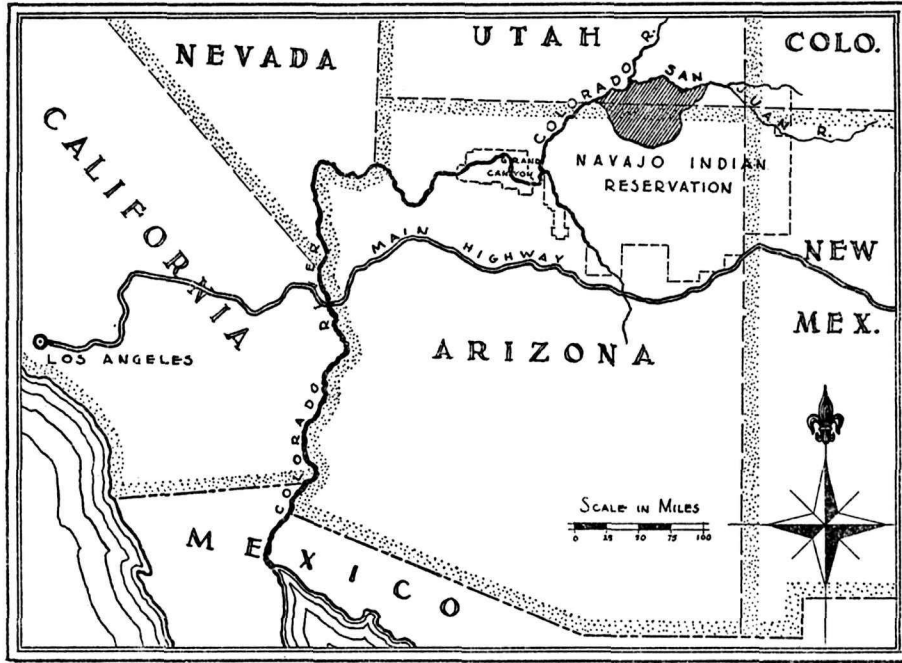

BIRDS
Of the Navajo Country

**By Theodore H. Eaton, Jr.
and Geraldine Smith**



National Youth Administration
(Project 6677-Y)
Berkeley, California
1937



Map Showing Location of Navajo Indian Reservation

Shaded portion indicates area where mapping and scientific field studies are being carried on by the Rainbow Bridge-Monument Valley Expedition.

Foreword

This is one of a series of bulletins on the northern Navajo country, produced under Project 6677-Y of the National Youth Administration, Berkeley, California. In its inception the project had for its main objective the publication of scientific data made available by the Rainbow Bridge - Monument Valley Expedition, resulting from four years of field work in the northern Navajo country.

Dr. Theodore H. Eaton, Jr., who has served as a member of the Expedition's biological staff in the field, was chosen N. Y. A. project director to supervise the assembling, editing and publishing of this fund of knowledge in some form in which it might be useful to the layman or student. As the work progressed it was decided to widen the scope of the project to include information from all reliable sources with a view to producing a usable scientific manual of the Navajo country. This necessitated a research program pursued mainly among publications in the library of the University of California and that of the Expedition.

Acknowledgment is due to a number of agencies and individuals without whose cooperation the production of these bulletins would not have been possible; to the Alameda County Free Library for the earlier sponsorship of the project; to the National Park Service for space necessary for the work; to the University of California for furnishing published material, collections, and space for investigators; to the trustees of the American Exploration Society (under which the Rainbow Bridge - Monument Valley Expedition operates) for unpublished scientific data collected in the field and for contributions in cash toward publication expenses; and - most of all - to Arthur M. Yale, Frederick S. Clough and other administrative officers of the National Youth Administration, who have recognized the importance of this work and have assisted in many ways toward its completion. To all these, and to all the other individuals who have assisted without recognition here, the undersigned, sponsor of the project, expresses his sincere thanks.



Ansel F. Hall

Berkeley, California
April 10, 1937

TABLE OF CONTENTS

	Page
Introductory	1
Life Zones	1
Classification	4
Text	
I. Ardeidae	
Black-crowned Night Heron . . . <i>Nycticorax nycticorax hoactli</i> (Gmelin)	4
II. Anatidae	
Green-winged Teal . . . <i>Nettion carolinense</i> (Gmelin)	5
III. Cathartidae	
Turkey Vulture . . . <i>Cathartes aura septentrionalis</i> (Wied) . .	6
IV. Accipitriidae	
Sharp-skinned Hawk . . . <i>Accipiter velox velox</i> (Wilson) . . .	7
Cooper's Hawk . . . <i>Accipiter cooperi</i> (Bonaparte)	7
Western Red-tailed Hawk . . . <i>Buteo borealis calurus</i> (Cassin)	8
Swainson's Hawk . . . <i>Buteo swainsoni</i> Bonaparte	8
American Rough-legged Hawk . . . <i>Buteo lagopus s. johannis</i> (Gmelin)	9
Golden Eagle . . . <i>Aquila chrysaetos canadensis</i> (Linnaeus) .	10
Prairie Falcon . . . <i>Falco mexicanus</i> Schlegel	11
Duck Hawk . . . <i>Falco peregrinus anatum</i> Bonaparte	11
Desert Sparrow Hawk . . . <i>Falco sparverius phalaena</i> (Lesson)	12
V. Charadriidae	
Killdeer . . . <i>Oxyechus vociferus vociferus</i> (Linnaeus) . . .	13
VI. Scolopacidae	
Spotted Sandpiper . . . <i>Actitis macularia</i> (Linnaeus)	13
Greater Yellow-legs . . . <i>Totanus melanoleucus</i> (Gmelin) . . .	14
Western Solitary Sandpiper . . <i>Tringa Solitaria cinnamomea</i> (Brewster)	15
VII. Recurvirostridae	
Avocet . . . <i>Recurvirostra americana</i> Gmelin	15
VIII. Phalaropodidae	
Wilson's Phalarope . . . <i>Steganopus tricolor</i> Vieillot	17

IX. Columbidae

Western Mourning Dove . . . *Zenaidura macroura marginella*
 (Woodhouse)17

X. Strigidae

Flammulated Screech Owl . . . *Otus flammeolus* (Kaup)18
 Western Horned Owl . . . *Bubo virginianusopalleescens* Stone .18
 Rocky Mountain Pygmy Owl . . . *Glaucidium gnoma pinicola*
 Nelson19
 Western Burrowing Owl . . . *Speotyto cunicularia*
hypugaea (Bonaparte).19

XI. Caprimulgidae

Nuttall's Poor-will . . . *Phalaenoptilus nuttalli nuttalli*
 (Audubon)20
 Western Nighthawk . . . *Chordeiles minor henryi* Cassin . . .20

XII. Micropodidae

White-throated Swift . . . *Aëronautes saxatalis*
saxatalis (Woodhouse)21

XIII. Trochilidae

Black-chinned Hummingbird . . . *Archilochus alexandri*
 (Bourcier and Mulsant)22
 Broad-tailed Hummingbird . . . *Selasphorus platycercus*
platycercus (Swainson)22
 Rufous Hummingbird . . . *Selasphorus rufus* (Gmelin). . . .23
 Calliope Hummingbird . . . *Stellula calliope* (Gould)24

XIV. Picidae

Red-shafted Flicker . . . *Colaptes cafer collaris* Vigors . .24
 White-breasted Woodpecker . . . *Dryobates villosus*
leucothorectis Oberholser24

XV. Tyrannidae

Arkansas Kingbird . . . *Tyrannus verticalis* Say25
 Casain's Kingbird . . . *Tyrannus vociferans* Swainson. . . .25
 Scissor-tailed Flycatcher . . . *Muscivora forficata* (Gmelin).26

Ash-throated Flycatcher . . .	<i>Myiarchus cinerascens cinerascens</i>	
(Lawrence)		27
Say's Phoebe . . .	<i>Sayornis saya saya</i> (Bonaparte)	27
Gray Flycatcher . . .	<i>Empidonax griseus</i> Brewster	28
Western Flycatcher . . .	<i>Empidonax difficilis difficilis</i>	
Baird		28
Western Wood Pewee . . .	<i>Myiochanes richardsoni richardsoni</i>	
(Swainson)		29
Olive-sided Flycatcher . . .	<i>Nuttallornis mesoleucus</i>	
(Lichtenstein)		29

XVI. Alaudidae

Desert Horned Lark . . .	<i>Otocoris alpestris leucolaema</i> (Coues)	30
--------------------------	--	----

XVII. Hirundinidae

Violet-green Swallow . . .	<i>Tachycineta thalassina lepida</i>	
(Mearns)		31
Rough-winged Swallow . . .	<i>Stelgidopteryx ruficollis serripennis</i>	
(Audubon)		32
Long-crested Jay . . .	<i>Cyanocitta stelleri diademata</i> (Bonaparte)	
.		32
Woodhouse's Jay . . .	<i>Aphelocoma californica woodhousei</i> (Baird)	
.		33

XVIII. Corvidae

American Raven . . .	<i>Corvus corax sinuatus</i> Wagler	33
Pinyon Jay . . .	<i>Cyanocephalus cyanocephalus</i> (Wied)	34
Clark's Nutcracker . . .	<i>Nucifraga columbiana</i> (Wilson)	35

XIX. Paridae

Mountain Chickadee . . .	<i>Penthestes gambeli gambeli</i> (Ridgway)	35
Gray Titmouse . . .	<i>Baeolophus inornatus griseus</i> (Ridgway)	36
Lead-colored Bush-tit . . .	<i>Psaltriparus minimus plumbeus</i>	
(Baird)		36

XX. Sittidae

Rocky Mountain Nuthatch . . .	<i>Sitta carolinensis nelsoni</i>	
(Mearns)		37
Red-breasted Nuthatch . . .	<i>Sitta canadensis</i> Linnaeus	38
Black-eared Nuthatch . . .	<i>Sitta pygmaea melanotis</i> Van Rossem	38
Rocky Mountain Creeper . . .	<i>Certhia familiaris montana</i> Ridgway	
.		39

XXI. Cinclidae

Dipper . . .	<i>Cinclus mexicanus unicolor</i> Bonaparte	39
--------------	---	----

XXII. Troglodytidae

Western House Wren . . . Troglodytes aëdon parkmani Audubon 40
 Bewick's Wren . . . Thryomanes bewicki bewicki (Audubon)40
 Canyon Wren . . . Catherpes mexicanus consperus Ridgway 41
 Common Rock Wren . . . Salpinctes obsoletus obsoletus (Say) 41

XXIII. Mimidae

Western Mockingbird . . . Mimus polyglottos leucopterus (Vigors) . .42
 Bendire's Thrasher . . . Toxostoma bendirei (Coues) 42
 Sage Thrasher . . . Oreoscoptes montanus (Townsend) 43

XXIV. Turdidae

Western Robin . . . Turdus migratorius propinquus Ridgway 43
 Chestnut-backed Bluebird . . . Sialia mexicana bairdi Ridgway . . .44
 Mountain Bluebird . . . Sialia currucoides (Bechstein)45
 Townsend's Solitaire . . . Hyadestes townsendi (Audubon)45

XXV. Sylviidae

Western Gnatcatcher . . . Polioptila caerulea amoensissima Grinnell .46
 Western Ruby-crowned Kinglet . . . Corthylio calendula cineracens
 (Grinnell) 47

XXVI. Laniidae

White-rumped Shrike . . . Lanius ludovicianus excubitorides Swainson 47

XXVII. Vireonidae

Plumbeous Vireo . . . Vireo solitarius plumbeus Coues 48
 Cassin's Vireo . . . Vireo solitarius cassinii Mantus48
 Western Warbling Vireo . . . Vireo gilvus swainsoni Baird 48

XXVIII. Compothlypidae

Calaveras Warbler . . . Vermivora ruficapilla ridgwayi van Rossem . 49
 Virginia's Warbler . . . Vermivora virginiae (Baird)49
 Alaska Yellow Warbler . . . Dendroica aestiva rubiginosa (Pallas) . 50
 Audubon's Warbler . . . Dendroica auduboni auduboni (Townsend) . .50
 Black-throated Gray Warbler . . . Dendroica nigrescens (Townsend) . 51
 Townsend's Warbler . . . Dendroica townsendi (Townsend)52
 Hermit Warbler . . . Dendroica occidentalis (Townsend)53
 Northern Pileolated Warbler . . . Wilsonia pusilla pileolata (Pallas)
54

	Page
XXIX. Ploceidae	
English Sparrow . . . <i>Passer domesticus domesticus</i> (Linnaeus)	54
XXX. Icteridae	
Yellow-headed Blackbird . . . <i>Xanthocephalus xanthocephalus</i> (Bonaparte)	55
Bullock's Oriole . . . <i>Icterus bullocki</i> (Swainson)	56
Nevada Cowbird . . . <i>Molothrus ater artemisiae</i> (Grinnell)	56
XXXI. Thraupidae	
Western Tanager . . . <i>Piranga ludoviciana</i> (Wilson)	57
XXXII. Fringillidae	
Rocky Mountain Grosbeak . . . <i>Hedymeles melanocephalus</i> papago (Oberholser)	58
Lazuli Bunting . . . <i>Passerina amoena</i> (Say)	59
Cassin's Purple Finch . . . <i>Carpodacus cassinii</i> Baird	60
Common House Finch . . . <i>Carpodacus mexicanus frontalis</i> (Say)	61
Northern Pine Siskin . . . <i>Spinus pinus pinus</i> (Wilson)	62
Green-backed Goldfinch . . . <i>Spinus paltria hesperophilus</i> (Oberholser)	62
Bondiro's Crossbill . . . <i>Loxia curvirostra bondirei</i> Ridgway	63
Mexican Crossbill . . . <i>Loxia curvirostra stricklandi</i> Ridgway	63
Spurred Towhee . . . <i>Pipilo maculatus montanus</i> (Swarth)	64
Western Lark Sparrow . . . <i>Chondestes grammacus strigatus</i> Swainson	64
Desert Sparrow . . . <i>Amphispiza bilineata deserticola</i> Ridgway	65
Gray-headed Junco . . . <i>Junco caniceps</i> (Woodhouse)	65
Western Chipping Sparrow . . . <i>Spizella passerina arizonae</i> Coues	66
Brewer's Sparrow . . . <i>Spizella breweri breweri</i> Cassin	67
Glossary	69
Bibliography	72
Index	73

Introductory

Bird observation in summer offers many difficulties in the Navajo country, for the sun rises abruptly giving little time for observation before the birds are quiet in the heat of the day. Rarely more than fifteen or twenty species may be seen in one day, the number of individual birds being small because of the relatively barren nature of the country. Yet, the area offers abundant opportunity for bird study.

There are only a few published accounts of the birds of this region. The purpose of this booklet is to list the birds in the area, together with their local habitat, general range, and principal characteristics. The birds considered have been seen and reported in the Navajo region by the four Rainbow Bridge-Monument Valley expeditions which were made during the years of 1933 through 1936, under Ansel F. Hall of the National Park Service. The area covered is northeastern Arizona, southeastern Utah, and the adjacent parts of Colorado and New Mexico. (See Map, frontispiece.)

Life Zones

Within the Navajo region one finds four life zones: the Canadian--which is found only on the top of Navajo Mountain and the Chuska Mountains; the Transition which is the next level; and Upper and Lower Sonoran.

The Canadian zone has a dense forest of aspen, Limber Pine, Douglas Fir, and Engelmann spruce; this serves to identify the zone. On top of Navajo Mountain, which is the only part of the Canadian zone with which we shall deal, one finds a comparatively abundant supply of water. Navajo Mountain, 10,416 feet in altitude, provides a wider range of living conditions than the country adjacent to it, because of the variety of slopes and elevations.

The Transition zone is found just below the summit of Navajo Mountain, and in other cool places, such as the heads of higher canyons, or on the higher mesa tops. Characteristic of this zone are the yellow pine, Douglas fir, willow, and poplar.

List of Birds Characteristic of Life Zones
in the Navajo Region

ZONES

(Birds are typically found in the zones under which they are listed. In cases in which they also occur in other zones, these are indicated by parenthetical abbreviations, as follows:

B: Boreal zone--including Arctic, Hudsonian, and Canadian, here represented only by the Canadian; C: Canadian, T: Transition, U. S: Upper Sonoran, L. S: Lower Sonoran.

Canadian

Rufous Hummingbird (T)
Olive-sided Flycatcher (T)
Long-crested Jay (T) (B)
Rocky Mountain Nuthatch (partly C)
(T)
Red-breasted Nuthatch
Rocky Mountain Creeper (B)
Dipper (T)
Western Robin (T)
Mountain Bluebird (T)
Townsend's Solitaire (B)
Western Ruby-crowned Kinglet
Alaska Yellow Warbler
Audubon Warbler (T)
Townsend's Warbler (T) (B)
Western Tanager (T) (U.S sometimes)
Cassin's Purple Finch (B)
Pine Siskin (T) (mainly C)
Mexican Crossbill (T)
Gray-headed Junco (T)

Transition

Turkey Vulture (U.S) (L.S)
(Partly T)
Prairie Falcon (U.S)
Nuttall's Poor-will (U.S)
Rufous Hummingbird (C)
Olive-sided Flycatcher (C)
Long-crested Jay (C)
Woodhouse's Jay (U.S)
Pinyon Jay (U.S)
Lead-colored Bush-tit (U.S)
Rocky Mountain Nuthatch (C)
Dipper (C)
Common Rock Wren (U.S) (L.S)
Sage Thrasher (U.S)
Western Robin (C)
Chestnut-backed Bluebird (U.S)
(Mainly T)
Mountain Bluebird (C--upper)
White-rumped Shrike (U.S) (L.S)
Cassin's Vireo
Calaveras Warbler
Virginia's Warbler
Audubon's Warbler
Black-throated Gray Warbler
Townsend's Warbler (F) (C)
Hermit Warbler (Upper T)
Bullock's Oriole
Nevada Cowbird (U.S)
Western Tanager (C) (U.S--some-
times)
Lazuli Bunting (U.S)
Pine Siskin (C)
Green-backed Goldfinch (U.S)
Mexican Crossbill (C)
Spurred Towhee (U.S)
Gray-headed Junco (C)
Brewer's Sparrow (mainly T)

Upper Sonoran

Prairie Falcon (T) (L.S)
 Nuttall's Poor-will (T)
 Black-chinned Hummingbird (L.S)
 Arkansas Kingbird (L.S)
 Cassin's Kingbird (L.S)
 Woodhouse's Jay (T)
 Pinyon Jay (T)
 Gray Titmouse
 Lead-colored Bush-tit (T)
 Canyon Wren (L.S)
 Common Rock Wren (L.S)
 Western Mocking Bird (L.S)
 Sage Thrasher (T)
 Chestnut-backed Bluebird (T)
 White-rumped Shrike (T) (L.S)
 Nevada Cowbird (T)
 Western Tanager (sometimes)
 (C) (T)
 Lazuli Bunting (T)
 Bewick's Wren
 Common House Finch (L.S)
 Green-backed Goldfinch (T)
 Spurred Towhee (T)
 Desert Sparrow (L.S)

Lower Sonoran

Prairie Falcon (T) (U.S)
 Arkansas Kingbird (U.S)
 Cassin's Kingbird (U.S)
 Canyon Wren (U.S)
 Common Rock Wren (U.S)
 Bendire's Thrasher
 White-rumped Shrike (U.S) (T)
 Common House Finch (U.S)
 Western Lark Sparrow (U.S)
 Desert Sparrow (U.S)

One finds large areas of juniper and pinon in the Upper Sonoran. The birds characteristic of this zone are: the Pinyon Jay, Gray Titmouse, Baird Bewick Wren, and Woodhouse Jay. The Upper Sonoran covers most of the mesa-tops and the majority of the canyons between 6000 and 8000 feet.

In the Lower Sonoran, occupying Monument Valley, the Painted Desert, and the San Juan and Colorado canyons, one finds the most hot and barren country of the Navajo region.

Roughly speaking, the temperature rises as one travels from a high level to a low one. Thus in going from Navajo Mountain down to the semi-desert region the effect is the same as in approaching the equator from a temperate latitude. The association of animals and plants in a certain area depends largely on temperature and moisture, and therefore on latitude and elevation. The life zones are recognized, however, by the prevailing fauna and flora.

The altitude range of the Canadian zone is roughly above 9,500 feet; of the Transition from 8,000 to 9,500 though in some of the deep canyons it extends down to 7,000; of the Upper Sonoran from 5,000 or 5,500 to 8,000; and of the Lower Sonoran below 5,000. These levels are all approximate, since a northern or southern exposure will influence the limits of a zone considerably.

Classification

In the classification of animals all the birds are included in the class Aves. This class is divided into a number of orders, each of which has certain major distinctive characteristics. Every order, in turn, is divided into families on the basis of further anatomical differences. Families are subdivided into genera (singular, genus); a genus is broken down into species; and the smallest division of all is the subspecies. A species constitutes the really basic unit of the system of classification--it is defined as that group of birds the members of which can intermingle and reproduce one with the other. Differences between adjacent subspecies are, however, extremely minute and these subgroups merge one into the other.

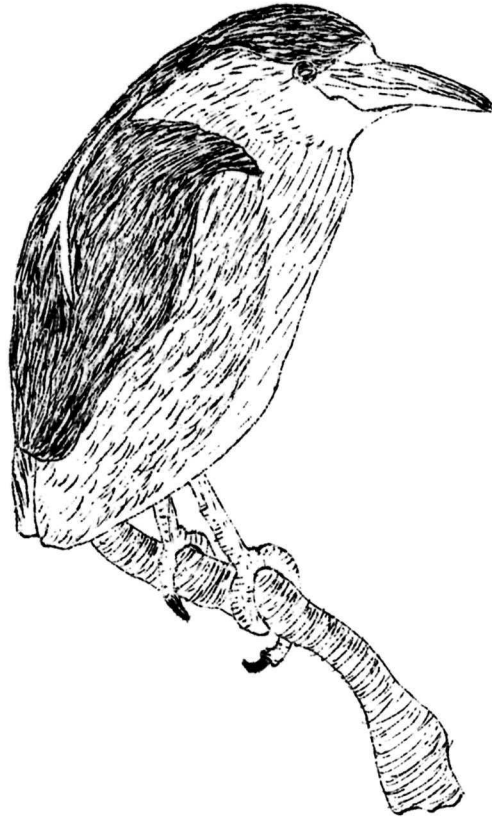
Taking the Rocky Mountain Grosbeak, as an example, the following are the categories into which it would be placed:

Class
 Aves
 Order
 Passeriformes
 Family
 Fringillidae
 Genus
 Hedymeles
 Species
 melanocephalus
 Subspecies
 papago

Descriptive List of Birds

Black-crowned Night Heron *Nycticorax nycticorax hoactli* (Gmelin)

Description.-- Forehead white, rest of top of head and middle of back black, with bluish or greenish gloss, wings and tail bluish gray; under parts and neck whitish; in the breeding season two long,



Black-crowned Night Heron
Nycticorax nycticorax hoactli (Gmolin)

narrow white feathers extend from the back of the head down the back. Bill black; iris red; legs yellow, webs orange. Bill and legs comparatively short. Young: Upper parts cinnamon brown, wings with tear-shaped and round white marks; throat white, rest of underparts (except lower belly etc.) heavily striped with brown and white; iris yellow or dull orange. (Bailey 1928 and Hoffmann 1927)

Comparisons.-- The striped young Black-crowned Night Heron must not be confused with the Bitter. It is never yellowish, the back is coarsely marked, and the wing quills are never black. It often alights and nests in trees or bushes; the Bitter never does. (Bailey 1928)

Habitat.-- From southern Canada to Central and South America. Resident Central and South America. In North America winters from Oregon, and Massachusetts, south along Atlantic and Gulf States in Calif.

Nest.-- In colonies, platforms of sticks placed on bushes or tree tops; or of reeds or rushes laid on the ground among reeds.

Eggs.-- Usually 3-5, pale bluish green.

