

The islands are rocky and barren except for occasional bunches of grass and wild pineapples, and are a wild, picturesque habitat for the Heermann Gull.

*Pasadena, California.*

## FALL NOTES FROM EASTERN KANSAS

By ALEX. WETMORE

THE material upon which this paper is based, consists of nearly six hundred skins, collected by Mr. Charles D. Bunker and myself on two collecting trips in the same region.

This locality is known as Washington Creek, and lies about eight miles in a direct line southwest of Lawrence, Kansas, in the edge of the hills, and is back from the main traveled roads running into the hills. The draws are timbered with oaks and elms, with a thick undergrowth of buck-brush and briars in places. There are two creeks here: Washington Creek, and a smaller one known as Hasty Creek, both lying to the west. One line of hills is bare of timber, being covered with sumachs and tall scattering weeds, with numerous rocky points projecting from it, and a level valley lying below. Along Washington Creek are some fair-sized growths of heavy bottom timber.

Our two trips were made from September 14 to 21, 1907, and September 11 to 18, 1908, and were made in the interests of the Kansas University Museum, our object being to collect birds mainly, together with what mammals offered themselves. Camp was made both times in a draw where it widened between two hills, and a tent was pitched to sleep in, while we used an old two-roomed cabin for a work room. The mornings were spent in collecting and the afternoons in preparing specimens.

During 1907 we had very poor weather, as the wind blew almost constantly from the southwest, and it was excessively hot. On only two or three days was it quiet, and the birds in consequence remained well under cover. We had one light rain during the night, which, however, did not hinder our field work. The second year the weather was more in our favor, as what wind there was came mostly from the north, and favored rather than hindered migration. One light rain fell during this year also.

Most of our collecting was done within a radius of three miles of camp, and in this territory we had a great variety of ground, ranging from small marshes to barren hill-tops. The tall trees about camp attracted the birds, and many of our meals were interrupted by a chase after a desirable specimen, which frequently was pursued into the nearby timber.

It is a matter of some interest to note the difference in the results obtained on the two trips. During 1907, with the strong southwest winds, migration was practically almost at a standstill, and a great share of the birds obtained were the resident species. Several of the residents, such as *Hylocichla mustelina*, *Spiza americana*, and *Setophaga ruticilla* were taken, while *Ictinia mississippiensis* could have drifted up from the south under the impulse of that same wind. The season seemed less advanced, too, as was shown in the plumage of the birds, many of those taken being in full molt.

The next year this was entirely changed. Many of the smaller migrants were

taken, and the total number of species was half again as great as on the preceding year. The plumage of the birds was also better as a whole, and farther advanced. Small bands of migrants were frequently seen in the morning and evening, working toward the south, something that was entirely lacking the year before. A list of the species taken on each of the two years is introduced here for the sake of comparison.

## 1907

<i>Bartramia longicauda</i>	<i>Passerina cyanea</i>
<i>Porzana carolina</i>	<i>Spiza americana</i>
<i>Colinus v. virginianus</i>	<i>Piranga erythromelas</i>
<i>Zenaidura m. carolinensis</i>	<i>Piranga r. rubra</i>
<i>Cathartes a. septentrionalis</i>	<i>Riparia riparia</i>
<i>Ictinia mississippiensis</i>	<i>Vireosylva olivacea</i>
<i>Accipiter cooperi</i>	<i>Vireosylva g. gilva</i>
<i>Otus a. asio</i>	<i>Lanius s. solitarius</i>
<i>Coccyzus a. americanus</i>	<i>Vireo g. griseus</i>
<i>Dryobates v. villosus</i>	<i>Comothlypis a. ramalinae</i>
<i>Dryobates p. medianus</i>	<i>Dendroica a. aestiva</i>
<i>Melanerpes erythrocephalus</i>	<i>Geothlypis t. brachydactyla</i>
<i>Centurus carolinus</i>	<i>Icteria v. virens</i>
<i>Antrostomus vociferus</i>	<i>Setophaga ruticilla</i>
<i>Colaptes a. luteus</i>	<i>Dumetella carolinensis</i>
<i>Chordeiles v. virginianus</i>	<i>Toxostoma rufum</i>
<i>Chaetura pelagica</i>	<i>Thryothorus ludovicianus</i>
<i>Sayornis phoebe</i>	<i>Sitta c. carolinensis</i>
<i>Nuttallornis borealis</i>	<i>Baeolophus bicolor</i>
<i>Myiochanes virens</i>	<i>Penthestes a. atricapillus</i>
<i>Cyanocitta c. cristata</i>	<i>Penthestes a. septentrionalis</i>
<i>Corvus b. brachyrhynchos</i>	<i>Hylocichla mustelina</i>
<i>Quiscalus q. aeneus</i>	<i>Planesticus m. migratorius</i>
<i>Astragalinus t. tristis</i>	<i>Sialia s. sialis</i>
<i>Cardinalis c. cardinalis</i>	

