

FIELD BOOK OF PLANTS
OF THE
SOUTHWESTERN UNITED STATES
BY
WYMAN AND BORNHILL

598 W98

Wyman

Field book of birds

of the Southwestern

United States

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FIELD BOOK
OF THE
SOUTHWESTERN UNITED STATES

FIELD BOOK OF BIRDS
OF THE
SOUTHWESTERN UNITED STATES

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WASCO STATE
FIELD STATION
OR



ARIZONA HOODED ORIOLE
Male (above) and female (below)

FIELD BOOK OF BIRDS
OF THE
SOUTHWESTERN UNITED STATES

BY

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WITH MANY ILLUSTRATIONS



BOSTON AND NEW YORK
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WINDY NIGHT
THE BROWN
ON

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DEDICATED
TO THE FRIENDS
WHO MAKE LIFE WORTH LIVING

PREFACE

To meet a long-existing demand for a guide that in concise and convenient form will enable students to identify in the field birds of southern California and Arizona, the "Birds of the Southwestern United States" is herewith presented.

The territory considered includes all of Arizona, and that part of Nevada and California lying south of a line drawn from extreme northwestern Arizona, west and south through the mountain barrier fringing the southern end of the great central valley of California, to the ocean.

This area possesses the most varied and interesting avifauna of any part of North America. Of the four North American Swifts, the three exclusively western forms occur within our limits. Ranging from lowest deserts to highest mountains are found eleven species of Hummingbirds, as compared with only one east of the Mississippi; while five species of Quail contrast with the one of the eastern United States. In southern California is Mount San Jacinto, noted in biological reports, where proximity of high mountain and below-sea-level desert has produced a remarkable concentration of Life Zones, each with its characteristic species. Arizona attracts world-wide travel with its Grand Canyon dropping from a plateau of 6000 feet elevation to the narrow river gorge a mile below. Here in a day's trip we find birds and plants of three Life Zones corresponding to the 1000 miles of latitude between Mexico and Canada; while near by are the San Francisco Peaks, rising to nearly 13,000 feet, and carrying the Life Zones up through the Boreal, — the whole equivalent to a northward advance to Arctic shores.

This bird-guide will be welcomed by those who feel the perennial charm of the desert. Only a few times in a century do the meager rains come so well timed as to produce the galaxy of color which is the miracle of desert springtime and which passes like a dream. But during all the year the bird residents give life and charm even to gray, leafless shrubs and sun-scorched landscapes.

Here grows the Giant Cactus,— that Sentinel of the Desert,— an apartment-house of the Gilded Flicker and the Gila Woodpecker, whose abandoned holes shelter the Elf Owl, the Sahuaro Screech Owl, and the Arizona Crested Flycatcher. Near neighbors are the mesquite and catclaw, in which the yellow-headed Verdin weaves his ingenious domed nest of thorny twigs.

Western literature has long ago made famous birds characteristic of this Southwestern United States, birds with vivid personalities that imprint indelible pictures on eye and ear. Vacation days are incomplete without such memories as these: the vibrating wings of the White-throated Swift; the raucous croak of the Clarke Nutcracker in his high mountain habitat; the descending crescendo of the Canyon Wren garbed in his silky-white vest; the confiding ways of the Valley Quail nesting, perchance, among the geraniums of Hollywood hillside homes; Ouzels, relatives of the Mockingbird, at home in the swiftest mountain streams and nesting behind water-falls; the Wren-Tit, chattering confidentially as it creeps through the chaparral beside you; the restless Bush-Tit with its cleverly woven, deeply pouched nest; the Blue-fronted Jay, that swaggering, noisy bandit of the coniferous forest.

For encouragement and moral support in the preparation of this work the authors acknowledge indebtedness to a host of friends, largely members of the Cooper Ornithological Club and the Los Angeles Audubon Society. Special recognition is due Mrs. Mary A. Burnell and Miss Mildred E. Sykes, pen-artists, whose work, it is believed, will contribute largely to the success and usefulness of the book; and to Ralph L. Garnier and Ray M. Seymour, engravers, for invaluable advice and assistance in the preparation of the cuts used. To all these, named and unnamed, the authors extend sincere thanks.

LOS ANGELES

August, 1925

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INTRODUCTION

WHILE this book is designed primarily to aid the beginner and to meet the needs of schools and of the amateur bird student, the arrangement and selection of material is consistent with the best scientific usage. ORDER and FAMILY as given on page headings will facilitate the student in acquiring a knowledge of the scientific groupings of birds. Not only will this aid in field identification but it is a preparation for deeper study of the subject.

The taxonomic order and scientific nomenclature of birds are those given in the official American Ornithologists' Union Check-List of North American Birds, including latest supplements. The student is thus linked with scientific publications and with the museum arrangement of bird study skins. Deviations from the Check-List are few and unimportant. In vernacular names of species the possessive form is discarded — as, for instance, Bell Sparrow is used instead of Bell's Sparrow — while transposition of species, within the family, is resorted to where comparisons can be better made thereby. Other deviations are noted in the text in their proper place and are justified by common acceptance and usage among Western ornithologists.

The Distributional Maps used in connection with the drawings are based on the Check-List and Supplements, amended to conform to latest investigations. Ranges thus shown are approximate only, the maps being too small to permit precise definition. They are intended for quick reference in noting the general distributional status of a bird. Thus a glance shows whether a bird is "exclusively western," "restricted to southwest," "found all over the United States," "summers in North America, winters in South America," etc. It is hoped that this graphic representation of range will extend the interest from local field work to such fundamental problems as migration routes, food-supply, adaptation to environment, and other geographical factors. The maps show both winter and summer ranges when known.

Species and forms described are those known to occur with a fair degree of regularity in proper territory and season. Rarities

are treated briefly in an Appendix, while no mention is made of accidental visitants or strays from distant habitats. Measurements indicate average length of the various species, in many of which there is considerable variation, especially between sexes.

The student should be familiar with distributional lists of birds of his locality, though the beginner finds the information in such lists largely obscured by the abundance of citations and references which are studiously avoided in the preparation of this book. All such information essential for field work, in addition to original observations, is assembled in "Birds of the Southwestern United States," and great care has been given to further emphasize these data by bold-face type, spacing, and arrangement of text. This will greatly accelerate the progress of the student in field identification, and in memorizing the following data:

1. Status of bird: winter visitant; resident; etc.
2. Approximate abundance when known: rare; common; local; etc.
3. Associational or Life-Zone distribution: willows; oaks; desert; chaparral.
4. Diagnostic characteristics or field marks.

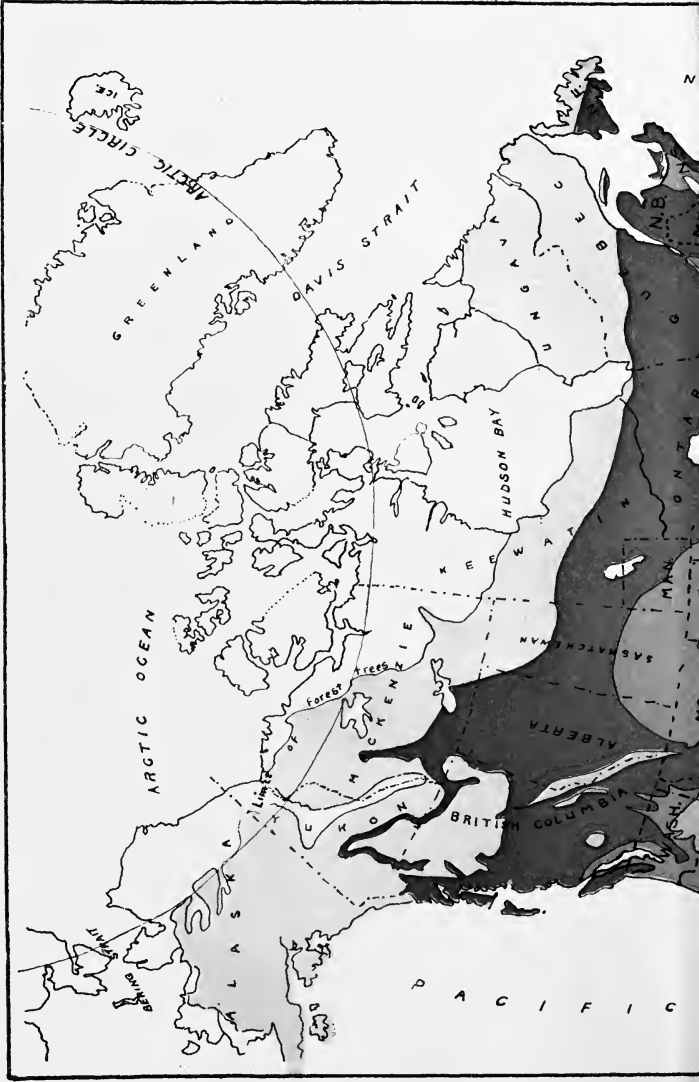
All descriptions are designed for field identification rather than for minute study with skins. Special attention is called to birds which it is practically impossible or very difficult to distinguish satisfactorily in the field, indicating the species with which a given bird may be confused.

In the popular mind color and size have been the chief diagnostic factors in the identification of birds. As a matter of fact, size is largely relative and is difficult to determine. Color is deceptive, dependent to a large extent upon the light, and is often in areas which are more or less concealed. It is of the greatest importance for the student to note the mannerisms of the bird; to recognize the family characteristics, as those of the Flycatchers; to look for the shape of bills which will identify insect or seed-eating birds; to associate a bird with its habitat; to make such observations as that the Bush-Tits occur in flocks and the Kinglets singly. It is believed that the pen drawings will serve their purpose in delineating patterns and areas of color, in showing bills and the general shape of birds, and in giving the characteristic attitudes which are

often wretchedly incorrect in mounted birds. The traditional demand for color plates will be less insistent when other diagnostic factors than color are given the importance which should be assigned to them.

Relative abundance of birds is obviously a fluctuating quantity. The Red-bellied Hawk, formerly plentiful in willow timber of southern California, now, with the cutting of willows and killing of hawks, is almost extinct. Changes produced by the development of the country — increase in population and in number of hunters, and extension of agricultural areas — have in many cases greatly altered relative numbers of individuals. The draining of lakes has wiped out whole colonies of birds, while, on the other hand, construction of reservoirs in the interior has led to rapid local increase in the bird population.

It is hoped that the student will regard the identification of a bird as but the first introduction which will lead to a growing intimacy. There is keener pleasure as well as greater scientific value in knowing a few birds well than in habitually striving for long lists and seeking rarities and doubtful records.





LIFE ZONE MAP
 OF
 NORTH AMERICA
 adapted from
 U.S. BIOLOGICAL SURVEY

- | | | |
|---|---|----------------|
| <ul style="list-style-type: none"> ARCTIC HUDSONIAN CANADIAN | } | BOREAL |
| <ul style="list-style-type: none"> TRANSITION UP. SONORAN LOW. SONORAN | } | AUSTRAL |
| <ul style="list-style-type: none"> TROPICAL | | |

In the eastern half or humid portion of the U.S., the Austral Zones are known as Alleghenian, Carolinian and Austroriparian.



LIFE ZONES

NORTH AMERICA

THE relationships existing between climate and plant and animal life, so apparent everywhere in nature, have long since been expressed by biological laws. The result is a mapping of the earth's surface into a system of so-called Life Zones, or natural divisions as determined by temperature and moisture, and characterized by the species of plants and animals found therein.

Since temperature is controlled by altitude as well as by latitude the same succession of Life Zones is met in climbing a high mountain as in traveling toward polar regions. These Zones, in North America, are: Arctic, or Arctic-Alpine; Hudsonian; Canadian; Transition; Upper Sonoran; Lower Sonoran; Tropical. The three highest are known collectively as the Boreal Region, while the Transition and Sonoran Zones constitute the Austral Region. These last-named Zones, in the eastern or humid half of the United States, are known as the Alleghanian, Carolinian, and Austroriparian. (See map of North America.)

The *Arctic Zone*, lying north of the limit of forest trees, is equivalent to our mountain summits above timber-line, with similar plants and birds.

The *Hudsonian Zone* reaches from ocean to ocean, across central Canada and Alaska. It is the Zone of spruces in which forest growth is stunted and dwarfed in its northern portion and finally conquered by cold. On our high mountains it is represented by the Engelmann spruce and fox-tail pine, and terminated by the distorted, timber-line forest where sprawling, wind-swept limber pines form a matted cover on exposed ridges.

The *Canadian Zone* is distinguished chiefly by firs mixed with spruce in its northern part and with aspens in the south. It stretches across southern Canada, extending northwest along the base of the Rockies and south on the mountain-tops into Arizona and New Mexico. It caps the highest peaks in Tennessee. Detached areas clothe the upper slopes of the high Sierras in California and the Cascade Range in Oregon.

The *Transition* is the Zone of pine forests and of spring-wheat

fields of the Great Plains region of southern Canada and the adjoining United States. In the west it is the home of the giant sequoias, the coast redwood, and the magnificent yellow and sugar pines. It reaches in the mountains as far south as Guatemala.

The *Upper Sonoran* includes the wide expanse of gray sage of the Great Basin and the eastern base of the Rockies. Its humid eastern portion, the Carolinian Zone, designates the corn belt and winter-wheat region of the central United States.

The *Lower Sonoran* is the Zone of the deserts, of date palms and cotton of Imperial Valley and the Colorado River basin. In the East it is known as the Austroriparian and is characterized by the sugar-cane and cotton plantations of the Gulf States.

The regularity of order or succession of Zones is affected locally by a wide variety of influences. A south-facing slope is much warmer than one facing northward; ascending currents of heated air from deserts elevate the Zones of neighboring mountains; extensive bodies of water modify temperatures and humidity of adjacent land areas; the more precipitous the slope of a mountain the higher extend the low Zones.

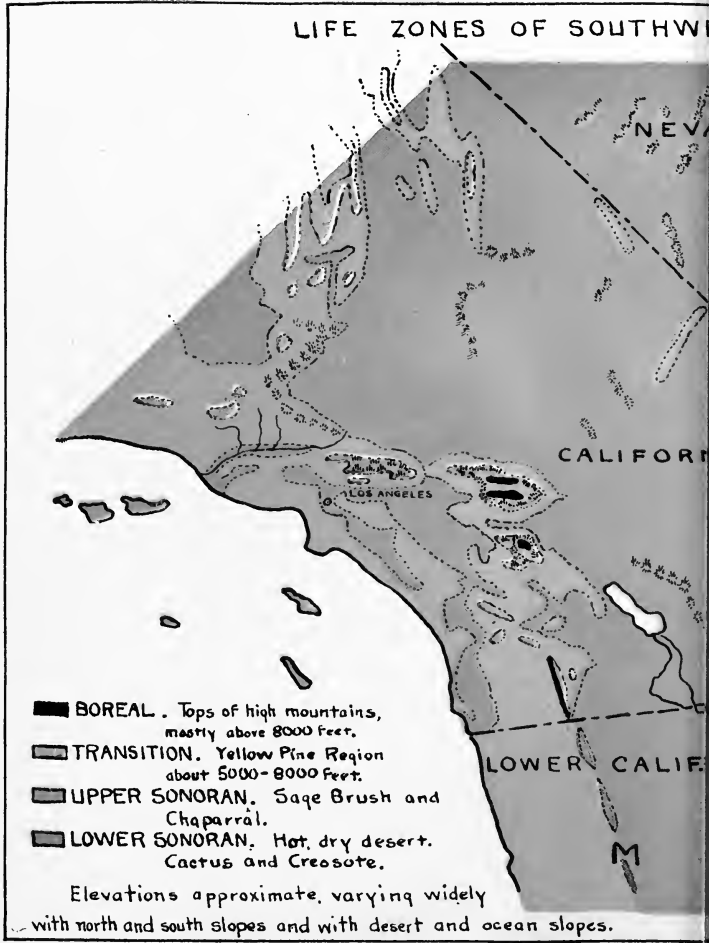
Each Zone has its so-called "indicators," or characteristic species. Among mammals, plants, and trees, these are the ones occurring most abundantly in any certain Zone, while among birds the characteristic species are those nesting principally in the given Zone, regardless of whether they may reside throughout the year or be summer visitants only.

For illustrative purposes, the Zones of western North America will be chiefly considered, more particularly those of the comparatively limited region covered in this book.

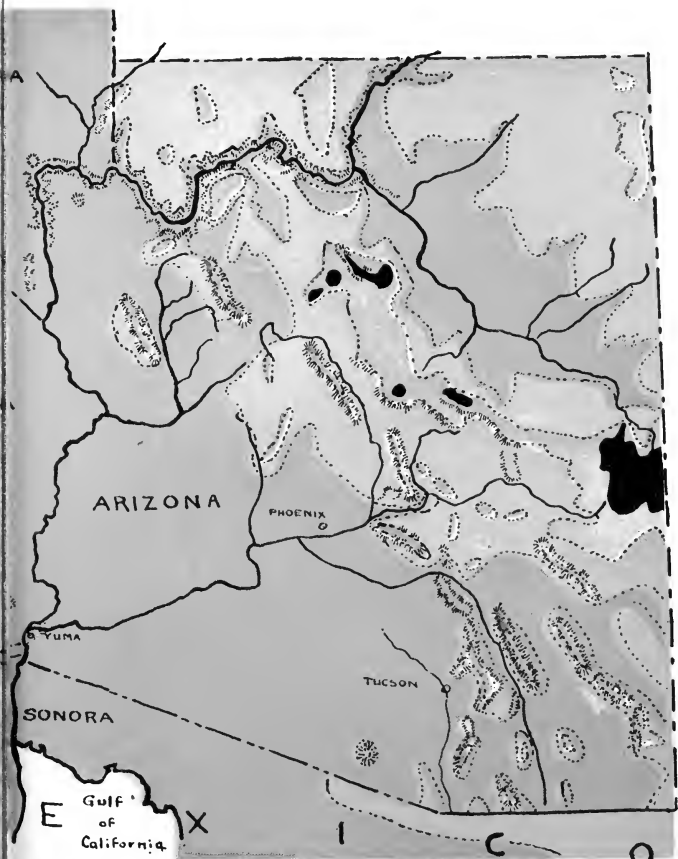
SOUTHWESTERN UNITED STATES

The Southwestern United States (see map) is taken to include southern California and Arizona. The Tehachapi Mountains are, with other cross ranges, the natural boundary between the Coast Ranges and Sierra Nevada of the north, and the broken and irregular mountain masses of the south. More than one half of the entire area of southern California lies east of its coastal mountains, the so-called desert divide, and is separated by lesser ranges into the Mohave and Colorado deserts. In the San Gabriel Mountains is San Antonio, rising to 10,080 feet. San Gorgonio, in

LIFE ZONES OF SOUTHWEST



TERN UNITED STATES



Compiled for "Birds of S.W.U.S."



the San Bernardino Mountains, 11,485 feet, is the highest mountain south of the Sierra Nevada. San Bernardino, in the same range, is 10,805. In Arizona, the San Francisco Mountains reach an elevation of 12,794 feet.

Six Life Zones are represented in the Southwestern United States.

Boreal Region: Arctic-Alpine, Hudsonian, and Canadian Zones. Mostly above 8500 feet. Tops of high mountains. These Zones are of comparatively small extent in our area and are not sharply defined except on the San Francisco Mountains, where the forest ceases at 12,000 feet. Barren mountain-tops above timber-line represent the Arctic-Alpine. Hudsonian is marked by the limber and fox-tail pines and the Clarke Nutcracker. The Canadian is characterized by firs and lodgepole pine, the Williamson Sapsucker, Cassin Purple Finch, and Pacific Nighthawk.

Transition Zone, 5500-8500 feet, is indicated by incense cedars and yellow pine forests. Crested Jays, Nuthatches, and Chickadees are characteristic birds.

Upper Sonoran Zone, sea-level (coastal slope) to 5000 feet. Sagebrush and chaparral, or elfin forest, of the foothills; Sage Sparrow, California Jay, California Thrasher, and Anthony Towhee are typical.

Lower Sonoran Zone is that of the hot, dry desert below 3000 feet. Catclaw, mesquite, creosote, and giant cactus are typical. The Cactus Wren, Crissal Thrasher, and Vermilion Flycatcher are some of the characteristic species.

In California valleys, and to a less extent in Arizona, much of the original Lower Sonoran has been transformed to Upper Sonoran through cultivation and irrigation. This has brought corresponding changes in the bird life of such regions.

Mount Wilson (Pasadena) rises to a height of 5886 feet. The summit only is Transition. The rest of the mountain is all Upper Sonoran.

The great yellow pine forest plateau of Arizona bordering the Grand Canyon is nearly all above 6200 feet (Transition Zone). Above 8500-9000 feet this is replaced by firs, spruces, and aspen. In southeastern Arizona, Transition Zone occurs as island areas on high mountains, with a belt of Upper Sonoran, rising from a Lower Sonoran plain.

MOUNT SAN JACINTO

Because of the sharply contrasted desert and Pacific slopes Mount San Jacinto offers exceptional opportunities for the study of Life Zones. (See map.) From the northeast rim there is an abrupt drop of 8000 feet to the Colorado Desert. Here all six Zones from Lower Sonoran to Arctic-Alpine are crowded into the "extraordinarily narrow air-line distance of three miles." "The four upper Zones are almost in superposition. There is probably no other place in North America where the Alpine and Sonoran floras are in such close proximity as they are on San Jacinto Mountain. This is the most southern latitude at which plants of the Arctic-Alpine Zone are known to occur in North America." (Hall.) The mountain is remarkably accessible from the south and the ascent is easily made. A further attraction to the region for students is found in the extensive biological reports on its birds, mammals, reptiles, and flora.

It is obviously more difficult to assign birds to a particular Life Zone than is the case with plants or even with mammals. Birds which are fairly local during the breeding-season are usually widely scattered when the young are fledged.

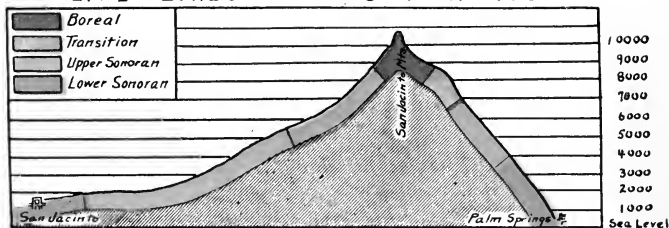
Some birds have a very wide range at all seasons. Thus "White-throated Swifts are found from desert areas to the summit of the San Jacintos. Ash-throated Flycatchers, abundant migrants through the region, breed commonly from the base of the mountains at least as high as 6000 feet." On the other hand, some species occupy such a narrow range that they may be limited to a single plant association: "The Crissal Thrasher of the mesquite belt; Hutton Vireo in the live oak; Gray Vireo in the Greasewood (*Adenostema*)."

Investigation of the effect of humidity on distribution of birds of the San Jacinto area shows:

A. Species occurring regularly on both the Pacific and desert slopes; for example, Arizona Hooded Oriole and Phainopepla.

B. Species sharply defined in range on either side, such as the Scott Oriole, Crissal Thrasher, and Verdin on the desert slope, and the California Jay, Pallid Wren-tit, and Plain Titmouse on the Pacific slope.

LIFE ZONES OF MT. SAN JACINTO



Profile along approximate east-west line. Note concentration of Zones on steep eastern, desert slope.

Based on Grinnell & Swarth, Univ. Calif. Publ. Zool. Vol. 10, Plates 6 & 7.

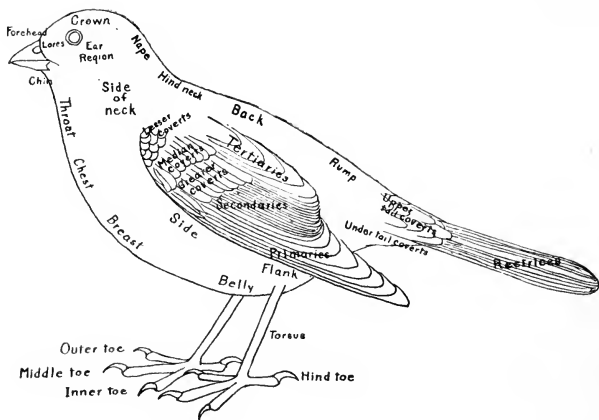


C. Species belonging to one or the other slopes but penetrating across, illustrated by the Cactus Woodpecker, California Thrasher, and Valley Quail.

D. Species represented in each of the two areas but by obviously closely related forms. (Grinnell and Swarth.)

The precipitous eastern slope of San Jacinto begins at 500 feet elevation in the Lower Sonoran of the Colorado Desert, the hot winds of which carry that Zone from below sea-level to 4000 feet. Upper Sonoran, extending entirely around the mountain, on the desert slope reaches 1500 feet higher than on the gentler western slope, where ocean breezes and moisture have their influence. Greasewood is the most general "Zone indicator" and the Wren-tit is the omnipresent bird of the chaparral. Transition Zone on this desert slope is contracted into a belt of hardly more than 1500 feet in vertical width, as compared with more than 3000 feet on the western side. White-headed Woodpeckers, Audubon Warblers, and Western Tanagers nest in this forest belt. Yellow pine and black oak characterize the lower, and white fir dominates the upper portion of the Transition. For purposes of bird distribution, the Boreal Region may be considered as one division. The Arctic-Alpine Zone occupies a small patch on the very summit of the mountain. Extending down all sides to altitudes of 8500-9000 feet are the Canadian and Hudsonian Zones, which, taken together, spread out from the main peak over all the higher parts of the mountain. The Murray (lodgepole) and limber pines are the only trees inhabiting the higher slopes and ridges and are restricted to these two Zones. (Hall.)

It is desirable that the student become intimately acquainted with the Life Zones of a locality, noting first the plant "indicators" as being the simpler and more obvious forms, and then the characteristic birds of the various Zones. He will then have vivid personal experiences which will give meaning and usefulness to the terms Sonoran, Transition, and Canadian. There is probably no more striking exemplification of Life Zones on the continent than is to be found in the Southwestern United States, and no other one subject contributes more to an understanding of birds and plants than does the study of Life Zones.



GLOSSARY.

- Auricular.* Pertaining to the ear or ear region.
- Angle of bill.* Angle near tip of lower mandible (of Gulls and Terns).
- Bend of wing.* Area about joint at base of primaries.
- Cheek.* Below eye, about corner of mouth.
- Coverts.* See map of bird.
- Ear region.* See map of bird.
- Ear-tufts.* Feather tufts growing above and behind eye.
- Facial disc.* Circular area of feathers radiating from eye—characteristic of Owls.
- Gorget.* Scale-like feathers, of metallic colors, on throat of Hummingbirds.
- Gular sac.* A pouch of bare skin on mandible and throat.
- Immature.* Between juvenile and adult.
- Juvenile.* Pertaining to the first feather coat following the downy stage.
- Lores.* Area between eye and bill.
- Malar stripe.* Stripe on side of throat, from base of mandible.

- Mandibles.* Upper and lower, together forming the bill.
- Mantle.* Back and wings, except primaries.
- Median line.* Middle line, as of crown, back, or breast.
- Migrant.* Occurring only during seasonal movements.
- Mirrors.* White spots near tip of Gull wing.
- Orbital.* Around the eye.
- Primaries.* Long flight feathers, on hand of bird.
- Rectrices.* Long feathers of tail.
- Resident.* Occurring throughout the year.
- Rump.* Part of back overlying root of tail.
- Scapulars.* Feathers of the scapular region, beside the tertiaries.
- Secondaries.* Flight feathers on forearm of bird.
- Speculum.* A patch of color on secondaries, of Ducks.
- Summer Visitant.* Residing through the summer only.
- Superciliary.* Line over eye.
- Tarsus.* Part of leg next to foot.
- Tertiaries.* Feathers on humerus, or upper arm of bird.
- Vermiculated.* Marked with narrow wavy bars.
- Winter Visitant.* Residing through the winter only.

EXPLANATORY NOTES

FOR purposes of defining ranges of birds, the term "North America" is here applied to that part of the continent north of the United States - Mexico boundary, and includes the peninsula of Lower California; while Mexico and Central America, and their islands, are collectively called Middle America. This conforms to the plan of the A.O.U. Check-List and to usage long established among zoölogists.

Unless otherwise stated, plumage-descriptions refer to adult males in spring, or breeding, dress.

Terms describing relative numbers of a species, as "common," "rare," etc., are exceedingly flexible and incapable of exact definition. A species recorded only once or twice a year, in its proper habitat, would be considered rare; if recorded daily, in numbers, it would be called abundant; while the term "common" generally means of regular occurrence in relatively small numbers. Further, the meaning of these terms varies with the numerical status of a species as a whole. Thus "abundant" applied to Eagles might mean a half-dozen seen in a week; while the same term applied to Red-winged Blackbirds would mean a score or a hundred noted in a single day.

Numbers preceding the scientific name are those of the A.O.U. Check-List. Numbers following parentheses give lengths of birds which are approximate only.

Summer, or nesting, range is indicated on the small distributional maps by northeast and southwest lines; winter range by lines northwest and southeast. Where these lines cross the species is found throughout the year.

ABBREVIATIONS USED IN TEXT

<i>Low. Son.</i> Lower Sonoran.	<i>Mig.</i> Migrant.
<i>Up. Son.</i> Upper Sonoran.	<i>Res.</i> Resident.
<i>Trans.</i> Transition.	<i>S.V.</i> Summer Visitant.
<i>Abun.</i> Abundant.	<i>W.V.</i> Winter Visitant.
<i>Com.</i> Common.	

BIRDS OF
SOUTHWESTERN UNITED STATES

PYGOPODES (meaning "rump-footed"): Characterized by legs placed on rear end of the body, giving greatest power in swimming; laterally flattened tarsus, presenting least resistance to water; and proper muscular development for driving the body at great speed on or under the water's surface. Plumage very compact, waterproof, and smooth, to minimize water friction. They are thus most highly adapted to aquatic life and to obtain their food (fish, shellfish, or crustaceans) by diving. Except the Grebes, none lay more than two eggs. Young swim and dive almost as soon as hatched.

WESTERN GREBE

(1. *Æchmophorus occidentalis*) 2 feet.

Upper parts dusky gray, blackening on hind neck and crown; entire *under parts silvery white*, including cheeks and sides of neck; bill yellow, long and slender.

Females, somewhat smaller, grayer on back neck and crown.

The slender neck, with striking contrast of colors, is distinctive. It is usually carried upright, much like that of a Swan; hence the name "Swan Grebe," used in some localities.

PIED-BILLED GREBE

(6. *Podilymbus podiceps*) 13 in.

Summer: Above, brown-black; *throat black*; fore-neck, breast, and sides brownish; belly dull white.

Winter: Breast rusty; throat without black patch.

Bill short and deep; in summer *with black ring* near tip.

This is the common "Hell-diver" of the eastern United States, a name applied because of the bird's quickness in diving. So marvelously quick is it, in fact, that it usually escapes the hunter in this way.

HOLBOELL GREBE

See Appendix.

(2. *Colymbus holboelli*) 20 in.

COLYMBIDÆ (Family Grebes) have lobed feet; flat toe-nails; no tail; short and weak wings; nest on floating vegetation of freshwater lakes. GAVIIDÆ (Family Loons) have webbed feet; toes with claws; tail; strong wings; and nest on shore or island of inland lake, close by water's edge. Both have tarsus greatly compressed; are incredibly quick divers; practically helpless on land. ALCIDÆ (Family Auklets, Murres, Puffins, etc.) are sea-birds, mostly of small size; deep divers but not so modified for high speed as are the fish-catching Loons; nest on or under rocks, in earth burrows or in caves.

W.V. — *Sept.-Apr.* — Common on ocean and tide-bays of southern California. Less numerous eastward, where water-areas of inviting size are few. Has been recorded on the Colorado and Gila Rivers, and doubtless occurs on large reservoirs constructed for irrigation purposes.



California — *Res.* — Common — Nests among tules on freshwater ponds and marshes of the lower country. Winters in same localities, occurring also on ocean and Colorado River.

Arizona — Less common.



HORNED GREBE

(3. *Colymbus auritus*) 13 in.

Summer: Head black, with buffy plumes behind, and chestnut before eye; *fore-neck, chest, and sides chestnut*; back blackish; belly white. Thick pads of long black feathers on the cheeks give a "mutton-chop" effect, and when spread are very conspicuous.

Winter: Grayish-black above, crown darker; *white below, including cheeks*. In this plumage it is distinguished from the Eared Grebe by slightly greater size, and *by the white cheeks* which contrast strongly with the dark crown.

EARED GREBE

(4. *Colymbus nigricollis californicus*) 12½ in.

Summer: *Upper parts, neck, and chest black*; head conspicuously crested; tufts of slender yellow-brown feathers on cheeks; flanks chestnut, showing broadly below and behind the short wing; breast and belly white.

Winter: Gray-brown above; *cheeks and throat gray*; remaining under parts white. No crest nor cheek ornaments.

Downy young, black-and-white striped. A brood of these youngsters, hatched a day apart and varying accordingly in size, is a notable sight.

FAMILY LOONS

LOON

(7. *Gavia immer*) 2½ feet.

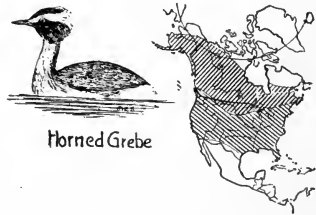
Summer: Breast and belly white, otherwise black with rows of white spots on back; wings white-speckled; neck with a complete collar of narrow white stripes, and throat with a similar partial collar.

Winter: Dusky above, with or without white spots on back; wings, white-speckled; white below, throat washed with gray.

Young: Like winter adult, but without white on wings, and with back feathers gray-edged, giving scaled appearance.

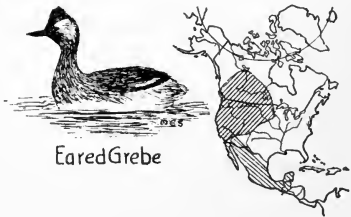
Southern California — *W.V.*
 — *Nov.-Mar.* — Occurs regularly on ocean and freshwater lakes, but much less numerous than the Eared Grebe. Tardy migrants, in nearly full breeding plumage, are occasionally recorded in late April.

Arizona — Rare.



Horned Grebe

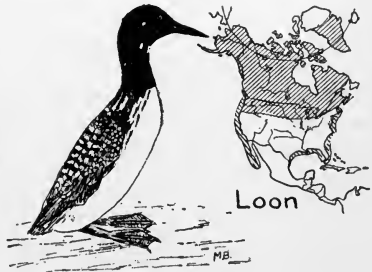
Res. — Breeds abundantly, in colonies, in mountain lakes of southern California, less so in lakes and sloughs of lowlands, and in mountains of Arizona. Nest of soft, dead vegetation of any sort, placed on a floating bed of dead or live water growth. Numerous throughout the winter on both salt and fresh water of southern California.



Eared Grebe

LOONS. Family Gaviidæ

W.V. — *Oct.-Apr.* — Common — Mostly on ocean, where, especially in migration, many are entangled in fishing-nets and drowned. Less numerous on inland lakes. Occasional on the Colorado River. In short, occurs indifferently on any large body of water.



Loon

PACIFIC LOON

(10. *Gavia pacifica*) 2 feet.

Notably smaller than preceding which it somewhat resembles in winter.

Summer: Crown and hind-neck, gray; breast and belly white; otherwise black, white-striped on sides of neck, and with white spots of back and wings in patches. In highest plumage, throat is glossed with violet.

Winter: Brownish-black above, with few white spots; below white, grayish on neck.

Young: Dusky above, feathers gray-edged; white below, smoky on throat and cheeks.

RED-THROATED LOON

(11. *Gavia stellata*) 2 feet.

Summer: Back dusky; head and neck leaden gray; throat with a chestnut patch; body white below.

Winter: Upper parts dusky-gray, finely speckled with white on back and wings; under parts white, including cheeks; throat sometimes dusky-speckled. Occurs within our limits only in winter plumage.

Notably more slender than the Pacific Loon, which it equals in length, its general appearance is much grayer.

FAMILY PUFFINS, etc.

TUFTED PUFFIN

(12. *Lunda cirrhata*) 15 in.

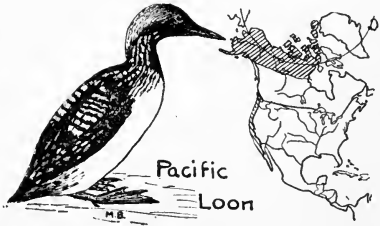
Summer: Entirely sooty, except white cheeks and forehead and tuft of long straw-colored feathers behind eyes.

Winter: Cheeks also sooty, plumes usually absent; many white feathers on under parts.

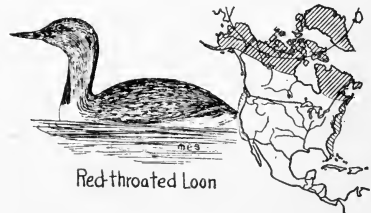
Bill very deep and thin; terminal half bright red in spring; raised portion on the basal half is moulted in summer, to be gradually renewed in late winter.

The grotesque bill and plumes of the nuptial dress are distinctive.

Ocean — *W.V.* — *Sept.-Apr.* — Most numerous about islands off the coast and occasionally found dead on mainland beaches. Apparently restricted to salt water, favoring the open ocean, though sometimes noted in the larger estuaries. Late migrants in breeding plumage occur sometimes well into May.



Ocean — *W.V.* — *Sept.-Apr.* — Most numerous of the Loons. Frequently found dead on the beaches of southern California, usually victims of floating oil that has coated feathers and skin and brought lingering death.



AUKLETS, MURRES, PUFFINS, etc. Family Alcidae

Ocean — *Res.* — About northern islands of the Santa Barbara group and northward to Alaska, where it becomes exceedingly abundant. Said to spend much of the fall and winter far out at sea. Nests in colonies, burrowing deeply into the earth, where it lays a single white egg.



RHINOCEROS AUKLET

(15. *Cerorhinca monocerata*) 14 in.

Blackish upper parts; throat gray, whitening on belly; a tuft of *slender white plumes above and below eye* (usually absent in winter).

With approach of the breeding-season a flattened process, suggesting the horn of a rhinoceros, grows upward on basal half of bill. This is lost in the summer plumage moult.

This species is especially noted for its diving ability, feeding by habit in deep water.

CASSIN AUKLET

(16. *Ptychoramphus aleuticus*) 9 in.

A small, chunky diving bird, slaty-black above, lighter below, and with white belly; a round *white spot just over eye*. Bill short and thick.

Disaster, possibly from disease, sometimes overtakes these birds, when considerable numbers are washed ashore. Such an occurrence was noted in January, 1914, at Long Beach, California, where nearly four hundred dead or dying Auklets were cast up by the waves.

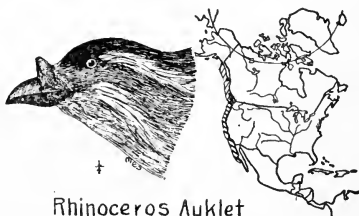
ANCIENT MURRELET

(21. *Synthliboramphus antiquus*) 10 in.

Summer: Back and wings slaty gray; head and throat black, with white above and behind eye, and white of lower parts extending on sides of neck to cheek.

Winter: Top of head black; cheeks and chin slaty, otherwise under parts white. White breast and fore-neck distinguishes this from the Cassin Auklet, while slaty of back distinguishes from Xantus Murrelet.

Ocean — *W.V.* — *Oct.-Apr.*
 — Most numerous about Santa Barbara Islands. Dead specimens are frequently, and live birds with oil-soaked plumage occasionally, washed ashore on beaches of southern California.



Rhinoceros Auklet

Ocean — *Res.* — Commonly seen about islands off the southern California coast, nesting on such as are not infested with foxes or house cats. Formerly bred in great numbers on Santa Barbara Island, but exterminated by cats.



Cassin Auklet

Ocean — *W.V.* — *Nov.-Apr.* — Rarest of our small divers. San Diego County appears to be the southern limit of their winter range. Their presence in our area would hardly be known except for occasional dead birds on the beach.



Ancient Murrelet

XANTUS MURRELET

(25. *Brachyramphus hypoleucus*) 10 in.

Wholly slaty-black above; wholly white below, including most of cheek. (Two preceding species do not have white cheeks.) Bird more slender, with thin bill.

The downy young, black above and white below, are called the most attractive of all divers.

This species is remarkable, also, for the wide variation in color and pattern of its eggs, which may be anything from sky-blue to solid chestnut, or specked, blotched, and mottled in endless variety.

PIGEON GUILLEMOT

(29. *Cephus columba*) 13 in.

Summer: Wholly sooty-black, except large white spot in wing; bright red legs and feet.

Winter: Wings as in summer; back dark with white tips; otherwise plumage white.

Both summer and winter plumages of this bird are characteristic and identify the species instantly.

Alarm-note, when the nesting locality is invaded, is a clear, plaintive whistle.

CALIFORNIA MURRE

(30a. *Uria troille californica*) 17 in.

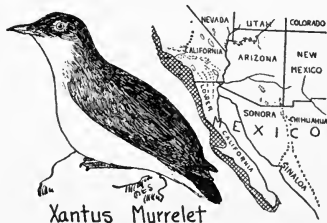
Summer: Sooty brown, except white breast, belly, and wing-bar.

Winter: Whole lower parts white; throat and cheeks washed with sooty.

Its size, and the long, pointed bill, are distinctive.

In the early days of San Francisco, vast quantities of Murre eggs, gathered on the Farallon Islands, were sold in the markets for food. These eggs, pointed at one end and rounded at the other, show endless variety in color and markings.

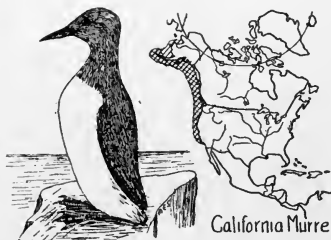
Ocean — *Res.* — Common — Much more numerous winter than summer. Nests on various islands off the coast, where safe from foxes and cats. Not recorded as breeding north of Anacapa Island. Nest usually a crevice between or under rocks, perhaps enlarged by the bird.



Ocean — *Res.* — Common — Occurs in pairs or small flocks about Santa Barbara Islands, where it nests in rocky caves, usually in inaccessible places. In the absence of natural rock caves the birds may utilize a convenient clay or sandstone bank, into which they burrow.



Ocean — *Res.* — Rare — South to Orange County, California. A small breeding colony, the most southerly of the species, exists on San Miguel Island. Nevertheless the occurrence of dead birds on mainland beaches is very unusual.



LONGIPENNES (long wings) are aquatic; wings long with great surface compared with body weight; consequently they are strong, though not especially swift, fliers; feet webbed, but weak; bill stout, more or less hooked in those of the scavenger habit (Gulls and Jaegers), comparatively slender and straight in the fish-catchers (Terns); mainly white-bodied with darker back and wings; distributed over nearly the whole earth, except the South Pacific Ocean.

PARASITIC JAEGER

(37. *Stercorarius parasiticus*) 17-19 in.

Light phase: Brownish slaty above, with darker cap and yellowish collar; under parts white.

Dark phase: Entirely sooty brown, paler below.

Immatures: Brownish above, white below, with broken, dusky barring on fore parts.

On the wing appears gull-like, but flight more direct and swifter. A parasite in its feeding-habits, it drives small Gulls and Terns until they disgorge, catching the prize in air.

LONG-TAILED JAEGER

See Appendix.

(38. *Stercorarius longicaudus*) 20 in.

FAMILY GULLS, etc.

HEERMANN GULL

(57. *Larus heermanni*) 16-18 in.

Adult: Head white, body all dark (slaty); wings and tail black, tail white-tipped. Bill red. In fall, head is brown and gray-streaked, white head being acquired in January.

First winter: Sooty brown with black wings and tail.

Adult plumage acquired in the third winter.

The only dark-bodied Gull. Very clannish in habit. Feeds mostly on beach. An habitual robber of Pelicans.

STERCORARIIDÆ. Family Jaegers

Three species are known, — the Pomarine, the Parasitic, and the Long-tailed. All are circumpolar in breeding-range, at other seasons widely distributed, chiefly on oceans, even to Australia and southern Africa. In habits all are robbers of their near relatives the Gulls and Terns, and raptors and scavengers on occasion. The Pomarine, largest of the three, has not been definitely recorded within our territory, though not uncommon northward. The Parasitic occurs on large inland bodies of water as well as on the ocean; and the Long-tailed, a rare bird on the southern California coast, appears inland only as a straggler.

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Ocean — W.V. — Sept.-Apr. — Common. Any considerable number of Bonaparte Gulls is reasonably sure to be attended by one or several of these robbers. Nests in Arctic regions.



GULLS AND TERNS. Family Laridæ

Coastwise — Aug.-Apr. — Common. Occasional at all seasons. Nests on islands off coast of Mexico. Moves northward after breeding, reaching the southern California coast in considerable flocks about mid-August.

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PLUMAGE CHANGES OR MOULTS OF GULLS

In studying Gulls it must be remembered that the plumage of immatures, except the Heermann, is progressively lightening in color through wear and fading, irrespective of moults, until the adult stage is reached. The annual, or post-nuptial moult, in which the entire plumage is replaced, begins in May, and is usually completed in late August or September. A partial moult in which head and neck feathers, and to some extent those of the breast, are renewed, occurs in winter and early spring, the time varying with different species.

The small white marks, or apical spots, on extreme tips of primaries of adult black-winged Gulls, are conspicuous in fresh fall plumage, but are soon reduced and finally lost through wear. The larger white spots near tips of outer primaries are called "mirrors," and are useful field marks.

KEY TO SPECIES

(Length)

No black in plumage. Coastwise.....	44. GLAUCOUS-WINGED	24-27
Body dark. Head white; bill red; coastwise.....	57. HEERMANN	16-18
Body white; black in plumage.		
A. Head black in spring. Ocean, chiefly.....	60. BONAPARTE	14
B. Head white in spring.		
a. Mantle dark. Extensive black in wing-tips; heavy angle lower mandible; coastwise.....	49. WESTERN	23-25
b. Mantle light.		
a'. Large. Black of wing-tips not extensive; comparatively rare; coastwise.....	51. HERRING	23-26
b'. Medium size.		
1. Wing-tips solid black; smallest of this group; coastwise.....	40a. PACIFIC KITTIWAKE	16
2. Very large white mirrors; coast and inland	53. CALIFORNIA	18-21
3. Black ring on bill near tip; coast and inland; southern California.....	54. RING-BILL	17-19
4. Very large white mirrors; short, slender bill; coastwise	55. SHORT-BILL	16-18

COMPARISON OF WING-TIPS OF ADULT GULLS; DRAWN TO SAME SCALE

KITTIWAKE

Always all black, this extending on first primary, on upper side only of narrow outer web, and not visible from below.



RING-BILL

In rare cases mirrors are absent, or a small mirror on second feather; none in the second year plumage.



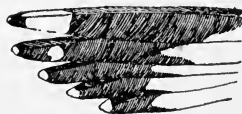
SHORT-BILL

Mirrors relatively largest of all the Gulls, but vary much in size; present in second year, but small, or on outer feather only.



CALIFORNIA

Note relatively large area of black. Sometimes the large mirror covers the entire tip. Third year birds have mirror on first feather only, generally small.



HERRING

Black area relatively much smaller than in the California; not extended on edge of wing. In flight overhead shows least black in proportion to wing area.



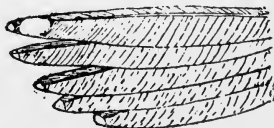
WESTERN

Note extensive black which reaches in a wedge to body. Occasionally a small mirror on second primary, and rarely none on either. Third year specimens with or without mirror.



GLAUCOUS-WING

Gray wing-tips, so light that the white mirror is hardly visible. Against the sky the wing appears wholly white.



WESTERN GULL

(49. *Larus occidentalis*) 23–25 in.

Adult: Mantle very dark (deep neutral gray); otherwise wholly white; seen from below the wing-tips (primaries) are extensively black, with mirror in outer feather; secondaries white-tipped, black of primaries extending inside these white tips to body. This is distinctive. Neck dusky-streaked in winter. Bill stout, with heavy angle.

Juvenile: Dusky slate, buffy-edged above, gray-tipped below. Bill black. Moults and wear constantly lighten the plumage until adult stage is reached in the fourth spring.

CALIFORNIA GULL

(53. *Larus californicus*) 18–21 in.

Adult: Mantle light neutral gray (between the Western and Herring); white mirrors of wing-tips large and conspicuous. Bill with irregular and generally imperfect dark band near tip, touching a dull red spot on lower mandible. Sides and back of head and neck dusky-streaked in winter.

Juvenile: Similar to Herring Gull, but darker; lighter than Western (note smaller size); basal two-thirds of bill white, tip black.

Four years required to reach adult stage.

HERRING GULL

(51. *Larus argentatus*) 23–26 in.

Adult: Mantle light bluish (when seen in direct light); black area of wing-tip small; back edge of open wing white; legs flesh-color. Winter: Head and neck heavily gray-streaked.

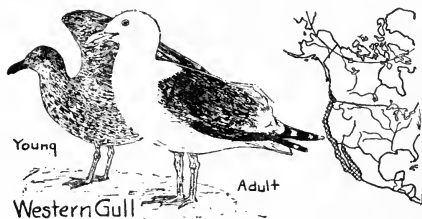
Young: Light gray above, with dusky wing-tips (compare Glaucous-wing); head streaky; mantle feathers gray-edged, giving scale-marking; belly dark gray, throat lighter (Western has light belly, dark throat). Plumage changes parallel those of California and Western species.

THAYER GULL

See Appendix.

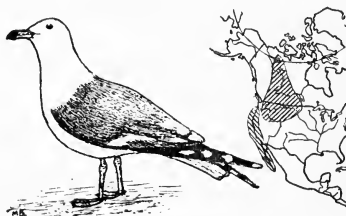
(51-. *Larus argentatus thayeri*) 22–24 in.

Coastwise — *Res.* —
 Abundant. Does not come
 inland. Nests in large
 colonies on islands. The
 only Gull breeding in our
 region.



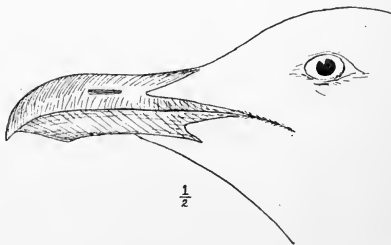
Western Gull

W.V. — *Sept.-May* —
 Abundant, on coast. Especially
 numerous Nov.-Mar., when it
 comes inland in great numbers
 to city and country alike
 wherever food is abundant.
 Follows the plow in hordes. At
 such times very tame. Nests
 on islands of interior lakes.



California Gull

Coastwise — *W.V.* —
Nov.-Apr. — Occasional in-
 land. Rare as compared
 with California and West-
 ern. First winter birds most
 numerous, often in small
 flocks. Nests mostly north
 of United States. Ranges
 over whole Northern Hem-
 isphere.



Herring Gull

RING-BILLED GULL

(54. *Larus delawarensis*) 17-19 in.

Adult: Mantle pearly gray, like Herring Gull, but bird much smaller, and *bill with* clean *black ring* near tip; legs yellowish. In winter, head and neck streaked above, *neck spotted* on sides *with dusky*.

Juvenile: Back mostly pearly; much brown on closed wings; head and neck streaked or spotted with brownish and under parts usually *barred* with dusky.

Adult stage reached in third spring.

SHORT-BILLED GULL

(55. *Larus brachyrhynchus*) 16-18 in.

Adult: Mantle like the California; *mirrors* of wing-tips *very large*; *bill* absurdly *small*, greenish yellow, unmarked. *In winter, head and neck clouded* with brownish. (Compare with Ring-bill and California.)