Green-winged Teal *Nettion carolinense* (Gmelin)

Description.-- Length: 12.5-15 inches. Adult male in breeding plumage: Head brown, with metallic, bright green patch from eye back to short crest; fore upperparts crossbarred, posterior upperparts, including tail, dark brown; wing with bright green speculum (violet at certain angles), bordered by buffy brown and black; outer scapulars widely edged with black, making black streaks; higher underparts finely crossbarred with black and white, breast pinkish brown, spotted with black and generally with white bar near bond of wing; belly white, under tail coverts black contrasting with creamy white patch each side of base of tail; iris brown, bill black, legs and toes grayish, webs blackish. Adult male in post nuptial eclipse: Similar to female but variable, head without green or brown, body without buffy. Adult female: Upperparts dark brown, feathers of back and scapulars edged buff, ashy or whitish; breast, sides, and flanks similar but of lighter tone, and under tail coverts still lighter; wing nearly like male but wing bar before speculum sometimes white; iris, bill, legs and feet much as in male. Young in juvenal plumage: Similar to female but tail feathers more blunt at tips. (Bailey 1928)

Comparisons.-- This is the smallest of our ducks. In any plumage, lack of chalky blue on the wings distinguishes it from the Blue-winged and Cinnamon Teal, and lack of white on the wings from the small Bufflehead.

Habitat.-- Breeds in northern North America, practically across the continent but sparingly in the east; southwestern and central United States; winters from southeastern Alaska, British Columbia, Montana, Nebraska, the Great Lakes and eastward south to Bahamas and Lesser Antilles, British Honduras, and southern Lower California.

Nest.-- On the ground near water in thick grass, or among willows, made of grass and lined with down.

Eggs.-- 6-12, pale buffy white or greenish buff.

Food.-- Mainly seeds of aquatic plants including various grasses, sedges, wild millet, wapato, and pondweeds, duckweeds, small acorns, fallen grapes or berries, aquatic insects, brine shrimps, and small snails.

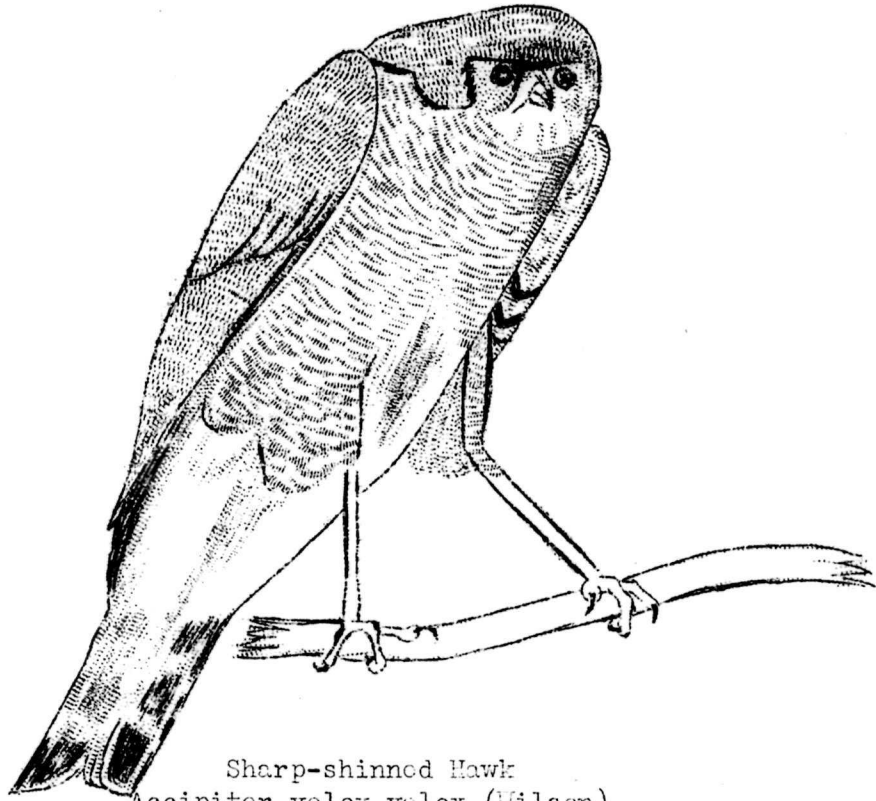
Turkey Vulture *Cathartes aura septentrionalis* Wied

Description.-- Length 26-32 inches. Adult: Bare head dull crimson; upperparts blackish, with a greenish and violet gloss; feathers of back, wing coverts and secondaries margined with grayish brown; with ash gray of quills; underparts uniform dull black; iris brown, bill whitish, cere red, legs and feet whitish. Young in Juvenal plumage: Like Adult, but bill and naked skin blackish wing coverts with less distinct brownish margins. (Baily)

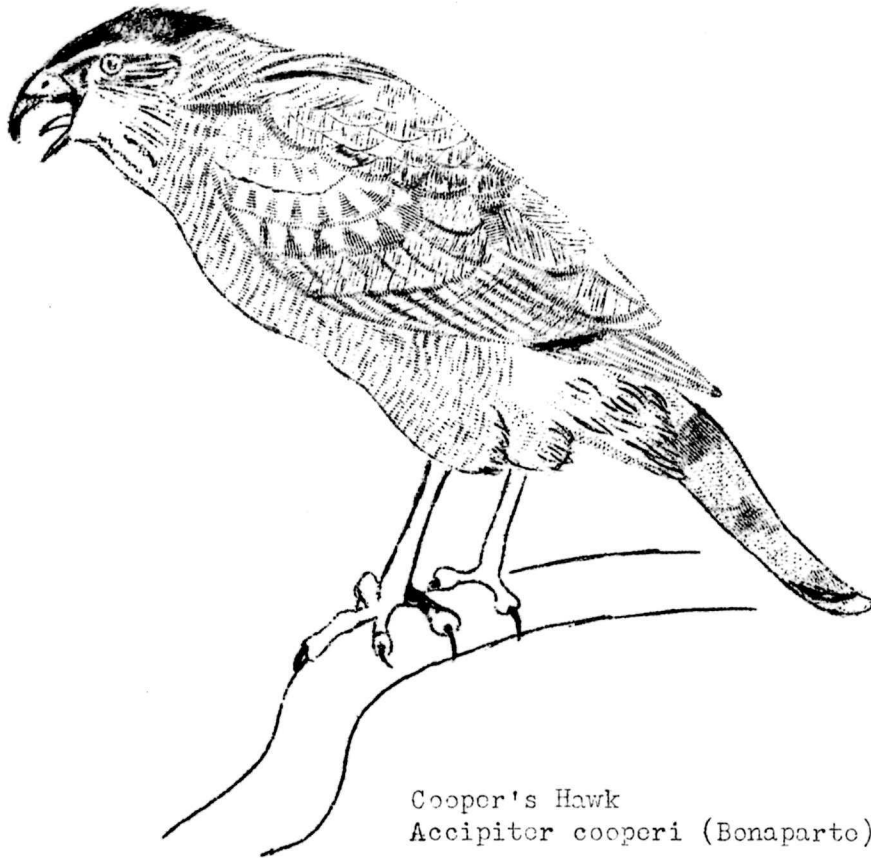
Habitat.-- Southwestern, northeastern, and eastern Canada; south to northern Mexico and southern Lower California; winters in most of its Atlantic slope range but westward retires south to the Ohio Valley, Nebraska and California. Zone: Austral and Transition.

Eggs.-- Laid on the bare ground often between or under rocks, or in a hollow log, stump, or tree; usually 2, white, creamy or greenish white, generally spotted and blotched with brown and lavender, around especially the larger end.

Food.-- Principally carrion but also snakes, toads, rats, mice, and occasionally young birds.



Sharp-shinned Hawk
Accipiter velox velox (Wilson)



Cooper's Hawk
Accipiter cooperi (Bonaparte)

Sharp-shinned Hawk *Accipiter velox velox* (Wilson)

Description.-- Male: Length 10-11 inches, Female: 12 inches. Head small; wings short; rounded tail; legs long and feathered a third of the way down in front; wings with three to five outer quills cut out on inner webs. Adults: Upperparts (including wings) bluish gray, occipital feathers snow-white under surface; tail with three or four narrow blackish bands, and narrow white tip; underparts white, heavily cross-banded or spotted with reddish brown; wing linings white, with dusky spots; flight feathers and axillars barred; iris varying with age from yellow to red; bill dark, cere; legs, and feet yellow or greenish. Young in juvenal plumage: Upper part brown, varied with rusty and white; below whitish, streaked vertically with reddish brown. (Bailey 1928)

Habitat.-- Range North and Middle America. Local occurrence: Long Canyon .

Cooper's Hawk *Accipiter cooperi* (Bonaparte)

Description.-- Male: Length 14-20 inches. Five quills cut out on inner webs. Adults: Like the Sharp-shin but larger, tail rounded, and top of head blackish in contrast to bluish gray of back. (Bailey)

Habitat.-- Breeds mainly in Canadian Zone from southern Canada and southern Alaska to Mexico, and in winter throughout some of the border states. They occur over most of the state during migration and the vertical range of the species is about 11,000 feet. It winters up to about 7,000 feet. Local occurrence: Long Canyon, Navajo Mountain.

Nest.-- Often a remodeled one of hawks, crows, or squirrels in such trees as cottonwood, box elder, oak, walnut, pine, and Douglas fir; bulky, made of sticks often lined with rough outer bark, and sometimes moss, grass or leaves.

Eggs.-- Usually 4 or 5, pale bluish or greenish white, unmarked or faintly and irregularly scrawled with brown or pale buffy.

Food.-- Almost entirely wild birds and poultry; including doves, game birds, and sparrows.

Western Red-tailed Hawk *Buteo borealis calurus* Cassin

Description.-- Length about 19-23 inches. Wings with four quills cut out on inner webs. Dark wrist-spot on the Buteos and on underside of wings in all plumages. Adults: Varying from light to very dark or melanistic. Upperparts dark brown, marked with light brown and whitish; tail bright reddish brown with a black subterminal band and sometimes additional bars; underparts white or buffy, streaked. Dark extreme: Uniform sooty brown except for rufous tail. Intermediates: Reddish brown on underparts with wash on upperparts; all grades between these three plumages are also found. Iris brown; bill horn color; legs and feet, yellow. Young: Dark brown, heavily spotted on lower underparts; sometimes wholly dusky; tail grayish to yellowish brown, crossed by 9 to 10 blackish bands; iris yellow. (Bailey 1928)

Habitat.-- Less numerous in transition zone than further down (Clark 1935). Western North America from Alaska to Guatemala; in winter migrates from the northern half of its range. (Bailey 1928)

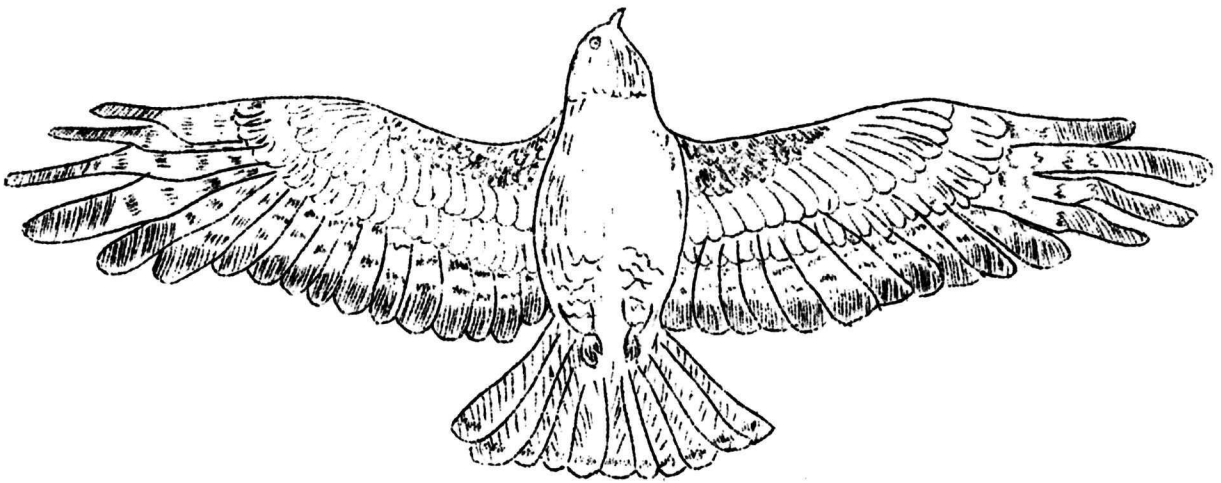
Nest.-- Usually in large cottonwoods, sycamores, live oaks; 30 to 50 feet from the ground; also in pines, junipers, mesquites, ocotillas, and giant cactus and occasionally on cliffs; made of sticks and lined with roots and inner bark.

Eggs.-- Generally 2 or 3 creamy or bluish white, unspotted or irregularly blotched with yellow and brown. (Bailey 1928)

Food.-- Mainly ground squirrels, chipmunks, prairie dogs, cottontail and jack rabbits, mice, snakes (including rattle-snake), lizards, frogs, cattle grubs, grasshopper, Jerusalem crickets, and other insects. In winter the food is principally cotton-tails, jack rabbits, and field mice.

Swainson Hawk *Buteo swainsoni* Bonaparte

Description.-- Male: Length 19.5-20 inches. Female: Length 21-22 inches. Wing with three quills cut out on inner web. Adult male normal plumage: Upperparts nearly uniform dark brown; tail crossed by about nine or ten narrow blackish bands; throat and belly white, sharply contrasting with reddish brown chest band. Adult female in normal plumage: Like male but chest patch grayish brown instead of rufous. Dark phase, both sexes: Sooty brown. Every possible gradation occurs between these dark and light phases. Iris brown, never yellow; cere, gape, legs and feet rich yellow. Young



Western Red-tailed Hawk (Adult)
Buteo borealis calurus Cassin

juvenile plumage: Upperparts blackish brown varied with buffy or yellowish brown; head, neck, and underparts buffy or fawn color, head and neck streaked, and underparts usually more or less marked with blackish. (Bailey 1928)

Comparisons.-- Seen from below, the black wrist marks and dark chest band of the normal adult male are distinctive. In any plumage, the Swains may be distinguished from the other Buteos by having three instead of four wing quills cut out.

Habitat.-- Alaska, southwestern part of Canada south to South America; winters from Colorado and South Dakota south to northern Argentina.

Nest.-- Most commonly found in mesquite, catsclaw and bushes; but also in tall soap weeds (yuccas), the thick foliage of young cottonwoods, and sometimes on a cliff; made of sticks lined largely with green leaves and bark and sometimes with grass or fur.

Eggs.-- 2-4; greenish, buffy, or pure white; usually moderately marked with brown and gray.

Food.-- Almost entirely small rodents--ground squirrels, mice, gophers, grasshoppers, and crickets; lives largely on grasshoppers in summer and fall.

American Rough-Legged Hawk *Buteo lagopus s. johannis* (Gmelin)

Description.-- Male: Length about 22.5 inches; Female: Length about 24 inches, wing with four quills cut on inner web; legs feathered in front of toes. Adult, normal phase: Upperparts streaked, the flanks and feathered legs barred with black; tail white, washed with ash gray and stained with ferruginous; wings with quills and secondaries lead color; wing linings white marked with rufous; underparts white, sometimes slightly streaked with dusky; iris, cere, and feet bright yellow. Dark phase: Body chocolate-brown, varied with rusty; tail normal. Young: Upperparts grayish brown, with less rufous, the feathers edged with rusty or yellowish brown; underparts and flanks white, the flanks more or less dusky; markings extending onto belly; tail whitish for basal third, usually with several more or less distinct dark bands. (Bailey 1936)

Comparisons.-- The two Rough-legged Hawks, the Western Red-tail and Swainson, fairly comparable in size, and with confusing melanistic intermediate plumages may be difficult to identify. The feathered tarsus of the two Rough-legs, however, when it can be seen, separates them from the Western Red-tail and Swainson and the red tail of all adult Western Red-tails identifies them.

Of the two Rough-legs, the American has a dark terminal tail band lacking in the Ferruginous, never has as much white on the breast nor ruddy on the back and flanks as the Ferruginous, and in one plumage is easily recognized by its dark abdominal band. In similar black plumages the shape of the bill, as seen from above, distinguishes the two, being narrow and constricted toward the gape in the American, "broad and frog-mouthed" in the Ferruginous. (Bailey 1928)

Habitat.-- Southwestern part of Canada, Western United States; winters from Montana to Lower California and Mexico.

Nest.-- In high junipers in open places and sometimes in yellow pines or even on the ground; sometimes on rocky precipitous hill-sides; great masses of sticks or even buffalo ribs; at times measuring three feet in diameter and two or more in depth.

Eggs.-- 2-5, creamy or pale greenish, irregularly blotched with brown and lavender.

Food.-- Almost entirely small mammals, especially mice; also rabbits, ground squirrels, pocket gophers, prairie dogs, snakes; almost never birds.

Golden Eagle *Aquila chrysaetos canadensis* (Linnaeus)

Description.-- Length about 30 to 40 inches; Adults: Dark Brown with loose, lanceolate feathers at back of head; quills and tail blackish, basally more or less clouded or banded with gray; flight feathers nearly black; iris brown; bill bluish horn or blackish, cere; legs and feet, yellow. Young: Much darker (almost black) below; tail with black border, basal portion half to two-thirds plain white. Wings from tip to tip are longer than the line from bill to tail. (Hoffman 1927 and Bailey 1928)

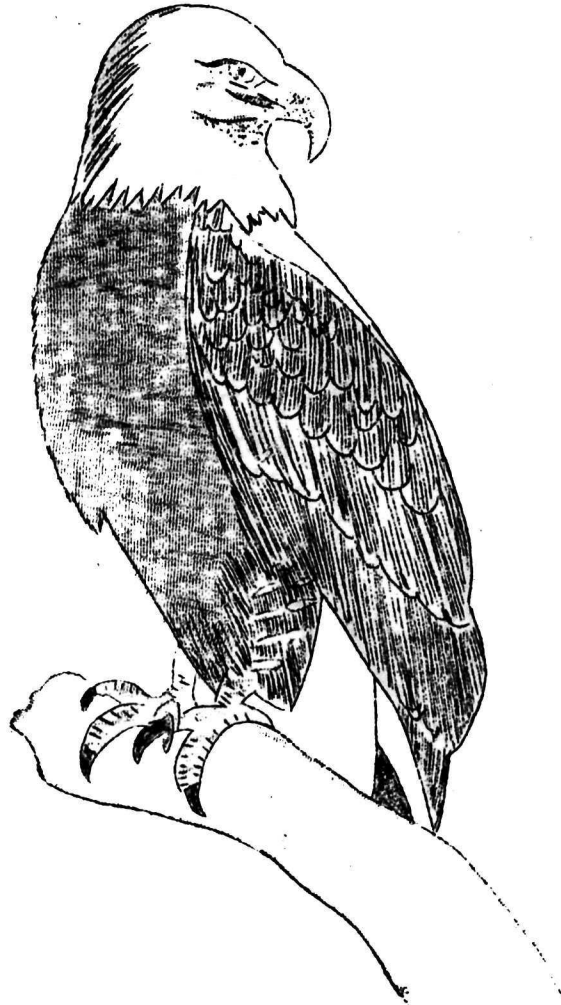
Comparisons.-- In flight the juvenal Golden Eagle is hard to distinguish at a distance from the young Bald Eagle, appearing as a black bird with a black-bordered white tail and prominent white patch at base of primaries. (Bailey 1928)

Habitat.-- Northern part of Northern Hemisphere; in America breeds from northern Alaska, to central Mexico, wintering in southern States.

Nest.-- In New Mexico, generally on cliffs, but also in cottonwoods and yellow pines; sometimes five feet in diameter and three or four feet in depth; made of sticks and lined with straw, grass, leaves, moss, feathers, or fur.

Eggs.-- Usually 2 or 3, whitish, obscurely or heavily blotched with brown and with pale lavender under shell markings. (Bailey 1928)

Food.-- Mainly mammals and birds, including squirrels, prairie dogs, spermophiles, rabbits, fawns, lambs, kids, turkeys, grouse, and waterfowl; some carrion; also rattlesnakes.



Golden Eagle
Aquila chrysaetos canadensis (Linnæus)



Duck Hawk
Falco peregrinus anatum Bonaparte

Prairie Falcon *Falco mexicanus* Schlegel

Description.-- Length about 17-20 inches. Bill toothed; wing with only one quill cut out. Adults: Upperparts pale clay brown, feathers with paler borders; tail tipped with white and more or less distinctly barred; wing quills ashy brown, marked with white; axillars dark brown, wing lining white, spotted; underparts white, streaked, except on throat; bill bluish horn-color, base and much of under mandible yellow; feet yellow. A dark brown stripe borders the throat; ill-defined white line over the eye. Young: Upperparts grayish brown, feathers edged with rusty; underparts buffy, with broader streaks; feet plumbeous. (Bailey 1928 and Hoffmann 1927)

Habitat.-- West Mississippi from southern Canada to southern Mexico. (Bailey 1928) Zone: Transition and Sonoran. Local Occurrence: Tsegi drainage.

Nest.-- Usually in crevices and holes in perpendicular cliffs.

Eggs.-- 2 to 5, generally creamy white, thickly blotched, mottled, and clouded with reddish-brown.

Food.-- Birds, mammals, reptiles, and the larger insects.

Duck Hawk *Falco peregrinus anatum* Bonaparte

Description.-- Length $15\frac{1}{2}$ to 20 inches. Upper mandible strongly toothed; wings long, pointed but very broad, only one quill cut out. Adults: Top of head and "moustache" black in striking contrast to white or buffy at side of head, throat, and breast; broad black stripe down the side of the head between the white throat and the white cheeks; back dark bluish gray or slaty plumbeous, marked with dusky; tail coverts lighter, bluish; tail crossed by six or more light bars; wing quills blackish, spotted; undersides of wings and tail closely spotted or barred; bill mainly blue-black, iris dark brown, naked orbital ring, cere; legs and feet lemon yellow. Young in juvenal plumage: Upperparts brownish or blackish, with light brown feather edgings and tips; tail dark, usually crossed by light bars; underparts buffy, vertically streaked with black; iris dark brown; base of bill cere; legs and feet wax yellow. (Bailey 1928 Hoffmann 1927)

Habitat.--Range: Breeds locally from Alaska to Connecticut and central Mexico; winters from Northern U.S. to South America.

Local occurrence: Navajo Mountain. Zone: From lowest limit of the Transition Zone to well above the top of the mountain in the Canadian Zone. (Clark)

Nest.-- Usually overlooking water, on cliffs; in niches of cut banks, or in hollows in high trees. (Bailey 1928)

Eggs.-- Deposited on bare ledge or ground; generally 3 or 4; creamy ground color often obscured by confluent markings of chocolate brown; others variegated or almost wholly reddish brown.

