

distinction between post-breeding movements in search of a more plentiful food supply, and true migration in response to some instinctive compulsion.

During July and August of each year the body plumage of this Costa Hummingbird has appeared slightly ragged or unkempt, but in 1933 it was again in excellent condition by the time of departure. There was no sign of molting of crown and gorget as long as the bird remained, and it may be assumed that this takes place later in the fall, as was found to be the case with the Anna Hummingbird.

The syrup for the hummingbirds has ordinarily been prepared by adding as much sugar as the cold water would dissolve. When the demands on this supply by a colony of Arizona Hooded Orioles (*Icterus cucullatus nelsoni*) became rather heavy, the solution in the bottle which they usually visited was reduced to half strength. The orioles seemed perfectly content with the diluted syrup, but the hummingbirds showed some dissatisfaction and for the most part transferred their attention to another bottle containing a saturated solution.

The relatively small number of female hummingbirds availing themselves of the sugar solution has been very noticeable throughout, though they have never indicated any lack of taste for this kind of food. The explanation for this preponderance of males at the feeding station is not readily apparent, so it may be attributed either to superior perspicacity or to such other causes as one's personal prejudices may suggest.

The extreme tameness of hummingbirds may produce an impression of lack of intelligence, as it did, in fact, to W. H. Hudson. I have noticed on one or two occasions, however, that this fearlessness is tempered by a wise discretion, in that the hummingbird refused to approach a cat as closely as it would have approached a person who remained equally quiet.

On April 26, last, when migrant hummingbirds were unusually numerous, it seemed that the various species were being attracted to the bloom of the avocado trees in greater numbers than to that of the adjacent orange trees. While the presence of bees attests that the former is well supplied with honey, one would not expect flowers of such small size and inconspicuous coloring to prove particularly attractive to hummingbirds.

On the same date I first observed a variation of the hyperbolic, diving type of "nuptial flight" of the Rufous Hummingbird (*Selasphorus rufus*). The flight of this individual started as ordinarily, passing the object of his attention at high speed with the usual three or four twanging notes, but instead of continuing upward in a smooth curve, the speed was abruptly slackened within twenty or twenty-five feet, and the flight continued horizontally for a few feet with spread tail and a weaving movement of the body, after which the bird turned about and mounted to repeat the flight from the same direction.

The squeaky "song" of the male Anna Hummingbird has elsewhere been referred to as peculiar to the breeding season, but it is actually heard at all times of year with substantially equal frequency. On April 27, 1933, I was attracted by a song of rather "amateurish" character, and found it to be produced by what appeared to be a female Anna Hummingbird, but doubtless was a young male of the current year, whose gorget was represented only by a small throat-patch. The Costa Hummingbird's two- or three-syllabled whistling call, though much less persistently uttered, appears to be almost exactly analogous to the song of *C. arna*.

In contrast to the preceding year, Rufous Hummingbirds were abundant during the spring migration of 1933, being in evidence almost constantly from February 26 to May 1. Male Calliope Hummingbirds (*Stellula calliope*) remained here, two miles from the base of the San Gabriel Mountains, until May 4, the latest date at which I have seen or heard them in the valley.—ROBERT S. WOODS, *Azusa, California, September 4, 1933.*

Dancing Movements of Old-World Gulls.—The unusual antics of *Larus canus brachyrhynchus* described by Laidlaw Williams (Condor, 35, 1933, p. 161) is a very well known habit in the small Old-World gulls, which I have seen on many occasions.

In my "History of the Birds of Suffolk" (p. 398), under *Larus canus canus* Linnaeus, the following account is given: "The dancing of the smaller gulls on mud to attract worms and stir up other food is well known, and this trait was observed by Hele in a captive Common Gull on a grass lawn." Such is instinct! And again

(p. 407), under *Larus ridibundus ridibundus*: "The dancing movements on the mud to bring up the mudworms (commented on almost annually as something new) was known to Hele over sixty years ago."—CLAUD B. TICEHURST, *Saxon House, Appledore, Kent, England, August 30, 1933.*

Traffic Mortality of Wild Life.—All of us, I think, are interested in the toll that modern traffic conditions exact of wild life. Statistics, however, are difficult to amass. Not only is it usually inconvenient to stop, alight, and examine each victim on an extended motor trip, but it is often impossible to decide how recent was its demise. The durability varies with the climatic conditions, amount of traffic, and position upon the right of way. I have known a defunct Barn Owl upon the extreme inside margin of a curve to remain recognizable for weeks, while several trucks may reduce a ground squirrel to an unrecognizable smear in as many hours.

It was my fortune during the past summer to cover by motor more than 10,000 miles in the course of three months. The plan followed was to go west by the Santa Fe Trail, cover considerable ground in California, and return east by the Lincoln Highway. No attempt was made to take a census of vertebrate remains upon the roads, nor to alight and identify every doubtful carcass. I anticipated, however, with no little interest such an opportunity to observe and digest conditions over the entire width of the country that should prove most destructive to wild life, namely, consistently high touring speeds in excess of fifty-five miles per hour.

I was agreeably surprised to find that the destruction encountered was much less than anticipated, particularly westward. The greatest mortality by far was among rabbits (chiefly *Lepus*), and next in point of conspicuousness, although probably not in actual numbers, was skunks. Both of these mammals meet disaster only during the hours of darkness. On the whole very few dead birds were seen, the remains recognizable from the car as avian averaging less than one in 15 or 20 miles, I should say. There were long stretches of country, particularly in the more arid sections, where no dead birds at all were seen. Or in contrast there was an area where three Barn Owls (*Tyto alba*) were noted in less than a dozen miles, and the motor car must here have proved to be one of the most serious hazards encountered by this species.

The birds were a mixed lot, with only one species definitely preponderant, and that, surprisingly, was the English Sparrow (*Passer domesticus*). We look upon this alien as being most adaptable, but it was the only one killed by my car on the trip, and several dozen were accounted for. This mortality is doubtless only seasonal, and was confined to the middle west. Here, in early September, these sparrows had gathered into flocks and frequently were feeding upon the seeds of weeds on both sides of the road. At the approach of a car the birds upon one side would fly away and the members of the flock upon the opposite side of the road would attempt to join their companions. As a result my car frequently hit a number of birds of a single flock, and many times I saw where some other car had killed a dozen or more individuals at once.

I believe there are few motorists who have driven cars in excess of twenty years who will deny that the domestic fowl is now more adroit at escaping the hazards of traffic than formerly. In spite of the higher speeds attained and the excessive multiplication of cars, one sees probably fewer dead chickens upon the roads now than in 1913. That all the more incautious fowls and their progeny have been eliminated in the interim appears highly improbable, and yet that extreme vacillation preceding a wrong decision and fatal dash, so characteristic of the hen of the earlier part of the century, and so harassing to the contemporary motorist, is now but rarely encountered. I believe the average native bird to be fully the intellectual match of any domestic fowl, and that what the former has done the latter can do. I, for one, am of the opinion that our avifauna can meet, and is gradually meeting, the traffic problem.—A. BRAZIER HOWELL, *Department of Anatomy, Johns Hopkins Medical School, Baltimore, Maryland, September 22, 1933.*

Unusual Behavior of the Western Robin.—Several hours were spent by me at Mirror Lake, Yosemite, on September 15 and 16, 1933. I was there to study tracks and to learn who or what might be feeding on the stranded fish. On the second day