

# THE WREN-TIT

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## TIME LIMITS OF CROUCH-CONCEALMENT OF THE YOUNG KILLDEER

One phase of bird study that has intrigued the writer is the protective reaction of birds, both that of adults in protecting nests or young and that of young in self-protection. In the latter classification one of the best known reactions is called the "freeze," or more technically, "crouch-concealment," that is displayed by most young reared on the ground. The acquisition, evolution, and promptings of this instinct are subjects of great interest, but this little note is concerned only with a small study of the time factor, especially the length of time the reaction will be maintained under certain circumstances.

The "freeze" can be induced, at least in very young shore birds, by such simple subterfuges as quickly lifting a cap, the hand, or an article of clothing from off the infant bird. Even though it may have been struggling vigorously under its covering it promptly sinks down in the concealment pose when such covering is quickly removed. It is quite probable that this maneuver simulates the departure of a brooding parent bird and induces, vicariously, the reaction.

On April 21, 1929, a young Killdeer, not over three or four days old, was captured on the gravelly bed of Guadalupe Creek near the Almaden Road some three or four miles south of San Jose. It was running and calling when caught, but as my hand descended upon it it "froze" and remained so in my hand. When placed again upon the ground it began running and crying. This second time it was captured by throwing a sweater over it. The sweater was almost immediately jerked off and the Killdeer, though still crying, sank down, ceased crying, and did not make a move or a sound for 77.75 minutes, well over an hour and a quarter.

During the time the infant was in crouch-concealment, I and a com-



A YOUNG KILLDEER "FREEZING"

panion, Mr. Alton Alderman, stepped about it, photographed it, and sat near it. Most amazing of all, an automobile came rushing down the creek bed at fully twenty miles an hour and before we could divert it or stop it had passed over our "frozen" bird, the wheels of one side not missing it more than four inches! The bird did not move in spite of this monstrous storm and tornado but remained as it was for twenty-five minutes longer!

At the end of the above extent of time the young Killdeer arose, cried, and ran away with the remarkable speed that a young Killdeer is capable of. The bird was captured and a second "freeze" induced as before. This second reaction was maintained but 57 seconds. A third "freeze," induced immediately thereafter, was maintained for 33.5 minutes. During 32 minutes of this time Mr. Alderman was sitting within eight feet of the Killdeer, he then removed himself some twenty-five feet; shortly after this the young bird cried and an adult came up and covered it.

The reactions of the adults during these observations are of greatest importance not only as a direct phase of young protection but also because their solicitude and calls were, without a doubt, necessary for the maintenance of the "freeze." Two or more birds were at nearly all times in evidence, calling, flying by, and giving distress simulation. One of the two presented more solicitude than the other, but only infrequently were these adult birds altogether quiet. The interruption of a "freeze" would usually occur during one of these quiet periods.

Seven days later, April 28, the same region was visited, and after much concealment, waiting, and watching on our part, a young Killdeer, most likely of the same brood as that of April 21, was discovered. This young bird, with primaries over half an inch long, had learned to discriminate and would not respond to our artificial inducement. However, it dived into a cluster of short weeds and leaves and there maintained a crouch-concealment for three hours and fifteen minutes! How much longer it would have remained is not known for the writer—with the deepest chagrin he admits it—inadvertently stepped on the "freezing" bird in the excitement of photographing the adults and so eliminated it from the field of experimentation.

GAYLE PICKWELL.

### FIRSTS

For this list of dates of spring arrivals among transients and summer residents the Wren-tit is indebted to several careful observers. Emily Smith and Gladys Record of Los Gatos, Wm. Landels of Berryessa, and Gayle Pickwell of San Jose have supplied the data from which the following table has been constructed. In it the date of observation, the place and the authority are given.

Species	Date and Place	Authority
Turkey Vulture	Feb. 15, Los Gatos	Pickwell
Hudsonian Curlew	April 15, San Jose	Pickwell
Long-billed Dowitcher	April 19, Alviso	Pickwell
Bonaparte Gull	April 19, Alviso	Pickwell
Forster Tern	April 19, Alviso	Pickwell
Mourning Dove	March 14, Alum Rock Canyon	Landels
Texas Nighthawk	April 26, Coyote	Smith, Pickwell
Allen Hummingbird	March 20, Los Gatos	Smith
Western Kingbird	April 16, Silver Creek Hills	Pickwell
Ash-throated Flycatcher	April 15, Silver Creek Hills	Pickwell
Western Wood Pewee	April 17, Los Gatos	Smith
Western Flycatcher	March 26, Alum Rock Canyon	Landels
Olive-sided Flycatcher	April 10, Los Gatos	Record
Violet-green Swallow	March 8, Alviso	Pickwell
Barn Swallow	March 23, Warm Springs	Pickwell
Cliff Swallow	March 12, Alum Rock Canyon	Landels
House Wren	April 3, Los Gatos	Record
Russet-backed Thrush	April 19, Arroyo de los Coches	Smith, Pickwell
Pileolated Warbler	March 27, Los Gatos	Record
Lutescent Warbler	March 5, Los Gatos	Record
Long-tailed Chat	May 1, Coyote Creek at Trimble Road	Pickwell
Yellow Warbler	April 1, Alum Rock Canyon	Landels
Warbling Vireo	March 20, Los Gatos	Record
Cassin Vireo	March 27, Los Gatos	Record
Bullock Oriole	April 1, Alum Rock Canyon	Landels
Western Tanager	April 26, Alamitos Creek at McKeen Rd.	Pickwell
Black-headed Grosbeak	April 6, Los Gatos	Smith
Lazuli Bunting	May 1, Arroyo de los Coches	Pickwell
Grasshopper Sparrow	April 19, Los Buellis Hills	Pickwell
Chipping Sparrow	April 17, Los Gatos	Smith

