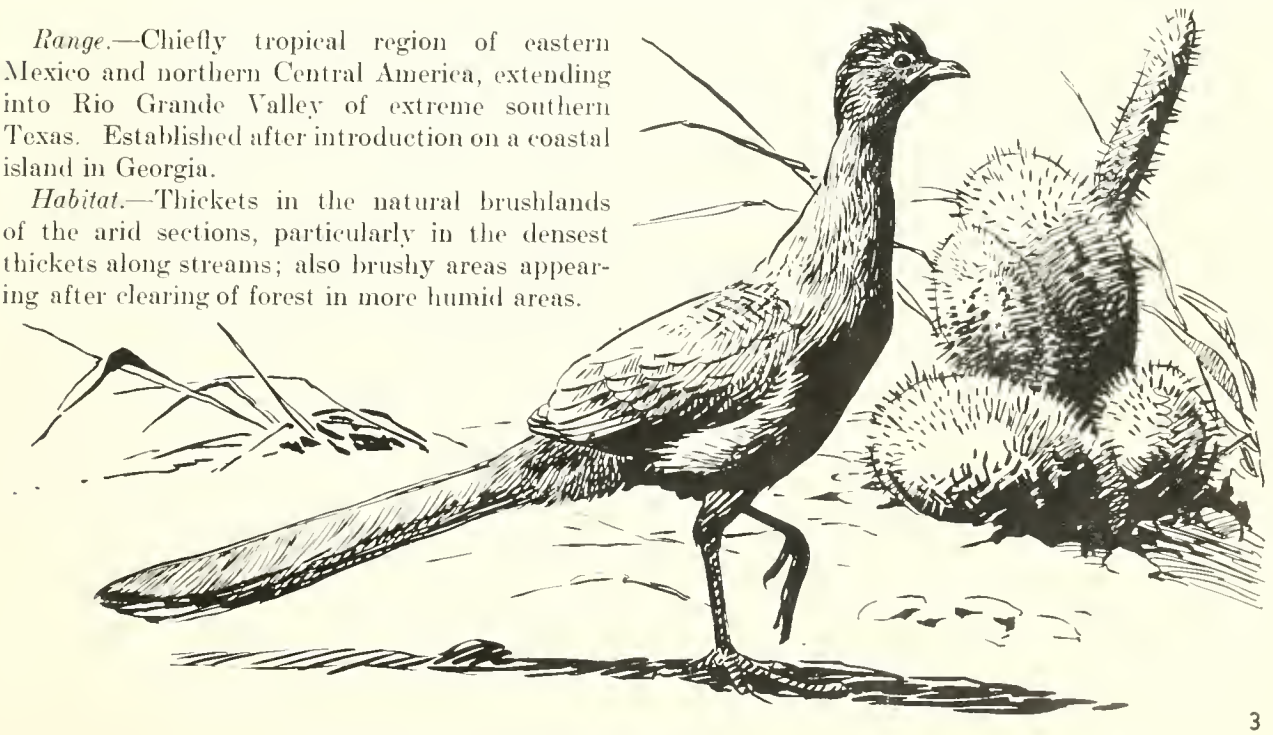
CHACHALACA *Ortalis vetula*

PAST AND PRESENT DISTRIBUTION



Range.—Chiefly tropical region of eastern Mexico and northern Central America, extending into Rio Grande Valley of extreme southern Texas. Established after introduction on a coastal island in Georgia.

Habitat.—Thickets in the natural brushlands of the arid sections, particularly in the densest thickets along streams; also brushy areas appearing after clearing of forest in more humid areas.



BLUE GROUSE *Dendragapus obscurus*

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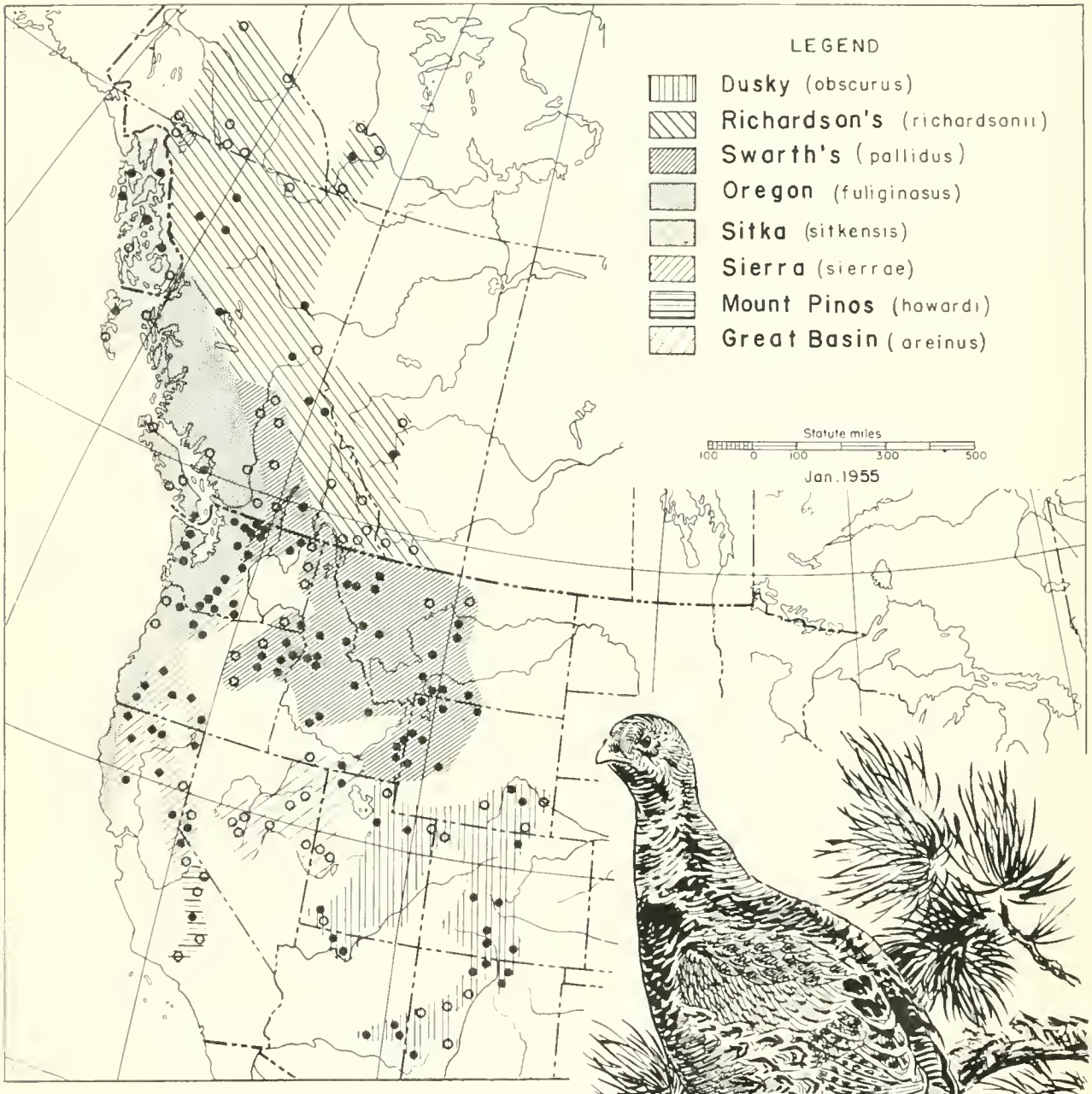
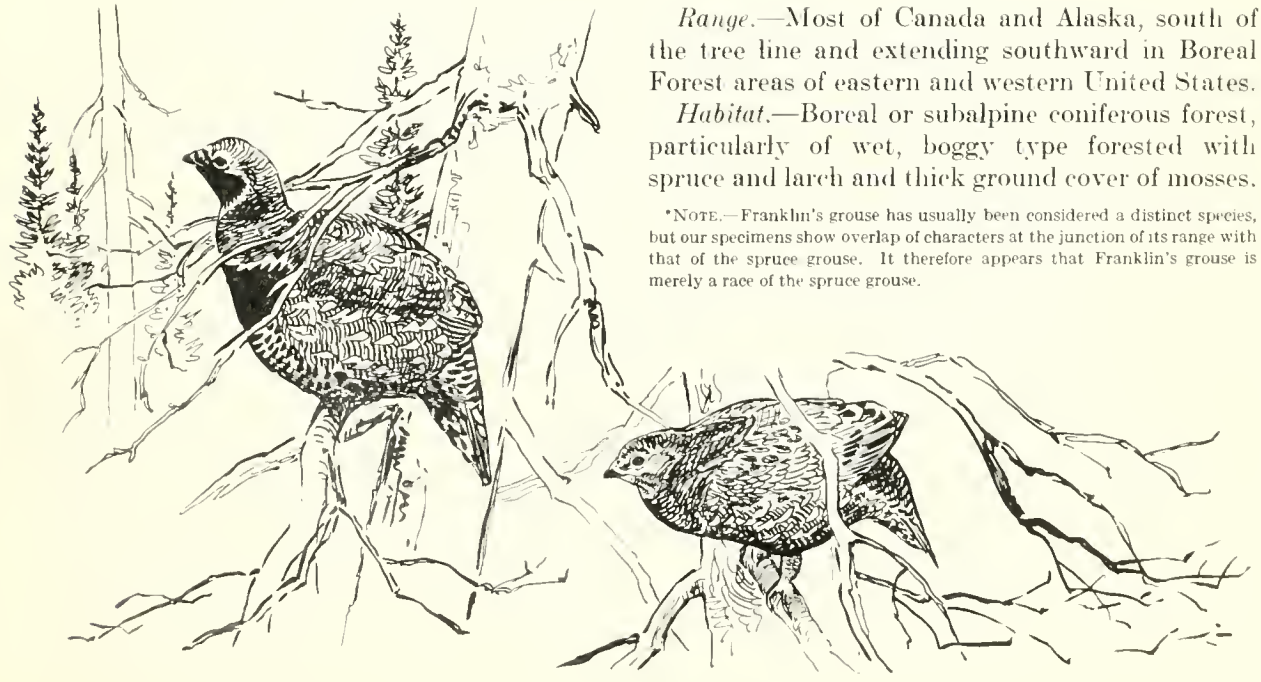


Range.—Mountains and humid coastal areas of western United States and Canada.

Habitat.—Mountain and humid coastal coniferous-forest edges and aspen groves. Frequently migrates in winter to areas of denser coniferous growth at higher altitudes.

SPRUCE GROUSE *Canachites canadensis*

PAST AND PRESENT DISTRIBUTION



Range.—Most of Canada and Alaska, south of the tree line and extending southward in Boreal Forest areas of eastern and western United States.

Habitat.—Boreal or subalpine coniferous forest, particularly of wet, boggy type forested with spruce and larch and thick ground cover of mosses.

*NOTE.—Franklin's grouse has usually been considered a distinct species, but our specimens show overlap of characters at the junction of its range with that of the spruce grouse. It therefore appears that Franklin's grouse is merely a race of the spruce grouse.

RUFFED GROUSE *Bonasa umbellus*

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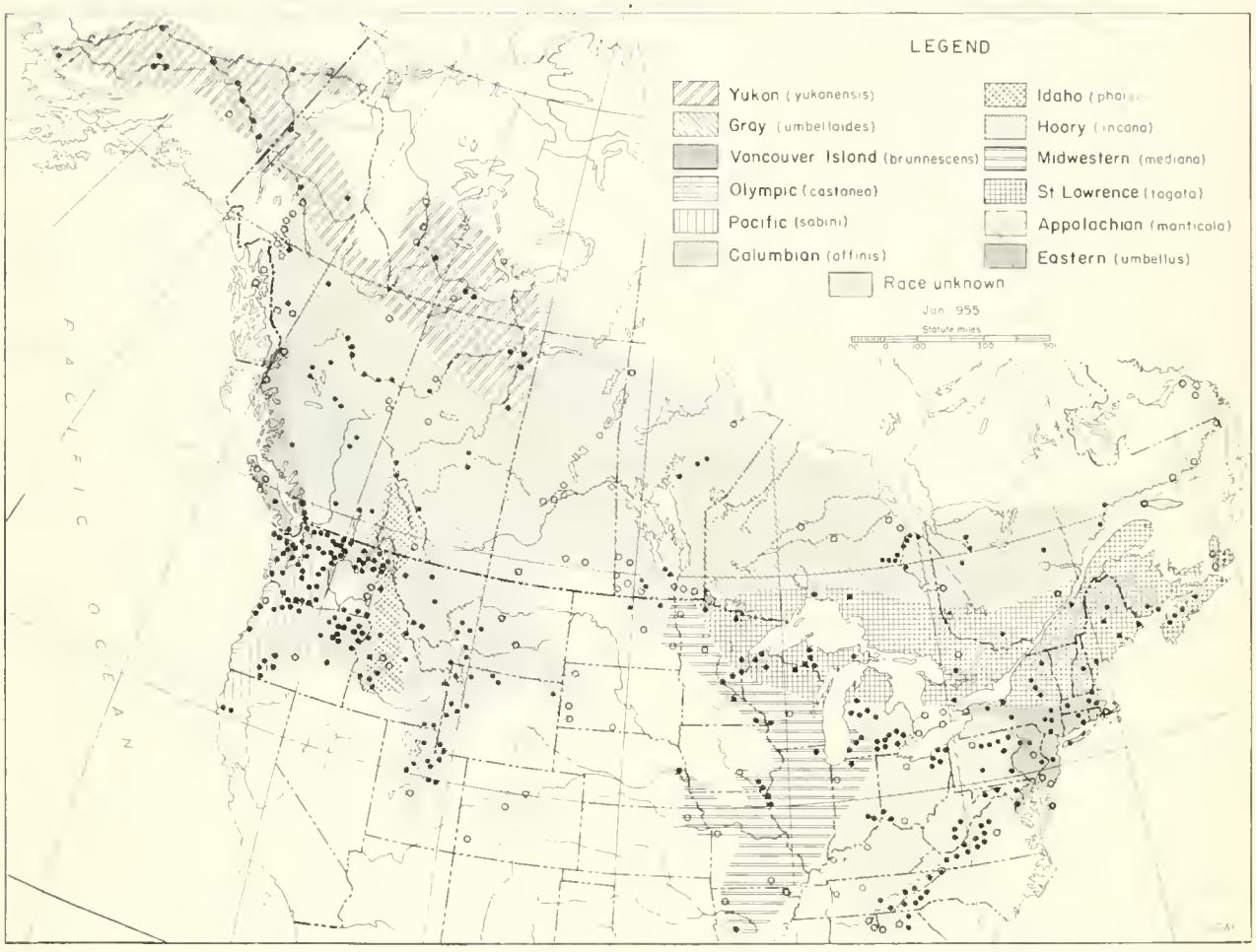
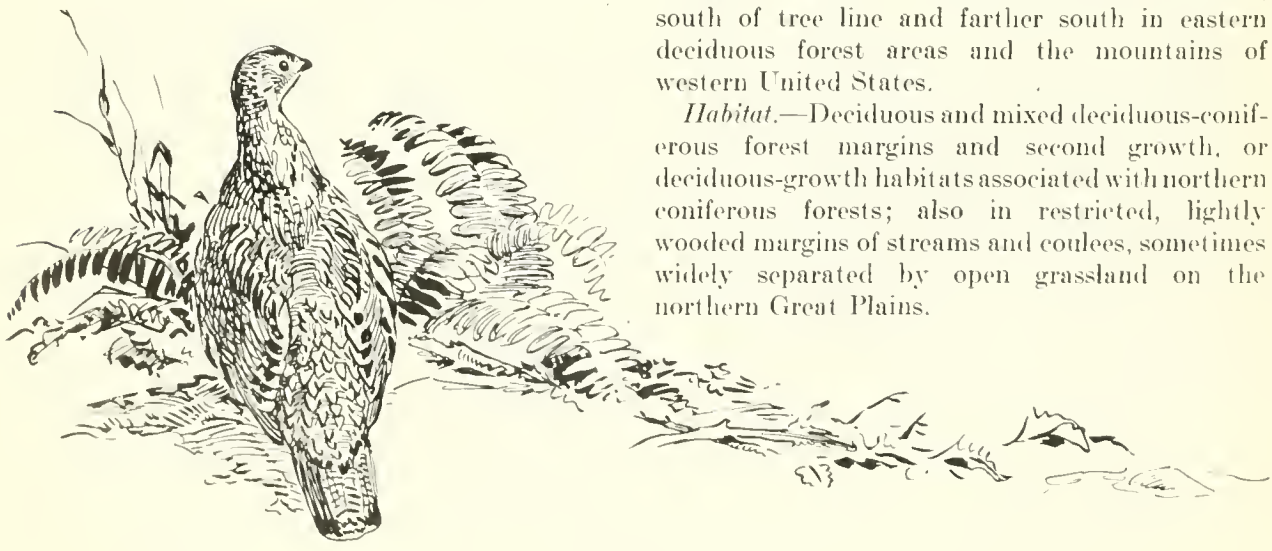