Food.-- Mainly birds, and principally waterfowl and shorebirds; also poultry and to some extent insects and mice. Pigeons are among its favorite articles of diet, and sometimes attacks them in cities. (Bailey 1928)

Desert Sparrow Hawk

Falco sparverius phalaena (Lesson)

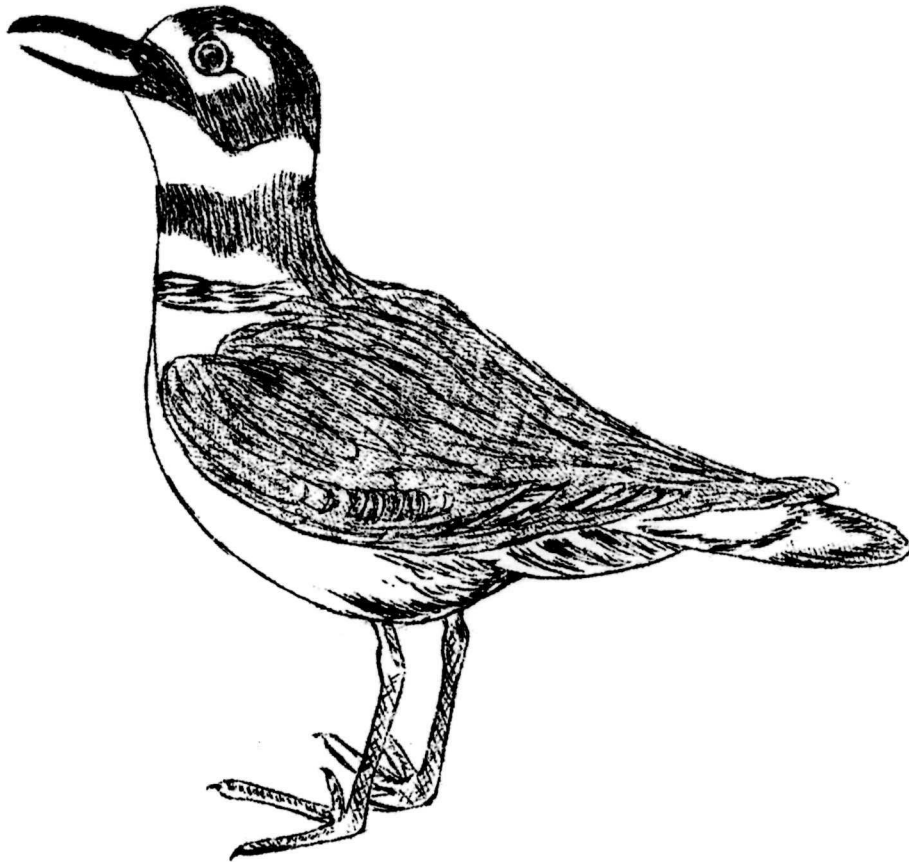
Description.-- Male: Length $8\frac{1}{2}$ - $10\frac{1}{2}$ inches, side of head with two vertical black stripes; crown mainly rufous, buffy brown; wing coverts bluish gray; rest of upperparts buffy brown or pale cinnamon-rufous; tail reddish brown, with black subterminal band and light tip; underparts buffy, spotted on sides; bill bluish at base and darkening to blue-black at tip; cere and edge of bill greenish yellow in young, becoming yellow or orange-yellow in adults; legs and feet yellow deepening with age. Adult female: Similar but duller and back, wings, and tail barred with dusky. Young: similar to adults of the same sex. (Bailey 1928 and Hoffmann 1927)

Habitat.-- Range: Breeds from central Canada to western Texas and northern Mexico. Winters occasionally from Canada to central America. (Bailey 1928) Local Occurrence: Long Canyon.

Nest.-- Usually in hollow trees, and often in old woodpecker holes; sometimes in holes in cut banks, cavities in cliffs, about buildings or in nesting boxes.

Eggs.-- 3-7; usually buffy or yellowish brown; generally finely and evenly marked with shades of the ground color and blotched variously with browns.

Food.-- In summer mainly grasshoppers and crickets; one stomach contained 21 grasshoppers and July 28- Oct. 4, in Colfax County, 90 per cent of the food was grasshoppers. When these are not available, ants, beetles, and other insects, snakes, lizards, small mammals such as mice and gophers; also occasionally wild birds or young chickens.



Killdeer
Oxyechus vociferus vociferus (Linnaeus)

Killdeer *Oxyechus vociferus vociferus* Linnaeus

Description.-- Length: 10-11.2 inches; hind toe absent; toes not webbed at base; tail long for a plover. Adults: Upperparts mainly brown; lower back, rump, and upper tail coverts conspicuous rusty or orange-brown; tail with black subterminal band and white tip; wing with conspicuous white bar; forehead, eye stripe, collar, underparts, axillars and wing linings white; neck with two black bands, the wider one a complete collar; iris brown; naked eye ring red; bill black; legs and feet variable; flesh color yellowish or clay color. Young in juvenal plumage: Like adults but duller; black bands narrower; feathers of upperparts margined with rusty or buffy. (Bailey 1928)

Habitat.-- Range: Canada, south to the Gulf coast, central Mexico, and southern Lower California; winters in British Columbia and United States.

Nest.-- A slight depression in bare sandy or pebbly ground with or without lining of grass, weed stalks, pebbles, or bits of hard earth.

Eggs.-- Usually 4; dull buffy; boldy marked with dark brown, black, and dull lavender.

Food.-- Weed seeds and a remarkable array of insect pests, such as mosquitoes; the cattle fever tick; crane flies (leather jackets) destructive to wheat and grass; grasshoppers; caterpillars; the cloverleaf; cow pea curculio; various weevils which attack cotton, grapes, and sugar beets; bill bugs which damage corn; and especially the alfalfa weevil of which it is one of the most effective destroyers.

Spotted Sandpiper; *Actitis macularia* (Linnaeus)

Description.-- Length about 7-8 inches, outer and middle toes connected by basal webs. Adults in breeding plumage: Upperparts silken greenish or bronzy brown with faint metallic gloss irregularly flecked with blackish; outer tail feathers barred with brown and white; spread wing shows conspicuous white line; axillars white; wing linings and flight feathers brown and white; line over eye white; underparts white, with large round spots except on chin; iris brown; bill with upper mandible mainly blackish, flesh colored near base, lower mandible chiefly yellow or orange; legs and feet generally yellowish or greenish. Adults and young in winter plumage: Upperparts grayish olive or bronzy olive unmarked except for dusky shaft-streaks and barring on wing coverts; underparts unspotted; sides of neck and chest suffused with drab.

Young in juvenal plumage: Like winter adults but still less glossy; upperparts narrowly barred with pale buff and dusky, giving scaled effect. (Bailey 1928)

Habitat.-- Range: Breeds from tree limit in northwestern Alaska, northern Canada and southern United States. (Bailey 1928)

Nest.-- A depression in sandy or gravelly ground, on a wet meadow, in a tuft of grass, or under a low bush; sometimes unlined; at others sparsely lined with leaves and grass.

Eggs.-- 4; creamy buff or white; superficial spots and blotches reddish or blackish brown, chiefly at the larger end; deeper markings lavender or pale gray.

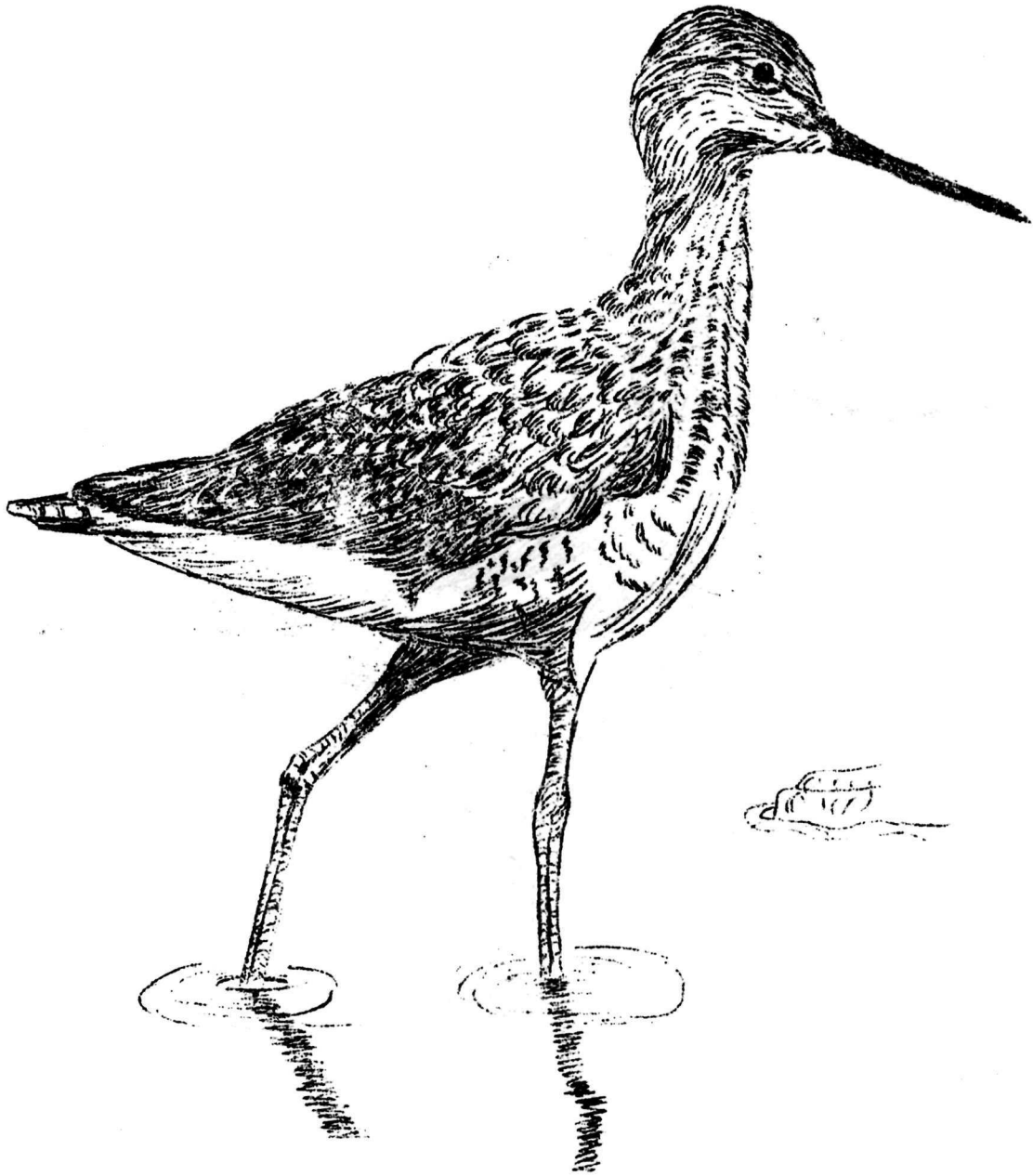
Food.-- Almost exclusively aquatic; insects and their larvae, including locusts and grasshoppers; occasionally even cabbage worms, cutworms, and other garden pests; also small tadpoles and crawfish.

Greater Yellow-legs *Totanus melanoleucus* (Gmelin)

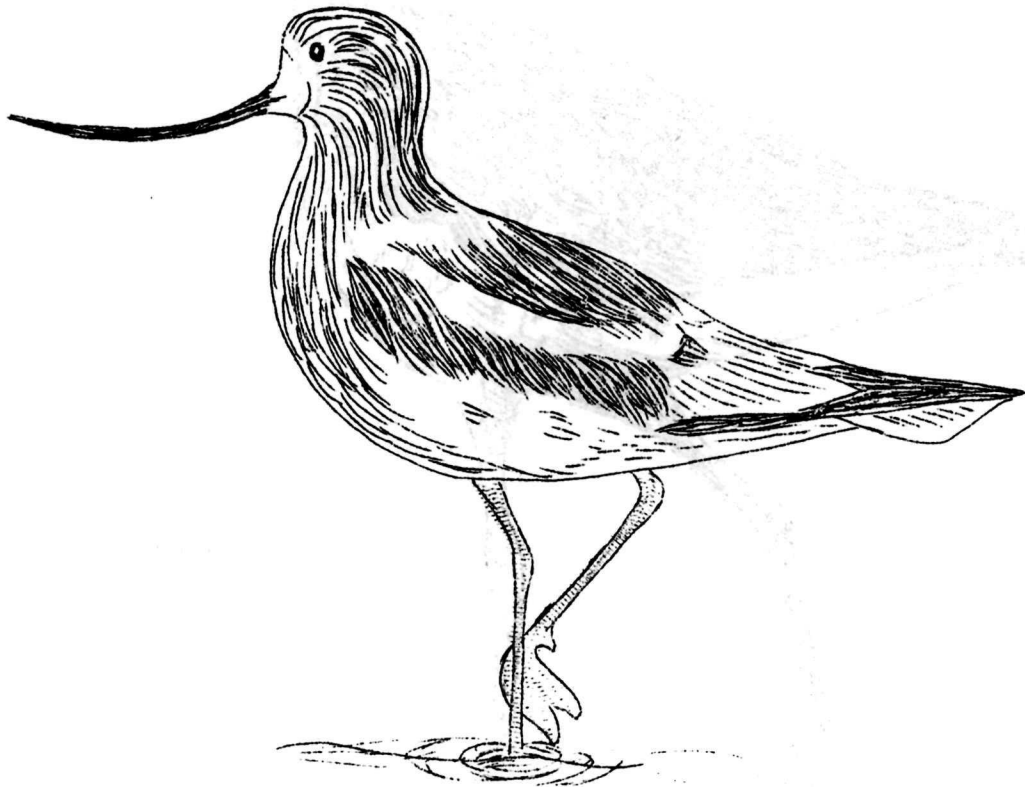
Description.-- Length: 12-15 inches. Top of head and hind neck streaked with black and white. Adult in breeding plumage: Upperparts blackish and pale gray, speckled with white; whitish stripe from bill to above eye; basal half of the tail white; terminal half imperfectly barred; underparts white, fore-neck and breast streaked with black, lower breast and sides with broad irregular bars of brown or brownish black. Wing quills blackish brown, under surface of flight feathers more or less marbled. Bill black; legs long and slender, yellow. Adult in winter: Similar, but upperparts without black markings; light gray, spotted with white; the feathers edged with white; underparts white; finely streaked on throat and chest and irregularly marked with gray on sides and flanks. Young in juvenal plumage: Like summer adults but upperparts dark brown, with buffy instead of white feather margin. (Hoffmann 1927 and Bailey 1928)

Habitat.-- Range: Southern Alaska, Canada; winters from southern United States, the Bahamas, Porto Rico, and the Lesser Antilles over a vast area in South America to the southern extremity of the continent as far as Tierra del Fuego.

Food.-- Snails, insects, worms, small shrimps, and minnows. (Bailey 1928)



Greater Yellow legs
Totanus melanoleucus (Gmelin)



Avocet
Recurvirostra americana Gmelin

Western Solitary Sandpiper *Tringa solitaria cinhamboca* (Browster)

Description.-- Adult: Upperparts olive brown, sparsely speckled with white; head and neck finely streaked; rump and central upper tail dark olive brown; outer feathers barred with white and dusky; throat and breast white, narrowly streaked with dark brown; belly white; outside wing quills and edge of wing black; inner base of outside quill more or less freckled; axillars and wing linings barred blackish brown and white; iris brown, eyelids white; belly white; bill blackish; foot and legs olive. Immature: Underparts brownish gray, speckled with buff; sides of head and neck dusky, unstreaked. (Hoffmann 1927 and Bailey 1928)

Comparisons.-- The Western Solitary can be distinguished from the adult Spotted Sandpiper by its slightly larger size; whitish specks instead of black markings on upperparts; more sharply barred outer tail feathers; brown, streaked neck band; and absence of wing bar and large spots on underparts. It can also be distinguished from the young Spotted Sandpiper by the markings of underparts, wings and tail.

From the Solitary, the Western Solitary is distinguished by its slightly larger size. Also, summer adults are less distinctly spotted, with narrow, whitish, white bars on tail; young with spottings of upperparts brownish buffy or cinnamonaceous instead of white, and freckling on the inner web of the outside primary. (Bailey 1928)

Habitat.-- Range: Alaska to northwestern part of Canada to northern British Columbia; winters as far south as South America.

Avocet *Recurvirostra americana* Gmelin

Description.-- Length: 15.5-18.7 inches. Hind toe small, feet extensively webbed. Adult in breeding season: Head, neck, and chest light cinnamon-brown, except for a whitish area around the eye and the base of the bill; middle of back white, separating two longitudinal black areas, which in turn are bordered by broad white areas; tail grayish white; underparts white. Bill long, slender, up-curved, black; iris red; legs bluish gray. Adult in winter with immature plumage: Head, neck and chest light gray. Young in juvenal plumage: brown, dull gray;

nape tinged with reddish brown; shoulders and back marked with brown or buff; wing quills slightly tipped with whitish. (Bailey 1928 and Hoffmann 1927)

Habitat.-- Range: Southwestern Canada, western part of United States; winters from California and southern Texas south to Mexico and Lower California; casual straggler over southern boundary of British Columbia.

Nest.-- Either a well-made platform of grasses or a rim of grass on the ground near ponds. Nests in colonies.

Eggs.-- 3-4; dull buff or clay, marked with dark brown, black, lavender, or light gray.

Food.-- Rootlets, seeds, and vegetation amount to over a third of the food; while beetles, including weevils, crane flies, gnats, and larvae of alkali flies are the most important items in the animal food. (Bailey 1928)

Wilson's Phalarope *Steganopus tricolor* Vieillot

Description.-- Male: Length 8.2 inches. Female: Length 9.4-10 inches. Bill slender, longer than head; legs long; lobes of all the toes narrowly margined. Adult female in breeding plumage: Top of head bluish gray; nape white, "passing into bluish gray or slate-gray on back and scapulars"; side of head white with black stripe, changing to reddish brown on lower neck and side of back; upperparts with broad brown V's and without white markings on back or wings but with upper tail coverts white; underparts plain white with cinnamon suffusion on sides of neck and breast; axillars and wing linings white; iris brown, eye-ring and patch above eye, white; bill, legs and feet blackish; Adult male in breeding plumage: Smaller; color pattern only faintly indicated on head and neck; back of neck reddish brown; upperparts mainly brownish streaked. Adults in winter plumage: Upperparts light gray; white feather and feet yellowish. Young in juvenal plumage: Crown, back, and wings dusky; the feathers edged with buff or rusty and wings washed with whitish, giving streaked and mottled effect; stripe over eye and underparts white, neck tinged with buff; bill black, yellowish at base of upper mandible, legs flesh-color, feet yellow. (Bailey 1928)

Comparisons.-- The Wilson may be distinguished from other phalaropes by its larger size, long neck, long bill, white upper tail coverts, and, in all plumages, the absence of white wing bars.

Habitat.-- Range: Known only from the Western Hemisphere. Southwestern part of Canada, western United States, and east central United States; winters in South America south to the Falkland Islands and in Mexico and Texas.

Nest.-- Sometimes built over water but as a rule near sloughs with a fairly dry base in high grass; made of dead grass.

Eggs.-- 4-8; gray and drab marked with brown and purple.

Food.-- In 106 stomachs examined, the vegetable food amounted to only 6.7 per cent; the animal, 93.3 per cent. The vegetable food was almost wholly seeds of aquatic or marsh plants.

Western Mourning Dove *Zenaidura macroura marginella*

Description.-- Length: 10-13 inches; tail elongated and pointed, bordered with white and black. Adult male: Body brownish, pinkish fawn-colored below with iridescent blackish spots on side of head, back and wings; top of head washed with bluish; sides of neck glittering with iridescence; iris dark brown; bare skin around eye bluish; bill black; legs and feet pinkish red. Adult female: Similar but paler and iridescence reduced. Young: Much duller than female; black ear spots and iridescence wanting and general tone gray; many feathers with whitish edging. Breast tinged with pink. (Bailey 1923 and Hoffmann 1927)

Habitat.-- Range: Breeds in interior Canada and throughout the western United States and Mexico. Winters from Washington and southern Colorado south to Panama. (Bailey 1935)

Nest.-- Usually a frail platform of twigs, straws, dried grasses, weed stems, and rootlets on horizontal branches of low trees; as mesquite, cedar, hackberry, oak, or willow; but also in bushes and cactus, and in treeless regions on the ground. (Bailey 1928)

Eggs.-- 2; white.

Food.-- In summer mainly grass and weed seeds, as amaranth, filaree, cockle, pigweed, ragweed, thistle, smartweed, wood sorrel, pigeon-grass, wild sunflower, cleome, croton, acorns; a little waste grain; and also locusts and a few other insects, mostly ants.

Flammulated Screech Owl. *Otus flameolus* (Kaup)

Description.-- $6\frac{1}{2}$ -7 inches in length. Toes entirely naked, ear-tufts short. Dichromatic, having red and gray phases, the red ones being rich buff or orange-rufous whereas the gray ones are brown or gray, but the peculiar color-pattern is the same in both forms.

Adults: Facial disc, sometimes whole head, rusty brown, speckled with black; top of head blotched with white, tending to form a white stripe over the eye; upperparts finely dappled with brown and gray, and marked with "ragged" dark shaft-stripes; shoulders with a conspicuous white or tawny bar; underparts white, heavily overlain with black shaft streaks or blotches, and irregular cross lines; breast tinged with rusty brown; tail with narrow "ragged" rusty or whitish cross bars; wing quills marked with white or buff; iris brown.

Young: Plumage finely cross-barred, without longitudinal streaks. (Bailey 1928)

Habitat.-- Range: Southern British Columbia southwestern part of United States, Central America, central Mexico.

Nest.-- Nest a collection of cottonwood, twigs, bark, and birds feathers. In woodpecker holes. Entrance is about the flicker size and goes down about 8 inches, beyond which a hole leads to the center of the tree. Cavity about 10 inches deep.

Eggs.-- 2-3, white or creamy. (Hoffmann 1927)

Food.-- Small animals, scorpions, beetles, and other insects. (Bailey 1928)

Western Horned Owl *Bubo virginianus apallescens* (Stone)

Description.-- Length two feet; upperparts blackish or dusky, spotted or mottled with white and tawny; two tufts of feathers projecting upward and outward from above the eyes; facial discs gray, encircled with black; underparts light brown, barred on lower breast and belly with dark brown; a white collar across upper breast; bill dusky, lighter toward tip; iris yellow. Like the Pallid Horned Owl but considerably larger; colors averaging darker. (Bailey 1928; Hoffman 1927)

Habitat.-- Range: Rocky mountain region, central United States, Alberta. Recorded from Iowa in winter. Local occurrence: Canyons of the Navajo region.

Nest.-- In hollow of trees, in cliffs, or in open nests in trees.

Eggs.-- 2-4; white.

Rocky Mountain Pygmy Owl *Glaucidium gnoma* subsp

Description.-- Its tail is longer in proportion to the bird than in any of the other small owls, and when the bird is perched projects backward at an angle with the body. Length: 7 to 7½ inches. Upperparts grayish brown, very lightly spotted with light buff (spots thickest on head); a not conspicuous collar of blackish around back of neck; no "ear" tufts; tail dark brown, barred with white; bill greenish yellow, tip yellow; iris yellow. (Hoffman 1927)

Comparisons.-- The absence of ear-tufts distinguishes it from the Screech Owl; the blackish streaks on the under parts distinguish it from the Saw-whet.

Nest.-- In holes of trees. (Hoffman 1927)

Western Burrowing Owl *Speotyto cunicularia hypugaea* (Bonaparte)

Description.-- Length: 9 to 11 inches. Head without ear-tufts; facial disc incomplete; tail short; legs very long, nearly bare; toes bristly. Upperparts dull brown, spotted and barred with white and buffy; wings and tail barred with white; line over eye; chin, and throat white; underparts mainly buffy, barred with brown iris yellow. Young: Upperparts mainly plain brownish; wing and tail coverts largely buff; underparts mainly buff with dark throat band and shaded sides of chest.

Habitat.-- Range: Plains region from British Columbia to Manitoba and south to Louisiana and Panama; migratory north of Oregon and northern Kansas. Zones: Lower and Upper Sonoran. Occasionally in lower edge of Transition Zone. Local occurrence: Kayenta.

Nest.-- Usually at the end of an old burrow of prairie dog, badger, or other animal.

Eggs.-- 6 to 11; white.

Food.-- Immense numbers of noxious insects such as grasshoppers, crickets, beetles; and scorpions, centipedes, mice, kangaroo rats, ground squirrels, young prairie dogs; rarely, insectivorous birds; fruit and seeds.

Nuttall's Poor-Will *Phalaenoptilus nuttalli nuttalli* (Audubon)

Description.-- Length: 7 to 8 inches. Adults: Head narrowly barred with black; plumage of upperparts, soft and velvety, moth-like; finely mottled with brownish grayish brown with sharply contrasting velvety black bars and sagittate markings; square tail with all but two middle pairs of feathers more or less banded with black, gray, and buffy, tipped with white; wings with ochraceous-buff, black and gray markings; primaries banded with black; side of head and chin sooty or brown; throat silky white, bordered by black or brown below; rest of underparts (except tail coverts) barred. Young: Similar, but markings less sharply defined, especially on underpart; throat buff instead of white. (Bailey 1928)

Habitat.-- Range: From southeastern British Columbia, to central Texas, western Arizona, and Cape Region of Lower Calif; winters from southeastern Calif and southern Texas to central Mexico. Zones: Transition and Upper Sonoran. Local occurrence: Navajo Mountain.

Eggs.-- 2; white; unspotted or lightly marked; usually laid on the bare ground.