First winter: Nearly solid gray; wing-tips gray-brown (*no black*), translucent against the sky; bill mostly black.

Plumage changes like those of the Ring-bill. Three years required to reach adult stage.

PACIFIC KITTIWAKE

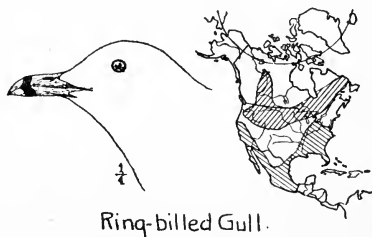
(40a. *Rissa tridactyla pollicaris*) 16 in.

Summer: White, with plain light-gray mantle and *black wing-tips without mirrors*. Bill yellow, unmarked.

Winter: Blackish on sides and back of head, otherwise as in summer.

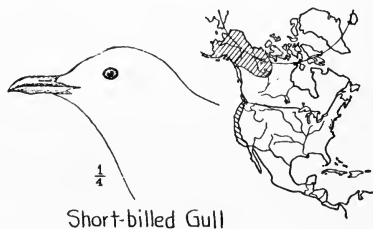
Immature: Black ear-patches, nape, shoulders, and tail-tip; tail slightly forked; otherwise as adult. A very handsome and striking plumage.

Southern California — *W.V.*
 — *Sept.-Apr.* — Abundant,
 chiefly on coast. Occasional in
 summer. Feeds almost exclu-
 sively at water's edge. Occurs
 inland in winter, in company
 with the California Gull, acting
 the scavenger or following the
 plow.



Ring-billed Gull.

Coastwise — *W.V.* — *Nov.-*
Mar. — Fairly common along
 beaches but easily confused
 with other species, especially
 the immature California and
 Ring-bill. Usually occurs in
 small groups or flocks of per-
 haps a half-dozen. Nests far
 northward.



Short-billed Gull

Coastwise — *W.V.* — Not common. Possibly more numerous than it
 appears to be, but mistaken for Short-billed or Ring-billed Gull, both of
 which it resembles in size.

GLAUCOUS-WINGED GULL

(44. *Larus glaucescens*) 24–27 in.

A large Gull, with *no black* in any stage of plumage.

First winter: All gray, darker below; bill black. From this a gradual change brings adult plumage in the fourth spring.

Adult: Body snow white; mantle pearly gray; primaries gray with white tips; in winter, neck and head are dusky-clouded above, this clouding being lost in early spring. Bill yellow.

First winter birds are conspicuously “chunky.”

BONAPARTE GULL

(60. *Larus philadelphia*) 14 in.

Adult: Head black, a white spot above and below eye; mantle pearl gray; wing-tips all black; body white; bill slender, black.

Winter: Head white with dusky ear-spot and dusky wash on nape. Black head is acquired in April.

Immature: Like winter adult, but with much brown on bend of wing and shoulders, and tail dusky-tipped.

Adult stage reached at the end of two years.

Feeds mostly in or near the surf.

SABINE GULL

See Appendix.

(62. *Xema sabini*) 13 in.

FRANKLIN GULL

See Appendix.

(59. *Larus franklini*) 14½ in.

CASPIAN TERN

(64. *Sterna caspia imperator*) 21 in.

Adult: Mantle pearly; cap black; bill large, dark red; tail forked; primaries frosty black, very conspicuous in flight, when, except for the long, pointed wing, the bird might be mistaken for a Gull. Cap white-streaked in winter.

Immature: Tail and wings marked with dusky; crown mostly white, darkening to nearly black nape.

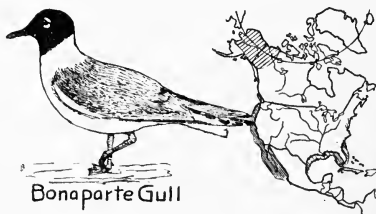
Largest of the Terns. In size and disposition, the king of its tribe.

Coastwise — *W.V.* — *Nov.-April.* — Common. Abundant in spring migration. Immatures much more numerous along the beach; adults on the water. Occasionally comes a few miles inland.



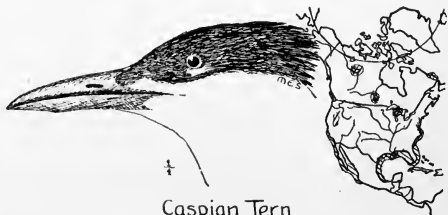
Glaucous-winged Gull

California — *W.V.* — *Sept.-May* — Abundant. Chiefly on ocean. Occurs inland on larger bodies of water. Often collects into flocks of hundreds or thousands, resting on the ocean or tide-bays.



Bonaparte Gull

Southern California — *W.V.* — *Oct.-May.* Rare. On salt or fresh water. Likely more numerous than supposed to be, but identified as one of the Gull band with which it often associates.



Caspian Tern

Excepting the Black Tern, all our species are white-bodied with pearly or gray mantle and black cap, white-streaked or nearly all white in winter. Outer tail feathers in genus *Sterna* variously lengthened in breeding plumage.

ROYAL TERN

(65. *Sterna maxima*) 19 in.

Adult: Mantle pearly; *wing-tip* dark gray or frosty black, *not conspicuous* in flight; dark area much less than in the Caspian; black cap considerably elongated behind, largely white in winter; bill orange-red, relatively small.

Immatures have tip of wings and tail dark gray.

Slightly smaller than the Caspian species, which, at a distance, it closely resembles. At short range, however, the smaller bill is quite distinctive.

FORSTER TERN

(69. *Sterna forsteri*) 13–16 in.

Adult, in spring: Mantle pearly; under parts white, sometimes pale gray; cap shining black; outer tail-feathers greatly elongated; *bill orange*; outer web of outer tail-feather white; inner web dark — rarely discernible in the field. (Compare Common Tern).

Adult, in winter: Cap mostly white; nape and area about eye blackish; bill duller; outer tail-feathers much shorter.

Immature: Mantle washed with grayish or brownish; otherwise like winter adult.

COMMON TERN

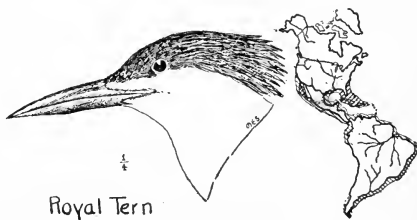
(70. *Sterna hirundo*) 12–14 in.

Adult, in spring: Light gray below; bill dark red, black-tipped; outer tail-feathers long and slender, dusky on outside web, inside web white (compare with Forster).

Winter adults and immatures closely resemble the Forster except for smaller size.

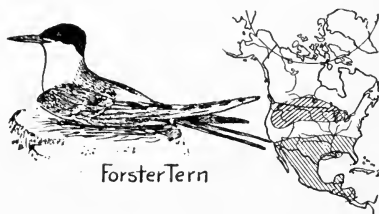
These two species are not easily distinguished in the field, especially in winter dress. Note relative size, bill colors, and gray breast of the Common in spring.

Coastwise — *W.V.* —
Sept.-May — Occasional;
 sometimes in considerable
 flocks, but generally singly
 or in small groups. More
 numerous southward.
 Ranges northward to San
 Francisco.



Royal Tern

California — *W.V.* — *Sept.-*
May — Common; sometimes
 abundant. Most numerous in
 fall and spring, on coast and
 large bodies of fresh water.
 Occurs singly or in flocks of
 any size.



Forster Tern

Southern California — *W.V.* — *Sept.-May* — On fresh water or ocean.
 Relatively rare, compared with Forster.

Arizona — Has been recorded and should occur regularly on large
 artificial lakes.

ARCTIC TERN

(71. *Sterna paradisæa*) 12-13 in.

Mantle much darker than in other white-bodied Terns, while in breeding dress the white of under parts is nearly all replaced by neutral gray. In size and general appearance, and in winter plumage, resembles the Common Tern.

This species is noted as making the longest migration of all birds, and enjoying more hours of sunshine throughout the year than any other species.

LEAST TERN

(74. *Sterna antillarum*) 9 in.

Adult: Forehead white; a black stripe from bill through eye; otherwise has the black cap, pearly mantle, and deeply-forked tail of other white-bodied Terns; side feathers of tail greatly lengthened in spring. Its small size and head markings are distinctive.

Immature: Upper parts with crescentic marks of buffy or brownish.

Its airy flight justifies the name "Sea-swallow." It has steadily "retired before civilization" until extinct in many localities where formerly abundant.

BLACK TERN

(77. *Chlidonias nigra surinamensis*) 10 in.

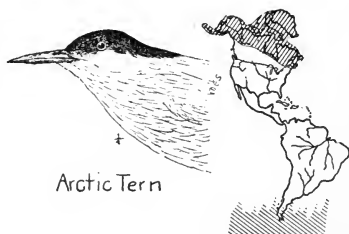
Adult, in spring: Black, with slaty-gray mantle and tail and white under tail-coverts. At a distance appears wholly black.

Fall adults are variously blotched with white on lower parts; in winter, all white except dusky ear and nape marks, and mantle as in spring.

Immatures like winter adults, but have mantle, crown, and nape dusky or brown marked.

The only dark-bodied Tern of our region.

Coastwise — *W.V.* — Rare. Recorded captures only in Sept. and Oct. Distributed over nearly the whole earth, nesting in Arctic regions of North America, Europe, and Asia, and wintering in the Antarctic.



Arctic Tern

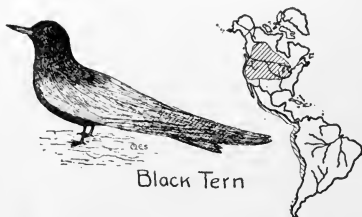
Southern California — *S.V.* — *Apr.-Sept.* — Abundant locally, nesting in colonies on wide sandy stretches between ocean and tide-marshes, where subject to persecution of all predaceous animals, including man.



Least Tern

Southern California — *Migrant* — *Apr.-May* and *Aug.-Sept.* — Chiefly on fresh water. Sometimes abundant for a short time in spring migration, when apparently no fresh-water pond is too small to be attractive.

Arizona — Rarely noted.



Black Tern

TUBINARES: Ocean wanderers, seeking their animal food in every part of the seven seas. Apparently they never visit land except to nest, when they are found usually in large colonies. Owing to their open-ocean range and their habit of breeding on remote islands, or perhaps on mountain-tops or among broken rocks, knowledge of life-histories of this Order is very incomplete.

BLACK-FOOTED ALBATROSS

(81. *Diomedea nigripes*) 30 in.

A thick-set bird, with body the size of a large goose; sooty-brown above, lighter below, and whitish about the base of the large, thick bill. Wings long and narrow, saber-shaped.

Feeds on fish, squids, pelagic crabs, and any other sort of animal matter that can be gleaned from the ocean surface.

The "Goony" of the mariner.

SHORT-TAILED ALBATROSS

See Appendix.

(82. *Diomedea albatrus*) 36 in.

FAMILY FULMARS, etc.

HYDROBATIDÆ: Nostrils joined in a tube on top of bill. Fulmars, "chunky" in shape, this appearance partly due to dense plumage; head large; bill stout. Feed largely while sitting on the water.

PACIFIC FULMAR

(86b. *Fulmarus glacialis glupischa*) 18 in.

A thick-bodied, thick-necked, slender-winged bird, usually deep plumbeous in color (dark phase). Sometimes white with middle of back bluish gray, and blackish spotting on wings (light phase). Between these extremes are all sorts of intermediates, possibly representing different ages rather than different phases.

Feeds on squids, small fish, and crustaceans, gleaned from the water's surface.

DIOMEDEIDÆ (Family Albatrosses): Largest of the seabirds. Noted for their remarkable powers of flight. The Wandering Albatross has the widest spread of wing of all birds. It is recorded that a specimen captured off the Australian coast and released, was killed eight days later on the coast of South America, 3200 miles away.

Ocean — *Res.* — Occasional birds, sometimes small groups, are seen by travelers aboard vessels off the California coast. More numerous northward. Nests on islands of central and western Pacific Ocean, north of the equator, especially of the Hawaiian group, where they enjoy at least semi-protection.



Black-footed Albatross

FULMARS, SHEARWATERS, AND PETRELS Family Hydrobatidæ

Shearwaters, much more slender than Fulmars; swift in flight. Our various species sometimes join together into enormous flocks in pursuit of fish. Petrels very small; long-winged; flight almost butterfly-like. Often appear actually to run on the water's surface.

Ocean — *W.V.* — *Oct.-Mar.*
— Sometimes seen about piers. Dead birds are frequently found on California beaches especially in fall and early winter. Nests on islands in north Pacific Ocean and Bering Sea.



RODGERS FULMAR

See Appendix.

(86.1. *Fulmarus rogersi*) 18 in.

PINK-FOOTED SHEARWATER

(91. *Puffinus creatopus*) 19 in.

A *large* Shearwater, with head and neck dusky above and on sides; gray-brown mantle; white under parts, smoky-washed on belly; bill whitish.

Better known dead than alive from occasional specimens washed up on California beaches, generally in company with a vastly larger number of the Sooty species.

BLACK-VENTED SHEARWATER

(93. *Puffinus opisthomelas*) 14 in.

A *small* Shearwater, nearly *black above; white below* with grayish sides.

As with other Shearwaters, movements of this species are governed by food-supply. Large schools of small fish, such as herring, that come to shore to spawn in late summer, are nearly always attended by Shearwaters.

SOOTY SHEARWATER

(95. *Puffinus griseus*) 17 in.

Dusky black above, lighter and more slaty below. At a distance this bird appears wholly dull black.

Feeding-habits of all the Shearwaters are much alike. In a loose, swiftly-flying flock, they scour the waves, almost touching the water, gleaning whatever offers in the nature of animal food.

Rests on the water in close-packed flocks of incredible numbers.

SLENDER-BILLED SHEARWATER

See Appendix.

(96. *Puffinus tenuirostris*) 13 in.

Ocean — *S.V.* — *Apr.-Nov.*
— Occurs with the Sooty Shearwater, in relatively small numbers. Nests on islands off the coast of Chili. Ranges from southern Chili to southern Alaska.



Pink-footed Shearwater

Ocean — Occurs off the coast throughout the year; most numerous June-March; often in large numbers, when their presence is indicated by dead birds on the beach. Nests in great colonies on certain islands off the coast of lower California.



Black-vented Shearwater

Ocean — Chiefly *Apr.-Nov.* when it sometimes appears in enormous numbers that, seen from the beach, form a rapidly moving, endless swarm. At such times large numbers are washed ashore dead. Nests on islands off the Chilean and New Zealand coasts.



Sooty Shearwater

FORK-TAILED PETREL

(105. *Oceanodroma furcata*) 8 in.

Wholly *pearly-gray* with darker wings and blackish about eye. Tail deeply forked.

Our only *light-colored* Petrel.

Its food consists of animal oil or bits of fat skimmed from the ocean surface. Said to follow floating carcasses of whale or seal to secure these titbits.

BLACK PETREL

(107. *Oceanodroma melania*) 9 in.

Entirely sooty *black* except grayish wing-coverts; under parts somewhat lighter.

Food habits like those of Petrels generally. In its nesting, however, instead of keeping in colonies these birds scatter and nest wherever individual tastes dictate. Also, it appears rarely or never to dig a burrow in the earth, preferring a nook underneath a rock, or possibly the deserted hole of an auklet.

SOCORRO PETREL

(108.1. *Oceanodroma socorroensis*) 8½ in.

Sooty-black above; brownish below; whitish on sides of rump; *no white patch on under wing*. (Compare Ashy Petrel).

ASHY PETREL

See Appendix

(108. *Oceanodroma homochroa*) 8½ in.

KAEDING PETREL

See Appendix.

(105.2. *Oceanodroma kaedingi*) 8½ in.

Ocean — *W.V.* — Records for southern California coast are few, though the species is widely distributed northward. Nests on islands from northern California to the Aleutians.



Fork-tailed Petrel

Ocean — *Res.* — Nests on Los Coronados Islands (near San Diego), and southward. Occurs off the southern California coast at all seasons, but never numerous. Recorded northward to Monterey.

Nests on Los Coronados Islands and southward. Occasionally recorded off the southern California coast.

STEGANOPODES have toes fully webbed, — that is, webs connecting all the toes. This character alone separates the Order from all others (compare other swimmers); strictly aquatic, some forms being exclusively marine; adapted in different ways for catching the fish on which they feed. They are found in every part of the world, the Cormorants being especially widely distributed. A total of about seventy-five living species are known and half as many fossil forms.

WHITE PELICAN

(125. *Pelecanus erythrorhynchos*) 5 feet.

Adults: White, with yellow wash on head and breast, and black primaries. The peculiar growth on the bill is worn only during the breeding season.

Immatures: More or less gray-mixed, and brownish on crown and nape.

Lives entirely on fish, which it catches while sitting on the water, not by plunging from the air, as does the California Pelican.

CALIFORNIA BROWN PELICAN

(127. *Pelecanus californicus*) 4–5 feet.

Mantle silvery gray; under parts iron gray; head light straw-color; white stripe on sides of neck; back of neck rich, dark brown, which in winter is replaced by white. Bill 13–15 inches long.

Young: Gray-brown above; white below.

Feeds exclusively on fish, plunging from a height of 10–20 feet and scooping them in its great pouch — and often robbed by Gulls before it can get rid of the water taken in.

FAMILY MAN-O'-WAR BIRDS. *Fregatidæ*.

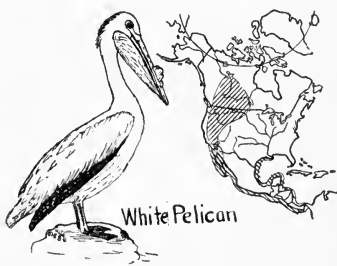
MAN-O'-WAR BIRD

See Appendix.

(128. *Fregata aquila*) 3½ feet.

PHALACROCORACIDÆ (Family Cormorants): Body long; neck slender; bill slender, strongly hooked; legs far back, very muscular; powerful divers and swimmers, and equally strong fliers. Plumage dense and oily. Face and chin naked, forming a sac or gular pouch capable of great distension. PELECANIDÆ (Family Pelicans): Large, heavy-bodied birds, best characterized by the long bill and great pouch. Opening the bill bends the lower mandible into a hoop to the edges of which the pouch is attached, the whole forming an efficient scoop net for catching small fish in quantity.

Res., on alton Sea — Otherwise, *W.V.*, *Oct.-Apr.*, inland lakes and larger streams of our area. Occasional on tide-bays of the California coast. Common; locally abundant. In migration flies in long lines containing scores or hundreds of birds.



California coast and islands, and southward — *Res.* — Nests in colonies, sometimes of thousands on islands. Strictly a salt-water bird. Flies in flocks of any size, usually a half-dozen to twenty. Generally fishes singly.



FARALLON CORMORANT

(120c. *Phalacrocorax auritus albociliatus*) 30 in.

Adults: Greenish-black above, feathers edged with black; shining black below. In breeding plumage has tufts of long *white* feathers *above and behind eye*. *Gular sac yellow*.

Immatures, first winter: Brownish, lighter below, bleaching to light gray in spring. Second winter: Brown (darker), acquiring black in spring, when lower parts are usually black-barred.

Feeds exclusively on fish, its elongated shape and full-webbed foot adapting it to catching the finny prey in its own element.

BRANDT CORMORANT

(122. *Phalacrocorax penicillatus*) 30 in.

Adults: Glossy green-black, purplish on hind-neck; in spring with hair-like white plumes on neck and back. *Gular sac blue*, separated from black neck by a "*gorget*" of *light brown* feathers.

Immatures, first winter: Dark brown above and sides, lighter below, and throat still lighter. Darker in second winter; nearly black by spring.

It is hard to conceive an animate object more repulsive than the naked, black, loose-skinned, shapeless lump of bird life emerging from a Cormorant egg.

BAIRD CORMORANT

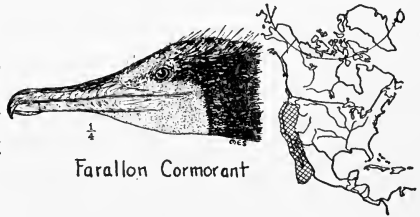
(123b. *Phalacrocorax pelagicus resplendens*) 26 in.

Adults: Shining blue-black, changing to violet on neck and purplish on wings; a large, *white patch on flank*, very conspicuous in flight. In winter the flanks are black.

Immatures: Dusky brown, with lighter head and darker back.

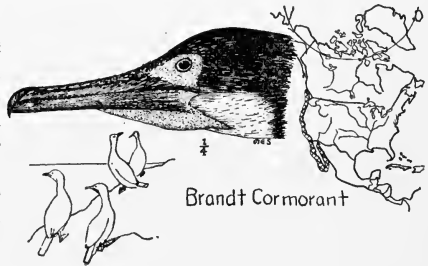
Smallest of our Cormorants, and differing so from the Farallon and Brandt, with which it flocks, that it is easily identified even in winter dress.

Res. — Coast and inland lakes — Common. Usually in small, loose flocks. Nests on islands or mainland cliffs inaccessible to four-footed enemies; often in trees standing in water of marsh or lake.



Farallon Cormorant

Coast and islands — Res. — Abundant. *Does not come inland.* Nests in crowded colonies on islands and rocky cliffs, often on an isolated rock hardly above the reach of the waves. Sometimes gathers into great "rafts" on the ocean near breeding islands.



Brandt Cormorant

Islands — *Res.* — Relatively rare. Nests usually on shelves or in niches on the face of some inaccessible cliff. Like the Brandt Cormorant, the Baird keeps strictly to salt water.



Baird Cormorant

ANSERES (DUCKS, GEESE, AND SWANS): The species of this Order recognized as most valuable as human food are those feeding chiefly or exclusively on fresh-water or land vegetation, including, of course, seeds of wild plants and grain. Other species live indifferently on fresh or salt water, feeding largely on shell-fish, etc., and are correspondingly less desirable as food.

MERGANSER

(129. *Mergus americanus*) 24 in.

Male: In general appearance a large, *white Duck* with *black back* and *green-black* head. Black of back fades to gray on tail; under parts pale creamy; primaries black.

Female: Wings and back bluish gray, the wing with white patch in middle; neck and head light brown, a long thin crest of same color; throat and chest white.

Feeds on fish, to catch which the slender, round bill is toothed the whole length.

RED-BREASTED MERGANSER

(130. *Mergus serrator*) 22 in.

Male: Feathers of head much lengthened, forming a thin, *long crest*; a strong, *rusty breast-band*, *black-streaked*; breast and neck white; closed wing mostly white; back black; sides finely black-and-white-barred.

Female: Closely similar to female of the preceding, but throat pale rusty or brownish instead of white.

A remarkably handsome species, noted for its diving ability. Feeds on fish.

HOODED MERGANSER

See Appendix.

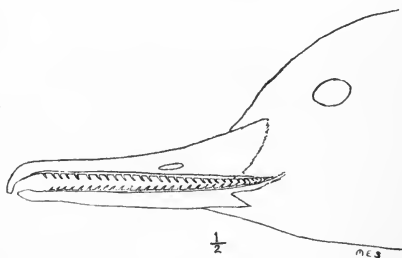
(131. *Lophodytes cucullatus*) 18 in.

MERGANSERS are distinguished by the slender, round bill set with backward pointing teeth — an admirable adaptation for fish-catching. The nature of their food makes them almost inedible. Called Fish Ducks, Saw-bills, Sheldrakes, etc., names applying equally well to all species.

California — *W.V.* — Ocean tide-bays and inland lakes. Irregularly common, in small flocks; apparently never numerous.

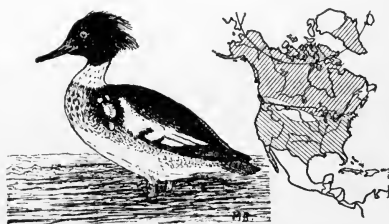
Arizona — Recorded as nesting in mountains of eastern part of State. Nest in hollow tree or on ground.

Range: North America. Nests from northern States of the United States and southern Canada to Arctic regions. Winters over most of United States.



$\frac{1}{2}$
Merganser.

M.V. — *Oct.-Apr.* — Fairly common on ocean, in small flocks. Has been recorded on the Colorado River. Nests on the ground near water, in grass and weeds.



Red-breasted Merganser

MALLARD

(132. *Anas platyrhynchos*) 20–24 in.

Male: Head and upper neck rich metallic green (hence the popular name “Green-head”); a pure white collar; lower neck and chest deep chestnut; much gray on back and wings, and below; speculum purple, black-and-white-edged. Several upper tail-coverts curled upward into a ring.

Female: Mostly tawny, streaked and splashed with brown and dusky.

The parent stock of the common domestic Duck.

GADWALL

(135. *Chaulelasmus streperus*) 20 in.

Male: Wing-coverts extensively chestnut; behind this a black patch, then white, — a distinctive combination; back and sides finely marked with wavy bars on whitish; chest heavily scale-marked; head and neck with fine dusky marks on buffy ground.

Female: Head like male; breast and sides dusky-spotted on ochraceous. A rather dull, plain bird.

BALDPATE

(137. *Mareca americana*) 20–23 in.

Male: Crown white; a wide metallic green band from eye to eye across nape; rest of head and neck buffy, finely dusky-speckled; chest wine-colored; back light brown, with fine wavy lines of black; wing-coverts white; speculum green.

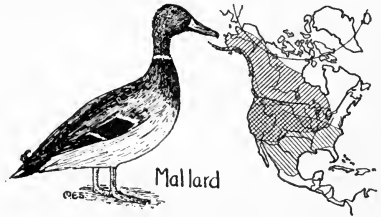
Female: Head and neck wholly speckled; back and chest dusky brown, with buff or gray edgings; wing gray, white, and black.

EUROPEAN WIDGEON

See Appendix.

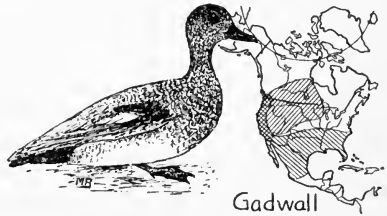
(136. *Mareca penelope*) 18–20 in.

W.V. — *Oct.-Mar.* — Numerous in fresh-water lakes and marshes everywhere. Possibly may nest in suitable localities, but if such now exist in our region, they are few.

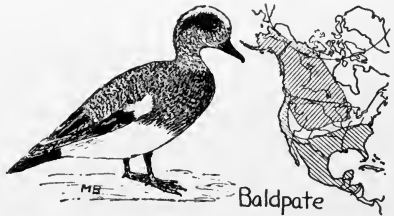


Southern California — *W.V.* — *Oct.-Mar.* — Small numbers. On fresh water, where formerly recorded as nesting.

Arizona — Recorded, long ago, as nesting in Mogollon Mountains of eastern part of State.



W.V. — *Oct.-Apr.* — Southern California, common on fresh water. Also, in southern Arizona, a winter resident, occurring generally in migrations.



SHOVELLER

(142. *Spatula clypeata*) 20 in.

Male: Head and neck metallic green-blue and purple (at a distance appears *black*); lower neck and *chest white*, extending over shoulders on back; breast and belly chestnut; closed wing extensively blue; speculum green; back dusky centrally.

Female: A mixture of dusky and brown; body feathers light-edged, giving scaled pattern; wing blue as in male, but duller.

The long *shovel bill* is distinctive.

GREEN-WINGED TEAL

(139. *Nettion carolinense*) 15 in.

Male: Head *chestnut* except broad *green* crescent from eye backward and downward, joining a *short crest* on hind-neck; chin black; chest rusty, with round black spots; back and sides finely waved dusky and white; speculum metallic green, below a velvety-black stripe; under tail coverts buff, framed in black.

Female: Dusky above, buffy- or gray-edged; cheeks and neck finely dusky-specked; throat white; chest pale rusty, dusky-spotted.

Flies in close, compact flocks.

CINNAMON TEAL

(141. *Querquedula cyanoptera*) 16 in.

Male: Body *bright cinnamon*, darker and browner above, and buffy-edged black scapulars; wing-coverts blue; speculum green.

Female: Back dusky, buffy-edged; head and neck buffy, finely dusky-streaked; blue of wing duller. In the field is hardly identifiable from Green-winged female.

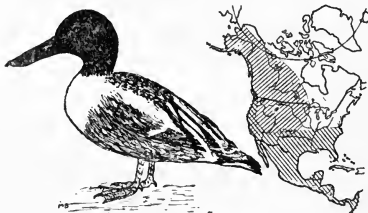
BLUE-WINGED TEAL

See Appendix.

(140. *Querquedula discors*) 15 in.

Southern California — *W.V.*
— *Oct.-Mar.* — Abundant.
Inland waters.

Arizona — *W.V.* — Generally
distributed on fresh water
except in the north, where
apparently it occurs in mi-
gration only.



Shoveller

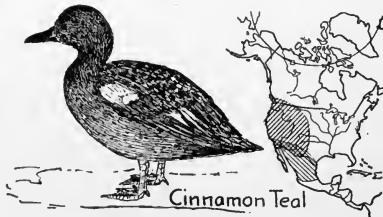
Southern California — *W.V.*
— Common on fresh water,
abundant locally. Widely dis-
tributed.

Arizona — *W.V.* — Appears
confined to southern part of
State, occurring generally in
migrations.



Green-winged Teal

Res. — Usually abundant
spring and fall, on fresh water.
Not common in winter. For-
merly, at least, nested in
southern California in favorable
localities. Recorded as breed-
ing in Mogollon Mountains of
eastern Arizona.



Cinnamon Teal

PINTAIL

(143. *Dafila acuta tzitzihoa*) Male, 26–30 in. Female, 22 in.

Male: A brown head and long, snow-white neck, black-striped behind, are distinctive; back and sides finely waved white and dusky; scapulars black, edged with whitish; central tail-feathers much lengthened, hence the names Pintail, Spike-tail, Sprig, etc.

Female: Dusky above, marked with ochraceous or buffy; head and neck finely streaked dusky and dull white, except on throat.

Long neck and long body afford identification.

REDHEAD

(146. *Marila americana*) 20 in.

Male: Head and upper neck, chestnut; lower neck, chest, and shoulders black; back and wings finely waved black and white (appears gray); breast and belly white.

Female: Brownish above, back-feathers gray-edged; lighter below, belly white; whitish about base of bill and on chin.

Feeds extensively on aquatic insects, small fish, etc., caught by diving.

CANVAS-BACK

(147. *Marila valisineria*) 21–23 in.

Male: Head and neck red-brown; back white, finely waved with black (appears white); shoulders and chest black; bill long (compared with Redhead).

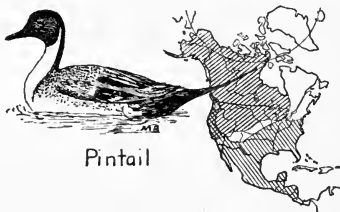
Female: Fore parts reddish brown; back slaty brown; closed wing slate-gray; belly dull white.

Everywhere a popular game bird. Its fondness for wild celery brings it to the waiting hunter.

Southern California — *W.V.*
 — *Oct.-Mar.* — Abundant on
 fresh water. Formerly nested
 about mountain lakes and may
 possibly still do so.

Arizona — Less common.
 Considered a migrant only.

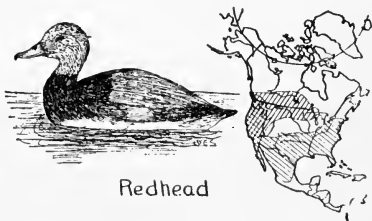
Range: Northern Hemi-
 sphere.



Pintail

Southern California — *W.V.*
 — *Oct.-Mar.* — Formerly
 nested occasionally, but proper
 localities now wanting. Com-
 mon in great marshes of Imper-
 rial Valley.

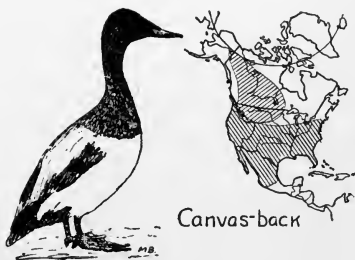
Arizona — Rare. Records
 very few.



Redhead

Southern California — *W.V.*
 — *Oct.-Mar.* — Usually abun-
 dant in mountain lakes and
 frequent in lowlands.

Arizona — Rare.



Canvas-back

LESSER SCAUP DUCK

(149. *Marila affinis*) 17 in.

Male: Whole fore parts black; back gray ("vermiculated" white and black); sides lighter; belly white; iris bright yellow. In strong sunlight the back sometimes looks almost white, and the white of the flanks is very conspicuous in the field.

Female: Brown; white about base of bill; speculum white.

The common "little Blue-bill" of the sportsman. A "chubby" Duck, not identifiable in the field from its slightly larger relative; less widely distributed, but in greater numbers.

RING-NECKED DUCK

(150. *Marila collaris*) 17 in.

Male: Black, except gray speculum, white chin, white breast and black-and-white-waved sides. Neck narrowly ringed with chestnut or brown, rarely visible in the field. Bill slaty, ringed near tip and at base with pale blue; tip black.

Female: Dark brown above; lighter below; a white band next to bill, and white ring around eye.

The unique bill pattern is a safe identification mark.

RUDDY DUCK

(167. *Erismatura jamaicensis*) 14 in.

Male: Sides of head white; crown and nape black; otherwise neck and upper parts rich chestnut; breast and belly silky gray (like "watered silk"); bill blue. On the water often holds tail stiffly erect, spread fan-wise, hence the popular name, "Wire-tail."

Female and Young: Grayish-brown above; silky gray below; cheeks white.

WOOD DUCK

See Appendix.

(144. *Aix sponsa*) 19 in.

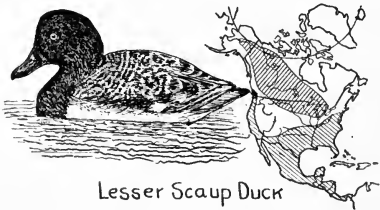
SCAUP DUCK

See Appendix.

(148. *Marila marila*) 18 in.

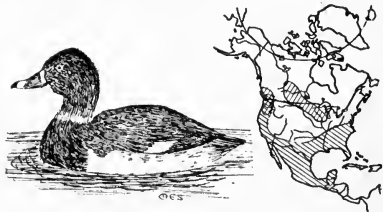
Southern California — *W.V.*
 — *Oct.-Apr.* — Abundant
 coastwise and on open inland
 waters.

Arizona — Less numerous,
 though apparently of regular
 occurrence on larger bodies of
 water.



Lesser Scaup Duck

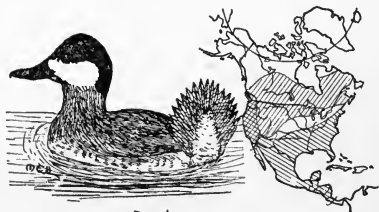
Southern California — *W.V.*
 — Rare. Inland ponds and
 lakes. Usually associated with
 the Lesser Scaup.



Ring-necked Duck

Southern California — *Res.*
 — Fresh water. Most numer-
 ous in fall and winter. Formerly
 nested in favored localities.

Arizona — Appears chiefly as
 a migrant, though recorded at
 all seasons.



Ruddy Duck

BUFFLE-HEAD

(153. *Charitonetta albeola*) 14 in.

Male: A small *black-and-white* Duck of unique pattern. Head feathers lengthened on sides and behind (hence Bufflehead). In hand the black is rich violet, green, and bronzy, and the white is the snowiest; back black; pure white below.

Female: Brown above, head and neck darker; a *white bar across ear* region; white below.

Locally known as "Butter-ball," "Butter Duck," etc., etc.

SURF SCOTER

(166. *Oidemia perspicillata*) 20 in.

Male: *Snow-white forehead and nape*; otherwise plumage is wholly velvety-black. The grotesquely-shaped bill has a black patch on either side framed in white, red, and yellow; remainder white, orange, and crimson.

Female: Much smaller; sooty or brown above, gray below. Head white-patched, similar to succeeding species.

Young males suggest a very large female.

DIXON WHITE-WINGED SCOTER

(165a. *Oidemia deglandi dixonii*) 22 in.

Male: Wholly velvety-black, except *white wing-spot* (speculum) and a small white splash behind eye.

Female: Dusky-brown, lighter below; a large whitish spot between bill and eye, another covering ear-region; white speculum as in male.

This and the following species are the "sea-ducks" commonly seen in the surf and on the beaches of southern California. They feed on shell-fish and crustaceans obtained by diving.

AMERICAN SCOTER

See Appendix.

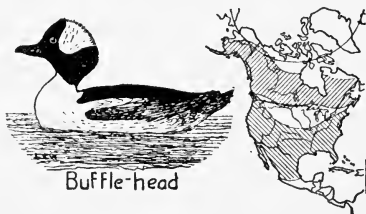
(163. *Oidemia americana*) 20 in.

AMERICAN GOLDEN-EYE

See Appendix.

(151. *Glaucionetta clangula americana*) 20 in.

W.V. — Generally distributed over our region on tide-bays as well as inland waters, but in small numbers that appear to be decreasing yearly.

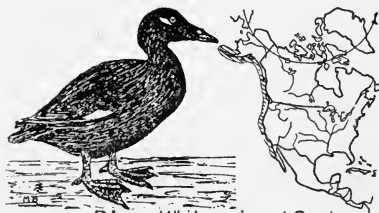


Buffle-head

Ocean — *W.V.* — *Oct.-Apr.* — Abundant. Occasional at all seasons. Usually in flocks of a half-dozen to twenty or more. Nests on western coast of Alaska, and about Hudson Bay and northward.

Surf
Scoter

Southern California — *W.V.* — *Oct.-Apr.* — Ocean and tide-bays. Abundant. Nests in northern Mackenzie, northern Alaska and northeastern Siberia, ranging south in winter to China and Lower California.



Dixon White-winged Scoter

SNOW GOOSE

(169. *Chen hyperboreus hyperboreus*) 26 in.

Pure *white*, except *black primaries*. Bill dull red; feet and legs black.

Immatures have back streaked with gray, otherwise generally gray-washed.

The white-and-black pattern is distinctive except as against the Ross Goose, which probably does not now visit our region.

WHITE-FRONTED GOOSE

(171a. *Anser albifrons gambeli*) 28 in.

Adults: Brownish gray or gray-brown above, with *front of head white* (hence name); under parts and fore-neck lighter, *breast* variously *black-barréd* or *spotted*, occasionally all black. Feet and legs orange.

Immatures: Similar to adults, but without white on head, and breast without black markings.

The breast-barring is evident in flight, the white face when resting.

FULVOUS TREE-DUCK

(178. *Dendrocygna bicolor*) 22 in.

Body *rusty brown*; back black, with brown barring; a black stripe down back of neck; *tail-coverts white*.

Immatures: Paler and duller, without definite barring on back.

This Duck, closely allied to the Swans, may often be recognized by its long legs and large feet, which appear entirely too heavy for their owner.

ROSS GOOSE

See Appendix.

(170. *Chen rossi*) 21 in.

Southern California — *W.V.*
 — Formerly common, Oct.—
 Mar.; now, with the general
 great reduction in numbers of
 game-birds, is rarely seen. Has
 been recorded on the Colorado
 River.



Snow Goose

Southern California — *W.V.*
 — *Oct.—Apr.* — Chiefly on the
 coastal slope, where formerly
 common. Now rare. The
 capture of one by hunters is
 rather a notable event.

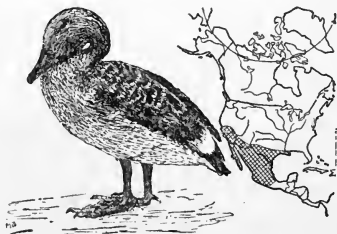
Arizona — Rare.



White-fronted Goose

Resident in southwestern
 California, though rare in
 winter. Most abundant in mi-
 grations, April and October.
 Formerly nested in fresh-water
 marshes.

W.V. — Southeastern Cali-
 fornia and southwestern Ari-
 zona. Nests from central
 California to Valley of Mexico.
 Occurs also in southern South
 America, South Africa, and
 India.



Fulvous Tree Duck

CANADA GOOSE

(172. *Branta canadensis canadensis*) 36 in.

Adults: Brownish above, lighter and more ashy below; *head* and *neck black*, except a broad *white throat-patch* extending nearly to nape; edges of back feathers mostly lighter, making scale-markings.

Immatures: White throat-patch more or less black-speckled.

Largest of the Geese. Called "Honker" by the sportsman, from its trumpet-like call. Migrates in large flocks, in V-shaped formation, at great heights.

CAKCLING GOOSE

(172c. *Branta canadensis minima*) 24 in.

Smallest of the Canada Goose group. The white throat-patch is variable, often separated by a black median line. Its small size, and the cackling call are best but not certain means of field identification.

HUTCHINS GOOSE

(172a. *Branta canadensis hutchinsi*) 30 in.

Not certainly identifiable, in the field, from its larger relative, the Canada Goose, or its smaller one, the Cackling, being about intermediate in size. Small differences in color and pattern are notable only with the bird in hand.

BLACK BRANT

(174. *Branta nigricans*) 25 in.

Fore parts black, including head, neck, and breast; neck with *collar* of short *white* streaks; back and wings brownish-gray, light-edged; upper tail-coverts and sides of rump white; belly whitish.

Immatures: Duller and grayer, without the white collar.

Commonly called Sea Brant or Black Sea Brant. Lives habitually on salt water, diving like a Duck for food.

W.V. — Rare. Has been recorded south to San Diego, but now a decidedly uncommon bird in southern California, while Arizona records are still fewer.



Canada Goose

Southern California — *W.V.* — *Oct.-Apr.* — Probably most numerous of the geese in southern California, but now becoming rare. Recorded south to San Diego.



Cackling Goose

Southern California — *W.V.* — *Oct.-Apr.* — Like others of the Goose tribe, it was formerly called common in this part of the State, but is now hardly known here.

Nests on Arctic coasts and islands, west of Hudson Bay. Winters from British Columbia to Lower California and eastward to Missouri and Louisiana.

Southern California — *W.V.* — *Oct.-Apr.* — On coast, in small numbers. Abundant locally, northward, where it feeds inland in large flocks. Nests on Arctic coast and islands.



Black Brant

WHISTLING SWAN

(180. *Cygnus columbianus*) 4-5 feet.

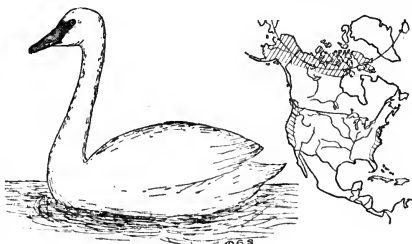
Any description of this species seems superfluous, since it differs none in plumage from the birds seen in every park and zoölogical garden, where it is often domesticated. The shape of the bill, however, is very different from that of the Mute Swan of Europe also common in parks.

Young have head and neck brown washed; body and wings washed with gray.

The Whistling Swan, existing now as a mere remnant of its species, and its even larger relative, the Trumpeter, nearly or quite extinct, are in point of weight the largest of North American game-birds.

Records of two hundred years ago tell of their great numbers in the eastern United States. Through their conspicuous size and color they met persecution on every hand; and with increase of population and perfection of firearms the wild Swan is now rare with the probability of extinction not far in the future.

W.V. — Irregular and rare. On open fresh water, coastal region of southern California. Usually single birds; rarely, flocks of forty or more. Occasional in Arizona.



Whistling Swan

A pleasing fable that has gained popular credence through frequent repetition is that the Swan, songless in life, sings sweetly at death. A harmless belief, certainly, to which Dr. Coues pays tribute in these words:

How sadly sweet the solemn strain —
The dirge of the dying Swan!
That wondrous music, child of pain,
That requiem sounding once again —
And a bird's soul passes on.

HERODIONES (Heron-like birds): This Order is represented in North America by four families of which three occur regularly in our region, while the fourth, PLATALEIDÆ (Spoonbills), has been recorded rarely in southwestern United States. The THRESKIORNITHIDÆ (Family Ibises) have long, slender, curved bills. They are waders in habit, dwellers in fresh-water marshes and pond borders; feed on insects, snails, small fishes, tadpoles, etc.; nest in large colonies, in tule growth. Only three species occur in the United States, one ranging to the Pacific coast.

WHITE-FACED GLOSSY IBIS

(187. *Plegadis guarauna*) 22 in.

Adults: Rich cinnamon-brown, back and wings metallic green and bronzy; white about eye and base of bill. *Bill long, curved*. At a distance the bird *appears all black*.

Immatures: Lack the bronzy; neck and head brown, white-edged; brown below.

Gregarious in habit. A flock in flight, strung out "single file," with head and neck held low, is an impressive sight.

FAMILY WOOD IBISES

WOOD IBIS

(188. *Mycteria americana*) 40 in.

Adults: *White*, with black primaries and tail; *head and upper neck bare*. *Bill long, curved*.

Immatures: Like adults, but head and upper neck sparsely feathered brown, becoming sooty on back of head; lower neck grayish.

A bird of unusually distinctive characters, impossible to confuse with any other occurring in this region.

In muddy water feeds by feeling with open bill.

CICONIIDÆ (Family Storks and Wood Ibises). Wood Ibises, so-called, are in fact Storks: birds of large size, with heavy, curved bill and naked head and neck. They nest in trees. ARDEIDÆ (Family Herons and Bitterns) are long-necked wading birds, the larger species with correspondingly long legs; bills always straight and pointed — dangerous weapons. Frogs, fish, water insects, and nestlings of smaller birds are their food. Some Herons are highly gregarious, nesting in colonies in trees.

Southern California — *Res.*
— Fresh-water ponds and marshes. Formerly nested in favorable localities, which are now rare or absent. Less common in winter.

Arizona — *Migrant* only; fairly common and widely distributed.



White-faced Glossy Ibis

WOOD IBISES. Family Ciconiidae

Southern California — A mid-summer visitant only, very irregular, occurring usually in large flocks that may represent a dozen or more families.

Arizona — Frequent along the Colorado River and larger tributaries.

Not known to nest in our region though it may do so in the great marshes of Imperial Valley.



Wood Ibis

BITTERN

(190. *Botaurus lentiginosus*) 30 in.

In general appearance *yellowish-brown*, everywhere mottled, spotted, and streaked, and a strong *black stripe on side of neck*.

At close range upper parts are a fine mixture of ochraceous and buffy, dusky streaked; whitish or creamy below, brown-striped.

Young resemble adults, but are more rusty.

Call: A weird, resonant "pump-er-lunk," delivered from the midst of a grassy marsh. Popularly known as "Thunder-pump."

LEAST BITTERN

(191. *Ixobrychus exilis*) 13 in.

Male: Back and crown *green-black*; wing buffy and chestnut; neck chestnut behind, buffy mixed in front; below, light buff.

Female: Brown above; browner below than male.

An awkward, loose-jointed bird that skulks through the tules and seems rare even though fairly common. Its color-scheme and small size easily distinguish it from all other species.

ANTHONY GREEN HERON

(201c. *Butorides virescens anthonyi*) 18 in.

Neck and sides of head *chestnut*, the former whitish or buffy in front; top of head and nape with a loose crest of greenish black; back and wings dark green with bluish "bloom"; wing-coverts buffy-edged; under parts grayish.

Immatures: Duller above; coarsely streaked below.

Larger and much darker than the Least Bittern, which it approaches in size.

Southern California —
Chiefly a *W.V.*, *Oct.-Apr.*,
though sometimes nests in this
region. Fairly common in the
limited territory suitable for
birds of its nature.

Arizona — Recorded as a
common migrant.



Bittern

Southern California — *S.V.*
— Fresh-water marshes. Com-
mon in limited areas, absent
elsewhere from equally favor-
able ground. Ranges from
southern Canada to Brazil.
Winters south from southern
United States.



Least Bittern

S.V., generally, though oc-
casional in winter. Most nu-
merous in migrations. Generally
distributed over our region, in
river-bottoms and fresh-water
marshes, except in northeastern
Arizona.

Unlike the Bitterns, haunts
trees.

Anthony
Green Heron

EGRET

(196. *Casmerodius egretta*) 38 in.

Pure *white*; yellow bill; black legs. A very large bird of the Heron family; unique, in our region, in its distinctive size and snowy dress. In breeding-season has long plumes (aigrettes) growing from back. These are lost in the summer moult, when adults and immatures are hardly distinguishable.

SNOWY EGRET

(197. *Egretta candidissima candidissima*) 24 in.

Plumage wholly pure *white*; crown feathers lengthened, forming a long, thin crest; scapulars developed into plumes, recurved at the end ("aigrettes," worn only during the breeding-season); bill and legs black; feet yellow.

CALIFORNIA HERON

(194d. *Ardea herodias hyperonca*) 3½–4 feet.

Uniform blue-gray above; below, white striped with buff and black; head crested, with black plumes.

Immatures browner and without crest or plumes.

Our largest Heron. Better known as the "Great Blue Heron," which occurs in some form over nearly all North America.

Feeds on fish, frogs, crayfish, etc., sometimes on mice, or even gophers, for which it waits catlike and which it spears with its sharp bill.

TREGANZA HERON

(194c. *Ardea herodias treganzai*)

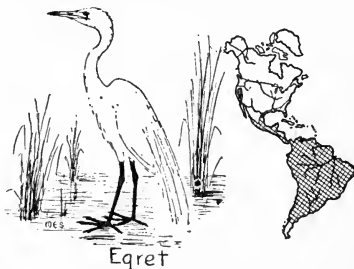
A pale form of Great Blue Heron, not certainly distinguishable in the field from light individuals of the California Heron, with which it sometimes occurs in migration. Its light plumage is characteristic of the arid interior where it lives.

Feeding-habits are those of the Great Blue wherever found.

Southern California — *W.V.*
— Small numbers, about extensive tide-bays.

Arizona — *Migrant*, chiefly; recorded from Colorado River and its larger tributaries.

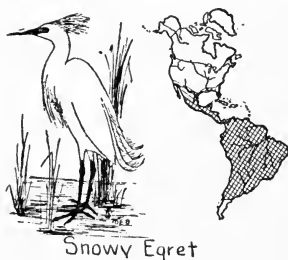
Possibly nests in marshes of Imperial Valley, California.



Southern California — *S.V.*
— Rare. Occasional birds are seen in favored localities near coast.

Has been recorded from Arizona.

Known to nest in great marshes of Oregon and Utah, and in Gulf States.



Southwestern California — *Res.* — Chiefly about fresh-water areas. In winter more numerous on tide-bays and islands off the coast. Nests in colonies, in high trees, in secluded localities.

Range: Pacific coast district of United States.



Res. — Lower Colorado River and tributaries, and on Salton Sea and marshes of Imperial Valley. Its range covers the Great Basin region from the desert divide of California to the Rockies, and southward into Mexico, including the northern portion of Lower California.

BLACK-CROWNED NIGHT HERON

(202. *Nycticorax nycticorax nævius*) 24 in.

Adults: Back and crown green-black; wings ashy; otherwise dull white. Three slender, round, white plumes, often "nested" and appearing as one, grow from back of head.

Immatures, first year: Gray-brown above, each feather spotted or splashed with white; neck and under parts streaked white and brownish; throat white. Second year: Head like adult; back brownish gray, wings lighter.

Call: An explosive "quawk."

More than any other species of Heron, perhaps, is the Black-crowned Night Heron gregarious in nesting-season, and a visit to a large rookery is an event never to be forgotten. Such an experience fell to the lot of the writer, in 1887, in northern Illinois.