## 1908

<i>Butorides v. virescens</i>	<i>Chaetura pelagica</i>
<i>Colinus v. virginianus</i>	<i>Archilochus colubris</i>
<i>Zenaidura m. carolinensis</i>	<i>Tyrannus tyrannus</i>
<i>Cathartes a. septentrionalis</i>	<i>Myiarchus c. crinitus</i>
<i>Otus a. asio</i>	<i>Sayornis phoebe</i>
<i>Coccyzus a. americanus</i>	<i>Nuttallornis borealis</i>
<i>Ceryle alcyon</i>	<i>Myiochanes virens</i>
<i>Dryobates v. villosus</i>	<i>Empidonax flaviventris</i>
<i>Dryobates p. medianus</i>	<i>Empidonax virescens</i>
<i>Melanerpes erythrocephalus</i>	<i>Empidonax trailli alnorum</i>
<i>Centurus carolinus</i>	<i>Empidonax minimus</i>
<i>Colaptes a. luteus</i>	<i>Cyanocitta c. cristata</i>
<i>Antrostomus vociferus</i>	<i>Corvus b. brachyrhynchos</i>
<i>Chordeiles v. virginianus</i>	<i>Quiscalus q. aeneus</i>
<i>Chordeiles v. henryi</i>	<i>Astragalinus t. tristis</i>
<i>Chordeiles v. sennetti</i>	<i>Spizella p. pusilla</i>

*Cardinalis c. cardinalis*  
*Passerina cyanea*  
*Piranga erythromelas*  
*Piranga r. rubra*  
*Vireosylva olivacea*  
*Vireosylva g. gilva*  
*Lanivireo s. solitarius*  
*Vireo g. griseus*  
*Vireo b. bellii*  
*Mniotilta varia*  
*Vermivora r. rubricapilla*  
*Vermivora c. celata*  
*Compsothlypis a. ramalinae*  
*Dendroica virens*  
*Sciurus aurocapillus*  
*Oporornis agilis*  
*Geothlypis t. brachydactyla*

*Icteria v. virens.*  
*Wilsonia p. pusilla*  
*Wilsonia p. pileolata*  
*Setophaga ruticilla*  
*Dumetella carolinensis*  
*Toxostoma rufum*  
*Thryothorus ludovicianus*  
*Troglodytes a. parkmani*  
*Sitta c. carolinensis*  
*Baeolophus bicolor*  
*Penthestes a. atricapillus*  
*Penthestes a. septentrionalis*  
*Regulus c. calendula*  
*Hylocichla f. salicicola*  
*Hylocichla u. swainsoni*  
*Planesticus m. migratorius*  
*Sialia s. sialis*

In the 1907 list there is a notable absence of many common summer residents of the region, as: *Sturnella m. magna*, *Empidonax virescens*, *E. acadicus*, *Agelaius phoeniceus*, *Pipilo erythrophthalmus*, *Lanius l. migrans*, etc. The individuals of the species listed were not at all common and were very retiring. A few of the large Raptores were seen, but as none were taken they are not listed. Three species only, *R. riparia*, *L. solitarius* and *I. mississippiensis*, can be classed as true migrants, and of these the latter is a straggler from the south. Any of the others might have been breeding birds in the immediate vicinity. In fact as stated before there was during the period no appreciable migrational movement.