Food.-- The smaller night-flying moths, beetles, locusts, chinch bugs, etc.

Western Nighthawk *Chordeiles minor henryi* Cassin

Description.-- Length about 9-9.5 inches. Adult male: Upperparts mainly light grayish buffy or ochraceous; irregularly spotted, marbled, and vermiculated; tail dusky, crossed by paler bands and by a broad subterminal band of white; wing with white or buffy band crossing five outermost quills about half way from tip to bend of wing; triangular throat patch white, bordered below by black; rest of underparts barred with dusky, tawny and buffy; iris dark brown; bill black; feet gray. Adult female: Throat patch usually buffy, white of tail wanting, patch on wing restricted; upperparts lighter, underparts more buffy. Young: Similar to adult female but throat patch obscured; upperparts paler, and underparts less distinctly barred. (Bailey 1928)

Habitat.-- Range: Breeds from Arizona and southwestern Colorado south to mountains of northern Mexico; winters in South America. (Bailey 1928)

Eggs.-- 2; creamy, olive-buff, or gray, profusely blotched or finely speckled with blackish, brownish gray, or lavender; laid on the ground.

Food.-- Ants in large proportion and also beetles which are the adult forms of noted pests. Specimens taken at Fort Stanton--caddice flies and gnats, together with injurious insects, including ants, plant bugs, leaf hoppers, crane flies, click beetles, wood-boring and engraver beetles, clover root weevils, and nut weevils.

White-throated Swift *Aeronautes saxatalis saxatalis* (Woodhouse)

Description.-- Length: $6\frac{1}{2}$ -7 inches. Tail moderately forked, with stiff and narrow but not spiny feathers; leg and part of toes feathered; hind toe directed either forward or to the side but not backward; front toes with slight basal webs. Adults: Upperparts blackish with white anterior underparts; wing and rump patched; feet livid pinkish. Young: Similar to adults but black and white duller; bill black. (Bailey 1928 Hoffman 1927)

Habitat.-- Range: Southern British Columbia, central Alberta, and Black Hills south to Mexico and Lower California.

Nest.-- In crevices, in cliffs, caves, quarries, or ruins; made principally of feathers instead of twigs, glued together with other soft materials and also glued to the rocks. (Bailey 1928)

Eggs.-- 4-6; white.

Food.-- Winged ants and other hymenoptera, bugs, flies, dung beetles, engraver beetles, clover root weevils, leaf hoppers, etc.

Black-chinned Hummingbird *Archilochus alexandri* (Bourcier and Mulsant)

Description.-- Length: Male about 3.5, female about 4 inches long. Adult male: Upperparts dull metallic bronze-green. Lateral tail feathers purplish black; wings dusky, faintly purplish. Gorget (throat ruff) velvety black on upper half; below, metallic violet or purplish; collar beneath white; body whitish or grayish beneath. Adult female: Mainly metallic bronze-green above; lateral tail-feathers white-tipped; body whitish below.

Habitat.-- Range: Breeds through the Rocky Mountain States, and west to the coast from British Columbia to Texas, northern Mexico, and Lower California. Winters in western and southwestern Mexico. Zone: Upper Sonoran, Lower Sonoran. Local Occurrence: Foothills and canyons.

Nest.-- Has 2 or 3 broods a season, nesting in trees or bushes 2-20 feet above ground. Nest made of plant-fibers, spiderweb, and occasionally small leaves or blossoms. Usually near water. (Bailey 1928)

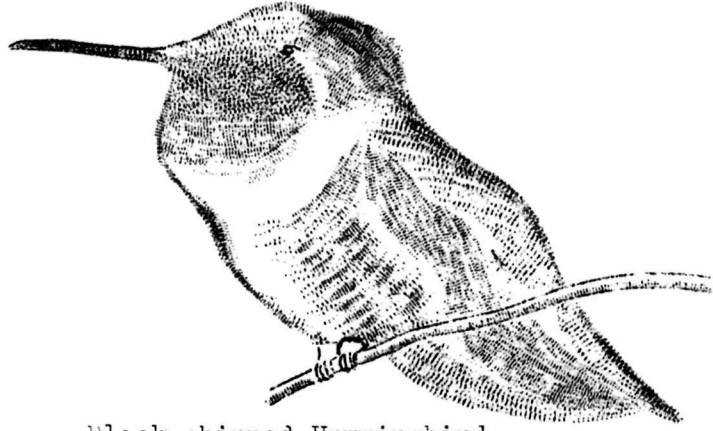
Eggs.-- 2; white.

Broad-tailed Hummingbird *Selasphorus platycercus platycercus* (Swainson)

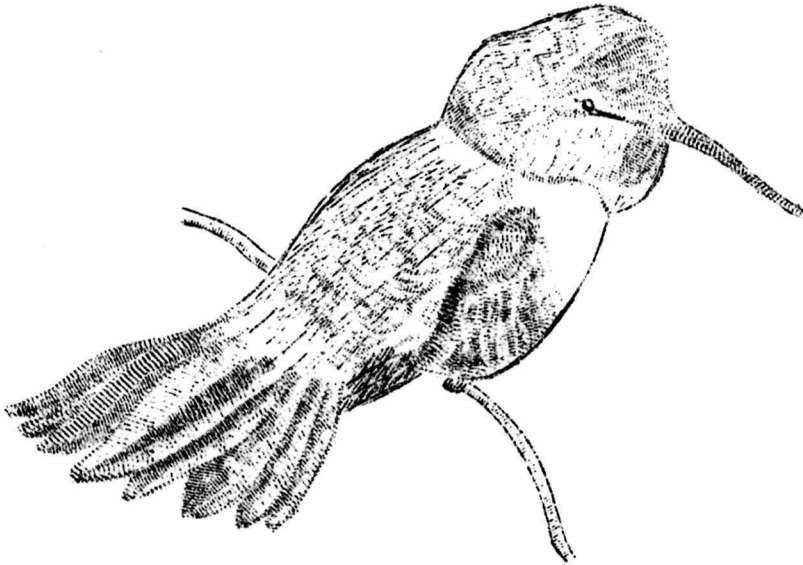
Description.-- Length: About 4-5 inches. Male with outside wing quill narrowed and awl-like and recurved at tip; tail with 6 middle feathers about equal length in both sexes; tarsus mainly feathered. Adult male: Entire upperparts, including top of head and middle tail feathers, bronze-green; other tail feathers dull purplish or bronzy black; next to middle feathers glossed with green and some of them edged with brown; wing quills dusky, faintly purplish; gorget metallic deep rose pink or reddish purple; rest of underparts pale grayish; sides overlaid with green and flanks tinged with cinnamon; iris dark brown; bill dull black; feet dusky. Adult female: Upperparts metallic bronze-green, including middle tail feathers which are sometimes dusky at tip; dusky portion wider on adjoining pair; three outer pairs brown at base, and broadly tipped with white; purplish, bronzy, black, and green between; throat whitish, with dusky or bronzy specks; rest of underparts more or less brownish white or buffy; sides brownish. (Bailey 1928)

Habitat.-- Range: Breeds mainly in mountains in Great Basin and Rocky Mountain region south to southern Mexico; winters from southern Mexico to Guatemala. Local Occurrence: Mesas.

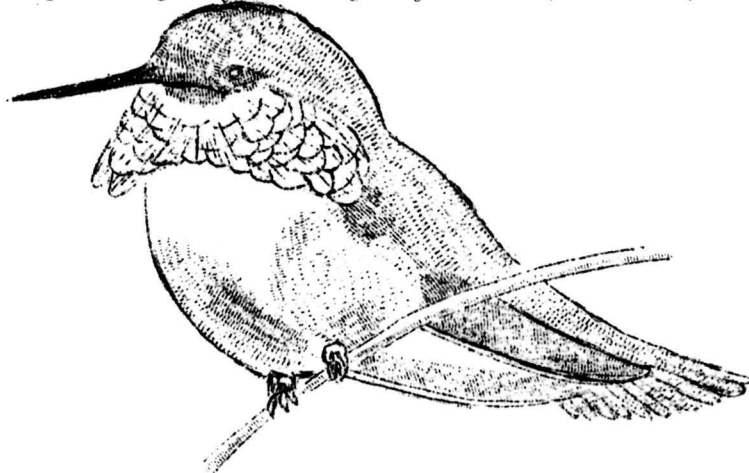
Nest.-- Usually within 15 feet from the ground on branches of Douglas spruce, cottonwood, and other trees; often overhanging streams; made of cotton-like vegetable down coated with lichon, bark fibers, mosses, leaves, or plant fibers.



Black-chinned Hummingbird
Archilochus alexandri (Bourcier and Mulsant)



Broad-tailed Hummingbird
Selasphorus platycercus platycercus (Swainson)



Rufous Hummingbird
Selasphorus rufus (Gmelin)

Eggs.-- 2; white.

Food.-- Insects found in flowers, as pentstemon, larkspur, agave, gillia, gooseberry, and on willow catkins.

Rufous Hummingbird *Selasphorus rufus* (Gmolin)

Description.-- Male: Length 2-3 inches. Wing with outside quill narrow and awl-like, the tip bowed inward; tail with middle pair of feathers broad, pointed at tip, strikingly nicked at tip. Adult male: Elongated gorget brilliant metallic scarlet, orange, or golden-green; body mainly bright reddish brown; glossed with bronze-green on crown and sometimes back, and fading to white on chest; tail feathers rufous, with terminal dark mesial streaks; wing quills dusky, faintly glossed with purplish; iris dark brown; bill black; feet dusky. Adult female: Upperparts metallic bronze-green; tail feathers with brown at base; middle feathers bronze-green, more or less brown at base; next pair with more than basal half brown, then bronze-green, ending in purplish black; three outer pairs broadly tipped with white, widely banded with black, usually adjoined by green; throat and chest dull whitish, usually with a few brilliant feathers; sides shaded with rufous. Young male: Similar to adult female but usually with more rufous in upper tail coverts and tail and a few glittering ruby feathers in the throat. Not fully mature males have a wash of green on the back. Young female: Similar to adult female but feathers of upperparts indistinctly tipped with brown or buffy, and throat spotted or streaked with bronze, as in young male. (Bailey 1928)

Habitat.-- Range: Breeds from southern coast of Alaska to northwestern California; winters in southern Mexico. Zone: Canadian and Transition. Local Occurrence: Migrant in Navajo Region.

Nest.-- In bushes, as in salal and cinamox, in trees (on dead spruce limbs covered with lichens), and in ferns, or vines overhanging embankments; made of down and decorated with fine mosses, lichens, and shreds of bark. (Bailey 1928)

Eggs.-- 2; white.

Food.-- Insects found on wild currant and gooseberry bushes, ocotillo blossoms, fire-weed, paint brush, gilia, pentstemon, and agave flowers.

Calliope Hummingbird *Stellula calliope* (Gould)

Description.-- Length: 3 to $3\frac{1}{2}$ inches. Top of head and back golden green; throat whitish, thickly speckled with lilac; lance-shaped feathers at sides of throat with lilac tips; underparts white; flanks marked with dusky green. Bill black above, flesh-colored speckled with dusky; underparts tinged, especially on the flanks, with pale reddish brown; tail greenish, reddish brown at base, crossed with black and tipped with white. (Hoffman 1927)

Red-shafted Flicker *Colaptes cafer collaris* Vigors

Description.-- Length 12.7-14 inches. Head brownish (cinnamon-brown on forehead); back and wings brown barred with black; rump white; tail black; red stripe down side of head; underparts whitish; black crescent across breast; belly marked with round black spots; bill blackish; feet dark grey; iris reddish brown to brownish red. Female: Similar to male but stripe on sides of head a faint brown or buffy instead of red. Lacks the stripe entirely. Young female in juvenal plumage: Similar to young male but red mustache replaced by a brown stripe. (Bailey 1925 and Hoffman 1927)

Habitat.-- Range: Western North America (except middle Pacific coast region); winters over most of its U. S. and Mexican range.

Nest.-- From 2 to 70 feet from the ground in rotten stumps or trees; also in holes in bank, in sides of houses, and in gate and fence posts.

Eggs.-- 5-10; white.

White-Breasted Woodpecker *Dryobates villosus leucothorectis*
Oberholser

Description.-- Length 7-9 inches; female smaller. Like the Rocky mountain Hairy Woodpecker but decidedly smaller, and wing coverts almost always with white spots; entire underparts pure white.

Habitat.-- Range: Resident in the mountains of the interior southwestern United States. Zones: Canadian and Transition.

Nest.-- Generally in small trees in canyon beds.

Arkansas Kingbird *Tyrannus verticalis* Say

Description.-- Length 8 to $9\frac{1}{2}$ inches. Foreparts mainly light ash-gray, fading to white on chin; crown with concealed orange-red patch (Usually restricted in female); back grayish olive; tail black or blackish; in strong contrast to completely white web of outside feathers; wings dark brown; feathers edged with whitish; under wing and tail coverts, like belly, canary yellow. Young: Crown without patch; wing edgings brownish buff; yellow of underparts paler. (Bailey 1928)

Habitat.-- Range: Southern Canada east to southwestern United States and south to Mexico; winters from western Mexico to Central America.

Nest.-- Twigs, grasses, wool, etc.; in trees or bushes, or on beams of buildings or cross-bars of posts. Its favorite nesting place is in the v's of the mileboards on telegraph poles along the railway. (Hoffman 1927 and Bailey 1928)

Eggs.-- 3 to 5; white or creamy white, boldly marked with reddish brown or lilac.

Food.-- Mostly fruit, as elder and other berries, with a few seeds; also insects, bees, and wasps. (Bailey 1928)

Cassins Kingbird *Tyrannus vociferans* Swainson

Description.-- Length $8\frac{1}{2}$ -9 inches. Adult: Upperparts dark gray (back olivaceous in strong light); chin white; crown with concealed orange-red patch; back olive-gray; tail black (showing in winter and spring a slight grayish edging of the outer tail feathers and a grayish tip of the tail); under wing and tail coverts, like belly, canary yellow. Young: Similar to adults but crown without color patch, wing markings buffy, and coloration duller. (Bailey 1928 and Hoffman 1927)

Habitat.-- Range: Southwestern part of the United States and Mexico; winters from southern Calif and northern Mexico to central America, casual in Oregon and northern Calif. (Bailey 1928) Zone: Upper Sonoran.

Nest.-- Bulky; of similar materials to that of verticalis; generally saddled well out on a horizontal branch of a cotton-wood or other tree, 10 to 50 feet from the ground.

Eggs.-- Usually 3 or 4; like those of *verticalis* but not quite so heavily spotted. (Bailey 1928)

Food.-- Mainly beetles, wasps, stink bug, moths, caterpillars, grasshoppers, crickets, dragon flies, and spiders; also a small amount of fruit.

Scissor-tailed Flycatcher *Muscivora forficata* (Gmelin)

Description.-- Length 12 to 15 inches. Adult Male: Foreparts hoary ash, paler on throat; the crown with a small concealed patch of orange or scarlet; back and scapulars usually more or less suffused with pinkish or salmon; upper tail coverts blackish, edged with grayish; tail deeply forked; feathers of fork, white; under wing coverts salmon; axillars scarlet; sides and flanks from salmon pink to blood red. Adult Female: Similar but crown patch usually duller, sometimes partly orange-buff; fork of tail shorter. Young: Upperparts brownish gray; crown darker concealed patch wanting; sides, flanks, belly, and under tail coverts uniform cream-buff; red axillar patch wanting. (Bailey)

Habitat.-- Range: Normal range from southern Kansas to southern Texas and southeastern New Mexico; occasionally in Canada.

Nest.-- Generally 5 to 15 feet from the ground; preferably in mesquite, but also other trees and thorny bushes, in isolated huisaches on the prairie, in oak motts, in trees about houses, and sometimes on telegraph poles and light towers in a city; made usually of fine rootlets and plant stems lined with plant fibers, thistle down, wool, and feathers; but sometimes with green twigs, Indian tobacco, gray moss, cotton, sago, or seaweed.

Eggs.-- Usually 5; white, boldly blotched with reddish and darker browns, and lilac shell spots.

Food.-- Mainly insects and spiders; some small fruits and seeds.

Ash-throated Flycatcher *Myiarchus cinerascens cinerascens*
(Lawrence)

Description.-- Length 8 to 8½ inches. Head slightly crested, rectal bristles strongly developed. Adults: Upperparts grayish brown, darker on head; tail with middle feathers dusky brown, the rest chiefly cinnamon-rufous on inner web; outer tail feather with inner web dusky at tip, outer web distinctly whitish; wings with middle and greater coverts broadly tipped with lighter color; primaries edged with cinnamon-rufous; throat and chest pale ashy; belly pale sulphur-yellow. Young: Similar to adults but tail feathers rufous with dark median stripe; wing markings partly buffy; and underparts yellowish white. (Bailey 1928)

Habitat.-- Range: From Washington, through Colorado to Texas and Mexico; winters south to central America along the southeastern side of Mexico.

Nest.-- In holes, trees or stumps; lined with rootlets, grass hair, feathers, and occasionally cast snake-skins.

Eggs.-- 3 to 6; creamy or buff, marked with streaks of purplish brown.

Say's Phoebe *Sayornis saya. saya* (Bonaparte)

Description.-- Length: 7.5-8 inches, bill narrow, rectal bristles moderate. Adults: Upperparts plain, brownish gray; crown and hindneck darker; uppertail coverts dark gray, usually margined with paler; tail brownish black; outside feathers more or less distinctly edged with whitish; wings brownish gray with pale edgings; throat, chest, and sides of breast buffy brownish gray, median parts of chest more strongly tinged with buff; rest of underparts cinnamon-buff. Young: Similar to adults, but upperparts browner, and wings with two buffy or brownish bands. (Bailey 1928)

Habitat.-- Range: Western North America from Alaska to lower California and east to Kansas; winters from Central California along the southwestern border of the United States, south to Mexico and lower California.

Nest.-- Under bridges, about houses and barns, on windmills, in wells, caves, old tunnels, abandoned mine shafts, under shelves of rock, and also in pockets in the steep banks of arroyos. Made of wood stems, dry grasses, moss, plant fibers, wool, cocoons, spider webs, and hair; lined with wood or hair, sometimes with the addition of mud.

Eggs.-- 4 or 5; white, sometimes with a few specks of roddish brown around the larger end. (Bailey 1928)

Food.-- Insects; particularly beetles.

Gray Flycatcher *Empidonax griseus* Brewster

Description.-- About 5 inches in length. Similar to *E. wrighti* but wing decidedly longer, tail shorter, bill longer and relatively narrower; tip darker than base and coloration much grayer above. (Bailey 1928)

Habitat.-- Range: From Oregon, Nevada, Colorado, and New Mexico south to southern end of Mexican tableland; winters from southern California and southern Arizona south to Mexico. (Bailey 1928) Zone: Sonoran.

Nest.-- Mainly on canyon or mountain sides; in conifers, oaks, willows, and other trees; 2 to 40 feet from the ground; deeply cupped, some compactly and others loosely built, mainly of dry shredded inner bark of the willow, lined with finer shreds sometimes mixed with down feathers.

Eggs.-- 2 to 4; cream-buff, sometimes sparsely dotted, chiefly about the larger end, with burnt-umber.

Western Flycatcher *Empidonax difficilis difficilis* Baird

Description.-- Upperparts brown, tail grayish brown with lighter edgings; wings dusky, with 2 olive or buffy bars; axillars and under wing coverts pale yellow; broad orbital ring and lores yellowish or whitish; chest and sides pale buffy olive; rest of underparts pale yellow. Bill dark above, flesh-colored below; feet brownish dusky. Immature: Wing-bars yellowish brown; belly whitish. (Bailey 1928 and Hoffman 1927)

Habitat.-- Range: Breeds from Alaska, through western United States to the southern border of the United States. Winters in lower California. (Bailey 1928)

Nest.-- Usually not far from water; in trees, stumps, upturned roots, under banks, on rock ledges, in natural cavities or about buildings; made of plant stems and fiber down, inner bark, rootlets, leaves, and green moss, lined with horsehair and feathers, often coated with green moss, lichen, and spider web.

Eggs.-- 3 to 5; white, blotched and spotted with brown and buffy pink.

Food.-- Beetles, bees, wasps, ants, flies, moths, caterpillars, and moth larvae.

Western Wood Pewee *Myiochanes richardsoni richardsoni*
(Swainson)

Description.-- Adult: Upperparts dark brownish gray; two not very conspicuous white wing-bars; wings dusty with 2 light inner quill edgings; wing bands and tail dusky with lighter edges; underparts dark gray, lighter on throat and belly; dark sides often separated by an indistinct lighter line down the middle of the breast. Bill black above, light brown below, feet black. (Hoffman 1927 and Bailey 1928)

Habitat.-- Range: Alaska and western Canada south to northern Mexico and Lower California; migrates through Mexico and Central America; winters in South America.

Nest.-- Neatly made of grasses and fibers; often covered with spider's web and saddled on a limb. In orchard or forest trees, 6 to 40 feet from the ground.

Eggs.-- 3-4; white, wreathed around the larger end with spots of dark brown and purple.

Food.-- 99.93 per cent of its contents is animal; flies bees, bugs, beetles, moths, insects. Of these a large majority are harmful insects. (Bailey 1928)

Olive-sided Flycatcher *Nuttallornis mesolencus* (Lichtenstein)

Description.-- Length: 7.1-7.9 Adult: Upperparts dark olive-gray; darker on crown; wings and tail blackish, wings with inconspicuous lighter edgings; sides of rump with patches of white or yellowish white cottony feathers, usually concealed but sometimes spreading over closed wing; underparts with white throat and median tract often tinged with pale yellow; olivaceous inbetween indistinctly streaked sides. Bill black above, mostly yellowish below. Young: Similar, but more brownish or sooty; wing edgings buffy or brownish. (Bailey 1928)

Habitat.-- Range: Northern part of Canada, Cape Breton Island, eastern states as far south as North Carolina, southwestern United States in the coniferous forests; migrates through Mexico and Central America; winters from Columbia to Peru. Zone: Canadian and Transition.

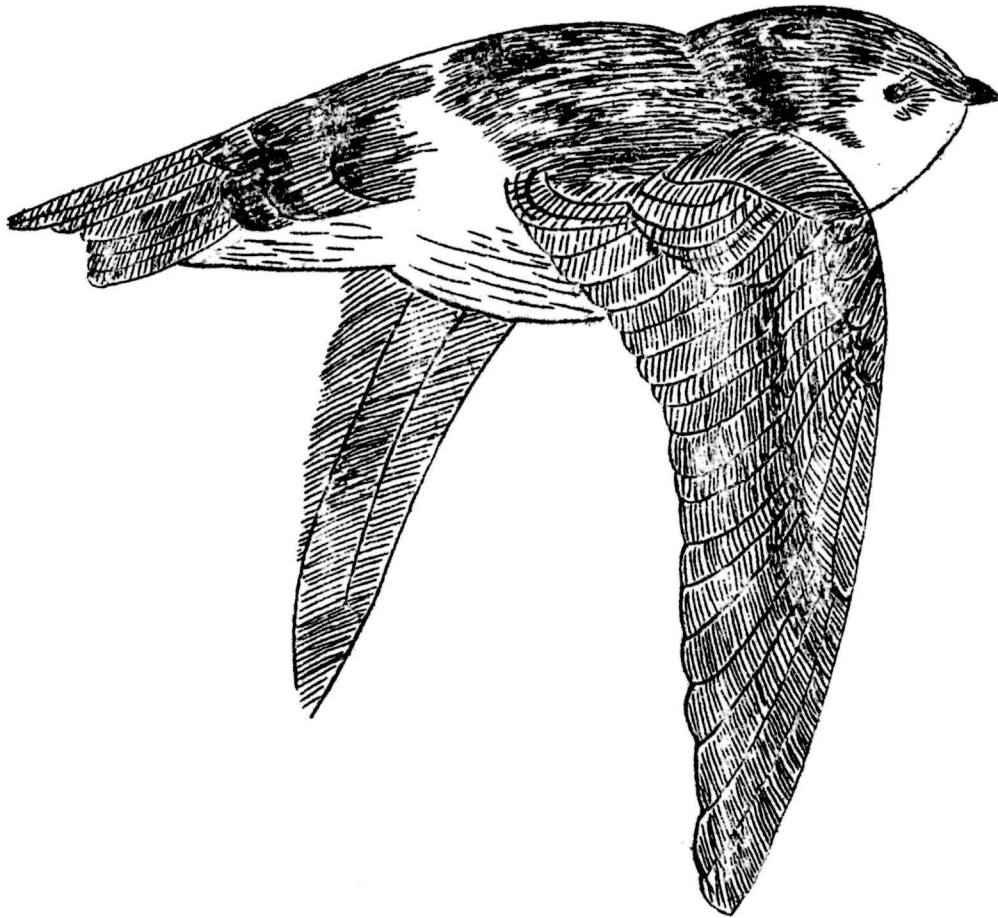
Nest.-- Made of inner bark and vegetable fibers, lined with fine grass stems, rootlets, and plant down; decorated with cocoon cases, web, plant blossoms, and sometimes feathers. Hung in dwarf walnut trees, usually conifers. Usually 30 to 60 feet from the ground in coniferous trees; made of twigs, rootlets, and bark ravelings, plant stems, and sometimes moss.

