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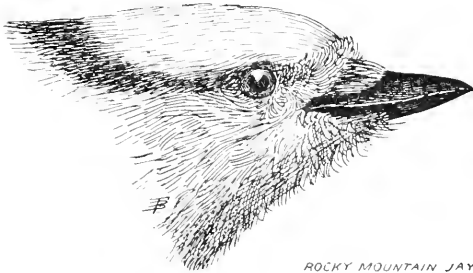
Agricultural College Department.

WYOMING EXPERIMENT STATION,

LARAMIE, WYOMING.

BULLETIN NO. 55.

SEPTEMBER, 1902.



ROCKY MOUNTAIN JAY
"CAMP ROBBER"

The Birds of Wyoming.

By WILBUR C. KNIGHT.

Bulletins will be sent free upon request. Address: Director Experiment Station, Laramie, Wyo.

Wyoming Agricultural Experiment Station.

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Introduction.

Being a geologist it may appear strange for me to pose as the author of a bird bulletin. No doubt I should apologize for undertaking work of this nature. A simple statement of the case will, I trust, make it plain to all why I have taken up this study. For a number of years we have had constant inquiries at the University for some literature on the birds of the state. As time went on these became more numerous but there was no one to take up the subject. Being the curator of the museum I volunteered my services five years ago, and the board have been very generous in granting me assistance. While I make no pretense at being an ornithologist, I have always been deeply interested in the birds, and at one time when a young man did spend considerable time in studying them.

Upon taking up the work there were three avenues open from which I could secure data: 1, the published reports pertaining to the birds of the state. 2, observations of ornithologists or collectors in the state that had not been published. 3, to make a collection of skins, and secure as much data as possible first hand. While there was considerable material available under the first and second divisions, yet there was a wide field that had not been worked, and a great deal of valuable information to be secured. A collection was immediately started and with the valuable assistance of Chas. W. Gilmore, who was a student at that time, but at the present is in the department of palaeontology of the Carnegie Museum, rapid progress was made. The collection at this time numbers a little less than 600 skins; but in many instances there is but a single skin representing a species.

Those in the state who have been sufficiently interested in the birds to make collections have furnished valuable information, all of which is duly accredited under the heading "Acknowledgments."

The published notes have not been satisfactorily disposed of. Some of the earlier work is a half century old, and to make this conform to the present nomenclature without having the specimens to consult, is more difficult than it appears on the onset. Where the early data could be placed unquestionably this was done. In other cases they were as a rule placed in accordance with the recent geographical distribution of the species. Since there are many eastern and western forms that mingle in eastern Wyoming it will be necessary to have extensive collections made before many points can be settled. The fact that many new species and varieties have been named during the last quarter of a century caused a great deal of confusion, since in many cases it was impossible to tell anything about the specimens that had been collected.

The material in this bulletin is a very insignificant contribution to the history of the birds of the state, and is offered as an aid rather than a study of this great subject. Vast areas in the state remain without having been visited and no locality has been sufficiently worked to secure all of the attainable data. Southwestern Wyoming offers special inducements for the study of birds, and there are only a few references to Uinta county in this publication.

In collecting these data there has been but one aim—scientific accuracy. No attempt has been made to swell the list so that it might compare favorably with or exceed the adjoining states. Unless there has been good reasons for including data they have been set aside. Those who have furnished data have in every instance been fully competent to judge as to the legality of the determinations, and it is hoped that there will be but few if any birds included in this list which will not be found by future collectors. It is my opinion that within the next ten years the list will be increased by at least fifteen or twenty species.

A PARTIAL LIST OF THE PUBLICATIONS PERTAINING TO WYOMING BIRDS.

While this list includes most of the important papers there are a good many others to be found in the various journals that have made a specialty of publishing notes on ornithological topics.

Wood, W. S. Lieut. Bryan's Wagon Road Expedition to Salt Lake and Return, 1856-57. Notes 18 species of birds taken in Wyoming.

Hayden, Dr. Lieut. Warren's Expedition, 1857. Hayden notes 22 species taken in Wyoming.

U. P. Railroad Surveys, Vol. IX, 1853-56, lists 80 species of birds taken in Wyoming. This includes all of the work of earlier authors. In the appendix of the same volume there is a list of 110 species collected in Wyoming by Mr. Drexel, an assistant to Dr. Cooper in the year 1858. All but a few of these were taken at Fort Bridger and represent nearly all of the collecting done in southwestern Wyoming.

Collection of birds by Chas. S. McCarthy, Exploration across the Great Basin of Utah, 1859, appendix K., pp. 377-381 inclusive, enumerating 50 species taken in Wyoming.

U. S. Geol. Sur. of the Territories, Hayden, 1870. Smith and Stevenson reported a list of 124 species from Wyoming.

Hayden's U. S. Geol. Sur. of the Territories, 1872, pp. 670-704 inclusive, in which Dr. Merriam, author of the section, mentions 34 species taken in Wyoming.

Bulletin of the Museum of Comparative Zoology, Vol. 3, No. 6. Notes of an Ornithological Reconnaissance of Portions of Kansas, Colorado, Wyoming and Utah. By J. A. Allen. In this paper there are 28 species that were taken in Wyoming.

Notes on the Birds of Wyoming and Colorado, by C. H. Holden, Jr., with additional memoranda by C. E. Aiken. Proceedings of the Boston Society of Natural History, pages 193-210 inclusive, Vol. XV, 1873. This list numbers 142 species.

Most of these were collected in the vicinity of Sherman, Wyo., and southward into Colorado and in but few instances were exact locations given.

Black Hills of Dakota, Ludlow, 1874, pages 85-102, by G. B. Grinnell, a list of 110 species of birds taken on this expedition. Although near the Wyoming boundary on the east and north only 5 species are accredited to Wyoming. There are, however, very few, if any, reported that have not been found in this state.

Birds of the Northwest. Coues, 1874. Refers 159 species to Wyoming. This list includes the work of Dr. Coues and all previously published records.