## REPORTS OF PAST MEETINGS

Dr. Chas. Piper Smith first began observing Cowbirds and their parasitic activities many years ago in Indiana. He has been one of the few bird students to find Cowbird eggs in other birds' nests in the vicinity of San Francisco Bay. So it was with an especially keen interest and insight that he reviewed Dr. Herbert Friedmann's remarkable book "The Cowbirds" in an address to the Santa Clara Valley Audubon Society on February 17.

As a result of his work with the Horned Larks, Dr. Gayle Pickwell has been, for many years, fascinated by terminal nesting birds, birds that have reached the last inhabitable niche in the barrens or in the Arctics. To satisfy this urge in part he spent the entire month of July and early August in the Alpine-Arctic zone of Mount Rainier where he made intensive studies of the American Pipit and White-tailed Ptarmigan. These studies he presented, together with more than fifty hand-colored slides of pictures of these birds and their homes, to the Society on March 17, in an address entitled "Arctic Birds of Mount Rainier."

From the fruits of many years experience with the Division of Fish and Game, Dr. Harold C. Bryant presented, on April 17, his thought-provoking subject "Interrelations Pertaining to Birds." He impressed a large audience of members and friends of the Santa Clara Valley Audubon Society with the complexity surrounding problems of conservation and control. He defended ably the thesis that propagation and conservation are not successful without maintaining all the factors of the web of life including even the predators of the birds or game that it is desired to preserve.

## FIELD TRIPS

The report of the January field trip in the last issue of Wren-tit failed to mention one "high spot" of more than usual interest: an albino Robin, startlingly conspicuous among his dark fellows and against the dark hill was noted in the Llagas Valley (Jan. 25). The bird was entirely white except primaries and possibly a few feathers in the back which were black. Some whim of nature, other than protective coloration, must guard over this fellow.

A heavy rain on the scheduled date caused cancellation of the February field trip and opportunity did not offer thereafter to schedule a trip during the month.

The March field trip, taken on the 22nd, under the leadership of Gayle Pickwell and William Landels, was an extensive circle by auto involving nearly fifty miles. The route lead west of San Jose via the Cupertino Road to the base of the Santa Cruz range, then north, skirting the foothills, via Monta Vista Road and Fremont Avenue to Loyola Corners. North of Loyola Corners the La Honda Road, that follows San Antonio Creek, was taken into the hills to the juncture with the Mayfield Road; then to Mayfield, Mountain View, Alviso and back to San Jose. The day was clear with magnificent clouds of *fracto-cumuli* over the Santa Cruz Mountains; prunes, half in blossom, scented the valley air, and great expanses of poppies made a vivid splash of color in the green of fields and hills. Though numerous stops and observations were made, but three or four distinct habitats with their corresponding bird faunas were covered, viz., cultivated and largely orchard-covered valley, grass and oak-covered hills, tree-beset canyon streams with chaparral slopes above, and the Alviso salt marsh. High spot of the day: A White-tailed Kite, a bird that always provides a thrill, near the end of our journey some two miles north of San Jose. The list, an interesting combination of permanent residents, winter visitants and spring arrivals: Great Blue Heron, Turkey Vulture, White-tailed Kite, Sharp-shinned, Red-tailed, and Sparrow Hawks, California Clapper Rail, Black-bellied Plover, Least Sandpiper, Western Sandpiper, California Gull, Mourning Dove, Anna Hummingbird, Red-shafted Flicker, California Woodpecker, Black Phoebe, California Jay, Chestnut-backed Chickadee, Plain Titmouse, Bush-tit, Wren-tit, California Thrasher, Bewick Wren, Western Robin, Varied Thrush, Western Bluebird, Ruby-crowned Kinglet, American Pipit, Cedar Waxwing, Warbling Vireo, Hutton Vireo, Lutescent Warbler, Audubon Warbler, Western Meadowlark, Red-winged Blackbird, Brewer Blackbird, Purple Finch, Linnet, Pine Siskin, Willow Goldfinch, Green-backed Goldfinch, Spotted Towhee, Brown Towhee, Oregon Junco, Golden-crowned Sparrow, Gambel White-crowned Sparrow, White-crowned Sparrow (Nuttall

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or Puget Sound), Salt Marsh Song Sparrow, Santa Cruz Song Sparrow; 49 species and subspecies.