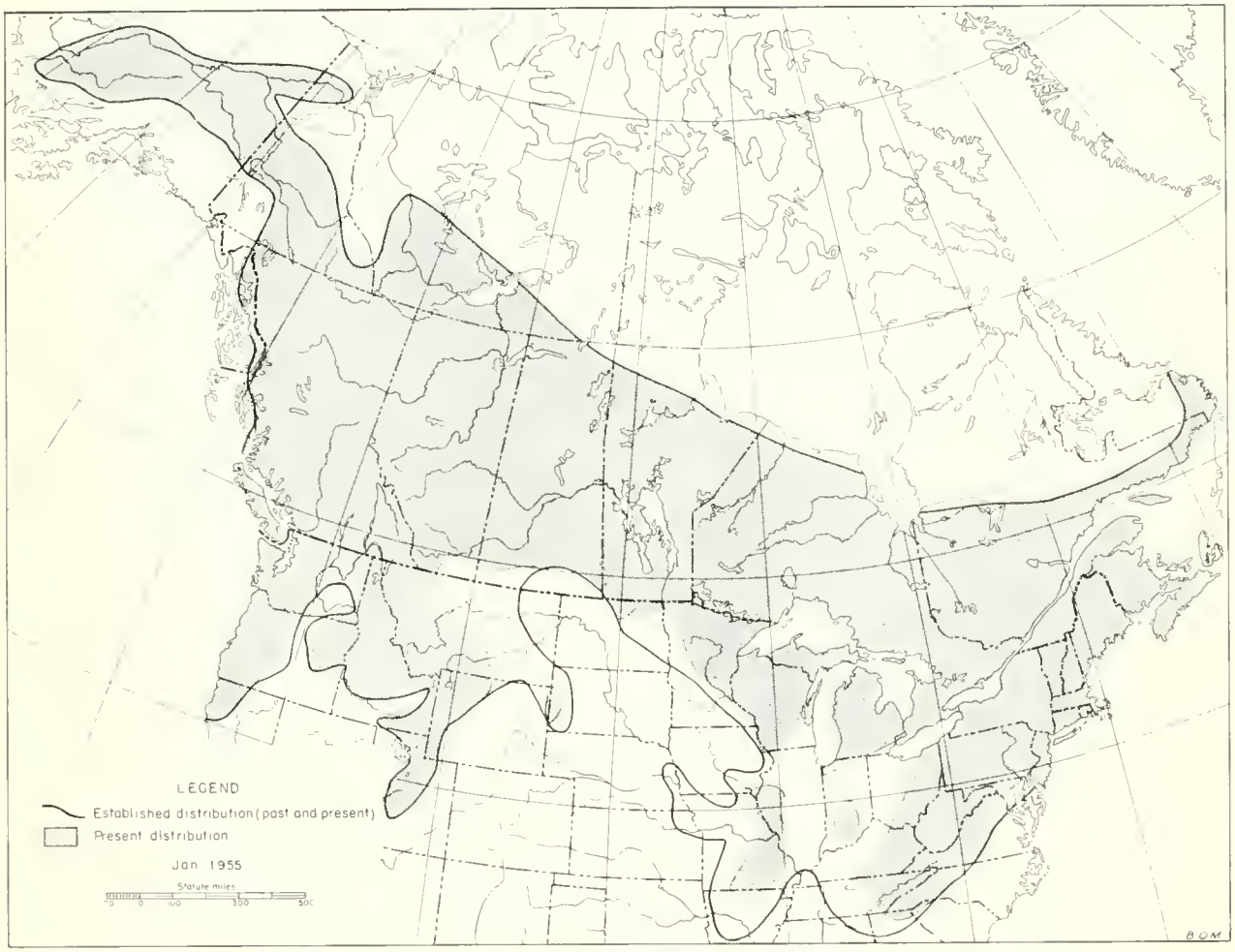


Range.—Most of northern North America, south of tree line and farther south in eastern deciduous forest areas and the mountains of western United States.

Habitat.—Deciduous and mixed deciduous-coniferous forest margins and second growth, or deciduous-growth habitats associated with northern coniferous forests; also in restricted, lightly wooded margins of streams and coulees, sometimes widely separated by open grassland on the northern Great Plains.

RUFFED GROUSE *Bonasa umbellus*

PRESENT DISTRIBUTION



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PRAIRIE CHICKEN *Tympanuchus cupido*

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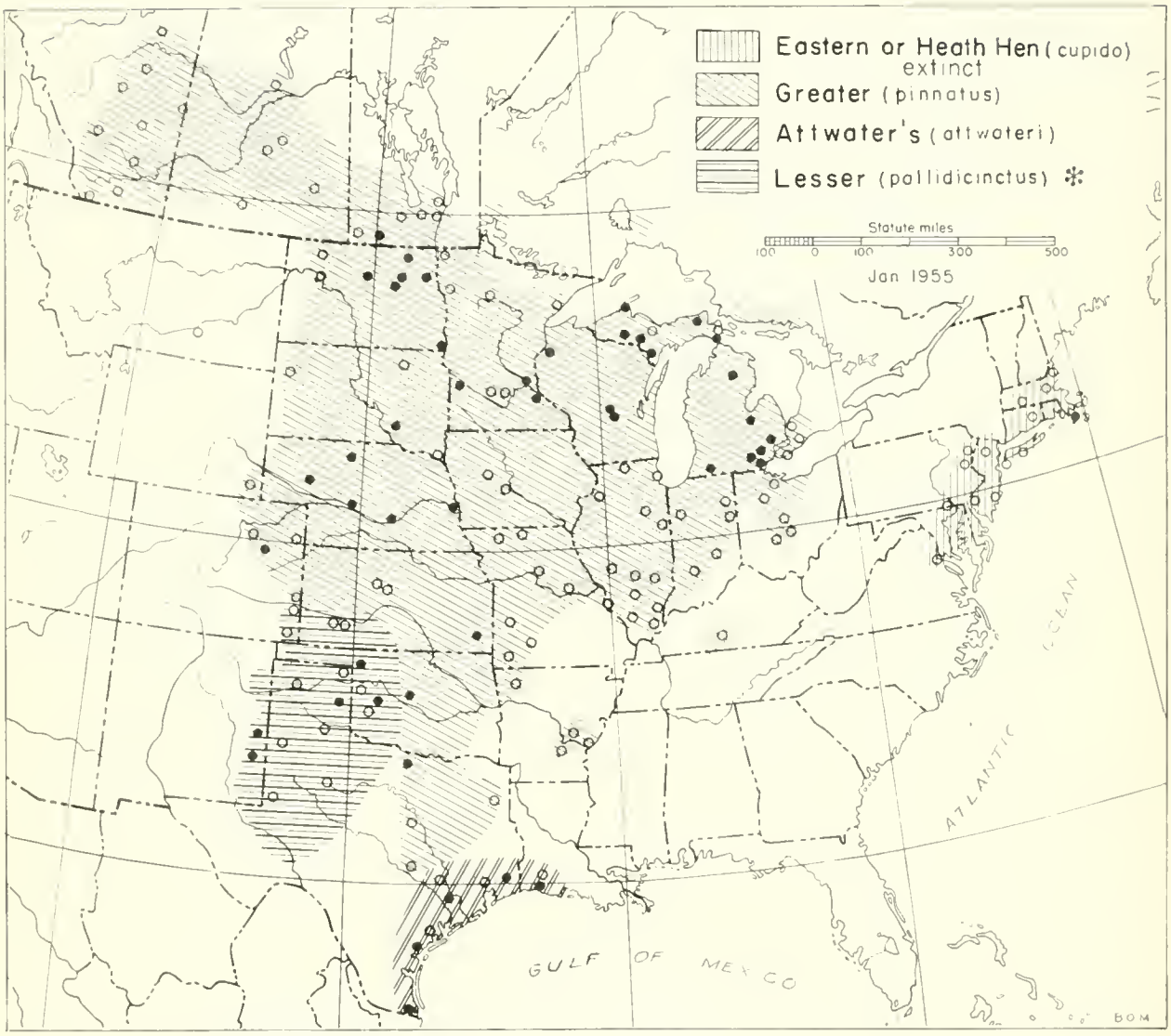
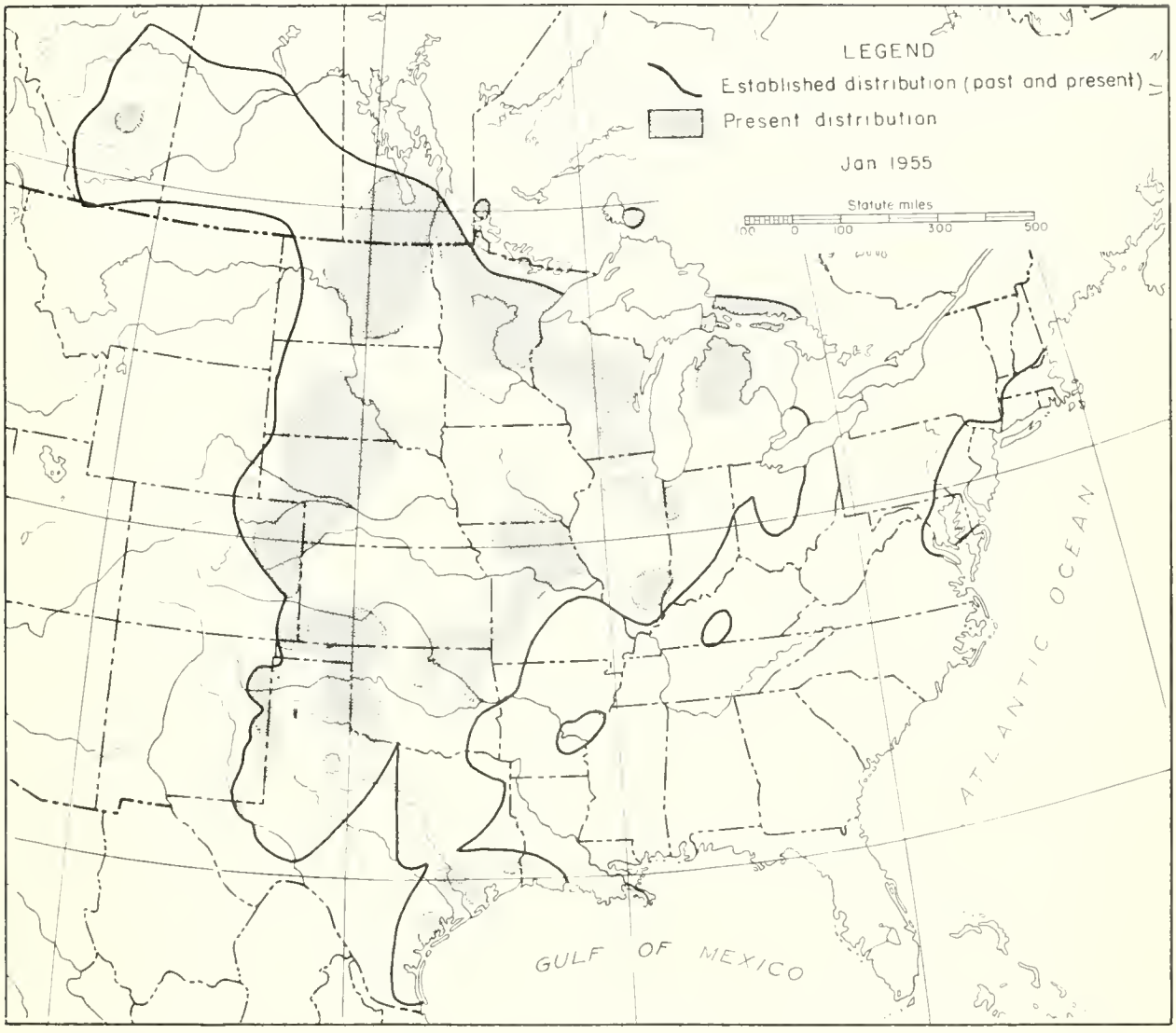


Range.—Open parts of the central and eastern United States and southern Canada. Formerly present, now extirpated on northern Atlantic seaboard. Much restricted in other parts of its former range. Northern populations at least partially migratory.