G. B. Grinnell, Carroll, Montana, to Yellowstone National Park, 1875, pp. 73 to 92 inclusive. Dr. Grinnell enumerates 52 species taken in Wyoming and adds a list of 81 birds known in the Park, which represents the work of Dr. Merriam and himself.

S. W. Williston, with notes by G. B. Grinnell, Forest and Stream, Vol. XII, four papers citing 109 species taken in Carbon county.

State Agricultural College, Bulletin No. 44, Ft. Collins, Colo. Further Notes on the Birds of Colorado, by W. W. Cook. In this bulletin Mr. Cook makes several references to Wyoming birds. The most of these data were obtained through this university, and without our consent or permission were used in the above publication. There are also several references to specimens that had been collected by this institution which he published and did not give credit to this institution or the collector. I wish to call attention to the following in this bulletin: No. 120, p. 156; No. 187, p. 157—the data regarding this specimen was secured by me. No. 222, p. 158; No. 434, p. 162, the data on which he extended the range of this species was secured by C. W. Gilmore and was taken from this institution. Likewise is the note on No. 607, p. 167. On page 168, No. 645a, Mr. Cook is in error, for this is a typical Nash-

ville Warbler. All of the above data were collected for this bulletin and shown Mr. Cook upon his request; but he did not ask permission to use it in his bulletin, nor did he suggest more than that he wanted it for his private information.

NOTES PUBLISHED IN THE AUK.

Auk, Vol. VI, p. 341, May 23, 1889—*Dendroica pennsylvanica*, one—Bond.

Auk, Vol. VI, p. 341, May 25, 1889—*Micropalama himantopus*, 2 bds.—Bond.

Auk, Vol. VI, p. 341, May 28, 1889—*Piranga erythromelas*, one—Bond.

Auk, Vol. X, p. 206, May 20, 1893—Ridgway recalls capture of birds at Fort Bridger which he called *Junco Ridgwayi*, but this name was referred to *annectens* afterwards.

Auk, Vol. XI, p. 258,———, 1894—*Mimus polyglottos* nesting at Cheyenne, Bond.

Auk, Vol. XIV, p. 94—Ridgway cites the capture of *Juncos* at Fort Bridger which is (Auk, 1897) called *Junco mearnsi*.

Auk, Vol. XVI, 1899, July 12—*Pelecanus occidentalis*, Cheyenne, first record, Bond.

Auk, Vol. XVIII, 1901—*Scotiapter cinerea*—specimen found mounted at Wells P. O. near head of Green River. Killed by Wm. Wells with snowshoe pole in April, 1899. Bond.

ACKNOWLEDGMENTS.

I take this opportunity to sincerely thank those who have assisted me in the preparation of this bulletin. I wish to especially mention the names of Mr. Robt. Ridgway and Dr. Merriam of Washington, who have identified skins and furnished me with literature and other valuable data; Mr. Frank Bond, of Cheyenne; Dr. Mortimer Jesurun, of Douglas; Mr. West, of Buffalo, and Mr. Burnett, of Little Medicine, for fur-

nishing valuable data regarding the birds of their own vicinity; all of which is acknowledged in the body of the Bulletin. Messrs. Bond and Jesurun each furnished data pertaining to over 200 species. To Mr. Chas. W. Gilmore, a faithful and deserving student, I wish to more than thank, for without his assistance this bulletin would have been an impossibility. Again I thank Mr. Bond for the excellent work he has done in making the drawings, and also for donating all of the line work from which the zinc etchings were made.

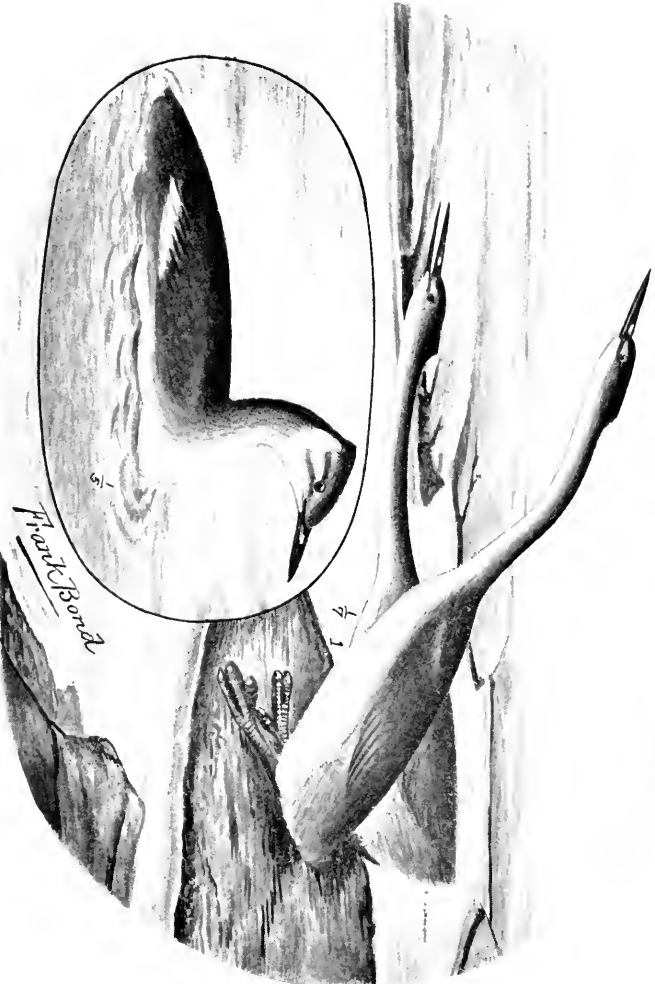
NOMENCLATURE.

In this bulletin the A. O. U. check list has been followed as closely as possible. With the exception of the ninth and tenth supplements of the revised second edition I am unfamiliar, and there may be some changes adopted in the supplements numbering from 1 to 8, inclusive, that I have not included. In a few instances I have followed Ridgway in his Bulletin No. 50, Smithsonian Institution, and have placed an interrogation after the number, not knowing whether they have been adopted by the committee or not.

