

clined to think that their depredations are not as extensive as those of others of the jay family.

As soon as the young birds are able to travel there seems to be a sort of vertical migration, during which large numbers of the birds ascend a few thousand feet into the heavier timbered country, evidently in search of insect food, although I have not examined stomachs to verify this statement. This vertical movement does not affect the entire number of the species for, as I have stated, during August and September the birds are much in evidence thruout their range.

With the first frosts they congregate in small scattered flocks and perform whatever migration may be credited to them, which I am inclined to think amounts to very little, usually before the first big storm; but climatic conditions seem to have very little effect upon them, food supply alone being responsible for their migratory movements.

When the winter coat of white has entirely covered their food on the bleak hillsides, they return to their winter haunts nearer the inhabited sections where the waste from barn-yard and granary affords an abundant food supply until spring comes again.

Denver, Colorado.

THE BREEDING BIRDS OF ESCONDIDO

By C. S. SHARP

THE territory covered in the following list lies in the west-central part of San Diego County and about thirty to thirty-five miles north of San Diego. It comprises the valleys of Escondido and San Pasqual and part of the Bernardo Rancho. Escondido, by which name both the town and valley are now called, was originally an old Spanish grant, Rancho Rincon del Diablo, which comprised some 13,000 acres of hill and valley land. San Pasqual and Bernardo adjoin the grant on the east and south and both are crossed, San Pasqual for its whole length, by the Bernardo River, which takes its beginning in the mountains to the east in the Santa Ysabel and Pamo creeks. As the Bernardo River it flows in a general westerly course and finally reaches the coast as the San Dieguito River at the big laguna of that name lying north of Del Mar.

Where it leaves what we call Crescent Valley (below Bernardo and southwest of Escondido) and takes its way between the hills to the laguna and the sea, some twelve miles away, the elevation above sea level is 225 feet (U. S. Geological Survey). At the upper end of San Pasqual the elevation is 350 feet, distance about ten miles, Bernardo lying between. At Escondido the elevations run from 700 to 800 or 900 feet, with many hills scattered over the valley, and principally on its outskirts, running up a few hundred feet more; distance inland about fifteen miles.

The greater part of all this is under cultivation; only the higher hills retain their covering of brush, and live oaks that once were plentifully scattered over the valley are only found now on some of the higher northern exposures and in the ravines.

Much of the land is given up to farming and there are hundreds of acres of orchards and vineyards. San Pasqual and Bernardo are wholly dairy and farming countries with few orchards, many alfalfa fields, and several fine eucalyptus groves. All along the Bernardo river for nearly its entire course to Crescent Valley

there is a more or less thick growth of willows, in some places forming fine large groves with many large cottonwoods and a few sycamores. This is a bird paradise and much of my hunting and collecting has been done here. At Crescent Valley there are some fine oak groves and the hillsides are still pretty well covered with trees. There are many large cactus patches on the south slopes and the hillsides and small ravines are well filled with sage, grease-wood, sumac and wild lilac. Bernardo boasts of one tule pond, San Pasqual of two, and there are several water holes along the river, which may run well into July, or not at all, according to the season's rains. For two successive years one San Pasqual pond and the Bernardo pond were dry. In 1906 the San Pasqual pond had five feet of water in the tule patch and the river was running until August. The average rainfall here is about fourteen inches.

The following list comprises all the birds known to have nested in this section and is the result of observations covering some sixteen years. Most of the species given are regular breeders, some very common, others rare but regular, a few casual only. Almost all, however, nest here in such sufficient numbers as to be considered fairly common in consideration of the comparatively limited territory suitable to their requirements.

In some few instances there has been considerable difference in relative abundance, traceable without doubt to the character of the preceding winter; but in most cases the number of nesting birds remains apparently uniform. In the nesting seasons following several very dry winters previous to 1905 one of the commonest birds along the river in San Pasqual was the willow goldfinch, while the lazuli bunting was comparatively rare. In the season of 1905, after a winter of more than the average rainfall, the goldfinch was noticeably wanting and in 1906, after a very wet winter, it was hard to find them at all. In 1905 the lazuli bunting was everywhere, as common, almost, as the house finch, but was not at all common in 1906. In 1906, the lawrence goldfinch was more plentiful than I had ever seen it, and the Arkansas goldfinch was nesting in the orchards and willows in great abundance. Previous to 1905, the long-eared owl was a very common bird in the willow groves along the river; but since then they have been noticeably absent, and the nest complements, previously four or five, are largely of three eggs only. These birds were seldom disturbed and it is rather hard to account for their diminished numbers on any other ground than that the wet seasons caused the destruction of the various small mammals on which they so largely feed, causing them to migrate to better hunting grounds.