*NOTE.—The lesser prairie chicken has usually been considered a distinct species, but we find no characters that differ from those of the other prairie chickens, except in degree; thus, only a racial difference is indicated.

PRAIRIE CHICKEN *Tympanuchus cupido*

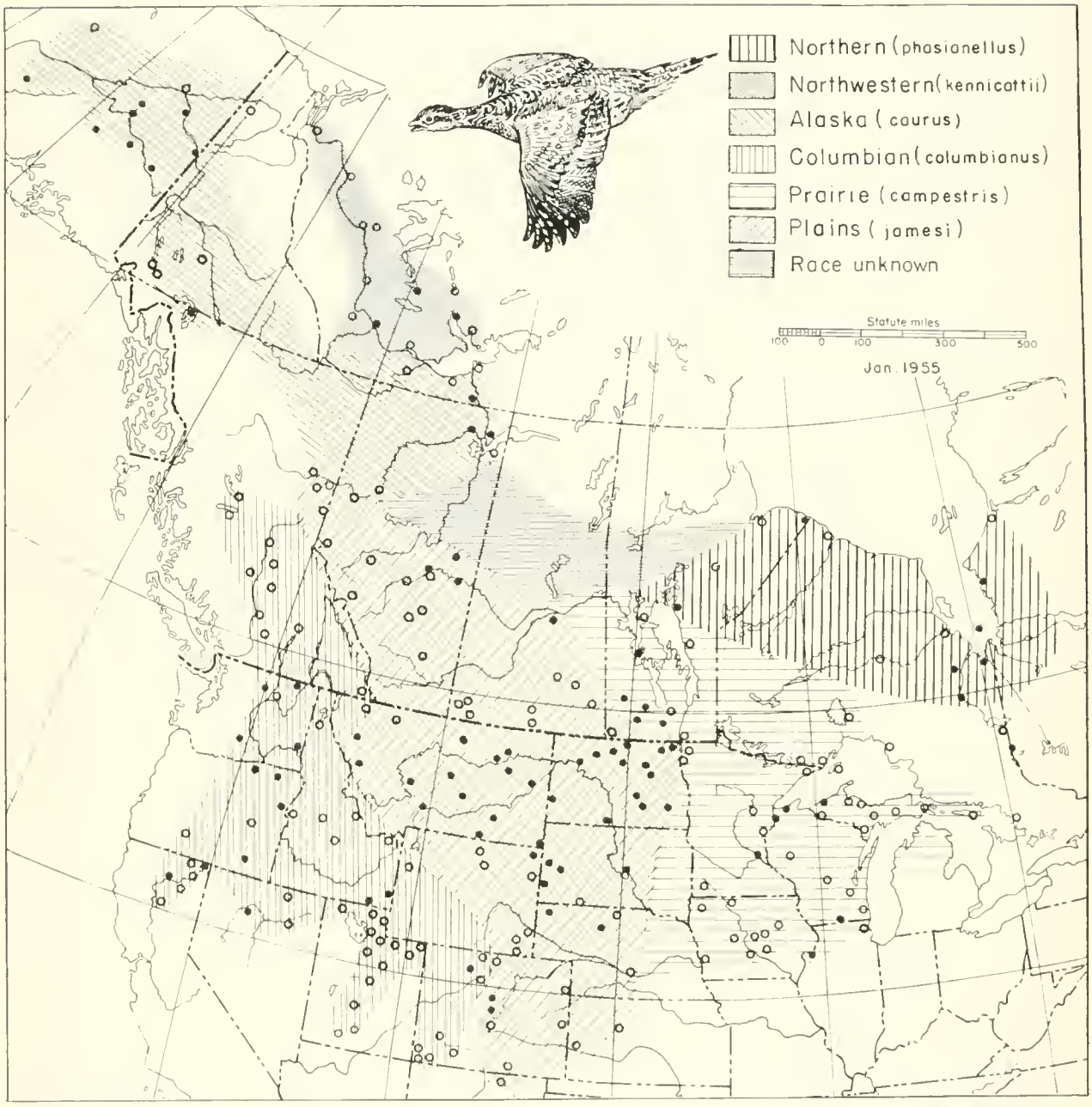
PRESENT DISTRIBUTION



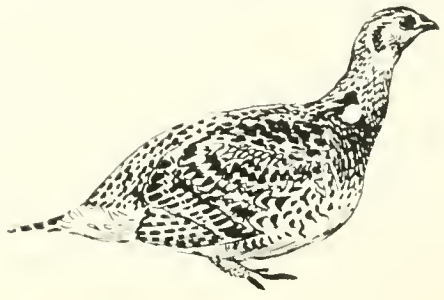
Habitat.—Natural grasslands, particularly of the savannah type with mixed grassland and groves of trees or brushy growth. The extinct eastern race (heath hen) lived in semiopen mixed scrub oak and low bushy heath of the sandy coastal plain. The southwestern race (lesser prairie chicken) lives in mixed shinnery oak and grassland. The Gulf-coast race (Atwater's prairie chicken) inhabits the moist, open coastal prairie. The central race (greater prairie chicken) occurs in a variety of natural grassland types from extensively open to quite brushy; also man-made openings in the Great Lakes region.

SHARP-TAILED GROUSE *Pedioecetes phasianellus*

PAST AND PRESENT DISTRIBUTION

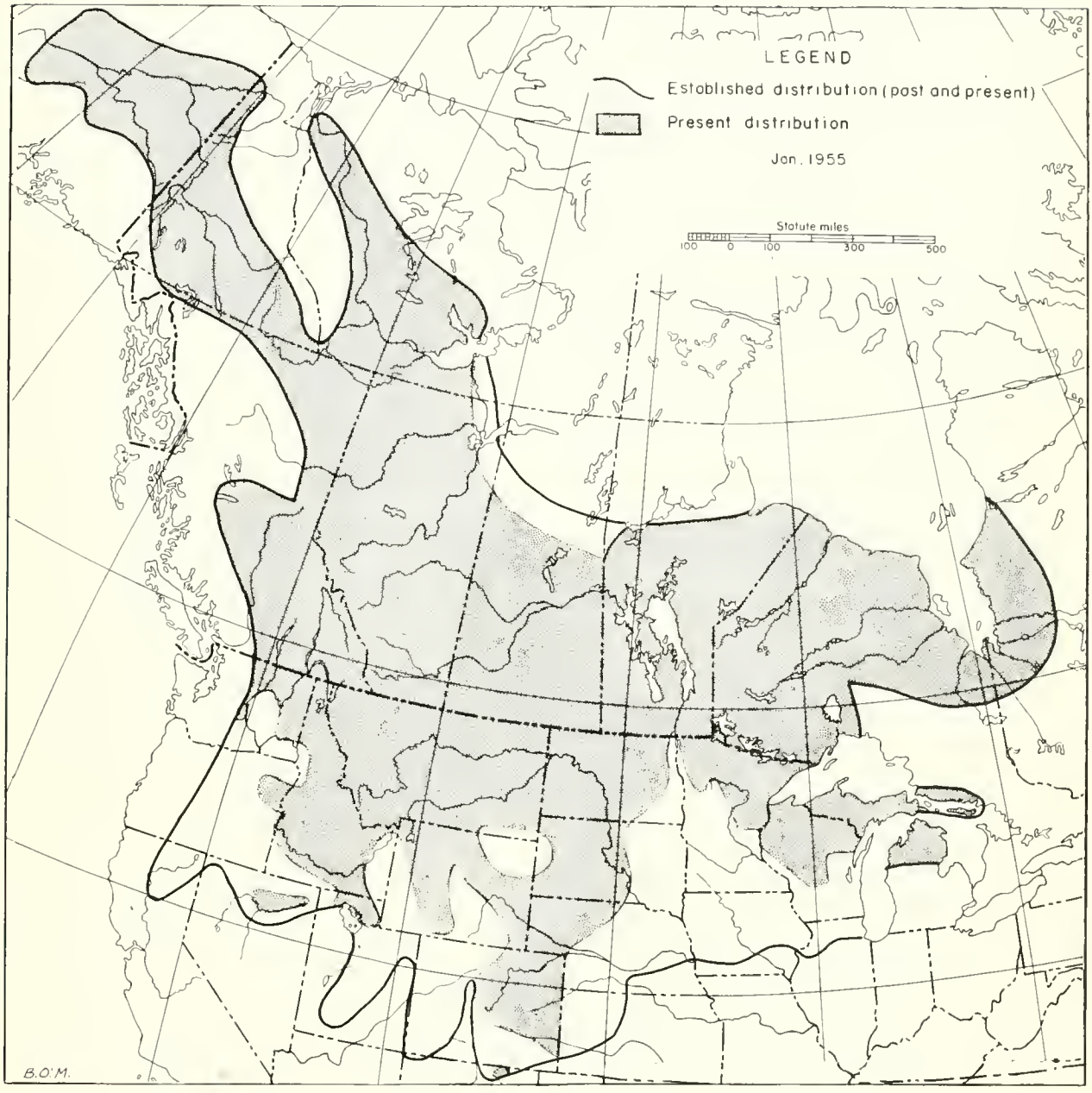


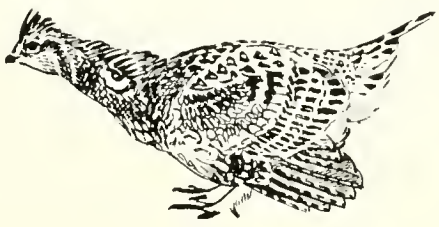
Range.—Canada and Alaska, south of tree line, and northern United States, eastward to east side of Hudson and James Bays, and to the western Great Lakes. Now much restricted in the southern portion of original range. Northern populations move southward during some winters.



SHARP-TAILED GROUSE *Pedioecetes phasianellus*

PRESENT DISTRIBUTION

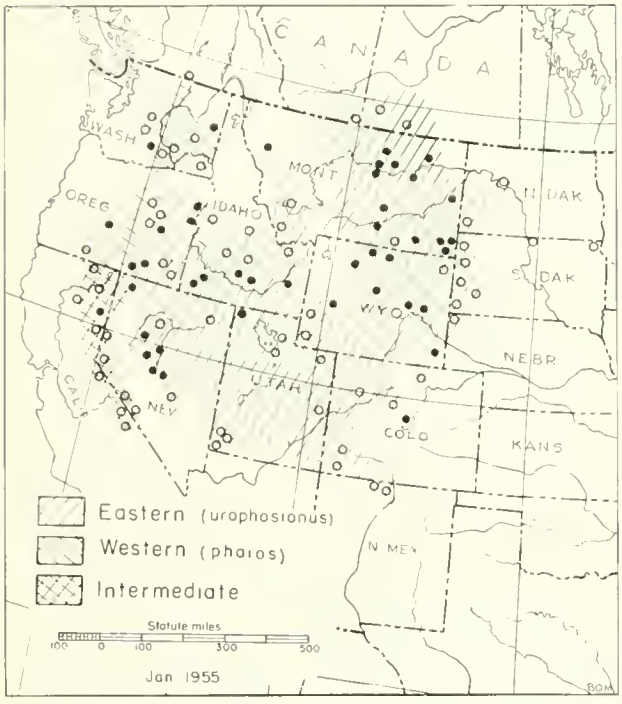




Habitat.—Natural grasslands with low sage or open woodlands; extensive brushy openings in cut-over lands of the originally forested Great Lakes area; also extensive open boggy areas or "muskegs" in the Boreal Forest region.