A NOTE ON STUDYING BIRDS.

The study of birds is one of those intensely interesting subjects that can be taken up by any one. I do not mean by this statement that any one can become an ornithologist; but that all can with due care and study become well acquainted with the birds of their own vicinity, and add much valuable data to the bird literature by careful observations.

In case you are not familiar with birds, the first thing will be to purchase a few books that will describe the characters that are used in description. After one is fairly well posted on this line it will be well to purchase a book entitled Robert Ridg-



1. *COLYMBUS HOLBELLII*. Holbell's Grebe. *AECHMOPHORUS OCCIDENTALIS*. Western Grebe.



COLYMBUS NIGRICOLLIS CALIFORNICUS. American Eared Grebe.

way's Manual of North American Birds. With this purchase the latest check list of the A. O. U., and become a member of the American Ornithologists' Union. Then with this bulletin to tell you what has been done with the birds of Wyoming you are ready to commence work. I would recommend that you commence to make a collection of skins immediately, for in no other way can you accumulate really valuable data. There are numerous small publications that will explain in detail how to make bird skins.

As soon as you commence to study, do not think that you will have to quit work to study birds. Get up before the sun in the morning and about your own home you will find ample material to keep you busy for several seasons. Then upon your vacations and holidays you will always find ample time to add data to your collection. Provide yourself with a large note book. Do not simply note that you have seen a certain species or that you have captured one; but take careful notes on migration, nesting, food habits and every phase of a bird's life. In this way you will within the space of a few years, if you are diligent, accumulate a large amount of very interesting and valuable data.

In identifying birds there is always more or less difficulty with a few groups; but on the whole one can very soon learn to recognize the most of the birds that he meets. When there are difficult specimens, as for instance the sparrows, it is always advisable to call upon some one that has a large collection of skins that are properly identified, for comparison. The university will always be glad to grant any aid it possibly can to those in the state who will study the birds. When there are difficult problems to solve I would recommend that the skin be sent to the National Museum or to the Department of Agriculture at Washington, D. C., for determination.

To the citizens of Wyoming, let me ask that they interest their boys in the study of birds. Give them an opportunity to become acquainted with birds, and in learning to study them

you will create a desire to study something else. It is a healthful exercise, it will keep your boys in good company and prevent them from looking up some less helpful recreation, as well as stimulate them for greater exertions. The university will always be very glad to assist any one in starting upon this subject in the way of giving advice, identifying birds or recommending the best publications for the various lines of work.

Birds in Their Relation to Agriculture.

There are as a rule only a few persons in each vicinity that pay any attention to birds. Some note their beauty, others their song, while the vast majority ask the question—are they good to eat? In case they are not, then they are considered as valueless and it matters not whether they receive any attention from man or not. While there are many species of birds that are valuable for food, the part they play in the economy of an agricultural or grazing region is insignificant as compared with the numerous other species that act as an army to keep down insect pests, or destroy troublesome gophers, mice and prairie dogs. On account of the great benefit that is to be derived from birds taken as a whole, I take great pleasure in publishing the following article which was written by Prof. Laurence Bruner of the University of Nebraska, and published in the proceedings of the second annual meeting of the Nebraska Ornithologists' Union, pp. 18-29, 1901, under the title, "Birds in Their Relation To Agriculture."

"When civilized man takes possession of new regions and begins cultivating the soil and establishes his sovereignty there, the equilibrium as it existed upon his arrival is very quickly disturbed. One or more of the many forms of life, plant and animal, that were previously held within certain limits gain ascendancy. The introduction of new crops that furn-

ish an abundance of the proper food for some insect, enables this form to increase out of all proportions and harm soon results. The killing off of certain other forms of life that naturally keep still others in check also assists in disturbing the equilibrium further. The cutting down and clearing away of forests removes the shelter and homes of others, as does also the turning under of prairie grasses. Then, too, many of the natural residents of primeval forests and virgin prairies shun the sight of man, hence they gradually withdraw from the region, and their influence for good or evil goes with them. Since the majority of such forms are timid and inoffensive creatures, their withdrawal only adds that much more to the already overbalanced conditions. Year by year the gap which at first was scarcely noticeable becomes widened, so that frequent inroads are made and harm results. Instead of trying to ascertain the true cause for all this trouble perhaps exactly the wrong thing is done by the settlers. This of course only has the effect of further widening the gap between safety and danger. Since an insect or other animal becomes noticeably harmful only when present in alarming numbers, it stands to reason that anything which favors such an abnormal increase is a factor in disturbing nature and should be quickly rectified where possible. In order that these disturbances should be looked after the all-wise God of the universe created birds and gave them the power of flight that they might the more readily move about rapidly from place to place where their services might be needed in balancing affairs. Hence birds have naturally and rightfully been called the 'balancers' in nature. This being true, let us see just what their relations are to agriculture.

"The farmer sows in order that he may reap an increased measure of what he has sown. In doing this he must first turn over the soil. This destroys many existing plants as well as animals that depend upon them for food. The plants thus turned down cannot regain their position and must of neces-

sity die. Not so with many of the animals, however, which soon work their way to the surface. Some of these attack the growing plants which have been made to occupy the place of those destroyed by the plow. Others take wing and seek suitable food in adjoining districts where they add to the numbers already drawing upon the vegetation up to the point of possible continued supply. Here, then, the scales begin to vibrate. In the field the new and tender crop entices the ever-shifting individuals of myriads of forms that have been crowded out elsewhere. The result here too is, or would be, very disastrous were it not for the timely visit of flocks of birds likewise in search of food.

"It is during the period of first settlement of a country, when the fields are small, few and widely separated, that injury may and frequently does result from birds. It is then a problem that needs careful consideration, not only for the time being, but also for the future welfare of that country. If animal life is destroyed indiscriminately and without intelligent forethought, calamities unforeseen are sure to follow in the not distant future.