I am very well convinced that most of our resident birds produce and bring to maturity two broods in a season, some even more. With the Raptores one brood is a rule unless the first clutch of eggs is taken when a second is always laid.

The long-eared owl, however, and possibly the burrowing owl will often raise two broods. Of the other birds the California shrike, western mockingbird, mourning dove, house finch, black-chinned hummingbird, and probably the Anthony towhee and western lark sparrow will raise three broods under favorable conditions. The two former species I have known to do so in my own orchard, the types of eggs being the same in every case. In the following list the dates given are for the earliest and latest nesting dates, the eggs showing very slight or no traces of incubation unless otherwise stated.

I am greatly indebted to Messrs. N. K. and B. P. Carpenter for the use of their field and nesting notes which have aided me materially in compiling the list.

Colymbus nigricollis californicus. American Eared Grebe. A very rare breed-

ing bird. My only record is April 22, 1906, when a nest with seven partly incubated eggs was found in a tule pond in San Pasqual.

Podilymbus podiceps. Pied-billed Grebe. Rare breeder; only appears when the ponds are unusually full; fresh eggs noticed May 3 to June 24.

Anas boschas. Mallard. Only record is one nest found near Escondido in 1896.

Querquedula cyanoptera. Cinnamon Teal. A few pairs nest in San Pasqual near the ponds and water holes along the river; April 18 to May 13.

Erismatura jamaicensis. Ruddy Duck. Rare; I only know of two records of its breeding in San Pasqual in ten years. One of these was June 5, 1906, when six nearly hatched eggs were found in a this year's coot's nest; no down used in the lining.

Rallus virginianus. Virginia Rail. Very rare; found nesting in San Pasqual in 1900 and 1902.

Porzana carolina. Sora. Rare; found at Bernardo in 1902. For several years a pair have nested in nearly the same locality on the river below Escondido. Each year the nest was discovered before the clutch of eggs was complete and on going back a few days later the nest was always empty. My informant suspected a snake. It is more than likely tho that the bird removed the eggs herself.

Gallinula galeata. Florida Gallinule. Found nesting in San Pasqual, in 1900 and 1901. Not seen since.

Fulica americana. American Coot. Common resident. Every pond and water hole has its colony. Eggs far advanced in incubation were found April 20, 1903; and fresh on July 1, 1906.

Oxyechus vociferus. Kildeer. Common around ponds and damp places; May 8, 1896 (far advanced), to June 3, 1898.

Lophortyx californicus vallicola. Valley Quail. Common everywhere. Nesting most plentifully in vineyards and under hay cocks, often within a few feet of house and barn. April 12th to July 25 (advanced).

Zenaidura carolinensis. Mourning Dove. Common everywhere; March 15 to September 2.

Cathartes aura. Turkey Vulture. Resident from about middle of January to November; nests regularly but sparingly in the rock piles on higher hills in April.

Accipiter cooperi. Cooper Hawk. Not a common resident; nests in the groves along the rivers and in the wooded ravines. Most commonly seen around the chicken yards where it does considerable damage. April 2 to June 21.

Buteo borealis calurus. Western Red-tailed Hawk. Common resident. More plentiful in the higher interior valleys. February 26 (far advanced) to May 4.

Buteo lineatus elegans. Red-bellied Hawk. Common resident. Nests in groves along rivers. March 6, 1904 to July 4, 1906 (young a few days old).

Buteo swainsoni. Swainson Hawk. Not uncommon summer visitant nesting anywhere in the largest trees. Occasionally comes in great flocks in the spring migration. April 15 to June 1.

Aquila chrysaetos. Golden Eagle. Not uncommon resident, tho apparently known or seen by but few people here, owing to its tendency to keep to the hills and wilder country. Often seen over the valley, singly or a pair, sometimes three together. On March 27, 1904, I saw a bunch of five, four light-colored and the other very dark, and a few minutes afterwards saw another pair, both dark. April 1 to April 29.

