

being scarcely more than a shell and almost flat, very different indeed from most of the new ones I have examined. They usually show more art in construction than those of other raptors, being made of smaller and thinner sticks and twigs and are more smoothly put together, showing fewer projecting ends from the sides. The lining is usually of leaves of the tree the nest is in; sometimes a little grass or some willow bark or rabbits' or squirrels' fur. Nesting begins in April. My earliest record is April 15. Fresh eggs may be taken until the middle of May, but the later ones are second sets. Third sets are very unusual and show an amount of perseverance in the birds that should be respected.

Almost all the sets from this section

that I have seen are lightly marked. One set in my collection shows only a few very small "pen splashes" of black; another shows "pin point" spots of lavender almost all over one egg, while the other is practically spotless. This set is a modified pyriform in shape, another set with a creamy ground color has the markings, shape and size of a certain phase of *Buteo lineatus elegans* and if I had not seen Mme. Swainsoni leave the nest I should have mistaken it for that species.

I find sets of two and three in about equal numbers never anything more, but on May 26, 1901, I found a nest containing one newly hatched young and no trace of another egg. This is the only case of one that I have met with.

### The Audubon Warbler in Washington.

BY J. H. BOWLES, TACOMA, WASH.

**A**UDUBON Warbler (*Dendroica auduboni*) is the largest, handsomest and hardiest of all the warblers found in the state of Washington, where it is a fairly common summer resident. In their habits and general appearance they are exceedingly like their close relative of the east, the yellow-rumped or myrtle warbler (*Dendroica coronata*), which also occurs on the Pacific coast in limited numbers. It is, perhaps, unnecessary to add that the yellow throat of *auduboni* easily distinguishes it from the white throat of *coronata*.

It would be difficult to say just when the first of them make their appearance from the south, or when they return, as I have strong suspicions that a few remain with us throughout the year. The main force of the migration occurs about the middle of April, and by the second week in May all have passed northward excepting such as intend to nest. The return trip occurs about the last of September. They are essentially birds of the prairie regions, where scattering clumps of fir are plen-

tiful, seldom being seen in the deep woods.

The food supply consists of small insect life of all kinds, and they are most expert in the art of flycatching in mid-air. Socially inclined toward mankind, spending much of their time on and around houses in cities, beautiful in plumage, and graceful on the wing, their song is the only disappointing thing about them. It is a short, though pleasing, little warble, surprisingly feeble for so large a bird, and in no way equal to that of its smaller relative the yellow warbler (*D. aestiva*.)

It is in their nesting habits, however, that *auduboni* show their most interesting and original traits, as the first nests are built before any but the most careful observers know that the birds have arrived from the south. My earliest nesting date is April 22, when my brother, Mr. C. W. Bowles, found a nest containing four eggs within a day of hatching. As the period of incubation for these birds is twelve days, this would have made the first egg laid not later than April 8. Nor is this such an

unusually early date, as it is nothing uncommon to see the young flying about during the second week of May. The large majority of first sets are laid by April 25, at latest, but their habits are most irregular as I have found fresh sets on the following dates: April 23, May 25, June 4, and June 26, while young just out of the nest on May 28 would have made the eggs laid about May 5. Nor were those all the results of the first sets being broken up, as many of the birds were seen loitering around for over a month before starting in on nest building. That a second set is often laid, after the first brood has been raised is beyond a doubt, as several times in the case of late nests I have found near by the nest used for the first brood.

The nest found on April 22 is an excellent illustration of how little these birds fear mankind. It was found in a small park situated in the center of the city of Tacoma, and was placed in a small fir only ten feet over a path used by hundreds of people every day, and a favorite playground for children. This rule does not always hold good, however, as I have found nests situated at a distance of several miles from civilization.

The nest is a well built, bulky structure, the largest of any of our warblers, measuring externally 3.5 inches in width by 2.5 in depth; internal dimensions 2 inches in width by 1.5 inches in depth. It is very handsome, as a rule, being built of fir twigs, everlasting weed, rootlets, moss and dried grass, with a thick lining of horse hair and feathers. Its location is generally close to the main trunk on one of the large lower branches of some large, solitary

fir, or one of a grove of firs, on a dry, level prairie. I have never seen a nest placed otherwise than directly on a large branch, never in a crotch. It is always so well protected from the light that I have never been able to obtain a photograph. The nests are for some reason never placed far from the ground, the highest I have seen being twenty feet up, the lowest only six feet. There is never the slightest attempt at concealment, and they are so easy to see that almost every nest I have found has been a surprise to me in this respect.

All of the nests that I have seen contained four eggs as the complete set, but Mr. P. M. Silloway, of Montana, found a nest in the Flathead Lake region that differs in almost every respect from anything I have ever seen. It was placed in a crotch of a small willow tree and contained five eggs.

In coloring they vary to a considerable extent, though the ground color is always constant, as is the case with all the warblers eggs known to me. The ground color is a dead white, with a tinge of greenish that is invariably there though not particularly strong. The markings vary in different sets from small black spots sparingly scattered over the entire egg, to eggs handsomely ringed around the larger end with dots and blotches of red brown, black and lavender. In shape they vary from rather short ovate to long oval, while they are subject to considerable variation in dimensions. The largest egg in my collection measures .75x.55 inches, the smallest .67x.50 inches. A measurement of sixteen specimens shows an average of .70x.54 inches.

### A Study of the Black-headed Grosbeak.

BY ANNA HEAD, BERKELEY, CAL.

THE scene is a nook in the wooded Coast Range of Mendocino county, California. To the east rises the peak of Mt. Sanhedrim, snow-covered

till well into the summer, a secure retreat for deer, grouse and mountain quail. Clear, cold streams tumble through every gorge and crevice in the