SAGE GROUSE *Centrocercus urophasianus*

PAST AND PRESENT DISTRIBUTION



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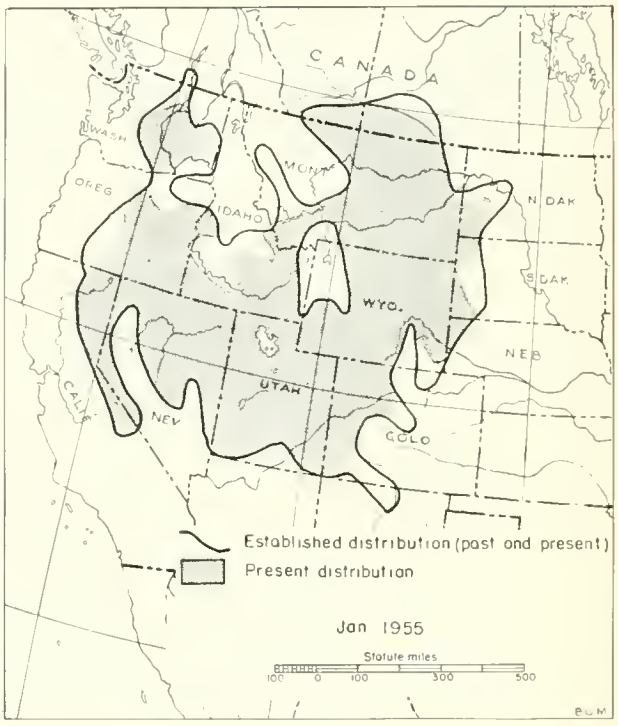
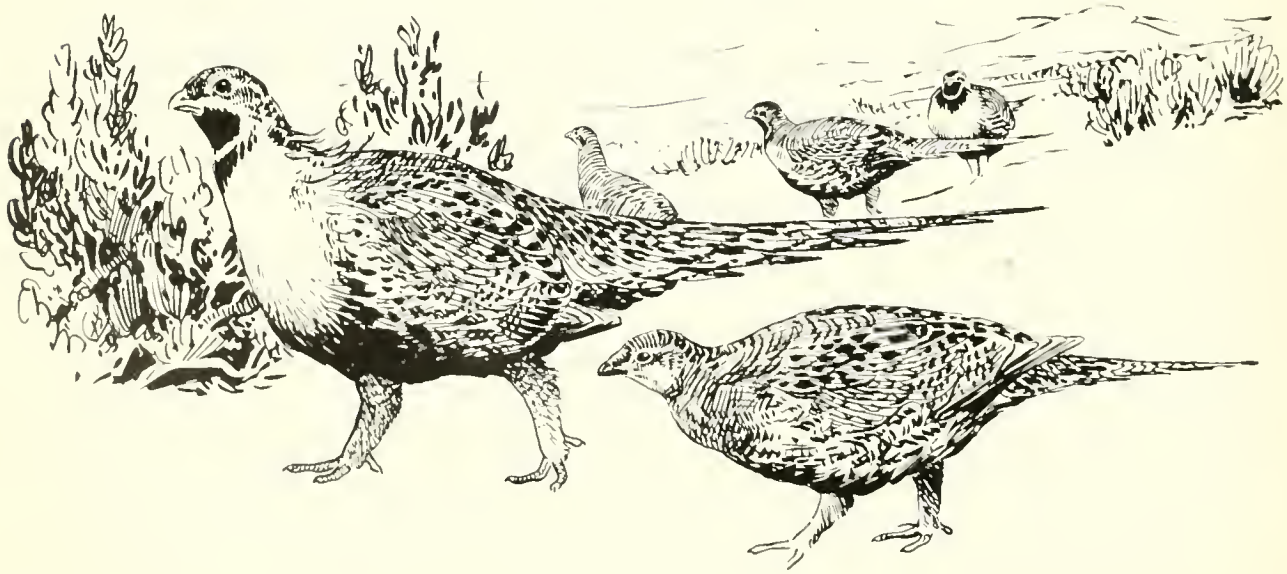


Range.—Arid plains and basin country of western United States and southwestern Canada.

Habitat.—Sagebrush growth of the more northern deserts and higher southern deserts; also of overgrazed portions of the Great Plains and intermountain valleys.



WHITE-TAILED PTARMIGAN *Lagopus leucurus*

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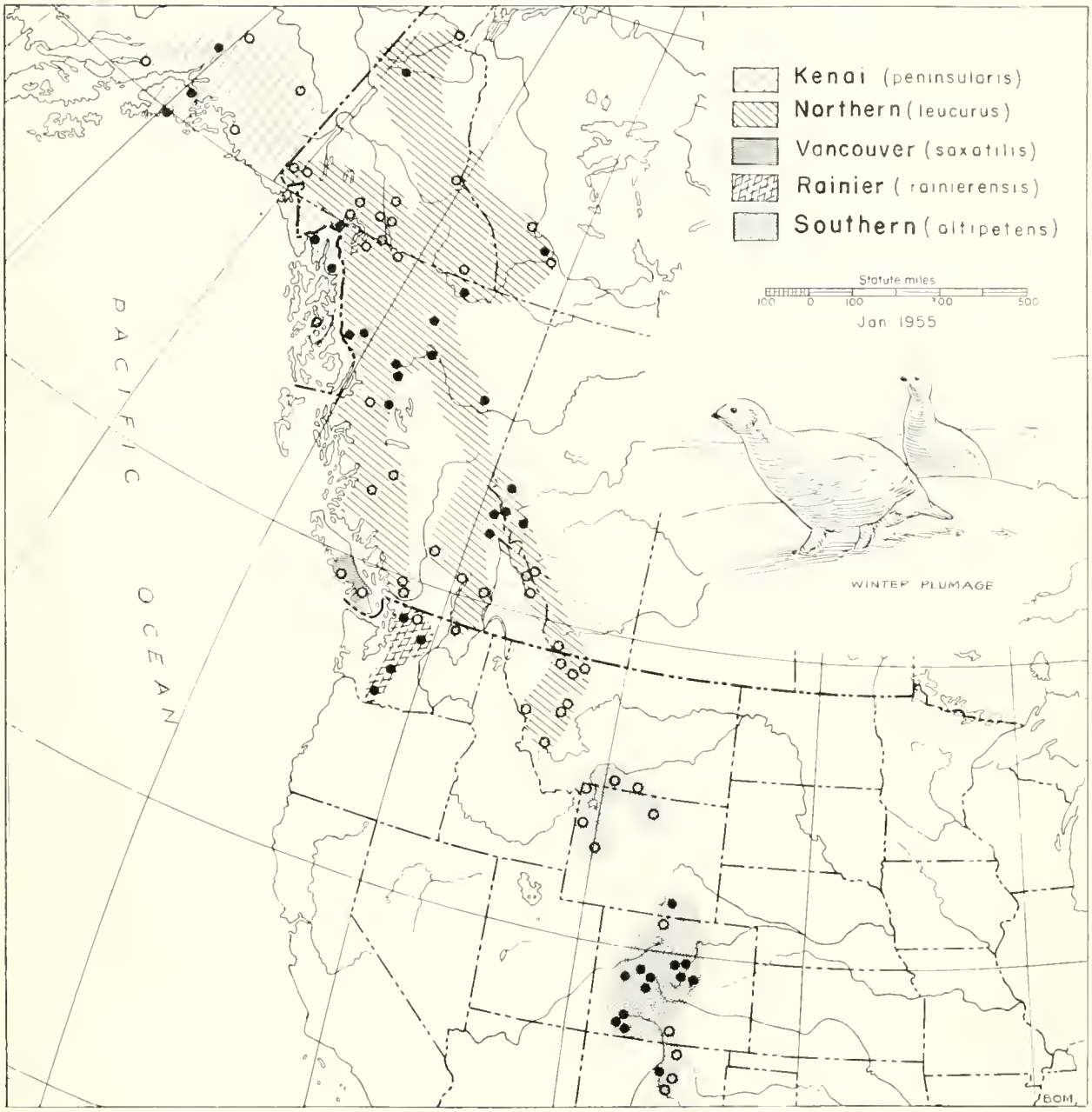
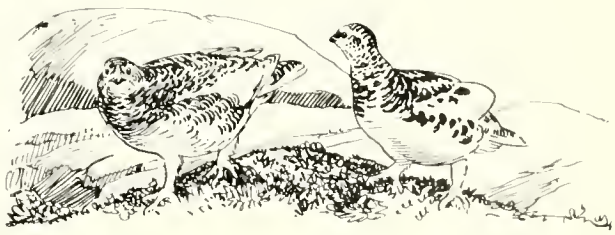


Range.—Above timberline in the mountains of southern Alaska, western Canada, and western United States, south to the southern Rocky Mountains and northern Cascades.

Habitat.—Rock-strewn alpine meadows above timberline.



GRAY OR HUNGARIAN PARTRIDGE *Perdix perdix*

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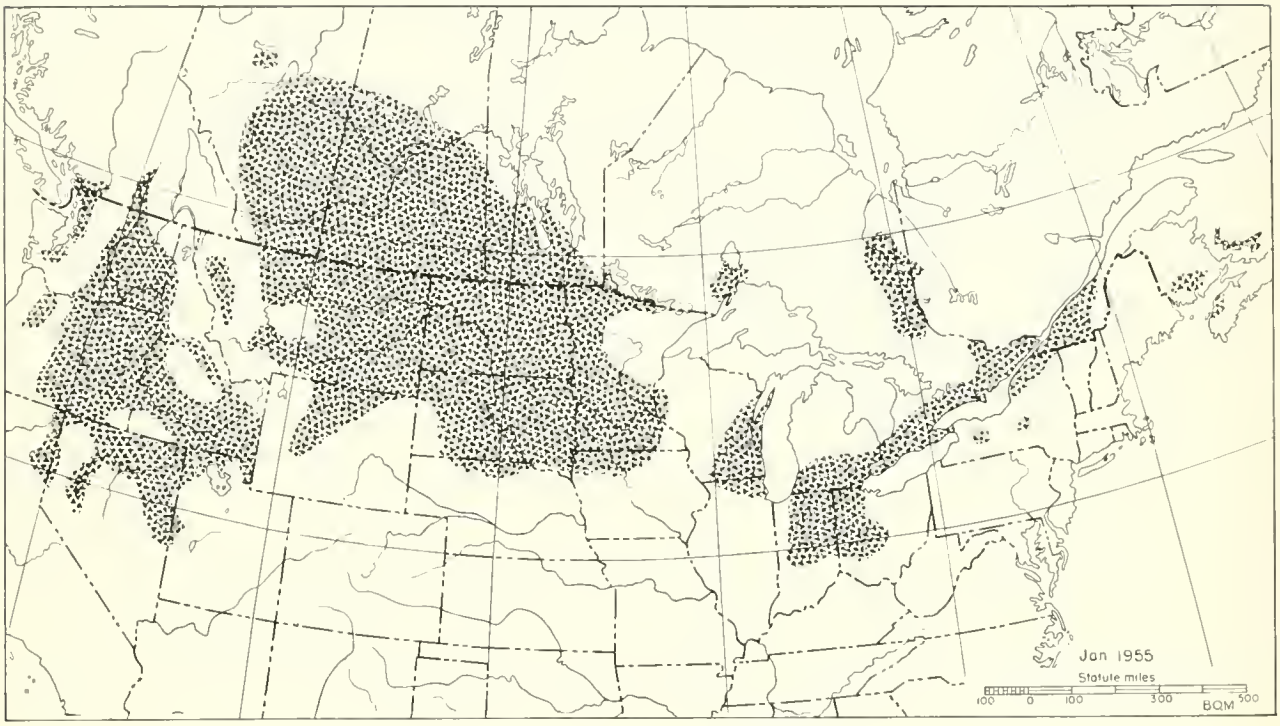
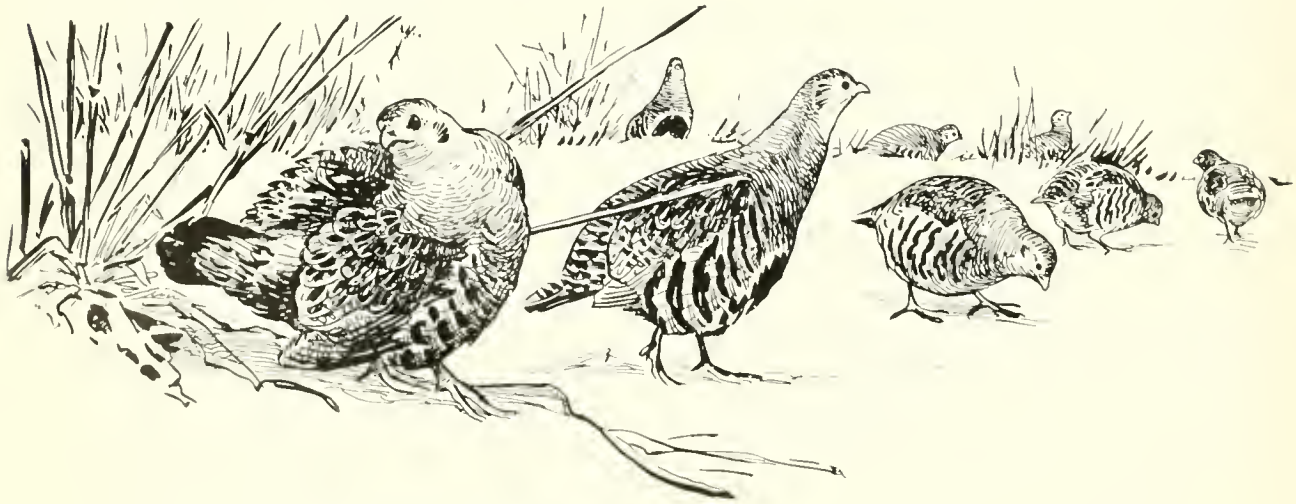


Range.—Native to Europe and Asia from the British Isles eastward to the Volga River in Russia; north to southern Sweden and northwestern Russia; south to the Mediterranean Sea, Asia Minor, and the Caspian Sea. Established after introduction in extreme open country of the northern United States and southern Canada.

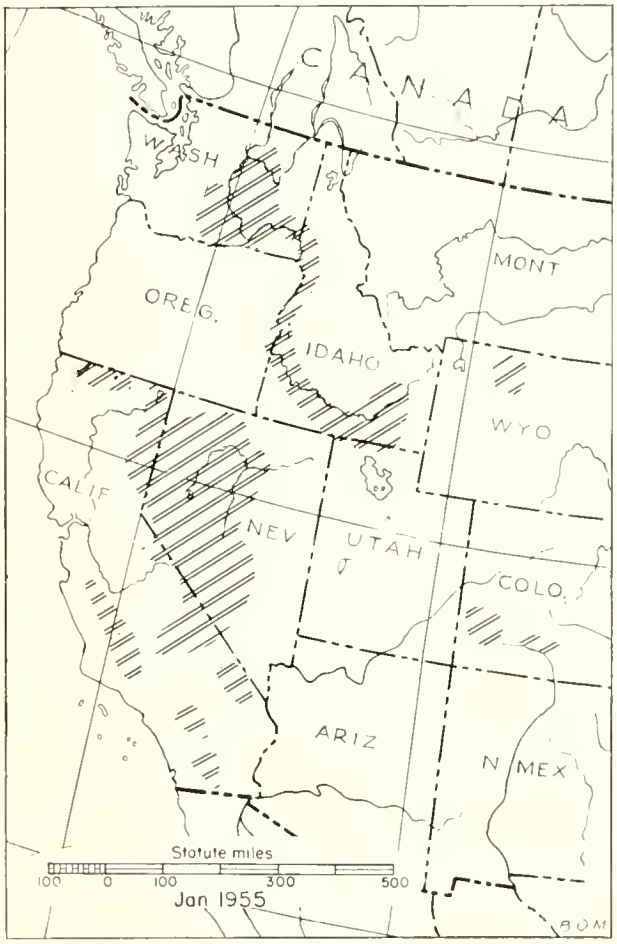
Habitat (in North America).—Primarily natural, open, dry grasslands, particularly in vicinity of irrigated cropland; irrigated land in northern desert scrub regions; also a few areas of extensive open agricultural country in moister, originally forested regions.