Falco peregrinus anatum. Duck Hawk. Very rare; only one pair in the limits of section covered. Resident and have occupied the same cliff for twenty

years to my knowledge and were "old residents" before that. Only three pairs known in a radius of thirty miles. Nesting early in April.

Falco sparverius. American Sparrow Hawk. Common resident, nesting anywhere it can find a tree with a suitable cavity. March 25 to June 14.

Strix pratincola. American Barn Owl. Common resident. Nesting in any suitable place. Has been found in trees, crevices in ledges, pigeon boxes, inside a huge wood-rat's nest, at the entrance to a tunnel in an abandoned mining shaft, 65 feet below the surface, and in an old crow's nest. March 11 (advanced) to May 22 (advanced).

Asio wilsonianus. American Long-eared Owl. Common resident. Up to a few years ago almost every old crow's, hawk's or rat's nest along the river in San Pasqual had its pair of owls. Of late, for some unknown reason they have been less plentiful. As probably half of the eggs produced were successfully hatched (to make a very low estimate) and the birds are seldom molested, it is rather difficult to account for their apparently diminishing numbers. The earliest recorded set was taken by the late J. M. Hatch on February 14, 1896. Eggs have been found fresh on the 10th of May.

Megascops asio bendirei. California Screech Owl. Not a common resident. More often heard at night than seen in the daytime, and probably its apparent rarity can be accounted for by its nocturnal habits. March 24 to May 31 (advanced).

Bubo virginianus pacificus. Pacific Horned Owl. Not a common resident. More plentiful in the higher interior valleys. February 2 to March 16.

Speotyto cunicularia hypogæa. Burrowing Owl. Common everywhere. March 23 to June 16 (commenced).

Glaucidium gnoma. Pygmy Owl. A pair of these diminutive owls were found nesting at Escondido by the late J. M. Hatch in 1895 and 1896. The nests were in oaks not far apart both being in hollow, nearly horizontal limbs with openings allowing access to the nest from either side. The first nest had, I believe, very badly incubated eggs and was not disturbed. It was not located the following year until the eggs had hatched. The trees were shortly after cut down and the birds disappeared. There are no other instances of the species being seen here. Mr. Chas. Schnack who was with Mr. Hatch when the second nest was found tells me the owls had a curious trick of flattening themselves out on a branch so that it was almost impossible to tell them from the branch itself.

Geococcyx californianus. Road-runner. Common everywhere, especially around the cactus patches. Most every patch of any size has its nest. February 14 (advanced) to June 1 (commenced).

Dryobates pubescens turati. Willow Woodpecker. Rather rare among the willows along the river in San Pasqual. April 22 to May 24.

Dryobates nuttalli. Nuttall Woodpecker. Rather common among the willows in San Pasqual and in the low-lying oaks near the river. Rarely seen in Escondido. April 15 to June 18.

Melanerpes formicivorus bairdi. California Woodpecker. Rare in the valleys. Never seen in San Pasqual. Common however in the higher interior valleys. May 24 (young) to June 11.

Colaptes cafer collaris. Red-shafted Flicker. Not uncommon in San Pasqual and Escondido where there is suitable timber for it to operate upon. April 14 to June 15.

Phalænoptilus nuttalli californicus. Dusky Poor-will. Altho no authentic record of the breeding of this species here has been secured it is without doubt en-

titled to a place on this list. Its curious, rather profane sounding cry being constantly heard during what should be its nesting season.

Chordeiles acutipennis texensis. Texas Nighthawk. Rather an uncommon breeding bird. Seems to nest most commonly in the vineyards, placing the eggs on the bare ground under or near a vine.

Aeronautes melanoleucus. White-throated Swift. Quite a colony of swifts nests each year in a great cliff in San Pasqual which so far has defied all efforts at conquest. In 1898, Mr. E. Schnack found several nests of the swifts with eggs in a small cave at one end of the main ledge.

Trochilus alexandri. Black-chinned Hummingbird. Very common among the sycamores and eucalyptus groves and willows. Two and probably three broods are raised in a season. April 15 (advanced) to July 23.