The Herons had nested for years in an oak grove of perhaps seven or eight acres. Practically every tree held at least one nest; some a dozen or more. Branches and leaves were whitened with excrement, and the ground underneath white-crusts, half burying hundreds of dead birds that represented Nature's toll and that of heartless gunners who killed for "fun" of killing; also many fishes, dropped from nests and in all stages of putrefaction. Disturbed, the Herons left their nests and in a great flock, estimated at a thousand or more, settled in a near-by pasture, to return as the human invaders retired.

Along with the Night Herons, drawn perhaps by family ties, though apparently not nesting, were numerous Great Blue Herons; while the presence of many Hawks could be accounted for by a probable predilection for the toothsome and easily secured young Heron.

WYMAN

Res. — Abundant locally, about fresh-water marshes and lakes, wherever such favoring conditions occur. Especially numerous along Colorado River. Less common eastward in Arizona, where largely a migrant.



Black-crowned Night Heron

GRUIDÆ (Family Cranes) inhabit broad, open marshes and extensive fields where they may detect the distant approach of danger. Migrations are usually performed in large flocks that sometimes hesitate in their course to circle and sail for a time, apparently to relieve the monotony of direct flight; then the course will be resumed with the flock strung out in a line with long necks extended.

LITTLE BROWN CRANE

(205. *Grus canadensis*) 36 in.

Entirely brownish gray. The long, drooping secondaries and relatively short bill instantly distinguish this bird from the Great Blue Heron.

Carries neck at full length in flight (Herons double theirs).

Sometimes heard when at so great a height as to be almost invisible. Their trumpeted, sputtering "kro-ou-ow" is always a thrilling sound.

FAMILY RAILS, etc.

LIGHT-FOOTED RAIL

(210.1. *Rallus levipes*) 16 in.

Gray-brown; feathers of upper parts dark brown centrally; flanks finely barred brown and white; throat white.

Under the stress of emergency, as when caught by high tides flooding its home marsh, this Rail swims and dives surprisingly well. Almost submerged, it will hide behind a bit of floating trash and wait for the tide to recede.

VIRGINIA RAIL

(212. *Rallus virginianus*) 10 in.

Whole upper parts rich brown, feathers dusky centrally; sides of head slaty-gray; throat white; neck and breast brown, unmarked; flanks black-and-white-barred.

Immatures, blackish above. Downy young entirely black.

In general shape this species resembles the Light-footed, but is hardly half its size, and habitat is totally different.

Like all the Rails, a skulker by habit, and occasional birds seen are poor indicators of its relative abundance.

RALLIDÆ includes Rails, Gallinules, and Coots. Rails are characterized chiefly by the greatly compressed body, an adaptation that permits easy movement between stalks of marsh vegetation. Toes long, without webs; yet Rails swim well, and dive when forced. Coots have all the toes lobed and are strong swimmers. They live on the water, but are perfectly at home on land. The Gallinule, coot-like in shape, has the unwebbed foot and skulking habit of Rails.

Southern California — *W.V.*
 — Rare, except in northward migration, Mar.—May, when frequently noted in flocks, sometimes of hundreds of birds.
 Arizona — Recorded occasionally.



RAILS, GALLINULES, AND COOTS. Family Rallidæ

Southwestern California — *Res.*
 — Formerly common in salt marshes along the coast from Santa Barbara to San Quentin Bay, Lower California; now fast disappearing and already absent from some localities where once numerous.



Southern California — *Res.*
 — Fairly common in fresh-water marshes, particularly in tule growth; rarely in salt marsh of the coast.

Arizona — Common in the few localities offering favorable conditions.



SORA

(214. *Porzana carolina*) 8½ in.

Upper parts brown; feathers of back and wings black centrally, more or less white-edged, black strongest on wing-coverts; *face and throat black; bill short, whitish*; sides of neck and fore-breast bluish gray; flanks sharply barred dusky and white.

Immatures: Lighter and browner, without black face.

In its favorite cover, a tule bed, the Sora recognizes its security, and no human effort, without canine assistance will drive him from it.

FLORIDA GALLINULE

(219. *Gallinula chloropus cachinnans*) 13 in.

Dark slaty, with brown back and wings; *edge of wing* and sides of under tail-coverts *white*; *bill* and frontal plate *red*. In general appearance and action on the water resembles the Coot, but instantly identified by the red bill and white edge of wing. Feet without webs or lobes, like those of its close relatives the Rails, and like them it is a skulker in heavy marsh growth.

COOT

(221. *Fulica americana*) 15 in.

Head and neck black; rest of plumage dark slate. *Bill white*, with broken, dark brown ring near tip; frontal plate brownish or red, smaller in winter and in immatures.

Popularly known as Mud-hen. Recognized as a game-bird only in the absence of "nobler" species.

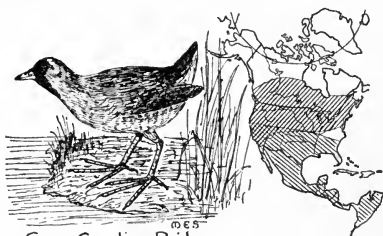
Feeds on roots of marsh vegetation, or, in late winter, on green shoots of cultivated crops adjacent to water.

FARALLON RAIL

See Appendix.

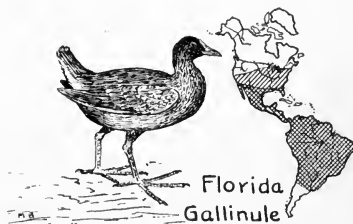
(216.1. *Creciscus coturniculus*) 5½ in.

Res. — Fresh-water marshes and rank, moist vegetation in the vicinity of water. Generally common in such localities, few of which exist in Arizona, except along the Colorado River.



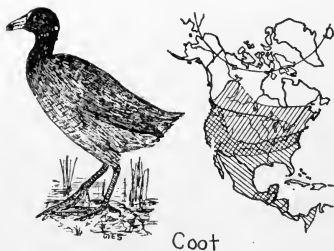
Sora: Carolina Rail

Res. — Fresh-water marshes generally. Of rather local distribution, however, and often absent from apparently favorable localities.



Florida Gallinule

Res. — Abundant. Nests commonly about fresh-water marshes of southern California and the high plateau of eastern Arizona. Most numerous in winter, in lowlands, augmented by transients from the north, when apparently absent from northern portion of Arizona.



Coot

LIMICOLÆ ("mud-dwellers"): A large group, widely distributed, many species cosmopolitan in range. Body rounded, usually long; bill various; legs and neck moderately to very long. As the name implies, generally adapted to secure food from the mud or sand, though some are water- and some dry-land-dwellers.

RED PHALAROPE

(222. *Phalaropus fulicarius*) 8½ in.

Female: Back and hind-neck black, with buffy edges narrowing toward tail; top of head black from bill to nape; *sides of head white*; entire under parts cinnamon-brown.

Male: Lighter and duller throughout, streaking of back extending to forehead.

Winter, both sexes: *Back bluish gray*; blackish about eye and on nape; wings dusky, gray-edged; plumage otherwise white. In this plumage is called Gray Phalarope.

NORTHERN PHALAROPE

(223. *Lobipes lobatus*) 8 in.

Female: Back, hind-neck, and head plumbeous, the back with strong rusty streaks; *sides and front of neck bright rufous*; throat and remaining under parts snow-white.

Male: Similar, but duller and lighter, with color-areas less sharply defined and more or less white-mixed.

Winter, both sexes: Ashy above, white-edged; all under parts white. A dusky patch behind eye and a strong white line above are good field-marks.

WILSON PHALAROPE

(224. *Steganopus tricolor*) 9 in.

Female: Back gray, with broad chestnut stripes; crown and nape ashy; a strong *black stripe extends back from eye and down neck* changing to rich chestnut on lower neck and back; under parts white, rusty-washed.

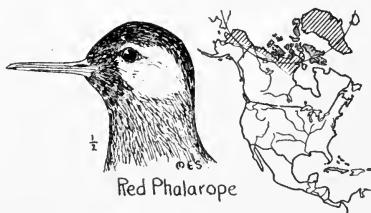
Male: Much duller; no black on head; no chestnut stripe on back.

Winter, both sexes: Ashy above, white below.

Bill long, needle-like. A fresh-water species.

PHALAROPODIDÆ (Family Phalaropes) are water-birds, best described as swimming snipes. Toes lobed; plumage very thick and waterproof; bill slender, remarkably so in one species. Food small insects taken from the water's surface. Females larger and more brightly colored than males, which assume duties of incubation and feeding the young.

California — Ocean — *Migrant* — *Aug.-Nov.* and *Apr.-May* — Occasional on tide-flats along the coast; rarely inland. Sometimes sick and dead birds, victims of disease, are washed ashore in numbers. Supposed to winter on oceans far southward.

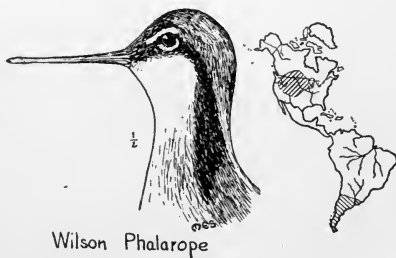


Southern Californian — *Migrant* — *Aug.-Oct.* and *Apr.-May*, when abundant on tide-flats and shallow, muddy sloughs. Occurs in vast flocks in spring migration. Supposed to winter on the ocean south of the equator.



Southern California — *Migrant* — Generally rare. Of regular occurrence, sometimes in flocks; more often singly or small groups, with the Northern species. On tide-flats or muddy pond-margins.

Arizona — Occasionally recorded, in migration.



RECURVIROSTRIDÆ (Family Avocets and Stilts): Large shore-birds, characterized by strongly recurved bill and webbed feet, or exceedingly long legs and general slenderness of structure.

AVOCET

(225. *Recurvirostra americana*) 18 in.

Head and neck light cinnamon; folded wings black with a white stripe; scapulars white, forming a strong letter V which encloses dusky patch of middle back; tail and under parts white. Legs pale bluish. In winter head and neck are impure white.

Bill extremely slender, up-curved. Spread wings present a unique combination of white and black.

BLACK-NECKED STILT

(226. *Himantopus mexicanus*) 15 in.

Wholly *black above*, except white forehead and gray tail; wholly *snow-white below*. The female has brown upper parts, instead of black.

Bill long, straight, and slender. Legs very long, bright red.

The slenderest of all our shore-birds. Plumage contrasts very striking.

FAMILY GODWITS, etc.

Family Scolopacidæ: Birds that obtain food chiefly by probing in mud or sand. Bills highly variable in length and shape.

MARBLED GODWIT

(249. *Limosa fedoa*) 17 in.

Pale cinnamon; back, sides, and breast "marbled" with short, curved dusky bars; neck dusky-streaked; wings spotted.

Barring of under parts is lacking in winter adults and young.

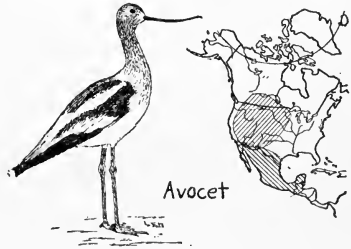
Bill long, up-curved slightly, light in color. (Long-billed Curlew, of similar color, has much longer bill, down-curved.)

Noted as perhaps the most unsuspecting, or stupid, of the shore-birds.

Inhabit shallow fresh-water ponds, obtaining food from muddy bottom. In feeding the head is held low and the bill swept from side to side.

California — *Migrant*, chiefly — *Mar.-May* and *Sept.-Oct.* — Fairly common about large, shallow, mud-bottomed ponds, sometimes nesting in such localities.

Arizona — Frequent records, mostly in fall migration, along larger streams.



Southern California — *S.V.* — *Mar.-Sept.* — Occasional in winter. Nests commonly about shallow, open fresh-water areas.

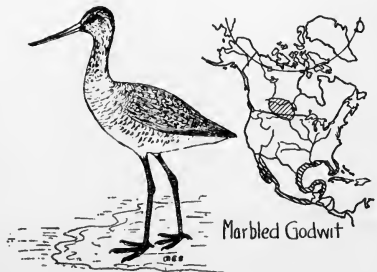
Arizona — Recorded rarely; chiefly along Colorado River.



GODWITS, SNIPES, SANDPIPERS, etc. Family Scolopacidæ

Mostly gregarious in nature. This family includes the largest and smallest of our shore-birds, — the Long-billed Curlew and the Least Sandpiper.

Southern California — *W.V.* — *Aug.-Apr.* — Numerous in migrations, chiefly on the coast; occasional in winter months. Seldom inland. Occurs mostly in small flocks, often with Curlews or Willets.



WILSON SNIPE

(230. *Gallinago delicata*) 11 in.

Back dusky and brown, strongly *striped* by buffy edges of scapulars and tertials; two *dusky crown-stripes* and one from bill through eye alternate with whitish; chest and neck dusky-brown-spotted in rows; breast soiled white, sides barred.

Bill long, straight. Very secretive in habit, and almost never seen except as it starts in swift, zigzag flight, with a rasping "scaip, scaip," from the near vicinity of the observer.

LONG-BILLED DOWITCHER

(232. *Limnodromus griseus scolopaceus*) 11 in.

Rump and tail-coverts white, the latter black-barred; *otherwise cinnamon* above, dusky-streaked on head, spotted on back; lighter cinnamon below, dusky-speckled except on belly. *Bill long, straight.*

Winter: Dark gray above; lighter below, with white belly.

In any plumage the extensive white of tail and rump (and lower back), conspicuous in flight, is distinctive.

Feeds in the open. Does not hide like the Wilson Snipe.

RED-BACKED SANDPIPER

(243a. *Pelidna alpina sakhalina*) 9 in.

Upper parts bright rusty, black-spotted and gray-edged; large *black patch on belly*; chest and sides white, finely black streaked.

Winter: Ashy gray above, lined with dusky; chest light gray; otherwise white below.

Bill longer than head, thick at base; slightly curved. In summer the black belly-patch is conspicuous and distinctive; in winter dress note the curved bill.

KNOT

See Appendix.

(234. *Calidris canutus*) 9 in.

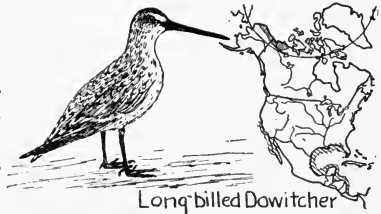
Southern California — *W.V.*
— *Oct.-Mar.* — Common locally, about fresh-water marshes, where it rarely nests. Usually occurs singly.

Arizona — *Migrant* — Widely distributed. Recorded rarely as *W.V.* in the south, and should winter regularly along Colorado River.



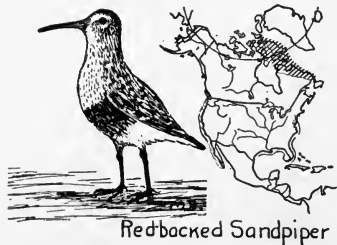
Southern California — *W.V.*
— *Sept.-Apr.* — Common in migrations, less so in winter. In flocks, about muddy ponds or sandy ocean beach. (Compare Wilson Snipe).

Arizona — Definite records are almost lacking.



Southern California — *W.V.*
— *Sept.-May* — Fairly common; more so in migration. Usually in small flocks. Favors tide-flats and ocean beach. Late spring migrants often appear in breeding dress.

Arizona — Recorded many years ago near Tucson, but no recent records.



BAIRD SANDPIPER

(241. *Pisobia bairdi*) 7½ in.

Upper parts rusty and gray, feathers dusky-streaked centrally on head and fore-back, spotted on wing-coverts; *chest buffy, dusky-speckled and streaked*; breast and belly white.

Except for larger size and brown wash of chest this bird is easily confused with the Least Sandpiper.

Habitually feeds and rests back from the water's edge, where it associates with Snowy and Semipalmated Plovers.

LEAST SANDPIPER

(242. *Pisobia minutilla*) 6 in.

Back black, widely edged with rusty; white below, *chest dark gray* with dusky shaft-lines. Rusty edging of back is nearly absent in winter, when chest-band is less distinct.

In any plumage the dark chest-band is conspicuous and distinguishes the species from the Western (of nearly equal size.)

WESTERN SANDPIPER

(247. *Ereunetes mauri*) 6½ in.

Upper parts *rusty*; *back* feathers with broad black marks, and gray edges, arranged in "streaky" pattern; white below, whole head, *neck, chest,* and sides finely *black-streaked*. A white stripe along wing shows in flight.

In winter, gray above, white below, with chest gray-washed, or faintly streaked. (Compare with Least Sandpiper, which has dark gray chest, dusky-lined, at all seasons.)

SANDERLING

(248. *Crocethia alba*) 8 in.

Head, neck, and chest rusty, with fine dusky spotting; rusty predominates on back, where feathers show black centrally and gray edges; primaries black; a *white wing-stripe* shows in flight.

Winter: Ashy above, with darker central streaks; white below.

In summer dress the Sanderling appears conspicuously reddish. White belly distinguishes it from Knot and Dowitcher.

Southern California — *Migrant* — Recorded only in fall, on ocean beach, in small numbers (possibly mistaken for a different species).

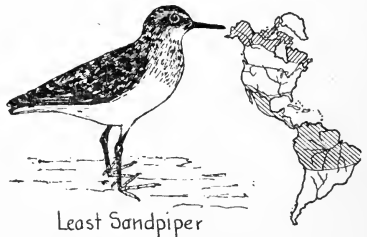
Arizona — There are old records of occurrence in south-eastern Arizona, but apparently no recent ones for that State.



Baird Sandpiper

Southern California — *W.V.* — *Aug.-Apr.* — Abundant in migration; occasional in winter. Occurs in large flocks about shallow fresh water, and on ocean beach.

Arizona — *Migrant* — Common. Probably *W.V.* along lower Colorado River where conditions seem attractive.



Least Sandpiper

Southern California — *W.V.* — *Aug.-Apr.* — Abundant in migrations; not common in winter months. In flocks of any size, around shallow fresh or salt water, or on ocean beach.

Arizona — Noted as a common migrant, wintering along the lower Colorado River.

Nests on western coast of Alaska.



Western Sandpiper

California — *W.V.* — *Aug.-May* — Abundant on sandy ocean beach; usually in large flocks that feed at water's edge, advancing and retreating with each wave. Most numerous in migration.



Sanderling

GREATER YELLOW-LEGS

(254. *Totanus melanoleucus*) 14 in.

Upper parts and wings brownish and black, with white edges; below white, heavily marked on neck with dusky streaks that change to wedges on chest and bars on sides and flanks; tail white.

Winter: No white edges above; below, neck dusky-streaked, otherwise white.

Legs yellow. Bill long, straight, slender.

WESTERN WILLET

(258a. *Catoptrophorus semipalmatus inornatus*) 15 in.

Ashy gray above, lighter below, belly white; crown and neck streaked, back spotted, with dusky; chest and sides marked with broad arrow-points of dusky; closed wing shows a *white patch on dusky primaries; open wing* white, gray and dusky above, *white and black below*. Bill straight, thick.

Winter: Wing as in summer; otherwise black markings absent; head and neck brownish-washed.

WESTERN SOLITARY SANDPIPER

(256a. *Calidris solitarius cinnamomeus*) 9 in.

Upper parts olive-brown; back and wings finely specked with buff (hardly visible in the field); white below, neck and chest with narrow streaks of dark brown. *Wings appear* conspicuously *black*, contrasted with under parts.

The nesting-habit of this bird is remarkable, as it breeds in deserted nests of other birds, in trees.

WANDERING TATTLER

(259. *Heteroscelus incanus*) 11 in.

Slaty above; throat white; white below, marked on neck with slaty streaks that become fine wavy bars on breast, sides, and belly; a white line over eye.

Winter: Upper parts grayer; marks of under parts replaced by grayish wash.

At a distance *appears wholly blackish*.

Resembles Spotted Sandpiper in attitude and shape, and tipping habit, but much larger and more sedate in action.

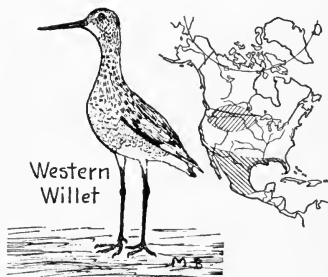
Southern California — *W.V.*
— *Sept.-Apr.* — Rare in mid-
winter; common in migrations.
Chiefly on fresh water where
muddy margins offer attractive
conditions, or in irrigated fields.

Arizona — Few records, but
increasing irrigation should
bring a local increase in num-
bers of this bird.



California — *W.V.* — *Aug.-*
Apr. — On coast or inland.
Like other shore-birds, most
numerous in migration. Usually
in company with other large
shore-birds.

Arizona — Records are few,
though it should occur regularly
along the lower Colorado River.



Southern California — *Migrant* — Rare — *Aug.-Sept.* and *Mar.-Apr.*
More numerous in the interior, where it favors muddy banks of streams.

Arizona — *Migrant* — Abundant. Usually found singly; hence the
name "solitary."

Summer range: Northwestern United States to Alaska. Winter: South
America.

Southern California — *Mi-*
grant — Fairly common on
rocky shores of mainland and
islands. Occasional in winter.
Usually singly, sometimes small
flocks in migration.



SPOTTED SANDPIPER

(263. *Actitis macularia*) 7½ in.

Summer: Olive-brown above, wings and back with darker brown markings; *white below*, heavily marked with round black spots, largest on chest; a *white line through eye*.

Winter: A gray wash usually replaces black spots of the under parts.

Constant "teetering" is characteristic. Its flight is a quick alternation of rapid wing-beats and sailing, when open wings show a white stripe.

Call: A sharp, repeated "peet-weet," or "peeter-weeter."

LONG-BILLED CURLEW

(264. *Numenius americanus*) 20-25 in.

Bill very long (6-9 in.). Wholly light cinnamon-brown, barred and mottled above with blackish; head, neck, and chest finely streaked with dark brown. No strong markings of any sort.

Immatures have shorter bills; apparently a year is required to attain the full length, which varies greatly between sexes.

HUDSONIAN CURLEW

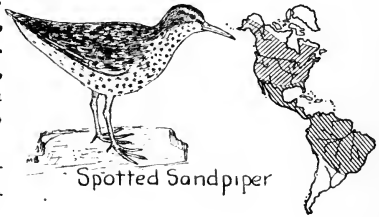
(265. *Numenius hudsonicus*) 16-18 in.

Head strongly striped with dusky and whitish; back and wings dark brown with buffy edging; light buffy below; streaked on fore parts, barred on sides.

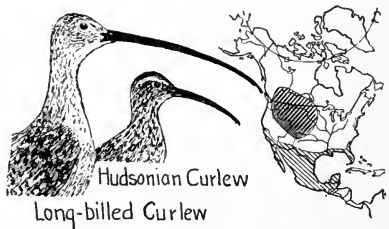
Smaller, bill relatively much shorter, and whole bird darker than the Long-billed Curlew, the only species with which it might be confused. The head-markings are conspicuous, particularly the white stripe over eye.

Southern California — *Res.*
 — Common on rocky coasts, usually in pairs or small groups. Occasional about inland waters, or on sandy beach. Nests from limit of trees in Alaska to southern United States.

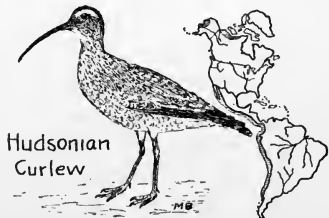
Arizona — Migrant, generally, though nests have been found.



Southern California — *W.V.*
 — *July-Apr.* — Chiefly on sandy ocean beach; occasional on inland lakes and ponds. Fairly common except in winter, but steadily and rapidly decreasing in numbers.



Southern California — *Migrant* — *July-Nov.* and *Mar.-May* — Most abundant of our larger shore-birds. Occasional about inland waters, but practically confined to ocean beaches, where it habitually associates with other species.



CHARADRIIDÆ (Family Plovers): Generally of more robust form than the Sandpipers; bills thicker, shorter than head; three-toed or with rudiment only of a fourth toe.

KILLDEER

(273. *Oxyechus vociferus*) 10½ in.

Gray-brown above, with *rusty rump and tail-coverts* (conspicuous in taking flight), and white wing-bar. The *black collar* and *black chest-band*, and its oft repeated call of "kill-dee," or "kill-deer," identify the bird anywhere.

No other of the Plovers has so adapted itself to civilization as this one, which, worthless as game, is at home wherever agriculture is carried on.

SEMIPALMATED PLOVER

(274. *Charadrius semipalmatus*) 7 in.

Male: In general appearance a *small Killdeer* with *one black collar*, no rusty on upper tail, and very short bill. Back and wings gray-brown.

Female and winter male: Black markings less distinct, brownish. Immature: Like winter adults, but gray-edged above.

A handsome, clean-cut bird, as notably quiet as the Killdeer is noisy.

SNOWY PLOVER

(278. *Charadrius nivosus*) 6½ in.

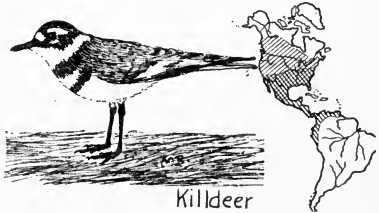
Hind-neck, back, and wings pale ashy gray; otherwise black and white. *Black markings on head and neck* are conspicuous and *distinctive* in breeding-season; at other seasons they are obscured by brownish or gray.

Young: Back feathers white-edged; no black.

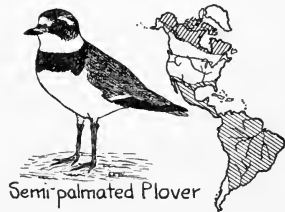
Feeds extensively on insects, back from water's edge, where, amid the débris cast up by the waves, it is almost invisible.

Inhabit shores of salt or fresh water, or semi-arid elevated plains. Resident, winter visitant, or migratory. Food almost exclusively insects.

Res. — Common everywhere in open country adjacent to fresh water. Numerous in winter months, even in city parks. Occurs up to 7000 feet in mountains of eastern Arizona, wintering at lower levels.



Southern California — *W.V.*
— Common in migrations, *Aug.-Oct.* and *Mar.-May*; occasional in winter. On sandy sea beach and tide-flats; rarely on inland waters. Usually in small flocks that, like the Snowy Plover, feed largely about high-tide line.



Southern California — *Res.*
— Common. On broad, sandy, ocean beaches, where it nests. Occasional on tide-flats. More numerous in winter, often in small flocks. Habitually keeps above high-tide line.

Very local in the interior, from Utah and Kansas to northern Mexico.



AMERICAN BLACK-BELLIED PLOVER

(270. *Squatarola squatarola cynosuræ*) 11 in.

Dusky above, with white edging; the clean *black front and breast*, with broad white border, are distinctive except as against the similar pattern of the sadly rare Golden Plover (which is yellow-speckled above).

Female, duller. Winter: White below, fore parts dusky streaked; gray on back and wings.

In flight, outer portion of spread wing (primaries) blackish and white; spread tail appears white.

MOUNTAIN PLOVER

(281. *Podasocys montanus*) 9 in.

Black bar across crown, and a black strip from *bill to eye*; upper parts gray-brown; below, dull white, buffy on chest.

In winter the black is absent; back gray; more buffy below.

FAMILY TURNSTONES, etc.

Turnstones and Surf-birds (Family Aphrizzidæ): Shore-birds of medium size; Plover-like in shape; bill similar in length, thinner, straight or slightly recurved.

BLACK TURNSTONE

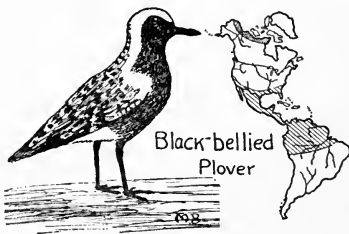
(284. *Arenaria melanocephala*) 9 in.

Brownish *black*; *white rump*, *base of tail*, *wing-patch*, and belly; head and neck with small white streaks or spots. In flight the wing-patch expands into a startling white bar across the otherwise black wing.

In winter browner and without the white striping of head and neck.

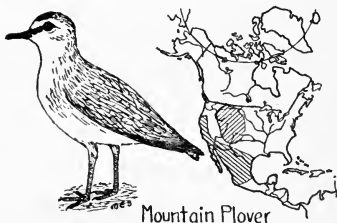
Color and pattern are distinctive.

Southern California — *W.V.*
 — *Sept.-May* — Abundant in migration. Common in winter. Ocean beach and tide-flats. Usually in flocks or groups of a half-dozen or less, though large flocks are occasional in migration.



Southern California — *W.V.*
 — Abundant locally, and very irregularly, in broad open stretches of cultivated ground. Usually in considerable flocks that scatter widely when feeding.

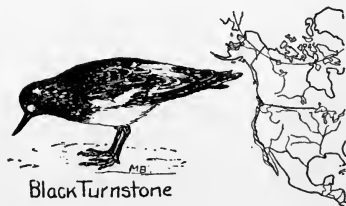
Arizona — Apparently even more local and sporadic in appearance, as indicated by records.



SURF-BIRDS AND TURNSTONES. Family Aphrizidæ

Inhabit rocky shores of ocean. Feed upon marine insects, to secure which the Turnstone upsets pebbles with its bill.

California — *W.V.* — *Aug.-May* — Occasional during summer. Common, on rocky shores, usually in small flocks. Noted as being especially numerous about the Santa Barbara Islands.



RUDDY TURNSTONE

(283a. *Arenaria interpres morinella*) 9½ in.

Back and wings largely rusty; head mostly white, variously black-marked; a black chest-band, otherwise white below. *Female*, duller.

Winter: Much less rusty; black obscured by gray edges.

SURF-BIRD

See Appendix.

(282. *Aphriza virgata*) 10 in.

OYSTER-CATCHERS. Family Hæmatopodidæ

Habitants of rocky ocean shores and islands, remote from human habitations. Food consists of various shellfish and crustaceans.

BLACK OYSTER-CATCHER

(287. *Hæmatopus bachmani*) 17 in.

A *large*, stoutly-built shore-bird; black head and neck, remaining parts sooty brown; bill thick, chisel-like, bright red; legs red.

In the field *appears wholly black*.

Feeds chiefly on shellfish of the bivalve type, to open which the chisel-shaped bill is admirably adapted.

Southern California — *W.V.* — Occasional. On rocky, ocean beaches; sometimes on muddy tide-flats.

Nests on Arctic coast and islands, wintering from central California to southern Brazil and central Chili.

FAMILY OYSTER-CATCHERS

Oyster-catchers (Family *Hæmatopodidæ*): Very large shore-birds; bill long, chisel-like, bright red; legs notably thick; feet three-toed; all or mostly blackish in color.

California — *Res.* — In small numbers, on Santa Barbara Islands; occasional on mainland coast. Always in rocky localities, where it finds the greatest degree of safety.



GALLINÆ (from Gallina, a hen): Fowl-like birds, mostly of large or medium size, with generally short, convex bill; legs and feet stout, adapted for scratching; wings short, rounded. This Order includes the Game-Birds (as distinct from Water-fowl). They are found in every part of the world, some of them, as peacocks and pheasants, ranking among the most beautiful of birds. Three Families are found in the United States, all represented in our region.

PLUMED QUAIL

(292a. *Oreortyx picta plumifera*) 11 in.

Slaty gray, with brown back, wings, and tail; chestnut throat and cheeks bordered with white; belly and sides chestnut, the latter heavily white- and black-barred. *Head with straight plume*, long and slender, usually carried erect or pointing forward. Edges of inner flight feathers (tertials) form a streak of deep buff on closed wing. Plume of female shorter than in male.

Includes San Pedro Quail (No. 292b) not generally recognized.

SCALED QUAIL

(293. *Callipepla squamata squamata*) 10½ in.

A gray bird with a *white top-knot*. At close range the whole body, except wings and back, shows a clear blue-gray, each feather edged with black, giving a scaled appearance (hence the name); head and upper neck gray all around; back and wings brownish; belly buffy.

The color and pattern of this bird so blend into the desert landscape that it simply vanishes while you watch.

ODONTOPHORIDÆ (Family Quails), some species of which occurs in practically every part of the United States, are heavy-bodied, short-winged birds, allied to the domestic hen, and, like it, of terrestrial habits. Depend mostly upon their feet for locomotion, though they fly strongly for short distances. Feed on berries, insects, etc., but chiefly on seeds. Resident wherever found. All our species have crests or plumes of some sort.

Southern California — *Res.*
— Common. Mountains, mostly above 3000 feet. Occasional in wooded canyons at lesser elevations. Occurs on rocky ridges of Mohave Desert, far from mountains, in winter and spring.



Southeastern Arizona — *Res.*
— Common. Arid plains of Lower Sonoran valleys, usually below 4000 feet elevation. In localities where brushy growth is sufficient to afford protective cover. Favors wide plains sparsely grown to mesquite.



VALLEY QUAIL

(294a. *Lophortyx californica vallicola*) 10 in.

Male: Slaty gray, with brown back and wings; *black throat* and face; breast and belly feathers black-edged, giving scaled effect; a rusty patch on belly; sides white-streaked. Plume of several feathers, spreading at end; recurved, carried pointing well forward.

Female: Much duller; fore parts brownish; short plumes and no throat-patch.

Alarm-note an explosive "pit, pit."

GAMBLE QUAIL

(295. *Lophortyx gambeli gambeli*) 10 in.

Male: Brownish gray above, neck and chest bluish gray; belly buffy, enclosing black patch; sides brown, white-striped; throat and face black, white-bordered; hind-neck chestnut; plume similar to Valley Quail, but straighter.

Female: Duller throughout; bluish gray replaced by brownish, and throat patch lacking; plume shorter.

Often hybridizes with the Valley Quail where their ranges meet.

MEARNS QUAIL

(296. *Cyrtonyx montezumæ mearnsi*) 9 in.

Male: Back a fine mixture of black, brown, and buffy; wings gray and buffy, black-spotted; a chestnut stripe down middle of breast; otherwise under parts slaty black with round white spots; head a clownish pattern of white, black, and brown.

Female: Back as in male; under parts and wings similar to back, but browner, without definite spotting; head unmarked.

Popularly known as "Fool Quail."

FAMILY GROUSE

Large birds of Quail-like form, but with legs feathered to the toes. Inhabit mountain forest, feeding mostly on tender buds of conifers.

California — *Res.* — Abundant. Brushy localities of foothills and valleys from the western edge of Mohave and Colorado Deserts to the ocean, and to southern Lower California.

Occurs in pairs, or flocks which may contain a half-dozen or a hundred birds.



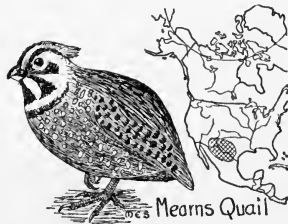
Valley Quail

Res. — Abundant — Deserts of southeastern California and the whole southwestern half of Arizona. Localized by necessity for water, which is sometimes obtained from cactus fruits. Especially numerous in the valleys of Colorado and Gila rivers.



Gambel Quail

Arizona — *Res.* — Local. Mountains of central and southeastern part of State. Apparently nowhere numerous, its natural stupidity will bring extermination in all but the most inaccessible parts of its range.



Mearns Quail

GROUSE. Family Tetraonidæ

On account of their large size these birds are much hunted and only their shyness and the inaccessibility of their habitat preserves them from extinction.

DUSKY GROUSE

(297. *Dendragapus obscurus obscurus*) 20 in.

Male: Prevailing color slaty, lighter below; back and sides more or less brown-mixed, and gray- or white-tipped; throat black-and-white-mixed; tail black, broadly tipped with gray.

Female: Smaller, upper parts rather indefinitely spotted and barred with brown and buffy.

Generally called "Blue Grouse"; also known locally as "Fool Hen," a name more properly applied to the Franklin Grouse.

SIERRA GROUSE

(297c. *Dendragapus obscurus sierræ*)

A geographic race of the Dusky Grouse, slightly smaller and darker than the Dusky.

FAMILY TURKEYS

Near relatives of the Peacock, of India, which has figured in history since civilization began. The Wild Turkey is now restricted to the most inaccessible parts of its former range.

MERRIAM TURKEY

(310. *Meleagris gallopavo merriami*) 3½–4 feet.

Description of this, the largest of all North American game-birds, seems superfluous, particularly as it differs so little from the domesticated bird, of which the wild Turkey is the parent stock.

In its several geographic races the wild Turkey was once widely distributed over eastern and southern United States. Its range is now greatly reduced and extermination within United States boundaries cannot be many years away.

Arizona — *Res.* — Canadian and Upper Transition Zones of the White Mountains of eastern Arizona where it is locally common. A bird of coniferous forest exclusively. Ranges northward in suitable localities, to southern Idaho and Wyoming.



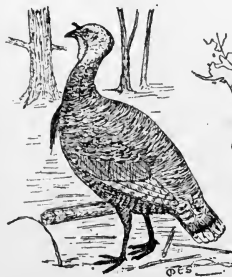
Dusky Grouse

California — *Res.* — In our region occurs only on Mt. Pinos, Ventura Co., isolated far from the Sierra Nevada, the principal range of this race.

TURKEYS. Family Meleagridæ

About five species and subspecies are recognized, all natives of North America, while another, the handsome Ocellated Turkey, is restricted to Central America. Food consists of acorns, seeds, berries, insects, etc.

Arizona — *Res.* — Mountains of eastern-central part of State, where still common locally. Formerly common over all eastern Arizona, south of Grand Canyon. Ranges eastward to western Texas and from southern Colorado into northern Mexico.

Merriam
Turkey

COLUMBÆ: Head generally small; bill thin, shorter than head, with base swollen and covered with bare skin. Legs and feet stout. About five hundred species are known; widely distributed, most numerous in Australia and islands of the Indian Ocean, where many are crested, crowned, or plumed, and some highly colored. The extinct flightless Solitaire and Dodo are included in this Order, though differing so widely from all existing members.

BAND-TAILED PIGEON

(312. *Columba fasciata fasciata*) 14 in.

Whole upper parts slaty, browner on back; hind neck bronzy green, above this a *white nape-band*; purplish slaty below, whitening on belly; tail square-cut, showing an ashy band above, nearly white below.

In shape resembles the domestic pigeon.

Notes: Suggest an Owl rather than a Pigeon.

Feeds extensively on acorns in fall and winter. Sometimes falls victim to poisoned grain intended for ground squirrels.

WESTERN MOURNING DOVE

(316a. *Zenaidura macroura marginella*) 12 in.

Back and wings brownish, with round or oval black spots; crown and back of neck bluish slaty; lower parts vinaceous; a *black ear-patch* and an iridescent spot on sides of neck; *tail long and pointed*, with much white on sides. Female duller. Immatures "scale-marked."

Food almost entirely waste grain and weed seed. As a destroyer of such seeds the bird is far more valuable than as a target for the hunter's gun.

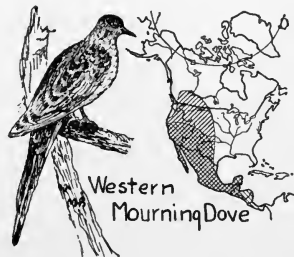
COLUMBIDÆ (Family Pigeons and Doves): Birds of tapering form, strong, pointed wings and compact plumage, adapting them to swift flight. Tail long and pointed, or shorter and square-cut. Colors dull. About a dozen species occur in the United States, along the southern border, two reaching northern United States, and five, of as many genera, within our limits. Food mostly seeds, acorns, etc., obtained from the ground. Nests mere platforms of twigs in trees, rarely on the ground. Eggs always two, pure white.

California — *Res.* — Breeds in Transition Zone of mountains, seeking somewhat lower levels in winter, in flocks, when numbers are greatly increased by visitants from more northern regions.

Arizona — *S.V.* — Mountains, nesting above 6000 feet.



Res. — Breeds commonly in Sonoran Zones, less so in Transition. Comparatively few in winter, in valleys of southern California and southwestern Arizona. Nest a frail platform of twigs, usually low in a tree; sometimes on the ground.



WHITE-WINGED DOVE

(319a. *Melopelia asiatica trudeau*) 11 in.

Male: Gray-brown above, wine-colored on nape and crown; neck and chest lighter; breast pearly gray; a large *white area in wing*; outer third of *tail white* except two middle feathers. These white markings are very conspicuous and identify the bird instantly.

Female: Duller throughout.

Development of large irrigation projects has brought such increase in numbers of this Dove that in some localities it threatens to become a pest.

MEXICAN GROUND DOVE

(320a. *Chæmepelia passerina pallescens*) 6½ in.

Male: Gray-brown above, with bluish-gray nape and hind crown; under parts chiefly vinaceous; head, neck, and breast more or less scale-marked; innermost wing-coverts spotted with metallic violet (sometimes very conspicuous); *tail nearly square-cut* (Inca Dove has long, pointed tail).

Female: Duller and browner.

From their habit of feeding, often on fire-swept ground, these birds become so dirty by spring that plumage-characteristics are often invisible.

INCA DOVE

(321. *Scardafella inca*) 8 in.

Gray-brown above, including crown; pale gray below, buffy on belly; nearly white on throat; everywhere feathers dusky-edged, giving a scaled appearance; *tail long and pointed*, outer feathers largely white (conspicuous when the bird takes wing).

In appearance suggests a dwarfed Mourning Dove with scale-marked plumage.

Said to become almost domesticated as a result of its city-living habit.

Res. — Abundant locally — Southern and western Arizona and extreme southeastern California. Has recently extended its range to Imperial Valley, southeastern California. Occurs chiefly in valleys of larger streams, ranging up to 5000 feet elevation. Less numerous in winter.



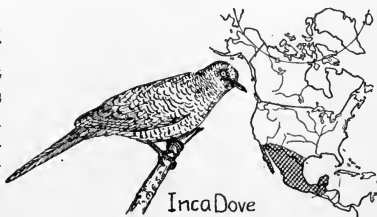
White-winged Dove

Res. — Locally common — Southern Arizona and adjoining portion of California along the Colorado River; also in Imperial Valley of extreme southeastern California. Less numerous in winter, when wanderers have been recorded northward to San Francisco.



Mexican Ground Dove

Arizona — *Res.* — Very local in Lower Sonoran Zone of southern Arizona, where it reaches the northern limit of its range. Appears largely confined to towns and cities, and is recorded from comparatively few localities.



Inca Dove

RAPTORES (Rapacious birds): Mostly large and strong-winged; flesh-eaters exclusively, killing their own prey or feeding on carrion. A wide variety of forms is known, of which more than one hundred species and subspecies, of six families, occur in the United States.

CALIFORNIA VULTURE

(324. *Gymnogyps californianus*) 45-55 in.

Wholly shining black except a large *white spot in wing*, very conspicuous in flight; head and upper neck bare, orange in color. Immatures, dull black; head and neck covered with short black down.

Popularly known as the California Condor. The largest bird of flight in North America. Now so reduced in numbers that early extinction is almost certain.

Feeds entirely upon carrion.

TURKEY VULTURE

(325. *Cathartes aura septentrionalis*) 28-32 in.

Plumage wholly black, with purplish reflections on back and wings. Head and upper neck bare, dull red; bill white.

Immatures show much brown on feather edges of back and wing-coverts.

In flight the tips of wing-feathers are widely separated — generally a distinguishing feature. *Head very small.*

Our common "Turkey Buzzard." A carrion feeder, of amazing powers of sight.

CATHARTIDÆ (Family American Vultures): Large birds; head and neck mostly naked; bill long (compared with other Raptores), hooked; foot hen-like, not adapted to carrying prey. Noted for great power of vision. Three members of this family occur north of Mexico, two within our limits.

Res. — In California mountains between San Joaquin Valley and the ocean. Formerly ranged northward to British Columbia, eastward to Arizona; and south to northern Lower California, where a few birds may still exist.



California Vulture

Res., generally, though relatively few in winter, when it is most common in Lower Sonoran Zone of southeastern California and southwestern Arizona. Nests usually in holes or niches in cliffs.



Turkey Vulture

ACCIPITRIDÆ (Family Kites, Hawks, Eagles, etc.): Medium to very large; bill short, strongly hooked; legs and feet very strong, with long, curved claws, to kill and carry prey.

WHITE-TAILED KITE

(328. *Elanus leucurus*) 16½ in.

Upper parts bluish gray, whitening on rump and tail; shoulders black; entire lower parts white.

Its conspicuous color, unsuspecting nature, and habit of hovering, make this bird an easy mark for brave gunners who have almost extirpated the species within United States boundaries. With numbers so sadly depleted, its early extinction north of the Mexican line is almost inevitable.

MARSH HAWK

(331. *Circus hudsonius*) 18-21 in.

Adult males: Slaty blue above; lighter on throat and whitening on breast and belly, these marked with small brown wedges.

Adult females and immature males: Dusky brown above, rusty brown below; below more or less black-streaked.

An imperfect facial disc gives the head an almost owl-like look. Long tail and *snow-white rump* are certain recognition marks, as is also its habit of sailing close over the ground while hunting.

SHARP-SHINNED HAWK

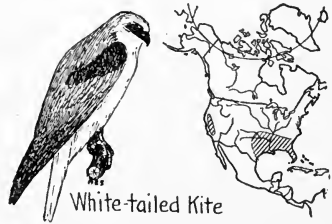
(332. *Accipiter velox*) 11-15 in.

Similar to No. 333, but much smaller, the male hardly larger than the familiar Sparrow Hawk. *Tail square-cut* (that of the Cooper is rounded) and crown less black.

With its congeners the Cooper Hawk and Goshawk this species is noted for absolute fearlessness when pursuing its prey, which consists almost entirely of small birds.

Food mostly injurious rodents, though some species are very destructive to bird life generally; and one, the Bald Eagle, feeds largely on fish or carrion.

Res., in its California range.
Migratory, in southeastern United States, north of Florida.
Res., in South America from Argentina to Venezuela. Such instances of disconnected range are rare. (Map shows summer range only).



White-tailed Kite

California — *Res.* — Common. About extensive areas of open ground, especially marshy places, of low elevation.

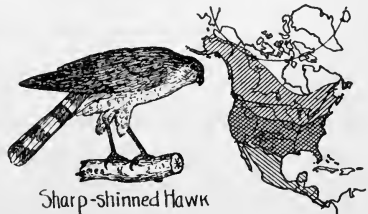
Arizona — Appears chiefly as a *migrant*, though known to winter in southern parts.



Marsh Hawk

Southern California — *Res.* — Nests sparingly in high mountains, invading lowlands and city in winter.

Arizona — Chiefly a *migrant*, though there are some nesting and winter records.



Sharp-shinned Hawk

COOPER HAWK

(333. *Accipiter cooperi*) 14-20 in.

Male: Bluish gray above; crown nearly black; under parts finely barred white and rusty; *tail long, rounded*, with several dusky bands on light ground. 14-16 in.

Female: Less bluish above; sides of head and neck more rusty. 17-20 in.

Immature: Dark brown above; white and dusky-streaked below.

Females usually identifiable by size, while males are hardly larger than a female Sharp-shin.

GOSHAWK

(334. *Astur atricapillus atricapillus*) 22-25 in.

Sexes alike. Whole upper parts clear blue-gray, with black crown; white below, finely and irregularly barred with slaty; a *black stripe behind eye* and a *white one above eye*, to nape.

Immatures: Dusky or grayish above, buffy-edged; below, pale buffy, feathers with broad black central streaks.

Long tail and short wings, with large size, and timber-haunting habit, easily identify this bird. Highly destructive to Grouse and Quail.

WESTERN GOSHAWK

(334a. *Astur atricapillus striatulus*)

Said to differ from preceding in darker upper parts and broader, darker striping below. (Recognized in A.O.U. Check-List but now generally believed to be the immature of the Goshawk, and as such to have no standing as a different form.)

Res. — Common — Most numerous in thick, small timber, or willows of water-courses, where it habitually hunts. Nests at nearly all elevations, in timber of canyons.



Cooper Hawk

W.V. — Usually rare. Occasional "invasions" of Goshawks occur when they are recorded far and wide, from every sort of locality. Doubtless nests in high mountains of eastern Arizona.



Goshawk

Range, as given in the Check-List: "Boreal Zones of Pacific coast region. Nests from Cook Inlet, Alaska, to the Sierra Nevada, of California, wintering southward in California and east to Colorado."

HARRIS HAWK

(335. *Parabuteo unicinctus harrisi*) 17-21 in.

Sooty brown, with extensive rusty patch on shoulder and rusty flanks. *Tail black* with *white tip* and *white base*. These are very conspicuous in any position.

Immatures, streaked dark brown and buffy.

Noted as a great killer of small rodents. Appears especially fond of wood-rats. Might be of considerable economic value if it inhabited agricultural rather than desert regions.

ZONE-TAILED HAWK

(340. *Buteo abbreviatus*) 19-21 in.

Wholly black, or blackish, except for *three white bands* on under side of *tail*; these, seen from above, are gray (tail of Mexican Black Hawk has *one* band).

A rather slender, long-winged and long-tailed bird, easily confused with the Black Hawk except when seen in flight overhead. Is said to be strikingly similar in action to the Turkey Vulture, for which it is easily mistaken when tail-bars are invisible, though much smaller.

FERRUGINOUS ROUGH-LEG

(348. *Archibuteo ferrugineus*) 22-24 in.

Adult, normal phase: Whole upper parts a mixture of rusty and dusky, more or less gray-edged; flanks finely barred with rusty, otherwise *all white below*; spread wings, seen from below, white with dark spots in rows. Individuals vary considerably. *Melanistic phase:* Wholly deep chocolate-brown, varied with rusty spots or edges; somewhat lighter below.

Known locally as "Squirrel Hawk," from its food habits. Recognized as a most beneficial bird.

MEXICAN BLACK HAWK

See Appendix.

(345. *Urubitinga anthracina*) 19 in.

MEXICAN GOSHAWK

See Appendix.

(346. *Asturina plagiata*) 17 in.

Res. — Fairly common — Southern Arizona and contiguous Colorado River section of California. Comparatively rare in winter. Nests in cottonwoods of water-courses, also in giant cactus. Recorded in flocks in Imperial Valley, of California, in fall migration.



Southern Arizona — *S.V.* — Occasional. Widely distributed in mountains. Common formerly, now greatly reduced in numbers. Appears to remain through the winter along lower Colorado River.

California — Records very few.



W.V. — *Oct.-Mar.* — Fairly common — Favors wide stretches of cultivated, open country. Less numerous in desert areas. Said to have been found nesting in giant cactus in western Arizona where it is considered of rare occurrence.



WESTERN RED-TAIL

(337b. *Buteo borealis calurus*) 20-24 in.

Adults: Vary from a sooty brown throughout, somewhat lighter below, to grayish brown back and wings, with buffy below, dusky-streaked on sides, brownish band across chest and white throat. In the light phase, adults have upper side of *tail bright rusty*.

Immatures: White below, heavily streaked with dusky; *tail with* numerous dusky bars and *no rusty*.

A highly beneficial Hawk, feeding chiefly on destructive rodents, but disappearing with advance of civilization.

SWAINSON HAWK

(342. *Buteo swainsoni*) 20-22 in.

Adults, normal phase: Gray-brown above; below, white with wide brownish breast-band, lined with black; tail barred, this often not visible in the field. *Dark phase*: Wholly dull black, more or less mixed with rusty.

Immatures: Under parts heavily black-streaked on rusty buff.

A beneficial species of considerable importance in some localities, but not sufficiently wary to maintain such a status indefinitely.

RED-BELLIED HAWK

(339b. *Buteo lineatus elegans*) 18-20 in.

Male: Feathers of back and crown dusky with rusty edgings, sometimes grayish over all; wings dusky, heavily gray-spotted; whole *under parts cinnamon*, with throat finely lined with dusky and belly gray-barred; *tail dusky, white-banded*.

Female: Browner, streaked and spotted below.

Like the familiar Red-tail in shape but averages much smaller. Unsuspecting in nature, nesting often near human habitations, they have suffered accordingly. Rated as highly beneficial.

