

tory statement of the status of the Green-tailed Towhee in northern Arizona. Swarth considers this bird as "a common migrant, occurring indifferently on boreal mountain tops or on the semi-arid desert plains," but mentions no summer records for Arizona (Pacific Coast Avifauna, no. 10, 1914, p. 59). Dr. Merriam, however, suggested its possible breeding near San Francisco Mountain, "where an immature bird was shot in the pines August 5" (North American Fauna, no. 3, 1890, p. 97).

During the past six summers, the Green-tailed Towhee has been observed as a fairly common summer resident in the Canadian and the Hudsonian zones on the San Francisco Mountains. These birds inhabit the mountain willow and wild gooseberry thickets on the borders of alpine meadows, from altitudes of 8300 up to 10,500 feet. The writer has seen these birds in the mountains from April 3 until late in September. They may have arrived earlier and departed later, however, because the higher altitudes of the San Francisco Mountains were not studied before or after the given dates. Parent birds have been observed carrying food for young as late as August 11. There are numerous breeding records of the Green-tailed Towhee from the mountains of New Mexico, chiefly above 7800 feet, especially in the northern part of that state (F. M. Bailey, Birds of New Mexico, 1928, pp. 708-709).—RANDOLPH JENKS, *Museum of Northern Arizona, Flagstaff, Arizona, September 15, 1933.*

A Second Record of the Black Merlin in Southern California.—In the collection of the Museum d'Histoire Naturelle in Paris there is a specimen of *Falco columbarius suckleyi*, taken at Santa Barbara on October 28, 1878, by a collector named de Cessac. It is numbered 1880—1251 of the old catalogue and is not marked as to sex. However, it appears to be a fully adult female.

In an effort to locate other California specimens of note I spent some time in going over portions of the catalogue but discovered little beyond evidence that de Cessac and Pinart had collected extensively in central and southern California in the late seventies, and had sent to the Paris Museum nearly 3000 skins. Unfortunately, what was probably a valuable collection has been rendered virtually worthless through the removal, in almost all instances, of the original tags and the substitution of others which seldom bear more than a very unsatisfactory "Californie". In a few cases the original labels were still attached to the skins, some of the localities being "Vallee Tujo", Santa Barbara, Los Angeles, and several points in the San Francisco Bay region.—A. J. VAN ROSSEM, *California Institute of Technology, Pasadena, California, February 21, 1934.*

Apparent Promiscuity in the Violet-green Swallow.—In June, 1933, Violet-green Swallows (*Tachycineta thalassina lepida*) were abundant in the vicinity of Laguna Hanson, Sierra Juarez, Baja California, Mexico. On the morning of the tenth, the following incident was observed. A single bird alighted upon a small pine branch on the ground, and was quickly surrounded by four others. These later arrivals engaged in a general melee of quarreling and fighting among themselves, from which the bird on the branch remained aloof. In the midst of the flurry, a sixth bird arrived, alighted upon the back of the first bird and completed the act of copulation. All six swallows then took wing and, ascending above the pines, were soon lost to sight. Literature examined gives no record of the marital relations of these birds and so implies monogamy. The above would suggest that at times Violet-green Swallows may be promiscuous in their sexual activities.—FRANK F. GANDER, *San Diego Society of Natural History, San Diego, California, April 7, 1934.*

Notes on Food Habits of Juncos.—In a study of seedling survival at the Priest River Forest Experiment Station in northern Idaho, the seeds of six coniferous species were sown in the fall of 1932. Soon after the seedbeds were uncovered, early in May, 1933, juncos (thought to be *Junco hyemalis connectens*) were observed to be active about them. The following observations were made:

In order of preference, the seeds were: Western white pine, *Pinus monticola*; Douglas fir, *Pseudotsuga taxifolia*; western larch, *Larix occidentalis*; lowland white fir, *Abies grandis*; western hemlock, *Tsuga heterophylla*; western red cedar, *Thuja plicata*. Apparently the birds did not disturb the seeds of the last three species, which might be attributed to the smallness of the cedar and hemlock and to the bitter, resinous flavor of the white fir, although the white fir was the largest of

any seed planted, and was planted in such quantity that there were numbers of seeds on the surface. Except for the cedar seed, which tastes something like bran, and the white fir, seeds of the other species are agreeable to the human palate.

From the appearance of the nipped cotyledons of some young white pine and Douglas fir seedlings, it was surmised that the juncos had picked off the attached seeds which still contained some nutrient matter.

The juncos were active only in cutover and in partly cutover areas. Apparently they never penetrated to the nearby seedbeds in the dense virgin timber. In other words, their activities were confined strictly to open, somewhat brushy habitats.

The birds took seeds from all surfaces: duff (the layer of litter which covers the soil under the forest, in this case 1 to 2 inches thick and composed of dead leaves and twigs of the six tree species mentioned above), mineral soil, and burnt mineral soil; but they scratched for seeds below the surface only on those beds covered with duff. They never scratched in a mineral soil bed, although there was invariably a wealth of seeds less than a quarter of an inch below the surface.

The certainty with which the birds flew from the northwest corner of one seed bed to the northwest corner of another (the white pine blocks were in the northwest corner of the beds), without any intermediate stops or hesitation, indicated a surprisingly exact memory for places.

The last two observations throw some light on the nature of the juncos' intelligence. Apparently it functions expertly within the limits of ordinary circumstances, as illustrated by their returning so accurately to the food source, and scratching among leaf-litter. Such stimuli and reactions are within the realm of the birds' experience. But when extraordinary conditions obtain—and the presence of forest seed buried in exposed soil is probably extraordinary, compared to its common presence on the soil surface or buried in the duff—their intelligence does not turn those conditions to advantage.

Moreover, that they did not show any interest in the soil surfaces after the surface seed had been picked off (although they returned for the attached seeds once the seedlings had broken ground), makes it seem probable that juncos do not detect such seed by smell, but by sight alone.—LINCOLN ELLISON, *United States Forest Service, Washington, D. C., March 28, 1934.*

Sea Gull Lives Again.—The following item was given to me by my nephew, Lieut. B. W. Decker, of the U. S. Navy. As physicians tell me the dosage of adrenaline mentioned is about all an adult man could stand, the facts, as relating to a bird, may perhaps be of interest.

"Adrenaline returned to life a Western Gull which had fallen to the steel deck of the U. S. S. Wasmuth, steaming at 15 knots off San Diego, California, in February, 1934. The accident happened when the gull collided with the ship's rigging, or was rendered unconscious by the electrical discharge from the radio antenna. The bird was apparently dead, as it was lying on its back, with no perceptible motion. Its circulation had stopped, as shown by the colorless feet.

"L. R. Shockley, Chief Pharmacist's Mate of the destroyer, prepared a hypodermic, using epinephrine hydrochloride (adrenaline) 1/1000. He administered a subcutaneous injection about the breast, using one cubic centimeter. This was done at least five minutes after the bird had fallen to the deck. The color returned to the gull's feet, making them light pink. Shortly it opened its eyes and rolled over on its breast. Thirty minutes later a second injection caused the bird to flutter a wing and stand up, reeling as if intoxicated with no sense of balance. About a half hour after the second injection a third was administered, bringing the total amount injected to three cubic centimeters. After this the bird appeared to be dazed, but steady on its feet and capable of motion. It was then discovered that it was totally blind in the right eye—probably the cause of its colliding with the ship.

"The men in the crowd about the 'patient' approached and stroked its head and back, but when the ship's doctor, who gave one of the injections, attempted to touch it the bird retreated slowly. Two hours after the accident the bird was capable of walking, but was not interested in food or water. At this time it demonstrated its