"Birds can be useful to man in many ways. They can benefit him by carrying the seeds of various plants from place to place so as to assist him in establishing new groves in which to find shelter from the cold in winter and refuge from the heat of the noonday sun in summer. They plant various shrubs by the wayside that spring up and later are laden with luscious fruit. They also carry the spawn of fishes and small crustaceans among their feathers into new waters, and feed upon the countless seeds of weeds that are scattered broadcast over the face of the earth. Some kinds live almost exclusively upon insects, while others hunt out the small rodents that would, if left to themselves, destroy great quantities of grain and other vegetation. Still other birds benefit mankind by acting as scavengers in the removal of putrid and other offensive matter which would endanger our health. In addition to all

these varied direct benefits which are brought about by the presence of birds, man is further indebted to these creatures for the cheer which their gay music, bright plumage and pleasant manners bring to him. The birds form a carefully organized army of police which is engaged in keeping affairs balanced in nature.

“But we can go even further summing up the benefits that men may derive from the birds. A great many kinds make excellent food, while others furnish sport and pleasure to a large number of men and boys who seem to require a certain kind of entertainment while accompanied with dog and gun. Dead birds when embalmed as mummies and attached to the head-gear worn by some girls and women are also claimed to cause much happiness.

“BIRDS AS ENEMIES.—It would be ridiculous for me to assert here that no injury ever resulted from the presence of birds on the farm or in the orchard. Quite a number of different species are continually stepping over to the wrong side of the ‘ledger’ as it were, and committing depredations of various kinds which if considered alone would render the perpetrators liable to severe punishment—in some cases even unto death. Some of the crimes that can be charged to the feathered tribe are cherry and berry-stealing, grape-puncturing, apple-pecking, corn-pulling, grain-eating, the unintentional carrying from place to place of some kinds of scale insects that happen to crawl on their legs and feet, the possible spreading of hog cholera by crows and buzzards, the robbing of the poultry yards, and lastly some birds are accused of making noises that awaken us from our slumbers in the morning.

“Some of these crimes are genuine and are to be deplored, while others are more imaginary than real. A few of them could be prevented in part or altogether, while others might be diminished if we were inclined to take the trouble to do it.

“After all that can be said pro and con concerning the usefulness of birds in general there remains no doubt, in the

minds of thinking people at least, as to the value of these creatures. It is only the vicious, biased, and thoughtless persons who continue ruthlessly to destroy birds indiscriminately without first pausing to consider whether or not it is a proper thing to do, whether it is right or wrong.

“**FOOD HABITS.**—So varied is this task of evening up in nature mentioned above that if attended to properly the workers must be numerous in individuals and possess widely different habits. That such is the case can readily be seen by the following brief account of the various groups of our Nebraska birds, along with brief statements of their food-habits.

“The Grebes and Loons feed chiefly upon snails and other aquatic animals such as are found about their haunts. They also capture many grasshoppers and similar insects that happen in their way. They cannot, therefore, be classed among the especially beneficial birds, neither can they be termed injurious on account of what they eat.

“The Gulls, provided as they are with long wings and great powers for flight, are not confined to the sea-coast, hence they reach far inland in their migrations, feeding extensively upon insects like locusts, June-beetles, crickets, etc., large numbers of which they destroy annually. Several kinds of these birds are known to follow the plow and pick up the white grubs and other insects that are turned up and laid bare. In early days, when grasshoppers did much harm in this state, numerous flocks of these birds were seen to feed upon these insects.

“The Cormorants and Pelicans are chiefly destroyers of fishes and frogs, hence can hardly be classed among the most beneficial forms, but whether or not they do any more than to maintain the necessary equilibrium in that particular part of the vast field of nature it is difficult to judge without time for investigation.

“The various Ducks and Geese which are also nearly as aquatic in their habits as some of the foregoing, frequently

leave their haunts and make excursions into the surrounding country where in summer they feed upon locusts, beetles and other injurious insects. They also partake of considerable quantities of vegetable food, as grains, weed seeds, grasses and other herbage. While not included among the insectivorous forms these birds do much towards diminishing the ever increasing horde of creeping and jumping things. Ducks and geese on the other hand are largely utilized by us as food; while their feathers make comfortable pillows and coverlets.

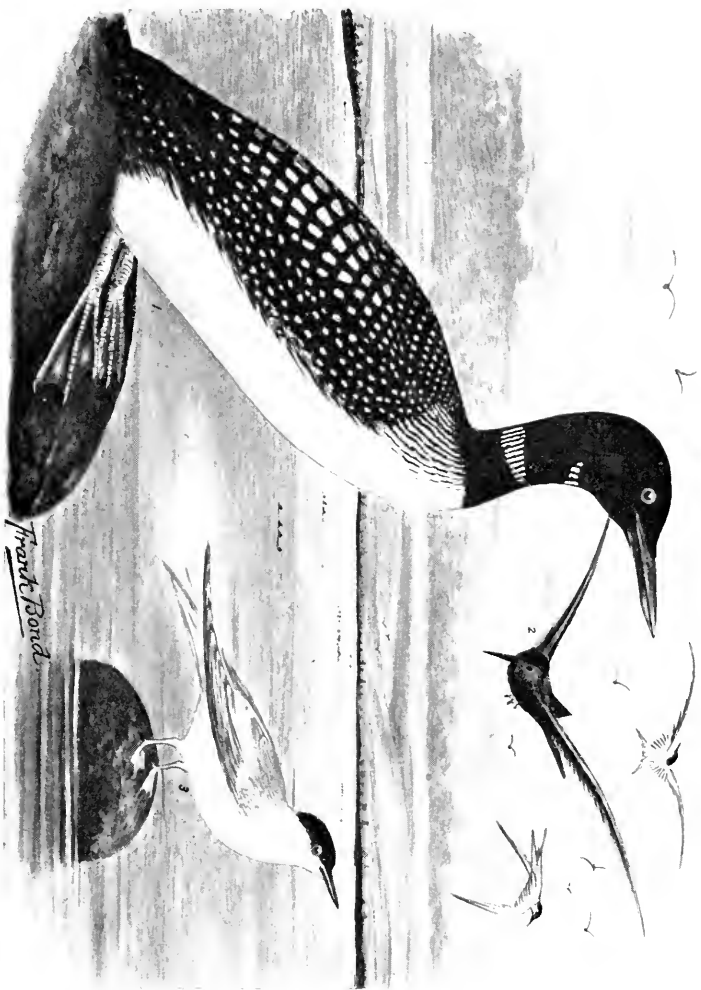
"The Herons, Cranes, and Rails are frequenters of marshes and the margins of streams and bodies of water, where they assist in keeping the various forms among the animal life balanced. Fishes, frogs, snails, insects, and crustaceans are alike devoured by them.