Res. — Common — Sea-level to high mountains. Nests indifferently from Lower Sonoran Zone through Transition. Most numerous in low country in winter, and probably occurs in greater numbers in Arizona than in California.



Western Red-tail

Res. — Common locally; absent from extensive regions. Occurs in great flocks in migrations; these appear less common west of the California desert divide than in deserts eastward. Nests indifferently in trees, giant cactus, or tree-yuccas, or even on the ground.



Swainson Hawk

California — *Res.* — Occasional — Low open country west of the desert divide. Tall willows of stream-bottoms are its favorite nesting-site, but, lacking these, oaks are often utilized.



Red-bellied Hawk

GOLDEN EAGLE

(349. *Aquila chrysaëtos*) Male, 30–36 in. Female, 34–40 in.

Dark brown, paler on hind-neck and flanks.

Immatures have basal half of tail white; breast feathers dark-tipped, their white bases conspicuous when ruffled.

A big bird of powerful flight, black against the sky.

Constant persecution through custom and habit, and the ever-present menace of electric-power wires in their habitat, have greatly reduced the numbers of this species.

BALD EAGLE

(352. *Haliaeetus leucocephalus leucocephalus*) Male,
30–36 in. Female, 34–42 in.

Body wholly black; head, neck, and tail white.

Young birds in the first winter are a streaky mixture of brown and gray, much darker above. Later stages show heavy streaking of black and white on under parts. Probably three years required to attain adult stage.

Feeds largely upon fish and carrion, but is naturally destructive to fawns and lambs, and neither sentiment nor laws prevent the destruction of this, our national bird, whenever opportunity offers.

While the Eagles are not our largest birds, as many believe, being greatly exceeded in weight by the Swan and in wing expanse by the California Condor, none compare with them in the powerful, graceful flight, wild disposition and majestic mien that have made the Bald Eagle our national emblem, and overshadow his ignoble feeding-habits.

California — *Res.* — Common locally. Mountains and broken country generally. In southern California nests in timber of canyons, or in rocky ridges of Mohave Desert.

Arizona — Practically limited to mountains of the eastern part.



Golden Eagle

Res. — Abundant on Santa Barbara Islands, off the coast of southern California; less common along rugged mainland coast. Recorded in Arizona mountains; but in our area is a rare bird except on coast and islands.



Bald Eagle

Numerous cases, mostly of ancient date, are recorded of Eagles attacking and carrying away young infants. As these birds early learn to shun the vicinity of human beings, while they have wing power to carry them quickly to the haunts of their natural prey, such an event would be extremely improbable. A cornered rat will attack a man; and a hunger-crazed Eagle might show equal temerity.

FALCONIDÆ (Family Falcons and Caracaras). Falcons are characterized by long, pointed wings, and a peculiar notch in the bill. On the wing they are distinguished from the Hawks proper by the buoyant, sweeping flight.

PRAIRIE FALCON

(355. *Falco mexicanus*) 17-20 in.

Grayish brown above; white below, breast finely streaked brown or dusky, flanks dusky-barred; *dark moustaches* (malar streaks) contrast with *snow-white throat*.

Immatures have rusty edgings above, strong dusky striping below; heavier and darker flank-markings than in adult.

A pointed-winged bird, in general shape and action suggesting a greatly overgrown Sparrow Hawk.

DUCK HAWK

(356a. *Falco peregrinus anatum*) 15½-20 in.

Bluish slate above; white or buffy below, sides dusky-splashed, spotted, or finely barred; *sides of head dusky*, edged with a broad, *black malar streak* (much heavier and darker than in Prairie Falcon).

Young: Rusty-edged above; below heavily striped with black on rusty buff.

A bird of marvelous wing power. Destroys great numbers of wild ducks and diving sea-birds, easily overtaking and striking or fastening to them in the air.

PIGEON HAWK

(357. *Falco columbarius columbarius*) 10-13 in.

Male: Bluish above, with buffy nape band; *throat white*; *otherwise* under parts are tawny or buffy, *brown-streaked*; tail dusky, with three whitish bars.

Female: Similar, but brown above.

What the Duck Hawk is to water-birds, this little Falcon is to small land-birds, which seek cover instantly when it appears, though they give scant attention to that commoner Falcon, the Sparrow Hawk.

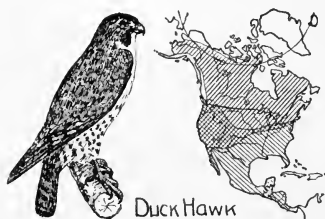
Caracaras are Vulture-like Carrion Hawks; external characters decidedly vulturine, but anatomically like the Falcons; in general appearance they resemble neither. Bill rather Hawk-like; skin of face naked; feet of the walking type.

Res. — Common locally — Nests in rocky cliffs of desert mountains. Generally distributed over our region except coastal slope of southern California, where it occurs in winter only.



Prairie Falcon

Res. — Common on islands off the California coast, where sea-birds afford a limitless food supply. Recorded as resident in mountains of central Arizona, but certainly rare inland. Nests in "pot-holes" or on ledges of rock cliffs.



Duck Hawk

Southern California — *W.V.* — *Sept.-Mar.* — Occasional — Most often seen in or near foothills.

Arizona — Appears to be a migrant only, or a rare winter visitant.



Pigeon Hawk

DESERT SPARROW HAWK

(360a. *Falco sparverius phalæna*) 10–13 in.

Male: *Rufous above*, usually with crescentic black bars on back; a black bar across end of tail; *wings gray-blue* except outer quills; forehead and nape gray-blue; buffy below, round black spots on lower breast; two vertical black bars on sides of head.

Female: Finely black-barred above, including wings and tail; streaked light brown below.

APLOMADO FALCON

See Appendix.

(359. *Falco fusco-cærulescens*) 17 in.

AUDUBON CARACARA

(362. *Polyborus cheriway*) 22 in.

A hawk-like bird, with wings and body mostly *blackish*, *neck* mostly *white*; *crown black*, feathers of hinder part lengthened into a crest; chest and fore-back finely barred black and buffy; under tail-coverts and base of tail white; spread wings show white area.

More Vulture than Hawk in structure and habit. Feeds chiefly on carrion; also on small birds and mammals, and on reptiles. Said to be very fond of snakes.

FAMILY OSPREYS

Generally known as Fish Hawks or Fish Eagles. Large birds of Hawk-like form, but more heavily hooked bill and very large feet, specialized for catching and holding the fish upon which they feed.

OSPREY

(364. *Pandion haliaëtus carolinensis*) 21–25 in.

Dusky brown above; white below, breast often dusky-spotted or lined; head mostly white, with broad, blackish stripe from eye across ear-coverts.

Females have more extensive breast-spotting.

This is perhaps the most spectacular of all our birds by reason of its fish-catching habit and the enormous nests it builds in tall tree-tops, or even on the ground.

Res. — Abundant — Breeds from low, hot deserts to 8000 feet or more, wintering below snow-line. Occupies some abandoned woodpecker-hole, or a natural tree-hollow, for a nest.



Desert Sparrow Hawk

Arizona — *Res.* — Rare, though formerly common, in extreme southern part of State, whence it occurs everywhere southward to northwestern South America. Congregates wherever food is most abundant, as about slaughtering-places.



Audubon Caracara

OSPREYS. Family Pandionidæ

Often robbed of their prey by the Bald Eagle. Nest close by water, on ocean cliffs or a tall tree; or sometimes even on the ground where the birds build a great heap of brush, etc.

Res. — Occasional on islands off the California coast, where it nests or formerly nested. Sometimes noted on mainland coast, or on larger inland waters, usually in winter. In migration occurs on larger Arizona rivers.



Osprey

ALUCONIDÆ and STRIGIDÆ (Families Barn Owls, Horned Owls, etc.): Birds of Prey of large or small size; mostly nocturnal; eyes very large; facial disc present; head mostly with ear-tufts or "horns"; plumage soft and lax, and flight noiseless.

BARN OWL

(365. *Tyto alba pratincola*) 16 in.

Male: Yellowish brown above, finely marked with gray, black, and white; white below, peppered with dusky.

Female: Darker, pale rusty below.

Facial disc is at will drawn into a grotesque shape which the imaginative liken to the face of a monkey; hence the bird is widely known as "Monkey-face Owl."

A deadly enemy of injurious small rodents. Its destructiveness in this direction is amazing.

FAMILY HORNED OWLS, etc.

LONG-EARED OWL

(366. *Asio wilsonianus*) 15 in.

Upper parts a mottled mixture of gray, black, and tawny; whitish and buffy below, streaked and barred with black; ear-tufts long, rising directly above eyes (not on "corners" of head, as in the Screech Owl). These are held vertically and are distinctive.

Utilizes abandoned large nests of other birds, or sometimes that of a wood rat, in trees.

SHORT-EARED OWL

(367. *Asio flammeus*) 15 in.

Upper parts a streaky mixture of light and dark brown; below buffy, brown-streaked; ear-tufts short, hardly noticeable.

Often flies and hunts by daylight, sailing near the ground after the manner of the Marsh Hawk. Rarely alights in trees.

Remarkable as the most widely distributed of all Owls, occurring over nearly the whole world, excepting Australia.

About twenty-five forms recognized, distributed world-wide except in Arctic regions. One only occurs in North America. A most active and persistent destroyer of injurious rodents, especially gophers.

Res. — Common. Valleys and foothills. Nests in hollow trees, holes in earth banks, or in buildings. Widely distributed in California. In Arizona most numerous in central portion; unknown in plateau region of the northeast.



Barn Owl

HORNED OWLS, etc. Family Strigidæ

Southern California — *Res.* — Common locally. Willow regions and oak-grown canyons, from lowlands to 7000 feet in the mountains.

Arizona — Rather a rare bird. Recorded mostly in winter.



Long-eared Owl

W.V. — *Oct.-Mar.* — Frequent about extensive areas of marsh or weed-grown fields. Usually occurs singly or in pairs, but sometimes roosts in considerable flocks, on the ground.



Short-eared Owl

SPOTTED OWL

(369. *Strix occidentalis occidentalis*) 18 in.

Dark brown above; head and neck marked with round white spots; below, irregularly barred with white, buffy and brown; wings brown, spotted and barred with white. *Eyes black. No ear-tufts.*

A chunky, round-headed Owl, of rather stupid, or unsuspecting, nature.

Call: Said to resemble yelping of a dog.

ARIZONA SPOTTED OWL

See Appendix.

(369b. *Strix occidentalis lucida*) 18 in.

WESTERN HORNED OWL

(375a. *Bubo virginianus pallescens*) 18–22 in.

Upper parts a mixture of gray, dusky, and yellowish brown; throat broadly white, otherwise white and buffy below, finely marked with wavy bars of blackish. Individuals vary widely in color, the brown and buff being almost absent in extreme cases.

Very destructive to game and poultry, but also a great killer of rodents injurious to agriculture.

PACIFIC HORNED OWL

(375d. *Bubo virginianus pacificus*) 18–22 in.

Like the Western Horned Owl, but darker and browner, and apparently varies less in color.

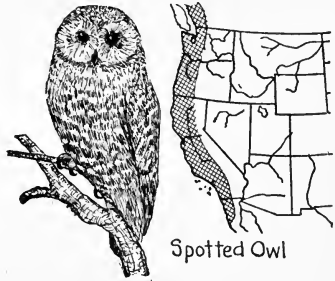
Wherever found the Horned Owls are game-killers, with every man's hand against them, regardless of their value as destroyers of vermin.

SAW-WHET OWL

See Appendix.

(372. *Cryptoglaux acadica acadica*) 7 in.

California — *Res.* — Rare and local. Favors steep-walled, rocky canyons of mountains, up to about 7000 feet elevation. Nest is usually located in an inaccessible cavity of a rock wall.



Spotted Owl

Res. — Locally common — Timber of river-bottoms, or rocky cliffs, east of California desert divide (occasional on coastal slope). In Arizona it ranges from hottest deserts to high mountains.



Western Horned Owl

California — *Res.* — Not uncommon locally in dense timber from sea-level to 7000 feet or more elevation; but fast decreasing even in most secluded places. Range: California, west of desert divide, except northern half of coast region.

PASADENA SCREECH OWL

(373k. *Otus asio quercinus*) 8½ in.

Upper parts gray, lined with blackish; white below, streaked and finely barred with black; facial disc outlined in black; *large ear-tufts* and large eyes (yellow iris) give a cat-like expression. Call: A soft, quavery "oo-oo-oo-oo."

The Screech Owls are characterized by ear-tufts, large eyes, and prominent facial discs. Distribution of markings is quite similar in all species.

MEXICAN SCREECH OWL

(373f. *Otus asio cineraceus*) 8 in.

Ashy gray above, the blackish central streak of feathers broader and contrasting rather strongly with the gray; under parts finely and closely barred with blackish.

SAHUARO SCREECH OWL

(373i. *Otus asio gilmani*) 7½ in.

A small, pale Owl closely associated with the giant cactus, or sahuaro; hence the name. In these strange growths it nests, occupying abandoned holes of the Gila Woodpecker or Gilded Flicker.

SPOTTED SCREECH OWL

See Appendix.

(373.1. *Otus trichopsis*) 7½ in.

FLAMMULATED SCREECH OWL

See Appendix.

(374. *Otus flammeolus*) 7 in.

ELF OWL

(381. *Micropallas whitneyi whitneyi*) 6 in.

Grayish brown above, finely spotted with buffy; below, mixed gray, white, and rusty, almost patternless; brows white; a white spot on sides of chin; edges of flight feathers white-spotted.

Smallest of the Owls. Feeds on such small mammals and birds as it can kill, but more on large insects. Strictly nocturnal. (The Pygmy Owl is diurnal.) When surprised by day, roosting in a thicket, it is said to hold a wing, shield-fashion, before its body.

Southern California — *Res.* — Common. Coastal slope, chiefly in oaks and sycamores of canyons up to about 6000 feet. Occasional on desert slopes, near mountain divide. Nests in hollow trees, generally in old Woodpecker holes.



Pasadena Screech Owl

Southeastern Arizona — *Res.* — Common. Upper Sonoran Zone of mountains. Occurs northward to Colorado, but apparently absent from table-lands of northeastern part of State.

Res. — Common — Hot Lower Sonoran deserts of western and southern Arizona and adjoining California; north to Needles, California, on the Colorado River. Exact southern limits of range not known.

Res. — Common — Giant cactus regions of Lower Sonoran Zone in southern and western Arizona and extreme southeastern California. Is closely confined to such cactus in breeding-season, occupying old Woodpecker holes.



Elf Owl

CALIFORNIA PYGMY OWL

(379a. *Glaucidium gnoma californicum*) 7 in.

Colors rather variable; back usually olive-brown; under parts white, heavily streaked with dark brown or blackish. No ear-tufts; conspicuously *long tail*, barred dusky and white; facial disc almost lacking. In general appearance almost hawk-like.

Flies and hunts by day, or at dusk.

The smallest of our forest-dwelling Owls, rarely seen unless betrayed by his own movements.

ROCKY MOUNTAIN PYGMY OWL

(379. *Glaucidium gnoma pinicola*) 7 in.

Like the California Pygmy, but lighter and less brown below. They differ in no way in habits and so little in color that except for different range either might easily pass for the other.

FERRUGINOUS PYGMY OWL

(380. *Glaucidium phalœnoides*) 6½ in.

In general appearance similar to the California Pygmy. The crown, however, is white-striped, and colors even more variable, ranging from gray-brown to rusty; tail-bands blackish and rusty.

BURROWING OWL

(378. *Speotyto cunicularia hypogæa*) 9 in.

Upper parts faded brown, indefinitely spotted and barred with whitish; chest-patch and chin white; a collar of mixed buffy and brown, belly and sides barred with same.

Nests in old holes of badger, prairie-dog, or ground-squirrel, beside which the bird sits and so perfectly blends with earth and dry vegetation that he becomes almost invisible.

Popular names are Ground Owl and Billy Owl.

PARROTS. Order Psittaci. Family Psittacidæ

THICK-BILLED PARROT

See Appendix.

(382.1 *Rhynchopsitta pachyrhyncha*) 16 in.

California — *Res.* — Rare. Transition Zone forests of mountains, except those of the coast region. Occurs at lower levels in winter, sometimes in heavy brush at a distance from timber.



Arizona — *Res.* — Rare — Recorded from most of the higher mountains. Ranges over the Rocky Mountains generally from British Columbia to Guatemala.

Southern Arizona — *Res.* — Lower Sonoran valleys of south central and southeastern Arizona, where identified by its habitat (other Pygmy Owls are forest dwellers). Said to be locally common. Range: Southern Arizona, east to Texas and south to Panama.

Res. — Common locally — In open waste ground from sea-level to 5000 feet elevation. Numerous where extensive irrigation projects have brought increase in their food supply, and about prairie-dog towns of Arizona.



COCCYGES: A remarkable group imitating in shape and general appearance birds of various other Orders. North American representatives are limited to about a dozen species, of three families.

ROAD-RUNNER

(385. *Geococcyx californianus*) 22-24 in.

Feathers of upper parts brown centrally, edged with buffy or gray; *head crested*; *tail long*, white-tipped. Plumage very lax and coarse throughout.

A most remarkable bird, amazingly swift on foot, and usually seeking escape by running rather than by flight. Nests in cactus or thorny trees. Feeds on large insects, mice, small birds, and lizards.

CALIFORNIA CUCKOO

(387a. *Coccyzus americanus occidentalis*) 12 in.

Whole upper parts lustrous olive brown; silky white below; *tail long*, *white-tipped*. A very slender bird, sedate in habit. Its sweeping flight is distinctive. Hairy caterpillars appear to form a considerable part of the Cuckoo's diet. Locally called "rain crow," from its dolorous call which is said to portend rain. Unlike the European species the American Cuckoos build nests and incubate their eggs.

FAMILY KINGFISHERS, etc.

Alcedinidæ: Birds of unusually distinguished appearance, unique in the large head and bill.

BELTED KINGFISHER

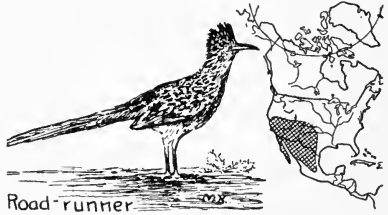
(390. *Ceryle alcyon alcyon*) 13 in.

A bird of striking appearance, its clean, *slaty blue* of upper parts contrasted with *snowy white* below; a heavy bill, and large head with *high*, *ragged crest*. Sexes differ in the female having sides rusty, this frequently extending across lower breast in an imperfect band.

Call: A wild, free "rattle." Feeds upon small fish. Nests in holes in high earth banks, usually along streams.

CUCULIDÆ: Long-tailed, slender-bodied birds; yoke-toed, like the Woodpeckers. Four members of this Family occur in North America, two in our region.

Res. — Common — Sonoran deserts of western United States and Mexico. In late summer often ascends mountains into Transition Zone. Owing to reclamation of desert areas and advance of agriculture the bird is now practically extinct over large sections of its natural habitat.



Road-runner

S.V. — Common locally, and conspicuously absent over great areas. It is apparently restricted to extensive willow swamps of low, hot valleys of southern California and southwestern Arizona.



California Cuckoo

KINGFISHERS. Family Alcedinidæ

Two species only found in the United States, one regularly within our limits.

Southern California — *Res.* — In small numbers, where favorable fresh-water localities are now few. Mostly along coast. More numerous in migrations.

Arizona — Chiefly a migrant; doubtfully recorded as breeding.



Belted Kingfisher

PICI: North American members of this Order number about sixty species and subspecies, in a single Family. Bills mostly straight, chisel-tipped; tail stiff, used as a support; outer toe reversed, except in one genus, which has but three.

CABANIS WOODPECKER

(393d. *Dryobates villosus hyloscopus*) 9 in.

A medium-sized black and white Woodpecker, with broad *white stripe down middle of back*; dull white below; outer web of outer tail feather all white. Male has red nape band.

His sharp "peek," and shrill chatter as he flies, always betray his presence.

A tremendously energetic destroyer of wood-borers, whether in standing trees, prostrate logs, or even mere twigs on the ground half buried in a bed of fallen leaves.

WHITE-BREASTED WOODPECKER

(393h. *Dryobates villosus leucothorectis*) 9 in.

The southern Rocky Mountain form of the Hairy Woodpecker. Like the Cabanis in general appearance but distinctly whiter on under parts. It shares with the others of this genus the reputation of being the most highly beneficial bird of the forest wherein it lives, feeding entirely upon destructive insects.

WILLOW WOODPECKER

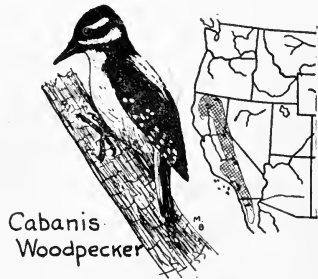
(394e. *Dryobates pubescens turati*) 6 in.

A miniature of the Cabanis, except that bill is relatively smaller and outer web of outer tail-feather is barred with black, instead of being pure white. Has the same sharp call-note, "peek," and the habits generally of its larger relative. Appears less suspicious of humanity, however, probably because of greater familiarity.

As befits its diminutive size, this bird often hunts in the small brush, or even among dead twigs on the ground.

PICIDÆ (Family Woodpeckers). Characters as for the Order. Food habits vary widely: one genus feeds on larvæ injurious to forest trees; one on acorns; one largely on ants; another on sap of trees. All nest in tree-holes, dug by themselves.

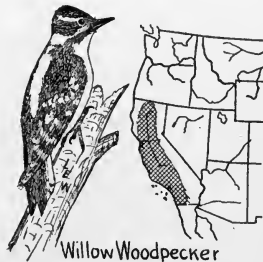
California — *Res.* — Common. In mountains to 9000 feet or more. Most numerous in Transition Zone, and in dead or dying forest areas which mean plentiful food supply. Has been found nesting in river-bottom timber nearly at sea-level.



Arizona — *Res.* — Common in coniferous forest of Canadian and Transition Zones of eastern part of State and western New Mexico; southward into Mexico. Most abundant in areas of dead or dying timber which mean a generous supply of food, easily secured.



California — *Res.* — Common. West of the desert divide, except the humid northwest coast. Favors willow regions (hence the name), where it drills the usual nesting-hole in a dead stub, often only a few feet from the ground, but occurs also in oaks. In winter sometimes strays eastward to desert slopes.



BATCHELDER WOODPECKER

(394b. *Dryobates pubescens homorus*) 6½ in.

The Rocky Mountain form of Downy Woodpecker. Slightly larger and whiter than the Willow subspecies, from which it is separated by the lofty Sierra Nevada northward and by deserts southward. Identical in general appearance and habits, except as affected by different habitat.

These small Woodpeckers often work near the ground, sometimes on large weed-stems and even on standing dead corn-stalks.

ARIZONA WOODPECKER

(398. *Dryobates arizonæ*) 8 in.

A *brown* Woodpecker, the only one in North America answering this description. Upper parts solid plain brown; below dark brown spotted on soiled white; a white line on cheek ends in a patch on sides of neck. The male has a red nape-band; the female none.

Said to be less suspicious, or perhaps more stupid, than most birds of its tribe.

ALPINE THREE-TOED WOODPECKER

(401b. *Picoides americanus dorsalis*) 9½ in.

A rather large Woodpecker, chiefly *black above*; a narrow stripe of black-and-white cross-barring extends from neck to rump, generally not well defined, but in extreme cases almost solid white; cheek largely white; *crown-patch bright yellow* in male, in the female black, speckled with white.

Said to be a very silent bird.

SOUTHERN WHITE-HEADED WOODPECKER

(399a. *Xenopicus albolarvatus gravirostris*) 9 in.

Black, with white head, white wing-patch, and red nape. The wing-patch is very conspicuous in flight, and with the white head is distinctive. Female lacks the red nape.

Uses bill more to pry off the loose bark, in search of food, than to peck. Feeds young largely on ants. Rather silent except in flight, or when just about to take flight.

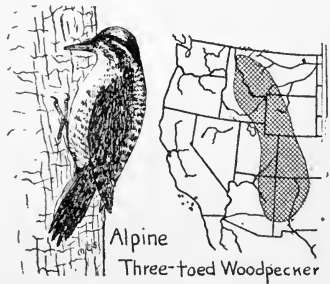
Eastern Arizona — *Res.* — Mountains, where it is recorded as uncommon, and where it reaches the southern limit of its range. Nests in cone-bearing forest, probably also in cottonwoods of water-courses.



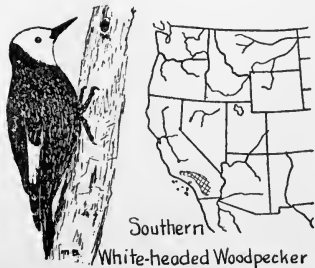
Arizona — *Res.* — The range of this Woodpecker is chiefly in Mexico, just touching the United States in southeastern Arizona and southwestern New Mexico, where it is resident in live oak regions.



Arizona — *Res.* — High mountains of northern and eastern Arizona, where occasional in Canadian Zone (pines and spruces). This is extreme southern limit of its range. Apparently never abundant anywhere. Seems to favor the vicinity of boggy meadows.



California — *Res.* — Common — Chiefly in pine forest, between 5000-8000 feet, of southern California mountains, to which the range of this subspecies is limited. Nest often near the ground, as a dead tree or stump, or even a prostrate log may offer easy excavating.



NUTTALL WOODPECKER

(397. *Dryobates nuttalli*) 7 in.

Black above, *back* crossed with narrow white bars; wings heavily white-spotted; under parts soiled white, with sides dusky-spotted. Male has red nape-band. Immatures have crown feathers red-tipped.

The only "ladder-back" Woodpecker of the Pacific slope, apparently never occurring eastward of the desert divide. Its finely broken color-pattern harmonizes closely with bark of trees among which it works.

CACTUS WOODPECKER

(396. *Dryobates scalaris cactophilus*) 7 in.

Back black, heavily white-barred; wings white-spotted; soiled white or buffy below, with sides dusky-spotted. *Male*: Crown and nape feathers red-tipped. *Female*: Crown wholly black. Resembles the Nuttall, but white markings larger, the whole bird whiter.

The small "ladder-back" Woodpecker of our desert and semi-desert areas, where it fills the same "niche" occupied by the Nuttall on coastal slopes. Neither seems ever to infringe upon the other.

CALIFORNIA WOODPECKER

(407a. *Melanerpes formicivorus bairdi*) 9 in.

A strongly marked *black-and-white* bird, with red crown, and white of face tinged with yellow. Females have a black strip separating white forehead and red crown. Open wing shows large, white spot.

The most sociable and noisy of our Woodpeckers. Stores great quantities of acorns in individual holes drilled in bark or dead wood of favored pines or oaks, for winter food.

Call, "yacob, yacob."

California — *Res.* — Common. Usually singly, or in family groups. In oak-grown canyons and foothills west of the Sierran divide, up to 5000 feet or more. Often in larger chaparral of the hillsides, or willows of stream-bottoms.



Nuttall Woodpecker

Res. — Deserts of southwestern United States and adjoining northwestern Mexico. Numerous in heavy mesquite growth, less so among cottonwoods of stream-bottoms, and occasional in tree yucca forests. Digs a nesting cavity in tree yuccas, mesquites, or any growth of necessary diameter.



Cactus Woodpecker

California — *Res.* — Common; locally abundant. Oak regions to 7000 feet. Usually in pairs or small groups, its numbers in any locality varying with abundance of the acorn crop.



California Woodpecker

ANT-EATING WOODPECKER

(407. *Melanerpes formicivorus formicivorus*) 8½ in.

Like its subspecies, the California Woodpecker, except for slightly smaller size and more extensive striping on breast; like it also in its sociability, notes, and habits generally.

The storing-up instinct of these birds is sometimes gratified in the absence of sufficient acorns to fill storage holes by substituting pebbles of proper size.

LEWIS WOODPECKER

(408. *Asyndesmus lewisi*) 11 in.

Whole upper parts a shining green-black, with gray collar; throat and breast gray, changing to red on belly; dull red about bill.

Flight suggests that of a crow, but more "swooping." In flight wings seem entirely too large for the bird and the whole appearance is quite unwoodpeckerlike.

Locally, in northern part of its range, is destructive to fruit, cherries especially.

GILA WOODPECKER

(411. *Centurus uropygialis*) 9½ in.

Whole back and wings black-and-white barred; crown-patch bright red; belly golden yellow; otherwise head, neck, and under parts dirty gray, darkest on back of head, whitening on forehead. Tail black-and-white-barred below. Female without crown-patch.

Much of this bird's insect food is captured on the wing or secured on twigs or leaves; feeds also on the ground.

Arizona — *Res.* — Common — Transition and Upper Sonoran Zones of eastern Arizona and southward, wherever oaks furnish the necessary acorn supply. Ranges up to 7500 feet in the mountains. Is a constant visitor to the mescal plants when in bloom.



W.V. — *Sept.-Apr.* — Favors oak regions. Usually found in loose flocks, abundant some winters and nearly absent others. Always erratic in occurrence. Nests in Tejon region, 100 miles north of Los Angeles, California — apparently an isolated breeding-station. Recorded as nesting in eastern Arizona.



Arizona — *Res.* — Common — In portions of Lower Sonoran Zone from extreme southeastern Nevada southward. Inhabits willow and cottonwood association of river-bottoms; also giant cactus regions in breeding season, seeming to prefer ease of digging and relative safety offered by these thorny pillars.



RED-BREASTED SAPSUCKER

(403. *Sphyrapicus ruber ruber*) 8 in.

Head, neck and breast dull red, except white stripe from nostril to cheek; back and wings black, streaked and spotted with white (buffy-edged in winter); belly yellowish.

Call note, "churr-r," seldom heard. In mating-season it utters an almost unbirdlike squall.

Girdles favored trees with holes that are sometimes worked out until remaining bark is only a network; feeds upon the sap and insects attracted thereby.

RED-NAPED SAPSUCKER

(402a. *Sphyrapicus varius nuchalis*) 8½ in.

Throat, crown, and nape bright red, a black patch on chest (distinguishes from Red-breasted Sapsucker); back and wings black, heavily white-marked. Female duller; breast-patch gray-mixed, throat less red.

In shape, habit, and action like the Red-breasted species. Has the tree-drilling habit of all Sapsuckers, but it is too few in numbers to do material injury.

WILLIAMSON SAPSUCKER

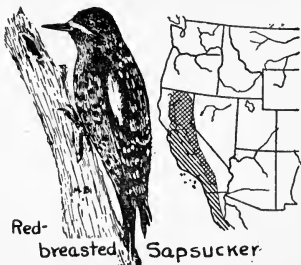
(404. *Sphyrapicus thyroideus*) 9 in.

Male: Black, with narrow white stripes on side of head, large white wing-patches, bright yellow belly, and small, bright red splash on throat.

Female: Light brown head; back, wings, and breast barred dusky and gray; belly yellow; breast generally with black patch.

Very silent birds that appear from nowhere, inspect the intruder, sidle around the tree-trunk, and are gone without a sound. Sometimes seen darting out from a dead tree-top, apparently catching insects.

Southern California — *S.V.*
 — Fairly common in Transition Zone of mountains. *W.V.*
 — Foothills and valleys, when frequent among the oaks, and especially among pepper-trees of parks and country. Rather a solitary bird, usually occurring singly.



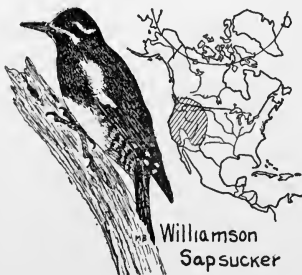
Red-breasted Sapsucker

W.V. — Recorded in southern California *Oct.-Feb.*, when it occurs also along Colorado River and in southern Arizona. Much more numerous in low deserts of southeastern California than on the coastal slopes, where it occurs in migration among oaks and pepper-trees, often in company with the Red-breasted species.



Red-naped Sapsucker

Not uncommon — Canadian Zone. Generally migratory in northern parts of its range, but resident in small numbers in southern California, where it nests in the high San Bernardino and San Jacinto Mountains, occasionally descending to low foothills in winter. Resident in higher mountains of Arizona. (Map shows summer range only).



Williamson Sapsucker

MEARNS GILDED FLICKER

(414b. *Colaptes chrysoides mearnsi*) 11½ in.

Lining of *tail and wings yellow*; breast thickly covered with large, round black spots; crown cinnamon; no red on nape. Except for the yellow this bird might easily be mistaken for a Red-shafted Flicker out of its normal habitat. Locality alone affords almost certain identification of the species.

Said to feed extensively on seeds of the giant cactus.

RED-SHAFTED FLICKER

(413. *Colaptes cafer collaris*) 13 in.

Upper parts brown, barred with broken, narrow black lines; below, gray, with red "moustaches," a *black crescent on chest*, and breast with round spots of black; quills and inner sides of webs red. *Rump white*, conspicuous in flight.

Female lacks the red moustaches.

Call-note, "hip, hip, hip." Greeting notes, a rollicking "wickety, wickety."

Feeds chiefly on the ground. A big destroyer of ants.

BOREAL FLICKER

(412b. *Colaptes auratus borealis*) 13 in.

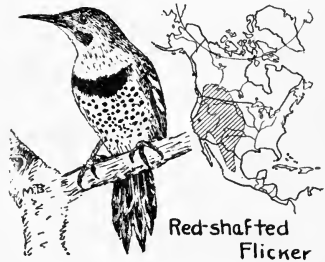
Generally resembles the Red-shafted, but *quills and inside of webs yellow* instead of red; *moustaches black*; a red nape-band. Female lacks the moustaches.

A northern form of the eastern Flicker, the males easily identified by the black malar stripes, or moustaches (red in the Red-shafted species). Hybrids between the two types of Flickers are common and show some surprising mixtures of color.

Res. — Common in giant cactus regions of southern and western Arizona, extreme south-eastern California, and southward into Mexico. Few species are so closely restricted to any association as this to the giant cactus.



Res. — In summer chiefly in mountains to 8000 feet or more. Numerous and widely distributed over our entire area in winter, when it is a common visitor to low valleys, city shade-trees, and desert areas alike. Occurs singly or in small parties. (Map shows summer range only).



Southern California — *W.V.*
— Occasional. This is the extreme southern limit of its range. Occurs usually in company with the Red-shafted species, with which its habits seem identical.



MACROCHIRES ("long hands," referring to distal part of the wing). Represented in North America by three families and about thirty species. Feet very small and weak.

STEPHENS WHIP-POOR-WILL

(417a. *Antrostomus vociferus macromystax*) 10 in.

Upper parts mottled satiny gray, variously marked with black; tertials with heavy spots of velvety black; *throat* and chin dull *black*, bordered below by narrow *white or tawny half-collar*; exposed portions of three outer tail-feathers largely white (shown in flight).

A row of long, stiff, curved bristles surrounds the mouth, greatly increasing its effectiveness as an insect-trap.

Flies only by night, roosting in daytime in some secluded, well-shaded spot.

DUSKY POOR-WILL

(418b. *Phalænoptilus nuttalli californicus*) 7½ in.

Upper parts a moth-like blending of satiny gray, brown, and black; below, finely barred black and buffy; *throat with white half-collar*, margined with black.

Never flies by day unless disturbed from its resting-place underneath a bush. Hunts near the ground at dusk, often hovering Owl-like, with rapid wing-beat. Feeds on large moths and other insects taken in flight. Often alights on open roads or trails.

Call: "Chuck." Song: A tremulous, whistled "poor-will, poor-will," rapidly repeated.

POOR-WILL

(418. *Phalænoptilus nuttalli nuttalli*) 7½ in.

Lighter in color than the California form, but general pattern and markings the same. Some individuals show a wonderful "frosting" on upper parts. This is now recognized as a color phase but formerly was considered characteristic of a pale desert race.

CAPRIMULGIDÆ (Family Goatsuckers, so-called because anciently believed actually to suck the milk of goats): Bill extremely short; gape enormous; eyes large; hunt by twilight. Diet exclusively of insects, taken on the wing.

Arizona — S.V. —
Fairly common — Upper
Sonoran and Transition
Zones of mountains, of
southeastern Arizona. Winters
southward to Guatemala, but exact range not
known. Nests on ground.



Stephens Whip-poor-will

Southern California — Res.
— Common locally, on the
coastward slope, chiefly on dry,
brushy hillsides, where it is
often heard but rarely seen.
Rare in winter; in warm,
sheltered places.



Dusky Poor-will

S.V. — Common locally — Arizona and eastern California. Occurs from lowest and hottest deserts to 7500 feet or more in mountains. Localized by necessity of water. Numerous about reservoirs or "tanks," which frequently offer the only water supply over a wide area.

TEXAS NIGHTHAWK

(421. *Chordeiles acutipennis texensis*) 9 in.

Mixed gray above, feathers dusky centrally; round buffy spots on wings; throat white, chest gray, buffy-spotted; remaining under parts gray or buffy, dusky-barred on belly and under tail-coverts; white wing-spot much nearer wing-tip than in Pacific Nighthawk, and whole bird lighter.

Female has rusty throat-bar.

Identified in the field by light color and by habit of hunting close to ground. It does not "boom."

WESTERN NIGHTHAWK

(420a. *Chordeiles virginianus henryi*) 10 in.

Like the Pacific form, but more heavily marked above, with rusty instead of gray; belly rusty-washed.

The Nighthawks of this group (*virginianus*) hunt high up in the air, where they may often be seen at twilight. Their nasal scream, frequently repeated, is varied by occasional headlong dives and a whizzing "boom-m," probably made by the wings, as the bird turns upward again. This antic alone distinguishes the group from the Texas species.

PACIFIC NIGHTHAWK

(420d. *Chordeiles virginianus hesperis*) 10 in.

All dull black above, gray-mixed, the gray becoming more extensive on closed wings; below, a white throat-bar (rusty in female), buffy-spotted chest, then white-and-dusky-barred to a strong white band near tail-tip; outer six primaries have a clear white spot, conspicuous in flight.

Like all members of this family, it feeds on insects taken on the wing.

S.V. — Common — Abundant locally. Lower Sonoran Zone of southern California and southwestern half of Arizona. Nests on ground, where its eggs, like the bird itself, so harmonize with surroundings that they are almost invisible.



Arizona — *S.V.* — Common — High mountains of eastern Arizona. Said to keep to high altitudes even in migrations. Nesting-habits same as those of the Pacific form.

Southern California — *S.V.* — *May-Sept.* — Occasional. Found in our region only in San Bernardino Mountains. Nests on ground, in open timber of Transition and Boreal Zones.

MICROPODIDÆ ("small-footed" birds; Family Swifts): Small birds that in the air often associate with and somewhat resemble Swallows. Bill very short and gape large, as in other wing-feeding insect-eaters.

VAUX SWIFT

(424. *Chætura vauxi*) 5 in.

Entirely sooty brown, lighter below.

In migration often occurs with swallows, from which it is quickly distinguished by color, by slender wings, held straight out from the body, by its rapid wing-beats, and by more direct flight.

Note: a rapid twitter.

The naked spines of the tail-tip, invisible of course in the field, serve to support the bird when clinging to vertical surfaces.

WHITE-THROATED SWIFT

(425. *Aëronautes melanoleucus*) 6½ in.

Throat and chest white; flanks white; a white strip on middle line of body from throat to flanks, not always perfect; otherwise wholly blackish or brownish black.

The unusual color-pattern, seen from below, is in itself ample identification of this species. It has also the same rapid action of stiffly-held wings as others of the Swift family.

BLACK SWIFT

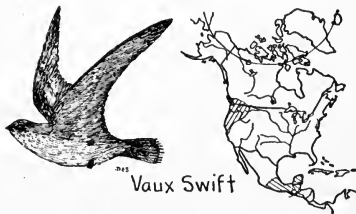
See Appendix.

(422. *Cypseloides niger borealis*) 7½ in.

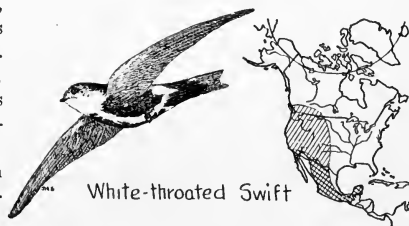
Nest in hollow trees or chimneys, or inaccessible (usually) rock crevices, clinging to vertical surfaces with their stout, curved claws. Eggs white, three to five in number.

Southern California — *Migrant* — *Apr.-May* and *Aug.-Sept.* — Common, especially in spring.

Arizona — Appears rare, as authentic records are few. Nests in hollow trees and rock crevices, even in chimneys.



Res. — Common locally, about high, vertical cliffs wherein it nests in colonies. Less numerous in winter, when occurring in flocks and confined chiefly to lowlands. At this season specimens have been taken from rock-cavities in a semitorpid condition.



TROCHILIDÆ (Family Hummingbirds): Includes not only the smallest of birds, but many bright-colored and extravagantly ornamented. Mostly tropical. Thirteen species are recorded within our limits, several as rarities only.

RIVOLI HUMMINGBIRD

(426. *Eugenes fulgens*) 4 $\frac{3}{4}$ in.

Male: Bronzy dark green above, with crown metallic purple; gorget metallic emerald-green, otherwise under parts dusky greenish — almost black.

Female: Above, like male except gray-brown crown; below, wholly pale grayish brown; a small white spot behind eye; outer tail-feathers whitish-tipped.

In flight males appear blackish, without light markings of any kind.

BLUE-THROATED HUMMINGBIRD

(427. *Cyanolæmus clemenciæ*) 5 $\frac{1}{4}$ in.

Male: Dull green above; gray below; gorget pale blue, small; tail long and broad, outer feathers heavily white-tipped.

Female: Like male but throat dusky gray.

Largest of our Hummers. Easily identified by size, relatively long tail, and light color as compared with the Rivoli, the only other large Hummingbird of our region.

BROAD-TAILED HUMMINGBIRD

(432. *Selasphorus platycercus*) 4 in.

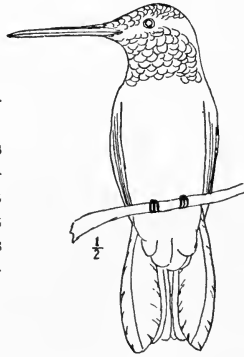
Male: Wholly bright green above; gorget rose-purple; below white, extending to tail, with sides green-washed; middle pair of tail-feathers broad and pointed; next two pairs edged with bright rufous; tail dusky below, nearly square cut.

Female: Above, like male; dull grayish below, throat feathers darker centrally; tail strongly white-tipped, much rufous at base (rarely visible).

A cicada-like rattle betrays presence of male in flight; not heard in poising.

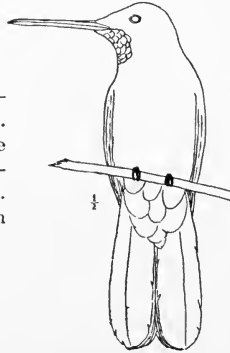
Feed on nectar of flowers and small insects, which they often catch in the air. Nests are marvelous creations of the builder's art. Eggs always two, pure white.

Southeastern Arizona —
S.V. — Higher mountains.
Said to be most numerous
in Huachucas and Chiri-
cahuas. Nest in canyons at
5000 to 7000 feet. Adult
males usually above this
higher limit to mountain-
tops.



Rivoli
Hummingbird

Southeastern Arizona —
S.V. — High mountains.
Recorded from the more
important ranges but no-
where a common species.
Appears most numerous in
deep, shady canyons.



Blue-throated
Hummingbird

Arizona — S.V. — High
mountains. Widely distributed
through Transition and Boreal
Zones, where it is the most abun-
dant of the breeding Hummers.



Broad-tailed Hummingbird

BLACK-CHINNED HUMMINGBIRD

(429. *Archilochus alexandri*) 3½ in.

Male: Wholly metallic green above; chin velvety black; *gorget* metallic amethyst, square-cut against white chest; breast dull dusky green; primaries and tail dusky purplish; tail slightly forked.

Female and *young*: Green above, dull whitish or grayish below; throat often speckled with metallic amethyst; tail rounded, white-tipped. Not distinguishable in the field from female Costa Hummer.

COSTA HUMMINGBIRD

(430. *Calypte costæ*) 3¼ in.

Male: Back metallic green; *crown* and *gorget* amethyst, the latter elongated on sides; chest and central portion of breast white; sides greenish.

Female and *young*: Indistinguishable in the field from the Black-chinned. In the hand only the *two outer tail-feathers* are white-tipped as compared with three in the other species.

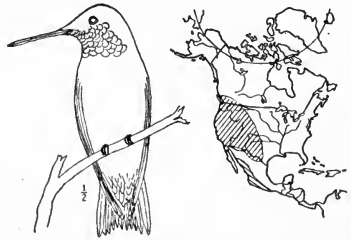
ANNA HUMMINGBIRD

(431. *Calypte anna*) 4 in.

Male: *Crown* and *gorget* metallic rose-red; sides of *gorget* lengthened; back green; breast and belly green-washed; *no white below*; tail and primaries purplish dusky.

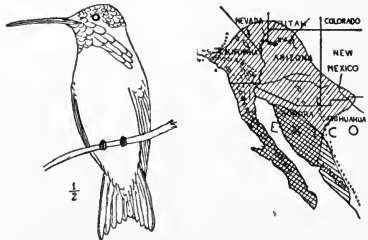
Female and *young*: Green above; gray below; throat usually speckled or patched with color of male *gorget*. *Tail* heavily white-tipped, which, with *patch on throat* and relatively large size, usually distinguishes from other species.

S.V. — *Apr.-Sept.* — Abundant. Nests in canyons of foothills, usually near water, later ascending mountains to 6000 feet or more. Nest generally of the tan-colored sycamore down where this is available.



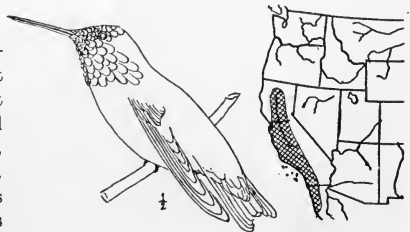
Black-chinned Hummingbird

S.V. — *Mar.-Sept.* — Abundant in desert and semi-desert localities, occasional in city gardens of southern California and southern and western Arizona. Probably a few stay through the winter in Arizona and southeastern California. Nest in a desert shrub of nearly any sort, often in a cactus.



Costa Hummingbird

California — *Res.* — Coastal slope. Common, but less numerous in winter. At all times a city and foothill resident. Nests anywhere, apparently preferring oaks. In winter is most numerous about blossoming eucalyptus trees.



Anna Hummingbird

RUFIOUS HUMMINGBIRD

(433. *Selasphorus rufus*) 3½ in.

Male: Back rufous, often washed with green; crown green; gorget metallic coppery red, and sides rusty, otherwise white below; tail pointed, of same color as back.

Female: Green above; white below with rusty sides and throat copper-flecked; tail white-tipped. Young male like female, but throat brownish.

Absolute identification is possible only with adult bird in hand. (See Allen Hummingbird.)

ALLEN HUMMINGBIRD

(434. *Selasphorus alleni*) 3½ in.

Male: Crown and back metallic green; tail rufous above; under parts like the Rufous; tail-feathers narrower, pointed, lacking a peculiar notch that characterizes the latter species.

Female and *young:* Almost identical with the Rufous.

Since occasional males have the back almost wholly rufous, while Rufous males often have green-washed backs, absolute identification in the field is impossible.

CALLIOPE HUMMINGBIRD

(436. *Stellula calliope*) 3 in.

Male: Metallic green above; white below with rusty sides; gorget greatly lengthened at sides, of slender, metallic *purplish* feathers that give a *streaked effect* against their white bases.

Female: Similar to male, but throat finely specked with dark brown, and tail white-tipped.

Smallest of our Hummers, but a tyrant on his chosen feeding-ground, from which he drives trespassers of other species.

WHITE-EARED HUMMINGBIRD

See Appendix.

(440.1. *Basilinna leucotis*) 3¾ in.

Southern California — *Migrant* — *Feb.-Apr.*, when it is numerous among the orange blossoms; also *July-Sept.*

Arizona — Rare in spring but recorded as abundant in late summer in high mountains.



Rufous Hummingbird

Migrant chiefly — *Feb.-May* and *July-Sept.*, on coastal slope of southern California. Resident on Santa Barbara Islands, and nests on mainland in extreme northwestern portion of our region. Has been recorded in Arizona.



Allen Hummingbird

Southern California — *S.V.* — *Apr.-Aug.* Spring migration is made through coastal valleys. Nests in mountains of interior above 5000 feet.

Arizona — Migrant chiefly — Late summer (*July-Aug.*), in high mountains. Rare in spring.



Calliope Hummingbird

PASSERES. (Sparrow-like birds): Nearly half of all known birds, or about 7000 species and subspecies, are included in this Order; of these about 600 are found in North America, representing twenty-two families. Foot perfectly adapted for grasping, though members of one family are ground dwellers. Forms and colors highly various.

ARKANSAS KINGBIRD

(447. *Tyrannus verticalis*) 8½ in.

Tail black, edged with white (outer web of outer feather); back dark ashy; head and neck clear light ashy; belly yellow; crown with orange spot, concealed except when feathers are raised.

A noisy, active, fearless bird, who always advertises his presence by a wide variety of calls.

Where trees do not offer nesting-sites, this bird utilizes any sort of artificial support, such as a telephone pole or fence post.

CASSIN KINGBIRD

(448. *Tyrannus vociferans*) 9 in.

Brownish gray above; *neck and breast dark gray*, contrasting with *white throat* and dull yellow belly; *edge of tail not white*. (Compare with Arkansas Kingbird.) A concealed crown-patch.

In shape, habits, and action like preceding, but identified by duller and darker coloration and by lack of the conspicuous tail-edging; less noisy, more musical.

SULPHUR-BELLIED FLYCATCHER

(451. *Myiodynastes luteiventris*) 8 in.

The sharp *black streaks on under parts*, against white throat and pale yellow breast and belly, are distinctive; back dusky, buffy-edged; crown streaky, with bright yellow patch, concealed except when feathers are raised; *tail mostly rufous*; a black stripe from bill to nape.

TYRANNIDÆ (Family Tyrant Flycatchers): Small to medium-sized perching birds, mostly dull-colored; bill wide at base; gape large; crown feathers more or less elongated, forming a crest when raised. Characteristic perch a high, dead twig from which they dash, in pursuit of flying insects. This action is generally distinctive, though indulged in by some members of other families.

Southern California — *S.V.*
 — *Mar.-Sept.* — Common.
 Generally distributed; mostly below 5000 feet; in open country. Abundant locally in tree yuccas of Mohave Desert.

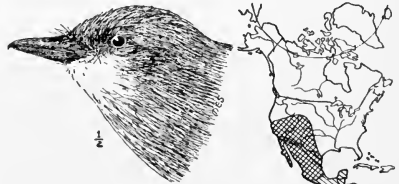
Arizona — Common in southern and western parts of State but not in mountains.



Arkansas Kingbird

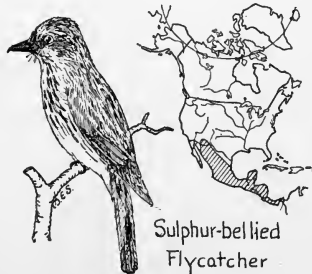
Southern California — *Res.*
 — Locally distributed in Lower Sonoran Zone; fairly common in favored areas while absent elsewhere. More widely scattered in winter.

Arizona — *S.V.*, chiefly — Common over most of the State, occurring up to 7500 feet, in Transition Zone.