ROCK PARTRIDGE OR CHUKAR

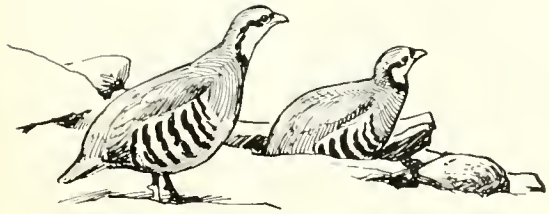
Alectoris graeca

PAST AND PRESENT DISTRIBUTION



Range.—Native to mountainous regions of central and southern Europe and Asia. Established after introduction in desert mountain areas of western United States.

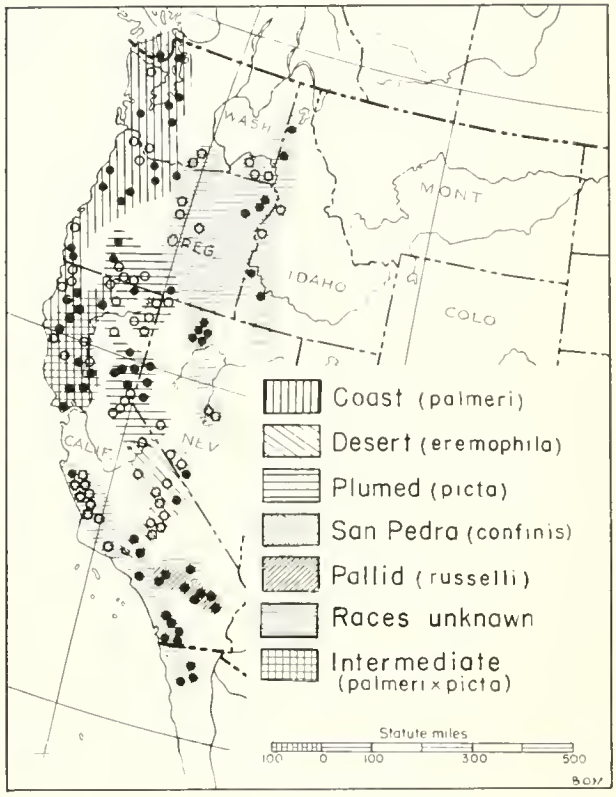
Habitat (in North America).—Sparsely vegetated, rocky slopes in sagebrush belt of desert ranges.



MOUNTAIN QUAIL

Oreortyx picta

PAST AND PRESENT DISTRIBUTION



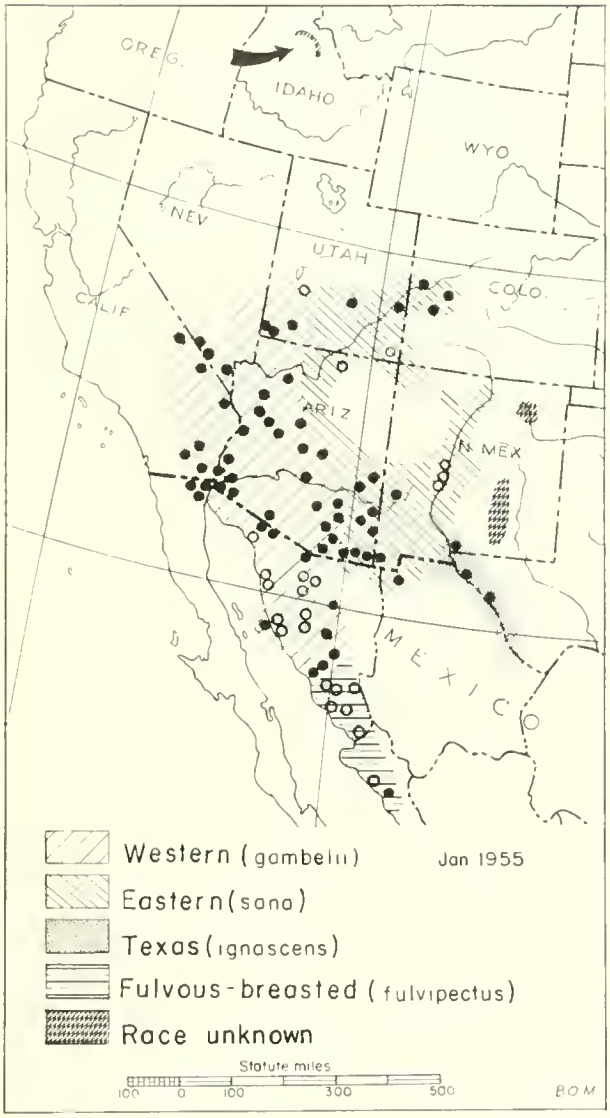
Range.—Native to mountains of Pacific coastal region of extreme western United States. Established after introduction in mountains of eastern Washington, western Idaho, eastern Oregon, and central Nevada.

Habitat.—Brushy clearings in forested areas in mountains. Sprout-grown areas appearing after burns are characteristic habitat. Northwestern Mexican race occurs in pine-oak forest and adjacent chaparral. Individuals that nest at higher altitudes usually migrate to lower mountain levels in winter.

GAMBEL'S QUAIL

Lophortyx gambelii

PAST AND PRESENT DISTRIBUTION



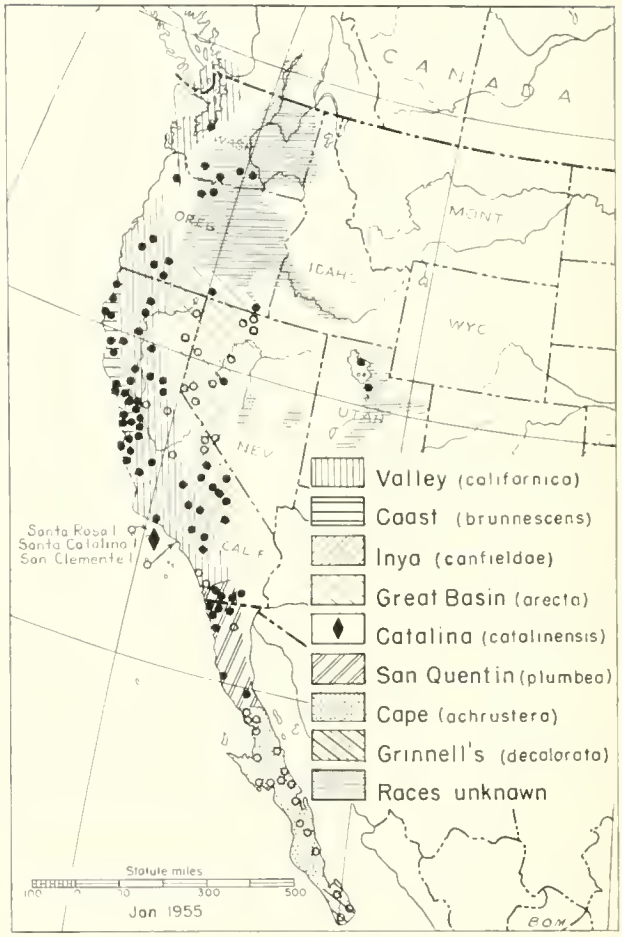
Range.—Native to southwestern United States and northwestern Mexico. Established after introduction far from native range at one locality in Idaho. History of Colorado populations uncertain.

Habitat.—Desert scrub and desert grassland, usually in bottomland; penetrating the thorn forest in western Mexico; also in bottomlands of sagebrush country in Utah and western Colorado, especially near cultivated areas.

CALIFORNIA QUAIL

Lophortyx californica

PAST AND PRESENT DISTRIBUTION

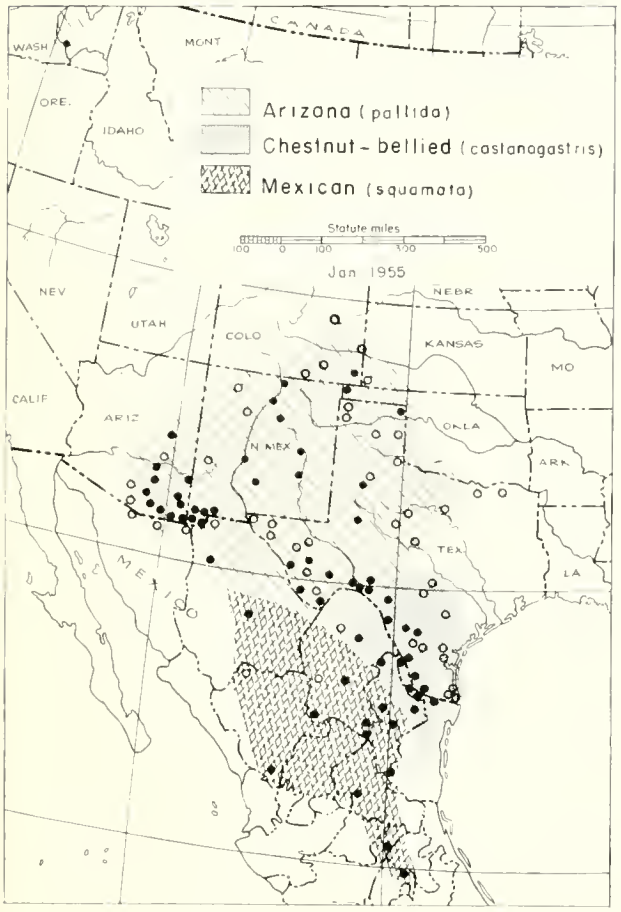


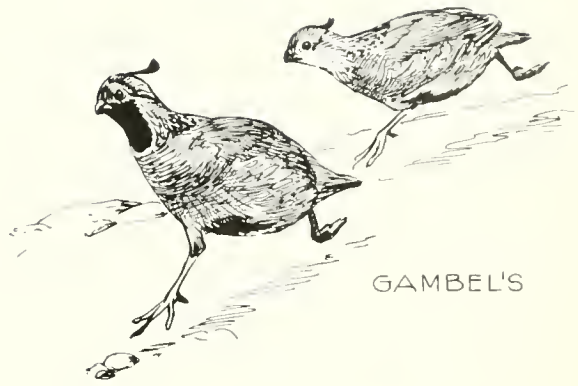
Range.—Native to Pacific coastal and interior valley sections of extreme western United States and western Mexico. Established after introduction in eastern Washington, western Idaho, eastern Oregon, Nevada, and Utah.

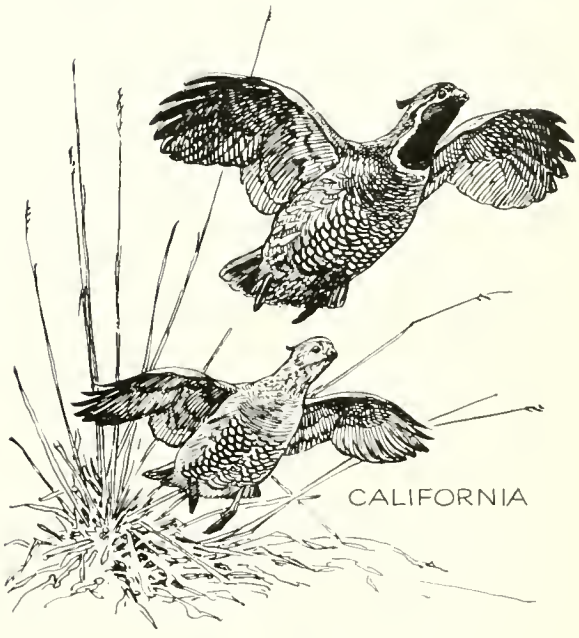
Habitat.—Chaparral or mixed brush and grassland; particularly mixed habitat such as hedgerows and fallow fields characteristic of mixed farming; in dryest sections, streamside willow thickets. Northwestern Mexican races found in a variety of habitats such as pine-oak foothills, chaparral, desert scrub, and tropical deciduous forest.

