

FROM FIELD AND STUDY

Field Notes on the Raven.—While on the north end of Catalina Island April 6 to 9, 1925, I was enabled to observe at leisure some of the breeding antics of the Western Raven (*Corvus corax sinuatus*). A large flock that was gathered there gave daily aerial and vocal exhibitions. The most striking effect was produced by the vocal abilities of these usually croaking, growling dignitaries. When a flock of some numbers would be playing in the air in a general sort of melee, a high pitched clamorous cawing, very crow-like, was the usual thing. Lower voices were heard, in the quality and burring utterance of the nutcracker. Single pairs gave rapid runs (on an upward scale) that had a ringing quality, of wooden nature, like castanets, and were musical enough to remind one of the xylophone.

Another peculiar sound was made in a number of instances by a bird when completing the "roll". Upon reaching upright position such birds made a sharp "pugh", very like a cork drawn from a bottle. My first impression was that it was the result of a certain wing-flash in gaining position; but later, birds in ordinary flight gave the same note, so I concluded it was vocal. Another puzzle was the "whiff, whiff" of steady-flying birds. It was so strong and distinct a sound that a single bird flying down the valley awakened me on two different mornings by this sound when still at a considerable distance. Mr. M. W. deLaubenfels expressed himself at the time as thinking this a volitional effect, as numbers of times a pair of birds would go overhead and only one be giving the sound. Could it be a sexual characteristic?

Ravens formerly did great damage to the sheepmen on this island by picking out the eyes of new-born lambs. The lambing fields were always guarded by armed men. Today, however, there are very few sheep on the island. One of the ranchers told me that the ravens do not do the same damage to the young kids of the goats, of which there are thousands on the island, for the reason that the nannies are more agile than the ewes and keep the birds away. Mr. Arthur Barr found a circle of ravens around an American Eagle feeding on the carcass of a goat he had recently killed. They gave the eagle some bother but made no united attack. This same observer and his father called my attention to the probability of ravens eating cactus apples. They found the remains, and also whole apples freshly punctured, upon conspicuous elevations such as a raven might use. It is almost certain that they do, for the ripened fruit can be found fallen in the midst of nearly every cactus thicket, each one with a puncture such as the bill of the raven might inflict.—ROLAND CASE ROSS, *Dept. of Nature Study, Los Angeles City Schools, May 10, 1925.*

Segregation of the Sexes in the Sage-hen.—Sage-hens (*Centrocercus urophasianus*) are still numerous in northwestern Colorado. They breed in all favorable places in Routt and Moffat counties and then assemble in large flocks during the winter months. I have been told that their center of abundance during the winter is in the general vicinity of Craig and Sunbeam, where they congregate on the great sage flats. During this time they are often entirely absent in places where they were common in the summer.

I worked from the Cary Ranch (about on the border of the two above mentioned counties) in February, 1925, and noted the tendency of the Sage-hens to gather in flocks according to their sex, as do the Willow Ptarmigan in Alaska. As with the ptarmigan, it was not unusual to find a few males in a large flock of females, and vice versa, but for the most part the flocks were of but one sex. The birds wintering immediately about the Cary Ranch, which is in the valley of the Bear River, were almost entirely females.

The Bear has a rather narrow basin with the usual growths of cottonwood and willow, while the hills sloping abruptly from the valley floor are clothed with sage. The snow was about two feet deep on the level, which made work a trifle difficult; but in the week afield, I had no difficulty in seeing Sage-hens daily. There were no large flocks along that part of the Bear, as the majority had worked to the northward. Of the hundred or so noted but a few were males. On the Elk River, which empties into the Bear nearly on the Routt and Moffat county line, I found the flocks composed almost entirely of males. The Fortification Flats, across the divide to the northward