Cassin Kingbird

Southeastern Arizona — *S.V.*
 — *May-Aug.* — Common locally in higher mountains of extreme southeastern Arizona, where it appears to be confined to heavily timbered canyons. Nests in hollow trees.



Sulphur-bellied Flycatcher

ARIZONA CRESTED FLYCATCHER

(453. *Myiarchus magister magister*) 9½ in.

Generally resembles the Ash-throated Flycatcher, but throat and chest gray, belly sulphur-yellow. Notably larger.

In the absence of a proper tree cavity, a pair of these birds nested in a three-inch pipe, used as a post, and standing about seven feet above ground. The nest was placed at the bottom, where the young were hatched — and killed by the blazing Arizona sun.

ASH-THROATED FLYCATCHER

(454. *Myiarchus cinerascens cinerascens*) 8 in.

Brownish gray above; *throat* and fore-breast *pale ashy*; belly pale yellowish; inner webs of tail-feathers reddish brown, the *spread tail* appearing *rufous*; head crested.

Rather an elusive, quiet bird, feeding habitually near the ground — in sharp contrast with habits of the Kingbirds.

Call-note, a querulous "peur-r-r."

Nests in hollow trees.

SAY PHŒBE

(457. *Sayornis sayus*) 7½ in.

Tail black, *breast* and belly *rusty*; otherwise gray-brown, wings darker with light edgings.

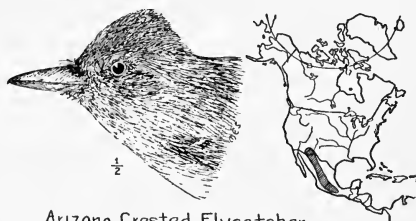
Generally a silent bird, its plaintive "pee-ur" is uttered as it flies near the ground from one weed-stalk perch to another. A dweller in the open country, only occasionally seeking the neighborhood of human dwellings.

OLIVACEOUS FLYCATCHER

See Appendix.

(455a. *Myiarchus lawrencei olivascens*) 7¼ in.

Southern and western Arizona — *S.V.* — Rather locally distributed. In breeding-season its range generally confined to regions of giant cactus, in which it mostly nests.



Arizona Crested Flycatcher

Southern California — *S.V.* — *Apr.-Sept.* — Mostly in scrubby oaks of foothill canyons but frequent in small tree growth of any sort, and in tree yuccas of Mohave Desert.

Arizona — *S.V.* — Abundant in Lower Sonoran Zone of southern and western portions of State. Several winter records.



Ash-throated Flycatcher

California — *Res.* — Common. Chiefly Lower Sonoran Zone. Generally distributed in winter, but more local in breeding-season. Nests sometimes about buildings, more often on a rock cliff.

Arizona — *S.V.*, except in south and west, where *Res.*



Say Phoebe

BLACK PHŒBE

(458. *Sayornis nigricans*) 7 in.

Slaty black, with white belly and under tail-coverts. Crown feathers lengthened, forming a decided crest.

Immature: Black parts washed with brown, except head; a rusty wing-bar.

No other of our Flycatchers is so well known or so familiar in its habits as this species. Generally fearless of mankind, its sprightly "hip" as it darts after an insect, or returns to its perch, makes it a favorite everywhere.

OLIVE-SIDED FLYCATCHER

(459. *Nuttallornis borealis*) 7½ in.

Slaty brown above; tail and wings blackish, wing-coverts and tertials light-edged; below, *middle line of body white* or yellowish, from chin to tail; otherwise grayish olive.

A notably "chunky" bird for one of the Flycatcher tribe. Its look-out perch is a dead tree-top. Fond of honey bees, though too few in numbers to menace the industry.

Calls, loud and varied, but not unmusical.

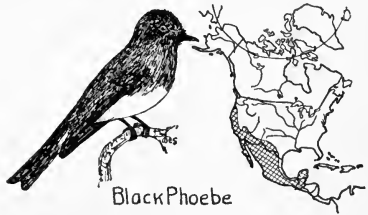
COUES FLYCATCHER

(460. *Myiochanes pertinax pallidiventris*) 7½ in.

Grayish brown above; light olive-gray below, with whitish chin and dull yellowish belly. A dull-colored, unattractive bird, distinguished by its very lack of distinctive marks.

Nature has given it, however, a very distinctive call — a clearly and plaintively whistled "Ho-say' Ma-ree'-a." This, coming from a constantly shifting and unseen source, is a most pleasing note.

Res. — Sonoran Zones — Common. Widely distributed. Nests often about human habitations of city or country, building its mud nest on any sort of support, sometimes on a vertical wall, but always under shelter and near a water-supply.



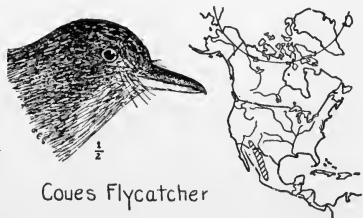
Black Phoebe

S.V. — *May-Sept.* — Common. Often noted in lowlands in spring migration. Nests in Transition and Boreal Zones except in mountains of southeastern Arizona.



Olive-sided Flycatcher

Arizona — *S.V.* — *Apr.-Sept.* — Transition Zone of mountains in southern part of State. Common among the pines, nesting usually above 8000 feet. Winters in Mexico.



Coes Flycatcher

WESTERN FLYCATCHER

(464. *Empidonax difficilis difficilis*) $5\frac{3}{4}$ in.

Upper parts and sides of head brownish olive; *greenish yellow below*, with buffy-olive chest and sides; wings dusky, with buffy-gray bars. *Light yellow eye-ring* is conspicuous.

Note — a low, plaintive “pee-u,” quite unlike that of any other Flycatcher of our region — is fairly distinctive.

Nest in a cavity or hole of any sort, in a tree or rock, or even in an earth bank.

WESTERN WOOD PEWEE

(462. *Myiochanes richardsoni richardsoni*) $6\frac{1}{4}$ in.

Dark olive above; throat light gray; *breast olive-gray*; belly grayish white. Crown feathers lengthened, forming a short crest that is habitually erected.

Best identified by its note, a trilled “twee-r,” with falling inflection, often alternating with rising inflection.

Characteristically perches erect, on a high, dead twig, from which it swoops at passing insects, returning to the same perch.

TRAILL FLYCATCHER

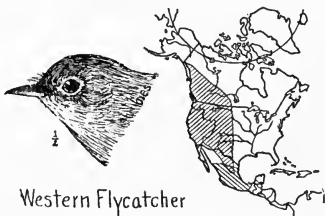
(466. *Empidonax trailli trailli*) $5\frac{3}{4}$ in.

Back olive; throat whitish; gray breast-band; belly whitish or tinged with yellow; wing-bars varying from brownish gray to white; a whitish eye-ring.

Colors of under parts much more definite than in the three following species. White throat fairly defined against the breast-band.

Its different habitat in nesting-season easily identifies it at that time.

S.V. — *Apr.-Oct.* — Common. Abundant in migration and widely distributed at low elevations. Nests in canyons of foot-hills, and upward into Transition Zone. In the Rocky Mountains it nests almost to timber-line.



Western Flycatcher

S.V. — *Apr.-Sept.* — Common. Widely distributed in migration. Nests in Upper Sonoran and Transition Zones, to 8000 feet or more, usually near water.



Western Wood Pewee

S.V. — *Apr.-Sept.* — Common. In willow growth of open country and in wooded canyons, up to about 5000 feet elevation.



Traill Flycatcher

Differences existing between the Hammond, Wright, and Gray Flycatchers are so small and ill-defined that even with birds in hand experts are often puzzled to determine identities.

The other small, obscurely colored Flycatchers — the Traill and Western Wood Pewee — can usually be determined in the field, though the Traill may easily be confused with the first-mentioned group.

HAMMOND FLYCATCHER

(468. *Empidonax hammondi*) 5½ in.

Back olive; throat grayish; breast olive-gray; belly yellowish or gray; wing-bars dull gray.

WRIGHT FLYCATCHER

(469. *Empidonax wrighti*) 5½ in.

Closely similar to the Hammond, but usually grayer; throat nearly white; wing-bars whitish.

VERMILION FLYCATCHER

(471. *Pyrocephalus rubinus mexicanus*) 5¾ in.

Male: Entire under parts and thick crest scarlet; otherwise gray-brown, wings and tail darker.

Female: Brownish gray above; soiled white below, with *breast gray-streaked* and belly pale yellowish.

An interesting and unique breeding antic is that of the male, in mounting high in air, then, with puffed-out chest and head thrown back, slowly fluttering and twittering back to earth.

BUFF-BREASTED FLYCATCHER

See Appendix.

(470a. *Empidonax fulvifrons pygmaeus*) 5 in.

GRAY FLYCATCHER

See Appendix.

(469.1. *Empidonax griseus*) 6 in.

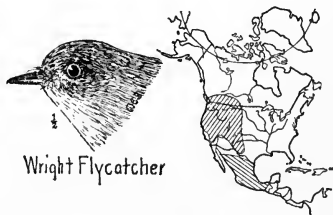
Migrant — *Apr.-May* and *Sept.-Oct.* — Common — Foot-hills. Recorded as nesting in southern California mountains, but such records extremely doubtful.



Hammond Fly catcher

Southern California — *S.V.* — *Apr.-Oct.* — Common. Nests in Transition and Boreal Zones. Frequent in foothill canyons in spring.

Arizona — *Migrant*, or rare. *S.V.*, in mountains of eastern part of State.



Wright Flycatcher

Lower Sonoran Zone of southern and western Arizona and southeastern California. Migratory over much of its range, but resident in warmer valleys. Common along timbered stream-beds and mesquite growth, up to 5000 feet.



Vermilion Flycatcher

ALAUDIDÆ (Family Horned Larks): Ground-dwellers of rather small size, distinguished by the ear-tufts that suggest horns, also by the black crescent on breast and white-edged tail.

CALIFORNIA HORNED LARK

(474e. *Otocoris alpestris actia*) $6\frac{3}{4}$ in.

A ground-living bird; gray-brown above; yellow-white about face and throat; soiled white below. Characteristic marks, common to males of all the Horned Larks, are: Black crown-bar and "horns"; black stripe from bill to eye and curving downward on cheek; a black crescent on chest; and black tail, with outer web of outer feather white. Horns often inconspicuous.

Female: Smaller; crown-patch brown; black markings less sharply defined.

Young: Mostly brown, dotted with buffy except on breast and belly.

DESERT HORNED LARK

(474c. *Otocoris alpestris leucolæma*) $6\frac{3}{4}$ in.

Gray above with only a trace of brown; white areas immaculate. White and black sharply defined.

ISLAND HORNED LARK

(474m. *Otocoris alpestris insularis*) $6\frac{3}{4}$ in.

Browner and much darker above than the California; fore-breast brown-streaked.

MOHAVE HORNED LARK

(474 —. *Otocoris alpestris ammophila*) $6\frac{3}{4}$ in.

Lighter above than the California; darker than the Desert bird, which it resembles in whiteness of under parts and head-markings.

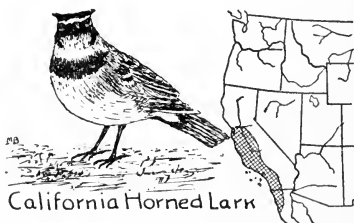
YUMA HORNED LARK

(474—. *Otocoris alpestris leucansiptila*. Not recognized by the A.O.U. Check List) $6\frac{3}{4}$ in.

Lightest above of all the Horned Larks. Most nearly like the Desert bird, but still lighter.

Occur nearly everywhere in open ground and have developed numerous geographic races. They appear to thrive under all sorts of climatic conditions and altitudes. Food mostly of seeds.

Southern California — *Res.* — Abundant. In flat, open fields of coastal slope; from sea-level to mountain-valleys in summer, wintering at lower levels. Gregarious; generally in small, loose flocks except at nesting-time.



W.V. — Southeastern California and most of western Arizona. Occasional on coastal slope of southern California.

Southern California — *Res.* — Islands off the coast. Visits adjacent mainland coast in winter.

California — *Res.* — Valleys of Mohave Desert. Very local in distribution. Most numerous where attempts at agriculture have created more favorable conditions.

Res. — Valley of the lower Colorado River, from northeastern Lower California to extreme southern Nevada; also Imperial Valley, California.

SCORCHED HORNED LARK

(474h. *Otocoris alpestris adusta*) $6\frac{3}{4}$ in.

Back darker, pinkish brown (hence the name "Scorched").

MONTEZUMA HORNED LARK

(474l. *Otocoris alpestris occidentalis*) 7 in.

Nearest like the Desert Horned Lark, but larger and upper parts faintly tinged with cinnamon or buffy.

FAMILY MAGPIES, JAYS, etc.

Birds of medium size, mostly dull-colored, — mixtures of grays, blue, and black; or large size, black and white, or all black. Bills usually strong, in some species very large.

YELLOW-BILLED MAGPIE

(476. *Pica nuttalli*) 16–18 in.

Black, with broad *white stripe* along base of wing (scapulars); *white belly*; and much white in open wing; closed wing and *long tail* largely metallic green and purplish. *Bill bright yellow*.

A bird of striking appearance, particularly in flight, when its white-and-black pattern and long tail are most conspicuous.

Gregarious in habit, and execrated by its human neighbors as a pest; extermination of the species seems only a matter of time.

BLUE-FRONTED JAY

(478a. *Cyanocitta stelleri frontalis*) 12 in.

Head with tall crest; back, head, and neck sooty black; otherwise blue, brightest on wings and tail; narrow light blue stripes on forehead.

At a distance, shaded by pine branches, appears wholly black; but crest affords absolute identification.

Destructive to eggs and young of other birds, — a habit characteristic of all the Jays. Becomes quite familiar about camp if unmolested.

Arizona — *Res.* — Elevated plains of the southeastern part of State, ranging into southwestern New Mexico and north-central Mexico.

Northern and central Arizona — *S.V.* — Recorded as nesting up to 10,000 feet, and wintering mostly in northern Mexico.

MAGPIES, JAYS, etc. Family Corvidæ

Omnivorous in habit; destructive to young of other species and to smaller wild life generally. Recognized as the most intelligent of our wild birds, they persist in numbers where less canny birds disappear.

California — *Res.* — Locally distributed, in oak regions of Ventura County, California, and northward. Formerly occurred in northwestern Los Angeles County. Nests in colonies, often of considerable size.



Yellow-billed Magpie

California — *Res.* — Common. Coniferous forest (Transition and Canadian Zones) of mountains. Occasional at lower elevations in winter, and rarely becomes established among foothill oaks.



Blue-fronted Jay

LONG-CRESTED JAY

(478b. *Cyanocitta stelleri diademata*) 12 in.

Similar to the Blue-fronted, but head and neck blacker; crest notably longer; striping on forehead bluish white; a *white splash over eye*.

A cleaner, more attractive bird than the Blue-fronted, but of the same habits and disposition.

CALIFORNIA JAY

(481. *Aphelocoma californica californica*) 11½ in.

Head without crest, dull black on sides with white superciliary line; middle of back brown, otherwise all upper parts and sides of neck dull blue; gray below, throat whiter, indistinctly blue-striped; chest with "necklace" of darker stripes.

A noisy, squalling pest, rated as most destructive of all its family to bird life generally. Likewise a killer of young chickens where opportunity offers.

Includes 481b., Belding Jay, not generally recognized.

WOODHOUSE JAY

(480. *Aphelocoma woodhousei*) 12 in.

Similar to California Jay, but back bluish (instead of brown), and breast more sharply streaked. Generally duller and grayer.

A skulker in habit, and less noisy than the California species.

SANTA CRUZ JAY

(481.1. *Aphelocoma insularis*) 12 in.

Like the California, but slightly larger; upper parts darker and richer. A much handsomer bird in every way.

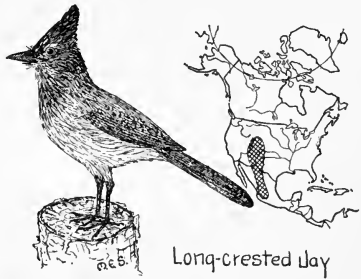
PINYON JAY

(492. *Cyanocephalus cyanocephalus*) 11 in.

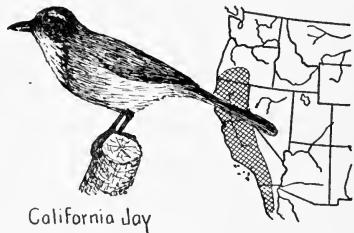
Wholly grayish blue, head darker; throat obscurely white-streaked.

Crow-like in shape and a Jay in color, its habits are as much those of a Blackbird as a Jay. Feeds largely on nuts of the one-leaf pine, or pinyon, and to a less extent on buds of the juniper; also on large ground insects, especially grasshoppers.

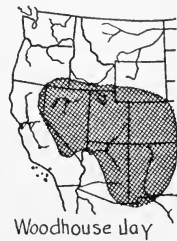
Arizona — *Res.* — Generally distributed in mountains, nesting in coniferous forests of higher altitudes. Ranges from Wyoming southward to southern border of Arizona and New Mexico.



California — *Res.* — Abundant. Oak forest and chaparral-covered hillsides, Upper Sonoran Zone. Occasional up to 6000 feet or more. Nest usually in a bush or low tree.

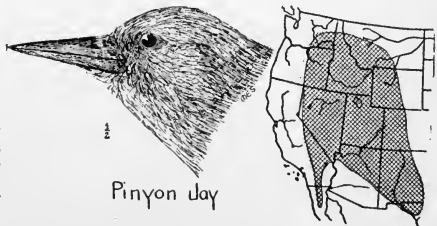


Arizona — *Res.* — Common locally, mostly in Upper Sonoran Zone. Inhabits brushy hillsides rather than open timber.



Southern California — *Res.* — Occurs only on Santa Cruz Island.

Res. — Desert slopes of mountains, in the pinyon and juniper association. Rather local in nesting-season, at other times in flocks of any size, erratic in movements.



ARIZONA JAY

(482. *Aphelocoma sieberi arizonæ*) 13 in.

Dull grayish blue above, brightest on head, wings, and tail; bluish gray below, whitening on belly. No sharp markings of any sort.

A bird of companionable disposition, with an overgrown "bump" of curiosity. Becomes quite familiar about camp, if unmolested, of course.

Gregarious in habit. Feeds extensively on acorns, but any sort of food is acceptable.

ROCKY MOUNTAIN JAY

(484a. *Perisoreus canadensis capitalis*) 12 in.

Head mostly *white*, with *dark gray nape*; otherwise slaty gray above; brownish gray below. Bill very short, quite unlike that of the other Jays. Plumage notably lax and fluffy.

The Rocky Mountain form of "Whisky Jack" or "Camp-Robber," so often mentioned in tales of the North Woods. Becomes absurdly tame about camp. A noisy, squalling rascal, with a variety of softer calls and whistled notes, and the most interesting and entertaining mannerisms of all the wood-folk.

CLARKE NUTCRACKER

(491. *Nucifraga columbiana*) 12 in.

Body ashy *gray*; face nearly *white*; wings black with large white spot (tips of secondaries); tail white except middle feathers.

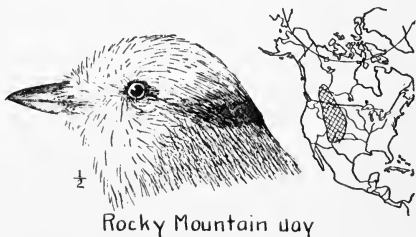
A bird characteristic of mountain-tops. The black-and-white pattern of wings and tail, seen in flight overhead, is unique and impressive, as is also its throaty "kar-r-r," suggestive of the Raven's croak.

Feeds principally on pine seeds, when these can be had.

Arizona — *Res.* — Live-oak regions in mountains of extreme south-east, up to about 7000 feet. Abundant. Generally in flocks of a half-dozen to twenty that combine to pester a hawk or owl.



Arizona — *Res.* — High mountains of eastern part of State, where recorded as fairly common in coniferous forest. Nests in late winter or early spring, regardless of deep snow or bitter cold prevailing at this season in mountains.



Southern California — *Res.* — Common in high Transition and Boreal Zones, from about 7000 feet to timber-line of high mountains. Occurs at lesser elevations in winter, rarely at sea-level.

Arizona — Occurs similarly, but known breeding-localities very few.



RAVEN

(486. *Corvus corax sinuatus*) 22–25 in.

Entirely black, glossed with purplish. A huge crow in appearance, but with a hoarse, guttural croak instead of the familiar “caw, caw” of the crow.

Any sort of animal matter, whether carrion, shell-fish, insects, or the eggs or young of other birds, is the Raven’s food.

A wily, sagacious bird, endowed by Nature to persist in spite of universal persecution.

WHITE-NECKED RAVEN

(487. *Corvus cryptoleucus*) 19–21 in.

A small Raven that might easily be mistaken for a large Crow. Its voice, however, is characteristic, being neither Raven nor Crow.

Neck feathers pure white at base — visible only when they are ruffled.

Food habits appear identical with others of its genus, except as affected by different habitat.

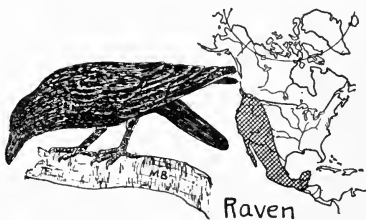
WESTERN CROW

(488b. *Corvus brachyrhynchos hesperis*) 18 in.

Entirely black, glossy above, with purplish reflections.

A “wise” bird like the rest of his clan, his sagacity fits him to survive where other species of smaller intelligence must in time be lost. His “caw, caw” advertises his presence — at a safe height in the air.

Res. — Widely but locally distributed, from low deserts to high mountains. Chiefly in broken country remote from civilization. Particularly numerous on islands off the southern California coast.



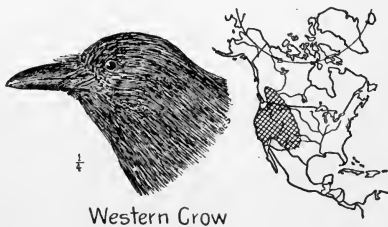
Southeastern Arizona — *S.V.* chiefly — Abundant. Exclusively in Lower Sonoran Zone. In pairs or flocks of any size, that, crow-like, roost together in great numbers of individuals.



White-necked Raven

Southern California — *Res.* — Coastal slope. Abundant locally. Occurs in large flocks in winter, haunting walnut groves and feeding on waste nuts, and roosting in extensive willow bottoms, where it also nests.

Arizona — Very few records of occurrence in the State.



ICTERIDÆ (Family Blackbirds, Orioles, etc.): Medium-sized perching birds; all black or various combinations of color, mostly black, with red or yellow; bills stout or slender, sharply pointed. All have musical calls or songs.

SAN DIEGO RED-WING

(498e. *Agelaius phœniceus neutralis*) 8½ in.

Male: Black; *scarlet shoulder-patch, buffy-edged* below. In winter, feathers of upper parts have rusty tips.

Female: Smaller. Above, a streaky mixture of dusky, rusty, and gray; whitish and dusky-streaked below; throat and broad stripe over eye, dull white.

Immature males: Black, rusty-edged everywhere except tail. A great destroyer of insects in spring, and a scourge later when, in great flocks, they raid fields of small grain.

SONORA RED-WING

(498a. *Agelaius phœniceus sonoriensis*) 9 in.

Male like the San Diego, except slightly larger.

Female, much lighter, with extensive buffy on upper parts and less definite streaking below; throat unmarked.

TRICOLORED RED-WING

(500. *Agelaius tricolor*) 8½ in.

Male: Silky black; *shoulder-patches dark red, with white border* below. In winter, upper parts more or less rusty-tipped.

Female: Dusky; gray-streaked about head and under parts; wings barred and more or less edged with gray.

Song more guttural and "croaky" than that of the San Diego Red-wing, yet much less so than the Yellow-head's.

A clean-cut bird, handsomest of all the Blackbirds.

Mostly insectivorous, though blackbirds sometimes do much damage locally to small grains. Orioles noted for their hanging nests, and their eggs for the infinite variety of markings. The Cowbird is our only bird parasite.

Southern California — *Res.* — Coastal slope. Abundant. Nest in tule swamps, sometimes in wild mustard or even in growing barley. Widely scattered in winter, in flocks.



San Diego Red-wing

Res. — Southern California, east of the desert divide, and western and southern Arizona. Abundant along the Colorado River and in great marshes of Imperial Valley.



Sonora Red-wing

California — *Res.* — Lowlands of the coastal slope. Abundant locally. Nests in compact colonies in large tule-beds; widely scattered at other seasons.



Tricolored Red-wing

YELLOW-HEADED BLACKBIRD

(497. *Xanthocephalus xanthocephalus*) 10 in.

A large *Blackbird*, with yellow head, neck, and fore-breast, and a clean white spot in wing; a narrow black area about base of bill, extending behind eye, is visible at close range. Crown and nape frequently "burnt orange."

Female: Dusky brown, with dull yellow throat and breast. Much smaller.

Song: A guttural, almost frog-like croaking, uttered with agonized contortions and fluffing-out of feathers.

DWARF COWBIRD

(495a. *Molothrus ater obscurus*) 7½ in.

Male: Head and neck dark brown; otherwise glossy black with greenish reflections.

Female: Brownish gray, throat notably lighter. A dull, inconspicuous bird, in keeping with its shady nature.

Bill short and thick, entirely unlike that of other members of the Blackbird family occurring in our area.

Lays in nests of other birds, usually of smaller species whose own young are fairly smothered by the larger, young Cowbird.

BRONZED COWBIRD

See Appendix.

(496a. *Tangavius æneus æneus*) 8½ in.

BREWER BLACKBIRD

(510. *Euphagus cyanocephalus*) 9½ in.

Male: Head and neck purplish; all other parts glossy greenish black. *Iris creamy white*.

Female: Smaller. Brownish gray, darker above; wings and tail dusky. *Iris brown*.

Young males resemble females, the brown iris changing to creamy as the juvenile coat is moulted in late summer. When the first winter plumage is assumed, like adult male, but more or less brown-tipped.

Feeds almost entirely on insects when obtainable.

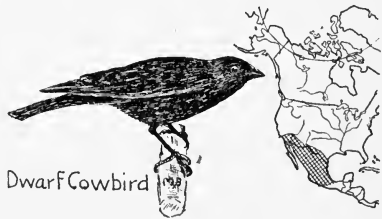
S.V., chiefly — Very locally distributed, nesting in colonies in tule swamps. Occasional in southwestern California in winter, when of regular occurrence in extreme southeastern California and southern Arizona.



Yellow-headed Blackbird

Southern California — *Res.* — Common and widely distributed in summer; winters in the lower Colorado River valley and less plentifully on the coastal slope.

Arizona — Abundant in valley of Colorado and Gila Rivers and tributaries, wintering occasionally.



Dwarf Cowbird

Southern California — *Res.* — Abundant in city and country. Nests from sea-level to high mountains. Low valleys and deserts in fall and winter, in large flocks.

Arizona — *W.V.* in southern portion; nests in mountains of east and north; an abundant migrant generally.



Brewer Blackbird

SCOTT ORIOLE

(504. *Icterus parisorum*) 8 in.

Male: Black head, neck, back, wings, and outer half of tail; brilliant yellow lower parts, lesser wing-coverts and rump; secondaries white-edged (lost with wear), coverts white-tipped, forming a "wing-bar."

Female: Olive-green above, dull yellow below; two white wing-bars; throat sometimes black.

Immature male resembles female with black throat.

Notes: A whistled call, and a full, rich song.

ARIZONA HOODED ORIOLE

(505a. *Icterus cucullatus nelsoni*) 8 in.

Male: Rich yellow, with black face and throat, back, wings, and tail; wings with white bar and white-edged primaries.

Female: Greenish yellow below, brownish olive-green above; two whitish wing-bars. A very dull-colored bird, quieter and more secretive than the gaudy male, and accordingly less commonly seen.

Immature male: Resembles female, but darker and blackish throat.

Notes: A querulous "preep"; a confidential, disconnected chatter. Song feeble, but sweet.

BULLOCK ORIOLE

(508. *Icterus bullocki*) 8 in.

Male: Sides of head and neck, rump, sides of tail, and entire under parts, orange, except narrow, black throat-patch; remaining parts black except large white wing-patch and white edging of flight feathers.

Female: Grayish olive above, yellowish below, lightening on belly; wings darker, marked with white; sometimes a small black throat-patch.

Immature male has black throat, otherwise generally resembles female.

A valuable destroyer of black olive scale.

A characteristic bird of arid Upper Sonoran Zone.

Southern California — *S.V.* — *Apr.-Sept.* — Common locally on desert slopes among the yuccas, pinyons, etc.

Arizona — *S.V.* — *Apr.-Aug.* — Abundant locally in central and southern part of State, occurring up to 7500 feet elevation.



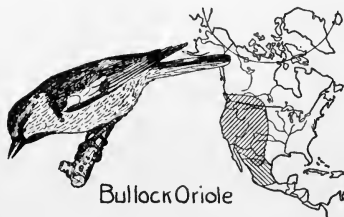
Scott Oriole

S.V. — *Apr.-Sept.* — Common — Lower Sonoran Zone. Widely but rather locally distributed. Nest under a palm or banana leaf, where these occur; otherwise usually in a sycamore or cottonwood.



Arizona Hooded Oriole

S.V. — *Mar.-Sept.* — Upper and Lower Sonoran Zones. Common. Its favorite haunt is sycamore-grown canyons, and cottonwood groves of river-bottoms. Sometimes nests in tree yuccas of the desert.



Bullock Oriole

WESTERN MEADOWLARK

(501.1. *Sturnella neglecta*) 10 in.

Bright *yellow below*, with *black crescent on chest*; upper parts brown, gray, and white. In fall the black crescent is largely obscured by gray tips; these are lost by wear, disclosing the characteristic markings.

A hardy, vigorous species, of great value to agriculture, as its food is almost entirely insects.

FAMILY SPARROWS, etc.

A large family, mostly of small birds, distinguished by short, strong bills, more or less conical in shape (except the Crossbill), and adapted to crush the seeds that form most of their diet.

WESTERN EVENING GROSBEAK

(514a. *Hesperiphona vespertina montana*) 8 in.

Male: Wings *black and white*; tail and crown black; *forehead* and superciliary *bright yellow*; remaining parts olive greenish, darker above, lightening to yellow below and on rump. *Bill very large, yellow*.

Female: Less white on wings; dirty gray replaces olive and yellowish tints of male; throat whitish, dusky-lined on sides.

A bird of unique colors and pattern, identified in any plumage by its great yellow bill.

HOUSE SPARROW: ENGLISH SPARROW

(520.2. *Passer domesticus*) 6 in.

Male: Characterized by *black throat and chest, chestnut nape*, white wing-bar, a harsh, unmusical chirp, often repeated, and generally pestiferous disposition.

Female: Dull, light brownish above, *buffy-streaked*; grayish below.

A scavenger in habit, and a pest everywhere with not a redeeming quality.

Res. — Abundant — In open fields. Ascends mountains to 7000 feet or more in late summer. Occurs in flocks in winter. Nest usually in a clump of dead grass, often perfectly domed.



Western Meadowlark

FINCHES, SPARROWS, etc. Family Fringillidæ

This family includes some of our most brightly colored birds, as well as the dullest; and habits vary as widely as do their colors. Some are noted singers. The Crossbills (Genus *Loxia*) have both mandibles long and curved, with tips crossed.

Arizona — Winter range not well known. — *Res.* — Fairly common in high mountains, nesting in Boreal Zones.

Southern California — *W.V.* — Rare and very irregular.



Western Evening Grosbeak

Res. — Introduced from Europe, and now established in almost every city, village, and ranch over the whole United States. Nest about buildings; a bulky affair, often completely domed.



English Sparrow

CALIFORNIA PURPLE FINCH

(517a. *Carpodacus purpureus californicus*) 6 in.

Male: Head, neck, breast, and rump dull reddish purple, whitening on belly; back and wings brownish.

Female: Brownish above, streaked with gray; dull white below, brown-streaked; a distinct *whitish line over eye*.

Colors of both sexes are too dull to make their wearers conspicuous.

Food consists mostly of tree seeds and buds.

CASSIN PURPLE FINCH

(518. *Carpodacus cassini*) 6½ in.

Both sexes resemble the California Purple Finch, but they are larger with colors stronger and better contrasted.

Male: *Crown* with a squarish *patch of crimson*; red of under parts paler. Bill relatively larger.

Female: Streakings both above and below much sharper.

HOUSE FINCH: LINNET

(519. *Carpodacus mexicanus frontalis*) 6 in.

Colors and pattern similar to the Purple Finch, but is notably more slender.

Male: Red of a rosy hue, quite variable, fading to orange, or even scarlet, in rare cases; line over eye and rump usually brighter; belly brown and whitish streaked.

Female: Gray-brown above, darker-streaked; below whitish, distinctly streaked with olive.

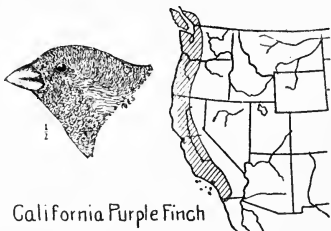
A bird of familiar habits, cursed for the damage he does to fruit, but on the whole probably more beneficial than injurious.

SAN CLEMENTE HOUSE FINCH

(519c. *Carpodacus mexicanus clementis*) 6 in.

Differs from the House Finch of the mainland only in lighter red of male and slightly larger bill — differences that are hardly perceptible.

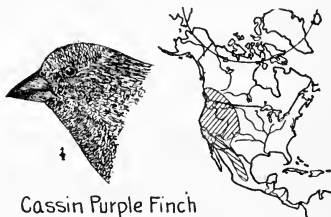
California — *Res.* — West of desert divide. Common. Upper Sonoran and Lower Transition Zones. Low foothills in winter, especially oak-grown canyons; occasionally in shrubbery of lowlands. (Map shows summer range only.)



California Purple Finch

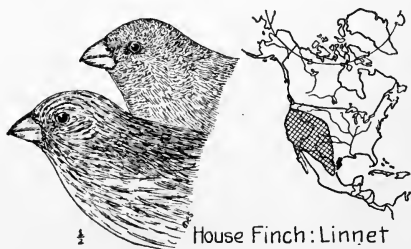
Southern California — *Res.* — Common. Nests in coniferous forest of high mountains. Occurs at lower levels in winter, but rarely strays into valleys.

Arizona — Recorded as breeding in mountains eastward, but generally a migrant and winter visitant, in mountains.



Cassin Purple Finch

Res. — Abundant. Sonoran Zones, though wandering high in mountains in late summer. Distribution regulated by water-supply. Nests about buildings in city and country, or in tree yuccas or cactus of the desert.



House Finch: Linnet

Res. — Abundant. Islands off the coast of southern California.

CROSSBILL

(521. *Loxia curvirostra minor*) 6 in.

Male: Wings and tail blackish; otherwise wholly a variable red, usually dull, brightest on rump; occasionally yellowish, and often suffused with green.

Female: Greenish olive, brightest on rump and below.

Tips of bill crossed, which presumably facilitates extracting from cones the seeds which form the bulk of its food. When feeding hangs in any position, like a parrot.

MEXICAN CROSSBILL

(521a. *Loxia curvirostra stricklandi*) $6\frac{3}{4}$ in.

Similar to preceding, but larger, colors brighter, and *bill much larger*.

Habits in every way like those of the former.

CHESTNUT-COLLARED LONGSPUR

(538. *Calcarius ornatus*) $5\frac{3}{4}$ in.

Male: Black and white, with chestnut nape; white of cheeks and throat sometimes replaced by buffy. The unique color pattern is very distinctive. Black and chestnut areas obscured by grayish tips in winter.

Female: Streaked above gray-brown and black; dull grayish or buffy below, usually unmarked.

A ground-dweller, of habits closely similar to the Horned Larks.

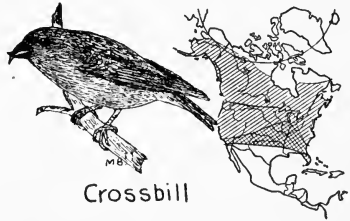
McCOWN LONGSPUR

(539. *Rhynchophanes mccowni*) 6 in.

Male: Crown and breast crescent black; sides of head grayish, throat white, a black maxillary stripe between; back gray, brown-streaked; tail mostly white, black-tipped; belly white; shoulder-patch chestnut. Black areas gray-tipped in winter.

Female: Brownish upper parts, darker-streaked; buffy below. An obscure bird, totally different from the strongly marked male.

Southern California — *Res.*
Rare. Nests in high mountains, irregularly visiting foothills and lowlands of the Pacific slope in winter, these invasions apparently depending directly upon the pine-seed crop.

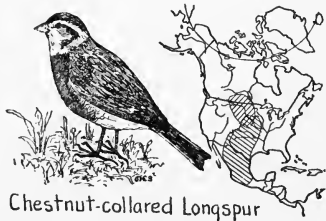


Crossbill

Arizona — *Res.* — Fairly common. Nests in coniferous forests of mountains. More widely distributed in winter.

Ranges to western Texas and south to Guatemala, in high mountains.

Eastern Arizona — *W.V.* and abundant *migrant*. In loose flocks, in open, flat country. Habitually associates with Horned Larks in winter.



Chestnut-collared Longspur

Eastern Arizona — *W.V.* to elevated plains. Common. More numerous in migrations; of rather irregular occurrence. In loose flocks, often associated with Horned Larks or Chestnut-collared Longspurs.



McCown Longspur

WILLOW GOLDFINCH

(529b. *Astragalinus tristis salicamans*) 4 $\frac{3}{4}$ in.

Male: Bright yellow, with black cap; wings and tail black, white-marked; yellow of back usually blotched with ashy, in winter nearly obscured by it.

Female: Olive-brown above; dull yellowish below; wings and tail dull black.

Immature male: Like female, but yellower; crown-patch absent.

Its canary-like "tweet" and song, as well as color and shape, justify the popular name, "Wild Canary."

GREEN-BACKED GOLDFINCH

(530a. *Astragalinus psaltria hesperophilus*) 4 $\frac{1}{4}$ in.

Male: Wholly bright yellow below; dull greenish above, with black cap, wings, and tail. Contrast of dull upper parts with the brilliant yellow is very striking.

Female: Olive-green above; yellowish below. A very obscure bird.

Call: A weak "se-e-e-ep," totally unlike that of the Willow Goldfinch. Song less canary-like.

LAWRENCE GOLDFINCH

(531. *Astragalinus lawrencei*) 4 $\frac{1}{2}$ in.

Male: Cap, chin, and front of cheeks black; body dark gray; breast, rump, and wings extensively greenish yellow.

Female: Browner; black and yellow absent; edges of wing-feathers greenish.

Habits like those of the other Goldfinches. A seed-eater almost exclusively.

Song resembles that of the Willow Goldfinch.

Southwestern California —
Res. — Abundant. Nesting in
 willows, always near a water
 supply. Widely scattered in
 winter, in flocks.



Willow Goldfinch

Southern California — *Res.*
 — Common. Sonoran Zones,
 nesting in canyons of low foot-
 hills and in southeastern des-
 erts. Generally distributed in
 winter, in flocks.

Arizona — *S.V.*, only, in
 mountains, but resident in low
 valleys.



Green-backed Goldfinch

Southwestern California —
Res. — Least numerous of the
 Goldfinches. Nests in hills, up
 to 6000 feet. Comparatively
 rare in winter, at which time
 it occurs eastward through
 Arizona.



Lawrence Goldfinch

PINE SISKIN

(533. *Spinus pinus*) 4 $\frac{3}{4}$ in.

A streaky bird of the Goldfinch type, with inconspicuous yellow bases of tail and secondaries, observable in flight at close range. Grayish brown above, whitish below, everywhere dusky-streaked; a whitish wing-bar; tail short, noticeably forked.

Feeds largely on cone-seeds of various species, in the absence of which any sort of seed is acceptable. In late winter eats catkins of alder and cottonwood.

WESTERN VESPER SPARROW

(540a. *Poœcetes gramineus confinis*) 6 in.

Gray-brown above, darker-streaked; dull white below, sides and fore-breast streaked with dusky. *Outer tail-feather white* — a distinctive mark, conspicuously displayed as the bird takes flight.

A ground-dweller and -feeder. Named from its habit of singing at evening, in nesting-season.

OREGON VESPER SPARROW

(540b. *Poœcetes gramineus affinis*) 6 in.

Like the preceding, but slightly smaller and with more buffy and brown above; not distinguishable from it in the field.

WESTERN SAVANNAH SPARROW

(542b. *Passerculus sandwichensis alaudinus*) 5 $\frac{1}{4}$ in.

Upper parts a streaky mixture of brown and gray, darkest and strongest on back; white below, dusky-streaked except throat and belly; a whitish superciliary line.

In fall and winter buffy below, streaking browner.

Characterized by absence of markings that permit absolute identification under all conditions.

Call note: A weak "tsip." Song: A grasshopper-like "tsip-tsip-see-e-e-r," sung from the ground.

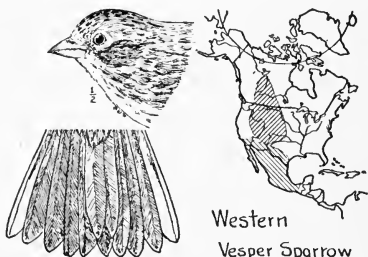
(Compare Belding Sparrow, an exclusive salt-marsh resident.)

Nests in coniferous forests, except extreme southeastern Arizona. Generally distributed in mountains, less so in valleys in winter. Erratic in occurrence. In small or large flocks, compact in flight.



Pine Siskin

W.V. — *Sept.-Apr.* — Common, locally; chiefly in open, uncultivated country. In small, scattered flocks. Occurs up to 7000 feet in proper localities. Most numerous in valley of lower Colorado River and southern Arizona.

Western
Vesper Sparrow

Southwestern California — *W.V.* — Occasional, in company with the Western form. Breeds in coast region of Oregon and Washington, wintering in southwestern California and southward.

W.V. — Abundant in southwestern California, *Sept.-Apr.*, in open grassy or weedy fields, especially about fresh-water marshes; less commonly on tide-marshes. Much less numerous eastward, where recorded in the Colorado valley and southern Arizona.



Western Savannah Sparrow

NEVADA SAVANNAH SPARROW See Appendix.
 (542d. *Passerculus sandwichensis nevadensis*) 5½ in.

BELDING SPARROW

(543. *Passerculus beldingi*) 5¼ in.

Very similar to the Savannah Sparrow, but darker throughout. Streakings, above and below, black instead of dusky or brownish; superciliary line indistinct, front portion yellow.

Not always identifiable in the field by color or markings. Its salt-marsh habitat, however, identifies it except in winter, when its haunts are sometimes invaded by Savannah Sparrows.

LARGE-BILLED SPARROW

(544. *Passerculus rostratus rostratus*) 5½ in.

Light gray-brown above; white below, gray-brown-streaked except throat and belly. *Large bill*.

Much lighter throughout than the Belding or Savannah Sparrows, and with no distinctive markings.

Familiar in habit, feeding often about buildings on ocean beach or near salt-marsh areas.

A subspecies, the San Lucas Sparrow (544a. *P. r. guttatus*), more definitely marked, occurs with the Large-bill and is not distinguishable from it in the field.

WESTERN GRASSHOPPER SPARROW

(546a. *Ammodramus savannarum bimaculatus*) 5¼ in.

Back a rather puzzling mixture of black, gray, buffy, and chestnut, the last predominating; buffy median crown-stripe, between black lateral stripes; clear buffy under parts, whitening on belly.

Song more insect-like than bird-like. Flight like that of a Quail (former generic name *Coturniculus* meaning "Little Quail").

Habitually hides or runs through grass when disturbed, hence is seldom seen.

Southwestern California —
Res. — Abundant in salt
 marshes along the coast. Has
 been found about alkaline
 sloughs a short distance inland.
 Usually occurs singly or in small
 parties, scattered everywhere
 in salt grass (*salicornia*).



Belding Sparrow

Southwestern California —
W.V. — *Sept.-Apr.* — Numer-
 ous in salt marshes and on
 adjacent ocean beach, — a
 habitat from which it never
 strays. Nesting-place recently
 discovered, tide-flats, on Gulf
 of California.



Large-billed Sparrow

Southwestern California —
 Common locally; generally
 rare. Nests in small, loose
 colonies, widely separated, sea-
 level to 5000 feet or more.

Arizona — Probably *Res.* —
 Rare. Southern and western
 part of State.

Western
Grasshopper Sparrow

BAIRD SPARROW

(545. *Ammodramus bairdi*) 5½ in.

Yellow-brown head, strongly black-streaked, especially on sides of crown; back dark brown, black-spotted and light-edged; impure white below, black-streaked on sides of throat and body, and on chest.

The dark scapulars and feathers of back, with light edges, form an irregular but striking pattern.

WESTERN LARK SPARROW

(552a. *Chondestes grammacus strigatus*) 6¼ in.

Head with white median stripe; then a succession of chestnut, white and black stripes and patches, to *white* throat and *under parts* marked only with a *black chest-spot*. The *striped head* is characteristic. *Tail* white-edged and broadly *white-tipped*, conspicuously displayed.

A pleasing songster with a peculiar and distinctive "burr."

GAMBEL SPARROW

(554a. *Zonotrichia leucophrys gambeli*) 6¾ in.

Head broadly *striped black and white*, the white line above eye extending to bill; back gray, dusky-streaked; clean gray below, whitening on belly.

Immature: Brown and buffy replace black-and-white head-stripping of adult.

A clean-cut, attractive bird. Song: A pleasing series of about five whistled notes.

WHITE-CROWNED SPARROW

See Appendix.

(554. *Zonotrichia leucophrys leucophrys*) 6¾ in.

NUTTALL SPARROW

See Appendix.

(554b. *Zonotrichia leucophrys nuttalli*) 6½ in.

Southeastern Arizona — *Migrant* — Common. Open grassed plains, where possibly it remains through the winter.



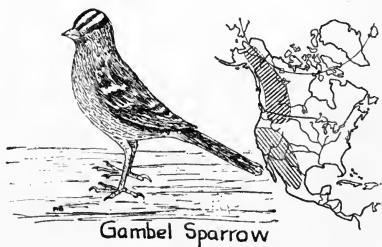
Baird Sparrow

Res. — Common. Nests from sea-level to 7000 feet in mountains; on ground or in low trees or bushes. Winters in low valleys, abundantly in deserts of southeastern California and southwestern Arizona.



Western Lark Sparrow

W.V. — *Sept.-Apr.* — Abundant. In flocks. Brushy localities and shrubbery of foothills and valleys, except northeastern half of Arizona, where numerous in migrations.



Gambel Sparrow

GOLDEN-CROWNED SPARROW

(557. *Zonotrichia coronata*) 7½ in.

Crown yellow, ashy behind, with black lateral stripes; back brown, dusky-streaked; dull gray below, sides brown-washed; edge of wing yellow.

Immature: Crown greenish yellow, dusky-speckled; lateral stripes brownish.

Rather a dull bird, especially in comparison with the clean-marked, sprightly Gambel with which it often associates.

WESTERN CHIPPING SPARROW

(560a. *Spizella passerina arizonæ*) 5½ in.

Crown bright chestnut; broad white superciliary; forehead and line through eye black; back brown, black-streaked; under parts ashy gray. The combination of chestnut crown and white superciliary is distinctive. Color duller in winter.

Immature: Browner, buffy replacing white of adult; crown light brown, finely dusky-striped; breast striped.

Song: An unmusical "chippy, chippy, chippy," many times repeated.

BREWER SPARROW

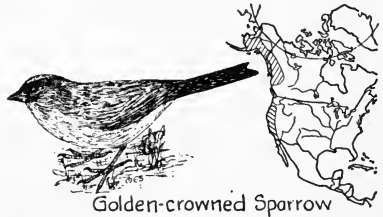
(562. *Spizella breweri*) 5¼ in.

Wholly gray-brown above, finely black-streaked; dull white or grayish below.

Immature: Streaked on chest and sides; back streaks broader; wing with two whitish bars.

A close relative of the Chipping Sparrow, but notably more slender; and it sings from a sage bush instead of a forest or orchard tree.

Southwestern California —
W.V.—*Sept.*—*May*—Common,
 chiefly in brushy foothills, up
 to about 5000 feet. In flocks,
 usually more compact than is
 the case with other Sparrows of
 this genus.



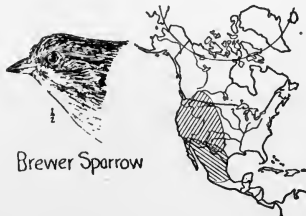
Golden-crowned Sparrow

Southern California — *Res.*
 — Common. Nests from near
 sea-level to high mountains,
 most numerous in and near
 foothills. Smaller numbers in
 winter, more widely distrib-
 uted.

Arizona — Nests in high
 mountains — *W.V.* — In warm
 valleys. An abundant migrant.

Western
Chipping Sparrow

Nests in sage-brush regions
 of elevated deserts and moun-
 tains, chiefly east of California
 desert divide. Winters abun-
 dantly in low valleys of same
 region, especially along the
 Colorado River, occurring also
 on the Pacific slope of southern
 California.



Brewer Sparrow

BLACK-CHINNED SPARROW

(565. *Spizella atrogularis*) 5¼ in.

Male: Chin and front of face black; head, neck, and under parts slaty gray, lighter on belly; back rusty, finely black-lined.

Female: Like male, except that the black face-markings are obscure or wanting.

Rather a shy, secretive bird that often escapes notice by running instead of by flight.

THURBER JUNCO

(567c. *Junco oreganus thurberi*) 6 in.

Male: Head and neck clean black; back light brown; breast and belly white.

Female: Head and neck gray; back lighter; sides washed with buffy.

Immature: Streaked dark gray and whitish.

The sharp contrast of black head and white breast, and the white-margined tail are distinctive.

All the Juncos have outer tail-feathers mostly white, a mark conspicuously shown in the characteristic jerky flight of these birds and serving to identify the genus at long range. The Rocky Mountain forms of Junco occurring in Arizona are easily distinguished in the field if proper attention is given to their various ranges and color of bills.

SLATE-COLORED JUNCO

See Appendix.

(567. *Junco hyemalis hyemalis*) 6¼ in.

PINK-SIDED JUNCO

(567g. *Junco hyemalis mearnsi*) 6¼ in.

Male: Pale slaty gray, lores blackish; back brown; sides extensively pink.

Female: More brownish above, extending to crown; less pink below.

Bill wholly dull whitish.

Southern California — *S.V.*
 — Upper Sonoran Zone; open, brushy hillsides and mesa to around 7000 feet. Fairly common where found at all, but such localities are widely separated.

Arizona — Recorded rarely.

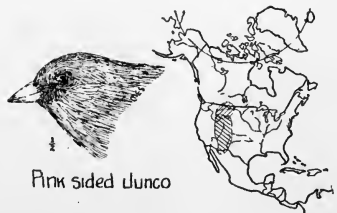


Southern California — *Res.*
 — In summer, Transition and Boreal Zones of mountains. Nests on the ground, usually in marshy spots. Flocks in winter, at low levels, at this season straying to southern Arizona.



Note the light lower mandible of the Arizona and Red-backed, resident birds; while the Pink-sided, with bill all light, and the dark-billed Gray-headed Junco are winter visitants only. The black-headed forms, the Thurber and Shufeldt, also occurring in eastern Arizona in winter, are not separable from each other in the field.

Eastern Arizona — *W.V.* —
 Common. In mixed flocks of various species of Juncos. Recorded as favoring lower parts of mountains of its winter range.



ARIZONA JUNCO

(570. *Junco phænotus palliatus*) $6\frac{1}{2}$ in.