In the 1908 list the following common summer residents were taken, which were not found the previous year but which might be expected to occur regularly in comparative abundance: *C. alcyon*, *B. v. virescens*, *M. c. crinitus*, *E. virescens*, *S. p. pusilla*, *V. b. bellii*, and *T. a. parkmani*. *T. tyrannus* was merely a belated migrant and *A. colubris* is at best of uncertain occurrence in this locality.

The main part of the other birds, not taken the previous year, were the smaller migrants, which should occur regularly at this season and consisted in great part of the warblers. Conditions were particularly favorable for the migration of these birds, and on several occasions considerable flights of them were found. The other birds were more or less numerous, and more active also, and were easier to find, and on several cool mornings the birds were almost as noisy as they are in October.

This list is offered merely to give some idea of the avifauna of this part of Kansas in the early fall, and as much credit for it is due to the efforts of Mr. Bunker as to myself. There are many other species which can be added in succeeding years, but for the two periods in question, I believe it to be fairly complete. Collecting at this time of the year is rather disagreeable work anywhere, but we found it especially so. The heat made struggling thru the dense thickets, with the luxuriant growth of vegetation found there, exceedingly hard work, and when we worked the timber, the cobwebs caught on our faces and hands in the most exasperating manner.

Specimens were taken of all the species listed.

1. **Butorides virescens virescens.** Green Heron. A few of these birds were seen

along Washington Creek, but they were not at all common. One was also taken at the edge of a pond in the weeds, where it was feeding on frogs.

2. *Porzana carolina*. Sora. One taken Sept. 19, 1907, in a small marsh, was the only one seen. We were rather surprised to find it here, as it was a dry marsh, far from water, and there had been no rain for some time.

3. *Bartramia longicauda*. Bartramian Sandpiper. A single bird taken in an open field on top of a hill on the morning of Sept. 22, 1907. It had apparently just come in, and was looking for a place to light.

4. *Colinus virginianus virginianus*. Bob-White. During 1907 there were one or two pairs of quail along the side-hill south of camp, where they could be heard calling during the morning and evening. The next year there were at least three coveys within a radius of a mile; but the nearly grown birds were hard to flush. The birds here were probably from first settings, and were larger than those found in the river bottoms, whose first nests were destroyed by the heavy June floods.

5. *Zenaidura macroura carolinensis*. Mourning Dove. Common in suitable localities along Hasty Creek. We were sure of finding from two to a dozen during the morning and evening, near a ford, where they came for water. During the morning they sat around in the trees a good deal, and frequently came flying swiftly into water, while we were watching. Several young birds were taken in the immature plumage. The birds were seen usually two, three, or four together, showing that the male, female, and their young had remained in company after the nesting season.

6. *Cathartes aura septentrionalis*. Turkey Vulture. During 1907 there were three or four of these birds in the vicinity, but the next year the number had increased to twenty-five. They spent most of their time around the hills to the south, but shooting disturbed them, and when we were out in that direction they usually soared off across the valley. One or two, and sometimes the whole flock, were in sight from camp nearly all day long.

7. *Ictinia mississippiensis*. Mississippi Kite. During 1907 a flock of a dozen of these birds was found every day feeding over the bare hills south of camp. There was a long ridge here, with a series of points projecting from it, the whole covered with sumach bushes and tall weeds. In this cover there were great numbers of a species of cicada, on which the kites were feeding. They hunted back and forth in long circles, soaring and turning, hardly ever getting very far from the earth. Occasionally one swooped down over the brush, and captured an insect, and sailed off eating it while flying. We never saw the birds in trees during our whole stay, but always on the wing. The first day they were tame, and came right around us, and it was a minute or two before we realized what they were. We had several good shots, but had no loads heavy enough for them, and so were forced to come back later on. We got one that afternoon (Sept. 14, 1907) and two others later (Sept. 15 and 16), but the birds had become wilder and were hard to get. We had to remain quiet hidden in the weeds until the birds drifted around close enough for a shot.

They appeared to roost somewhere to the east, as they always came from that direction in the morning, and went that way in the evening. Those taken had all eaten nothing but the cicadas, and were exceedingly fat. They were gone by September 20, and were not seen again. We lookt for them carefully the next year, but failed to find them. This is, so far as is known, the farthest north that they have been taken in the state, tho they are reported as nesting near Baldwin, Kansas.