Eggs.-- Generally 3; creamy or pinkish, wreathed around the larger end with different shades of reddish brown, with purplish or lilac shell markings.

Food.-- Almost wholly winged insects, and of these principally hymenoptera. (Bailey 1928)

Desert Horned Lark *Otocoris alpestris leucolaema* (Coues)

Description;-- Male: Length (skins) 6.2-6.4 Female: Length (skins) 5.7-6 inches. General coloration extremely pale. Adult male in breeding plumage: Front of crown, horn-like tufts; cheek stripe and chest shield black; forehead and stripe over eye, usually yellow, sometimes white; back of head and neck, bend of wing, and upper tail coverts pinkish cinnamon; back, wings, and middle pair of tail feathers dark brown, edged with white; throat yellowish white; rest of underparts white; sides and flanks shaded with cinnamon. Adult female in breeding plumage: Similar to male adult, but back of head replaced by brownish and buffy; back of neck narrowly streaked; line over eye and ears buffy; sides and flanks streaked with dusky. Adult male in winter plumage: Like the summer male but black areas obscured and upperparts more uniform; the brownish areas more pinkish, those on back of head and neck with grayish tips, line over eyes yellow; throat deeper yellow; breast marked with dusky; sides and flanks darker. Adult female in winter plumage: Like summer female but all black areas obscured; upperparts more uniform and more buffy ochraceous; breast strongly tinged with buff and spotted with pale dusky. Young in juvenal plumage: Upperparts dull brownish yellow; feathers with subterminal bar of brown and spot or bar of white or buffy; line over eye buffy; throat sometimes tinged with yellow; breast with a mixture of black; belly whitish. (Bailey 1928)



Violet-green Swallow
Tachycineta thalassina lepida (Mearns)

Comparisons.-- The Horned Larks, with their generally similar color pattern, which varies slightly, not only in the different subspecies but also in the various plumages of season, sex, and age, are so extremely difficult to identify, especially outside of the breeding season, when they occur together, that all specimens collected should be sent to a natural history museum or to the U. S. Biological Survey where there is adequate material for comparison of measurements and plumage.

Habitat.-- Range: Southern Alberta and interior of western United States; winters south to southeastern California, Mexico and southern Texas. Local occurrence: Kayenta.

Nest.-- A slight depression in the ground, often at the base of a tuft of grass; lined with a few blades of grass.

Eggs.-- Usually 3; mostly gray, sometimes with a faint greenish tinge; profusely sprinkled and blotched with shades of pale brown. An occasional set is more evenly and lightly colored, producing a uniform pale gray appearance.

Food.-- Vegetable matter, 79.4 per cent, of which nearly six-seventh are weed seed, and 20.6 per cent insects, including such pests as May beetles, their larvae, etc. It earns its right to live, and deserves protection at the hands of man. (Bailey 1928)

Violet-green Swallow *Tachycineta thalassina lepida* (Mearns)

Description.-- Male: Length (skins) 4.2-5 inches. Female: Length (skins) 4.2-4.5. Tail emarginate. Adult male: Crown and hind neck bronzy green to purplish bronze, nape often with a narrow purplish collar; back and part of wings bronze, usually tinged with purple; upper tail coverts violet, shaded with purple; sides of rump with white patches almost confluent; tail and wings black glossed with blue; underparts pure white. Adult female: Colors much duller; crown and hind neck varying from brownish to greenish or purplish bronze; and white of anterior underparts often tinged with gray. Young: Above, sooty brown; back, darker, faintly glossed with purple or bronze; underparts, grayish white anteriorly (chest tinged with sooty brown); pure white posteriorly; white rump patches as in adult. (Bailey 1928)

Comparisons.-- In flight, the white underparts suggest the Tree Swallow, but when the colors of the upperparts cannot be seen, the white rump patches make a distinguishing field character in both young and old.

Habitat.-- Range: Central Alaska, southern Alberta, and western South Dakota to northern Durango and northern half of Lower California; winters in Mexico and Central America; migrates through western Texas.

Nest.-- In holes in trees, crevices in cliffs, holes in buildings or nest boxes.

Eggs.-- 4-6; white.

Rough-winged Swallow *Stelgidopteryx serripennis* (Audubon)

Description.-- Length $5\frac{1}{2}$ inches. Upperparts brown; darker on wings, head and tail; throat and breast brownish; rest of underparts white. Bill and feet black. Bill small; tail short, slightly emarginate; outer web of outer primary saw-toothed in male, roughened in female. Young in juvenal plumage: Similar to adults but more or less washed with rusty; wings with broad cinnamon tips and margins; throat and breast almost cinnamon. (Bailey 1928)

Habitat.-- Range: From southern Canada to Mexico; winters from central Mexico south to Central America. Zone: Transition; Austral and Tropical.

Nest.-- Nests either in crevices of banks or masonry, or in holes in sand or clay.

Eggs.-- 3-6; white. (Hoffmann 1927)

Long-crested Jay *Cyanocitta stelleri diademata* (Bonaparte)

Description.-- Length 11-13 inches. High black crest contrasted with sooty gray of back and scapulars; white streak over eye; forehead conspicuously streaked with bluish white; wings and tail blue, barred with black; rump and underparts light blue. Young: Similar, but duller; plumage without blue except for a tinge on the side of the rump; no white about eyes; wings and tail often without distinct black bars; rump and underparts ash-grey. (Bailey 1935)

Habitat.-- Range: Southern Rocky Mountains to northern Mexico. Zone: Canadian, Transition, and Boreal.

Nest.-- In trees and bushes, usually less than ten feet from the ground; bulky but well concealed; made largely of twigs, moss, and dry grass, and sometimes cemented with mud and lined with rootlets, pine needles, or grass.

Eggs.-- 3 to 6; dull, pale, bluish, green; spotted and blotched over the entire surface with browns and lavender.

Food.-- The food of the crested Jays is of little economic importance. About one-third is animal and two-thirds vegetable; the chief food being acorns. The destruction of birds' eggs is their most harmful trait.

Woodhouse's Jay *Aphelocoma californica woodhousei* (Baird)

Description.-- Tail graduated; upperparts, including wing and tail, dull blue except for mouse gray back and scapulars; narrow white line over eye; throat and underparts gray; upper breast whitish, streaked with dark gray and bluish. Bill and feet black. (Bailey and Hoffmann)

Habitat.-- Range: Upper Sonoran zone of Great Basin, to southeastern Oregon, southern Wyoming south to western Texas and southeastern Arizona. (Bailey 1928) Zone: Transition; Upper Sonoran.

Nest.-- Sticks in a bush.

Eggs.-- 3 to 6; pale green, marked with brown and lavender. (Hoffmann 1927)

American Raven *Corvus corax sinuatus* Wagler

Description.-- Length 21.5-26 inches. Nostrils large, entirely concealed by nasal tufts, more than half as long as bill; throat feathers lanceolate, disconnected. Entire plumage black, with a purplish gloss in strong light; wings long, pointed; tail long, wedge-shaped. Young in juvenal plumage: Duller black; lusterless brownish below except on throat and chest. (Bailey 1928 & Hoffmann 1927)

Habitat.-- Range: Middle Western North America, Mexico, and Central America.

Nest.-- Usually on cliffs in inaccessible places, in rim rock, and box canyons; a mass of sticks, lined variously with cottonwood bark, moss, cattle hair, and wool.

Eggs.-- 5-7; pale green, olive, or drab; the whole surface profusely dotted, blotched, and clouded with purplish and various shades of brown.

Food.-- Mainly carrion, but also young birds, eggs, locusts, grasshoppers, and other insects.

Pinyon Jay *Cyanocophalus cyanocophalus* (Wied)

Description.-- Length 10-11 $\frac{1}{2}$ inches. Adult male: General color, dull grayish blue deepening on head to purplish blue; paler on posterior underparts; throat and chest broadly streaked with grayish white. Bill and feet black; Tail nearly square, much shorter than wings. Adult Female: Similar but smaller and usually duller; bluish gray rather than grayish blue. Young: Like female but still duller, blue only on wings and tail. (Bailey 1928) (Hoffmann 1927)

Habitat.-- Range: From the Great Plains west; wanders in fall and winter. Zone: Upper Sonoran, in pinyon and juniper belt. Also Transition.

Nest.--A bulky structure of twigs; in trees, usually pinyons or junipers.

Eggs.-- 4-5; bluish white; either minutely speckled or wreathed around larger end, with light brown and purple. (Hoffmann 1927)

Food.-- Principally pinyon nuts in their season, but also yellow pine and black pine nuts, cedar and juniper berries, small seeds, various wild berries, and insects, especially grasshoppers. (Bailey 1928)

Clark's Nutcracker *Nucifraga columbiana* (Wilson)

Description.-- Adult: Length 12-13 inches. Forehead white and nasal tufts, rest of head, back and underparts light gray; wings black with large white patch posteriorly; tail white except black central feathers. Bill black, slightly decurved; feet black. Young: Like summer adults but gray paler; back of wings and tail duller; wing coverts with grayish brown tips; feathers of breast sometimes tipped with white, giving effect of spotting. (Bailey 1928) & (Hoffmann 1927)

Habitat.-- Range: Summers in western North America; winters in southwestern part of United States. Recorded in central part of United States.

Nest.-- Of twigs and bark; in trees, generally conifers, from 8-40 feet from the ground. A platform of twigs bound together by strips of inner bark, surrounding a deep thick-walled cup of shreds of bark, quilted together with grasses and pine needles, sometimes lined with sheep's wool.

Eggs.-- 2-3; pale green, sparingly marked with brown, gray and lavender.

Mountain Chickadee *Parus gambeli* (Ridgway)

Description.-- Length 5 to 5.7 inches. Adults: Cap black, broken by a narrow white line from the bill over and behind the eye; throat black; cheeks white; back and tail gray. Wings and tail darker with pale gray edgings. Underparts grayish white (brownish gray on the sides). Flanks and upper tail coverts, pale olive-gray. Bill and feet black. In winter, white superciliary stripe broader, feathers of forehead edged with white. Young: Similar to adults, but back of head duller; white superciliary less distinct; and wing edgings faintly tinged with brownish buff. (Bailey 1928 and Hoffmann 1927)

Comparisons.-- The white line over the eye easily distinguishes the Mountain from the Long-tailed and Mexican Chickadees.

Habitat.-- Range: Western United States.

Nest.-- In an old woodpecker hole, natural cavity, or bird box; usually not over 15 feet from the ground; generally lined with rabbit fur. (Bailey 1928)

Eggs.-- From 5 to 8; usually plain white; sometimes faintly spotted with reddish brown.

Gray Titmouse *Baeolophus inornatus griseus* (Ridgway)

Description.-- Length: about 5.7-6.1 inches. Crested.

Adult: Plain, unmarked, upperparts light gray, underparts whitish gray, becoming whitish on belly. Bill dusky above and below; sides light gray; feet dull bluish gray. (Bailey 1928 & Hoffmann 1927)

Habitat.-- Range: Foothills of the mountains of the arid interior, from desert ranges east; western United States. Zone: Upper Sonoran.

Nest.-- In holes in trees or stumps, or in bird boxes in piñon pines; made of soft felted materials and feathered.

Eggs.-- 6-8; plain, white, or lightly spotted with reddish color.

Food.-- Unlike most of the titmice, it eats less animal food than vegetables, the proportion being 45%, of animal to 57%, vegetables. Of the vegetable matter, fruit amounts to about a third, much of it refuse. The insects it eats are practically all harmful and the scales exceedingly so.

Lead-colored Bush-tit *Psaltriparus minimus plumbeus* (Baird)

Description.-- Length: About 4.1-4.6 inches. Adult: Upperparts plain olive-gray or smoke-gray; wings and tail darker with light gray edgings; sides of head brown; underparts pale gray (whitish in mid-summer); iris brown, blackish, pale yellow, or yellowish white (sometimes present only as an outer ring and concealed by eyelids). Young: Similar, but with less brown on the sides of the head.

Habitat.-- Range: Western United States, Mexico. Zone: Transition and Upper Sonoran.

Nest.-- Commonly 12-15 feet from the ground in a nut pine; a greenish gray bag 6-8 inches long, made of lichens, oak leaves, oak flowers, and catkins.

Eggs.-- 4-6; white.

Food.-- Insects, spiders, lice, and scales.

Rocky Mountain Nuthatch *Sitta carolinensis nelsoni* (Mearns)

Description.-- Length: 5.9 inches. Bill large, convex. Adult: Top of head and hind neck solid black (with greenish gloss) in striking contrast to white of sides of head. Upperparts grayish drab; wings and tail blackish; wings with large white patch at base of quills; wing bars, tipplings, and edgings white, outer tail feathers largely white; underparts white, washed with clay-color; iris pale yellow. Young: Upperparts brown; breast and sides thickly spotted with dusky. Adult female: Similar, but back of head veiled with grayish or bluish gray.

Habitat.-- Range: Southwestern Canada (between Rocky Mountains and Sierra Nevada and Cascades) to Mexico. Zone: Canadian, Transition, and Upper Sonoran. (Clark 1935)

Nest.-- Usually in oaks, pines, thick bushes, hedgerows, vines, thorny trees, or cholla cactus; a natural cavity, with a long narrow opening lined with hair and fur of various animals (Bailey 1928) (Hoffmann 1927)

Eggs.-- Usually 4; pale bluish or greenish, heavily freckled with several shades of brown.

Food.-- Insects, spiders, and small fruits.

Red-breasted Nuthatch *Sitta canadensis* Linnacus

Description.-- Length, 4.1 to 4.7 inches. Adult male: Top of head and stripe through eye black; line over eye white; back and central tail feathers bluish gray; underparts reddish brown or brownish white; outer tail feathers with white spots. Bill darker; feet dark brown; wings without black or white; cheeks, chin, and upper throat white; shading below from buff to tawny and ochraceous buff (more deeply colored in fall and winter). Adult female: Similar, but colors duller; back of head and hind-neck usually plumbeous. Young: Similar to same sex in adult, but duller. (Bailey 1928 and Hoffmann 1929)

Habitat.-- Range: Found in Alaska, Canada, and the United States. Zone: Canadian.

Nest.-- In holes in stubs of dead trees; lined with grass, roots, and shreds of bark.

Eggs.-- 4-8; white or creamy, speckled with browns and lavender.

* * *

Black-eared Nuthatch *Sitta pygmaea melanotis* Van Rossum

Description.-- Length $3\frac{1}{2}$ to $4\frac{1}{4}$ inches. Crown and hind neck olive; hind-neck with a concealed buffy or whitish spot (exposed in worn plumage); rest of underparts bluish or leaden gray; tail when spread showing black and white on outer feathers; underparts white, often dingy on the belly; tail very short. Bill chiefly black; light gray at base of lower mandible; feet black. Young in juvenal plumage: Similar to adults, but crown and hind-neck gray; almost like back and side. Flank buffy or brownish instead of gray.

Habitat.-- Range: From southern British Columbia and Montana south to Mexico. Local occurrence: Highest parts of the mesas of the Tsogi drainage. Doesn't go below 8,000 feet very often. (Russell 1935)

Nest.-- Feathers, wool and grass and hair; in hole in a stub 20-40 feet from the ground.

Eggs.-- Spotted with reddish brown. (Hoffmann 1927 Bailey 1928)

Food.-- About 17% seeds, mainly seeds of conifers; 83% of insects. They are ominently useful birds. They do not prey upon cultivated crops, eat but few useful insects, and probably are among the most efficient conservators of the forest and orchard. (Bailey 1928)

Rocky Mountain Creeper *Certhia familiaris montana* Ridgway

Description.-- Adult male about 5 inches, female slightly less. Adult: Upperparts dusky, head and back streaked with white, rump tawny; primary coverts tipped with whitish; underparts white. Bill slender, curved, black, paler below; feet pallid brownish white. (Bailey 1928 and Hoffmann 1927)

Habitat.-- Range: Breeds from Alaska to New Mexico and Arizona; winters in lower parts of its range. Zone: Canadian, Hudsonian, Arctic.

Nest.-- In cavities under bark or in stumps; of twigs, strips of bark, feathers, etc. (Hoffmann 1927)

Eggs.-- 5-8; white, spotted chiefly about the larger end with reddish brown. (Hoffmann 1927)

* * *

Dipper *Cinclus mexicanus unicolor* Bonaparte

Description.-- Length 7-8 $\frac{1}{2}$ inches- Adult in summer: Slate-gray; paler below; head and neck faintly tinged with brown; tail feathers and primaries dark brown. Adults in winter: Underparts and tips of inner primaries margined with whitish; eyelids narrowly marked with white. Young: throat whitish; rest of underparts more or less buffy. Stout chunky body. (Bailey 1928)

Habitat.-- Range: In mountains of western North America from near tree limit in northwestern Alaska and Canada, south to New Mexico, Arizona, and northern Lower California. Zone: Hudsonian, Canadian, Transition. Local occurrence: Bridge Canyon.

Nest.-- Usually on ledges of rock over water; often behind a Cascade; but also on rocks in midstream and on beams of bridges; a bulky, oven-shaped structure arched over, with openings on the side or with a bottle-shaped entrance; cemented to the rock; made of green moss, weed stems, pine needles, and leaves lined with mud; with an inner nest of twigs and non-absorbent wiry grass. (Bailey 1928)

Eggs.-- 3-5; white.

Food.-- Largely water beetles, caddice-fly larvae, black-fly larvae, dragon flies, and other aquatic insects.

Western House Wren

Troglodytes aedon parkmani Audubon

Description.-- Upperparts dull brown barred with blackish except on head; wings and tail waved dusky; tail short; underparts gray; sides and flanks lightly barred. Rump with concealed white spots, Bill short, slender, dusky above, lighter below; feet brown. Young in juvenal plumage. Breast mottled with blackish. (Bailey 1928 and Hoffman 1927)

Habitat.-- Range: Southwestern part of Canada, western parts of United States; from Illinois to Lower California.

Nest.-- In woodpecker holes, other cavities in trees, or about buildings; made largely of twigs, lined with feathers.

Eggs.-- 4-7; pinkish white, thickly spotted with reddish brown or purple brownish. (Hoffman 1927 Bailey 1928)

Food.-- Grasshoppers, beetles, caterpillars, bugs, and spiders are the principal insects eaten; while cutworms, woodvils, ticks, and plant lice are among the most injurious forms destroyed. The nestlings consume great quantities of insects. (Bailey 1928)

* * *

Bowick's Wren

Thryomanes bewicki bewicki (Audubon)

Description.-- Upperparts pale grayish brown, tinged with rufous on rump; middle tail feathers brown, barred with black; rest of feathers mainly black, the 3 outer pairs with grayish white tips; line over eye white; underparts whitish, purer on the throat; under tail coverts heavily barred with black. Young in juvenal plumage: Breast spotted with blackish. (Bailey 1928)

Habitat.-- Range: Great Basin and Mexico from southeastern California and southern Wyoming south over tablelands to Zacatecas. Zone: Upper Sonoran.

Nest.-- In holes in trees and other places; bulky, made largely of sticks; lined with feathers.

Eggs.-- Usually 5-7; white or pinkish; finely marked around larger end with reddish brown and lilac. Accepts for building anything from tin cans to horses' nose bags.

Food.-- Eats less than 3 per cent of vegetable matter, or more than 97 per cent of insects. (Bailey 1928)

Canyon Wren *Catherpes mexicanus conspersus* Ridgway

Description.-- Adult: Top of head, back and wings brown, lightly speckled with black and white; lower back and tail rich reddish brown; tail crossed by four or five narrow black bars; sides of head, throat and upper breast white; rest of under parts abruptly passing into dark reddish brown. Bill long, slender, slightly curved, dark above, paler below, especially toward the base; feet dusky. (Hoffmann 1927)

Habitat.-- Range: Great Basin and Rocky Mountain region from British Columbia to southwestern United States, Mexico, and Lower California. Zone: Upper and Lower Sonoran.

Nest.-- Of twigs and moss or grass lined sometimes with feathers and wool; in crevices in rocks or about buildings; near streams. Bulky, measures 8 inches across the base and about 3 inches high. (Bailey 1928 and Hoffmann 1927)

Eggs.-- 3-6; white, spotted with reddish brown and lilac-gray chiefly around the larger end.

Common Rock Wren *Salpinctes obsoletus obsoletus* (Say)

Description.-- Length 5.1-6.3 inches. Top of head, upper back, wings and tail grayish brown (speckled in strong light with dusky and white); tail graduated, and with subterminal black band; whitish line over eye; lower back reddish brown; the outer tail feathers black near tips and broadly tipped with tawny; underparts dingy white, tinged on the flanks and lower belly with tawny. Bill slender, dusky above, light brown below; feet dusky. Young in juvenal plumage: Unmarked, except for inconspicuous dusky bars on back. (Bailey 1928 and Hoffmann 1927)

Habitat.-- Range: Southwestern part of Canada; western part of United States; Mexico; and Lower California. Winters in the southern part of its United States range and in Mexico. Zone: Mainly in arid Transition and Sonoran.

Nest.-- Usually in clefts or crevices among rocks, under rocks, or sometimes in hollow stumps or about buildings; at times with a foundation of small stones; the outside made of weed stalks and grasses with a layer of rootlets and strips of bark; the inside sometimes cupped with goat hair or wool.

Eggs.-- 6-8; white, finely spotted on or around the larger end and sometimes over the entire egg with reddish brown.

Food.-- Mainly harmful insects.

Western Mockingbird *Mimus polyglottos leucopterus* (Vigors)

Description.-- Adults: Upperparts grayish drab; wings and tail blackish; wings with large white patch at base of quills, and wing bars, tipings and edgings white; outer tail feathers largely white; underparts white, washed with clay-color. Bill black, iris pale yellow. Feet blackish. Young: Upperparts brown; breast and sides thickly spotted with dusky. (Bailey 1928)

Habitat.-- Range: Western United States, Mexico and Cape San Lucas. Zone: Sonoran. Local occurrence: Canyons of Navajo regions.

Nest.-- In thick bushes, hedges, vines, thorny trees, or cactus. Bulky, made of twigs, grasses, and leaves, lined with finer materials such as gray moss.