Head and neck dark gray above and on sides; lighter below, whitening on belly; back rufous; wing-coverts and tertials rufous-edged. Bill dusky above, yellowish below.

In nesting-season has a pleasing song, delivered usually from the top of a small pine.

GRAY-HEADED JUNCO

(570b. *Junco phænotus caniceps*) $6\frac{1}{2}$ in.

Ashy gray, with rufous back and white belly; lores black (visible only at close range). Bill wholly blackish.

RED-BACKED JUNCO

(570a. *Junco phænotus dorsalis*) $6\frac{1}{2}$ in.

A geographic race of the Arizona Junco, from which it differs in having *no rufous edgings on wings.*

DESERT SPARROW

(573a. *Amphispiza bilineata deserticola*) $5\frac{1}{2}$ in.

Sides of head striped dark gray and white; large black throat-patch; crown and back gray-brown; below white; outer tail-feather edged and tipped with white.

An attractive and characteristic bird of desert wastes.

BELL SPARROW

(574. *Amphispiza belli*) $5\frac{3}{4}$ in.

Black breast-spot; sides of throat black-striped; otherwise white below; eye-ring and spot before eye, white; upper parts brown-gray, becoming gray on head.

Not always easily identified in the field in winter, when Sage Sparrows may be present.

Southeastern Arizona — *Res.*
— Abundant in higher mountains, rarely or never migrating to lower country, even in winter.



Arizona Junco



Eastern Arizona — *W.V.* —
Common. Oak regions of Upper Sonoran and Transition Zones.

Southern California — Occasionally recorded on the Pacific slope, generally in mountains of the desert divide.



Gray-headed Junco



Northeastern Arizona — *Res.* — Common in Transition and Canadian Zones of high mountains, northern Arizona and New Mexico, extending its range in winter to northern Mexico.

S.V. — Common, locally — Arid deserts of Lower Sonoran Zone. Winters rarely in warm valleys of southern Arizona. At this season has been recorded from Pacific slope of southern California. Nest in a desert shrub or cactus.



Desert Sparrow



Southwestern California — *Res.* — Common. Rather local. Greasewood regions of mesa and wash, at low elevations, and on certain of the Santa Barbara Islands.



Bell Sparrow



SAGE SPARROW

(574.1. *Amphispiza nevadensis nevadensis*) 6¼ in.

Like the Bell Sparrow, but with back narrowly streaked, and black stripe on side of throat less definite, — usually not continuous.

A persistent and pleasing singer in spring.

CALIFORNIA SAGE SPARROW

(574.1b. *Amphispiza nevadensis canescens*) 6 in.

Differs from the Sage Sparrow proper in grayer color and slightly smaller size. Like it in habits. Indistinguishable in the field, where their winter ranges overlap.

CASSIN SPARROW

(578. *Peucæa cassini*) 6 in.

Upper parts a soft mixture of dusky and brown, gray-edged; crown finely streaked; whitish below, sides faintly washed or streaked with brown.

Absence of distinctive markings visible in the field is best "field mark" of the species. It is a light-colored, *grayish* bird. (Compare Botteri Sparrow.)

RUFIOUS-CROWNED SPARROW

(580. *Aimophila ruficeps ruficeps*) 5½ in.

Back a rich mixture of rich brown and gray; crown *rufous*; light olive-brown below, lighter on throat; *sides of throat black-striped*.

A dull-colored, inconspicuous bird, with a lively, jingling song somewhat like that of the Lazuli Bunting.

RUFIOUS-WINGED SPARROW

See Appendix.

(579. *Aimophila carpalis*) 5¾ in.

BOTTERI SPARROW

See Appendix.

(576. *Peucæa botterii*) 6 in.

Arizona — *W.V.* — Fairly common eastward, rare in western portion. In sagebrush regions.

Southern California — *W.V.* — Probably of regular occurrence in southeast; occasional on Pacific slope.

Southern California — *Res.* — Sage-brush areas of southern Sierras and westward, and south to San Gabriel Mountains. Visits lower valleys in winter.

Southeastern Arizona — *S.V.* — Numerous locally in mesquite and small-brush regions of elevated Lower Sonoran plains.

Southwestern California — *Res.* — Upper Sonoran Zone, west of the desert divide. Common in favored localities; generally rare. Favors sparsely brushed, grassy hillsides. Occurs also on Santa Catalina and Santa Cruz Islands.



SCOTT SPARROW

(580a. *Aimophila ruficeps scotti*) 5½ in.

A geographic race, or subspecies, of the Rufous-crowned Sparrow, from which it differs almost none except in slightly greater size. Habits in every way like the Rufous-crowned.

SAN DIEGO SONG SPARROW

(581m. *Melospiza melodia cooperi*) 5¾ in.

White *below*, *black-streaked* except on throat and belly, streaks usually forming a *central chest-spot*; brown above, broadly black-striped; crown finely gray and brown-striped.

Call-note: "Chimp." A cheerful singer of confiding and friendly nature.

DESERT SONG SPARROW

(581a. *Melospiza melodia fallax*) 6¼ in.

Lightest-colored of all the Song Sparrows. Colors distributed as in the San Diego, but pale rusty-streaked below (instead of black); upper parts grayish, rusty-streaked.

MOUNTAIN SONG SPARROW

(581b. *Melospiza melodia montana*) 6½ in.

Grayer above than the San Diego; *streaks brown* both above and below.

SANTA BARBARA SONG SPARROW

(581h. *Melospiza melodia graminea*) 5½ in.

Smaller than the San Diego or San Clemente; like the latter in markings.

SAN CLEMENTE SONG SPARROW

(581i. *Melospiza melodia clementæ*) 5½ in.

Like the San Diego, but grayish above and black stripes narrower.

Southeastern Arizona — *Res.* — Upper Sonoran hills in summer, descending to Lower Sonoran in winter. Has been recorded in northeastern Arizona and in the Grand Canyon.

Southwestern California — *Res.* — Abundant, city or country. Always near a water-supply. Sea-level to 5000 feet in the mountains. Nests near or on the ground in brush or weed thickets.



Res. — Common — Lower Sonoran valleys of southeastern California and Arizona, wherever permanent water-supply exists. Ranges from southern Nevada and Utah to northern Lower California and Sonora.

W.V., in the Colorado River valley and southern Arizona. Occasional on the coastal slope of southern California. Range: Rocky Mountain district, wintering southward to northern Mexico.

Res. — Santa Barbara and Santa Cruz Islands, off coast of southern California.

Res. — San Clemente, San Miguel, and Santa Rosa Islands, off the southern California coast.

LINCOLN SPARROW

(583. *Melospiza lincolni lincolni*) 5¾ in.

Above, a streaky mixture of gray-brown and dusky; crown sharply streaked; throat and belly white; sides and *chest-band buffy with narrow black streaks*.

Streaks do *not* form a breast-spot. (Compare Song Sparrow.)

A species with habits and action of the Song Sparrow, for which easily mistaken. Song totally different, very musical, one of the finest of Sparrow songs.

Fox Sparrows, like Towhees, live on the ground, scratching in dry leaves and loose earth for seeds and insects. Fifteen or more forms, or subspecies, are recognized, all occurring in California, and seven breeding within the State. Twelve of these forms reach southern California in winter, and another nests there.

THICK-BILLED FOX SPARROW

(585b. *Passerella iliaca megarhyncha*) 7½ in.

Upper parts slaty; tail and wings rusty; white below, with blackish wedges on fore parts, heaviest on chest.

Bill large. (Compare Stephens.)

STEPHENS FOX SPARROW

(585d. *Passerella iliaca stephensi*) 7½ in.

Almost identical in color and markings with the Thick-billed.

Bill largest of all the Fox Sparrows, — almost a monstrosity compared with some others. (See Thick-billed and Slate-colored.)

SLATE-COLORED FOX SPARROW

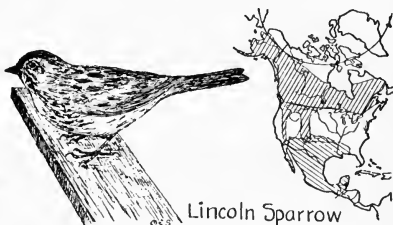
(585c. *Passerella iliaca schistacea*) 7 in.

Upper parts gray, similar to Stephens and Thick-billed; *breast-spots brown* instead of blackish.

Bill very small.

Southwestern California —
Res. — Nests on ground in
 boggy meadows of high moun-
 tains. Winters in lowlands,
 also in favored spots on
 deserts.

Arizona — *Migrant*, chiefly.
 — Probably *W.V.* along
 lower Colorado River and
 warm valleys in the south.



Lincoln Sparrow

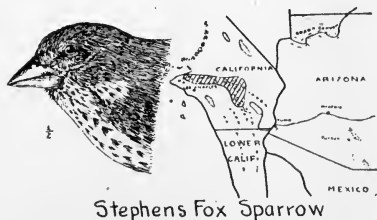
They fall easily into two groups, the gray and the brown, but differences between members of each group are in most cases so slight that field identification is impossible; hence for our purpose only four forms will be recognized.

Southwestern California —
W.V. — *Oct.-Apr.* — Common.
 Brushy hillsides, especially near
 coast. Summer range: Tran-
 sition Zone of the Sierra Nevada,
 both slopes.



Thick-billed Fox Sparrow

Southwestern California —
S.V. — Abundant locally, in
 mountains above 6500 feet.
 Nest in tangled mats of ceano-
 thus. Winter home unknown.



Stephens Fox Sparrow

Southwestern California — *W.V.* — Occasional. Widely distributed,
 but few in numbers. Range in summer: Rocky Mountains from north-
 ern Montana to central Colorado, west to extreme northeastern and
 eastern California.

VALDEZ FOX SPARROW

(585-. *Passerella iliaca sinuosa*) 7¼ in.

Not in A.O.U. Check List.

Rich *brown above*, slightly grayish on head; tail dull rufous; heavily marked below with brown wedges and *large breast-spot*. *Bill small*.

(Note. — This description is almost equally good for a half-dozen others of the brown Fox Sparrow group.)

SAN DIEGO TOWHEE

(588d. *Pipilo maculatus megalonyx*) 8¼ in.

Male: Black, with *white breast* and belly, and *rufous sides*; wings and shoulders heavily white-splashed; "corners" of tail white.

Female: Sooty gray instead of black.

Juvenile: Streaked brown and dusky above; brown below, dusky-streaked; wing-feathers edged white and buffy.

Call-note, "Mar-e-e-e," is distinctive.

SPURRED TOWHEE

(588a. *Pipilo maculatus montanus*) 8 in.

Generally resembles the San Diego Towhee, but white markings of wings and tail are more extensive.

SAN CLEMENTE TOWHEE

(588c. *Pipilo maculatus clementæ*) 8 in.

Differs very little from the San Diego. Black of male has grayish cast, while same parts in female are lighter.

A geographic race, identifiable in the field from its habitat.

CANYON TOWHEE

(591. *Pipilo fuscus mesoleucus*) 8½ in.

Crown cinnamon-brown; *throat* nearly *white*, bordered with brownish streaks; blackish chest-spot; back and wings gray-brown.

Familiar and confiding in contact with man, like the Anthony Towhee, but of noisier, more garrulous disposition.

Southwestern California — *W.V.* — Most numerous of the Fox Sparrows; abundant in foothill thickets, occasional in brush anywhere.

Southwestern California —
Res. — Common. Thick brush of foothills and dense oak growth up to about 5000 feet; occasional in river-bottom thickets of lowlands. Occurs also on Santa Cruz and Santa Rosa Islands.



San Diego Towhee

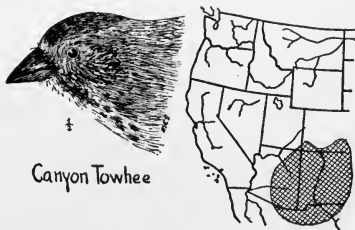
Arizona — Common resident in Upper Sonoran and Transition Zones. Thickets of any sort that furnish requisite cover. (Map shows summer range only.)



Spurred Towhee

Southwestern California — *Res.* — Common. San Clemente and Santa Catalina Islands, of the Santa Barbara group.

Arizona — *Res.* — Common. Upper Sonoran Zone and locally in Lower Sonoran. Occurs in chaparral of the hills, in rocky canyons, or about human habitations.



Canyon Towhee

ANTHONY TOWHEE

(591.1a. *Pipilo crissalis senicula*) $8\frac{3}{4}$ in.

Solid olive-brown above; gray-brown below, becoming *chestnut* on *lower tail-coverts*; throat dark cinnamon, flecked with dusky.

The chestnut of under tail-coverts is usually more conspicuous than the throat.

The only bird of this type occurring in its range.

Popularly called Brown Towhee.

ABERT TOWHEE

(592. *Pipilo aberti*) $8\frac{3}{4}$ in.

Gray-brown above; cinnamon below; lores and *chin black*, not sharply defined.

In the field appears almost uniform in color except for the black of face and chin, which markings are characteristic.

Not a vocalist, but bravely attempts to sing — and nearly succeeds.

GREEN-TAILED TOWHEE

(592.1 *Oberholseria chlorura*) $7\frac{1}{4}$ in.

Upper parts olive-green, *tail* brightest; *crown rufous*; *white throat* and belly; chest and sides gray.

Immature: Streaked generally with dusky, hardly recognizable as belonging to this species.

Call, a kitten-like "mew."

ARIZONA CARDINAL

(593a. *Cardinalis cardinalis superbus*) 9 in.

Male: *Wholly red* except *black chin* and lores; *high crest*, head, and under parts flaming red; back gray-washed; wings and tail duller.

Female: Gray above, with dull red on wings, tail, and crest; buffy below; chin gray.

The combination of tall crest and large bill is distinctive. (Compare Pyrrhuloxia.)

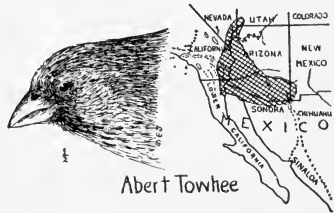
Its whistled song, loud and pure, is as characteristic as the gaudy color and crest.

Southwestern California —
Res. — Abundant. In brushy
 localities, from sea-level to
 about 5000 feet elevation.
 Common in city parks and
 gardens, wherever shrubbery
 offers proper cover.



Anthony Towhee

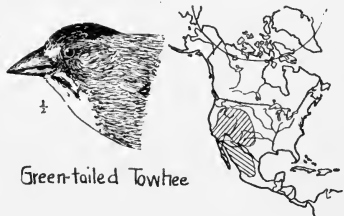
Res. — Lower Sonoran
 valleys of southeastern Cali-
 fornia and southwestern half
 of Arizona. Common along
 all larger streams or permanent
 water of any sort.



Abert Towhee

Southern California — *S.V.*,
 chiefly — Common. Nests in
 low brush of dry mountain-
 slopes from 6000 to 9000 feet.
 Occasionally noted in winter, in
 lowlands.

Arizona — *Migrant* and rare
W.V. — In migration said to
 occur at all elevations.



Green-tailed Towhee

Southeastern Arizona — *Res.*
 — Common locally. Thickets
 of Lower Sonoran river-valleys.



Arizona Cardinal

ARIZONA PYRRHULOXIA

(594. *Pyrrhuloxia sinuata sinuata*) 8½ in.*Bill* short, almost *parrot-like*; tall, thin, *red crest*.*Male*: Gray; throat, face, and middle-breast rosy red, the last gray-mixed; wings (closed) and tail dull red.*Female*: Gray above; buffy below, deepest on fore-breast; crest red-tipped, and red of wing and tail very dull.

BLACK-HEADED GROSBEAK

(596. *Hedymeles melanocephalus*) 7½ in.*Male*: *Head black*; back, black and cinnamon-mixed; wings black, white-barred; *cinnamon collar*, spreading to whole *under parts* except a median breast-stripe of orange.*Female*: Dusky and whitish-streaked above; buffy below, with dusky shaft-lines.

Call-note: A metallic "chink." Song: A full, rich warble, hurriedly delivered.

Feeds extensively on black olive scale, where that pest occurs within its range.

WESTERN BLUE GROSBEAK

(597a. *Guiraca cærulea lazula*) 7½ in.*Male*: *Rich blue*, duller on back, with variable rusty edging of upper parts generally; wings dusky, with *chestnut shoulder-patch*.*Female*: Gray-brown above; buffy or light brown below; buffy wing-bars. Totally different from the splendid male.

Immature: The year-old male resembles female, but patched with blue on fore parts.

A pleasing singer.

LAZULI BUNTING

(599. *Passerina amoena*) 5½ in.*Male*: *Head, neck, and rump turquoise-blue*, back darker and duller; breast rich cinnamon; belly white; *two white wing-bars*.*Female*: Brownish gray above, faintly bluish on rump; pale tawny below, whitening on belly.

Call-note: A sharp "quit." Song: A rapidly uttered musical "jingle."

Southern Arizona — *Res.* —
— Lower Sonoran river-valleys.
Common; locally abundant.
In mesquite thickets or tall
brush of any sort.



Southern California — *S.V.*
— *Apr.-Sept.* — Common.
Timber of foothill canyons
and water-courses in lowlands,
chiefly in Upper Sonoran Zone.

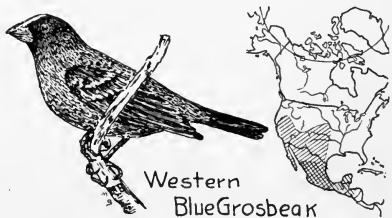
Arizona — Nests in Tran-
sition Zone of higher mountains.
Generally distributed in mi-
gration.



S.V. — Dry, hot localities
in vicinity of water.

Southwestern California —
Common locally. Arid hill-
sides and willows along water-
courses of low country.

Arizona and southeastern
California — Lower Sonoran
river-valleys, including that
of the Colorado.



Southern California — *S.V.*
— *Apr.-Sept.* — Common
locally. Abundant in May in
rank growth of wild mustard.
Nest in brush of hillside or
canyon up to 6000 feet.

Arizona — Widely distrib-
uted as a migrant, except in
northeast. Probably breeds in
favored localities, though nest
records appear wanting.



LARK BUNTING

(605. *Calamospiza melanocorys*) $7\frac{1}{4}$ in.

Male, summer: Black, with large white wing-patch; tertials broadly edged with white and tail-tip white-marked. This dress is assumed in April, as the birds are leaving for their breeding-ground. *Winter:* Brown above; under parts black basally, but, except chin, obscured by gray tips which are lost through wear.

Female: Gray-brown above, dusky-streaked; white below, brown-streaked sides and breast.

Ground-feeders exclusively. They have an interesting habit of singing in chorus.

FAMILY TANAGERS

A small family of highly colored birds, mostly red or yellow, closely related to Fringillidæ. Bill longer, characterized by a tooth in the upper mandible. Only four species occur in the United States.

WESTERN TANAGER

(607. *Piranga ludoviciana*) $7\frac{1}{2}$ in.

Male: Head light red; body deep yellow, with black back, wings, and tail; two yellow wing-bars.

Female: Olive-green above; greenish yellow below; wings and tail brownish or dusky; wings yellowish-barred. (Quite similar to female Cooper and Hepatic.)

HEPATIC TANAGER

(609. *Piranga hepatica*) $7\frac{3}{4}$ in.

Male: Dull red above, back gray-washed; crown and all under parts vermilion. No crest.

Female: Grayish olive above; crown and tail greenish; olive-yellow below.

In the field both sexes of the Hepatic Tanager resemble those of the Cooper. Note different habitat: one a mountain bird, the other a dweller of hot, low valleys.

W.V. — Abundant locally in the low desert area of south-eastern California and south-western Arizona. Usually in considerable flocks that may occur anywhere. Occasional on the Pacific slope of southern California.

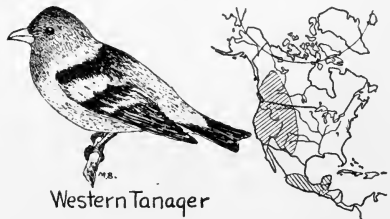


Lark Bunting

TANAGERS. Family Tangaridæ

Forest-dwelling birds, feeding on fruit and insects. Under exceptional conditions they sometimes become locally very destructive to small fruit, especially cherries, as when late spring migrants meet the ripening crop.

S.V. — Common. Transition Zone of mountains, except southeastern Arizona. In migration is generally distributed, occurring in lowlands and hills alike.



Western Tanager

Arizona — *S.V.* — Transition Zone of mountains generally. A frequent visitor to the tall stalks of the mescal when in bloom, feeding on the insects attracted by the nectar.

COOPER TANAGER

(610a. *Piranga rubra cooperi*) 8¼ in.

Male: Wholly red; dull on upper parts; vermilion or poppy-red below; no crest.

Female: Olive-green above; yellowish green below.

Compare Hepatic Tanager, which occupies an entirely different habitat.

FAMILY SWALLOWS

Birds of small size, best characterized by their proverbial flight. Wings long; tail various, short or long and deeply forked; feet small; bill very short, and gape wide.

WESTERN MARTIN

(611a. *Progne subis hesperia*) 7½ in.

Male: Wholly *shining blue-black*, except wings and tail.

Female and immature male: Upper parts dusky, more or less mixed with blue-black; forehead and under parts gray, whitish on belly.

Males are distinctive in their unicolor dress, — in appearance a big, black Swallow with forked tail. (All our other Swallows have definite, distinguishing marks.)

Noisiest of its tribe; its call is a harsh scream. It has also a low, musical, confidential chatter.

CLIFF SWALLOW

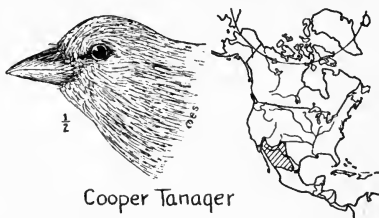
(612. *Petrochelidon lunifrons lunifrons*) 5½ in.

Crown and back shining blue-black, the latter gray-streaked; *forehead buffy* or white; *rump pale chestnut*; throat and sides of head chestnut; breast-patch of blue-black; belly white.

Most valuable economically of our swallows, because most numerous. Lives entirely on insects, taken on the wing.

Its bottle-necked, mud-built nests, snuggled in groups under eaves or gable, are marvels of the bird builder's art.

S.V. — Common. Low, hot river-valleys of southwestern half of Arizona and adjacent portion of California along the Colorado. In cottonwoods and willows.



Cooper Tanager

SWALLOWS. Family Hirundinidæ

Feed on insects taken exclusively on the wing. Nest in a cavity of some sort, natural or artificial, or made by the bird; or built of mud on a tree trunk or building.

Southwestern California — S.V. — *Apr.-Sept.* — Common locally. Nests in widely separated colonies in timber of mountains, or, rarely, about city buildings.

Arizona — Known to nest in very few localities. Chiefly a migrant.



Western Martin

S.V. — *Apr.-Aug.* — Abundant. Nests in colonies on rocky sea-side cliffs, under eaves of buildings, or on pine trunks in high mountains. The requisites for its presence are a sheet of open water where it may drink in flight, and mud for its nest.



Cliff Swallow

BARN SWALLOW

(613. *Hirundo erythrogastra*) 6–8 in.

Whole upper parts steel-blue, except chestnut forehead; throat and fore-breast chestnut, belly paler; steel-blue of back extends forward on base of neck, often forming a band across chest.

Tail long, *deeply forked*, the outer feathers greatly attenuated. Spread tail shows a row of oval, white spots except on middle feathers.

Immature: Pale buffy below, darker on throat and forehead; chest-band brownish-chestnut. Upper parts duller. Tail shorter.

TREE SWALLOW

(614. *Iridoprocne bicolor*) 6 in.

Steel-green above, including cheeks; all white below.

Young: Gray-brown above, soiled white below.

Somewhat resembles Violet-green Swallow. Compare cheeks, and note absence of white flanks.

Known also as the White-bellied Swallow. Perhaps the hardest of its tribe, no other Swallow wintering so far north.

NORTHERN VIOLET-GREEN SWALLOW

(615. *Tachycineta thalassina lepida*) 5¼ in.

Above, green with violet rump; *white* below including *flanks and whole side of head*. (Compare Tree Swallow.)

Female: Somewhat duller, sides of head grayish.

The extensive white flanks, reaching on sides of rump, are a conspicuous field mark.

BANK SWALLOW

(616. *Riparia riparia*) 5¼ in.

Brown above; white throat and cheeks, separated from white breast and belly by a *brown chest-band*. This band contrasts rather sharply with the white throat and easily identifies the bird.

Southwestern California — S.V. — *Apr.-Sept.* — Common, in the comparatively few localities where they nest, mostly near the ocean. Nests in colonies, under bridges, or in niches of sea-shore cliffs.

Arizona — Generally rare. Nesting-localities very few.

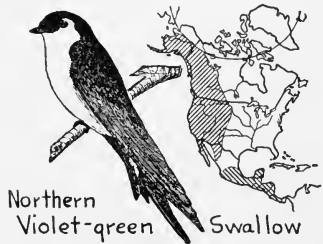


Southern California — S.V., (occasional in winter) — *Apr.-Oct.* — In migration occurs in extensive flocks. Nests locally, in willow bottoms of lowlands, in an old Woodpecker hole or natural cavity in a tree.

Arizona — Recorded rarely, as a migrant only.



S.V. — Common — Transition Zone — Among the earliest of spring birds, and a late fall stayer. Nest usually in a hole of some sort, sometimes about buildings, when it becomes quite familiar.



Southwestern California — S.V. — *Mar.-Sept.* — Rare and local. Breeds in close colonies in steep earth banks, most often ocean-facing cliffs, into which nesting-holes are dug.

Arizona — Has been recorded rarely.



ROUGH-WINGED SWALLOW

(617. *Stelgidopteryx serripennis*) 5½ in.

Grayish *brown above*, with darker wings and tail; brownish gray below, *belly white*.

A very dull-colored and inconspicuous bird. The characteristic white belly is distinctive when seen from below.

FAMILY WAXWINGS

A family of only two American species, possessing a most unusual combination of distinctive characters: Plumage silky; tall crest; wax-like appendages on secondaries, etc.

CEDAR WAXWING

(619. *Bombycilla cedrorum*) 7 in.

Plumage a soft, *grayish brown*, nearly uniform except for yellowish belly; head *crested*; face and stripe through eye velvety black; white splash below eye (on base of lower mandible); *tail-tip bright yellow*; tips of secondaries with slender appendages like red sealing-wax (hence the name).

Feeds extensively on wild berries. In its breeding-range is known locally as "cherry-bird."

Note: A soft "cre-e-e," uttered usually in flight.

BOHEMIAN WAXWING

See Appendix.

(618. *Bombycilla garrula*) 8 in.

FAMILY SILKY FLYCATCHERS

Very slender; long-tailed; tall-crested; mostly shining black. The Phainopepla is our only representative. Nearest related to the Waxwings.

PHAINOPEPLA

(620. *Phainopepla nitens*) 7½ in.

Male: Shining *black*; *white wing-patches* conspicuous in flight, but hardly visible otherwise; a thin, *high crest*.

Female: Brownish gray, unmarked except gray edging on wings and white wing-spot (smaller than in male); under parts lighter.

A species of unusual distinction, in color, shape, and habits.

S.V. — Sonoran Zones — Widely but rather locally distributed. *Apr.-Oct.*, in southwestern California. Apparently winters occasionally in Arizona and southeastern California. Nests commonly along Colorado River, in holes in high earth banks.



Rough-winged Swallow

WAXWINGS. Family Bombycillidæ

Food almost exclusively of berries. Very gregarious, often noted sitting wing to wing in a dead tree-top.

Southwestern California — *W.V.* — *Oct.-Apr.* — In flocks. Irregular in occurrence. Feeds on berries of the pepper-tree. Most numerous near the foothills.



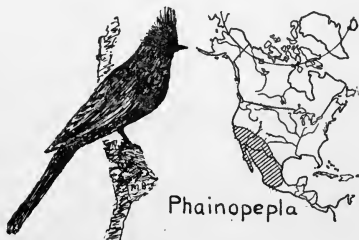
Cedar Waxwing

Arizona — *W.V.* — Irregularly and locally common in mountains; but generally considered a rare species.

SILKY FLYCATCHERS. Family Ptilonotidæ

Food wild berries and insects taken on the wing, for the Phainopepla is an expert fly-catcher.

S.V., chiefly — In favored localities remains throughout the winter. Mostly Lower Sonoran Zone. Common in open canyons and washes at low elevations. A typical bird of the desert.



Phainopepla

LANIIDÆ (Family Shrikes): Medium-sized birds; gray, white, and black. Distinguished by the heavy, strongly hooked bill, short wings, and swift, direct flight.

CALIFORNIA SHRIKE

(622b. *Lanius ludovicianus gambeli*) 8 $\frac{3}{4}$ in.

Slaty gray above; dull white below, breast indistinctly waved with pale brown; wings black with white spot; tail black, widely white-edged; a broad *black bar* from *bill to nape*, across eye, distinguishes the genus; locality usually identifies the species. Bill stout, hooked at tip.

Popularly known as Butcher-bird, from its habit of impaling its victims, in the shape of grasshoppers, lizards, mice, etc., on thorns or fence-wire barbs.

WHITE-RUMPED SHRIKE

(622a. *Lanius ludovicianus excubitorides*) 8 $\frac{3}{4}$ in.

Like the California species, but paler above; white markings of tail larger; *clear white below*.

Best identified by its habitat, whence it rarely strays. The Butcher-bird of the desert.

ISLAND SHRIKE

(622c. *Lanius ludovicianus anthonyi*) 8 $\frac{1}{4}$ in.

Smaller and darker than the California Shrike, with which it is identical in habits.

FAMILY VIREOS

Small birds, more or less greenish in color. Bill hooked as in Shrikes, but less heavy. Some species of Shrike-like aspect, others Warbler-like.

WESTERN WARBLING VIREO

(627a. *Vireosylva gilva swainsoni*) 5 in.

Olive-gray above, darker on crown; white below, sides with yellowish wash; a *whitish line over eye*.

Song: A deliberate, rolling warble of about eight notes. This, frequently repeated, is characteristic of the species.

Feed on small birds, mice, lizards, and large insects, as grasshoppers, etc. Nest bulky, in a tree; eggs light brown, spotted.

Res. — Southern California, west of desert divide. Abundant. In open country of low elevation. Frequent in city and parks. In winter ranges far south into Mexico.



California Shrike

Res. — Deserts of southeastern California and Arizona. Common. Nesting mostly in Lower Sonoran Zone; at other seasons occurring also in Upper Sonoran. Numerous in tree yuccas of Mohave Desert.

Islands — *Res.* on larger islands off the coast of southern California. Found on all except San Miguel, San Nicolas, and Santa Barbara.

VIREOS. Family Vireonidæ

Diet entirely of insects, gleaned from tree foliage. Nest a deep cup, attached to twigs by its brim. Eggs white, black-specked.

S.V. — *Mar.-Sept.* — Common. Southwestern California, northern and eastern Arizona. Upper Sonoran and Transition Zones. Canyons of foothills and mountains up to 8000 feet. Widely scattered over low country in migrations.



Western Warbling Vireo

CASSIN VIREO

(629a. *Lanivireo solitarius cassini*) 5½ in.

Upper parts gray; white below; back, wings, tail, and sides greenish-washed; *white eye-ring and lores* a conspicuous and distinctive marking.

Song: A series of disconnected, warbled "phrases" of three or four notes, uttered even more deliberately than that of the Warbling Vireo.

Habitually feeds among the larger branches of trees instead of their twig-tips.

PLUMBEOUS VIREO

(629b. *Lanivireo solitarius plumbeus*) 5¾ in.

Like the Cassin Vireo in general appearance and habits; but upper parts plumbeous-gray and sides washed with same color. The white eye-ring and lores distinguish this Rocky Mountain form as they do the Cassin on the Pacific slope.

HUTTON VIREO

(632. *Vireo huttoni huttoni*) 4¾ in.

Dull olive-green above; lighter below, with yellowish wash, and sides suffused with olive; two whitish wing-bars.

A dull, inconspicuous, unattractive bird that is easily overlooked except for its pleasing, whistled notes.

Feeds habitually among the twig-tips, rather than "inside" the tree, as does the Cassin Vireo.

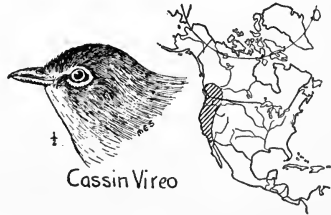
STEPHENS VIREO

(632a. *Vireo huttoni stephensi*) 5 in.

A desert-mountain race of the Hutton Vireo, hence grayer and paler; wing-bars pure white, broader and correspondingly conspicuous.

Habits and notes identical with the type form.

Southwestern California —
S.V. — *Apr.-Sept.* — Common.
 Transition Zone of mountains,
 up to about 7000 feet.



Arizona — *S.V.* — Transition Zone of eastern part of the State and probably wherever that Zone occurs.

Range: In summer, Rocky Mountain region from northeastern Wyoming to mountains of Vera Cruz, Mexico. Winters in southern Mexico.

Southwestern California —
Res. — Fairly common. Chiefly
 in oaks of foothills. Many
 records from Santa Cruz Island.



Southeastern Arizona — *Res.* — Lower parts of mountains and in wooded canyons. Confined chiefly to the live oaks, mostly in Upper Sonoran Zone.

LEAST VIREO

(633a. *Vireo belli pusillus*) 4½ in.

Olive-gray above; silky white below. *No line over eye* distinguishes from Warbling Vireo, which it somewhat resembles. Song is distinctive: A repetition of four or five notes, usually with rising inflection, followed by a series with falling inflection. "What's that you say?" "I don't hear you."

GRAY VIREO

(634. *Vireo vicinior*) 5¾ in.

Dull gray above, including sides of head; gray-white below; eye-ring and lores white, not conspicuous in the surrounding gray. Best distinguished from other Vireos by its habitat.

FAMILY WOOD WARBLERS

Small (except one species); mostly bright-colored birds; variously marked; some nearly all yellow; only two with no yellow.

BLACK AND WHITE WARBLER

(636. *Mniotilta varia*) 5 in.

Male: Strongly black-and-white-streaked above and below, except narrow area on breast and belly; a sharp *white line on middle of crown* (Black-throated Gray has crown all black); throat nearly solid black.

Female: Similar, but *throat white*.

In feeding often climbs about trunk and branches in an almost Creeper-like fashion, which in itself is distinctive.

LUCY WARBLER

(643. *Vermivora luciae*) 4¼ in.

A very small warbler, *ashy-gray above, white below*; rump and crown chestnut, the latter marking mostly concealed and the former rarely conspicuous; both much reduced in female, the crown-patch sometimes absent.

Compare Least Vireo, which the Lucy Warbler somewhat resembles in color.

S.V. — *Apr.-Aug.* — Lower Sonoran Zone of southern California, and western and southern Arizona. Confined to thickets of stream-bottoms or willow growth of ponds.



Least Vireo

S.V. — Locally distributed, on dry, hot hillsides of southern California and eastern Arizona. Nowhere numerous. In California appears restricted to greasewood areas.

WOOD WARBLERS. Family Compothlypidæ

Live in trees, shrubbery, or marsh growth. Insectivorous. Some species expert fly-catchers but mostly foliage workers like the Vireos.

Southern California — *Migrant* — Rare. Possibly more numerous than records indicate but mistaken for the Black-throated Gray Warbler.



Black and White Warbler

S.V. — Lower Sonoran Zone of southern and western Arizona, and extreme southeastern California. Willow and mesquite growth of stream-bottoms.



Lucy Warbler

VIRGINIA WARBLER

(644. *Vermivora virginiaë*) 4 $\frac{3}{4}$ in.

Gray, with *bright yellow chest* and under tail-coverts; throat usually yellow; *white eye-ring* conspicuous; chestnut crown partly obscured by gray tips; rump bright yellow-green; belly dull white.

Female duller throughout; back brownish.

Compare Calaveras Warbler, — olive-green above and all yellow below.

CALAVERAS WARBLER

(645a. *Vermivora rubricapilla gutturalis*) 4 $\frac{3}{4}$ in.

Bright yellow below; white eye-ring; head and neck bluish gray (except chestnut crown-patch, rarely visible in the field); back olive-green, changing to bright green on rump. No white in plumage except eye-ring. Female generally duller below and chestnut crown-patch smaller or lacking.

LUTESCENT WARBLER

(646a. *Vermivora celata lutescens*) 4 $\frac{3}{4}$ in.

Whole upper parts bright olive-green, changing to bright yellow-green below, darker streaked on throat and breast. Without sharp markings of any sort. The yellow eye-ring is hardly visible in the olive-green sides of head — while it is sometimes fairly conspicuous in the Dusky Warbler (a W.V. near the coast of southern California).

DUSKY WARBLER

(646b. *Vermivora celata sordida*) 5 in.

Resembles the Lutescent, but darker throughout. Above, *dull olive-green*, with grayish wash; somewhat lighter below, streaked with yellow-green.

Rarely separable in the field, with any degree of certainty, from the Lutescent.

ORANGE-CROWNED WARBLER

See Appendix.

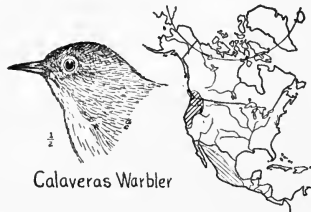
(646. *Vermivora celata celata*)

Arizona — *S.V.* — Common. Transition Zone. Mountains of eastern and northern parts of the State. Occurs in migration in low valleys. Habitually lives in brush thickets rather than in trees.



Virginia Warbler

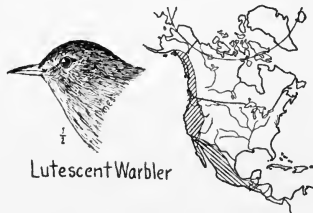
Migrant — *April* and early *May*; late *Aug.* — *Sept.* — Abundant. Occurs at nearly all elevations, most numerous in lowlands in spring and in mountains in the fall migration. Generally favors willow growth.



Calaveras Warbler

Southern California — *Migrant* and rare *S.V.* — Migrations chiefly *Mar.* — *Apr.* and *Sept.* Occasionally nests in foothill canyons, and sometimes noted in winter.

Arizona — *Migrant* — *Mar.* — *Apr.* and *Sept.* Abundant, especially in spring.



Lutescent Warbler

Southwestern California — *W.V.* — *Aug.* — *Apr.* — On mainland near coast, where numerous in willows and oaks. *Res.* — On larger islands of the Santa Barbara group.

OLIVE WARBLER

(651. *Peucedramus olivaceus*) 5 in.

Male: Fore parts orange-brown; black stripe from bill to ear; back gray; belly whitish; wing dusky, with two white bars, and outer feathers brown-edged; outer tail-feathers mostly white.

Female and immature male: Fore parts yellowish, tinged above with olive-green; side of head dusky.

CALIFORNIA YELLOW WARBLER

(652c. *Dendroica æstiva brewsteri*) $4\frac{3}{4}$ in.

Male: Bright yellow below, chest and sides rufous-streaked; yellow-green above, lightest on forehead; wings dusky, edged with yellow-green; tail similar, but when spread shows inner webs mostly yellow.

Female: Very pale below, streaks faint or lacking; upper parts dull, gray-washed.

SONORA YELLOW WARBLER

(652a. *Dendroica æstiva sonorana*) $4\frac{3}{4}$ in.

Like the California Yellow Warbler, but very pale throughout. Female almost white below, pale grayish above. The desert form of Yellow Warbler, showing extreme of paleness in this group.

AUDUBON WARBLER

(656. *Dendroica auduboni auduboni*) $5\frac{3}{4}$ in.

Male: Chest black; bright yellow throat, crown, and rump, the last conspicuous and distinctive in flight; remaining upper parts bluish gray, back marked with black wedges; large white wing-patch; yellow on sides of breast, mostly concealed. Winter: Brownish-washed; black of chest and sides obscured.

Female: Less black below; yellow paler; brown-washed above. Winter: Like winter male, but duller.

HOOVER WARBLER

See Appendix.

(655a. *Dendroica coronata hooveri*) $5\frac{1}{2}$ in.

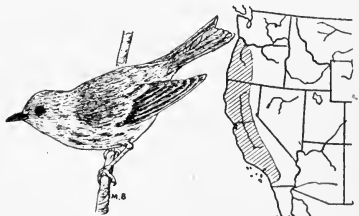
Arizona — *S.V.* — High mountains of central and southeastern parts where it nests in conifers of Transition and Canadian Zones. Has been recorded, though rarely, in winter.



Olive Warbler

Southwestern California — *S.V.* — *Apr.-Sept.* — Abundant. Nests in willows of lowlands, in city parks and shade trees, or in smaller tree growth of any sort in watered canyons, up to 5000 feet or more.

Arizona — *Migrant* in southern part.



California Yellow Warbler

S.V. — Lower Sonoran Zone of southwestern Arizona and extreme southeastern California, where apparently confined to the low, hot valleys of the Colorado and Gila Rivers and their tributaries.

S.V., in high mountains generally. *W.V.*, to foothills and lowlands. Abundant, especially in winter, when it occurs nearly everywhere below snow-level.



Audubon Warbler

BLACK-FRONTED WARBLER

(656a. *Dendroica auduboni nigrifrons*) $5\frac{3}{4}$ in.

Like the Audubon, but more extensively black below; back and sides of head largely black. Compare the Audubon, of which this is a subspecies.

GRACE WARBLER

(664. *Dendroica graciae*) 5 in.

Throat, chest, and line over eye yellow; otherwise mostly gray above and whitish below; sides black-streaked; crown and back finely black-streaked; two narrow white wing-bars.

Female duller; upper parts brownish-washed.

BLACK-THROATED GRAY WARBLER

(665. *Dendroica nigrescens*) 5 in.

Male: Black head, throat, and chest, with a white streak behind eye and white malar stripe; back blue-gray, black-streaked; breast and belly white, sides black-striped; two white wing-bars. A small yellow spot before eye is conspicuous at close range.

Female: Similar, but black of throat and chest reduced and obscured by gray tips; crown gray.

TOWNSEND WARBLER

(668. *Dendroica townsendi*) 5 in.

Male: Head and throat wholly black and deep yellow; breast yellow; belly white; sides black-striped; back green with black wedges; two broad white wing-bars. Winter: Black, partly obscured by greenish tips; throat yellow.

Female: Colors duller; black of throat overlaid with pale yellow; crown greenish-tipped.

HERMIT WARBLER

(669. *Dendroica occidentalis*) 5 in.

Male: Head yellow; throat black; breast and belly white, without streaks; back a mixture of olive-green, gray, and black; wing marked by two white bars. Winter: Closely resembles summer plumage of female.

Female: Duller; crown and nape profusely spotted with black; black throat obscured by gray tips.

Southeastern Arizona — *S.V.* — Transition Zone of higher mountains, where recorded as fairly common. It ranges southward in mountains to Durango, Mexico.

Arizona — *S.V.* — Transition Zone of mountains, where it breeds in coniferous forests. The mountains of central Arizona are the western limit of its range.



Grace Warbler

S.V. — Lower Transition Zone generally. Widely distributed in migrations, when usually abundant. In southern California, *Apr. and late Sept.-Oct.*, usually in oak timber.



Black-throated Gray Warbler

Southern California — *Migrant* and occasional *W.V.* — Migrations *Apr. and early May*, when common in oaks; southward migration mostly in *Oct.*

Arizona — *Migrant* — Abundant spring and fall at all altitudes.



Townsend Warbler

Migrant — *Late Apr., early May, and Sept.* — Irregular in numbers. Occurs at practically all levels in spring; fall migration chiefly in mountains.



Hermit Warbler

MACGILLIVRAY WARBLER

(680. *Oporornis tolmiei*) 5¼ in.

Male: Head and neck bluish slaty; breast and belly yellow; back, wings, and tail olive-green. At close range lores are black, upper and lower lids white-marked; chest feathers usually gray-edged.

Female: Similar to male, but head and neck much lighter, chin almost white.

Call: A distinctive, sharp "tsip," heard from rank, low growth of any sort.

TULE YELLOW-THROAT

(681f. *Geothlypis trichas scirpicola*) 5 in.

Male: Throat and breast yellow: a black mask from ear region across forehead, bordered above with ashy; wings, tail, and back olive-green.

Female: Without black mask; yellow much paler.

Immature male: Mask smaller, partly obscured by gray tips.

Call: A buzzing "cht." Song: "Witch'-ity, witch'-ity, witch'-ity," delivered with great power and emphasis from a dense thicket or tule growth.

WESTERN YELLOW-THROAT

(681a. *Geothlypis trichas occidentalis*) 5¼ in.

Like the Tule Yellow-throat, but grayer above, and yellow of male under parts brighter and more extensive. These differences are definite only with the bird in hand.

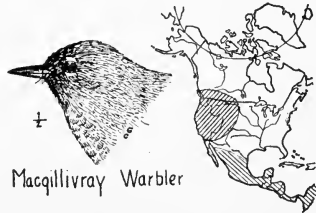
LONG-TAILED CHAT

(683a. *Icteria virens longicauda*) 7½ in.

Bright yellow below, except white belly; whole upper parts grayish olive; white superciliary and malar stripe; black lores and cheek-stripe. Bill very heavy, for a member of the Warbler family.

His endless variety of calls, squalls, and mimicked notes of other birds and mammals, often with ventriloquial effect, and his amazing antics, mark him the prize clown of our avian world. Easily decoyed by whistling.

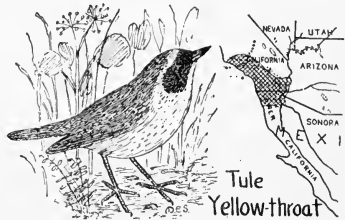
Migrant — *Apr.-May* and *Sept.* — Common and widely distributed in spring, mostly in moist, soft vegetation. Less numerous in southward migration. Formerly recorded as breeding in high mountains of central Arizona.



Macgillivray Warbler

Southern California — *Res.* — Abundant in rank marsh growth of the lowlands, where even the roadside bed of tules has its pair of nesting birds.

Southern Arizona — *Res.* — Along the lower Colorado River. Recorded also from the few other localities affording proper habitat.



Tule Yellowthroat

Southeastern California and southwestern Arizona — *W.V.* — Numerous about permanent water and accompanying rank vegetation. Fairly common *W.V.* to the Pacific slope of southern California.

S.V. — *Apr.-Sept.* — Common. Chiefly in willow thickets of Lower Sonoran water-courses; locally in Upper Sonoran.



Long-tailed Chat

GOLDEN PILEOLATED WARBLER

(685b. *Wilsonia pusilla chryseola*) 4 $\frac{3}{4}$ in.

Male: Golden yellow, with shining black cap; back and wings rich yellow-green.

Female: Yellow less vivid; cap green-edged and reduced in size, sometimes lacking.

Song: A rather labored, but not unmusical "chee-chee-chee-chea."

A tremendously active bird, usually in low trees and shrubbery.

PILEOLATED WARBLER

(685a. *Wilsonia pusilla pileolata*) 4 $\frac{3}{4}$ in.

Like the Golden Pileolated, but duller and darker throughout. Song and habits the same.

The "Black-capped Yellow Warbler" of the interior.

PAINTED REDSTART

(688. *Setophaga picta*) 5 $\frac{1}{4}$ in.

Black with *vermilion breast*; a large *white wing-patch*, and three outer tail-feathers white. This color-pattern is unique and distinctive.

A dandy among Warblers, this bird has all the strutting habits of its genus, and its antics in "showing off" are almost ludicrous.

RED-FACED WARBLER

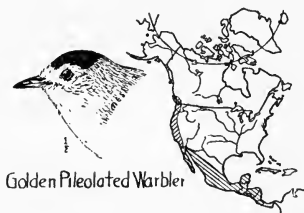
(690. *Cardellina rubrifrons*) 5 $\frac{1}{4}$ in.

Whole *face, throat, and sides of neck red*; a *black bonnet* covers crown and ear region; back, wings, and tail gray; nape and rump whitish; dirty-white below.

By habit a twig-tip feeder, said to be almost chickadee-like in action.

Southwestern California — S.V. — Common. Occasional in winter, in sheltered places. Nests in willow regions from lowlands to high mountains.

Arizona — *Migrant* — Chiefly in valley of the Colorado.



Migrant — Recorded as abundant and occurring at all elevations in Arizona. Occasional in southwestern California.

Range: Summer, from northern Alaska to mountains of New Mexico. Winters from central Mexico to Panama.

Arizona — S.V. — Low Transition and high Upper Sonoran Zones of central and southeastern part of State. Favors shady, moist canyons.



Southeastern Arizona — S.V. Common in Transition Zone of higher mountains, in coniferous forest. Nests on the ground.



MOTACILLIDÆ (Family Wagtails): Small, ground-dwelling birds, distinguished by action rather than by color.

PIPIT

(697. *Anthus rubescens*) 6½ in.

A gray-brown, ground-living bird, with deep buffy under parts, dusky-streaked on chest, and outer edge of tail white.

Their deliberate walk, gentle "jerking" of tail, and "cheep" as they fly, showing the outer tail-feathers, are quite distinctive.

FAMILY DIPPERS

About thirty species are known, scattered over nearly the whole world, but only one in the United States.

DIPPER: OUZEL

(701. *Cinclus mexicanus unicolor*) 7½ in.

Wholly slaty gray, with faint brownish wash on upper parts. More or less white-edged in winter on under parts.

Tail very short. A thick-set, "chunky" bird, totally different in appearance and habits from all other American birds.

Its home is the swift mountain stream from which it gleans its insect food. Said to fly under water. Characteristic pose is on a water-splashed rock, "teetering" or "dipping" with whole body.

FAMILY THRASHERS and MOCKINGBIRDS

Mostly long-tailed, short-winged birds, dull-colored; bill sometimes short and straight, more often long and curved.

SAGE THRASHER

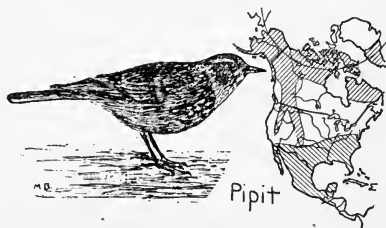
(702. *Oreoscoptes montanus*) 8¼ in.

Under parts heavily marked with dusky wedges on dull white ground; brownish gray above; wings edged with whitish; outer three tail-feathers white-tipped, visible in flight. Bill short and straight.

In its short bill and short tail, and its habitat, this is the least Thrasher-like of its family. Its attitude on the ground is very Robin-like.

One species only occurs in our region, though the genus is distributed world-wide.

Southern California and southwestern Arizona — *W.V.* — Abundant locally; in open country, especially attending plowing operations, where unlimited food is easily secured. Generally in small, loose flocks.

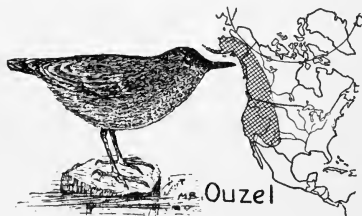


DIPPERS. Family Cinclidæ

Short-tailed, thick-bodied, dark-colored birds, found along swift mountain streams.

Southern California — *Res.* — Fairly common. Mountain streams to 9000 feet or more. Nest a domed mass of moss, usually behind a waterfall.

Arizona — Rare. Very few published records.



THRASHERS and MOCKINGBIRDS. Family Mimidæ

Strictly ground-feeders, except the Mockingbird. The Thrasher bill is an admirable pick with which to unearth buried insects and seeds.

W.V. — Common. Desert areas of southeastern California and southern and western Arizona. Occasional on the Pacific slope of southern California. Usually in small, loose flocks in wide stretches of low brush. Breeds in sagebrush of the Great Basin region.