"The Snipe, Sandpipers, Plovers, Phalaropes, Curlews, etc., are great destroyers of insects. Moving as many of them do in great flocks and spreading out over the meadows, pastures, and hillsides, as well as among the cultivated fields, they do a large amount of careful police service in arresting the culprits among insects. They even pry them out of burrows and crevices in the earth where these creatures lurk during daytime only to come forth after nightfall to destroy vegetation. The large flocks of Eskimo Curlews that formerly passed through eastern Nebraska did magnificent work during years when the Rocky Mountain Locust was with us, as did also the equally large flocks of Golden Plovers. The Bartramian Sandpiper even now is a great factor each summer in checking the increasing locusts on our prairies.

"The various members of the Grouse family, while belonging to a grain-eating group, are certainly quite prominent as insect destroyers. Especially is this true with respect to the Quail, Prairie Hen, Sharp-tailed Grouse, and Wild Turkey, all of which are occupied most of the summer months in capturing and destroying vast numbers of such insects as are found on the prairies. Grasshoppers, locusts, crickets, cater-

pillars, and similar insects comprise the bulk of their insect food—forms that are all among the most numerous as well as destructive species. In writing about these birds as insect destroyers Prof. Samuel Aughey writes: 'I happened to be in the Republican valley, in southwestern Nebraska, in August, 1874, when the locust invaded that region. Prairie chickens and quails, that previous to their coming had a large number of seeds in their stomachs, when dissected, seemed now for a time to abandon all other kinds of food. At least from this onward for a month little else than locusts were found in their stomachs. All the birds seemed now to live solely on locusts for a while.' In winter and at other times of the year when insect life is scarce and difficult to obtain these birds feed more or less extensively upon seeds and other kinds of vegetation. Some even enter cultivated grounds and seek food that belongs to the farmer, thereby doing more or less direct injury. The extent of such injury, of course, depends upon the number of birds engaged in the depredations, and also on the time over which it is allowed to extend. If corn and other grain is harvested at the proper time, but little damage ensues; but if allowed to remain in the field throughout winter, much of the crop is liable to be taken by the birds.

"Perhaps no other bird that frequents the farm pays higher prices for the grain it eats than does the Quail. Living about the hedgerows, groves and ravines, where insect enemies gather and lurk during the greater part of the year, this bird not only seizes large numbers of these enemies daily during the summer months when they are 'abroad in the land,' but all winter through it scratches among the fallen leaves and other rubbish that accumulates about its haunts seeking for hibernating insects of various kinds. Being a timid little creature, the Quail seldom leaves cover to feed openly in the fields, and therefore does but little actual harm in the way of destroying grain. In fact it only takes stray kernels that otherwise might be lost. This bird is one of the few that feeds



1. GAVIA IMBER. Loon. 2. HYDROCHELIDON NIGRA SURINAMENSIS. Black Tern. 3. STERNA HIRUNDO. Common Tern.



1. LARUS PHILADELPHIA. Bonaparte's Gull. LARUS DELAWARENSIS. Ring-billed Gull.

upon that unsavory insect, the chinch-bug; and the number of this pest that occasionally are destroyed by it is really astonishing. No farmer or fruit-grower should ever kill a quail himself nor allow anyone else to hunt it on his premises.

“Our domestic fowls, save ducks and geese, from which so much direct income is derived throughout the year, belong here. It would be folly on my part to assert that they are useless to the farmer. Besides furnishing eggs and meat for the table, they are great aids in keeping down a variety of noxious insects during spring, summer and fall.

“The various species of Doves or Pigeons are not, as a rule, thought of as being especially harmful, yet repeated examinations of their stomach contents would indicate that their food seldom, if ever, consists of anything but grains and various kinds of seeds along with other particles of vegetation. The good done by these birds as destroyers of weed seeds more than pays for the harm done by them as grain-eaters.

“Recent careful study with reference to the food habits of Hawks and Owls carried on by the United States Department of Agriculture go to show that these birds, with but few exceptions, are the farmer’s friends rather than his enemies. It appears that the good which they accomplish in the way of destroying mice, gophers, rabbits and other small mammals along with great quantities of noxious insects far exceeds the possible harm they do by the occasional destruction of poultry and other birds. A critical examination of the actual contents of about 2,700 stomachs of these birds showed that only six of the seventy-three species found in the United States are injurious. Three of these are so rare that they need not be considered. Of the remaining three the Fish Hawk is only indirectly injurious; hence but two remain to be considered, viz., the Sharp-shinned and Cooper’s Hawks. ‘Omitting the six species that feed largely on poultry and game, 2,212 stomachs were examined, of which 56 per cent contained mice and other small mammals, 27 per cent insects, and only 3½ per cent poultry and game birds.’

“The food habits of both the Turkey Vulture and the Carrion Crow, or Black Vulture, are of such a nature that the destruction of these birds should be prohibited. In fact, in many of the states this is done by law. They live almost exclusively upon carrion or decomposing animal matter, and in this manner aid in the prevention of diseases that might result from the presence of such filth. They may, however, be the cause of indirectly spreading hog cholera where animals that have died from this disease are left unburied or unburned.