8. *Accipiter cooperi*. Cooper Hawk. These hawks were fairly common tho wild, and were seen nearly every day. One specimen in immature plumage was taken September 19, 1907. It was flying around the trees above camp just at daylight, calling "kek-kek-kek-kek" and was shot by Mr. Bunker after some trouble in locating it.

9. *Otus asio asio*. Screech Owl. Common all around camp but only one or two seen. In the evening they were quite noisy, and it was a pleasure to hear their tremulous notes, while we were sitting around in the dusk, smoking, reading or telling yarns after a hard day's work. We could never tell whether the notes came from the trees above us, or from farther away, and we tried several times to locate the birds without success. One night about nine o'clock while I was sitting on a stone wall watching for whip-poor-wills, an owl swooped down at my head several times. It was very dark and I could only see a shadow as it went by, but by a chance shot, I secured it with the auxiliary barrel.

10. *Coccyzus americanus americanus*. Yellow-billed Cuckoo. This species was common in the timber everywhere, and its loud notes were often heard. They were rather shy, however, and while we were moving around we only saw a few, most of our birds flying in on us, when we were motionless. They were excessively fat, and the greater part of them were molting, so that they made poor specimens. Occasionally we heard their notes at night.

11. *Ceryle alcyon*. Belted Kingfisher. One or two seen occasionally along Washington creek, but the streams in the neighborhood were too small to attract many of the birds. The only one taken was excessively fat, showing that there was an abundance of food, as would naturally be expected; but the Kingfisher appears to prefer larger streams as a whole, and does not wander far back along the smaller creeks.

12. *Dryobates villosus villosus*. Hairy Woodpecker. Common everywhere thru the timber, and a number were taken. All were in fine plumage, and most of those secured were shot in the trees above camp.

13. *Dryobates pubescens medianus*. Downy Woodpecker. These little birds were common everywhere in the timber, and numbers were seen. They appear to have about the same habits the year around and are always trusting and confiding. They are one of the most abundant birds in this vicinity, taking the year as a whole, and are more numerous than in any other locality where I have ever collected. Forty-one specimens were taken.

14. *Melanerpes erythrocephalus*. Red-headed Woodpecker. These birds were met with as stragglers in the edges of the timber on both years, and one or two were taken around camp. Stragglings occurred along Hasty Creek, where the birds kept to the tops of the smallest trees. They were in company with the flickers, and like them, made long flights across the fields. Of twelve specimens, only three are adult, and, of the immature birds, the females appear to be slightly paler in color than the males. One immature bird shows a few red feathers on the crown and throat.

15. *Centurus carolinus*. Red-bellied Woodpecker. These woodpeckers occasionally came into the trees about camp, but most of them were found in the timber. One or two of the adults taken are in very highly colored plumage.

16. *Colaptes auratus luteus*. Northern Flicker. These birds were fairly common along the edges of the timber, and in the creek bottoms, but were wild and hard to secure. They did a great deal of flying back and forth between the hills, and the high trees above camp proved a tempting resting place for them. *Colaptes c. collaris* appears to occur here only during the fall and winter.

17. **Antrostomus vociferus.** Whip-poor-will. These birds were common both years, but were seen only a few times. Promptly at dusk they began to call, and sometimes half a dozen could be heard at once, in the different draws near camp. We always noticed that the birds began calling from the hillsides away from where we had hunted during the day, and so inferred that they flew ahead of us, and thus avoided being seen. Considerable time was spent in looking for them the first year, but none were taken. The second year as we were finishing supper one evening, a single bird flew into a big tree above camp, and sat there for a few seconds, chucking harshly. As it flew out it was shot. I have no doubt it was attracted by the unusual sight of the tent under the trees, and came down to investigate it.

18. **Chordeiles virginianus virginianus.** Nighthawk. Nighthawks were fairly common during both years, but not as much so as in a more open locality. The greater part of them past to the west of our camp, outside of the line of hills, and we noticed them often in the evenings in that direction. Sometimes, however, a flock would pass directly thru the camp, and several were taken in the daytime from the limbs, where they were resting until it was time for them to feed again.

19. **Chordeiles virginianus henryi.** Western Nighthawk. Three of the specimens taken in 1908 have been referred to this form.