WESTERN MOCKINGBIRD

(703a. *Mimus polyglottos leucopterus*) 10 in.

Brownish *gray above; white below*, with grayish breast; lores dusky; a *white patch on closed wing* expands into a large area on open wing — a distinctive character; tail long, dull black, with outer feathers white.

Immature: Similar, but heavily spotted below with brownish.

Largely a city resident, often almost semi-domesticated. An inveterate singer, by day and night, mimicking phrases of other birds, mixed with many of his own origin.

BENDIRE THRASHER

(708. *Toxostoma bendirei*) 10 in.

Whole upper parts gray-brown; below pale brownish, with fine dusky streaks, and *white throat bordered by dark line*; cheeks speckled. *Bill short*, compared with Palmer Thrasher, which the Bendire most closely resembles.

PALMER THRASHER

(707a. *Toxostoma curvirostre palmeri*) 11 in.

Similar to the Bendire, but darker; below grayish, faintly spotted; *white throat not bordered by dark line*. *Bill long* (compared with Bendire) and curved.

CALIFORNIA THRASHER

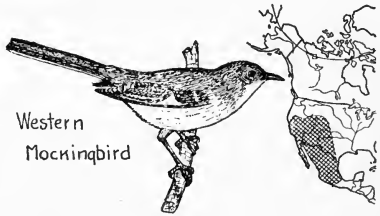
(710. *Toxostoma redivivum*) 12 in.

Wholly dark gray-brown above, somewhat lighter across chest; ear region darker, white-lined; *throat dull white*; breast and belly buffy. *Bill long, strongly curved* — a distinctive character in this bird's habitat, and a most effective digging-tool.

A singer of rare ability and sweetness, surpassing even the Mockingbird in its imitations of songs of other birds.

Southwestern California —
Res. — Abundant in lower
country, nesting generally
about human habitations; less
numerous in foothill canyons
and on deserts eastward.

Arizona — *Res.*, locally, in
hot valleys of the south; mostly
S.V. in other parts, and re-
corded as *W.V.* on the lower
Colorado River.



Western
Mockingbird

Arizona — *Res.* — Flat,
cactus-grown Lower Sonoran
deserts; quite irregular in dis-
tribution. Recorded as most
numerous in central part of
State.



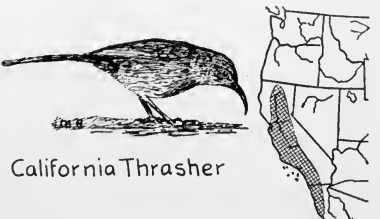
Bendire Thrasher

Arizona — *Res.* — Com-
mon. Lower Sonoran val-
leys of southern part of
State. Mostly below 5000
feet. Favors canyons and
shrubbery, rather than
open cactus desert as does
the Bendire.



Palmer Thrasher

Southwestern California —
Res. — Common. In thick
brush of stream-bottoms; most
numerous in foothill chaparral,
to 5000 feet or more.



California Thrasher

LECONTE THRASHER

(711. *Toxostoma lecontei lecontei*) 10½ in.

Wholly pale brownish gray above, with darker tail; still lighter below, except tawny under tail-coverts; throat white, outlined against darker cheek.

Palest of the Thrashers, it harmonizes with the gray of sand and vegetation of its habitat.

Noted as a great skulker, running or flying close to earth through the brush, and rarely seen more than a few seconds while it inspects the intruder.

CRISSAL THRASHER

(712. *Toxostoma crissale*) 12 in.

Whole bird grayish brown, dark above, lighter below, with rufous under tail-coverts, and white throat bordered by a narrow black line.

Usually shy and secretive, but may often be decoyed into the open by whistles or "squeaks" that arouse his curiosity.

Call: A liquid "quirt." When nest or young are threatened, a plaintive whistled "come dearie."

FAMILY WRENS

Generally small birds; mostly short-tailed; thin-billed; chiefly brown or grayish in color. Tail usually held upward at a considerable angle to the body. One species very Thrasher-like.

CACTUS WREN

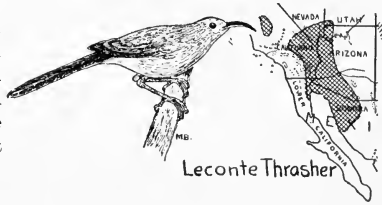
(713. *Heleodytes brunneicapillus couesi*) 8½ in.

A very large Wren, brown-and-white streaked and speckled upper parts; black-spotted below, on white ground; cap brown; spread tail mostly black, with broad white band near tip, and side feathers white-barred. In flight the tail markings are distinctive.

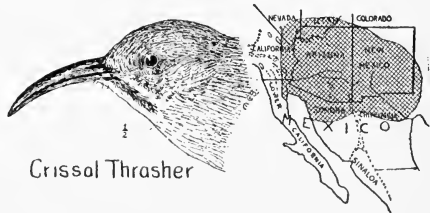
Has the Thrasher habit of running or flying close to the ground, screened by brush, to escape suspected danger.

Song: A guttural, imitation warble, from a bush-top.

Res. — Common locally, in low, hot deserts of southeastern California and southwestern Arizona; in wide areas of open brush and cactus. Still more local in Mohave Desert. Nest usually in a cholla cactus.



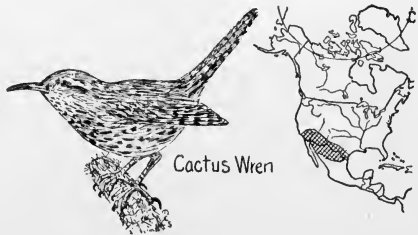
Res. — Southeastern California and southwestern portion of Arizona. Lower Sonoran Zone, in thick brush of stream-bottoms, and especially in mesquite growth. Common locally, but irregularly distributed.



WRENS. Family Troglodytidæ

Nesting-habits highly varied; always in a cavity of some sort, — natural, artificial, or built by the birds themselves. Food exclusively insects.

Res. — Lower Sonoran Zone of southwestern Arizona and southern California. Common locally. Nest in cholla cactus or mesquite.



ROCK WREN

(715. *Salpinctes obsoletus obsoletus*) 6 in.

Light gray, whitish below; tail buffy-tipped and black-banded, side feathers barred black and buffy (seen in flight). In the hand, back is finely speckled black and whitish; throat and breast faintly dusky-streaked; closed tail narrowly barred above with dusky and brownish. Has the "bobbing" habit.

SAN NICOLAS ROCK WREN

(715a. *Salpinctes obsoletus pulverius*) 6 in.

A subspecies of the Rock Wren, differing from it only in ochraceous or "dusty" cast of plumage.

DOTTED CANYON WREN

(717b. *Catherpes mexicanus punctulatus*) $5\frac{3}{4}$ in.

Silky white throat and fore-breast; otherwise brown; sides and belly rich rusty brown; upper parts finely speckled dusky and white; tail rusty, with narrow black bars. Bill long and slender, adapted to probing crevices for food.

Song: Loud, ringing, whistled notes on descending scale. Call note: A loud trill, heard above brawl of stream.

CANYON WREN

(717a. *Catherpes mexicanus conspersus*) $5\frac{3}{4}$ in.

Differs from the Dotted form in less spotting on upper parts, a difference naturally imperceptible in the field.

SAN DIEGO WREN

(719d. *Thryomanes bewicki charienturus*) $5\frac{1}{4}$ in.

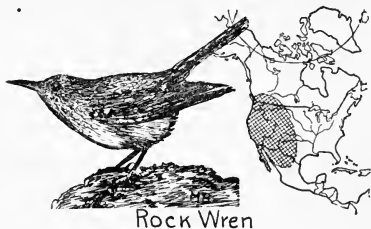
Plain brown above; a white superciliary, and white under parts changing to gray on belly; cheek gray; tail inconspicuously barred. The white line above eye, with unmarked back, is distinctive.

BAIRD WREN

(719b. *Thryomanes bewicki bairdi*) $5\frac{1}{4}$ in.

Similar to the San Diego, but grayer above, whiter below. Known also as Desert Wren, from its habitat.

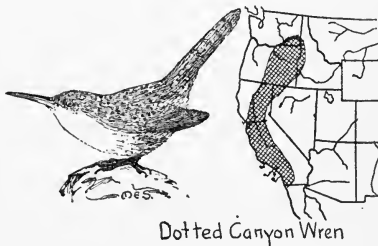
Res. — Locally common — Generally distributed, in broken, rocky country, regardless of elevation or climate, though descending mountains before approach of snow. Occurs in winter in brush, at a distance from rocks.



Rock Wren

Range: San Nicolas Island, off the coast of southern California. *Res.* — Common.

Southwestern California — *Res.* — Fairly common. In foothills and mountains, below 7500 feet, where tumbled and broken rocks offer attractive hunting-ground. Frequent about mountain cabins.



Dotted Canyon Wren

Arizona — *Res.* — Chiefly in Upper Sonoran Zone of mountains, but occurs also in Lower Sonoran and low Transition.

Southeastern California — *W.V.* — Widely distributed over deserts and along Colorado River.

Southwestern California — *Res.* — Chiefly in foothills up to about 5500 feet, in chaparral and oak growth. Lower levels in winter, when it sometimes occurs in desert localities.



San Diego Wren

Southeastern California, southern and western Arizona — *Res.* — Upper and Lower Sonoran Zones. Irregularly distributed. Recorded as *W.V.* only, in valley of the lower Colorado.

SAN CLEMENTE WREN

(719.1. *Thyromanes leucophrys*) 5¼ in.

Resembles the San Diego Wren, but much grayer above; superciliary broader and whiter.

WESTERN HOUSE WREN

(721a. *Troglodytes aëdon parkmani*) 4¾ in.

Upper parts grayish brown; fine dusky barring on wings and tail; light grayish below, dusky-barred on belly and under tail-coverts.

Absence of distinctive marks, visible at a distance, is this bird's "field mark." Add to this his almost constant, bubbling song (in nesting-season), and his identification is complete.

WESTERN WINTER WREN

(722a. *Nannus hiemalis pacificus*) 4 in.

Dark brown above; tawny below, sides and belly dusky-barred; sides of neck gray-speckled; an indistinct tawny superciliary.

In the field: A very small, *thick-bodied, stubby-tailed, brown bird*, creeping mouse-like through brush-heaps or under buildings, and uttering the Song Sparrow "chimp."

TULE WREN

(725a. *Telmatodytes palustris paludicola*) 4½ in.

Brown: middle-back black, white-streaked; *top of head blackish*; indistinct superciliary; tail broadly black-barred above; under parts lighter, whitening on breast and throat.

Compare Western Marsh Wren, found in same locality in winter.

Nest a ball of tightly woven marsh grass, binding together several tule stalks, with opening often concealed.

WESTERN MARSH WREN

(725c. *Telmatodytes palustris plesius*) 5¼ in.

Like the Tule Wren, but larger, and lighter throughout except black-and-white markings of back; top of head brown; superciliary broader and better defined; tail barring much finer.

Range: San Clemente Island, off the coast of southern California. *Res.* — Common.

Southern California — *S.V.*, chiefly. Occasional in winter at low elevations. Nests commonly in hills below 5500 feet, often about buildings.

Arizona — *S.V.* — Transition Zone of higher mountains generally. — *W.V.* — In low, hot valleys, notably along the Colorado River.



Western House Wren

Southwestern California — *W.V.* — Irregularly common, in mountains; rarely to low foothills. The San Gabriel Mountains appear to be the southern limit of its range.



Western Winter Wren

Southwestern California — *Res.* — Abundant. Tule marshes of low country. In winter often numerous in salt grass about tide marshes, and in heavy vegetation of any sort near water.



Tule Wren

W.V. — *Oct.* — *Apr.* — Common. Lowland marshes of southern California generally, and adjacent part of Arizona where suitable conditions exist.

CERTHIIDÆ (Family Creepers): Small; obscurely marked except white throat. Distinguished by their climbing habit, similar to that of the Woodpeckers. Bill slender, curved, not fitted for digging into wood.

SIERRA CREEPER

(726d. *Certhia familiaris zelotes*) 5½ in.

Silky white below; upper parts a mixture of dusky, gray, and rusty. Bill long, curved.

Climbs Woodpecker-fashion, supported by the stiff, pointed tail-feathers, while it explores bark-crevices of large trees for food.

Call: A feeble, high-pitched "see-e-p" that might come from any direction.

MEXICAN CREEPER

(726a. *Certhia familiaris albescens*) 5½ in.

Back dark, nearly black; crown black, white-streaked; rump rich rusty.

ROCKY MOUNTAIN CREEPER

(726b. *Certhia familiaris montana*) 5½ in.

Like the Sierra, but conspicuously white-streaked above.

FAMILY NUTHATCHES

Small, short-tailed, gray-backed birds. Climb about in any direction on tree-trunks, and hang in any attitude, by use of the feet alone.

RED-BREASTED NUTHATCH

(728. *Sitta canadensis*) 4½ in.

Male: Black crown and eye-stripe; white superciliary, cheek and chin, changing to rusty on breast and belly; back blue-gray.

Female: Paler throughout; crown slightly darker than back.

A tree-trunk gleaner, like the Slender-bill, but more often on small saplings.

Nest usually behind a piece of loosened bark. Food consists of tiny insects and larvæ gleaned from bark of trees; and insect eggs extracted from crevices by the slender bill.

Southwestern California — *Res.* — Fairly common. Pine forests. In winter occasionally strays to near sea-level. Rarely more than two or three together, generally in company with Chickadees and Nuthatches.



Sierra Creeper

Southeastern Arizona — *S.V.* — High mountains of extreme southeast. Range: Arizona, southward, over most of Mexican plateau.

Central and northern Arizona — *S.V.* — High mountains. Range: Rocky Mountains, northward, to Alaska.

NUTHATCHES. Family Sittidæ

Food habits similar to those of the Creeper, but the stronger bill is a more effective digger.

Southwestern California — *Res.* — Rare. Canadian Zone, in high mountains. Occurs at lower levels in winter, like most other mountain birds.

Arizona — Occasional in high mountains. Records very few.



Red-breasted Nuthatch

SLENDER-BILLED NUTHATCH

(727a. *Sitta carolinensis aculeata*) 5½ in.

Male: Shining blue-black crown and back of neck; snow-white sides of head, neck, and throat; back blue-gray; wings darker, whitish-edged; breast white, becoming gray on belly.

Female: Similar, except top of head gray.

Bill straight, awl-shaped, used to some extent as a digging tool. Tail stubby.

Call: A nasal "ank," or "yank," several times repeated.

ROCKY MOUNTAIN NUTHATCH

(727c. *Sitta carolinensis nelsoni*) 5¾ in.

Larger and somewhat darker than the Slender-bill, but like it in all essential details, habits, etc.

PYGMY NUTHATCH

(730. *Sitta pygmæa pygmæa*) 4 in.

Blue-gray above, except gray-brown top of head and neck; cheeks and chin white, otherwise buffy below; dusky stripe from bill across eye; a partly concealed whitish spot on nape.

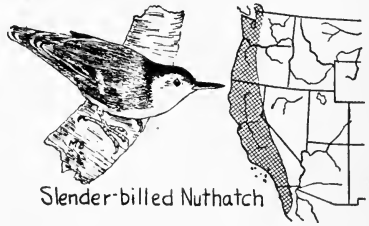
A gleaner among twig-tips of conifers as well as on the trunks. Has an odd way of breaking out in a series of excited sharp chirps at intervals, then silent for a considerable time.

WHITE-NAPED NUTHATCH

(730a. *Sitta pygmæa leuconucha*) 4¼ in.

Generally lighter than the Pygmy, with the nape-spot larger and whiter (hence the name). Habits in every way similar.

Southwestern California —
Res. — Common. Coniferous
 forests of mountains. Rarely
 descends to foothills in winter.
 Nest in a tree cavity, often one
 dug by the bird in a rotten
 trunk.



Slender-billed Nuthatch

Arizona — *S.V.*, in Transition Zone of northern mountains. *Res.* in
 southerly ranges. Ranges through Rocky Mountains from British
 Columbia into Mexico.

Arizona — *Res.* — Tran-
 sition Zone generally. Common.
 Always in flocks, except when
 nesting, and usually in com-
 pany with Chickadees and
 Creepers.



Pygmy Nuthatch

Southwestern California — *Res.* — Common. Pine forest of Transition
 Zone, rarely straying lower.

PARIDÆ (Family Titmice, etc.): Small, forest-dwelling birds, all gray, or gray, black, and white; Titmice with crest, Chickadees without; bills short, stout.

PLAIN TITMOUSE

(733. *Bæolophus inornatus inornatus*) 5½ in.

Wholly brownish *gray* above; *head crested*; light gray under parts.

Nature seems to have atoned for the exceedingly plain dress of this bird by giving it a distinctive crest and interesting mannerisms.

It has a varied assortment of calls, one of them a plaintive "pe-to, pe-to."

BRIDLED TITMOUSE

(734. *Bæolophus wollweberi*) 4¾ in.

The *black-and-white bridled* pattern of this bird is characteristic; otherwise the color is gray, lighter below, and front of crest gray.

GRAY TITMOUSE

See Appendix.

(733a. *Bæolophus inornatus griseus*) 5¾ in.

MOUNTAIN CHICKADEE

(738. *Penthestes gambeli gambeli*) 5½ in.

Like the Bailey Chickadee except on critical study with bird in hand. The form inhabiting the Rocky Mountains and Sierras of California.

BAILEY MOUNTAIN CHICKADEE

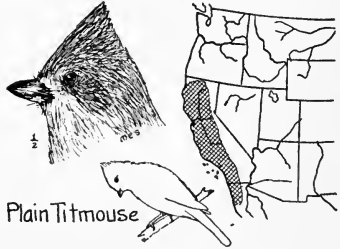
(738a. *Penthestes gambeli baileyæ*) 5½ in.

Cap black with *white superciliary*; *black throat* and chest; *white cheek* and side of neck; hind-neck black; remaining parts gray, whitening on breast.

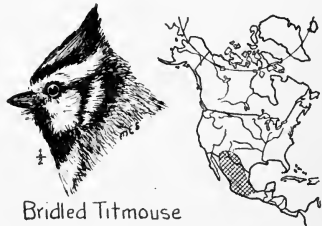
Plumage soft and lax, giving its wearer a thick-bodied appearance.

"Topsy-turvy" birds in feeding, clinging to twig-tips in any attitude. Food small insects and their eggs, seeds, and small, wild fruits.

Southwestern California — *Res.* — Common. Oak regions up to about 5500 feet; less often in shade trees near foothills. Nests in a tree cavity.



Arizona — *Res.* — Upper Sonoran foothills of central and southeastern portion of the State. Common. Occurs in small flocks except in nesting-season. Practically limited to oak regions.



Arizona — *Res.* in higher mountains, except in the southeast, where *W.V.* in Catalina Mountains and possibly other ranges.

Southern California — *Res.* Abundant. Coniferous forest of Transition and Canadian Zones. Usually at lower elevations in winter. Nest in a tree-cavity.



MEXICAN CHICADEE

See Appendix.

(737. *Penthestes sclateri*) 5 in.

BUSH-TIT

(743. *Psaltriparus minimus minimus*) $4\frac{1}{4}$ in.

Gray-brown above; lighter below; crown usually browner.

The Bush-Tits have an interesting way of "filtering" through a tree. A loose flock of a dozen or more will straggle into a tree and before the last bird alights the advance guard is already leaving the other side.

Call: An explosive "tst," often repeated. Alarm-note: "Sree-e-e."

Nest, a long, narrow, suspended pouch with entrance near top.

LEAD-COLORED BUSH-TIT

(744. *Psaltriparus plumbeus*) $4\frac{1}{4}$ in.

Whole upper parts bluish gray; sides of head brown-washed; nearly white below.

Habits the same as those of the California bird, allowing for different habitat.

VERDIN

(746. *Auriparus flaviceps flaviceps*) $4\frac{1}{4}$ in.

Male: Head yellow; shoulders chestnut (not visible in field); otherwise dull gray above; grayish white below.

Female: Similar, but yellow much duller and less extensive.

Nest of thorny twigs, somehow bound together into an elongated ball, with tiny entrance on one side, often nearly concealed.

Southwestern California —
Res. — In trees and tall
 shrubbery of any sort, es-
 pecially oaks, up to 5000 feet.
 Frequent in city shade trees,
 except in nesting-season.



Arizona — *Res.* — Abundant. Upper Sonoran and Transition Zones
 of mountains. Not recorded from southwestern desert region. Ranges
 over the Rockies and mountains of the Great Basin to northern Mexico.

Res. — Common. Low
 deserts of southeastern Cali-
 fornia and southwestern Ari-
 zona. Confined generally to the
 mesquite, catclaw, and smoke-
 tree association. Nest usually
 in a mesquite.



SYLVIIDÆ (Family Kinglets and Gnatcatchers): Very small birds, mostly dull-colored; Kinglets greenish, marked with red or yellow on crown; Gnatcatchers gray, with black head-markings.

WESTERN GOLDEN-CROWNED KINGLET

(748a. *Regulus satrapa olivaceus*) 4 in.

Middle of *crown flame yellow, bordered by black lines*; below these, *white superciliaries*, meeting on forehead; side of head olive; a black eye-ring; back olive-green; yellowish white under parts. Female differs only in lighter yellow crown.

The distinctive head-striping is very conspicuous, while its call, a weak "tee, tee," is almost equally characteristic.

RUBY-CROWNED KINGLET

(749. *Regulus calendula calendula*) 4½ in.

A tiny *dull green* bird, with conspicuous *white eye-ring*; the ruby crown belongs to the male only and is mostly concealed; dull olive or grayish below, lightening on belly; wing-bar and edging of inner flight feathers buffy.

Note: "Cht, cht," with a "buzzing" quality. Song, in spring, sweet and clear, of surprising volume for so small a bird.

WESTERN GNATCATCHER

(751a. *Poliophtila cærulescens obscura*) 4¾ in.

A slender *blue-gray* bird, with *white eye-ring*, *black tail* broadly *white-edged*, and light bluish gray under parts. Forehead of male narrowly black; this is lacking in winter when whole plumage is grayer.

Nest a marvelous bit of bird-craft. Saddled on an oak branch, it is disguised by bits of lichen; or in a juniper or greasewood fork, it conforms to the color and surface of the supporting branches.

Highly diverse in habitat, — timber of mountains, chaparral, and hottest deserts. All strictly insectivorous, they are chiefly gleaners among the foliage, though the Gnatcatchers earn their name.

Southwestern California —
Res. — Not common. Nests high in mountains, and like most other mountain residents, seeks lower elevations in winter, sometimes reaching low foothills. Occurs in small, loose flocks, or family groups.



Western

Golden-Crowned Kinglet

S.V. — Common. High mountains, except extreme southeastern Arizona. Nests usually in a fir, on extreme tip of a high limb.

W.V., to foothills and low country generally. Abundant. Usually occurs singly.



Ruby-crowned Kinglet

Southwestern California —
Res. — Common. Sonoran Zones, nesting generally in dry foothill localities. Widely scattered in winter across low deserts of the southeast.

Arizona — *S.V.*, in Upper Sonoran Zone; winter, in low, warm valleys.



Western Gnatcatcher

PLUMBEOUS GNATCATCHER

(752. *Polioptila plumbea*) 4½ in.

Black cap; gray back; white eye-ring and under parts; tail with more white than the Black-tailed, and less than the Western Gnatcatcher.

Females are not always distinguishable in the field from the Western where these forms occur together, as in southeastern California in winter.

BLACK-TAILED GNATCATCHER

(753. *Polioptila californica*) 4¼ in.

Male: Dull slate-gray above; shining black cap; tail with narrow white edge; dull gray below.

Female: Differs from male only in absence of black cap.

A characteristic bird of the Lower Sonoran Zone.

FAMILY WREN-TITS

Small; long-tailed; short-billed; dull brown in color. Closely related to the Bush-Tits.

PALLID WREN-TIT

(742a. *Chamæa fasciata henshawi*) 6½ in.

Grayish brown above, nearly uniform; below pinkish brown, obscurely darker-streaked on breast; tail long.

Call: A low, confidential chatter, as the bird creeps through thick brush. Song: A loud "tick, tick," repeated with increasing rapidity, but changing to whistled notes on same pitch. Locally called "Ground Wren."

In shape resembles Bush-Tit, but much larger.

Res. — Common — Lower Sonoran Zone of southeastern California and most of Arizona. Nests in arrow-weed, smoke-tree, mesquite, or any sort of desert brush.

Southwestern California —
Res. — Common locally. Desert and semi-desert flat brushy or cactus-grown areas. Generally in pairs or family groups.



WREN-TITS. Family Chamæidæ

The Wren-Tit, in its several forms, only one of which is found in our area, is remarkable in being the sole member of its family and genus and practically limited to California.

Southwestern California —
Res. — Common. Upper Sonoran Zone; in other words, the Chaparral Zone, of which this bird is characteristic. Usually in pairs. Always in brush.



TURDIDÆ (Family Solitaires, Thrushes, etc.): Birds of medium size, rather slender; or larger with stout body. Bill much shorter than head, thin and weak; tip hooked. Colors: gray; all or mostly blue; brown, black, and rusty; or spotted below.

TOWNSEND SOLITAIRE

(756. *Myadestes townsendi*) 8½ in.

Dull gray; conspicuous white eye-ring; buff wing-patch and edging; tail long, dusky, white-edged. Bill very short.

Form and attitude are very Bluebird-like, except for the long tail.

In winter feeds extensively on mistletoe berries, in cottonwood trees of canyons.

RUSSET-BACKED THRUSH

(758. *Hylocichla ustulata ustulata*) 7½ in.

Entire upper parts russet-brown; eye-ring, sides of neck, and chest, buffy; latter with brown wedges; breast and belly white, faintly spotted on sides.

The conspicuous and extensive brownness of this bird, whether in flight or at rest, is notable and diagnostic.

Five forms of Hermit Thrush occur in our region, differing in size and color, or both, but not in color-pattern.

ALASKA HERMIT THRUSH

(759. *Hylocichla guttata guttata*) 7¼ in.

Olive-brown above with rufous tail; heavily marked on chest and throat with black wedges; sides olive; median line below white.

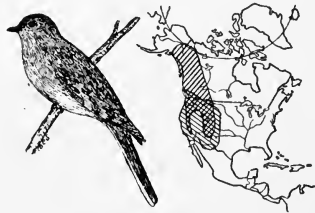
Best distinguished in the field by the rufous tail, which contrasts rather strongly with remaining upper parts.

Note: A single throaty "chuck" usually uttered in flight.

Food consists of insects and fruit. Nests in a natural cavity or old woodpecker-hole, on a tree branch, or on the ground.

Southern California — *W.V.*
— Foothill canyons generally.
Known to nest only in the high
San Bernardino Mountains.

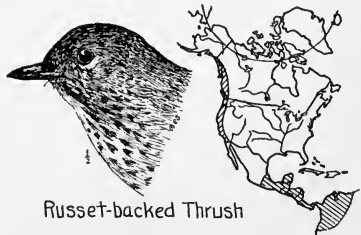
Arizona — Rare — Nests
in San Francisco Mountains.
W.V., to other ranges.



Townsend Solitaire

Southern California — *S.V.*
— *Apr.-Sept.* — Common in
foothill canyons in spring mi-
gration. Nests in willows of
lowlands on Pacific slope.

Arizona — *Migrant* in south-
ern and western parts of State.



Russet-backed Thrush

Comparison is made with the Alaska Hermit Thrush, the form most widely distributed and best known.

Southern California — *W.V.*
— Common. Foothills and low-
lands; most numerous along
canyon streams and in adja-
cent timber. Occurs also in
favorable spots in southeast
deserts and along Colorado
River.

Arizona — *W.V.* — Valleys
and foothills of west and south.



Alaska Hermit Thrush

AUDUBON HERMIT THRUSH

(759a. *Hylocichla guttata auduboni*) 7 $\frac{3}{4}$ in.

Like the Alaska, but somewhat larger, and distinctly lighter. The Hermit Thrush of the Rocky Mountain region.

DWARF HERMIT THRUSH

(759c. *Hylocichla guttata nana*) 7 $\frac{1}{4}$ in.

Differs from the Alaska in darker and browner coloration; chest-spots larger and darker. Not distinguishable in the field from the Alaska form.

MONTEREY HERMIT THRUSH

(759d. *Hylocichla guttata slevini*) 7 in.

Smallest of the Thrushes; gray above; breast gray-spotted on dull white.

SIERRA HERMIT THRUSH

(759e. *Hylocichla guttata sequoiensis*) 7 $\frac{1}{2}$ in.

Somewhat larger than the Alaska form, and grayer, with breast-spots notably lighter.

WESTERN ROBIN

(761a. *Planesticus migratorius propinquus*) 10 in.

Slaty *gray upper parts*, with blackish head and tail; variable *rusty brown below*; *throat white, black-streaked*; eyelid white-spotted. Bill yellow.

Female, similar, but paler throughout. Juveniles have the breast heavily marked with round dusky spots.

Winter: Breast more or less edged with whitish. Duller generally.

NORTHERN VARIED THRUSH

(763a. *Ixoreus naevius meruloides*) 9 $\frac{1}{2}$ in.

Male: Clean *slaty above*; *rusty brown below*, with *black breast-band* and side of head; stripe behind eye rusty brown, and wings variously spotted and edged with same color.

Female: Similar, but duller; breast-band indistinct.

Robin-like in shape, habit, and action; often associates with Robins. Feeds largely on wild berries.

Arizona — *S.V.* — Common. Nests in high mountains of the north and east. A migrant otherwise, but not recorded from low desert country.

Southwestern California — *W.V.* — Not common. Said to favor hill-side brush rather than stream-bottom growth. Breeds in coast region from Cross Sound, Alaska, to southern British Columbia. Winters south to California and Arizona.

Southwestern California — *Migrant* — Recorded only in April. Range: Transition Zone of the coast region from northern California to Monterey County. Winters in Mexico.

Southern California — *S.V.* — Nests in Boreal Zones in San Bernardino Mountains. Range: Southern British Columbia through Sierra Nevada. Winters in Lower California and Northern Mexico.

Nests commonly in Transition and Canadian Zones of mountains. Winters in foothills and low country generally, wherever wild berries afford proper food-supply, occurring often in large flocks.



Southwestern California — *W.V.* — *Oct.-Apr.* — Shady canyons and oak woods of the foothills. Irregularly common. Singly or in small groups.



WESTERN BLUEBIRD

(767. *Sialia mexicana occidentalis*) 7 in.

Male: Dark blue, except chestnut on shoulders (often meeting on back), sides, and breast.

Female: Rump and tail blue; otherwise blue of male is replaced by gray; brownish on back, rusty-washed below.

Juvenile: Wings and tail blue; back dark brown, white-streaked; breast streaked white and brown.

Nest in a natural tree-cavity or old Woodpecker-hole.

Includes San Pedro Bluebird (No. 767b.) not generally recognized.

CHESTNUT-BACKED BLUEBIRD

(767a. *Sialia mexicana bairdi*) 7 in.

Like the Western in every way except that fore-back is solid chestnut instead of having contiguous chestnut patches.

MOUNTAIN BLUEBIRD

(768. *Sialia currucoides*) 7½ in.

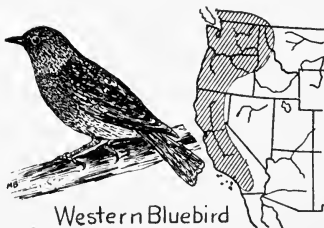
Male: Greenish blue; lighter below, changing to white on belly. Duller in winter, when blue of upper parts is partly obscured by brown tips.

Female: Wings and tail blue, otherwise brownish gray above; below, pale blue overcast with brownish.

Juvenile: Wings and tail blue; head and neck gray; back and breast streaky brown and white.

In feeding, hovers hawk-like, twenty to forty feet in air, inspecting the ground below.

Southern California — Common. Nests usually in Transition and Canadian Zones, occasionally in Upper Sonoran. Widely scattered in winter, in foothills, lowlands, and southeastern deserts, in small flocks.



Western Bluebird

Arizona — *Res.* — Transition Zone of mountains generally. In winter occurs also over lower country westward to the Colorado River. Range: Southern Rocky Mountain district from Colorado and Utah, to central Mexico.

Southern California — *S.V.*, on desert slope of high San Bernardino mountains. *W.V.*, locally and irregularly in flocks over southeastern deserts and lowlands of Pacific slope.

Arizona — *S.V.*, in higher mountains of the north. *W.V.*, in low valleys and along Colorado River.



Mountain Bluebird

APPENDIX

HOLBÆLL GREBE

(2. *Colymbus holbœlli*) 20 in.

Brownish black above; throat and cheeks ashy gray; fore-neck rufous, changing to silky gray or whitish on breast and belly.

In winter, upper parts are lighter; chestnut and ashy of neck and throat replaced by dull gray.

W.V. — On ocean. Few authentic records for this region.

LONG-TAILED JAEGER

(38. *Stercorarius longicaudus*) 20 in.

Similar to Parasitic Jaeger, but smaller, cap black, tail much longer. Habits in every way similar.

W.V. — On ocean. Rare. Very few records for southern California coast. Nests from northern Hudson Bay to northern Greenland.

THAYER GULL

(51-. *Larus argentatus thayeri*) 22-24 in.

A well-marked subspecies of the Herring Gull, not yet included in the A.O.U. Check-List. It differs from the Herring in smaller average size; slaty wing-tips, instead of black; and white wedge of basal portion of second outer primary extending to and uniting with the mirror.

California coast. Apparently irregular in occurrence, or possibly mistaken for the Herring. Range not perfectly known. Nests in Arctic regions of northeastern North America.

FRANKLIN GULL

(59. *Larus franklini*) 14½ in.

Adult: Head black; mantle much darker than that of the Bonaparte, the common black-headed Gull with which it associates on the southern California coast. May be distinguished in winter by darker back and slaty cast on back of head and neck.

Nests in southern Canada, east of the Rockies, and in South Dakota, Minnesota, and Iowa.

Only four records of occurrence within our limits.

SABINE GULL

(62. *Xema sabini*) 13 in.

Adult: Head plumbeous, with clear black ring separating this from white neck; mantle bluish gray. Tail distinctly forked.

Breeds in Arctic regions of North America, Europe, and Asia. Occurs as a migrant on both coasts of North America. Recorded rarely on the southern California coast.

SHORT-TAILED ALBATROSS

(82. *Diomedea albatrus*) 36 in.

White, except brownish gray primaries and tail, and straw-colored head and bill.

Range: North Pacific Ocean. Many records for ocean off southern California coast.

RODGERS FULMAR

(86.1. *Fulmarus rodgersi*) 18 in.

Like white phase of the Pacific Fulmar, with which it may be identical, though recognized in bird literature as a distinct species.

Their winter ranges are the same and nesting-range nearly so.

W.V. — Coast of southern California.

SLENDER-BILLED SHEARWATER

(96. *Puffinus tenuirostris*) 13 in.

A small, all-dark Shearwater, so closely like the Sooty species that field identification is impossible. In hand it is notably smaller, darker, and bill much smaller.

Migrant. Our rarest Shearwater. Nests on islands about Australia, Tasmania, and New Zealand. Migrates northward through western Pacific to Bering Sea in summer, returning mostly in Nov.—Dec. off the North American coast.

KAEDING PETREL

(105.2. *Oceanodroma kaedingi*) 8½ in.

Sooty brownish black above; sooty brown below; lesser wing-coverts gray-brown; upper tail-coverts more or less gray or whitish.

California. Nests on islands from central coast to northwestern Washington. Occurs off whole coast in migrations.

ASHY PETREL

(108. *Oceanodroma homochroa*) 8½ in.

Smoky-plumbeous, with wing-coverts lighter and browner; ashy on rump and upper tail-coverts; a whitish patch on under side of wing.

Nests on Farallon Islands, also (doubtfully) on northern Santa Barbara Islands about which it has been recorded several times.

MAN-O'-WAR BIRD

(128. *Fregata aquila*) 3½ feet.

A large, very slender bird, with deeply forked tail. Male wholly black, throat and fore-neck with yellow pouch. Female brownish, breast and belly white.

This bird is noted as having the greatest wing area, in proportion to weight, of all birds.

A rare straggler from tropical and sub-tropical seas. Less than a dozen records of its occurrence in our area. Has been seen far inland.

HOODED MERGANSER

(131. *Lophodytes cucullatus*) 18 in.

Male: Back and head black; head with fan-like crest enclosing large white area; sides rusty; breast white, extending upward on neck in two imperfect collars.

Female: Mostly brown, darker on head, with straggly crest.

W.V. — On coast and inland waters of California. Rare. The few good records are in early winter. Two records only for Arizona. Nests in hollow trees.

EUROPEAN WIDGEON

(136. *Mareca penelope*) 18–20 in.

Male: Head and upper neck rusty, crown buffy; chest pinkish brown; sides and back mostly a fine wavy barring of white and dusky; wing-coverts white, speculum metallic green.

Female: Generally buffy, head and neck speckled with dusky; feathers of back dusky centrally.

Southern California — *W.V.* — Rare. Possibly a dozen records.

BLUE-WINGED TEAL

(140. *Querquedula discors*) 15 in.

Male: Head and upper neck plumbeous; a large white crescent before eye; back dusky, gray-edged; below, light chestnut, black-spotted; wing-coverts extensively blue.

Female: Head and neck whitish, dusky-streaked, darkest on crown; throat unmarked.

W.V. — Rare in southern California; more frequent in Arizona, where it may nest in the mountains. Range: North America. "Not common west of the Rockies."

WOOD DUCK

(144. *Aix sponsa*) 19 in.

Male: Head violet, bronzy, and green, crested; a white line above eye from bill, and another behind eye, to tip of crest; throat broadly

white, forking upward behind eye and to back of head; chest a rich chestnut; remaining parts a bewildering pattern of purple, blue, green, black, white, and brown.

Female: Identified by white patch surrounding and extending backward from eye; gaudy colors of male lacking.

Southern California — *W.V.* — Recorded rarely during recent years, though not uncommon locally in central California. Nests in hollow trees.

SCAUP DUCK

(148. *Marila marila*) 18 in.

Male: Fore parts black; back finely waved black and white (appears dull white at a distance); sides lighter; belly white.

Female: Brown; back dusky, gray-edged; breast and belly dull white; whitish around base of bill.

The "Black Jack" or "Big Blue-bill" of hunters.

W.V. — Rare. Confined mostly to ocean and tide-bays.

AMERICAN GOLDEN-EYE

(151. *Glaucionetta clangula americana*) 20 in.

Male: Back and head black, with large, round, white spot at corner of mouth; neck and under parts white; wings white and black.

Female: Dusky brown above, gray-edged; head and upper neck deep brown; chest gray; breast white.

Nests in hollow trees or stumps. Popularly named "Whistler."

W.V. — Rare generally. Recorded twice from Arizona and a half-dozen times from southern California.

AMERICAN SCOTER

(163. *Oidemia americana*) 20 in.

Male: Wholly black; a large yellow knob at base of upper mandible.

Female: Dusky gray above; pale gray-brown below, feathers gray-edged; crown dark, contrasting with gray throat and cheeks. Smaller (17 in.).

Ocean, with other species of Scoters. *W.V.* — Rare. Only two definite records for this region.

ROSS GOOSE

(170. *Chen rossi*) 21 in.

Wholly white, except black primaries. Bill relatively much smaller than that of the Snow Goose.

Immatures: Gray-streaked above; gray-washed generally.

Reported as formerly common in southern California, but apparently no records since 1901.

YELLOW RAIL

(215. *Coturnicops noveboracensis*) 7 in.

Upper parts buffy and black, white-barred; neck and breast buffy; sides brown-and-white-barred. Bill only one-half inch long.

General appearance, at a distance or in flight, strongly yellowish, hence the name.

W. V. — Rare. Inland marshes. Its range is "Central Canada to Gulf Coast and California."

FARALLON RAIL

(216.1. *Creciscus coturniculus*) 5½ in.

Dark brown above, specked and finely barred with white; otherwise dark slaty, white-barred on belly and under tail-coverts. At a distance appears wholly black, hence the common name "Little Black Rail." Smallest of the Rails, and so secretive in habit that it is almost never seen except when forced into flight by dogs.

Southwestern California — *Res.* — Rare. Known to nest in our region only in salt marshes near San Diego. (Bursting of a reservoir and flooding of this marsh in 1916 all but exterminated the colony.) More generally distributed in fall and winter, when recorded from interior points.

KNOT

(234. *Calidris canutus*) 9 in.

Upper parts a dusky-and-gray mixture, buffy washed; under parts and sides of head light cinnamon (hence "Robin Snipe," as it is called in eastern United States).

In winter, plain gray above with dusky central marks; white below, fore parts more or less dusky-streaked.

Bill short, otherwise somewhat resembles the Dowitcher (note grayer back and absence of spotting below).

Southern California — *Migrant* — Rare. Recorded on ocean beach and tide-flat, chiefly in Sept.-Oct. Spring records very few. Range almost world-wide. Nests in high Arctics, wintering to southern South America, South Africa, and New Zealand.

SURF-BIRD

(282. *Aphriza virgata*) 10 in.

Rump white, otherwise whole upper parts a slaty gray with whitish edgings and touches of rusty; white below, heavily marked with dusky wedges and crescents. Winter: Solid dusky above, lower parts less heavily spotted.

Decidedly plover-like in shape and attitude.

Migrant — Rare. Usually on rocky coast. Hardly a dozen published records for southern California.

Range: Pacific coast of North and South America. Exact nesting-place unknown; supposed to be in northwestern Alaska.

MEXICAN BLACK HAWK

(345. *Urubitinga anthracina*) 19 in.

Wholly black except a narrow white tip of tail and a broad white bar across middle of tail. In flight overhead this is very distinctive.

Res. — Rare. Occurs from central Arizona to the tropics. Appears confined to timbered canyons and larger sorts of tree-growth of stream-bottoms.

MEXICAN GOSHAWK

(346. *Asturina plagiata*) 17 in.

In general shape like the Goshawk proper, but much smaller; back lighter; under parts more definitely cross-banded, and back grayer. Head lacks the black-and-white markings of the Goshawk.

Res. — In extreme southern Arizona, where it is reckoned among the rare birds of that region. Occurs also in southern Texas; ranges south to Costa Rica.

APLOMADO FALCON

(359. *Falco fusco-cærulescens*) 17 in.

Slaty gray above; throat, chest, and sides of neck white, with black "moustaches"; black below eye, a white line above. Flanks slaty black, this extending to form an imperfect band across belly; tail narrowly barred with white.

Res. — Southern Arizona, New Mexico, and Texas southward to Patagonia. Rare within our limits.

ARIZONA SPOTTED OWL

(369b. *Strix occidentalis lucida*) 18 in.

Similar to Spotted Owl (369), but white markings of upper parts larger; under parts with less buffy and more white.

Res. — Rare. Higher mountains of southeastern Arizona, New Mexico, and western Texas, and south to central Mexico.

SAW-WHET OWL

(372. *Cryptoglaux acadica acadica*) 7 in.

Brown above with white spots; below, white with reddish brown streaks; narrow white streaks on head. No ear-tufts.

Rare. Less than half a dozen published records for southern California and Arizona.

Range: Canada and northern United States, and in mountains to southern Mexico.

SPOTTED SCREECH OWL

(373.1. *Otus trichopsis*) 7½ in.

A Screech Owl showing rather definite whitish spotting on fore-back; upper parts generally a mixture of black, brown, and buff. Occurs also in reddish phase, like the bird of eastern United States, irrespective of sex.

S.V. — Rare. In the United States known only from the Huachuca Mountains of southeastern Arizona, whence it ranges to Guatemala.

FLAMMULATED SCREECH OWL

(374. *Otus flammeolus*) 7 in.

A very small Screech Owl, with short ear-tufts and much rusty in the plumage. The rarest and least known of all the Owls occurring in our territory.

Range: High mountains from southern British Columbia, Idaho, and Colorado to Guatemala. Recorded five times from the San Bernardino Mountains of southern California. Appears more numerous in southeastern Arizona.

THICK-BILLED PARROT

(382.1. *Rhynchopsitta pachyrhyncha*) 16 in.

Green, with forehead and bend of wing red. A long-tailed, rather slender Parrot, with very large bill.

The only member of the Parrot family now occurring within United States borders west of Florida.

Southeastern Arizona — *S.V.* in mountains. Very irregular in occurrence. In flocks, sometimes of large size, that have been doubtfully recorded as damaging cultivated crops. Not known to nest north of Mexico.

TEXAS KINGFISHER

(391. *Ceryle americana septentrionalis*) 7½ in.

Male: Dark metallic green above, broken by white collar; wings white-spotted; breast banded with color of back, sides green-spotted; otherwise mostly white below.

Female: Rufous breast-band and no green spotting on sides.

Recorded on Colorado River and in extreme southeastern Arizona. Only one recorded capture. Ranges from southern Texas and northern Mexico to northwestern South America.

BLACK SWIFT

(422. *Cypseloides niger borealis*) 7½ in.

Sooty black; paler below; forehead gray.

S.V. — Rare. Very local in southern California. Recorded during summer, but not known to breed. No published records for Arizona, though it should occur in higher mountains.

Range: Western North America. Breeds from southern British Columbia and southern Colorado south to central Mexico; winters in southern Mexico.

WHITE-EARED HUMMINGBIRD

(440.1. *Basilinna leucotis*) 3¾ in.

Male: Green above; forehead and chin deep blue, throat and chest metallic emerald-green; a clean white stripe behind eye, below this a smaller black one extending across ear-coverts.

Southeastern Arizona — *S.V.* — High mountains. Rare.

OLIVACEOUS FLYCATCHER

(455a. *Myiarchus lawrencei olivascens*) 7¼ in.

Similar to Arizona Crested Flycatcher, but much smaller; back grayish olive-green.

S.V. — Mountain ranges of extreme southeastern Arizona, where it occurs chiefly in brushy canyons, in Upper Sonoran Zone.

GRAY FLYCATCHER

(469.1. *Empidonax griseus*) 6 in.

Like the Wright, but larger and grayer, though many individuals are hardly separable even in the hand.

W.V. — Rare. Occurs in warm localities in southern California, and in southwestern Arizona. Supposed to nest in desert ranges, but all records questioned.

BUFF-BREASTED FLYCATCHER

(470a. *Empidonax fulvifrons pygmaeus*) 5 in.

Dull gray-brown above; pale buffy below, sides darker.

A small, inconspicuous and rather secretive bird, rare and locally distributed, in mountains of southeastern Arizona.

BRONZED COWBIRD

(496a. *Tangavius æneus æneus*) 8½ in.

Male: Black, with bronzy sheen; wings and tail with bluish and purplish reflections.

Arizona — *S.V.* — Rare. Extreme southeastern corner of the State, in Lower Sonoran Zone.

NEVADA SAVANNAH SPARROW

(542d. *Passerculus sandwichensis nevadensis*) $5\frac{1}{2}$ in.

Like the Western Savannah Sparrow, with which it associates in winter, but grayer throughout.

Range: Great Basin region in summer, southward to southern California and Arizona in winter.

WHITE-CROWNED SPARROW

(554. *Zonotrichia leucophrys leucophrys*) $6\frac{3}{4}$ in.

Like the Gambel, but white superciliary extending from hind-head only to eye; that is, *lores black*.

W.V. — Occasional, in company with the Gambel. Breeds in the Sierra Nevada of California, the Rockies, and northward; winters in southern United States and Mexico.

NUTTALL SPARROW

(554b. *Zonotrichia leucophrys nuttalli*) $6\frac{1}{2}$ in.

Differs from the Gambel Sparrow in much browner coloration and yellow edge of wing.

Southwestern California — *W.V.* — Not uncommon in the extreme northwestern part of the San Diegan district. In flocks with the Gambel.

SLATE-COLORED JUNCO

(567. *Junco hyemalis hyemalis*) $6\frac{1}{4}$ in.

Nearly uniform slaty gray except white lower breast and belly, and white two outer pairs of tail-feathers. Female lighter, sides brownish washed. Both sexes have the slaty more or less brown-washed in winter.

W.V. — The Eastern species. Recorded occasionally from every part of our region, usually single birds in flocks of other Juncos.

BOTTERI SPARROW

(576. *Peucaea botterii*) 6 in.

Generally similar to the Cassin Sparrow, but rustier above, and buffy below with white belly; distinctly browner and darker.

Southeastern Arizona — *S.V.* — Rare. In same general habitat as the Cassin; that is, Lower Sonoran plains.

RUFIOUS-WINGED SPARROW

(579. *Aimophila carpalis*) $5\frac{3}{4}$ in.

Shoulders bright red-brown; crown chestnut, gray-streaked; back sharply streaked grayish brown and black; throat narrowly black-lined on sides (similar to Rufous-crown); light grayish below.

The shoulder-patch and streakiness of upper parts are conspicuous and distinctive.

Southeastern Arizona — *Res.* — Rare. Lower Sonoran Zone.

BOHEMIAN WAXWING

(618. *Bombycilla garrula*) 8 in.

Resembles Cedar Waxwing, but larger and conspicuously marked: Black of chin extended on throat; sides of throat and under tail-coverts chestnut; wing slaty; primaries and coverts white and yellow-tipped.

Southwestern California — *W.V.* — Rare. In flocks. Recorded occurrences are very few. Nests from northern Alaska and northern Mackenzie to southern British Columbia.

ORANGE-CROWNED WARBLER

(646. *Vermivora celata celata*)

The type form of which the Lutescent and Dusky are subspecies. Compared with the Lutescent, it is duller throughout, generally with a distinct grayish cast on upper parts. Not identifiable in the field.

W.V. — Occasional. Records show general distribution in very small numbers. Range: Alaska and northwestern Canada, and south in Rocky Mountains to New Mexico. Winters over most of Mexico.

HOOVER WARBLER

(655a. *Dendroica coronata hooveri*) 5½ in.

White throat distinguishes from Audubon Warbler in the field. Close inspection shows white superciliary and blacker ear-patch; otherwise closely similar. Female smaller, duller, and less definitely marked.

W.V. — Occasional in southwestern California, in company with the Audubon. Has been recorded in southeastern Arizona.

GRAY TITMOUSE

(733a. *Bæolophus inornatus griseus*) 5¾ in.

Similar to the Plain Titmouse, but paler; light gray above, whitish gray below.

The desert race of Titmouse.

Arizona — *Res.* — Mountains of north central part. Range: Mountains of arid interior of western United States.

MEXICAN CHICKADEE

(737. *Penthestes sclateri*) 5 in.

A solid black cap and equally black throat-patch, separated by a broad white stripe; otherwise gray.

Known to occur in the United States only in the Chiricahua Mountains of extreme southeastern Arizona.

FIELD COLOR KEYS TO SPECIES OF THE
FOLLOWING ORDERS AND FAMILIES

(Descriptions apply only to adult males in breeding plumage, unless otherwise specified.)

DUCKS. Family Anatidæ

Long. Very slender; brown head; white neck, black line above; spike tail. 143. PINTAIL 26-30

Large.

A. With much black.

a. Black head and neck.

- 1. Short crest; white below. 129. MERGANSER 24
- 2. Long crest; rusty breast-band, black-streaked.
130. RED-BREASTED MERGANSER 22

b. Wholly black except

- 1. White wing-spot.
165a. DIXON WHITE-WINGED SCOTER 22
- 2. White forehead and nape; bill grotesque.
166. SURF SCOTER 20

c. Fore parts black.