“The Cuckoos are among the few birds that habitually feed upon hairy caterpillars, such as the various ‘tent-making’ species. They also destroy large numbers of other caterpillars, and do not object to beetles and other insects which they find among the foliage of trees. Although shy birds they are frequently seen in cities, where they do their share in protecting the shade trees from the ravages of insect defoliators.

“Taking the Woodpeckers as a family, there are few persons but who will readily admit that these birds comprise a very useful group. Feeding, in fact, as most of them do, upon the larvae of wood boring insects, they can readily do much greater good for the actual number of insects destroyed than if they destroyed only those that feed upon the foliage of trees. Not unfrequently will a single borer kill an entire tree if left to itself, while hundreds of foliage-feeding caterpillars of the same size have but little effect upon the appearance, to say nothing of the health, of the same tree.

“Mr. F. E. L. Beal, assistant in the Division of Ornithology and Mammalogy of the United States Department of Agriculture, in summing up the results obtained from the examination of 679 stomachs of these birds, writes as follows:

“In reviewing the results of these investigations and comparing one species with another, without losing sight of the fact that comparative good is not necessarily positive good, it appears that of seven species considered the Downy Woodpecker is the most beneficial.’ He then goes on to give the

food habits based on contents of the stomachs of our most common species. 'Judged by the stomach examinations the Downy and Hairy Woodpecker and Flicker it would be hard to find three other species of our common birds with fewer harmful qualities.'

"The Flicker is one of our most common woodpeckers in Nebraska and does much towards keeping down a number of different kinds of insects. It is very fond of ants as a diet, in fact is partial to them, and this element forms almost half of its entire food-supply during the year. It also occasionally feeds upon the chinch-bug, as can be attested by the fact that the stomach of a specimen killed near Lincoln contained in the vicinity of 1,000 of these bugs. It is also a fruit-eater to the extent of about one-quarter of its entire bill of fare, but nature, not man, furnishes the supply. It takes the wild kinds in preference to those that are cultivated.

"The Whippoorwill, Night Hawk, and Swifts feed entirely on insects, and must consequently be classed among the beneficial birds. They all capture their prey while upon the wing, and naturally destroy large numbers of troublesome kinds.

"The various species of Flycatchers, as the name implies, destroy insects which they capture for the most part while on the wing. Flies and allied insects are quite prominent on their bill of fare but these by no means are the only kinds of insects destroyed by them. Many a luckless locust, butterfly, moth or even beetle is snapped up and devoured by the different species of the family. The Bee-bird, or King-bird as it is more frequently called, sometimes even catches bees. These latter, however, consist largely of drones, hence comparatively little harm is done.

"One should be unprejudiced in order to write a fair biography of even a bird, or group of birds. To say that I am without such prejudice with reference to some of the members of the family of birds now to be considered, would be a falsehood. Still, I shall endeavor to give as unbiased testi-

mony as possible with reference to their food habits at least, and let the reader judge for himself as to what would be the proper treatment for these birds. Taking the family as a whole that which is made up of birds like the Crows, Ravens, Magpies, Jays, Nut-crackers, 'Camp-robbers,' etc., though some of them have unenviable names and reputations at least, are not really as bad as we are sometimes requested to believe them to be.

"The Crows, Ravens, Magpies and immediate relatives are what might be termed 'omnivorous' in food-habits, eating everything that comes their way. Crows, however, have been shown to feed largely on insects, which in great measure at least, offsets the harm done in other directions. They also feed on various substances, the removal of which is for the general good.

"The Raven is too rare a bird in this state to be taken into consideration in respect to food-habits, and the Magpie certainly can be put out of the question of doing any possible harm for the same reason. This leaves then to be considered, the Jays, of which we seem to have six or seven distinct kinds; but only two of these are at all common. The Blue Jay is found over the entire state and is familiar to everybody. The second species is found only in the western and northwestern portions among the pine forests, and is known as the Pinon Jay or 'Camp-robber,' the latter name not very flattering to the bird I must confess.

"The Blue Jay does much of the mischief that is laid at the door of the Robin, Orioles, Thrushes and other birds, and then sneaks away unobserved. He also destroys large numbers of insects and robs the nest of small birds.

"In the Bobolink, Meadowlark, Orioles and Blackbirds we have some of the most important insect destroyers among the feathered tribes. The Bobolink is with us during the summer months when it is entirely insectivorous, and the same can be said of the Cowbird, although the latter has the bad habit of compelling other birds to rear its young.

"In the Red-winged Blackbird we have a friend that we little dream of when we see the large flocks gathering about our cornfields during late summer and early fall. During the balance of the year it is engaged most of the time in waging war on various insect pests, including such forms as the 'grub-worm,' cut-worms, grasshoppers, army worm, beet caterpillar, etc. Even when it visits our corn fields it more than pays for the corn it eats by the destruction of the worms that lurk under the husks of a large per cent of the ears in every field.

"Several years ago the beet fields in the vicinity of Grand Island were threatened great injury by a certain caterpillar that had nearly defoliated all the beets growing in many of them. At about this time large flocks of this bird appeared and after a week's sojourn the caterpillar plague had vanished, it having been converted into bird tissues. Numerous other records of the efficiency of their labor as destroyers of insect pests might be quoted in favor of this bird, but I do not believe this to be necessary, although considerable evidence has been recorded of its destroying both fruits and grains.