20. **Chordeiles virginianus sennetti.** Sennett Nighthawk. Two specimens taken September 12, 1908. They were shot from a flock which past thru camp just at daylight, and remained to feed around the edges of the timber for a few minutes. This is the first authentic record of this species for the state, to my knowledge, but I think that they will be found to be regular migrants, at least during the fall. Others taken from the same flock were referred to *C. v. henryi*.

21. **Chaetura pelagica.** Chimney Swift. These birds were migrating daily during both years. Most of them past over high up going either south or southwest, but by getting up on the bare hills south of camp, we were able to observe them closer, as here they frequently came down almost to the ground. Sometimes a small flock would stop to feed around some clumps of trees near the base of one hill, and we secured several here. A south wind checkt their migration somewhat, but not entirely. They were seen more often during the forenoon and late afternoon.

22. **Archilochus colubris.** Ruby-throated Hummingbird. During the fall of 1908 these birds were fairly common, but the preceding year none were seen at all. They were feeding around the thistle patches and by walking around these, we secured a number. They were most active in the warmer part of the day, and were seemingly indifferent to the blazing heat of the sun. This is the only time that I have remarkt many of them in one locality within the state. We collected them with the aux, and after a bird was shot, it was usually a problem to find it in the dense tangle of weeds, briars, and thistles, above which they were feeding.

23. **Tyrannus tyrannus.** Kingbird. One taken September 18, 1908. This is rather a late record, as most of the birds leave about September 1. The bird taken was found in an old pasture, some distance from camp, and was the only one seen.

24. **Myiarchus crinitus crinitus.** Crested Flycatcher. A few birds of this species noted in the timber during the second year, and two taken.

25. **Sayornis phoebe.** Phoebe. Phoebes were found scattered along the more open portions of Hasty Creek, where they percht usually above the water. All those taken were fine specimens in fall plumage. Only a few were seen on each year, and all were observed in the same locality. During the spring and early summer, they are not so local in their distribution.

26. *Nuttallornis borealis*. Olive-sided Flycatcher. One bird taken each of the two years. They were silent, and were found on the edge of the timber in one of the draws near camp. This species appears to be a rare spring and fall migrant, in the vicinity of Lawrence.

27. *Myiochanes virens*. Wood Pewee. These birds were fairly common in the bottom lands along Washington Creek, and several specimens, principally in immature plumage, were taken.

28. *Empidonax flaviventris*. Yellow-bellied Flycatcher. One immature female taken September 14, 1908. These birds are rare migrants here, and I have always found them in the draws in the edge of the hills.

29. *Empidonax virescens*. Acadian Flycatcher. One taken September 15, 1908, was the only one noted. The time of the year, however, was rather unfavorable for the flycatchers, and only a small number of each of the other species was observed.

30. *Empidonax traillii alorum*. Alder Flycatcher. One immature female, taken September 15, 1908, was the only one noted.

31. *Empidonax minimus*. Least Flycatcher. Two of these little flycatchers were taken in the draw back of camp. In the afternoons towards evening, these, and the other species of *Empidonax* found, were feeding in this draw, when everything was still, except for the shrilling of the cicadas. The flycatchers would fly a few feet, making an audible flutter with their wings, and then perching, remain still for perhaps five or ten minutes, so that it was very hard work to locate them. This probably accounts for the small number taken.

32. *Cyanocitta cristata cristata*. Blue Jay. Very common, both in the timber along the creek bottoms, and in the oaks along the side-hills. A large series of these birds was taken as the stomachs were wanted to determine the food habits. They were nearly all in very poor plumage, especially about the head. Some, however, were in perfect fall dress, and were very handsome. Around camp we found them shy; but in the mornings when we had gone, they always came down to investigate, and probably to pick up food among the camp refuse. In the timber, they were feeding upon acorns and ground beetles. All those taken the second year, were in much better plumage than the year before, showing that the season was farther advanced.

33. *Corvus brachyrhynchos brachyrhynchos*. American Crow. Crows were common everywhere. The side-hills and draws near camp are favorite nesting places with them in spring, and young crows were seen and heard continually. Most of them were in very poor plumage, and we only made eight skins. One morning I shot a crow on the wing, as it flew high over camp, and for the rest of the day, seven or eight of the birds lingered around the point of a hill, a short distance away, cawing and watching, as if wondering what had become of their companion.

