

or in any way corrupt the story it was commissioned to tell. What faith! But this is little more than the shadow of an illustration; for Herschell, the astronomer, thought it probable that we can see nebulae from which it has taken light 300 000 years to reach the earth, during which time the interstellar medium has been faithful in transmitting at the rate of more than 11,000,000 miles per minute the impulse committed to it, notwithstanding its path has been crossed and recrossed by other waves without number. Pen cannot adequately describe the transcendent properties of this wonderful medium called the "luminiferous æther" nor to highly exalt that faith which enables one to implicitly believe the truthfulness of the stories committed to him. One is led to exclaim with the Psalmist "Oh Lord! how manifold are thy works, in wisdom thou hast made them all."

CITY BIRDS OF DENVER, COLORADO.

BY HORACE G. SMITH, DENVER, COLO.

PERHAPS some of your readers would like to know something of the city birds which come about our dwellings in Denver, Colorado, and wherein they differ from the familiar species so near to the hearts of the bird lovers who live east of the Mississippi River.

To be sure, many of the Eastern species, whose geographical range is so extensive find their way, across the Great Plains, to our city at the base of the Rocky Mountains, still true to the type of their eastern friends, but for the most part the species undergo a radical change when we enter the high and arid regions of the Great Plains and become of a bleached and faded appearance which gives rise to subspecies or varieties; or, as is often the case, a new species takes the place of its eastern relative.

Among those species which we have in common, the Yellow warbler (*Dendroica aestiva*) is perhaps one of the most familiar summer residents, and its neat little nest is often built in the shade trees along our streets or in the shrubbery of some garden, and its familiar song is heard even in the heat of midday, when most birds are silent.

Scarcely less noticeable is the Kingbird or Bee Martin (*Tyrannus tyrannus*), the Cliff swallow and the Barn swallow, whose habits are well known to most readers and may not be detailed here, though I may mention that a pair of Barn swallows has returned to the writer's barn-loft for about fifteen successive years, and when unmolested has reared two broods per season. Their mode of entrance was through an open window, which they usually found shut upon their return migration in the spring, but would soon make their presence known by repeated scoldings and flutterings before the glass and would enter and take possession as soon as the window was opened. Hence I suppose it to be the same pair, though the evidence is not conclusive.

Perhaps the most conspicuous of our summer birds is Bullock's oriole, which takes the place of the Baltimore oriole of the east. This brilliant bird is a common breeder over the entire city, wherever trees are found in which to build its swaying nest, and it is not an uncommon occurrence to find several nests—which have been built in successive years—in the same tree.

I have often watched these birds in the early morning, searching for insects in the arc light globes; their method being to enter the globe for any tempting morsel and then flying to the next in line.

Speaking of the electric lights reminds me of the little House finch (*Carpodacus in frontalis*) whose song often cheers us in the winter time, when most birds are silent. It would be hard to part with this little bird, for his song is rich and pleasing. Being a resident with us, they rear their young near to our homes, usually in trees or cre-

vices of buildings, but being progressive they have lengthened their breeding season by taking advantage of the heat furnished by the electric lights, by building their nests in the lamp shades above the lights, thus being entirely protected from the weather.

The past summer I was told by one of the trimmers that nearly every light on his beat contained one of these nests.

Among other summer residents, more or less common I may mention the Western robin, Mountain bluebird, Warbling vireo, White-rumped shrike, Lazuli bunting, Black-headed groobeak, Western chipping sparrow, Arkansas goldfinch, western meadow lark, Say's phoebe, western wood pewee, Mocking bird and western Kingbird, the latter being a cousin of the Bee martin and having all the habits of his querulous relative.

The Pine siskin (*Spinus pinus*), though considered a migrant with us, occasionally rears its young here; a pair having built their nest in an evergreen in the writer's yard. This is not so surprising when we consider that its natural summer home among the coniferous forests may be found within fifteen miles of Denver, in the mountains.

Parkman's House wren (*Troglodytes ædon parkmanii*) seems less familiar than the eastern bird, at least in the manner of its nesting, for, though not uncommon in our city in migration, it seems to retire to the thickets along our streams to build its nest; usually taking possession of some crevice or deserted woodpecker's hole.

A few winter birds remain with us but perhaps none so common or well distributed as the House finch before mentioned. The western Tree sparrow, Mountain chickadee, Long tailed chickadee, McCown's longspur, Cassin's finch, Harris's and Batchelder's woodpeckers, the Northern shrike and several varieties of Juncos or snowbirds, though the Desert horned lark (*Otocoris a. arenicola*) is the familiar "snowbird" of the region and is often seen in numbers in the outside streets, especially when snow is on the ground.

At other times it is not often noticed though it may be present, for its plumage harmonizes well with its surroundings. Besides these we have an occasional visit from the snowflakes, Red polls and some others.

I make no mention of the host of migrants, which fill our city during the migrations, including rare and curious species of warblers, sparrows, thrushes, flycatchers etc., nor of other summer residents of the region, whose summer haunts are found in woodlands or upon the plains, for this is essentially a paper upon "city" birds. These may receive our attention at some future time.

OVERHEAD SOUNDS IN THE VICINITY OF YELLOWSTONE LAKE.

BY EDWIN LINTON, WASHINGTON, PA.

WHILE engaged in making certain investigations for the United States Fish Commission in the summer of 1890 my attention was called to an interesting phenomenon in the vicinity of Yellowstone Lake, of which I am pleasantly reminded by the following brief but vivid description in a recent report by Prof. S. A. Forbes.

Under his description of Shoshone Lake, Professor Forbes, in a foot note, thus alludes to this phenomenon:

"Here we first heard, while out on the lake in the bright still morning, the mysterious aerial sound for which this region is noted. It put me in mind of the vibrating clang of a harp lightly and rapidly touched high up above the tree tops, or the sound of many telegraph wires swinging regularly and rapidly in the wind, or, more rarely, of faintly heard voices answering each other overhead. It begins softly in the remote distance, draws rapidly near with louder and louder throbs of sound, and dies away in