Calypte costæ. Costa Hummingbird. Common among sage and greasewood on the low hillsides and near small ravines and in the eucalyptus groves. May 9 to July 2; probably two broods.

Calypte anna. Anna Hummingbird. Not so common as the two preceding species. Seems to have a preference for the orange and lemon groves. Probably two broods. March 19 (half grown young) to July 20.

Tyrannus verticalis. Arkansas Kingbird. Common resident. May 5 to July 3.

Tyrannus vociferans. Cassin Kingbird. A very uncommon breeding bird in this section. May 23 to June 27.

Myiarchus cinerascens. Ash-throated Flycatcher. Not uncommon in the willows along the rivers and among the oaks. May 7 to June 21.

Sayornis saya. Say Phœbe. One record only, in this vicinity, April 22, 1906, when Mr. B. P. Carpenter found a nest with fresh eggs over the main entrance to the Escondido High School building.

Sayornis nigricans. Black Phœbe. Common resident, nesting around buildings, bridges, rocks, etc., generally not far from water, often over it. April 16 (far advanced) to June 16. Two broods, probably three, are raised.

Contopus richardsoni. Western Wood Pewee. Rather a common nesting bird along the rivers and among the oaks. May 10 to June 30. Two broods raised.

Empidonax trailli. Traill Flycatcher. A nest found by me in San Pasqual on June 4, 1905, is the only record here for this species.

Otocoris alpestris actia. California Horned Lark. One of our most common residents. April 6 (advanced) to June 20.

Aphelocoma californica obscura. Belding Jay. Rather a common resident among the oaks and willows. March 10 to June 10.

Corvus brachyrhynchos hesperis. California Crow. Common resident in the groves along the rivers. March 27 to May 13.

Agelaius phœniceus neutralis. San Diego Red-winged Blackbird. Common around the ponds and rivers. April 14 to May 20. One brood as a rule, unless first clutch of eggs is taken or destroyed.

Agelaius tricolor. Tri-colored Blackbird. Somewhat less common than the preceding; nesting the same. April 30 to May 26.

Sturnella magna neglecta. Western Meadowlark. Common resident. March 23 to June 15.

Icterus cucullatus nelsoni. Arizona Hooded Oriole. Common summer visitant, nesting mostly in the eucalyptus groves. April 20 to July 15 (advanced). Two broods are raised.

Icterus bullocki. Bullock Oriole. Common summer visitant. Most com-

monly found in the sycamores and cottonwoods along the rivers. May 3 to June 7.

Euphagus cyanocephalus. Brewer Blackbird. Very common resident, nesting in small colonies of perhaps a dozen pairs most anywhere. April 15 to June 10.

Carpodacus mexicanus frontalis. House Finch. Common resident, nesting anywhere. April 2 to July 20. Probably three broods are raised.

Astragalinus tristis salicamans. Willow Goldfinch. Common along the river in San Pasqual. Varying greatly in numbers according to season. After a wet spring with late rains, when the river is running well into the summer, they are almost wholly lacking in sections where a dry season finds them most plentiful. May 4 to July 21 (advanced). Two broods may possibly be raised.

Astragalinus psaltria hesperophilus. Green-backed Goldfinch. Very common, nesting in small colonies in the orchards and indeed most anywhere. Two, possibly three broods are raised. April 22 to July 21.

Astragalinus lawrencei. Lawrence Goldfinch. Not uncommon summer visitant, nesting in colonies of a few pairs in the orchards and other suitable places. One brood only, as a rule. April 12 to May 25.

Chondestes grammacus strigatus. Western Lark Sparrow. Very common resident, nesting most anywhere, on ground, in low bushes, trees or vines. March 27 to July 6. Two, possibly three, broods are raised.

Spizella socialis arizonæ. Western Chipping Sparrow. Rather uncommon in Escondido. Not seen in San Pasqual. Common in higher interior valleys, nesting in first part of May. May 5 to 11.

Spizella atrogularis. Black-chinned Sparrow. A nest with three eggs found near my house on June 12, 1905, and kindly presented to me by Mr. C. L. Pauter of Escondido has been indentified by Mr. E. J. Horgan of the U. S. Nat. Museum as being undoubtedly of this species. It is the only record of the appearance of the species here that I have heard of.