"The Baltimore Oriole has received such a bad reputation here in Nebraska as a grape thief during the past few years that I feel inclined to give extra time and space in endeavoring to 'clear him' of such an unenviable charge. This, however, I hardly think necessary when the facts in the case are known. As insect destroyers both this bird and the Orchard Oriole have had an undisputed reputation for many years; and the kinds of insects destroyed by both are of such a class as to count greatly in favor. Caterpillars and beetles belonging to injurious species comprising 96 per cent of the food of three specimens killed is the record we have in their favor. On the other hand, grapes have been punctured only 'presumably by this bird, since he has so frequently been found in the vineyard and must be the culprit.' Now I myself have seen the oriole in apple orchards under compromising circumstances, and have heard pretty strong evidence to the effect that it will occasionally puncture ripe apples. It also belongs in the same

family with some generally accepted 'rascals,' hence I will admit that possibly some of the charges with which he is credited may be true, but I still believe that most of the injuries to grapes in this and other states must be laid to the English Sparrow.

"If we take pains to water our birds during the dry seasons they will be much less apt to steal this supply from the juices of fruits that are so temptingly near at hand. Place little pans of water in the orchard and vineyard where the birds can visit them without fear of being seized by the house cat or knocked over by a missile from the alert 'small boy,' and I am sure that the injury to fruit, to a great extent at least, will cease.

"Recent investigations tend to prove that the Grackle or Crow-Blackbird does more good than harm and should be protected.

"Our Sparrows and their allies, taken together, form a very extensive family of very beautiful as well as useful birds. Like the warblers, they occupy themselves with searching for and destroying insects all summer long; but this is not all they do that is good. In fall, winter and early spring, when Mother Earth has lost her brilliant green and rests in sombre browns or beneath ice and snow, the Longspurs, Snow Bunting, Snowbird, and some of the sparrows that have remained with us are busily engaged in gathering for themselves a living. They hop and fly about from place to place searching for and picking up little seeds of grass, grain and weeds, of shrubs and trees, and appropriating the same to their use, chirping merrily as they work away. The European House Sparrow, or the English Sparrow as it is more commonly called, has the worst reputation of the entire family. But even this bird has some redeeming traits.

"The Tanagers are insect destroyers, feeding for the most part on such forms as attack the foliage of trees.

"All of our Swallows are insect destroyers, capturing such forms as gnats, flies, etc., which they seize while on the wing.

The large colonies of different species of these birds that breed within the state, as well as those that pass through during their migrations, destroy vast numbers of these insects. They should be protected.

"The Waxwings, both the Cedar Bird and Bohemian Waxwing, feed principally upon berries, etc., which they find throughout the year. Still in his studies of the food contents of the stomachs of a variety of birds taken in a certain orchard that was overrun with cankerworms, Professor Forbes found that the seven specimens of the Cedar Waxwing had eaten nothing but canker-worms and a few dung beetles, the latter in such small numbers as to scarcely count. The number of caterpillars eaten by each bird ranged from 70 to 101.

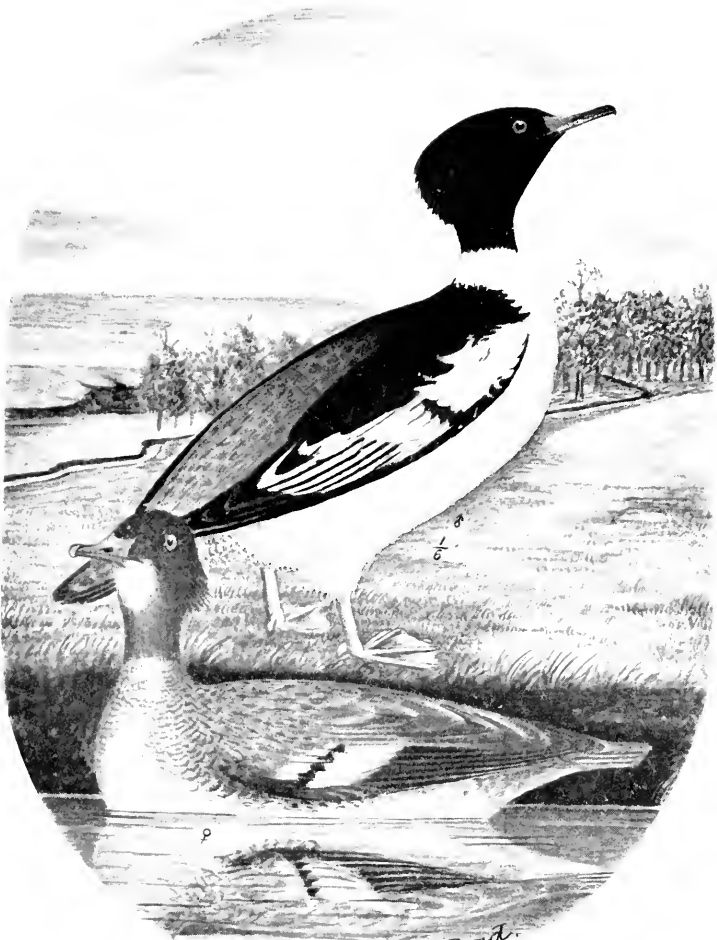
"The Shrikes or 'Butcher Birds,' are known as veritable 'brigands' or 'pirates' when it comes to the destruction of other forms of life. They are true to their name, and 'butcher' for pastime large numbers of insects, mice, lizards, small snakes, and even a few birds. They then fly to some thorn bush or barbed-wire fence and impale the luckless victim and leave it for future use, or to dry up and finally blow away. The good they do will outweigh the harm.

"The food of the various Greenlets or Vireos is made up almost entirely of insects, of which a large percent are caterpillars, such as infest shade trees and the larger shrubs. They should be protected and encouraged, about the orchard in particular.