34. *Quiscalus quiscula aeneus*. Bronzed Grackle. In Lawrence there is a large grackle roost to which the birds begin to resort in July, and by September are fully assembled. In the morning they start out in long lines over the country, in search of feeding grounds, and the vicinity of our camp, especially during the fall of 1908 was a favorite place with them. They usually came in about eight in the morning, and began the return flight about five in the afternoon. First we would see a few straggling flocks coming in from the northeast, and following these a long black line, undulating and twisting, always following the exact turns made by those in the lead, but preserving, on the whole, a straight course. They usually alighted in some clump of trees, and poured in until the limbs were black,

and the confusion of their notes filled the air like the tumult of a great waterfall. If they were startled, and all arose at once their wings made a loud roaring noise, and the birds wheeled around until decided which way to go. Usually in the early morning they fed for a time in the oak woods in the draws, but later on spread out in the cornfields in the bottoms. We secured quite a few of them by random shots into the large flocks. The adults were just completing the molt, but the young birds were in good plumage. A curious habit, alluded to above, was that of the long flocks following every dip and turn made by the leader. Frequently I have seen one flock following another at a distance of a quarter of a mile, suddenly dip downwards at approximately the same place, as that at which those in the lead had performed the same evolution. On one occasion, this led to disaster as one flock dodged under a wire, while the flock following miscalculated the distance, and one bird was struck down to the ground, stunned and disabled. I have noted the same habit in other species of the Icteridae: in *A. phoeniceus* and *E. carolinus*.

35. **Astragalinus tristis tristis**. American Goldfinch. Fairly common during both years. Usually they were seen flying overhead, but several times we encountered a flock near a ford on Hasty Creek where they came for water. Two, of the six taken, are immature birds in brownish plumage, and the rest are adults just beginning the molt.

36. **Spizella pusilla pusilla**. Field Sparrow. These little sparrows were in a bad state of molt, and some of them were hardly able to fly. We tramped them out of the weeds, on the hills to the south, and for a while I was uncertain as to their identity on account of their plumage. The first one secured, however, settled the matter. One partial albino was taken, having patches of white on the feathers of the scapulars, interscapulars, and rump. Three of the immature birds are in the juvenile striped plumage. They were seen only during 1908, none being encountered the previous year.

37. **Cardinalis cardinalis cardinalis**. Cardinal. All those taken were badly molting, and some of the adult males especially, were in very ragged plumage. A number of young were taken with dusky instead of red bills. Two were secured that had barely left the nest, and were just able to fly. One of these was taken September 19, 1907, and the other September 16, 1908, which indicates very late nesting for them. The birds were very shy and secretive, and were silent, except for their customary sharp call notes.

38. **Passerina cyanea**. Indigo Bunting. This species was common in the weed patches along the borders of the fields, and at the edge of the timber along the creeks. Quite a number were taken, both adults and young, the former being in a bad state of molt. One young bird, just out of the nest, was taken September 18, 1908. This is the first time I have noted such late nesting in this bird. The adult males were heard giving the flight song on several occasions.

39. **Spiza americana**. Dickcissel. One taken September 19, 1907, from a flock of three in a small marsh. A few others were seen flying overhead, but they were not at all common, and most of them had left for the south. None were noted the second year.

40. **Piranga erythromelas**. Scarlet Tanager. A few found in the bottom woods, along Washington Creek, working thru the trees with the other smaller migrants.

41. **Piranga rubra rubra**. Summer Tanager. Fairly common during 1907, but only a few seen during 1908. They were found in the oak timber only, and we heard their queer notes often, coming from a draw east of camp. Usually two were together, tho for what reason I could not guess.

42. *Riparia riparia*. Bank Swallow. A single bird taken from a small flock of other swallows September 19, 1907, was the only one noted.

43. *Vireosylva olivacea*. Red-eyed Vireo. This was the commonest of all the vireos, and was found in the timber everywhere. Great numbers of them were mixt in with the migrating flocks of warblers, and they also past thru the trees above camp. They gave their usual call note frequently, and it was possible to trace them up by that, as they were not at all wild. This is a common breeding species here.