SCALED QUAIL
Callipepla squamata

PAST AND PRESENT DISTRIBUTION

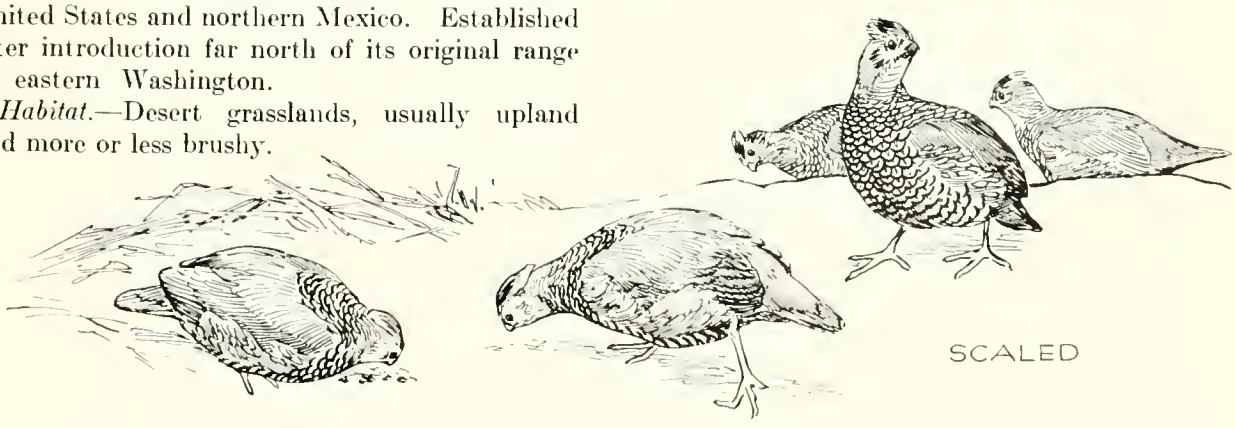






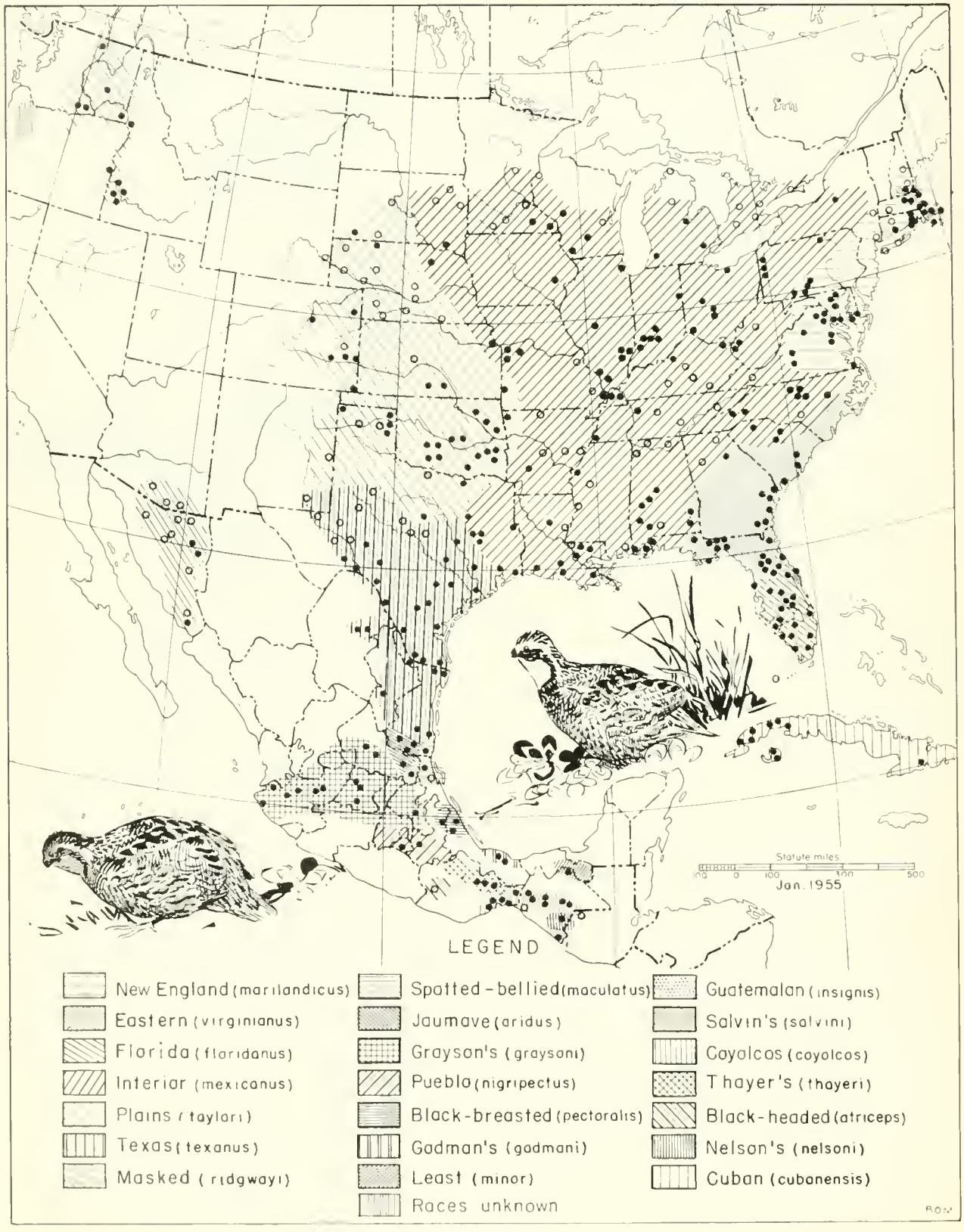
Range.—Native to arid sections of southwestern United States and northern Mexico. Established after introduction far north of its original range in eastern Washington.

Habitat.—Desert grasslands, usually upland and more or less brushy.



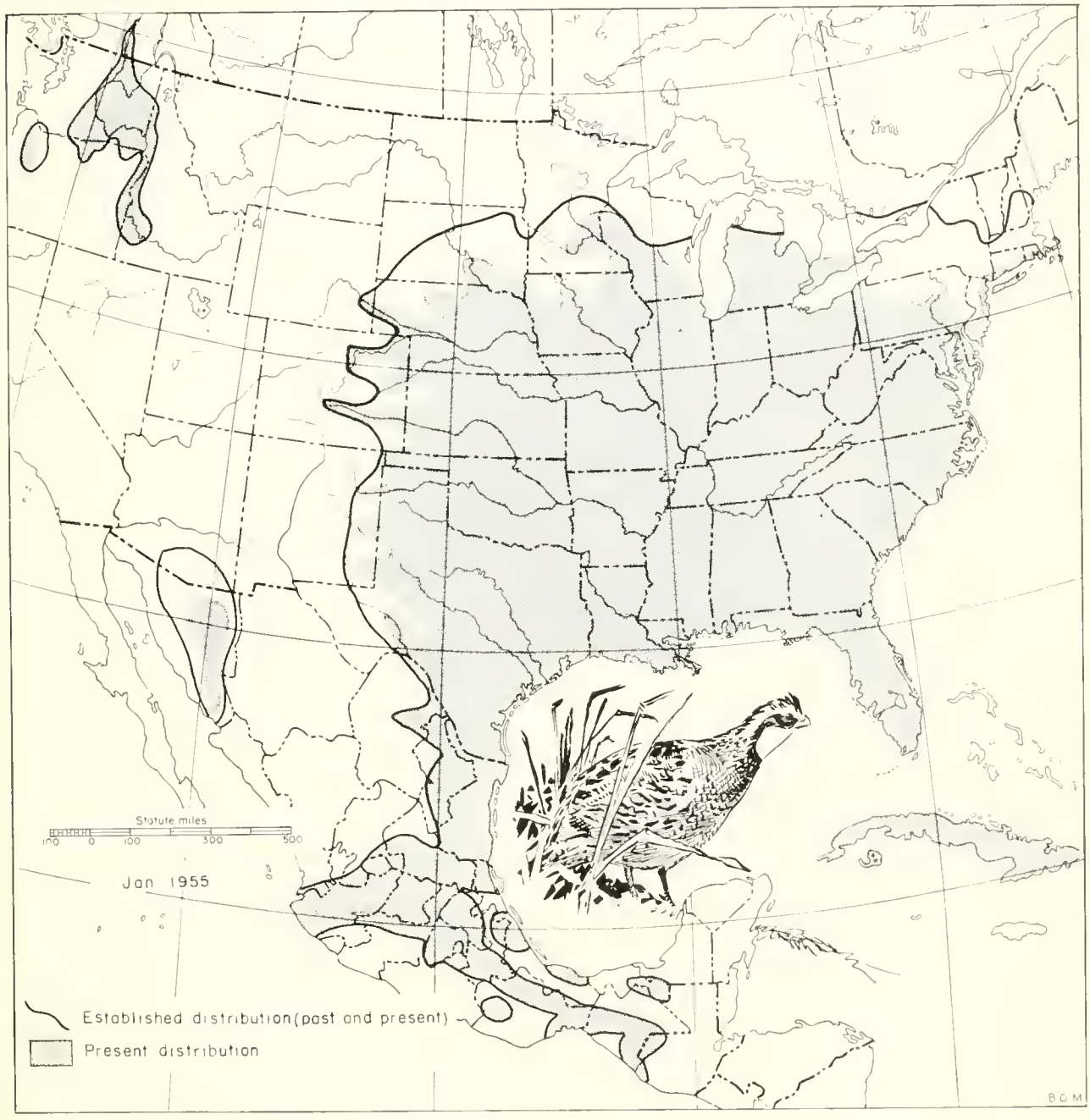
BOBWHITE *Colinus virginianus*

PAST AND PRESENT DISTRIBUTION



BOBWHITE *Colinus virginianus*

PRESENT DISTRIBUTION

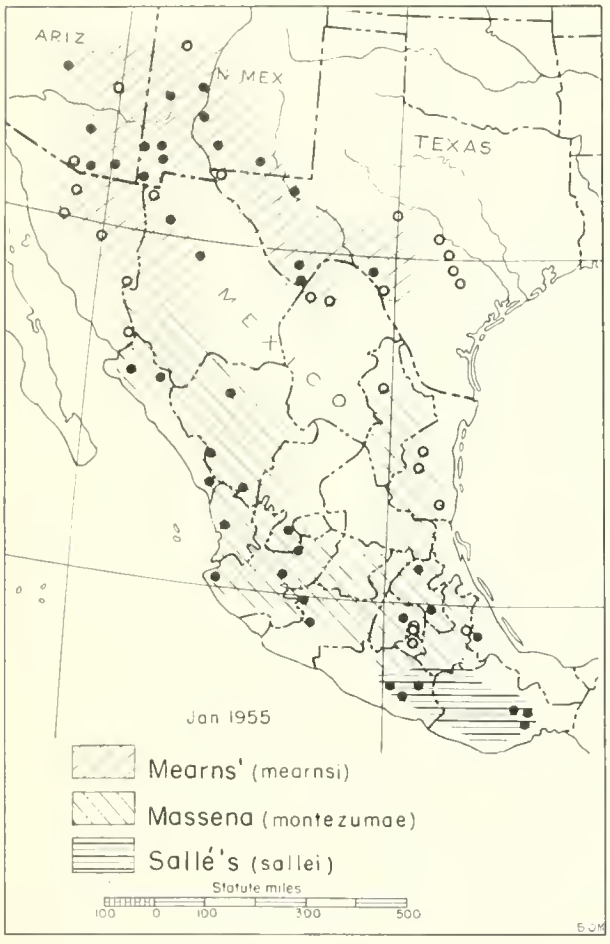


Range.—Native to United States east of the Rocky Mountains and extreme southern Ontario, Canada; also in Cuba and a large part of Mexico. Established after introduction beyond its native range in eastern Washington and the Snake River valley of eastern Oregon and western Idaho.

Habitat.—Mixed brush and grassland types broken up into small areas of each. Open woodland, brushy and weedy fallow fields most characteristic of eastern races; brushy areas along stream courses on the western plains; brushy scrub oak or mesquite-cactus pastures for southwestern races. Usually mixed, disturbed habitats are best. The numerous Mexican races in the aggregate occupy nearly any type of open country from short grass prairie of Jalisco and mesquite-grasslands of Sonora, to savannahs in Chiapas.

HARLEQUIN QUAIL *Cyrtonyx montezumae*

PAST AND PRESENT DISTRIBUTION



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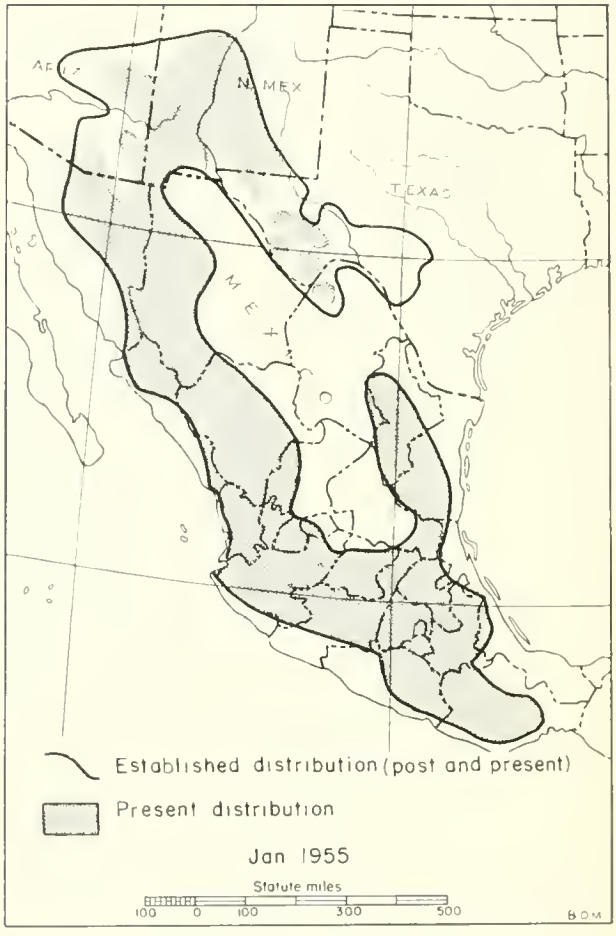
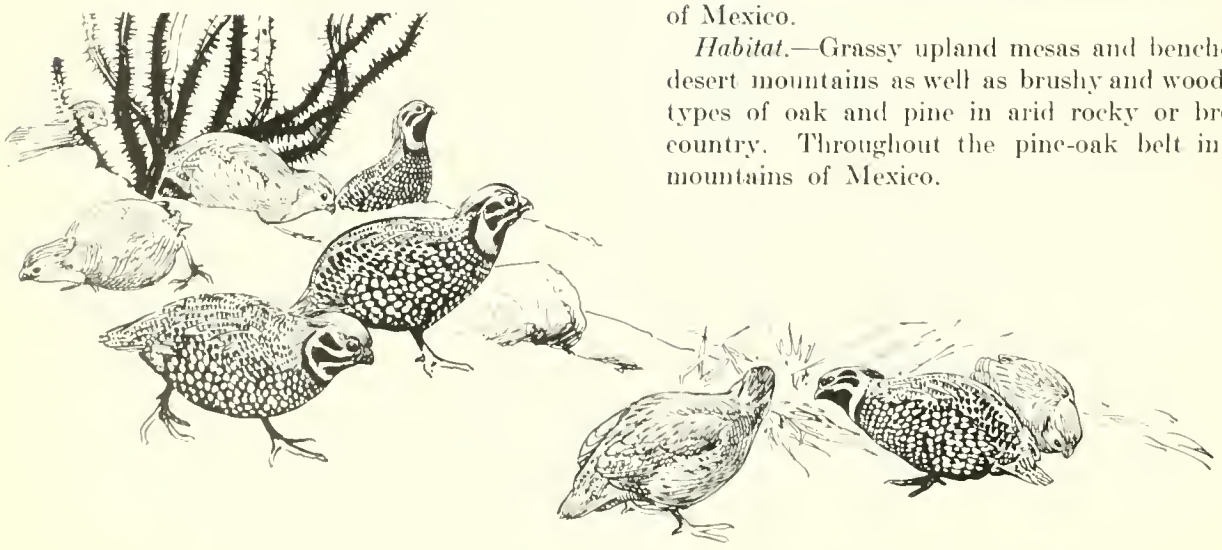


