

When the birds were released in the culvert, some obviously were confused and flew almost at stalling speed toward the exit. Others flew immediately at what appeared to be full speed out of the exit. No claim can be made that these are actually top speeds for the species, but the faster speeds listed are undoubtedly close to those of alarmed birds under their natural conditions and may actually be maximum speeds of the individuals tested. For the passerine species, the faster speeds obtained by this photographic method do not differ greatly from some of the published estimates made by other methods. A speed of 23.8 miles per hour, however, for the Allen Hummingbird (*Selasphorus sasin*) is only half of the 45 miles per hour reported by Hayes for an automobile-paced Ruby-throated

TABLE 1
SPEEDS IN MILES PER HOUR
(Each figure represents a different bird)

White-crowned Sparrow (*Zonotrichia leucophrys*)—19.1, 13.3, (23, 21, 19, 16, 14).
 Golden-crowned Sparrow (*Zonotrichia atricapilla*)—20.9, 19.0, 17.2, 15.6, 15.4, 13.5,
 13.4, 13.0, 11.5, 10.8 (26, 24, 19, 18, 18, 16, 11).
 Song Sparrow (*Melospiza melodia*)—15.9 (21).
 Fox Sparrow (*Passerella iliaca*)—9.8.
 Brown Towhee (*Pipilo fuscus*)—22.0 (14).
 Allen Hummingbird (*Selasphorus sasin*), males—23.8, 18.2, less than 34.9.¹

¹ Inertia is so great in the camera mechanism that full film speed is not attained until about the tenth exposure of each series. This bird first appeared in the fifth exposure, and so his recorded speed is too high by an unknown amount.

Hummingbird, *Archilochus colubris* (Auk, 46, 1929:116) and much less than half of the 55–60 miles per hour reported by Allard for another automobile-paced Ruby-throated Hummingbird (Auk, 51, 1934:84). These earlier estimates seem to be much too high, however, in view of Greenewalt's recent discovery that Ruby-throated Hummingbirds cannot progress against a 30 mile per hour wind (National Geographic, 118, 1960:673), and in view of Van Riper's photographically-obtained estimates of 18 to 29 miles per hour for Broad-tailed Hummingbirds, *Selasphorus platycercus* (in C. L. Stong, 1960, The Amateur Scientist, Simon and Schuster, p. 178). It seems likely that the cruising speed, and perhaps top speed, of hummingbirds is nearer to 25 miles per hour than to the 50 assumed in my earlier estimate of the maximum flight range of Ruby-throated Hummingbirds (Condor, 52, 1950:145). A second refinement of the assumptions used for that estimate is also possible. On the basis of the data existing at that time I assumed that the migrating bird carried one gram of fat available as fuel. Odum and Connell (Science, 123, 1956:892) have found that Ruby-throated Hummingbirds just before migration contain 2.1 grams of fat. By assuming that 2 grams of this are utilized during a non-stop flight (instead of 1 gram), and that the cruising speed is 25 miles per hour (instead of 50), the earlier estimate of flight range in still air remains unchanged at 385 miles. Probably the weakest of the remaining assumptions used in obtaining this estimate is that the metabolic cost of linear flight is the same as for hovering. It is also possible that dehydration rather than fat consumption limits the length of the flight.—OLIVER P. PEARSON, *Museum of Vertebrate Zoology, University of California, Berkeley, June 15, 1961.*

Tricolored Blackbirds Nesting in Jackson County, Oregon.—Gabrielson and Jewett in collecting material for their book on the birds of Oregon found many old records of Tricolored Blackbirds (*Agelaius tricolor*) in Oregon. These records were all unsupported by specimens. Both authors spent some time in Jackson County, Oregon, but failed to find the species. Johnson Neff and I saw a few at different times in Klamath County and found a nesting colony on the Copco Ranch near Agency Lake in 1933. We collected nine males (Condor, 35, 1933:234–235). At that time these were the only specimens for Oregon.