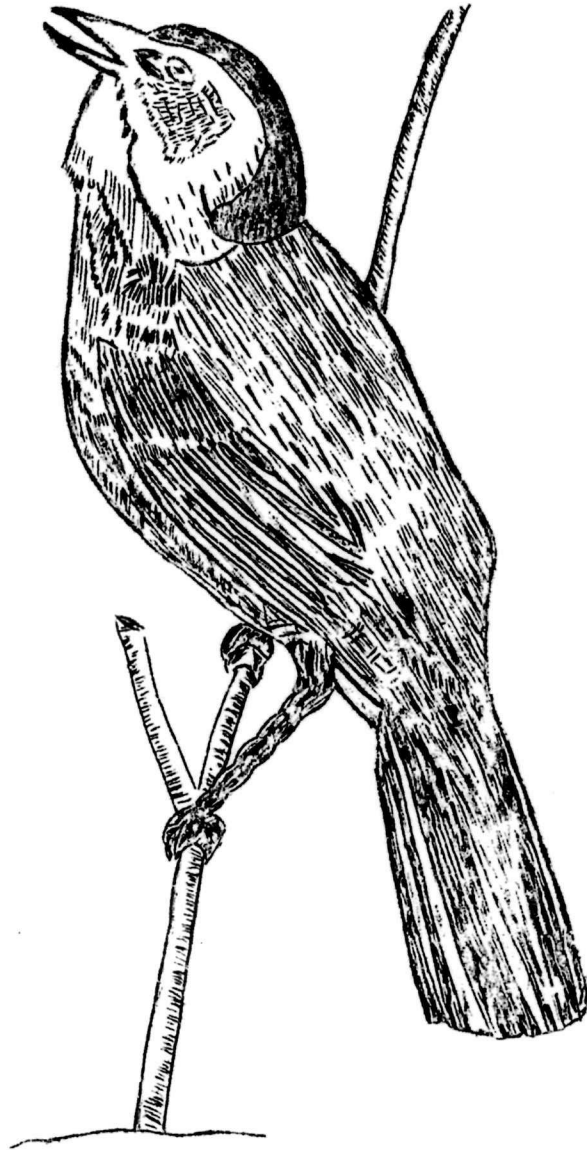
Eggs.-- Usually 4; pale bluish or greenish; heavily freckled with several shades of brown.

Food.-- Less than a fourth is animal matter, but it includes many injurious insects. Its vegetable food, in cultivated regions, includes a variety of small fruits; but apparently these can be protected by planting, between the rows of fruit, mulberry and some of its wild foods, as dogwood, pokeberry, elderberry, and prickly pear. (Bailey 1928)

Bendire's Thrasher *Toxostoma bendirei* (Coues)

Description.-- Length about 9.5-10.5 inches. Adult: Upperparts pale grayish brown; underparts brownish white; tail feathers dark brown with faint whitish tips; breast faintly spotted with grayish brown, wings with indistinct bars. Bill and legs black; iris yellow; under mandible pale brownish at base. In very warm plumage the wing-bars are not evident and the spots of the underparts are barely observable. Young: Similar, but wings and rump rusty or tanny; underparts narrowly streaked. (Bailey 1928 and Hoffmann 1927)

Habitat.-- Range: Arizona, California, and Mexico; winters south to northern Sinaloa. Zone: Lower Sonoran. Local occurrence: Canyons.



Bondiro's Thrasher
Toxostoma bondirei (Coues)

Nest.--in bushes, mesquite, mistletoe, palo verde, catsclaw, or cactus; small and compactly built for a thrasher; of sticks and grass lined with soft materials such as grass, rootlets, wool, or feathers.

Eggs.--3-4; clay-color, drab, or greenish, spotted and blotched with pale reddish brown; generally heaviest about the larger end; sometimes grayish or pinkish white, spotted with salmon and lavender.

Sage Thrasher *Oreoscoptes montanus* (Townsend)

Description.--Adult: Upperparts dull grayish brown; wing blackish with two narrow white bars; outer tail feathers edged and tipped with white; the others (except the central pair) tipped with white; wings and tail of equal length; tail graduated; feathers with obscure dark centers; throat white, bordered by narrow brown lines; underparts whitish, tinged with buffy brown and streaked especially on breast, with lines of small dark spots. Bill straight; shorter than head; blackish, paler at base; iris yellow; legs and feet olivaceous; soles yellowish.

Habitat.-- Range: Breeds on arid sage brush plains and foothills from Southern Canada prairie regions east to California; winters in southwestern part of United States, Mexico and Guadalupe Island. Local occurrence: Rainbow Lodge. Zone: Transition and Upper Sonoran

Nest.--Bulky; of stems and leaves of sage; in sage-brush.
Eggs.--3-5; greenish-blue, spotted with brown.

Western Robin *Turdus migratorius propinquus* Ridgway

Description.--Adult male in breeding season: Top and sides of head black, eyelids and spot before eye white; back gray; wings brown; tail black (outer feathers occasionally with small white tips); throat white, streaked with black; area under base of tail white; rest of underparts reddish brown. Bill yellow; upper mandible tipped with black; feet blackish. Adult female: Head and tail the same color as the back; breast paler than in

male; throat whiter; bill less yellow. Adult in winter: Upperparts browner; reddish brown of breast veiled with the white edgings of the feathers. Immature in summer: Back speckled with whitish; breast spotted with black; indistinct wing-bars. (Hoffmann 1927)

Habitat.--Range: Southern British Columbia; western part of United States; Mexico; winters from southern British Columbia and Wyoming south to Mexico. Zone: Transition and Canadian. Local occurrence: Navajo Mountain.

Nest.--Bulky; of twigs and grasses; plastered together with mud and lined with fine stems and rootlets; in trees or against building; usually near ground.

Eggs.--3-6; greenish blue; usually 4.

Food.--Vegetable forms about 58%, over 42% being wild fruits and only a little more than 8% being cultivated varieties. (Bailey 1928)

Chestnut-backed Bluebird *Sialia mexicana bairdi* Ridgway

Description.--Male: Length (skin) 6.6 Adult male in spring: Upperparts dark purplish blue except for chestnut back and scapulars; chest band and sides chestnut, separating blue of throat from that of rest of underparts, which fade to gray on belly. Adult female in spring: Back dull brown; rump, tail, and wings bluish; outer tail feathers and outer primary edged with white; anterior underparts grayish or brownish, sometimes tinged with blue; cinnamon of breast tinging chest and throat. Adult male in Fall: Similar to summer male but blue of head, neck, and chest obscured by brownish feather tips; chestnut of back and scapulars duller, with paler feather tips; that of chest with paler tips. Adult female in fall and winter: Similar to summer female but

head and back decidedly bluish, and brown of underparts more chestnut. Young: Upperparts dark gray spotted with white; bluish on wings and tail; underparts grayish, feathers of breast squamated. (Bailey 1928)

Habitat.--Range: Southwestern part of United States, Mexico. Zone: Transition; In the fall it is abundant in the upper Sonoran mountain pines and juniper country.

Nest.--In old woodpecker holes, and also in bird boxes.

Eggs.--4-6; pale blue.

Food.--Four-fifths insects, only a small part of which are useful; including beetles (among them individuals from about a dozen harmful families) caterpillars, grass-hoppers, crickets, and a small per cent of bees and bugs, ants, and spiders; insect eggs are eaten also. The vegetable food is mainly wild berries. The bird is an eminently useful species.

Mountain Bluebird *Sialia currucoides* (Bechstein)

Description.--Male: Length 6.5-7.9 inches. Female 7-7.2 inches. Adult male: Entire plumage, except the whitish belly, turquoise or rich celulean blue. Bill and feet black; wings and tail slightly more violet-blue; underparts paler and duller. In winter blue of upperparts obscured by grayish brown. Adult Female: Brownish except blue rump and tail, and wings, which are tinged with blue; belly whitish. Orbital ring white. (In winter, coloration slightly deeper). Young: Brownish or grayish, somewhat streaked with white; wings and tail partly blue. Immature: Like female but rump ashy gray; breast and sides streaked with whitish. (Bailey 1928 and Hoffmann 1927)

Habitat.--Range; Alaska, southwestern part of Canada, western United States and Mexico; winters in southwestern United States, Mexico and Lower Calif.; casual at Great Slav Lake and Great Bear Lake. Zone: Canadian and Transition.

Nest.--In deserted woodpecker holes and in bird-boxes or about dwellings.

Eggs.--Usually 5; pale greenish blue

Food.--So far as known, over 90 per cent insects and less than 10 per cent of wild or waste fruit.

Townsend's Solitaire *Myadestes townsendi* (Audubon)

Description.--Length 8-9 $\frac{1}{2}$ inches. Adults: Brownish gray, paler beneath; tail with middle feathers like back, outside feathers with terminal half of outer web dull white and inner web broadly tipped with white; wings dusky with two whitish bars and bases of quills largely buffy; under surface of quills showing oblique buffy bands. Young: Head and upper-part of body spotted with buff, the feathers broadly margined with blackish; underparts pale buff, the feathers margined with black or sooty. Narrow ring (white) around the eye. Feet and bill black. (Bailey 1928 and Hoffmann 1927)

Habitat.--Range: From east-central Alaska, south through Rocky Mountains to New Mexico and Arizona; through mountains of western U.S. into northern Mexico; winters from southern Canada to central Texas, Illinois, and Kansas. (Bailey 1928)

Nest.--The nest is a bulky well rounded cup, made largely of conifer twigs, bark, fine roots, grass, pine needles and black moss. It is found on the ground, at the base of a tree, or in a crevice of a bank; often on rocky slopes above a stream.

Eggs.--From 3 to 6; faint grayish blue, ground color nearly obscured by markings varying from brick red to lavender; in others pale blue, spattered with lavender, brick-red, brown blotches and spots of lengthwise trend; thickest at larger end. (Bailey 1928 and Hoffmann 1927)

Food.--Feeds on insects including black ants and caterpillars; wild fruits, juniper berries, and pine seeds in the fall and winter. (Bailey 1928)

Western Gnatcatcher *Polioptila caerulea amoenissima* Grinnell

Description.--Length 4-5.5 inches, Adult male: Upperparts bluish gray; forehead and sides of crown black, making a U-shaped mark; wings slaty, with pale gray edgings; upper tail coverts and tail black; the lateral tail feathers largely white; underparts white, washed with bluish gray. Adult female: Similar, but duller, and without black on head. Young: Similar to adult female but upperparts brownish gray and texture of plumage looser.

Comparisons.--The Western, having only a U-shaped black mark, can be distinguished from the Plumbeous which has its whole crown glossy black.

Habitat.--Range: Southwestern part of the United States, Mexico, and Cape region of Lower Calif.; Winters from southwestern part of United States to Mexico.

Nest.--In bushes or tree; deeply cup-shaped, compact cup made largely of shreds of bark and leaves; lined with finer shreds and feathers, the outside decorated with lichen.

Eggs.--4 to 5; pale greenish white, spotted with reddish brown and purplish.

Food.--Almost exclusively insects, including beetles, wasps, bugs and caterpillars, with a few flies, grasshoppers, and spiders. (Bailey 1928)

Western Ruby-crowned Kinglet *Corthylio calendula cinerascens*
(Grinnell)

Description.--Length $4\frac{1}{2}$ inches. Adult male: Upperparts gray, with greenish tinge in strong light; rump olive; crown with a partially concealed patch of scarlet feathers; eye-ring white; wings and tail dusky, with whitish edgings; 2 whitish wing-bars and a partial bar of black; bill and feet black. Adult female: Lacks the scarlet crown-patch. (Bailey 1928 and Hoffmann 1927)

Habitat.--Range: Western United States south in mountains to central New Mexico, southern Arizona, and southern California; winters from eastern United States south to northern Mexico. Zone: Canadian.

Nest.--A bulky structure of bark, feathers, and moss, hung in a branch of conifer. Usually 9 to 30 feet from the ground.

Eggs.--5 to 9; whitish or buffy, finely spotted with reddish brown, chiefly around the larger end. (Hoffmann 1927)

Food.--Animal matter 94 per cent; vegetable, 6 per cent.

White-rumped Shrike: *Lanius ludovicianus excubitorides* Swainson

Description.--Length: 8-10 inches. Adults: Upperparts light slate-gray, darkest on head, fading to white on upper tail coverts; tail and wings black; tail feathers (except two middle pairs) broadly tipped with white; wings with outer scapulars and tips of secondaries white; broad line of black from bill through eye; underparts pure white, very slightly, if at all, marked. Young: Like adult but general colors less strongly contrasted; washed with brown and narrowly barred; wing coverts tipped with buffy. Plump and stocky with a heavy head and bill. (Bailey 1928 and Hoffmann 1927)

Habitat.--Range: Alaska, Canada; winters in southern U.S. Zone: Transition, Upper and Lower Sonoran. Local Occurrence: Kayenta.

Nest.--In thorn trees, hedges, cactus, and sagebrush; bulky, made variously of sticks, leaves, grass, wool, and feathers; lined with grass stems, weeds, and sometimes hair. (Bailey 1928)

Eggs.--4 to 6; grayish to yellowish white, spotted with brown and lilac.

Food.--The greater part of its food consists of insects, especially grasshoppers, moths, caterpillars, ants, wasps; a few spiders also are eaten.

Plumbeous Vireo *Vireo solitarius plumbeus* Coues.

Description.--Length: 5.5-6.1 inches. Adult: Upperparts slate-gray; rump tinged with olivo-gray edgings becoming white on lateral tail feathers; wings with two conspicuous white bands; underparts white; sides and flanks broadly but indistinctly striped with grayish olive and pale yellow; under mandible bluish gray. Young: Similar to adults but upperparts brownish gray, sides and flanks white.

Habitat.--Range: Upper Sonoran Zone of southwestern Rocky Mountain and Great Basin region south into Mexico. Winters in south to southern Mexico.

Eggs.--Often 4; white, lightly spotted around the larger end with black and brown.

Food.--Mostly caterpillars. (Bailey)

Cassin's Vireo *Vireo solitarius cassinii* Xantus

Description.--Length: 5-5½ inches. Adult male: Top and sides of head dark gray in sharp contrast to white of loreal streak, orbital ring, and throat; back and scapulars dull olivo-green, brighter on rump; tail and wings slaty, with light olivo-green edgings; more yellowish on tail feathers, of which the outside ones have the outer web white; wings with two distinct bands; underparts white, shaded with olive and yellow on sides; under mandible bluish gray, with black tip. Adult female: Similar but duller; head and neck browner gray; white of underparts less pure. Young in juvenal plumage: Wings and tail as in adults; rest of upperparts brownish gray; underparts dull white; flanks tinged with yellowish. (Bailey 1928)

Habitat.--Range: From southern Canada south to western U.S.; winters in Mexico. Zone: Transition Zone

Nest.--Usually 8-20 feet from the ground; in oaks, cottonwoods, maples, elders, dogwoods, manzanites, buck bush, and also in conifers; compactly woven with shreds of inner bark, grasses, and bits of plants down, lined with fine grass stems and decorated with pieces of white cocoon, and sometimes paper string.

Eggs.--4 to 5; white, sparsely marked with smallish spots of brown.

Food.--Bugs, caterpillars, moths, wasps, ants, and beetles.

Western Warbling Vireo *Vireo gilva swainsoni* Baird

Description.--Length 4½-5½ inches. Adults: Upperparts dull olivo-gray; back more olivaceous; tail and wings brownish gray with

pale edgings; inner webs of feathers edged with white long stripe over eye; grayish, median underparts usually white, sides shaded with olivaceous. Young in juvenal plumage: Upperparts largely buffy grayish, wings with one indistinct brownish or olivaceous band; eye streak dull whitish; underparts dull white medially; olive or yellowish on sides and flanks. (Bailey 1928)

Habitat.--Range: Western part of Canada, south to United States; everywhere west of the Great Plains; winters south to Guatemala.

Nest.--Hung from a forked twig of an aspen or other deciduous tree or bush; cup-shaped and smooth; made of vegetable fibers and bleached grasses, bound together with spider web and lined with fine grass stems.

Eggs.--4 to 5; white, spotted around larger end with reddish, dark brown, and lilac. (Bailey 1928)

Food.--Insects and a few spiders make up over 97 per cent; caterpillars, moths, etc. amounting to nearly half the total food.

Calaveras Warbler *Vermivera ruficapilla ridgwayi* van Rossem

Description.--Adult male: Top and sides of head ashy gray (with a chestnut crown-patch showing only at close range); eye-ring white; upperparts olive-green, brightest on rump; underparts yellow, except white lower belly. Bill blackish; feet brown. Adult female: Ashy of head less pure; crown-patch more concealed; yellow duller. (Hoffmann 1927)

Habitat.--Zone: Transition Zones.

Nest.--On or near the ground; of bark strips, weed stems, grasses, etc.

Eggs.--3 to 5; creamy white, spotted with reddish brown chiefly about the larger end.

Virginia's Warbler *Vermivera virginiae* (Baird)

Description.--Length 4 inches, Adult male in spring and summer: Crown with chestnut patch; feathers tipped with gray (except in warm plumage); rest of upperparts gray except for greenish yellow rump and upper and lower tail coverts; eye-ring white, conspicuous; underparts dull white with chest patch, and usually throat, yellow, Adult male in fall and winter: Similar to summer male but upperparts and flanks is strongly tinged with brown; yellow of chest duller; brown crown patch concealed by broad gray tips to feathers. Young

in Juvenal plumage: Upperparts, breast, and sides grayish brown; whitish throat and belly; wings with buffy bands; tail coverts like adults. (Bailey 1928)

Comparisons.--The yellow of both upper and lower tail coverts is distinctive in all plumages.

Habitat.--Range: Southwestern part of the United States; winters in Mexico to Guerrero. Zone: Transition.

Nest.--On the ground under a bush or tuft of grass; made of rootlets, fine straws, and fibers, loosely put together.

Eggs.--4 or 5; ground color white, lightly wreathed around larger and with specks and spots of reddish and purplish brown; a few spots scattered over the rest of the surface.

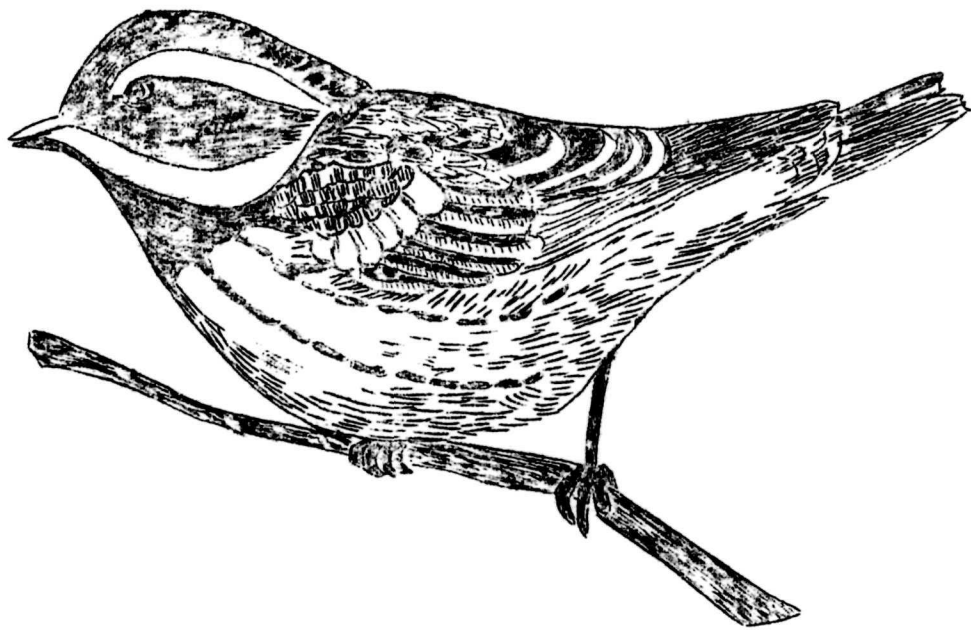
Alaska Yellow Warbler *Dendroica aestiva rubiginosa* (Pallas)

Description.--Male: Length (skins) 4-4.4 inches. Female: Length (skins) 3.9-4.3. Adult male: Upperparts almost uniform olive-green, making yellow eye-ring and stripe over eye more distinct; tail and wings dark olive-brown; tail feathers with inner webs lemon-yellow; wing edgings narrow, mostly greenish yellow; underparts pure gamboge-yellow, streaked with brick-red. Adult female: Darker and duller olive-green above, duller yellow below. (Bailey 1928)

Comparisons.--The Alaska is the darkest and dullest of the Yellow Warblers; the head olive-green like the back, the wing edgings the least conspicuous; while the Sonora is the palest with yellow head, yellowish olive-green back, pale underparts, chest and sides more narrowly streaked with brown.

Audubon's Warbler *Dendroica auduboni auduboni* (Townsend)

Description.--Length, Male: 4.8 to 5.4 inches. Female: 4.8 to 5 inches. Spring and summer, adult male: Crown, rump, throat, and sides of chest, yellow; upperparts bluish gray; back streaked with black; tail and wings black, tail with inner webs of four or five outer feathers white near tip; wings with large white patch; underparts with black of chest separating yellow of throat and sides from white of belly. In fall and winter: Gray of upperparts obscured by brown wash, wing markings tinged with brown; black of underparts mostly overlaid by brownish edgings of feathers. Adult female in Spring and summer: Similar to winter male but smaller and still duller; color patches and streakings restricted and duller. Young in juvenal plumage: Upperparts brown, thickly streaked with black and



Black-throated Gray Warbler
Dendroica nigrescens (Townsend)

white; underparts white, streaked with black; grayish white below. (Bailey 1928)

Comparison.-- The Audubon and Hoover Warblers can be distinguished from all other Warblers by the yellow patches on crown, rump, and sides of breast; and the Audubon can be distinguished from the Hoover by the addition of the yellow throat, and by the white patches on a few of the outer tail feathers.

Habitat.-- Range: Southwestern Canada, western United States, Lower California. Winters (casually) in British Columbia, Washington, Oregon, (abundantly) Lower California, and western Arizona, occurring south to Guatemala. Breeds mainly in the higher mountains of northern New Mexico; most commonly from 8,000 to 9,000 feet. (Bailey 1928) Zone: Transition and Boreal.

Nest.-- Usually in pines, firs, or spruces, 20-50 feet from the ground; but also in deciduous trees and bushes only a few feet from the ground; sometimes bulky made variously of twigs, strips of bark, wood stems, rootlets, moss, and dried grass; lined with fine grasses or horsehair and relatively large feathers.

Eggs.-- Usually 4; dull white to greenish or bluish white; spotted and blotched with olive-brown, lilac and lavender.

Food.-- Nearly 85 per cent insects and spiders and about 15 per cent wood-seed and wild fruit. The insects including ants, gnats, and other flies, comprise one-sixth of the total food; bugs, one-fifth of the food, including black olive scale, plant lice, leaf hopper, and tree hoppers; also snout beetles, and ants.

Black-throated Gray Warbler *Dendroica nigrescens* (Townsend)

Description.-- Male: Length (skins) 4.1-4.6 inches. Female: Length (skins) 4.2-4.8 inches. Adult male in spring and summer: Top of head black, separated from black cheek-bar by a white stripe behind eye; another white stripe separates cheek-bar from black throat; a near view shows a yellowish spot in front of eye; back bluish gray; wings dusky, crossed by two white bars; three outer tail feathers

chiefly white; underparts white, streaked with black on the sides. Bill and feet black. Adult male in fall and winter: Similar to summer male but gray of upper parts and cheeks margined with brownish gray; black markings concealed; and sides washed with brown. Adult female in spring and summer: Sometimes not distinguishable from summer male, but, as a rule, with less black on head; back browner and less heavily streaked; wings and tail browner and with less white; throat and upper breast mottled with black and white. Adult female in fall and winter: Like summer female but upper parts and cheeks washed with grayish brown; black of throat margined with white; sides tinged with brown, the black markings obscured. Young in juvenal plumage: Above brownish gray; a wide white stripe back of eye; anterior underparts gray; breast lightly streaked; belly white. (Bailey 1928 and Hoffman 1927)

Habitat.-- Range: Southwestern British Columbia, southwestern United States; winters in Mexico. Zone: Lower Transition.

Nest.-- Low down in dense thickets of scrub oak or high up in pines; compact, deeply cup-shaped; made sometimes of grass, weed stalks, moss, and feathers: lined with feathers; horse, cow, and rabbit hair; or fur.

Eggs.-- Usually 4; white to pale greenish white; delicately spotted with reddish brown; under shell marks of pale lavender, mainly about the large end.

Food.-- Partly small green caterpillars.