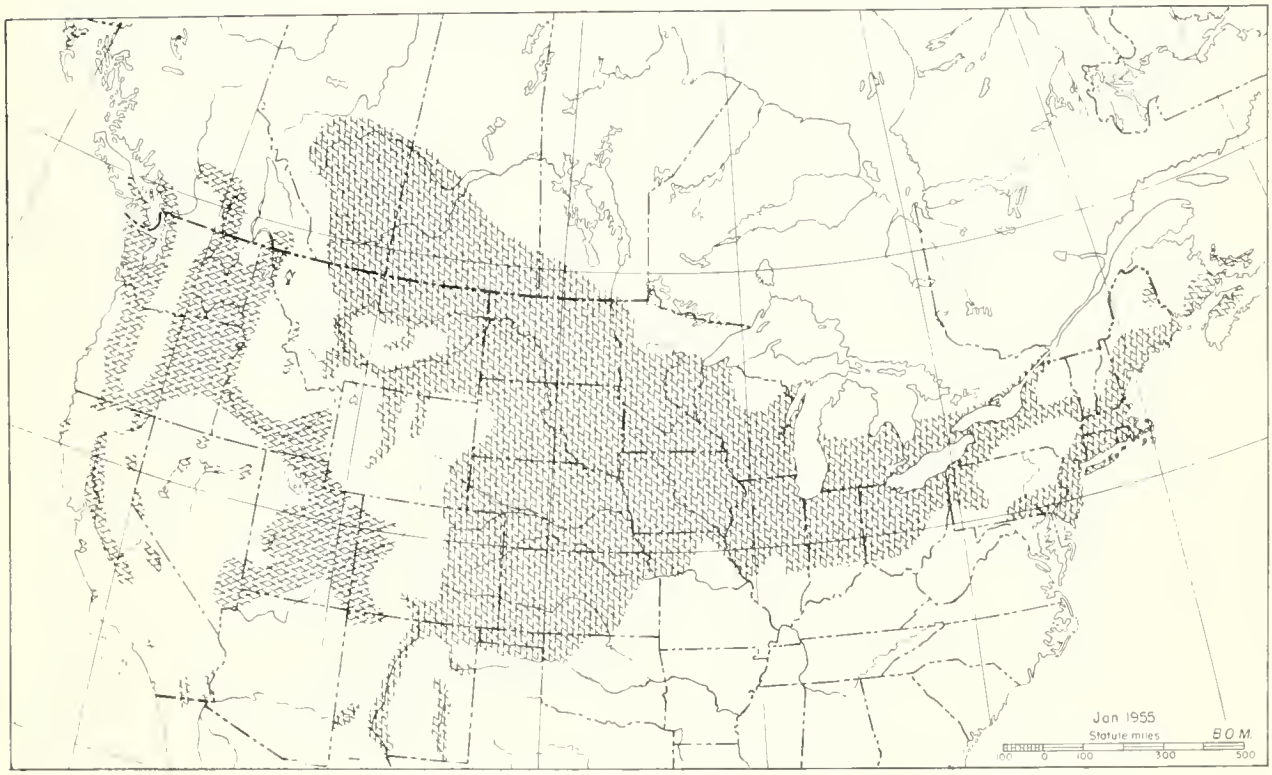


Range.—Southwestern United States and much of Mexico.

Habitat.—Grassy upland mesas and benches of desert mountains as well as brushy and woodland types of oak and pine in arid rocky or broken country. Throughout the pine-oak belt in the mountains of Mexico.

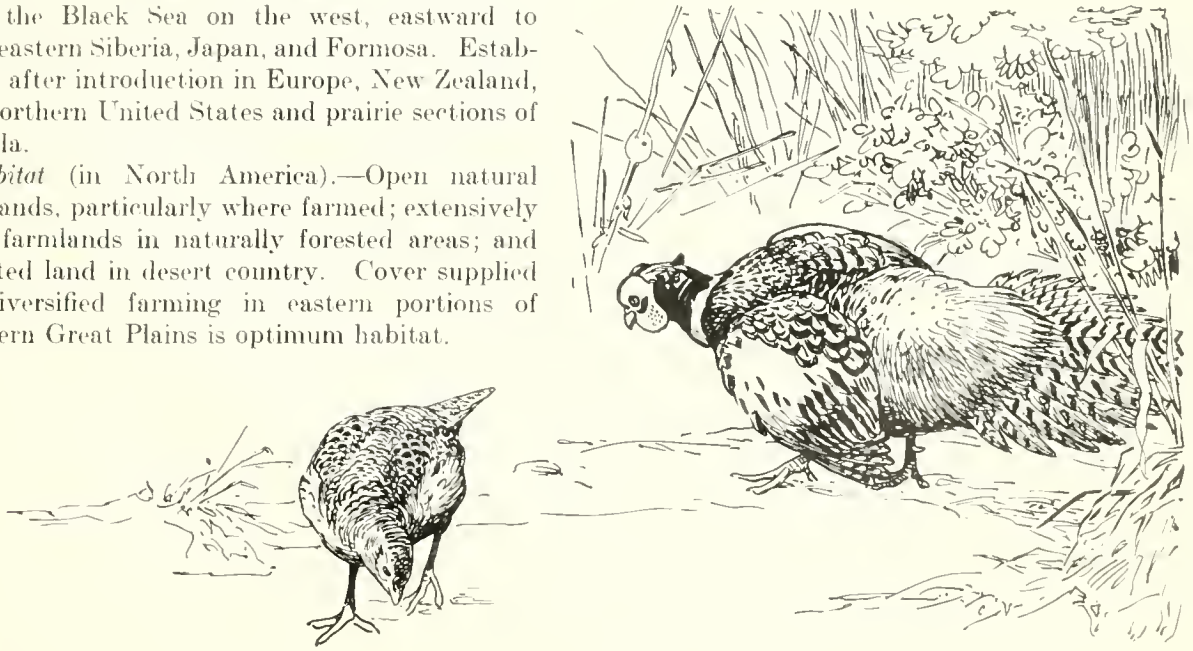
RING-NECKED PHEASANT *Phasianus colchicus*

PAST AND PRESENT DISTRIBUTION



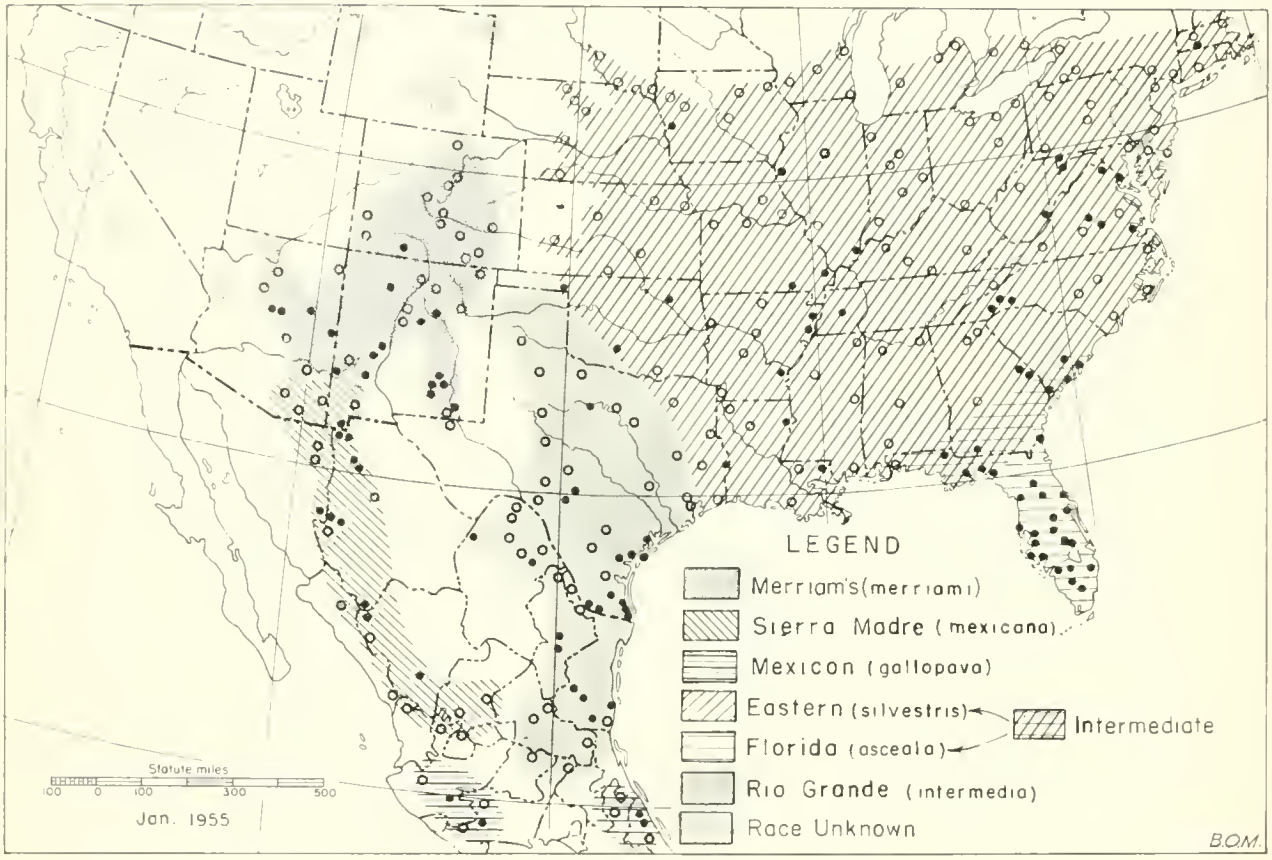
Range.—Native to a belt across Middle Asia from the Black Sea on the west, eastward to southeastern Siberia, Japan, and Formosa. Established after introduction in Europe, New Zealand, and northern United States and prairie sections of Canada.

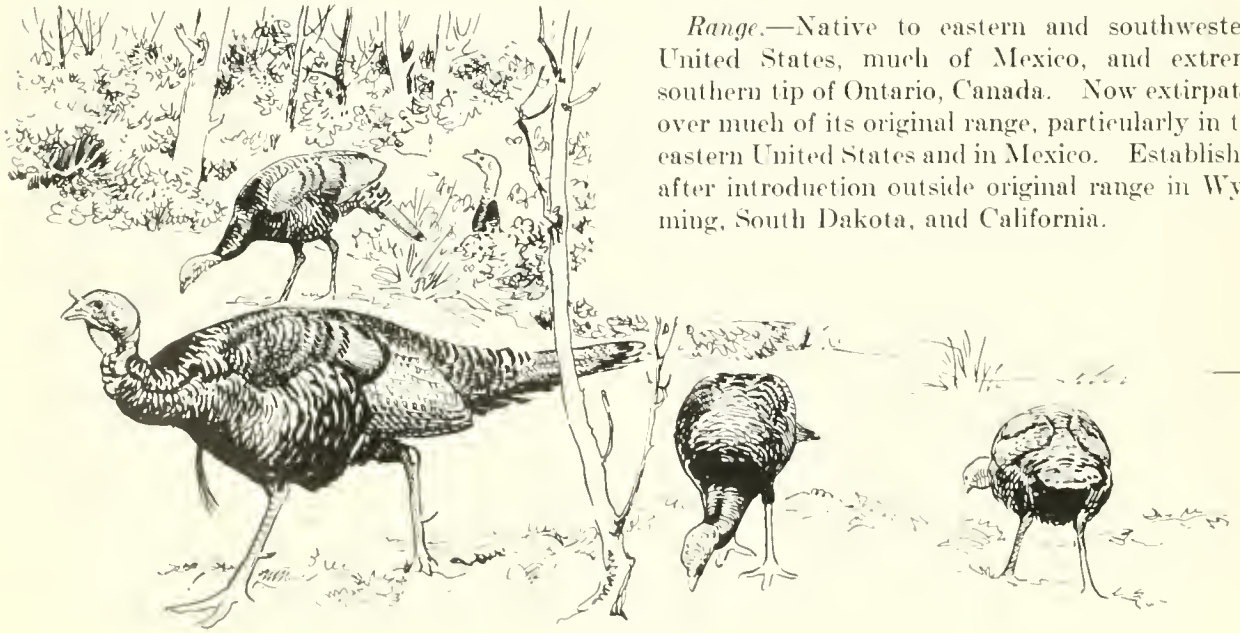
Habitat (in North America).—Open natural grasslands, particularly where farmed; extensively open farmlands in naturally forested areas; and irrigated land in desert country. Cover supplied by diversified farming in eastern portions of northern Great Plains is optimum habitat.