44. *Vireosylva gilva gilva*. Warbling Vireo. This species was fairly common both seasons, and several were taken, mostly in the heavier timber. So far as noticed they were silent, and were found with the migrating flocks of warblers.

45. *Lanivireo solitarius solitarius*. Blue-headed Vireo. Three specimens of this bird were taken, and this is the first time that I have noted it personally in Kansas. They are probably a regular but rare migrant, occurring along the streams. Two of our birds were taken in 1907, and one the year following.

46. *Vireo griseus griseus*. White-eyed Vireo. This bird was found in the dense thickets on the hillsides, and was very hard to locate. We heard their notes and songs on every visit to these localities, but the birds themselves remained so well hidden, that we succeeded in getting them only after long watching.

47. *Vireo bellii bellii*. Bell Vireo. There were a few of these birds in the thickets on the brushy hillsides during 1908, but they were shy and hard to locate. Only one was taken, on September 15, 1908; but we heard their notes and an occasional song nearly every day.

48. *Mniotilta varia*. Black-and-White Warbler. One adult male taken September 14, 1908, from a flock of migrating warblers, and none others seen.

49. *Vermivora rubricapilla rubricapilla*. Nashville Warbler. This is a regular tho rare migrant in this vicinity. We found them during 1908, in the dense brush and tangled grape-vines along Hasty Creek, where they could be secured only by patient watching. They were very quick and active, and usually when seen were too close to shoot without entirely destroying them.

50. *Vermivora celata celata*. Orange-crowned Warbler. One taken September 14, 1908. The fall migration is rather a poor time for warblers in this vicinity, and only a few scattered examples of most of the species were observed.

51. *Compsothlypis americana ramalinae*. Western Parula Warbler. Found in the heavy bottom timber along Washington Creek. Several specimens of this small warbler were secured from flocks of migrants, and more were seen on both years.

52. *Dendroica aestiva aestiva*. Yellow Warbler. One taken September 20, 1907, from a flock of other migrating Warblers and Vireos.

53. *Dendroica virens*. Black-throated Green Warbler. One bird taken September 16, 1908, from a small flock of warblers in the trees above camp. This bird appears to be of regular tho rare occurrence, during both spring and fall migrations.

54. *Seiurus aurocapillus*. Ovenbird. One taken from a considerable flock of warblers September 14, 1908, was the only one seen. The breeding birds had all left for the south.

55. *Oporornis agilis*. Connecticut Warbler. One taken September 14, 1908, in a brushy thicket near camp where it was in company with numerous other warblers. This bird is rather rare in this vicinity, and but few specimens have been taken.

56. *Geothlypis trichas brachydactyla*. Northern Yellowthroat. All of these

birds taken were found along a line of hedge thru a hay field. They were fairly common but were hard to secure, as they were silent and kept hidden in the thick base of the hedge. I saw the flight song given on one occasion. Those taken are intermediate in measurements between *brachydactyla* and *occidentalis*, but apparently belong to the former, as they agree closely with the eastern race in color, and the wings and tail do not average long enough for the western.

57. *Icteria virens virens*. Yellow-breasted Chat. These shy birds were fairly common along the hedges in the fields. They were entirely silent and we only secured them by beating the hedges carefully, one on each side. Usually they slipt along ahead of us to the end of the hedge, and then we could locate them. All those taken were exceedingly fat.

58. *Wilsonia pusilla pusilla*. Wilson Warbler. One taken in a hedge September 14, 1908. It is an immature male in fresh plumage.

59. *Wilsonia pusilla pileolata*. Pileolated Warbler. An immature female taken September 17, 1908, from the same locality as the preceding, is referable to this form. To my knowledge this is the first published record of the occurrence of this variety within the state.

60. *Setophaga ruticilla*. American Redstart. Rather rare both seasons. The nesting birds had nearly all left and only a few stragglers remained. We shot one that dropt into the creek, and while we were watching it, and debating how to secure it, a big bull-frog swam up from the bottom and gobbled the bird whole, disappearing with a splash, thus settling the matter and the bird as far as we were concerned.

