FROM FIELD AND STUDY

Observations on Pigeon Hawks in the Yosemite Region.—Although the Western Pigeon Hawk *(Falco columbarius bendirei)* is a comparatively uncommon winter visitant through the state at large, it is fairly common in that season in the region just west of the Yosemite National Park. During the winter of 1924 and 1925, scarcely a day passed when one or more of these little falcons was not observed flying either up or down the open, lower Transition-zone valley, by my home, six miles air-line east of Coulterville.

As a rule these hawks allow of close approach. They seem to prefer perches on the dead tops of oak trees in exposed situations generally overlooking meadows or fields. When approached, they show intense curiosity, craning their necks and twisting their heads in an effort to see the intruder to better advantage. If approached from behind they will sometimes turn around on their perches. When induced to leave a favorite perch, one will return often within a short time. There is generally a preferred perch, and also several other perches that are used only as lookout stations during hunting expeditions. A rather definite route is generally followed when the bird is hunting, as it flies from one prominent tree to another, stopping for a short while at each to survey the nearby, surrounding territory. I have shot three Pigeon Hawks from the top of the same black oak tree at different times, and two from another. Thus it would seem that a favorite perch for one Pigeon Hawk is also a preferred perch for others.

The rapid wing beats, long, tapering, sharply pointed wings, either bright slaty-blue (adult male) or dark brown (female and immature) back, and narrow white tail bands are distinguishing features of this hawk. The Sparrow Hawk might be confused with it in silhouette, when the two birds are found on common ground. According to my observations, the Sparrow Hawk nearly always teeters its tail after alighting, whereas the Pigeon Hawk does not do this.

Pigeon Hawks are bold and courageous in their attacks on prey, often killing birds larger than themselves. One, that I took, had just killed a Red-shafted Flicker which certainly could have put up considerable resistance. Another had a California Jay in its possession. In the Yosemite region, robins, juncos, and pipits seem to be preferred to any other food. One female, that had just eaten a junco and a pipit, had the partly digested remains of two other pipits in its stomach. A young male had eaten a robin and could scarcely leave the ground due to gorging. Another young male had eaten parts of a robin and a meadowlark, the latter being partly digested. An adult male was eating a robin when shot and another had just killed a flicker. A California Jay had fallen a victim to an adult male Pigeon Hawk and a robin to another. The last one taken had eaten a junco, a pipit and an unidentified bird, presumably an Audubon Warbler.

All of this hawk's food seems to be plucked to a considerable extent; but very little of the flesh is discarded unless possibly some of the entrails. Wings, bills and feet were all found in the stomachs.

When striking a bird, a falcon apparently delivers the blow with the front toes partially folded and the large rear talon dragging behind. An examination of fresh kills showed there had been an apparent raking action, tearing two deep gashes, generally severing the spinal column or neck. The flesh is also bruised and discolored. The bird is knocked down amid a cloud of feathers and then picked up, to be carried away to some retreat; or if too heavy it is eaten on the spot. A Pigeon Hawk seems to be able to carry a robin quite easily.

This hawk is capable of bursts of speed that fairly shoot it through the air, though the Duck Hawk and Prairie Falcon are more spectacular in their wild dashes. The Pigeon Hawk's method of approaching a bird is to drop from a perch to within a few feet of the ground and dash pell-mell, with wings whistling, at its quarry, be it a few feet or a quarter of a mile away. One dashed by me in our north field and was watched for nearly a quarter of a mile before reaching its prey. I have never seen one hover like a Sparrow Hawk, but did witness one catching dragon flies, early one fall, near Albany, Alameda County, California.

These hawks seem to be silent birds, for only twice have I ever heard one utter a sound. Once when two were fighting in mid-air, a spluttering *klee, klee, kleek, kleek* was given. One that I winged gave the same call as it came to the ground. They are generally solitary, and when two meet, a quarrel generally takes place immediately. The Pigeon Hawk will put a Sharp-shinned Hawk to rout if one should enter into the falcon's domain. This is quite the reverse of the Sparrow Hawk in a similar situation, as the Sharp-shin is the master of the Sparrow Hawk. One Pigeon Hawk was seen darting at a cat that was crossing the corner of a field. A mounted Great Horned Owl placed on a pole caused considerable consternation among the hawk population and brought three Pigeon Hawks during two days. At the end of this time, the owl was in such a bad way that the hawks paid little attention to it. The several species of hawks literally tore it to pieces. However, the Prairie Falcon and the Duck Hawk lord it over the Pigeon Hawk. Whenever either of the big falcons approaches a tree in which one of the smaller species is perched, the latter departs before the former alights.

The following list is of Pigeon Hawks that I have collected in the Yosemite region:

1. Male adult, February 26, 1919, perched in black oak tree near field.
2. Immature male, October 16, 1920, flying after robins.
3. Adult male, December 19, 1921, perched in same tree as no. 1.
4. Adult female, October 6, 1924, perched on fence post and gorged.
5. Adult male, October 12, 1924, perched in same tree as nos. 1 and 3.
6. Immature male, November 16, 1924, perched in a very tall black oak.
7. Adult male, November 17, 1924, flying after a flock of pipits.
8. Immature male, December 16, 1926, perched in the same tree as no. 6.

The dark-colored females and immature males outnumber the slaty-blue adult males to such an extent that the latter is a rare bird in comparison, even in this locality where Pigeon Hawks are relatively common in winter.

All the above specimens were taken in the neighborhood of Dudley, Mariposa County, from three to six miles east of Coulterville, California, at approximately 3000 feet altitude. They were taken under varying conditions of temperature and weather. —D. D. McLEAN, *State Fish and Game Division, San Francisco, August 22, 1928.*

A Cardinal at Redlands, California.—A cardinal, a male in full plumage, was found dead in Sylvan Park, Redlands, on April 9, 1926, by Mr. Robert Adams, gardener of the park. Recognizing it as a rare bird, he turned it over to the writer for identification. The measurements and appearance suggested that it is the Arizona Cardinal *(Richmondena cardinalis superba)* rather than the Eastern Cardinal *(R. c. cardinalis)*. The measurements are: length, 230.8 mm.; wing, 99.4; tail, 113.0. The specimen differs from *cardinalis* chiefly in the lengths of wing and tail. The color pattern is that of *superba*, as the black of chin and lores does not meet across the forehead. The general coloration is pale, and the bill is very stout.

In response to a request for possible information about the bird, published in the *Redlands Facts* of April 12, 1926, Miss Ruth M. Smith of Redlands reported that she had seen the bird alive March 28 and April 4, on Sunset Drive, about two and one-half miles from Sylvan Park, where it was found on April 9. She saw it distinctly and heard it sing. If this was the same bird, it had been in Redlands at least two weeks, succumbing after nearly a week of rain.

The specimen was sent to Mr. Alden H. Miller for identification, and is now no. 52902 in the collection of the Museum of Vertebrate Zoology, University of California. It was not seen by Mr. Miller previous to the writing of his recent article (CONDOR, XXX, 1928, pp. 243-245).

Mr. Miller reports that upon close comparison the specimen is undoubtedly referable to *superba*. The great length of tail as well as all details of coloration agree with typical specimens from Arizona. He further notes that the appearance of the Arizona race in California again raises the question of the origin of the California cardinals. There is the possibility that *superba* as well as other races may contribute to the California cardinal population. However, no trace of this race within the state has been noted heretofore, and it still seems reasonably certain that the principal colony in the San Gabriel River bottom is composed of eastern birds.