TURKEY *Meleagris gallopavo*

PAST AND PRESENT DISTRIBUTION

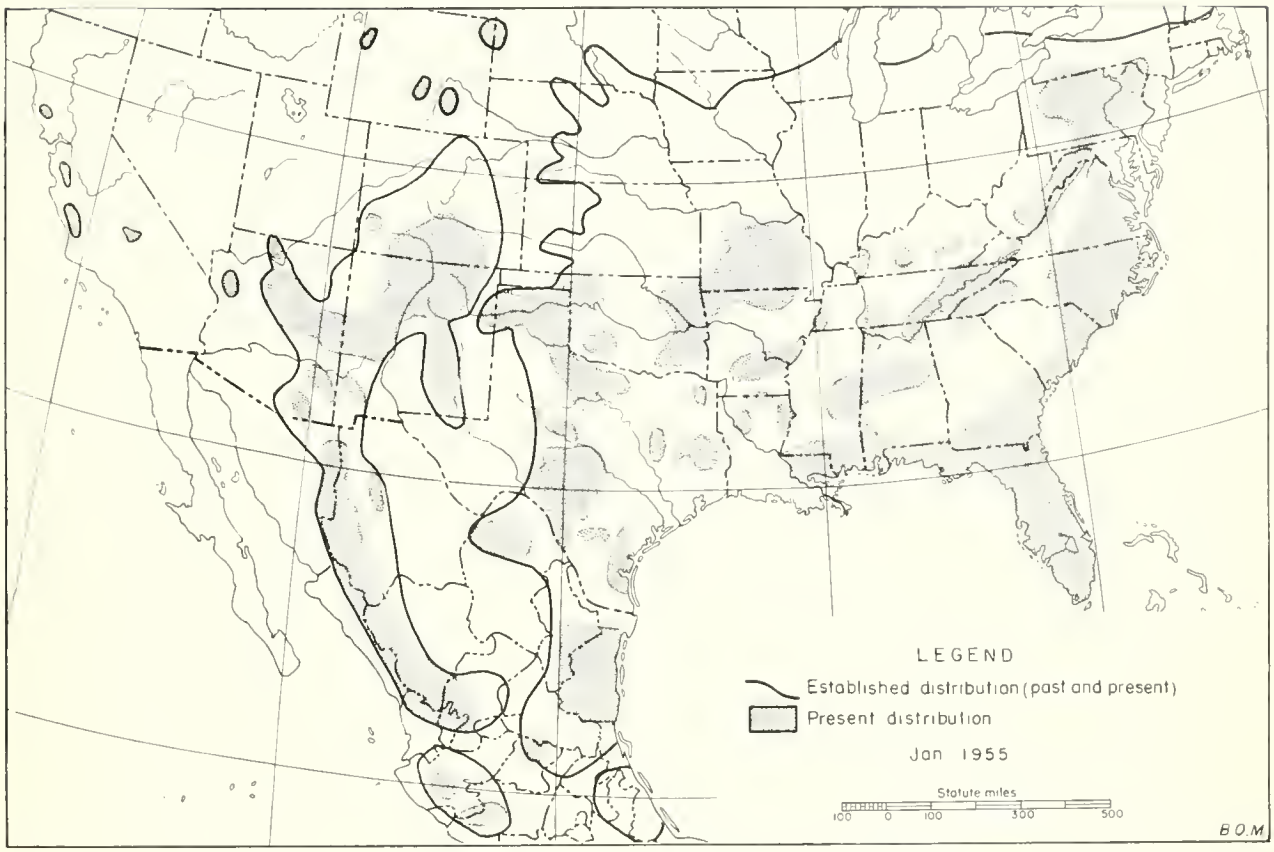




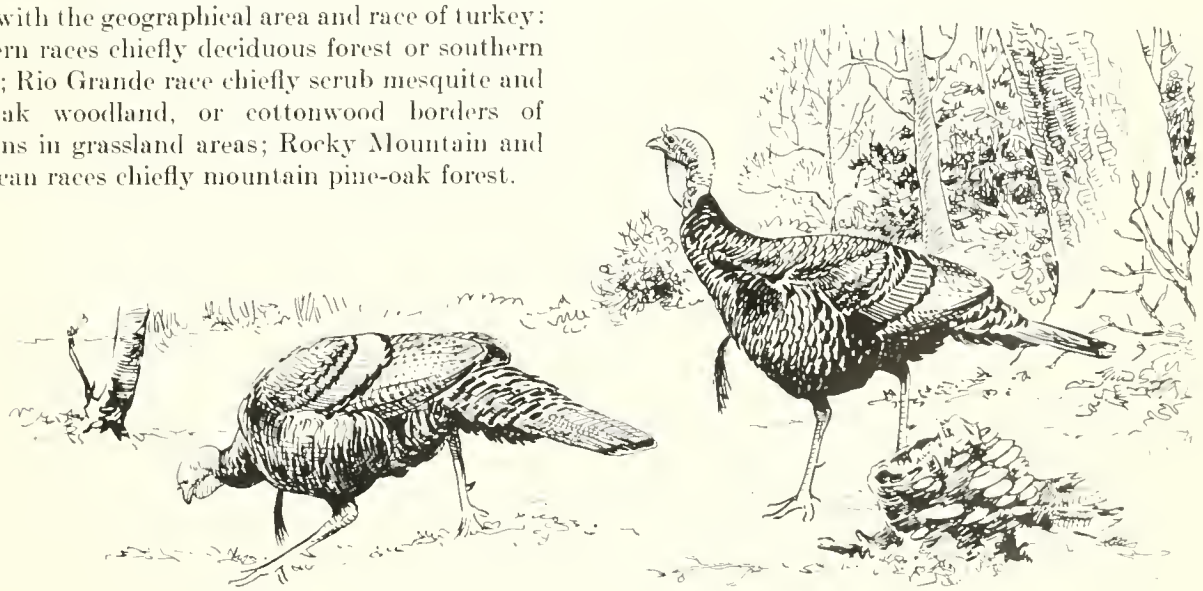
Range.—Native to eastern and southwestern United States, much of Mexico, and extreme southern tip of Ontario, Canada. Now extirpated over much of its original range, particularly in the eastern United States and in Mexico. Established after introduction outside original range in Wyoming, South Dakota, and California.

TURKEY *Meleagris gallopavo*

PRESENT DISTRIBUTION



Habitat.—Chiefly forested country varying in type with the geographical area and race of turkey: Eastern races chiefly deciduous forest or southern pines; Rio Grande race chiefly scrub mesquite and live-oak woodland, or cottonwood borders of streams in grassland areas; Rocky Mountain and Mexican races chiefly mountain pine-oak forest.



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BLUE GROUSE
COCK AND HEN

WHITE-TAILED PTARMIGAN
HEN AND COCK

SPRUCE GROUSE
COCK AND HEN

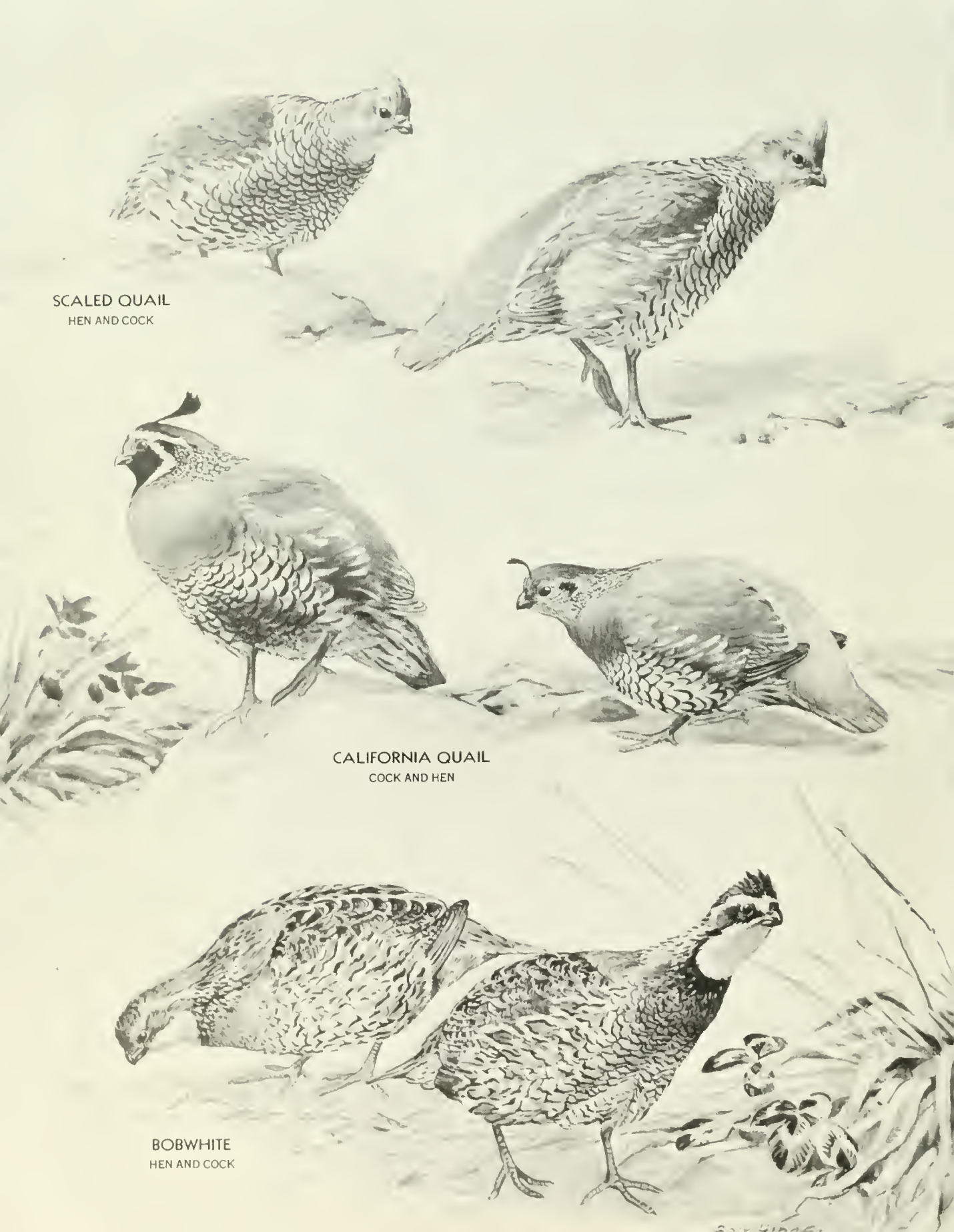
RUFFED GROUSE
SEXES SIMILAR

PRAIRIE CHICKEN
SEXES SIMILAR

SAGE GROUSE
COCK AND HEN

SHARPTAIL GROUSE
SEXES SIMILAR

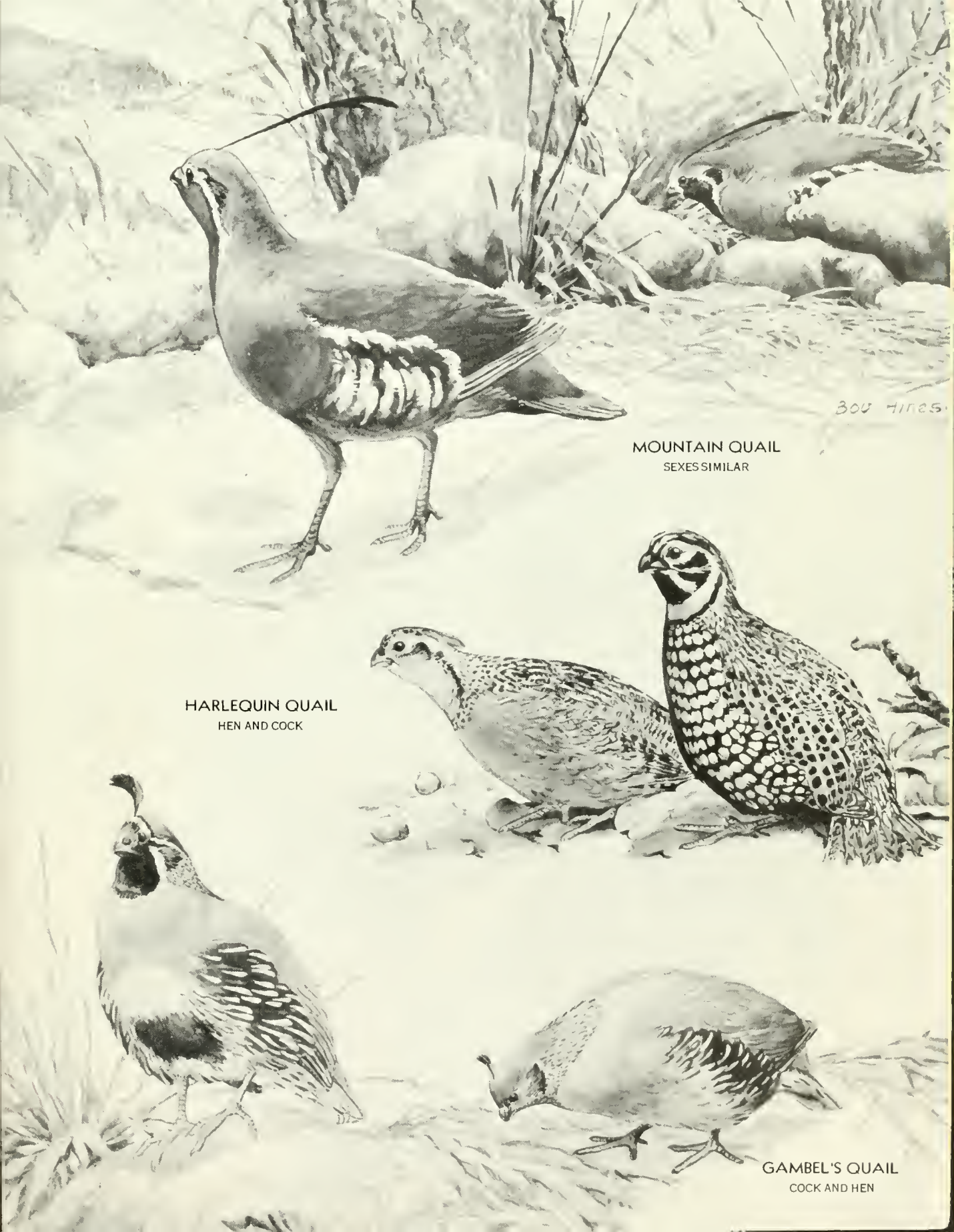

RING-NECKED PHEASANT
COCK AND HEN
HUNGARIAN PARTRIDGE
HEN AND COCK
CHUKAR PARTRIDGE
SEXES SIMILAR
Bob Hines.



SCALED QUAIL
HEN AND COCK

CALIFORNIA QUAIL
COCK AND HEN

BOBWHITE
HEN AND COCK



MOUNTAIN QUAIL
SEXES SIMILAR

HARLEQUIN QUAIL
HEN AND COCK

GAMBEL'S QUAIL
COCK AND HEN


CHACHALACA
SEXES SIMILAR
TURKEY
HEN AND GOBBLER
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