61. *Dumetella carolinensis*. Catbird. Very common in the thickets on the hillsides, where we secured quite a series of them. One bird was still in the juvenile plumage, with rufous markings showing on the abdomen and lower breast.

62. *Toxostoma rufum*. Brown Thrasher. These birds were common in the thickets, and along a gully which ran thru camp. We secured a good series of them, and all were in clear, fresh plumage. They were rather shy, but were more easily secured than the smaller birds. While we were beating the thickets they frequently flew up into the tops of the smaller trees, and scolded us.

63. *Thryothorus ludovicianus*. Carolina Wren. During the first year the only birds of this species noted were seen along Washington Creek, more than a mile from camp; but in 1908, three or four had their haunts in a gully that ran past the camp, and we heard them every day. Usually at daylight a pair would waken us by their loud scolding notes just outside the tent, but later in the day they were more secretive, and we secured only one specimen after considerable trouble.

64. *Troglodytes aedon parkmani*. Western House Wren. Not common. A few found along stone fences and brush piles during 1908, and one taken. They were rather shy and silent, as usual at this time of the year, and could have been easily overlookt.

65. *Sitta carolinensis carolinensis*. White-breasted Nuthatch. Several of these birds were taken, all in the larger bottom woods along Washington Creek; but they are not at all common at any time here, and would be easily overlookt by one not familiar with their notes.

66. *Baeolophus bicolor*. Tufted Titmouse. Common everywhere in the timber. Several birds of the year, and a good many adults were taken. These birds were not as noisy as they are in the winter.

67. *Penthestes atricapillus atricapillus*. Chickadee. These birds were abundant everywhere in the timber, and a large series of them was collected. They were

usually found in small flocks. The greater part of the specimens I referred to *P. a. atricapillus*, tho they do not agree closely with eastern specimens. The greater part of them are intermediates, verging toward the western form, *septentrionalis*, and in many cases it is difficult to decide where they belong. About eighty per cent can be referred to the eastern variety, and this is apparently the dominant breeding bird.

68. *Penthestes atricapillus septentrionalis*. Long-tailed Chickadee. Several birds of this variety were taken, and they appear to be of regular occurrence in this vicinity, as mentioned in the notes under the preceding variety. Ninety skins were made of the two varieties.

69. *Regulus calendula calendula*. Ruby-crowned Kinglet. On several mornings I noticed one or two of these birds feeding in some willows near the tent, and one immature female was taken September 18, 1908. None were taken during the preceding year.

70. *Hylocichla mustelina*. Wood Thrush. One taken September 20, 1907, was the only one seen. The rest had already gone south in the fall migration.

71. *Hylocichla fuscescens salicicola*. Willow Thrush. Two of these birds were taken, one September 12, and one September 16, 1908. They were found in rather open thickets, one being taken on the side-hill, and the other in the ravine near camp. I have one other specimen in my collection, taken September 28, 1907, in this same locality, and these three constitute the only records for the state to my knowledge. I have been confidently expecting to secure them sooner or later, however, as they have been taken so much further east.

72. *Hylocichla ustulata swainsonii*. Olive-backed Thrush. A single one taken September 17, 1908, was the only one seen. Thrushes, other than robins, were rare during both years, and only a few were taken.

73. *Planesticus migratorius migratorius*. American Robin. During 1907 robins were more abundant than the succeeding year, and were found in the thickets on the hillsides, and along the creeks. Some of those taken were still in the spotted juvenile plumage, but most of them had almost completed the molt to the adult plumage, some of the birds showing a full winter dress. All those taken the second year were much more advanced in molt, and in better condition than the year previous.

74. *Sialia sialis sialis*. Bluebird. Common in flocks of from six to a dozen along the country roads. These flocks markt family groups, and frequently contained spotted individuals and others just molting out of the juvenile plumage. Twenty-five specimens were taken.

*Denver, Colorado.*

## CLIFF CLIMBING FOR PRAIRIE FALCON EGGS

By GEORGE RICHARDS

WITH TWO PHOTOS

CLIFF climbing can hardly be termed a sport in spite of its many thrills and pleasures. This is especially true when the climbers are amateurs and equipment limited. Even when a rare or interesting set of eggs leads one to make the attempt, his nerve suffers a queer sensation when he looks down the one