Townsend's Warbler *Dendroica townsendi* (Townsend)

Description.-- Male: Length (skin) 4.2-4.8 inches. Female: Length (skin) 4.2-4.9 inches. Adult male in spring and summer: Crown, throat, and cheeks black; back, scapulars, and rump bright olive-green, with black arrow-shaped markings; wings and tail blackish edged with gray; tail with two outer feathers largely white; wings with two conspicuous white bars; spot under eye; breast, yellow; belly white, sides streaked with black; bill blackish; feet brown. Adult male in fall and winter: Like the summer male but black of head obscured by olive-green feather tips, and black of throat by yellow feather margins; chest and sides spotted with black. Adult female in spring and summer: Similar to spring male but crown olive-green spotted with black; cheeks olive; black and white markings restricted; throat and breast obscurely marked with black. Adult female in fall and

winter: Like spring female but upperparts, sides and flanks slightly brownish; black markings less distinct. Young in juvenal plumage: Upperparts brown; broad superciliary line, buffy; belly white; cheek-patch greenish; throat chiefly yellow. (Bailey 1928 and Hoffman 1927)

Habitat.-- Range: Alaska south to western Montana and Washington; winters from west-central California to Guatemala; in migration the southwestern part of United States east to Colorado and Wyoming. Zone: Boreal and Transition. Local occurrence: Navajo Mountain.

Nest.-- In small firs; made externally of wood stems and grasses lined with horse-hair; or made of cedar bark, with a few fir twigs interwoven; lined with the stems of moss and flowers; patched externally with silvery plant fiber, at various heights up to six feet in trees.

Eggs.-- White, sprinkled or wreathed with browns and purples. (Bailey 1928 and Hoffman 1927)

Food.-- Mainly insects and a few spiders.

Hermit Warbler *Dendroica occidentalis* (Townsend)

Description.-- Adult male: Whole head except black throat rich yellow; back gray, streaked with black wing bars; outer tail feathers largely white; underparts white, unstreaked; bill blackish; feet brown. Adult female: Head dull yellowish; top of head mottled with blackish; throat whitish, spotted with dusky. Immature: Less yellow on top of head; throat white. (Hoffmann 1927)

Habitat.-- Range: In migration, Nevada and Arizona; winters in Mexico and central America. Zone: Upper Transition along Pacific Coast.

Nest.-- Of weed stems, twigs, mosses, and needles; in conifers.

Eggs.-- 4 to 5; dull white spotted or blotched with brown and lilac.

Northern Pileolated Warbler *Wilsonia pusilla pileolata* (Pallas)

Description.-- Male: In Spring and Summer, top of head velvety black, bordered over the forehead by golden yellow; upperparts yellowish green; underparts, bright yellow. Bill, brownish black above, flesh colored, below; feet brown. Female: Crown patch restricted or wanting. Male in fall and winter: Similar to spring but black cap narrowly tipped with white. Female in spring and summer: Sometimes not distinguishable from spring male, but usually with black cap less sharply defined and conspicuously tipped with olive green; yellow duller. Young in juvenal plumage: Upperparts brown; breast lighter; belly white; wings with a brownish white wing bar. (Bailey 1928 and Hoffmann 1927)

Habitat.-- Range: Rocky Mountain region from northern Alaska south to New Mexico and Arizona; winters from Mexico to Panama. Local occurrence: Navajo Mountain.

Nest.-- On or near the ground; often in willow thicket; made of willow leaves, seed stems, and grasses.

Eggs.-- Usually 4 or 5; white or creamy; specked and spotted with reddish brown and lavender over entire surface or wreathed around larger end. (Bailey 1928)

English Sparrow *Passer domesticus domesticus* (Linnaeus)

Description.-- Length 5.5-6.2 inches. Adult male: Top of head grayish; eye, throat, chest patch, black; checks white; patch from eye to nape bright chestnut; wings with two white bands; rest of upperparts brown; back streaked with black; underparts dull gray. Adult female: Crown and hind-neck grayish brown or olive, with light eye streak; back like male but brown, less rufescent, underparts brownish white or gray. (Bailey 1925)

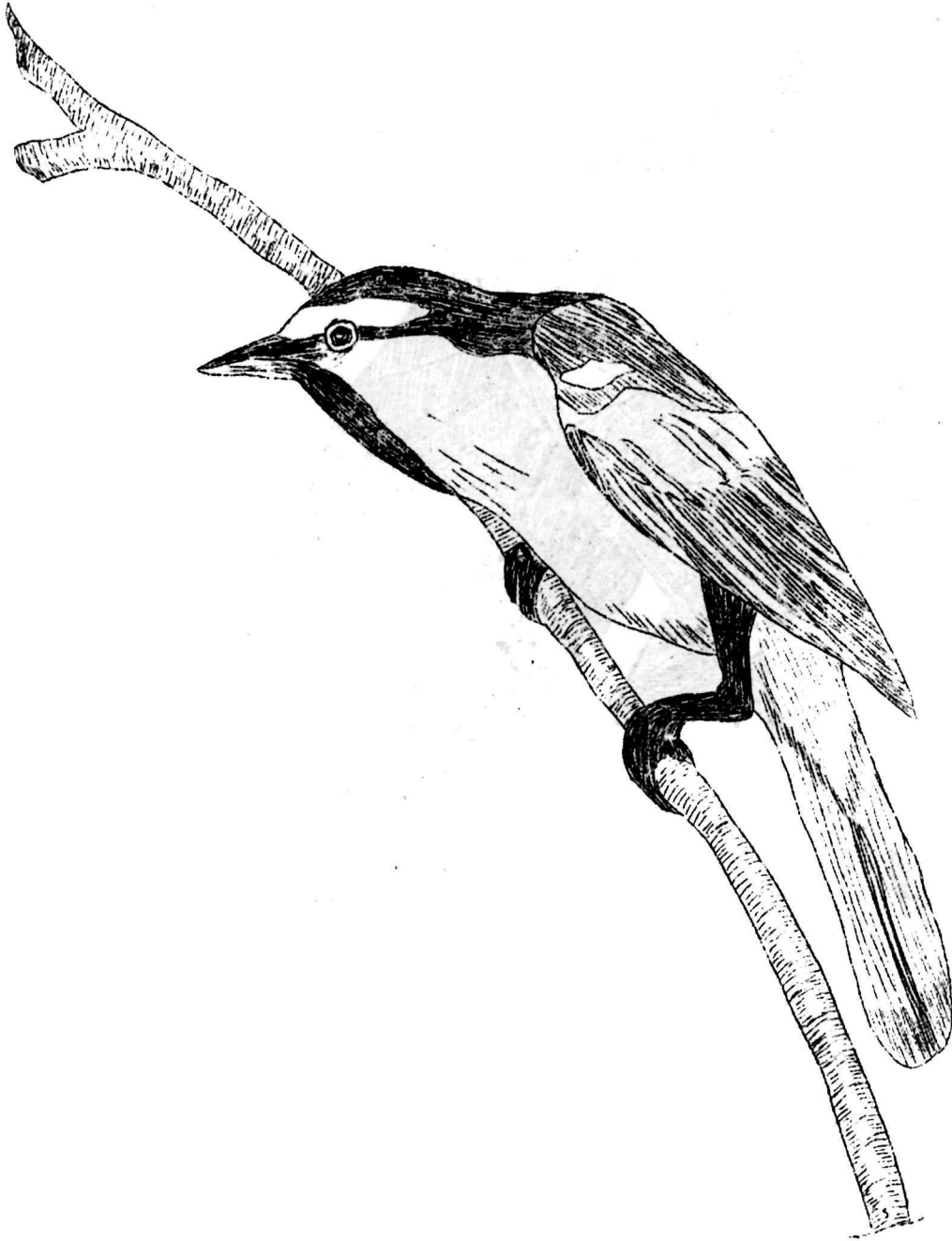
Habitat.-- Range: Great Britain; introduced and naturalized in Canada and U.S. from Atlantic to Pacific and from southern Greenland to Cuba, Lower California and South America.

Nest.-- 35-95 feet from the ground, in pine or fir; made of twigs, lined with rootlets and sometimes grass and finer materials.

Eggs.-- 3 to 4; green, blotched with pale brown.



Yellow-headed Blackbird
Xanthocephalus xanthocephalus (Bonaparte)



Bullock's Oriole
Icterus bullocki (Swainson)

Food.-- Largely wild fruit; as wild cherry, dogwood, snow-berry, serviceberry, and seeds of shrubs and trees as mountain ash, chokecherry, mistletoe, juniper, alder, box elder, ash, maple, and seeds from the cones of various conifers. Also small insects; mainly injurious leaf-eaters, such as beetles and hairless caterpillars; but also small wasps, ants, bugs, and spiders .

Yellow-headed Blackbird *Xanthocephalus xanthocephalus*
(Bonaparte)

Description.-- Male: Length about $10\frac{1}{2}$ -11.1 inches. Female: Length about 9-10 inches. Adult male in summer: Head and neck yellow or orange; chest yellow also; region around base of bill and eye black; rest of plumage black; except for a white patch on the wing. Adult male in winter: Similar, but yellow of crown and hind neck obscured by dusky tips of feathers. Bill and legs black. Adult female: Upperparts dark brown, without white patch on wings; line over eye, cheek, chin, and throat dull whitish, usually tinged with yellow and passing into yellow on chest; breast broadly streaked with white; bill dusky brownish. (In winter all the yellow areas are deeper and the plumage is generally darker.) Bill dark brown; feet blackish. Young in juvenal plumage: Head and breast brown or buffy, giving the effect of a brown-headed bird; abdominal region whitish and back blackish; both more or less edged with buff; tail and wings black, wing-coverts tipped with white. (Bailey 1928 and Hoffman 1927)

Habitat.-- Range: Western part of Canada and western and north central States; winters in southwestern part of United States and Mexico.

Nest.-- A large thick-walled basket made of dried weeds and marsh grasses woven together; lined with finer grasses and hung from growing reeds or cat-tails in marshes; well above the water.

Eggs.-- Usually 4; grayish white profusely blotched and speckled over the entire surface with brown and neutral tints; generally heaviest about the larger end; occasionally with a few fine hair-like markings. (Bailey 1928)

Food.-- About a third animal matter and two-thirds vegetable. Of the animal matter, nearly a third is composed of insects harmful to vegetation, including the army worm, alfalfa weevil, and grasshopper. The vegetable food is made up of grain and weed seed. (Bailey 1928)

Bullock's Oriole *Icterus bullocki* (Swainson)

Description.-- Length: 7.5-8.6 inches. Adult male in summer: Line over eye; sides of head and neck, posterior upperparts, and underparts, and underparts orange or yellow; crown, anterior upperparts, line through eye, and narrow throat patch black; tail chiefly yellow, with tip, and middle feathers mainly black, changing to almost wholly yellow on outside feathers; wings black, with conspicuous white patch and edging, bill black above, bluish below; legs and feet bluish. Adult male in winter: Like summer male but feathers of scapulars black, and rump tipped with gray; feathers of underparts edged with whitish. Adult female: Head and hindneck yellowish olive; back, scapulars and rump olive-grayish; back sometimes streaked with black, but brightening to wax-yellow on upper tail coverts and tail; wings with one broad white band and edgings; throat usually more or less black; underparts lemon yellow fading to gray on belly. Young in juvenal plumage: Similar to female but color duller. (Bailey 1928)

Habitat.-- Range: Southwestern part of Canada; south to western part of United States; Mexico; and northwestern part of Lower California; winters in Mexico. Accidental in New York and Maine. A migrant. Zone: Transition.

Nest.-- Pocket shaped, pensile, or supported on the sides, often in bunches of mistletoe, cottonwoods, box cedars, poplars, scrub oak or mesquite; woven of horse hair, strings, raw cotton, vegetable fibers, and inner bark; lined with grasses, horse hair, down, and wool; on branches from 6 to 40 feet above the ground. (Hoffmann 1927; Bailey 1928.)

Eggs.-- 3-6; grayish, bluish white, or pale buffy; marked with irregular hair lines, especially around the larger end.

Food.-- Largely insects that infest orchards and gardens.

Nevada Cowbird *Molothrus ater artemisiae* Grinnell

Description.-- Male: Head, neck and chest dark chestnut brown; sharply defined from the glossy greenish black body (iridescent in good light). Bill short, conical, black; feet black. Female: Smaller than the male; upperpart grayish brown, very faintly streaked; wings and tail dusky, with paler edgings, these nearly white on longer primaries; underparts paler, decidedly so on chin and throat; lower underpart usually more or less distinctly streaked. Bill and feet blackish brown. Young: Like female but paler and more heavily streaked with dusky. (Bailey 1928, Hoffmann 1927)

Habitat.-- Range: Eastern part of North America and west as far as New Mexico and Arizona. Zone: Transition and Upper Sonoran.

Nest.-- Lays in the nests of other birds.

Eggs.-- 8 to 12; whitish; whole surface covered with brown specks and blotches; usually heaviest about the larger end.

Food.-- Grain 16%, half of which is probably waste; 20% insects, which are either harmful or annoying, among them the alfalfa weevil, which is eaten largely in its season. More than 50% seeds of noxious weeds whose destruction is a positive benefit to the farmer. (Bailey 1928)

Western Tanager *Piranga ludoviciana* (Wilson)

Description.-- Male: Length (skin) 6.2-6.9 inches. Female: Length (skins) 6.3-6.9 inches. Adult male in summer: Foreparts of head and neck red (varying from orange-yellow to crimson on head and usually paler on throat); hind-neck, posterior upperparts and underparts light yellow; back, wings, and tail, black; wing coverts with broad yellow patches and narrow yellow or whitish bar; tertials (and sometimes tail feathers) tipped with white; under wing coverts yellow; iris brown; bill dull waxy yellowish; legs and feet bluish gray. Adult male in winter: Similar to summer male but head yellow (or slightly tinged with red) color obscured on back of head and hind-neck with olive-green or dusky feather tips; back usually with yellowish feather margins; wings and tail with white or yellow margins. Adult female in summer: Forehead sometimes tinged with red; upperparts olive-green; back and scapulars usually grayish; rump and upper tail coverts yellowish; wings and tail grayish brown with olive-green edgings; wings with two distinct yellowish or yellow and one white band; underparts mainly dull yellowish; under tail coverts light yellow. Young in juvenal plumage: Dusky yellowish or brownish green, yellower below and obscurely streaked; wings and tail brown with two yellowish bars. (Bailey 1928)

Comparisons.-- The two yellowish--or one yellow and one white--wing bars are diagnostic of the Western Tanager in any plumage.

Habitat.-- Range: Alaska, western Canada, Western part of United States, Lower California (found in spring and summer); winters at Brownsville, Texas (rarely), and south from central Mexico through highlands to Guatemala. Zone: Canadian, Transition, and Upper Sonoran (rarely).

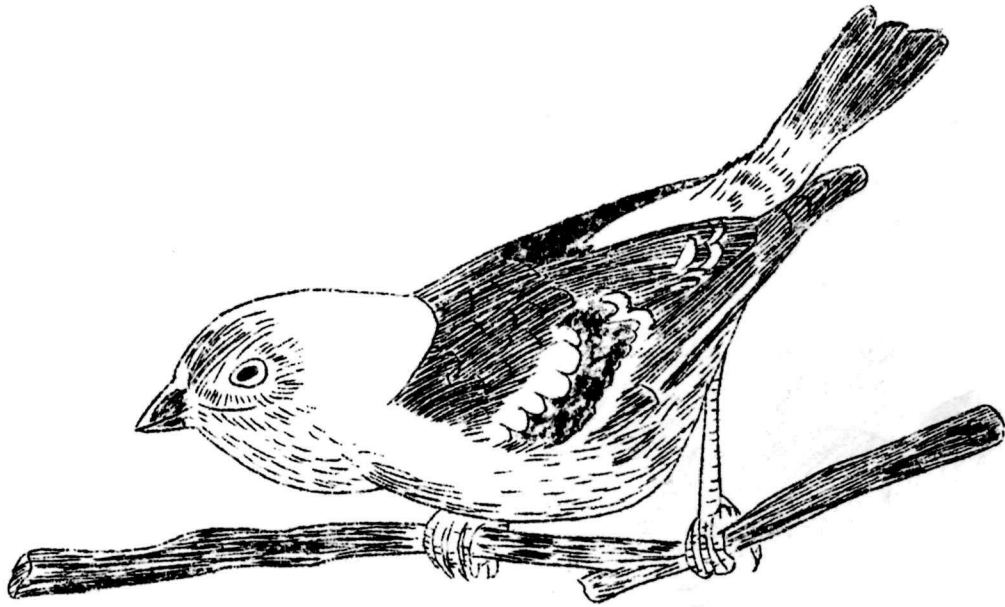
Nest.-- Usually on a horizontal branch of oak or conifer, 5-30 feet from the ground; made sometimes with a framework of forked twigs, and a few rootlets, moss, and coarse grasses, lined with fine rootlets and horsehair.

Eggs.-- 3-4; pale bluish green, lightly spotted with browns and purples.

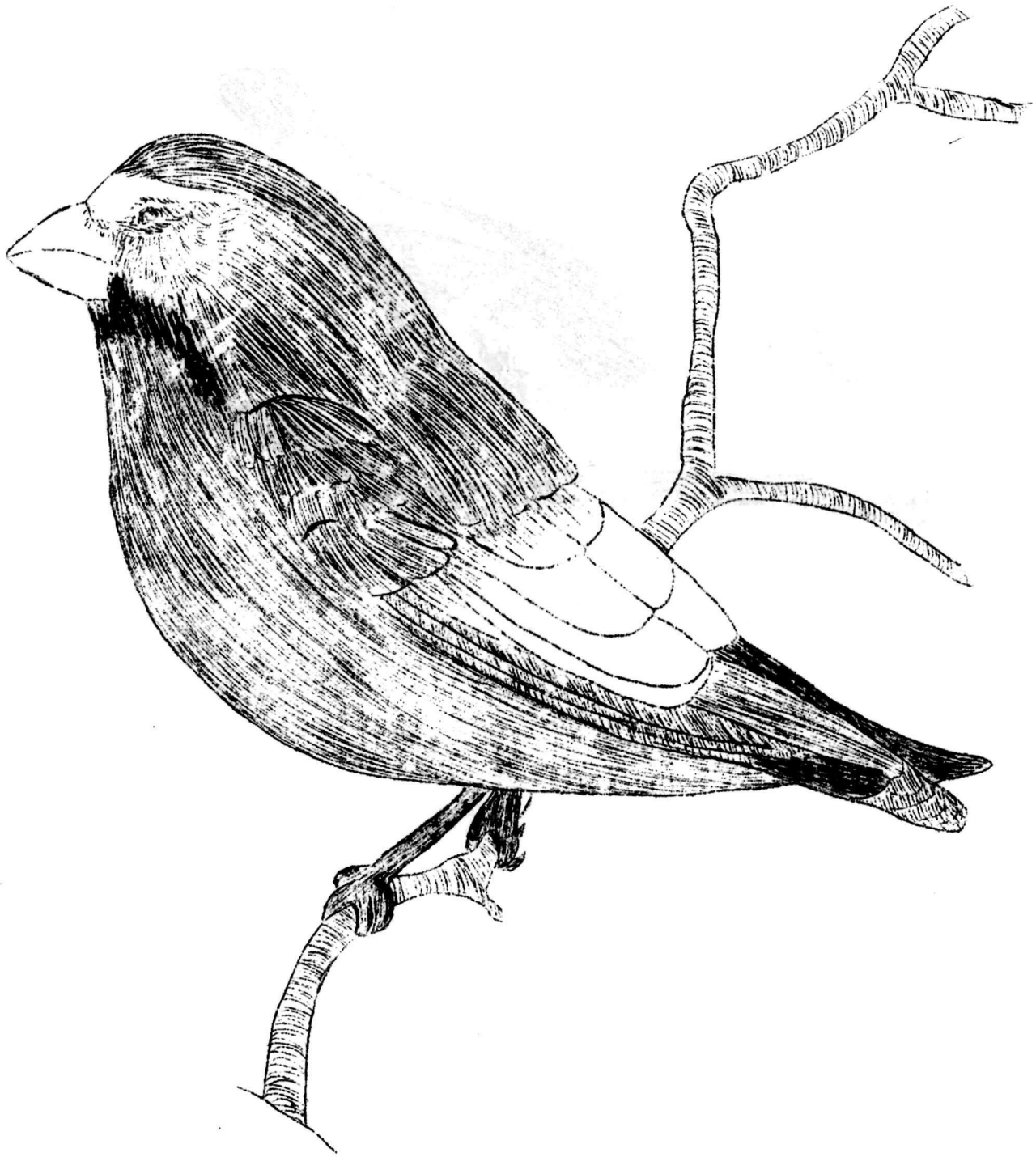
Food.-- 82 per cent insects and 18 per cent fruit. (Bailey 1928)

Rocky Mountain Grosbeak *Hedymeles melanocephalus papago* Oberholser

Description.-- Male: Length (skins) 6.6-7.7 inches. Female: Length (skins) 6.1-7.8 inches. Bill extremely heavy; tail shorter than wing; feet short and stout. Adult male in summer: Upperparts mainly black, with cinnamon-brown collar and rump (sometimes with brown stripe back of eye, through middle of crown, and on back); tail and wings black; tail with large white patches on outside feathers, wings with three white patches (on coverts and base of primaries), and with white tips to tertials; under wing coverts and axillars lemon-yellow; underparts tawny or buffy cinnamon, becoming yellow on belly; bill bluish white at base above, legs and feet bluish gray. Adult male in winter: Upperparts with more cinnamon or buffy; crown usually with more or less buffy feather edging. Adult female in summer: Upperparts brownish or olive, streaked on head and back; tail and wings grayish brown with white markings restricted or lacking on tail; under wing coverts lemon-yellow; underparts tawny or dull buffy, usually yellowish (sometimes white) on belly; sides and flanks streaked. Adult female in winter: Similar, but with the buff or brown more pronounced and lateral crown stripes streaked with black. Young male: Similar to adult female but eye and cheek stripes whiter; cheeks and lateral crown stripe brownish black; underparts paler and without yellow. (Bailey 1928)



Western Tanager
Piranga ludoviciana (Wilson)



Rocky Mountain Grosbeak
Hedymeles melanocephalus papago Oberholser

Habitat.-- Range: Saskatchewan south to western United States though not along the Pacific coast; winters in Mexico. Recorded from British Columbia. Local occurrence: Observed from the cottonwood near the Lodge to the Engleman Spruce on the mountain top. (Clark 1935)

Nest.-- Usually in chaparral; made loosely of sticks, weeds, or rootlets.

Eggs.-- 3 or 4; pale bluish white, thickly spotted with brown.

Food.-- Cherries, apricots, and other fruits; green peas and beans; and horticultural pests such as scales.

Lazuli Bunting *Passerina amoena* (Say)

Description.-- Male: Length (skin) 5-5.5 inches. Female: Length (skin) 5-5.4 inches, bill black, fading at the end; feet black. Adult male: Upperparts bright turquoise-blue changing to greenish blue, darker and duller on middle of back where fresh feathers are margined with rusty; wings and tail blackish with blue edgings and wings with two white bars; breast and sometimes sides brownish; rest of underparts white. Adult female: Upperparts flaxen-brown; back sometimes streaked; rump tinged with greenish blue; wings and tail dusky with greenish blue edgings; two wing bars buffy; anterior underparts pale buffy, deeper on chest and fading to white on belly. Young in juvenal plumage: Grayish brown above; whitish tinged with buff below; breast usually obscurely streaked. (Bailey 1928)

Habitat.-- Range: Southwestern part of Canada, western part of United States, to southern California; winters in Mexico, Lower California and Valley of Mexico. Zone: Transition and Upper Sonoran.

Nest.-- Usually near water; often attached to upright stalks of woods, rose bushes, sage, willows, manzanitas, or other bushes; made of inner bark and plant fibers, and lined sometimes with hair. When abandoned, the nest is often used by white-footed mice.

Eggs.-- 3-4; plain bluish white or pale greenish blue; sometimes spotted.

Food.-- Eats the seeds of troublesome weeds and many noxious insects including the alfalfa weevil. The codling moth is also eaten.

Cassin's Purple Finch *Carpodacus cassinii* Baird

Description.-- Male: Length (skins) 5.4-6.3 inches. Female: Length (skins) 5.5-6 inches. Tail much shorter than wing, deeply emarginated. Adult: Top of head with squarish crimson brown patch; and back brown, streaked with dusky; rump pale rose; wings and tail dark brown; throat and breast suffused with faint rose, fading to white on belly and sides; under tail coverts usually conspicuously streaked with dusky. Adult female: Upperparts white, or whitish, conspicuously streaked with dusky except on belly. Immature male: For the first year of its life, apparently, the male Cassin Finch is indistinguishable from the female; but having once assumed the pink plumage of maturity it retains it, the only further color changes being due to wear, which makes the adult male appear to be brighter in summer.