Amphispiza belli. Bell Sparrow. Very rare. Only two definite records from San Pasqual. Nests were found by myself in 1905 (June 18), and by N. K. Carpenter on May 27, 1906 (advanced).

Aimophila ruficeps. Rufous-crowned Sparrow. Very rare. Only positive record is that of a nest with two young and two almost pipped eggs found on March 11, 1900. Said to have been not uncommon in the earlier days when the hillsides had not been cleared of brush.

Melospiza cinerea cooperi. San Diego Song Sparrow. Common resident. Very plentiful in San Pasqual along the river. April 14 to July 18 (advanced); two broods, possibly three.

Pipilo maculatus megalonyx. Spurred Towhee. Not a very common resident. Rather rare in Escondido but found more commonly in San Pasqual. March 11 to May 10 (young).

Pipilo fuscus senicula. Anthony Towhee. One of our most common residents. Found everywhere. March 19 to July 12.

Zamelodia melanocephala. Black-headed Grosbeak. A very common summer visitant, nesting mostly in the willows along the rivers. April 28 to July 2.

Guiraca cærulea lazula. Western Blue Grosbeak. Rare. Has been found nesting in both Escondido and San Pasqual. May 5 to June 26.

Cyanospiza amœna. Lazuli Bunting. Common but somewhat irregular in its appearance. April 30 to June 2.

Progne subis hesperia. Western Martin. Very rare. Only one pair known to nest in Escondido. These for many seasons returned to the same cavity in a sycamore standing beside a barn on a fruit ranch here, but have been missing now for two seasons.

Psaltriparus minimus californicus. California Bush-tit. Common among the willows, oaks, and higher brush along the rivers and on hillsides. March 18, to June 14.

Polioptila cærulea obscura. Western Gnatcatcher. Not uncommon in the brush near ravines and on low hillsides and among the willows. April 16 to June 24.

Polioptila californica. Black-tailed Gnatcatcher. Only found once by me in San Pasqual, April 5, 1901. Several nests said to have been found at Escondido.

Sialia mexicana. Western Bluebird. Nest found at Crescent Valley with young in March, 1905. No other record. Breeds plentifully in the higher mountains and valleys.

Supplementary list of birds found breeding at Escondido Reservoir, elevation 1250 feet, and about two miles outside limits covered in foregoing list:

Vireo huttoni oberholseri. Oberholser Vireo.

Sitta carolinensis aculeata. Slender-billed Nuthatch. Both the above found by Mr. James Dixon. The latter species, possibly both, decidedly out of its range which should be the higher hills up to the level of the deciduous oaks.

Birds found breeding at Vista, Guajome and San Luis Rey, 10 to 15 miles northwesterly from Escondido:

Corvus corax sinuatus. American Raven. Found by Mr. B. P. Carpenter nesting at Vista in 1905.

Plegadis guarauna. White-faced Glossy Ibis. A colony of about a dozen birds was found nesting in the tules at Guajome in 1901. No other records.

Ardetta exilis. Least Bittern. Found nesting in the tules at San Luis Rey in 1901.

Telmatodytes palustris paludicola. Tule Wren. Common in the tules at San Luis Rey; never seen around the ponds in San Pasqual.

Escondido, California.

GULLS AS SCAVENGERS

By WALTER K. FISHER

THAT gulls are admirable scavengers is a fact well known, and it is considered of sufficient economic importance to insure their protection by all enlightened sea-coast towns. Some municipalities dump their garbage into the sea, and if gulls are at all common they do the rest, with the aid of numerous other water birds. Altho the neighborhood of a garbage chute may not be attractive to the average bird student, it is none the less a good place to watch and photograph gulls, provided these birds are plentiful in its vicinity.

Not far from the town of Monterey, California, there is such a chute, used chiefly by the Presidio of Monterey. On either side are convenient rocks upon which to stand, or place a tripod. The gulls swim in to the base of the chute and are very tame, or were three years ago. After feeding they sit about on the rocks, and one has little trouble in securing all the negatives he desires. The accompanying picture shows a number of immature gulls watching for morsels to be washed out by the waves. The immaturity of these birds may account for their lack of fear. I am not sufficiently practiced to be able to identify young gulls on the water, but the old birds which were common in the vicinity were chiefly *Larus argentatus* and *L. occidentalis*; so it is probable that the majority of the birds in