Sometime in the summer of 1956 I saw 15 or 20 Tricolored Blackbirds on a lawn near the Cottage Street bridge in Medford, Jackson County, Oregon. In May of 1957 several hundred of these black-

birds were feeding in a field of vetch about 3 miles east of Medford. On June 2, 1958, Thomas McCamant discovered a nesting colony of Tricolored Blackbirds numbering about 1500 on Bear Creek, just east of Central Point in Jackson County (Audubon Field Notes, 12, 1958:379). These nests were in blackberry vines. I visited this colony on June 21 and found all nests with young birds. In 1959 we were unable to find the nesting colony.

On May 30, 1960, while making a bird count with a group of Medford bird watchers I found a large colony of Tricolored Blackbirds nesting in the cattails in a pond near the Rogue River in the Camp White area. We estimated there were at least 1800 birds present. I returned on June 2 and collected three males and three females, and also three nests with three eggs each. The specimens are now in the Carl Richardson collection of Southern Oregon College and the Alex Walker collection at Tillamook, Oregon.—CARL RICHARDSON, *Trail, Oregon, May 25, 1961*.

Association of Trogons and Monkeys on Barro Colorado.—Chapin (Birds of the Belgian Congo, Part II, Bull. Amer. Mus. Nat. Hist., 1939:352) has referred to African hornbills and Asiatic drongos that feed on insects driven from vegetation by bands of foraging monkeys. Stott (Auk, 64, 1947:130) has reported a similar association between Fairy Bluebirds and long-tailed macaques on Mindanao in the Philippine Islands.

On February 10, 1961, the authors recorded a further example of this method of insect procurement by birds, on this occasion by trogons, in the Canal Zone Biological Area, Barro Colorado Island. At approximately 2 p.m. on a hot, sunny, and still afternoon, four Slaty-tailed Trogons (*Trogon massena*) were encountered as they moved through the forest in the wake of a troop of five white-throated capuchins (*Cebus capucinus*) near Fuertes House. We watched both trogons and monkeys through binoculars and saw the birds repeatedly sally out to hawk insects that had been disturbed by the feeding monkeys. As the capuchins progressed through the forest, the trogons individually exchanged one perch for another near the area presently occupied by the monkeys. The fact that four trogons, two males in adult plumage and two females, of the same species at times occupied perches in a single tree seemed remarkable. In observing 12 species of American and Asiatic trogons at large, we have not seen more than two adult trogons of the same species jointly pursuing the same activity. On this occasion, the unusual presence of four birds in the same area did not seem to indicate flocking or any noteworthy degree of compatibility but rather a coincidental interest in a common food source. In one instance, one of the male trogons dove down and drove the other from a perch that appeared more advantageously situated from the standpoint of simian activity and the resulting disturbance to insect life.—KEN STOTT, JR., and C. JACKSON SELSOR, *Natural History Museum, San Diego, California, March 17, 1961*.

Bird Records from San Luis Obispo County, California.—The following records of birds in San Luis Obispo County in central California are unusual or new with respect to place or season. On October 1, 1955, a Parasitic Jaeger (*Stercorarius parasiticus*) was observed over the tidal flats of Morro Bay for several minutes. Identification of the bird, in the dark phase, was confirmed by Mr. Eben McMillan. The only previous record for this area seems to be that of Grinnell and Hunt (Condor, 31, 1929:63).

On July 22, 1956, a male Common Goldeneye (*Bucephala clangula*) was observed for nearly half an hour by Richard Pimentel and myself at Cambria; it was in a small slough at the mouth of Santa Rosa Creek.

Starlings (*Sturnus vulgaris*) were first noted in San Luis Obispo County in 1958 by McMillan (Condor, 61, 1959:157). Since then a breeding colony was discovered by Bill Wallace at a point about two miles northeast of Santa Maria. A visit to this locality on May 27, 1960, revealed three nests, in holes in dead sycamore tree limbs. Five adults were observed at one time, and young could be heard squealing from one hole. On June 27, 1960, Mr. Wallace brought in an adult female, with partly enlarged ovary, which was prepared as a study skin.

A second specimen was taken on February 9, 1961, at the same locality. It was a male, one of two birds seen, and it had slightly enlarged testes. Both specimens are now in the California State Polytechnic College collection.