The April field trip, taken on the 19th, in connection with the ornithology and nature study classes of San Jose State College, under the direction of Emily Smith, Karl Hazeltine, and Gayle Pickwell, had as its destination the Los Buellis Hills above Calaveras Valley. This, one of the most favored of all field territories, involved, enroute, North First Street to the Alviso salt marshes, the Alviso-Milpitas road with a stop at Coyote Creek, the Calaveras Road through the Arroyo de los Coches and the Sierra Road in a wide swing through the Los Buellis Hills above Calaveras Valley and Alum Rock Canyon; home via Berryessa. The day, beginning with low stratus clouds in the morning, cleared at 10:00 A. M. and was thereafter cloudless. The temperature was mild. The hills were chromatic with wild flowers. The thrill of the day: a young Golden Eagle that came up from Calaveras Valley and sailed low over the crest of the Los Buellis Hills above Alum Rock Canyon, where we stood watching in admiration as it, in nonchalance, passed successively through the harassment of two Crows and then two Red-tailed Hawks. The birds at Alviso (Salicornia marshes with extensive mud flats): Great Blue Heron, Turkey Vulture, Marsh Hawk, California Clapper Rail, Coot, Black-bellied Plover, Semipalmated Plover, Hudsonian Curlew, Western Willet, Least Sandpiper, Red-backed Sandpiper, Long-billed Dowitcher, Western Sandpiper, Bonaparte Gull, Forster Tern, Barn Swallow, Cliff Swallow, American Pipit, Red-winged Blackbird, Western Meadowlark, Salt Marsh Song Sparrow. The birds at Coyote Creek (sluggish lower valley stream lined with Fremont cottonwoods, box elders, willow, poison hemlock and brambles): Black Phoebe, Western Flycatcher, Bewick Wren, Russett-backed Thrush, Cedar Waxwing, Yellow Warbler, Yellow-throat, Pileolated Warbler, Black-headed Grosbeak, Willow Goldfinch, Green-backed Goldfinch, Brown Towhee, Santa Cruz Song Sparrow. Birds along North First Street and the Alviso-Milpitas Road, including San Jose (orchards, meadows, weeded ditches, quince hedges, briar patches, and truck areas): Band-tailed Pigeon (a flock in flight), Mourning Dove, Red-shafted Flicker, Black Phoebe, Western Wood Pewee, Western Flycatcher, Cliff Swallow, Bush-tit, Bewick Wren, American Pipit (in flight), California Shrike, Warbling Vireo, Yellow Warbler, Yellow-throat, Red-winged Blackbird, Western Meadowlark, Bullock Oriole, Brewer Blackbird, Linnet, Willow Goldfinch (still eating elm seeds on the State College Campus in San Jose), Brown Towhee, Chipping Sparrow, Gambel White-crowned Sparrow, Golden-crowned Sparrow, Santa Cruz Song Sparrow. In the Arroyo de los Coches (narrow foothill canyon with small permanent stream and attendant trees; chaparral and sagebrush on the dry slopes above): Turkey Vulture, California Quail, Mourning Dove, Anna Hummingbird, Allen Hummingbird, Western Flycatcher, California Jay, Plain Titmouse, Bewick Wren, House Wren, Russett-backed Thrush, Warbling Vireo, Orange-crowned Warbler, Pileolated Warbler, Black-headed Grosbeak, Lazuli Bunting, Spotted Towhee, Brown Towhee, Oregon Junco. On the Los Buellis Hills (Grass-covered foothills of the Mount Hamilton Range with occasional oaks and some roadside exotics such as eucalyptus trees, the higher prominences up to 2000 feet and these with rock outcrops and short grasses): Turkey Vulture, Red-tailed Hawk, Golden Eagle, Sparrow Hawk, Allen Hummingbird, Nuttall Woodpecker, Lewis Woodpecker, Red-shafted Flicker, Western Kingbird, Horned Lark, Cliff Swallow, Western Crow, Wren-tit (in chaparral of Alum Rock Canyon), House Wren, California Thrasher (in chaparral of Alum Rock Canyon), Western Bluebird, American Pipit, California Shrike, Western Meadowlark, Bullock Oriole, Linnet, Green-backed Goldfinch, Brown Towhee, Grasshopper Sparrow, Lark Sparrow; 70 species and sub-species for the day.

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