- 1. Back gray; "Little Blue-bill."
149. LESSER SCAUP DUCK 17
- 2. Back black; distinctive bill pattern.
150. RING-NECKED DUCK 17

B. Head chestnut; chest and shoulders black.

- 1. Back gray. 146. REDHEAD 20
- 2. Back and belly whitish; bill long (cf. 146).
147. CANVAS-BACK 21-23

C. Head and neck dark green.

- 1. Shoulders and chest white; breast and belly rufous; bill distinctive. . . . 142. SHOVELLER 20
- 2. White collar; back dark; breast chestnut; belly whitish. 132. MALLARD 20-24

D. Mostly grayish brown mixed.

- 1. Wings extensively chestnut, black, and white.
135. GADWALL 20
- 2. Crown white; extensive white on wing.
137. BALDPATE 20-23

Small.

A. Black and white; white patch in crest.

- 153. BUFFLE-HEAD 14

B. With chestnut.	LENGTH
1. Head chestnut; short crest; breast spotted.	
139. GREEN-WINGED TEAL	15
2. Body cinnamon. . . . 141. CINNAMON TEAL	16
3. Sides of head white; crown and nape black; otherwise rich chestnut above; "Wire-tail."	
167. RUDDY DUCK	14

SHORE-BIRDS

Large (14–25 inches).

LENGTH

- | | |
|--|-------|
| A. Bill curved and long. | |
| a. Bill up-curved; head and neck light cinnamon, otherwise white below; wings black and white. | |
| 225. AVOCET | 18 |
| b. Bill slightly up-curved; pale cinnamon. | |
| 249. MARBLED GODWIT | 17 |
| c. Bill down-curved. | |
| 1. Wholly light cinnamon-brown. | |
| 264. LONG-BILLED CURLEW | 20–25 |
| 2. Head striped; (darker body than No. 264). | |
| 265. HUDSONIAN CURLEW | 16–18 |
| B. Bill straight. | |
| a. Black above; white below; bill long, slender; legs red. | |
| 226. BLACK-NECKED STILT | 15 |
| b. Mostly gray in plumage. | |
| 1. Bill long, slender; tail mostly white. | |
| 254. GREATER YELLOW-LEGS | 14 |
| 2. Bill long, thick; open wings black and white. | |
| 258a. WESTERN WILLET | 15 |
| c. Wholly black; large bill. | |
| 287. BLACK OYSTER-CATCHER | 17 |

Medium size (around 10½ inches).

- | | |
|---|-----|
| A. Mostly brown or cinnamon. | |
| a. Bill long and straight. | |
| 1. Back striped; dusky crown stripes; secretive. | |
| 230. WILSON SNIPE | 11 |
| 2. Rump and tail-coverts white; feeds in open. | |
| 232. LONG-BILLED DOWITCHER | 11 |
| B. Appears blackish at distance. Resembles Spotted Sandpiper in attitude and shape. | |
| 259. WANDERING TATTLER | 11 |
| C. Mostly gray; wings black below (winter). | |
| 270. BLACK-BELLIED PLOVER | 11 |
| D. Black collar and chest-band. | |
| 273. KILLDEER | 10½ |

Small (Phalaropes, Plovers, Sanderling, Sandpipers, Turnstones).

	LENGTH
A. Black markings; white below.	
1. Blackish above; chest brown-streaked.	
256a. WESTERN SOLITARY SANDPIPER	9
2. Black collar. 274. SEMIPALMATED PLOVER	7
3. Black chest-band; bizarre head pattern.	
283a. RUDDY TURNSTONE	9½
4. Black; white rump and wing-patch.	
284. BLACK TURNSTONE	9
B. Rufous or cinnamon; "swimming Snipes"; (females in summer)	
1. Bill short; sides of head white; cinnamon-brown below. 222. RED PHALAROPE	8½
2. Bill slender; throat and belly white; neck chestnut-marked. 223. NORTHERN PHALAROPE	8
3. Bill needle-like; black stripe on head and neck; below white, rusty-washed.	
224. WILSON PHALAROPE	9
C. Mostly ashy or olive-brown above; white below.	
1. Bill length of head; straight.	
a. Chest buffy; breast and belly white.	
241. BAIRD SANDPIPER	7½
b. Ashy above; white below; white wing-bar. (Winter.) (White belly distinguishes from 234.)	
248. SANDERLING	8
c. Round black spots below; white line through eye. 263. SPOTTED SANDPIPER	7½
2. Bill longer than head, down-curved. Olive-brown above; white throat and belly. (Winter.)	
243a. RED-BACKED SANDPIPER	9
3. Bill shorter than head. Black on crown and from bill to eye. 281. MOUNTAIN PLOVER	9
<i>Very small.</i>	
A. Bill long as head.	
1. Chest brownish streaked (cf. 241 and 247).	
242. LEAST SANDPIPER	6
2. Chest black-lined; white wing-bar (cf. 242).	
247. WESTERN SANDPIPER	6½
B. Bill shorter than head. Ashy gray above; white below; black-marked on forehead and sides of chest.	
278. SNOWY PLOVER	6½

HAWKS, EAGLES, AND KITES. Family Accipitridæ

<i>Very large.</i>	LENGTH
A. All brown; head and neck lighter; legs feathered to toes; mostly inland.....	349. GOLDEN EAGLE 30-40
B. Black; white head and tail; legs not feathered to toes; coastal.....	352. BALD EAGLE 30-42

Large.

A. Marked with white.	
1. Body brown (male gray); white rump; long tail.	331. MARSH HAWK 18-21
2. Body brown; white base and tip of tail (Colorado River Valley).....	335. HARRIS HAWK 17-21
3. Body black; three white bands on tail (southern Arizona).....	340. ZONE-TAILED HAWK 19-21
B. White below.	
1. Brown chest-band.....	342. SWAINSON HAWK 20-22
2. Sides lightly spotted; tail white below.	348. FERRUGINOUS ROUGH-LEG 22-24
3. Sides and chest lightly spotted; head mostly white.	364. OSPREY 21-25
C. White inconspicuous; tail rusty above; cinnamon below, darker-streaked.	
	337b. WESTERN RED-TAIL 20-24

Medium.

1. All white below; gray above, black shoulders (open country; California).	328. WHITE-TAILED KITE 16½
2. Wings short, rounded; tail long and rounded; back slaty (timber); cf. with 332.	333. COOPER HAWK 14-20
3. Nearly solid cinnamon below; tail dusky, white-banded (mostly willow groves; California).	339b. RED-BELLIED HAWK 18-20
4. White throat, black mustaches; streaked below; brown back; wings long, pointed.	355. PRAIRIE FALCON 17-20
5. White throat, black head; barred below; slaty back; wings long, pointed.....	356a. DUCK HAWK 15½-20

Small.

LENGTH

- | | |
|---|-------|
| 1. Wings short, round; tail long, square; slaty above, rusty-mixed below (timber); cf. with 333. | |
| 332. SHARP-SHINNED HAWK | 11-15 |
| 2. Wings long, pointed; brown above, streaked below; throat white..... | |
| 357. PIGEON HAWK | 10-13 |
| 3. Wings long, pointed; rusty above, paler below; cheeks black-striped; shoulder bluish (open country). | |
| 360a. DESERT SPARROW HAWK | 10-13 |

Destructive Hawks.

Long tail; short, round wing; timber-haunting.

- | | |
|--|--|
| 1. Small; tail square; "Chicken Hawk." | |
| 332. SHARP-SHINNED | |
| 2. Medium; tail long, rounded; "Chicken Hawk." | |
| 333. COOPER | |
| 3. Large; called "Blue Hen Hawk." | |
| 334a. GOSHAWK | |

BARN OWL. Family Aluconidæ. HORNED OWLS,
etc. Family Strigidæ

A. *Large.*

LENGTH

- a. Ear-tufts conspicuous; belly barred and streaked.
1. Ear-tufts rising directly above eyes (one of the most beneficial species).
366. LONG-EARED OWL 15
 2. "Cat-faced" Owls (destructive species).
375-. HORNED OWLS 18-22
- b. Ear-tufts inconspicuous or lacking.
1. Belly white, finely spotted; eyes black; "monkey-face"365. BARN OWL 16
 2. Belly buffy, dark-streaked; eyes yellow.
367. SHORT-EARED OWL 15
 3. Belly barred, head and neck spotted; eyes black.....369-. SPOTTED OWLS 18

B. *Small.*

- a. Ear-tufts on "corners" of head, conspicuous; large eyes; prominent facial discs; tarsus feathered.
373-. SCREECH OWLS 7½-8½
- b. No ear-tufts.
1. Ground; nocturnal and diurnal; tarsus bare, long and slim.....378. BURROWING OWL 9
 2. Forest; diurnal; tarsus densely feathered; long tail.....379-. PYGMY OWLS 7
 3. Giant cactus; nocturnal; tarsus scantily feathered.....381. ELF OWL 6

WOODPECKERS. Family Picidæ

	LENGTH
A. Brown.	
a. All brown (Ariz.).	
398. ARIZONA WOODPECKER	8
b. Upper parts brownish; rump white; black crescent on chest.	
1. Black mustaches; lining of tail and wings yellow (southern Calif.).	
412b. BOREAL FLICKER	13
2. Red mustaches; lining of tail and wings red.	
413. RED-SHAFTED FLICKER	13
3. Red mustaches; lining of tail and wings yellow.	
414b. MEARNS GILDED FLICKER	11½
B. Black and white strongly marked.	
a. White stripe down middle of back; red nape.	
1. Outer web of outer tail-feather white (Calif.).	
393d. CABANIS WOODPECKER	9
2. Whiter below than 393d (Ariz.).	
393h. WHITE-BREASTED WOODPECKER	9
3. Outer web of outer tail-feather barred with black; miniature of 393d (Calif.).	
394e. WILLOW WOODPECKER	6
4. Larger and whiter than 394e (E. Ariz.).	
394b. BATCHELDER WOODPECKER	6½
b. "Ladder-back."	
1. Red crown and red nape; desert and semi-desert.....	
396. CACTUS WOODPECKER	7
2. Black crown; red nape; only "ladder-back" of Pacific slope (Calif.).	
397. NUTTALL WOODPECKER	7
3. Red crown; gray below, belly yellowish.	
411. GILA WOODPECKER	9½
c. White head; red nape; otherwise black with white wing-patch (Calif.).	
399a. SOUTHERN WHITE-HEADED WOODPECKER	9
d. Black above; no red; narrowly barred on back; crown-patch bright yellow (Ariz.).	
401b. ALPINE THREE-TOED WOODPECKER	9½

	LENGTH
C. Red markings below; belly yellow or yellowish.	
1. Red crown, nape, and throat; black chest.	
402a. RED-NAPED SAPSUCKER	8½
2. Red head, chest, and neck (southern Calif.).	
403. RED-BREASTED SAPSUCKER	8
3. Red stripe on throat; mostly black; white wing-patch. . . .	
404. WILLIAMSON SAPSUCKER	9
D. Belly red; upper parts greenish black; light gray collar	
408. LEWIS WOODPECKER	11

FLYCATCHERS. Family Tyrannidæ

LENGTH

Large (8-9½ inches)

A. Tail black.

- a. Tail edged with white; head and neck clear light ash; belly yellow.

447. ARKANSAS KINGBIRD 8½

- b. Tail not edged with white; throat white; neck and breast dark gray; belly dull yellow; duller and darker than 447. 448. CASSIN KINGBIRD 9

B. Tail rufous.

- a. Throat white; belly pale yellow; breast black-streaked (S.E. Ariz.).

451. SULPHUR-BELLIED FLYCATCHER 8

- b. Throat and chest gray; belly sulphur-yellow (S.W. Ariz.).

453. ARIZONA CRESTED FLYCATCHER 9½

- c. Throat and fore-breast pale ash; belly pale yellowish. 454. ASH-THROATED FLYCATCHER 8

Medium size (7-7½ inches).

A. Black and white.

Slaty black with white belly . . . 458. BLACK PHOEBE 7

B. Mostly dull-colored.

- a. Rusty below; gray-brown above; tail black.

457. SAY PHOEBE 7½

- b. Grayish olive below, median line white or yellowish; slaty brown above.

459. OLIVE-SIDED FLYCATCHER 7½

- c. No distinctive marks (Ariz.).

460. COUES FLYCATCHER 7½

Small size (5½-6¼).

A. Chiefly dull-colored.

- a. Brownish or slaty; difficult to identify.

462. WESTERN WOOD PEWEE 6¼

466. TRAILL FLYCATCHER 5¾

468. HAMMOND FLYCATCHER 5½

469. WRIGHT FLYCATCHER 5½

- b. Greenish yellow below; light yellow eye-ring.

464. WESTERN FLYCATCHER 5¾

B. Scarlet under parts and crest.

471. VERMILION FLYCATCHER 5¾

SPARROWS. Family Fringillidæ

With Head Markings.

LENGTH

A. With black.

- | | |
|--|----|
| 1. Head brown-yellow; black-streaked above and below; grass-loving (S.E. Ariz.). 545. BAIRD SPARROW | 5½ |
| 2. Crown striped buffy and black; white below; flight quail-like.
546a. WESTERN GRASSHOPPER SPARROW | 5¼ |
| 3. Head with chestnut, white, and black; black chest-spot; tail white-edged, white-tipped.
552a. WESTERN LARK SPARROW | 6¼ |
| 4. Head black and white striped; light gray below.
554a. GAMBEL SPARROW | 6¾ |
| 5. Crown yellow, bordered with black; dull gray below.
557. GOLDEN-CROWNED SPARROW | 7½ |
| 6. Chin and face black; slaty gray below.
565. BLACK-CHINNED SPARROW | 5½ |
| 7. Sides of head white-striped; throat black.
573a. DESERT SPARROW | 5½ |

B. Without black.

- | | |
|---|----|
| 1. Crown bright chestnut; white superciliary.
560a. WESTERN CHIPPING SPARROW | 5 |
| 2. Crown rufous; throat buffy, black-lined on sides.
580. RUFOUS-CROWNED SPARROW | 5½ |

With definite markings below.

A. Black breast-spot.

- | | |
|--|----------|
| 1. Otherwise white below; striped head; tail with white.
552a. WESTERN LARK SPARROW | 6¼ |
| 2. Otherwise white below; sides of throat black-striped.
574. BELL SPARROW
574.1. SAGE SPARROW | 5¾
6¼ |
| 3. White below, black or brown-streaked, except throat and belly. 581-. SONG SPARROWS | 5¾ |

B. No breast-spot; streaked or spotted below.

- | | |
|---|----|
| 1. White outer tail-feathers.
540a. WESTERN VESPER SPARROW | 6 |
| 2. Black-streaked above and below.
545. BAIRD SPARROW | 5½ |

	LENGTH
3. Chest-band buffy 583. LINCOLN SPARROW	5 $\frac{3}{4}$
4. Heavily spotted below; not black	
585-. FOX SPARROWS	7-7 $\frac{1}{2}$

Conspicuous markings absent.

1. Fresh and salt-water marshes.	
542b. WESTERN SAVANNAH SPARROW	5 $\frac{1}{4}$
2. Salt marshes; slightly darker than 542b. (S.W. Calif.) 543. BELDING SPARROW	5 $\frac{1}{4}$
3. About buildings on ocean beach; salt marshes.	
544. LARGE-BILLED SPARROW	5 $\frac{1}{2}$
4. Desert brush; wholly gray-brown above, finely black-streaked; whitish below.	
562. BREWER SPARROW	5 $\frac{1}{4}$
5. Mesquite and brush; light-colored (S.E. Ariz.).	
578. CASSIN SPARROW	6

WOOD WARBLERS. Family Compothlypidæ

Small.

LENGTH

- | | | |
|---|---------------------------------|-----------------|
| A. Black and white. | | |
| 1. Strongly black-and-white-streaked above and below; white line on crown (So. Calif.). | | |
| 636. BLACK AND WHITE WARBLER | | 5 |
| 2. Head black with two white stripes on sides; crown without white. | | |
| 665. BLACK-THROATED GRAY WARBLER | | 5 |
| B. Black and yellow or orange-brown. | | |
| a. Yellow throat and chest. | | |
| 1. Gray above; belly whitish, black-streaked; (Ariz.)..... | 664. GRACE WARBLER | 5 |
| 2. Black mask. Female without mask. | | |
| | 681f. TULE YELLOW-THROAT | 5 |
| 3. Black cap; all yellow below. Female lacks cap. | | |
| | 685b. GOLDEN PILEOLATED WARBLER | 4 $\frac{3}{4}$ |
| b. Yellow throat; black chest. | | |
| | 656. AUDUBON WARBLER | 5 $\frac{3}{4}$ |
| c. Black on throat. | | |
| 1. Yellow above and below eye. | | |
| | 668. TOWNSEND WARBLER | 5 |
| 2. Head yellow; throat all black. | | |
| | 669. HERMIT WARBLER | 5 |
| d. Orange-brown fore parts; black stripe through eye; (Ariz.)..... | | |
| | 651. OLIVE WARBLER | 5 |
| C. Black and red. | | |
| 1. Black with vermilion breast; white wing-patch; (Ariz.)..... | 688. PAINTED REDSTART | 5 $\frac{1}{2}$ |
| 2. Face, throat, and sides of neck red (S.E. Ariz.). | | |
| | 690. RED-FACED WARBLER | 5 $\frac{1}{4}$ |
| D. No black. | | |
| a. Head and neck gray. | | |
| 1. Chest and belly white (S.E. Calif. and Ariz.). | | |
| | 643. LUCY WARBLER | 4 $\frac{1}{4}$ |
| 2. Chest yellow. | | |
| Back gray; belly white (Ariz.). | | |
| | 644. VIRGINIA WARBLER | 4 $\frac{3}{4}$ |
| Back olive-green; belly yellow. | | |
| | 645a. CALAVERAS WARBLER | 4 $\frac{3}{4}$ |

b. Head and neck slaty; back olive-green; belly yellow.	LENGTH
680. MACGILLIVRAY WARBLER	5 $\frac{1}{4}$
c. More or less yellow or yellowish.	
1. Dull yellow below, darker-streaked.	
646a. LUTESCENT WARBLER	4 $\frac{3}{4}$
2. Darker than 646a. but indistinguishable in field (S.W. Calif.).	
646b. DUSKY WARBLER	5
3. Chest and sides rufous-streaked.	
652c. CALIFORNIA YELLOW WARBLER	4 $\frac{3}{4}$

Large.

Bright yellow below, except white belly; grayish olive above; black lores and cheek-stripe; bill very heavy for Warbler.

 683a. LONG-TAILED CHAT 7 $\frac{1}{2}$

LIST OF BIRDS TREATED IN THIS BOOK

Arranged according to the American Ornithologists' Union's 'Check-
List of North American Birds,' and Supplements.
(For explanation of abbreviations see page xxv.)

ORDER DIVING BIRDS: PYGOPODES

<i>A.O.U.</i> <i>No.</i>	<i>Length</i> (inches)	<i>Status</i>
Family Grebes: Colymbidæ		
1. Western Grebe	24	W.V.
2. Holboell Grebe	20	Appendix
3. Horned Grebe	13	W.V. So. Calif.
4. Eared Grebe	12½	Res.
6. Pied-billed Grebe	13	Res.
Family Loons: Gaviidæ		
7. Loon	30	W.V.
10. Pacific Loon	24	W.V. Ocean
11. Red-throated Loon	24	W.V. Ocean
Family Auklets, Murres, Puffins, etc.: Alcidæ		
12. Tufted Puffin	15	Res. Ocean
15. Rhinoceros Auklet	14	W.V. Ocean
16. Cassin Auklet	9	Res. Ocean
21. Ancient Murrelet	10	See Text
25. Xantus Murrelet	10	Res. Ocean
29. Pigeon Guillemot	13	Res. Ocean
30a. California Murre	17	Res. Ocean

ORDER LONG-WINGED SWIMMERS: LONGIPENNES

Family Jaegers — Stercorariidæ		
37. Parasitic Jaeger	17-19	W.V. Ocean
38. Long-tailed Jaeger	20	Appendix
Family Gulls and Terns: Laridæ		
40a. Pacific Kittiwake	16	W.V. Coastwise
44. Glaucous-winged Gull	24-27	W.V. Coastwise
49. Western Gull	23-25	Res. Coastwise
51. Herring Gull	23-26	W.V. Coastwise
51-. Thayer Gull	22-24	Appendix
53. California Gull	18-21	W.V.
54. Ring-billed Gull	17-19	W.V. So. Calif.

<i>A.O.U.</i> <i>No.</i>		<i>Length</i> (inches)	<i>Status</i>
55.	Short-billed Gull	16-18	W.V. Coastwise
57	Heermann Gull	16-18	W.V. Coastwise
59.	Franklin Gull	14½	Appendix
60.	Bonaparte Gull	14	W.V. Calif.
62.	Sabine Gull	13	Appendix
64.	Caspian Tern	21	W.V. So. Calif.
65.	Royal Tern	19	W.V. Coastwise
69.	Forster Tern	13-16	W.V. Calif.
70.	Common Tern	12-14	W.V.
71.	Arctic Tern	12-13	W.V. Coastwise
74.	Least Tern	9	S.V. So. Calif.
77.	Black Tern	10	Mig. So. Calif.

ORDER TUBE-NOSED SWIMMERS: TUBINARES

Family Albatrosses: Diomedeidæ

81.	Black-footed Albatross	30	Res. Ocean
82.	Short-tailed Albatross	36	Appendix

Family Fulmars, Shearwaters, and Petrels: Hydrobatidæ

86b.	Pacific Fulmar	18	W.V. Ocean
86.1.	Rodger Fulmar	18	Appendix
91.	Pink-footed Shearwater	19	S.V. Ocean
93.	Black-vented Shearwater	14	Res. Ocean
95.	Sooty Shearwater	17	S.V. Ocean
96.	Slender-billed Shearwater	13	Appendix
105.	Fork-tailed Petrel	8	W.V. Ocean
105.2.	Kaeding Petrel	8½	Appendix
107.	Black Petrel	9	Res. Ocean
108.	Ashy Petrel	8½	Appendix
108.1.	Socorro Petrel	8½	Res. Ocean

ORDER TOTIPALMATE SWIMMERS: STEGANOPODES

Family Cormorants: Phalacrocoracidæ

120c.	Farallon Cormorant	30	Res. Common
122.	Brandt Cormorant	30	Res. Abundant
123b.	Baird Cormorant	26	Res. Islands

Family Pelicans: Pelecanidæ

125.	White Pelican	5 ft.	W.V. Chiefly
127.	California Brown Pelican	4-5 ft.	Res.

Family Man-o'-war Birds: Fregatidæ

128.	Man-o'-war Bird	3½ ft.	Appendix
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ORDER LAMELLIROSTRAL SWIMMERS: ANSERES

<i>A.O.U.</i> <i>No.</i>	<i>Length</i> <i>(inches)</i>	<i>Status</i>
Family Ducks, Geese, and Swans: Anatidæ		
129. Merganser	24	W.V.
130. Red-breasted Merganser	22	W.V.
131. Hooded Merganser	18	Appendix
132. Mallard	20-24	W.V.
135. Gadwall	20	W.V. So. Calif.
136. European Widgeon	18-20	Appendix
137. Baldpate	20-23	W.V.
139. Green-winged Teal	15	W.V.
140. Blue-winged Teal	15	Appendix
141. Cinnamon Teal	16	Res.
142. Shoveller	20	W.V.
143. Pintail	26-30	See Text
144. Wood Duck	19	Appendix
146. Redhead	20	W.V. So. Calif.
147. Canvas-back	21-23	W.V. So. Calif.
148. Scaup Duck	18	Appendix
149. Lesser Scaup Duck	17	W.V. See Text
150. Ring-necked Duck	17	W.V. So. Calif.
151. American Golden-eye	20	Appendix
153. Buffle-head	14	W.V.
163. American Scoter	20	Appendix
165a. Dixon White-winged Scoter	22	W.V. So. Calif.
166. Surf Scoter	20	W.V. Ocean
167. Ruddy Duck	14	See Text
169. Snow Goose	26	W.V. So. Calif.
170. Ross Goose	21	Appendix
171a. White-fronted Goose	28	W.V. So. Calif.
172. Canada Goose	36	W.V.
172a. Hutchins Goose	30	W.V. So. Calif.
172c. Cackling Goose	24	W.V. So. Calif.
174. Black Brant	25	W.V. So. Calif.
178. Fulvous Tree-duck	22	See Text
180. Whistling Swan	4-5 ft.	W.V. Rare

ORDER HERONS, STORKS, IBISES, ETC.: HERODIONES

Family Ibises: Threskiornithidæ

187. White-faced Glossy Ibis	22	See Text
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Family Wood Ibises: Ciconiidæ

188. Wood Ibis	40	See Text
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<i>A.O.U.</i> <i>No.</i>		<i>Length</i> (inches)	<i>Status</i>
Family Herons, Egrets, and Bitterns: Ardeidæ			
190.	Bittern	30	See Text
191.	Least Bittern	13	S.V. So. Calif.
194c.	Treganza Heron	3½-4 ft.	Res. Great Basin
194d.	California Heron	3½-4 ft.	Res. S.W. Calif.
196.	Egret	38	See Text
197.	Snowy Egret	24	S.V. Rare
201c.	Anthony Green Heron	18	S.V. Chiefly
202.	Black-crowned Night Heron	24	Res.

ORDER CRANES, RAILS, ETC.: PALUDICOLÆ

Family Cranes: Gruidæ

205.	Little Brown Crane	36	W.V. See Text
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Family Rails, Gallinules, and Coots: Rallidæ

210.1.	Light-footed Rail	16	Res. S.W. Calif.
212.	Virginia Rail	10	Res.
214.	Sora	8½	Res.
216.1.	Farallon Rail	5	Appendix
219.	Florida Gallinule	13	Res.
221.	Coot	15	Res.

ORDER SHORE-BIRDS: LIMICOLÆ

Family Phalaropes: Phalaropodidæ

222.	Red Phalarope	8½	Mig. So. Calif.
223.	Northern Phalarope	8	Mig. So. Calif.
224.	Wilson Phalarope	9	Mig. See Text

Family Avocets and Stilts: Recurvirostridæ

225.	Avocet	18	Mig. Chiefly
226.	Black-necked Stilt	15	S.V. So. Calif.

Family Snipes, Sandpipers, etc.: Scolopacidæ

230.	Wilson Snipe	11	See Text
232.	Long-billed Dowitcher	11	W.V. So. Calif.
234.	Knot	9	Appendix
241.	Baird Sandpiper	7½	Mig. So. Calif.
242.	Least Sandpiper	6	See Text
243a.	Red-backed Sandpiper	9	W.V. So. Calif.
247.	Western Sandpiper	6½	See Text
248.	Sanderling	8	W.V. Calif.
249.	Marbled Godwit	17	W.V. So. Calif.
254.	Greater Yellow-legs	14	W.V. So. Calif.

<i>A.O.U.</i> <i>No.</i>		<i>Length</i> <i>(inches)</i>	<i>Status</i>
256a.	Western Solitary Sandpiper	9	Mig.
258a.	Western Willet	15	W.V. Calif.
259.	Wandering Tattler	11	Mig. So. Calif.
263.	Spotted Sandpiper	7½	See Text
264.	Long-billed Curlew	20-25	W.V. So. Calif.
265.	Hudsonian Curlew	16-18	Mig. So. Calif.

Family Plovers: Charadriidæ

270.	American Black-bellied Plover	11	W.V. So. Calif.
273.	Killdeer	10½	Res.
274.	Semipalmated Plover	7	W.V. So. Calif.
278.	Snowy Plover	6½	Res. So. Calif.
281.	Mountain Plover	9	See Text

Family Surf-birds and Turnstones: Aphrizidæ

282.	Surf-bird	10	Appendix
283a.	Ruddy Turnstone	9½	W.V. So. Calif.
284.	Black Turnstone	9	W.V. Calif.

Family Oyster-catchers: Hæmatopodidæ

287.	Black Oyster-catcher	17	Res. Calif.
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ORDER GALLINACEOUS BIRDS: GALLINÆ**Family Quails: Odontophoridæ**

292a.	Plumed Quail	11	Res. So. Calif.
293.	Scaled Quail	10½	Res. S.E. Ariz.
294a.	Valley Quail	10	Res. Calif.
295.	Gambel Quail	10	Res. Deserts
296.	Mearns Quail	9	Res. Ariz.

Family Grouse: Tetraonidæ

297.	Dusky Grouse	20	Res. Ariz.
297c.	Sierra Grouse	20	Res. Mt. Pinos, Calif.

Family Turkeys: Meleagridæ

310.	Merriam Turkey	3½-4 ft.	Res. Ariz.
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ORDER PIGEONS AND DOVES: COLUMBÆ**Family Pigeons and Doves: Columbidae**

312.	Band-tailed Pigeon	14	See Text
316a.	Western Mourning Dove	12	Res.
319a.	White-winged Dove	11	Res. Ariz.
320a.	Mexican Ground Dove	6½	Res.
321.	Inca Dove	8	Res. Ariz.

ORDER BIRDS OF PREY: RAPTORES

<i>A.O.U. No.</i>	<i>Length (inches)</i>	<i>Status</i>
Family American Vultures: Cathartidæ		
324. California Vulture	45-55	Res. Calif.
325. Turkey Vulture	28-32	Res.
Family Hawks, Eagles, Kites, etc.: Accipitridæ		
328. White-tailed Kite	16½	Res. Calif.
331. Marsh Hawk	18-21	See Text
332. Sharp-shinned Hawk	11-15	See Text
333. Cooper Hawk	14-20	Res. Common
334. Goshawk	22-25	W.V. Rare.
334a. Western Goshawk	22-25	See Text
335. Harris Hawk	17-21	Res.
337b. Western Red-tail	20-24	Res. Common
339b. Red-bellied Hawk	18-20	Res. Calif.
340. Zone-tailed Hawk	19-21	S.V. So. Ariz.
342. Swainson Hawk	20-22	Res.
345. Mexican Black Hawk	19	Appendix
346. Mexican Goshawk	17	Appendix
348. Ferruginous Rough-leg	22-24	W.V.
349. Golden Eagle	34-40	Res. See Text
352. Bald Eagle	34-42	Res. See Text
Family Falcons and Caracaras: Falconidæ		
355. Prairie Falcon	17-20	Res.
356a. Duck Hawk	15½-20	Res.
357. Pigeon Hawk	10-13	See Text
359. Aplomado Falcon	17	Appendix
360a. Desert Sparrow Hawk	10-13	Res. Abundant
362. Audubon Caracara	22	Res. Ariz. Rare
Family Ospreys: Pandionidæ		
364. Osprey	21-25	Res.
Family Barn Owls: Aluconidæ		
365. Barn Owl	16	Res. Common
Family Horned Owls, etc.: Strigidæ		
366. Long-eared Owl	15	See Text
367. Short-eared Owl	15	W.V.
369. Spotted Owl	18	Res. Calif.
369b. Arizona Spotted Owl	18	Appendix
372. Saw-whet Owl	7	Appendix
373f. Mexican Screech Owl	8	Res. S.E. Ariz.
373i. Sahuaro Screech Owl	7½	Res. Common
373k. Pasadena Screech Owl	8½	Res. So. Calif.

<i>A.O.U.</i> <i>No.</i>	<i>Length</i> <i>(inches)</i>	<i>Status</i>
373.1. Spotted Screech Owl	7½	Appendix
374. Flammulated Screech Owl	7	Appendix
375a. Western Horned Owl	18-22	Res.
375d. Pacific Horned Owl	18-22	Res. Calif.
378. Burrowing Owl	9	Res.
379. Rocky Mountain Pygmy Owl	7	Res. Ariz.
379a. California Pygmy Owl	7	Res. Calif.
380. Ferruginous Pygmy Owl	6¾	Res. So. Ariz.
381. Elf Owl	6	Res. Common

ORDER PARROTS: PSITTACI

Family Parrots: Psittacidae

382.1. Thick-billed Parrot	16	Appendix
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ORDER CUCKOOS, ETC.: COCCYGES

Family Cuckoos, etc.: Cuculidae

385. Road-runner	22-24	Res. Common
387a. California Cuckoo	12	S.V.

Family Kingfishers: Alcedinidae

390. Belted Kingfisher	13	See Text
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ORDER WOODPECKERS: PICI

Family Woodpeckers: Picidae

393d. Cabanis Woodpecker	9	Res. Calif.
393h. White-breasted Woodpecker	9	Res. Ariz.
394b. Batchelder Woodpecker	6½	Res. E. Ariz.
394e. Willow Woodpecker	6	Res. Calif.
396. Cactus Woodpecker	7	Res.
397. Nuttall Woodpecker	7	Res. Calif.
398. Arizona Woodpecker	8	Res. Ariz.
399a. Southern White-headed Woodpecker	9	Res. Calif.
401b. Alpine Three-toed Wood- pecker	9½	Res. Ariz.
402a. Red-naped Sapsucker	8½	W.V.
403. Red-breasted Sapsucker	8	S.V. So. Calif.
404. Williamson Sapsucker	9	See Text
407. Ant-eating Woodpecker	8½	Res. Ariz.
407a. California Woodpecker	9	Res. Calif.
408. Lewis Woodpecker	11	W.V.

<i>A.O.U.</i> <i>No.</i>	<i>Length</i> (inches)	<i>Status</i>
411. Gila Woodpecker	9½	Res.
412b. Boreal Flicker	13	W.V. So. Calif.
413. Red-shafted Flicker	13	Res.
414b. Mearns Gilded Flicker	11½	Res.

ORDER GOATSUCKERS, SWIFTS, AND HUMMINGBIRDS: MACROCHIRES

Family Goatsuckers: Caprimulgidæ

417. Stephens Whip-poor-will	10	S.V. Ariz.
418. Poor-will	7½	S.V.
418b. Dusky Poor-will	7½	Res. So. Calif.
420a. Western Nighthawk	10	S.V. Ariz.
420d. Pacific Nighthawk	10	S.V. So. Calif.
421. Texas Nighthawk	9	S.V. Common

Family Swifts: Micropodidæ

422. Black Swift	7½	Appendix
424. Vaux Swift	5	See Text
425. White-throated Swift	6½	Res. See Text

Family Hummingbirds: Trochilidæ

426. Rivoli Hummingbird	4¾	S.V. S.E. Ariz.
427. Blue-throated Hummingbird	5¼	S.V. S.E. Ariz.
429. Black-chinned Hummingbird	3½	S.V. Abundant
430. Costa Hummingbird	3¼	S.V. See Text
431. Anna Hummingbird	4	Res. Calif.
432. Broad-tailed Hummingbird	4	S.V. Ariz.
433. Rufous Hummingbird	3½	See Text
434. Allen Hummingbird	3½	See Text
436. Calliope Hummingbird	3	See Text
440.1. White-eared Hummingbird	3¾	Appendix

ORDER PERCHING BIRDS: PASSERES

Family Tyrant Flycatchers: Tyrannidæ

447. Arkansas Kingbird	8½	See Text
448. Cassin Kingbird	9	See Text
451. Sulphur-bellied Flycatcher	8	S.V. S.E. Ariz.
453. Arizona Crested Flycatcher	9½	S.V. Ariz.
454. Ash-throated Flycatcher	8	S.V. See Text
455a. Olivaceous Flycatcher	7¼	Appendix
457. Say Phœbe	7½	See Text
458. Black Phœbe	7	Res.

<i>A.O.U.</i> <i>No.</i>	<i>Length</i> <i>(inches)</i>	<i>Status</i>
459. Olive-sided Flycatcher	7 $\frac{1}{2}$	S.V. Common
460. Coues Flycatcher	7 $\frac{1}{2}$	S.V. Ariz.
462. Western Wood Pewee	6 $\frac{1}{4}$	S.V. Common
464. Western Flycatcher	5 $\frac{3}{4}$	S.V. Common
466. Traill Flycatcher	5 $\frac{3}{4}$	S.V. Common
468. Hammond Flycatcher	5 $\frac{1}{2}$	Mig. Common
469. Wright Flycatcher	5 $\frac{1}{2}$	See Text
469.1. Gray Flycatcher	6	Appendix
470a. Buff-breasted Flycatcher	5	Appendix
471. Vermilion Flycatcher	5 $\frac{3}{4}$	See Text
Family Larks: Alaudidæ		
474e. California Horned Lark	6 $\frac{3}{4}$	Res. So. Calif.
474c. Desert Horned Lark	6 $\frac{3}{4}$	W V.
474h. Scorched Horned Lark	6 $\frac{3}{4}$	Res. Ariz.
474l. Montezuma Horned Lark	7	S.V. Ariz.
474m. Island Horned Lark	6 $\frac{3}{4}$	Res. So. Calif.
474-. Mohave Horned Lark	6 $\frac{3}{4}$	Res. Calif.
474-. Yuma Horned Lark	6 $\frac{3}{4}$	Res. See Text
Family Crows, Jays, Magpies, etc.: Corvidæ		
476. Yellow-billed Magpie	16-18	Res. Calif.
478a. Blue-fronted Jay	12	Res. Calif.
478b. Long-crested Jay	12	Res. Ariz.
480. Woodhouse Jay	12	Res. See Text
481. California Jay	11 $\frac{1}{2}$	Res. Calif.
481.1. Santa Cruz Jay	12	Sa. Cruz Id.
482. Arizona Jay	13	Res. Ariz.
484a. Rocky Mountain Jay	12	Res. Ariz.
486. Raven	22-25	Res.
487. White-necked Raven	19-21	S.V. S.E. Ariz.
488b. Western Crow	18	Res. So. Calif.
491. Clarke Nutcracker	12	Res. See Text
492. Pinyon Jay	11	Res.
Family Blackbirds, Orioles, etc.: Icteridæ		
495a. Dwarf Cowbird	7 $\frac{1}{4}$	Res. See Text
496a. Bronzed Cowbird	8 $\frac{1}{2}$	Appendix
497. Yellow-headed Blackbird	10	S.V. chiefly
498a. Sonora Red-wing	9	Res.
498e. San Diego Red-wing	8 $\frac{1}{2}$	Res. So. Calif.
500. Tricolored Red-wing	8 $\frac{1}{2}$	Res. Calif.
501.1. Western Meadowlark	10	Res. Abundant
504. Scott Oriole	8	S.V. See Text
505a. Arizona Hooded Oriole	8	S.V. Low. So- noran

<i>A.O.U.</i> <i>No.</i>	<i>Length</i> (inches)	<i>Status</i>
508. Bullock Oriole	8	S.V. Common
510. Brewer Blackbird	9½	See Text
Family Finches, Sparrows, etc.: Fringillidæ		
514a. Western Evening Grosbeak	8	See Text
517a. California Purple Finch	6	Res. Calif.
518. Cassin Purple Finch	6½	Res. See Text
519. House Finch: Linnet	6	Res. Abundant
519c. San Clemente House Finch	6	Res. Islands
520.2. House Sparrow: English Sparrow	6	Res.
521. Crossbill	6	Res. So. Calif.
521a. Mexican Crossbill	7	Res. Ariz.
529b. Willow Goldfinch	4¾	Res. S.W. Calif.
530a. Green-backed Goldfinch	4¼	Res. See Text
531. Lawrence Goldfinch	4½	Res. S.W. Calif.
533. Pine Siskin	4¾	Res. See Text
538. Chestnut-collared Longspur	5¾	E. Ariz.
539. McCown Longspur	6	W.V. E. Ariz.
540a. Western Vesper Sparrow	6	W.V. Common locally
540b. Oregon Vesper Sparrow	6	W.V. S.W. Calif.
542b. Western Savannah Sparrow	5¼	W.V. See Text
542d. Nevada Savannah Sparrow	5½	Appendix
543. Belding Sparrow	5¼	Res. S. W. Calif.
544. Large-billed Sparrow	5½	W.V. S.W. Calif.
545. Baird Sparrow	5½	Mig. S.E. Ariz.
546a. Western Grasshopper Sparrow	5¼	Res. Generally rare
552a. Western Lark Sparrow	6¼	Res. Common
554. White-crowned Sparrow	6¾	Appendix
554a. Gambel Sparrow	6¾	W.V. Abundant
554b. Nuttall Sparrow	6½	Appendix
557. Golden-crowned Sparrow	7½	W.V. S.W. Calif.
560a. Western Chipping Sparrow	5	Res. See Text
562. Brewer Sparrow	5¼	See Text
565. Black-chinned Sparrow	5¼	S.V. So. Calif.
567. Slate-colored Junco	6¼	Appendix
567c. Thurber Junco	6	Res. So. Calif.
567g. Pink-sided Junco	6¼	W.V. E. Ariz.
570. Arizona Junco	6½	Res. S.E. Ariz.
570a. Red-backed Junco	6½	Res. N.E. Ariz.
570b. Gray-headed Junco	6½	See Text
573a. Desert Sparrow	5½	S.V. Common locally

<i>A.O.U.</i> <i>No.</i>	<i>Length</i> <i>(inches)</i>	<i>Status</i>
574. Bell Sparrow	5 $\frac{3}{4}$	Res. S.W. Calif.
574.1. Sage Sparrow	6 $\frac{1}{4}$	W.V. See Text
574.1b. California Sage Sparrow	6	Res. So. Calif.
576. Botteri Sparrow	6	Appendix
578. Cassin Sparrow	6	S.V. S.E. Ariz.
579. Rufous-winged Sparrow	5 $\frac{3}{4}$	Appendix
580. Rufous-crowned Sparrow	5 $\frac{1}{2}$	Res. S.W. Calif.
580a. Scott Sparrow	5 $\frac{1}{2}$	Res. S.E. Ariz.
581a. Desert Song Sparrow	6 $\frac{1}{4}$	Res. Common
581b. Mountain Song Sparrow	6 $\frac{1}{2}$	W.V. See Text
581h. Santa Barbara Song Sparrow	5 $\frac{1}{2}$	Res. Islands
581i. San Clemente Song Sparrow	5 $\frac{1}{2}$	Res. Islands
581m. San Diego Song Sparrow	5 $\frac{3}{4}$	Res. S.W. Calif.
583. Lincoln Sparrow	5 $\frac{3}{4}$	See Text
585b. Thick-billed Fox Sparrow	7 $\frac{1}{2}$	W.V. S.W. Calif.
585c. Slate-colored Fox Sparrow	7	W.V. S.W. Calif.
585d. Stephens Fox Sparrow	7 $\frac{1}{2}$	S.V. S.W. Calif.
585-. Valdez Fox Sparrow	7 $\frac{1}{4}$	W.V. S.W. Calif.
588a. Spurred Towhee	8	Res. Ariz.
588c. San Clemente Towhee	8	Res. Islands
588d. San Diego Towhee	8 $\frac{1}{4}$	Res. S.W. Calif.
591. Canyon Towhee	8 $\frac{1}{2}$	Res. Ariz.
591.1a. Anthony Towhee	8 $\frac{3}{4}$	Res. S.W. Calif.
592. Abert Towhee	8 $\frac{3}{4}$	Res.
592.1. Green-tailed Towhee	7 $\frac{1}{4}$	See Text
593a. Arizona Cardinal	9	Res. S.E. Ariz.
594. Arizona Pyrrhuloxia	8 $\frac{3}{4}$	Res. S. Ariz.
596. Black-headed Grosbeak	7 $\frac{1}{2}$	See Text
597a. Western Blue Grosbeak	7 $\frac{1}{2}$	S.V. See Text
599. Lazuli Bunting	5 $\frac{1}{2}$	See Text
605. Lark Bunting	7 $\frac{1}{4}$	W.V.
Family Tanagers: Tanageridæ		
607. Western Tanager	7 $\frac{1}{2}$	S.V. Common
609. Hepatic Tanager	7 $\frac{3}{4}$	S.V. Ariz.
610a. Cooper Tanager	8 $\frac{1}{4}$	S.V. Common
Family Swallows: Hirundinidæ		
611a. Western Martin	7 $\frac{1}{2}$	See Text
612. Cliff Swallow	5 $\frac{1}{2}$	S.V. Abundant
613. Barn Swallow	6-8	S.V. S.W. Calif.
614. Tree Swallow	6	S.V. So. Calif.
615. Northern Violet-green Swallow	5 $\frac{1}{4}$	S.V. Common
616. Bank Swallow	5 $\frac{1}{4}$	S.V. S.W. Calif.
617. Rough-winged Swallow	5 $\frac{1}{2}$	S.V. Sonoran Zones

<i>A.O.U.</i> <i>No.</i>	<i>Length</i> (inches)	<i>Status</i>
Family Waxwings: Bombycillidæ		
618. Bohemian Waxwing	8	Appendix
619. Cedar Waxwing	7	W.V. See Text
Family Silky Flycatchers: Ptilogonatidæ		
620. Phainopepla	7½	S.V. chiefly
Family Shrikes: Laniidæ		
622a. White-rumped Shrike	8¾	Res. Deserts
622b. California Shrike	8¾	Res. S.W. Calif.
622c. Island Shrike	8¼	Res. Islands
Family Vireos: Vireonidæ		
627a. Western Warbling Vireo	5	S.V. Common
629a. Cassin Vireo	5¼	S.V. S.W. Calif.
629b. Plumbeous Vireo	5¾	S.V. Ariz.
632. Hutton Vireo	4¾	Res. S.W. Calif.
632a. Stephens Vireo	5	Res. S.E. Ariz.
633a. Least Vireo	4½	S.V. Low. So- noran
634. Gray Vireo	5¾	S.V.
Family Wood Warblers: Compsothlypidæ		
636. Black and White Warbler	5	Mig. So. Calif.
643. Lucy Warbler	4¼	S.V. See Text
644. Virginia Warbler	4¾	S.V. Ariz.
645a. Calaveras Warbler	4¾	Mig. Abundant
646. Orange-crowned Warbler	4¾	Appendix
646a. Lutescent Warbler	4¾	Mig. chiefly
646b. Dusky Warbler	5	See Text
651. Olive Warbler	5	S.V. Ariz.
652a. Sonora Yellow Warbler	4¾	S.V. Low. So- noran
652c. California Yellow Warbler	4¾	See Text
655a. Hoover Warbler	5½	Appendix
656. Audubon Warbler	5¾	Res. See Text
656a. Black-fronted Warbler	5¾	S.V. S.E. Ariz.
664. Grace Warbler	5	S.V. Ariz.
665. Black-throated Gray Warbler	5	S.V. Low. Trans.
668. Townsend Warbler	5	Mig. chiefly
669. Hermit Warbler	5	Mig. See Text
680. Macgillivray Warbler	5¼	Mig. See Text
681a. Western Yellow-throat	5½	Res. See Text
681f. Tule Yellow-throat	5	Res. See Text
683a. Long-tailed Chat	7½	S.V. Common
685a. Pileolated Warbler	4¾	Mig. See Text

<i>A.O.U.</i> <i>No.</i>	<i>Length</i> <i>(inches)</i>	<i>Status</i>
685b. Golden Pileolated Warbler	4 $\frac{3}{4}$	See Text
688. Painted Redstart	5 $\frac{1}{4}$	S.V. Ariz.
690. Red-faced Warbler	5 $\frac{1}{4}$	S.V. S.E. Ariz.
Family Wagtails: Motacillidæ		
697. Pipit	6 $\frac{1}{2}$	W.V. See Text
Family Dippers: Cinclidæ		
701. Dipper: Ouzel	7 $\frac{1}{2}$	Res.
Family Thrashers and Mockingbirds: Mimidæ		
702. Sage Thrasher	8 $\frac{1}{2}$	W.V. Common
703a. Western Mockingbird	10	Res. See Text
707a. Palmer Thrasher	11	Res. Ariz.
708. Bendire Thrasher	10	Res. Ariz.
710. California Thrasher	12	Res. S.W. Calif.
711. Leconte Thrasher	10 $\frac{1}{2}$	Res. Deserts
712. Crissal Thrasher	12	Res. See Text
Family Wrens: Troglodytidæ		
713. Cactus Wren	8 $\frac{1}{2}$	Res. Low. Son.
715. Rock Wren	6	Res. Locally common
715a. San Nicolas Rock Wren	6	Res. Islands
717a. Canyon Wren	5 $\frac{3}{4}$	See Text
717b. Dotted Canyon Wren	5 $\frac{3}{4}$	Res. S.W. Calif.
719b. Baird Wren	5 $\frac{1}{4}$	Res. Ariz.
719d. San Diego Wren	5 $\frac{1}{4}$	Res. S.W. Calif.
719.1. San Clemente Wren	5 $\frac{1}{4}$	Res. Islands
721a. Western House Wren	4 $\frac{3}{4}$	See Text
722a. Western Winter Wren	4	W.V. S.W. Calif.
725a. Tule Wren	4 $\frac{1}{2}$	Res. S.W. Calif.
725c. Western Marsh Wren	5 $\frac{1}{4}$	W.V. Common
Family Creepers: Certhiidæ		
726a. Mexican Creeper	5 $\frac{1}{2}$	S.V. S.E. Ariz.
726b. Rocky Mountain Creeper	5 $\frac{1}{2}$	S.V. Ariz.
726d. Sierra Creeper	5 $\frac{1}{2}$	Res. S.W. Calif.
Family Nuthatches: Sittidæ		
727a. Slender-billed Nuthatch	5 $\frac{1}{2}$	Res. S.W. Calif.
727c. Rocky Mountain Nuthatch	5 $\frac{3}{4}$	S.V. Ariz.
728. Red-breasted Nuthatch	4 $\frac{1}{2}$	Rare
730. Pygmy Nuthatch	4	Res. Ariz.
730a. White-naped Nuthatch	4 $\frac{1}{4}$	Res. S.W. Calif.

<i>No.</i> <i>A.O.U.</i>		<i>Length</i> (inches)	<i>Status</i>
Family Titmice, Chickadees, and Bush-Tits:			
Paridæ			
733.	Plain Titmouse	5½	Res. S.W. Calif.
733a.	Gray Titmouse	5¾	Appendix.
734.	Bridled Titmouse	4¾	Res. Ariz.
737.	Mexican Chickadee	5	Appendix
738.	Mountain Chickadee	5½	Res. Ariz.
738a.	Bailey Mountain Chickadee	5½	Res. So. Calif.
743.	Bush-Tit	4¼	Res. S.W. Calif.
744.	Lead-colored Bush-Tit	4¼	Res. Ariz.
746.	Verdin	4¼	Res. Deserts
Family Wren-Tits: Chamæidæ			
742a.	Pallid Wren-Tit	6½	Res. S.W. Calif.
Family Kinglets and Naticcatchers: Sylviidæ			
748a.	Western Golden-crowned Kinglet	4	Res. S.W. Calif.
749.	Ruby-crowned Kinglet	4¼	Res. See Text
751a.	Western Gnatcatcher	4¾	Res. See Text
752.	Plumbeous Gnatcatcher	4½	Res. Deserts
753.	Black-tailed Gnatcatcher	4¼	Res. S.W. Calif.
Family Thrushes, Solitaires, and Bluebirds:			
Turdidæ			
754.	Townsend Solitaire	8½	See Text
758.	Russet-backed Thrush	7½	See Text
759.	Alaska Hermit Thrush	7¼	W.V. See Text
759a.	Audubon Hermit Thrush	7¾	S.V. Ariz.
759c.	Dwarf Hermit Thrush	7¼	W.V. S.W. Calif.
759d.	Monterey Hermit Thrush	7	Mig. S.W. Calif.
759e.	Sierra Hermit Thrush	7½	S.V. So. Calif.
761a.	Western Robin	10	Res. See Text
763a.	Northern Varied Thrush	9½	W.V. S.W. Calif.
767.	Western Bluebird	7	Res. So. Calif.
767a.	Chestnut-backed Bluebird	7	Res. Ariz.
768.	Mountain Bluebird	7½	Res. See Text.

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