Comparisons.-- The adult male Cassin Purple Finch may be distinguished from the House Finch by its squarish crimson crown patch, less conspicuously streaked underparts, and larger size; the female Cassin, by its conspicuously streaked upperparts, darker and much more distinctly streaked underparts. The greater size, the crimson crown-patch clearly marked off from the back of the neck, and the paler tone of the underparts distinguish the male Cassin Finch from the California Purple Finch, which it most closely resembles and with which it is associated on the western border of its range. The female may be distinguished by a trained observer from the female Purple Finch by a difference in the streaking of the breast; in the Cassin the streaks are clearly defined leaving white areas between them; in the California Purple Finch the streaks are broader with less contrast of white and dusky. The female Cassin may be distinguished from the female House Finch, where they occur together, by the dusky gray patch on the sides of the head and the light streak over the eye. (Bailey 1928)

Habitat.-- Range: Western United States and British Columbia; winters from southern British Columbia to southwestern United States and Mexico. Zone: Boreal. Local occurrence: Pine forest of the Transition Zone of the Navajo Mountain. (Russell 1935)

Nest.-- On a horizontal branch, near the top of a young conifer; made externally of twigs and weed stems, and internally of rootlets and grasses, lined with shreds of bark and sometimes sheep's wool.

Eggs.-- 2-5; greenish blue marked chiefly around the larger end; sometimes finely spotted and lined with brown and black or spotted and blotched with pale lavender with a few bold punctuations of bistre.

Common House Finch *Carpodacus mexicanus frontalis* (Say)

Description.-- Adult: Forepart of crown crimson or scarlet (sometimes orange); rest of upperparts grayish brown; throat and breast bright crimson or scarlet sharply contrasted with the rest of the underparts which are dull white; flanks and belly streaked with dusky. Bill swollen, dark gray above, light gray on sides and below; feet dark brown. Adult female: Upperparts grayish similar to male but more distinctly streaked; wing coverts tipped with buffy. (Bailey 1928, Hoffmann 1927)

Habitat.-- Range: Northwestern and southwestern parts of United States including northern parts of Mexico and the upper half of lower California, winters as far north as southern Washington and Colorado. (Bailey 1928) Zone: Upper and Lower Sonoran. Local Occurrence: Canyons of the Tsegi.

Nest.-- A compact structure of plant fibers, grasses, etc. In trees, bushes, vines, or artificial structures.

Eggs.-- 3 to 6; pale bluish green, sparingly spotted; blotched and lined chiefly around the larger end with dark brown or black.

Food.-- Apricots, figs, strawberries, and the seeds of weeds. (Hoffmann 1927)

Northern Pine Siskin *Spinus pinus pinus* (Wilson)

Description.-- Streaked, above with dusky and brown, below with dusky and whitish; basal portion of wing and tail pale yellow. Wings and tail dusky or blackish (wings with two whitish bars); bill light brown; feet dark brown. (Hoffmann 1927, Bailey 1928)

Habitat.-- Range: From central Alaska to Lower California and east to Nova Scotia. (Bailey 1928). Zone: Canadian and Transition. Local Occurrence: Navajo Mountain.

Nest.-- Of twigs, rootlets, etc., generally in conifers.

Eggs.-- 3 to 5; pale greenish blue, speckled chiefly around the larger end with black and reddish brown.

Green-Backed Goldfinch *Spinus paltria hesperophilus* Oberholser

Description.-- Adult male: Whole top of head black; back greenish; wings blackish with white patch; tail blackish, with white spots in the middle of the outer feathers; tips blackish; underparts greenish yellow. Bill dusky above lighter on sides and below; feet brownish. Adult female: Upperparts, including top of head, greenish gray; white wing-patch smaller (sometimes almost lacking); white spots on outer tail feathers near the middle of the feather; underparts light olive yellow. Young: Like female but tinged above with buffy; underparts duller. (Bailey 1928)

Habitat.-- Range: Rocky mountain region of United States, west Mexico and southern Lower California; winters from central California and southern Arizona to Lower California. Zone: Upper Sonoran and Transition. Local Occurrence: Navajo Mountain.

Nest.-- Small cup; of plant fibers and grasses; in low bushes or trees.

Eggs.-- 4 to 5; pale bluish green.

Food.-- The little animal food it consumes consists of harmful insects, and practically all its vegetable food is seeds of useless or harmful weeds.

Bendire's Crossbill *Loxia curvirostra bendirei* (Ridgway)

Description.-- Male: Length (skin) 4.4-6.3 inches. Female: Length (skin) 5.5-6. Tips of bill crossed, tongue horny, concave at end; wings long; tail short. Adult male: Dull red (varying in shade seasonally); brightest on rump, dullest on back and scapulars where the feathers have brownish centers; wings and tail blackish without white markings; middle of belly grayish. Adult female: Red of male replaced by olive-gray more or less overlaid by yellowish olive, brightest on rump. Young in juvenal plumage: Conspicuously streaked with dusky. Immature males: A "widely varying mixture of red and green and yellow, never exactly alike in any two specimens." (Bailey 1928)

Habitat.-- Range: Northern and central mountain districts of western United States and British Columbia; during migration east to eastern Nebraska and Kansas, and west to the coast district of California; occasionally to northern Lower California.

Nest.-- In coniferous trees; rather flat; made externally of conifer twigs, shreds of soft bark or tree moss, and grass stems; lined with fine rootlets and sometimes horsehair.

Eggs.-- Usually 4; pale greenish or bluish green, lightly flecked with lavender and with a wreath of lavender and brown spots around the larger end.

Food.-- Chiefly seeds of conifers.

Mexican Crossbill

Loxia curvirostra stricklandi
(Ridgway)

Description.-- Male: Length (skin) 5.9-6.3 inches. Female: Length (skin) 5.7-6.3 inches. Similar to *Loxia stricklandi bendirei* but decidedly larger. Adult male: Entire body dull vermilion-red, brightest on head and rump; wings and tail blackish. Bill blackish, the mandibles crossed near the tips; feet black. Adult female: Dull greenish gray, brighter and more yellowish on head and rump; wings and tail dusky. Young males are often seen with patches of gray, olive, and dusky reddish, or with orange instead of red. Young: Streaked with gray and dusky above and below. (Bailey 1928; Hoffmann 1927)

Habitat.-- Range: Southwestern part of United States, south to Central America (Guatemala). (Bailey 1928) Zone: Transition and Upper Sonoran.

Nest.-- Of plant fibers, in conifers.

Eggs.-- 3-4; dull white, spotted with brown and dark gray.

Spurred Towhee *Pipilo maculatus montanus* (Swarth)

Description.-- Male: Length (skins) 7.1-8.3 inches. Female: Length (skins) 7.1-8.1 inches. Bill moderately conic; wings short and rounded; tail long, graduated; feet large and strong; claws stout and curved. Adult male: Head, neck, and upperparts black; wings flecked and barred with white; outer tail feathers tipped with white, the next with large white spots near the tips; throat and breast black, sharply marked off from the white belly; flanks reddish brown. Bill dusky above, paler on sides and below; iris red; feet brown. Adult female: Black replaced by dark brown; back obscurely streaked with black, white markings obscured. Young: Streaked with black on brown above; buffy below; markings on wings and tail as in adult but restricted on wings; iris first bluish, then hazel, later dull orange. (Bailey 1928; Hoffmann 1927)

Habitat.-- Range: British Columbia, western United States, Mexico. Zone: Transition and Upper Sonoran. Local Occurrence: Navajo Mountain; canyons, mesas.

Nest.-- On the ground or in a bush; made variously of inner bark, leaves, small sticks, and weed stalks lined with dry grass.

Eggs.-- 4 to 5; pale greenish or bluish, finely specked with brown and lavender.

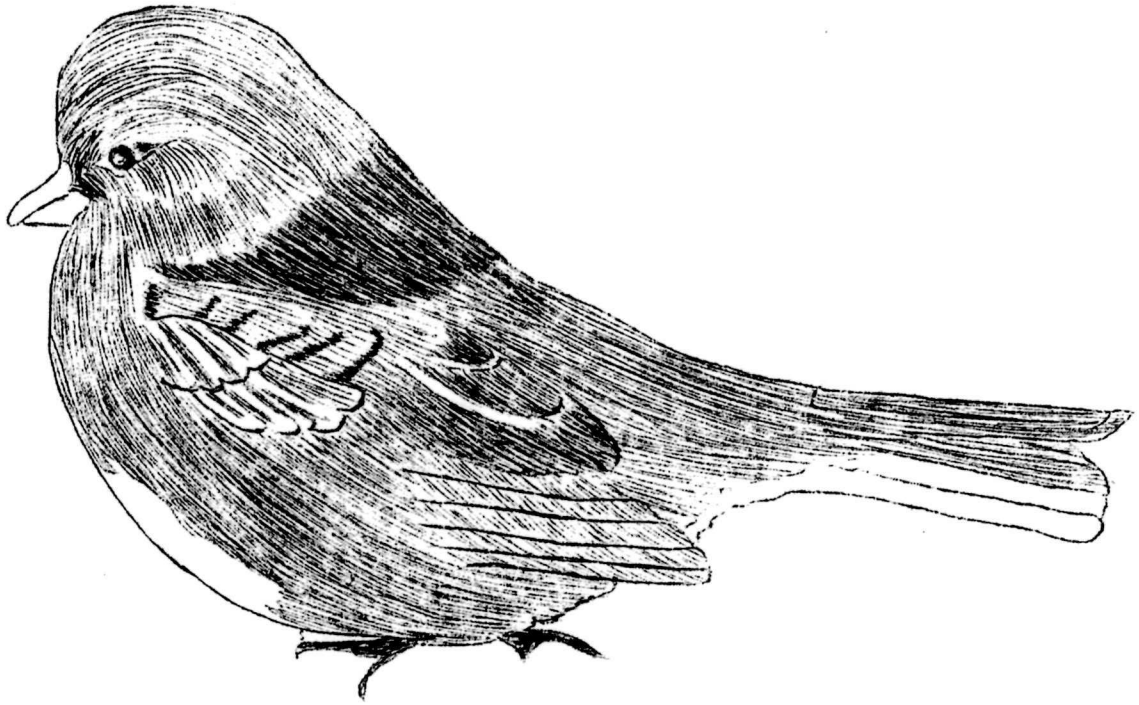
Food.-- About one-third animal and two-thirds vegetable matter.

Western Lark Sparrow *Chondestes grammacus strigatus* (Swainson)

Description.-- Male: Length (skins) 5.6-6.6 inches. Female: Length (skins) 5.5-6.7 inches. Tail long, graduated. Adult: Crown chestnut with a narrow white stripe through the center; rest of upperparts brownish gray; wings with indistinct buffy bars; tail long, rounded, blackish brown, all but the central feathers broadly tipped with white; a chestnut patch on the side of the head, bordered above and below with white stripes; narrow line on side of throat and spot on breast black; rest of underparts white. Bill dark brown above, paler below; feet pale brown. (Hoffmann 1927 and Bailey 1928)

Habitat.-- Range: Southwestern Canada, western United States and Mexico; winters from southwestern United States south through Lower California and southern Mexico to Guatemala. Zone: Sonoran.

Nest.-- Usually on the ground, but sometimes in bushes, mesquite, or mistletoe; a thick outer cup of dry weed stems, grass, rootlets, or bark fibers; lined with leaves or horsehair.



Gray-headed Junco
Junco caniceps (Woodhouse)

Eggs.-- 3 to 6; white; sometimes with a faint bluish or brownish tinge, speckled and lined chiefly on the larger end with black and brown.

Food.-- Insects 27% and seeds 73%. It, with the exception of the Grasshopper Sparrow and one other bird, is the most valuable grasshopper destroyer among our native sparrows. More than $\frac{1}{2}$ of its food is grasshoppers. On the prairies and plains it also does much good in helping to check the invasions of the Rocky Mountain locust.

Desert Sparrow *Amphispiza bilineata deserticola* (Ridgway)

Description.-- Adult: Length about 5-5 $\frac{1}{2}$ inches; top and sides of head dark gray; a white stripe above and behind eye; rest of upperparts grayish brown; tail blackish, outer feathers edged with white; both first and second feathers tipped with white; lores, chin, and throat black, separated from the sides of the neck by a white stripe; rest of underparts white. Bill dusky; feet black. Young without distinct black marking; throat white; back and chest lightly streaked, wing bar buffy. (Bailey 1928 and Hoffmann 1927)

Habitat.-- Range: Pacific and Mountain states and Mexico; winters from southern border of the United States south. (Bailey 1928) Zone: Sonoran. Local Occurrence: Breeds near the mouth of the Tsegi in the sage and salt-brush; common in the sage brush at the foot of the mountain. (Russell 1935 and Clark 1935)

Nest.-- Of plant fibers; in low bushes, cactus, etc.

Eggs.-- 3 to 4; bluish or pinkish white.

Gray-headed Junco *Junco caniceps* (Woodhouse)

Description.-- Male: Length 5.6-6.2 inches. Female: Length 5.5-5.9 inches. Adults: Slate-grey except for blackish lores, bright reddish brown patch, white median belly, and parts of three outer pairs of tail feathers; billflesh color; legs yellowish brown, toes darker. (Bailey 1928)

Habitat.-- Range: Central western part of the United States; winters at lower elevations in Arizona, Sonora, Chihuahua, and western Texas. Zone: Hudsonian and Canadian. Local occurrence: Highest part of the mesas of the Tsegi drainage. Navajo Mountain in the pine forest. (Russell 1935)

Nest.-- The nests are built on the ground underneath and completely hidden by tufts of grass or branches of woods.

Food.-- Consists mostly of seeds. (Bailey 1928)

Western Chipping Sparrow *Spizella passerina arizonae* Coues

Description.-- Male: Length (skins) 4.8-5.4 Female: Length (skin) 4.9-5.3 inches. Adults in summer: Crown reddish brown; a whitish or gray line over the eye; cheek gray; back brown, streaked with black; rump ashy gray; underparts ashy gray; tail long dusky slender, rather deeply notched; wing with a more or less distinct white or buffy band; bill black (cinnamon-brownish in winter); feet black. Adults in winter: Similar to summer adults but colors duller and less sharply contrasted, the chestnut of crown partly obscured by buffy tips to feathers; the bill brownish. Young: Crown with reddish brown, streaked; buffy line over eye; breast and sides streaked. (Hoffmann 1927 and Bailey 1928)

Comparisons.-- The absence of the pectoral blotch and striking wing bars distinguish the Western Chipping from the Western Tree Sparrow, and the black forehead and eye streak distinguish it from the Northern Sparrow. (Bailey 1928)

Habitat.-- Range: Western Canada, western United States, Mexico, and Lower California; winters from southwestern United States and Lower California to Mexico.

Nest.-- In trees or bushes; made of small sticks and dried grass stems and lined with horse hair, cow hair, or rootlets.

Eggs.-- 3-5; light greenish blue, speckled chiefly around the larger end with black and brown.

Brewer's Sparrow *Spizella breweri breweri* Cassin

Description.-- Adult male: Length (skins) 4.7-5.1 inches. Adult female: Entire upperparts pale brown, streaked with black on back, and finely streaked on top of head; sides of head grayish brown unstreaked; tail slender, dusky, notched; underparts gray unstreaked. Bill dusky above and at tip, pale flesh on sides and below; feet light brown in fall and winter. Young: Like adults but less sharply streaked above; wings with two buffy bands; chest streaked. (Hoffmann 1927 and Bailey 1928)

Comparisons.-- Typical summer specimens of the Brewer differ from the Clay-colored Sparrow in being more narrowly, uniformly, and continuously streaked above, especially on the head, also the Brewer lacks the median crown stripe and the plain gray hind-neck. The cheek patches are also less strongly contrasted. (Bailey 1928)

Habitat.-- Range: Southwestern part of Canada and western part of U. S. Winters in southwestern part of United States and through Lower California and western border of Mexico tablelands to Jalisco. Zone: In arid Transition.

Nest.-- In sagebrush, low junipers, and sometimes vineyards; made compactly of shredded sage bark; light dead twigs, fine grass stems and leaves; lined with rootlets, long horsehairs or sometimes cow hair, weed seed, and rabbit fur.

Eggs.-- Usually 3 or 4; greenish with a wreath of reddish brown spots around the larger end.

GLOSSARY

(Definitions after Webster's New International Dictionary)

- agave.....A large and important genus of amaryllidaceous plants of tropical American and the southwestern United States; also a plant of the genus. The common fleshy-leaved century plant, or American aloe.
- alluvial.....Pertaining to the deposits made by flowing water; washed away from one place and deposited in another.
- aboreal.....Of or pertaining to a tree.
- axillar.....One of the innermost feathers lining the under surface of the wing.
- caddice flies..Any of certain insects having (except in one genus) aquatic larvae called caddis worms.
- catkins.....A small cone resembling a cat's tail, and composed of a close, bracted spike bearing many unisexual flowers.
- cere.....A soft swollen area at the base of the upper part of the bill in which the nostrils open, occurring in its typical form in birds of prey and parrots.
- confluent...Flowing together, intermingling.
- conifers...Any tree or shrub of the order Pinales, including not only those belonging to the pine family, which bear true cones or strobiles, but also those of the new family, in which the fruit is berry-like or drupaceous. In general, the conifers are evergreen and are thus commonly contrasted with broad-leaved or deciduous trees. The latter are, however, sometimes evergreen, while a few conifers are deciduous or even broad-leaved.
- conoid.....A solid formed by the revolution of a conic section about its axis.
- coppice.....A thicket, grove, or growth composed of small trees that are cut for fuel or other purposes on a short rotation; a brushwood.

- covert.....One of the special feathers covering the bases of the quills of the wings and tail of a bird.
- crepuscular..Flying in the twilight or evening or before sunrise, as certain birds and insects.
- crustaceous..Pertaining to, or of the nature of, crust or shell; having a crustlike shell or scab.
- deciduous....Falling at the end of the growing period, as leaves, fruits, etc.
- bistre.....A dark brown pigment prepared from the soot of wood.
- emarginate...Having the apex notched as a leaf or petal.
- ferruginous..Resembling iron rust in appearance or color; brownish red, or yellowish red.
- flush.....To cause to fly up suddenly. as a startled bird.
- gape.....The width of the mouth when open (birds or fishes); the desire for food as in young birds.
- iridescence..The rainbow play of interference colors exhibited by certain bodies, as in the plumage of certain birds.
- iris.....The opaque, muscular contractile curtain or diaphragm in the aqueous humor in front of the lense of the eye. It is perforated by the pupil.
- lanceolate...Lance like, narrow; tapering to a point at the apex; and sometimes at the base.
- lobes.....A membranous flap on the sides of the toes of certain birds.
- mandible.....A jaw, either upper or lower.
- melanistic...Affected with an unusual development of black or nearly black color in skin or plumage.
- occipital....Pertaining to the back of the head or skull.
- ocherous....Resembling the color of ocher.
- olivaceous...Of the color of olive.
- orbit.....The cavity in the skull in which the eye and the eye appendages are situated.
- pectoral.....Pertaining to the chest.

- pensile.....Having or building a hanging nest.
- pernicious...Having the quality of injuring or killing.
- plumbeous...Lead-colored.
- primaries...The feathers or quills on the distal joint of a bird's wing.
- redding.....Material which is, or is used to make, red.
- rufescent...A reddish or brown color.
- rufous.....Reddish; yellowish red or brownish red.
- scapular....A scapular or breast feather.
- suffused....Filled, as with something liquid.
- staminate...Having or producing stamens.
- taxonomy....Classification; especially classification of animals and plants according to their natural relationships.
- tertials....Designating the flight feathers borne on the basal joint or humerus of a bird's wing.
- tule.....Either of two large bulrushes growing abundantly on overflowed land in the southwestern United States.
- vermiculate..Wormlike in shape; covered with wormlike elevations; marked with irregular fine lines like worm tracks.

BIBLIOGRAPHY

- American Ornithologist's Union
1931
The American Ornithologist's
Union. Check-list of North
American Birds
4th Edition, American
Ornithologists Union.
- Bailey, Florence Merriam
1928
Birds of New Mexico
New Mex. Dept. of Fish and
Game
- Benson, Seth
1935
"A Biological Reconnaissance
of Navajo Mt."
Univ. Calif. Publ. Zool. XL
439-546
- Boyers, L. M.
1935
List of Birds Collected by Rainbow
Bridge-Monument Valley Expedition.
Manuscript. Pp. 1-8
- Clark, C. C.
1935
"Zoology of Navajo Mountain"
Rainbow Bridge-Monument Valley
Expedition; Prel. Bull., Biol.
Series, No 2. Pp. 1-15
Mimeographed.
- Hoffmann, Ralph
1937
Birds of the Pacific States
New York; Houghton, Mifflin.
- Russell, H. N. Jr.
1935
"Report of Field Work in
Ornithology"
Rainbow Bridge-Monument Valley
Expedition Prel. Bull., Biol.
Series, No. 3. pp. 1-26
- Teall, Ralph C.
In press
Summer Bird Observations in the
Vicinity of Kayenta, Arizona.
pp. 1-8

INDEX

	Page
Avocet	15
Blackbird, Yellow-headed	55
Bluebird, Chestnut-backed	44
Mountain	45
Bunting, Lazuli	59
Bush-tit, Lead-colored	33
Chickadee, Mountain	35
Cowbird, Nevada	56
Creeper, Rocky Mountain	39
Crossbill, Bendire's	63
Mexican	63
Desert Sparrow	65
Dipper	39
Dove, Western Mourning	17
Eagle, Golden	10
Falcon, Prairie	11
Finch, Cassin's Purple	60
Common House	61
Flicker, Red-shafted	24
Flycatcher, Scissor-tailed	26
Ash-throated	27
Gray	28
Olive-sided	29
Western	28
Gnatcatcher, Western	46
Goldfinch, Green-backed	62
Grosbeak, Rocky Mountain	58
Hawk, Cooper's	7
Desert Sparrow	12
Duck	11
Rough-legged, American	9
Hawk, Sharp-shinned	7
Swainson	8
Western Red-tailed	8
Heron, Black-crowned Night	4
Hummingbird, Black-chinned	22
Broad-tailed	22
Calliope	24
Rufous	23
Jay, Long-crested	32
Pinyon	34
Woodhouse's	33
Junco, Gray-headed	65
Killdeer	13
Kingbird, Arkansas	25
Cassin's	25
Kinglet, Western Ruby-crowned	47

	Page
Lark, Desert Horned	30
Mockingbird, Western	42
Nighthawk, Western	20
Nutcracker, Clark's	35
Nuthatch, Black-eared	38
Red-breasted	38
Rocky Mountain	37
Oriole, Bullock's	56
Owl, Flammulated Screech	18
Rocky Mountain Pygmy	19
Western Burrowing	19
Western Horned	18
Pewee, Western Wood	29
Phalarope, Wilson's	17
Phoebe, Say's	27
Poor-will, Nuttall's	20
Raven, American	33
Robin, Western	43
Sandpiper, Spotted	13
Greater Yellow-legs	14
Western Solitary	15
Shrike, White-rumped	47
Siskin, Northern Pine	62
Solitaire	45
Sparrow, Brewer's	67
Desert	65
English	54
Western Chipping	66
Western Lark	64
Swallow, Rough-winged	32
Violet-green	31
Swift, White-throated	21
Tanager, Western	57
Teal, Green-winged	5
Thrasher, Bendire's	42
Sage	43
Titmouse, Gray	36
Towhee, Spurred	64
Vireo, Cassin's	48
Plumbeous	48
Western Warbling	48
Vulture, Turkey	6
Warbler, Alaska Yellow	50
Audubon's	50
Black-throated Gray	51
Calaveras	49
Hermit	53
Northern Pileolated	54

Warbler (Continued)	Page
Townsend's	52
Virginia's	49
Woodpecker, White-breasted	24
Wren, Bewick's	40
Canyon	41
Common Rock	41
Western House	40
Yellowlegs, Greater	14