"In the words of that pleasing writer, Dr. Elliott Coues: 'The Warblers we have always with us, all in their own good time; they come out of the south, pass on, return, and are away again, their appearance and withdrawal scarcely less than a mystery; many stay with us all summer long, and some brave the winters in our midst. Some of these slight creatures guided by unerring instinct, travel true to the meridian in the hours of darkness, slipping past like a 'thief in the night,' stopping at daybreak from their lofty flights to rest and recruit for the next stage of the journey. Others pass more

leisurely from tree to tree, in a ceaseless tide of migration, gleaning as they go; the hardier males, in full song and plumage, lead the way for the weaker females and yearlings. With tireless industry do the warblers befriend the human race; their unconscious zeal plays due part in the nice adjustment of nature's forces, helping to bring about the balance of vegetable and insect life without which agriculture would be in vain. They visit the orchard when the apple and pear, the peach, plum and cherry are in bloom, seeming to revel carelessly amid the sweet-scented and delicately-tinted blossoms, but never faltering in their good work. They peer into the crevices of the bark, scrutinize each leaf, and explore the very heart of the buds, to detect, drag forth, and destroy those tiny creatures, singly insignificant, collectively a scourge, which prey upon the hopes of the fruit-grower, and which, if undisturbed, would bring his care to naught. Some warblers flit incessantly in the terminal foliage of the tallest trees, others hug closely to the scored trunks and gnarled boughs of the forest kings, some peep from the thicket, coppice, the impenetrable mantle of shrubbery that decks tiny water-courses, playing at hide-and-seek with all comers: others humbler still, descend to the ground, where they glide with pretty mincing steps and affected turning of the head this way and that, their delicate flesh-tinted feet just stirring the layer of withered leaves with which a past season carpeted the ground. We may seek warblers everywhere in the seasons; we shall find them a continued surprise; all mood and circumstance is theirs.'

"Much could be written concerning the food-habits of the various members of the group of Thrushes, Mocking-birds and Wrens. Three of the species at least are known to be more or less destructive to fruits, viz.: Catbird, Brown Thrasher and Mocking-bird. Still, if we take into account what these birds eat during the entire time spent within the state, the balance sheet stands on favor of the birds as insect destroyers. The wrens are pre-eminently insect destroyers, and the others are not much behind them in this respect



MERGANSER AMERICANUS. American Merganser.



1. PELECANUS ERYTHORHYNCHOS. American White Pelican.

PELECANUS OCCIDENTALIS. Brown Pelican.

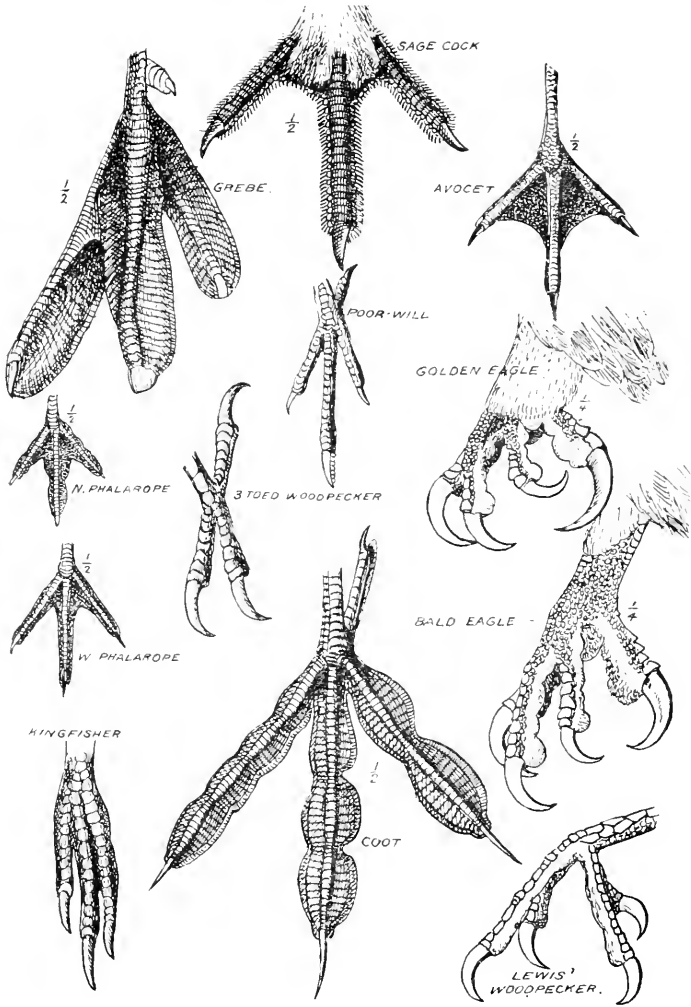
"The members of the family of Nuthatches and Tits feeds for the most part on insects. But we lack very definite figures regarding the kinds and number of insects that each destroys. We can be sure, however, that any favors showns them will not be thrown away.

"The Thrushes, Solitaires, Bluebirds, etc., are all beneficial as insect destroyers, and might be well compared with the Robin, which is described quite fully beyond, only they are even less liable to commit injuries to fruits.

"The Robin has certainly been accused often enough of being a first-class rascal to warrant the belief that there must be at least some grounds for such accusations being made. In his examination of 114 stomachs of this bird, taken during ten months of the year, Professor Forbes, of Illinois, found the contents to consist of 65 per cent insects and 34 per cent of fruits and seeds. In the estimates of these food percentages taken by the Robin, as well as by other birds, bulk for bulk is taken, i. e., a quart of caterpillars or other insects is equivalent to a quart of cherries or a quart of berries. Professor Forbes asks this question: 'Will the destruction of seventeen quarts of average caterpillars, including at least eight quarts of cut-worms, pay for twenty-four quarts of cherries, currants, and grapes?' and then answers it in these words: 'To this question I, for my own part, can only reply that I do not believe that the horticulturist can sell his small fruits anywhere in the ordinary markets of the world at so high a price as to the Robin, provided that he uses proper diligence that the little huckster doesn't overreach him in the bargain.'

"Much more might be said in favor of the Robin had I the time and space at my command.

"After having carefully scanned the foregoing notes concerning the food-habits of our birds we cannot afford to continue indifferent in our treatment of them, nor can we even allow our neighbors to kill them though we ourselves have decided to reform in this respect. We must work for a change of heart in our neighbors also."



SOME CURIOUS FEET.

A Preliminary List of the Birds of Wyoming, With Notes.

GREBES.

This family includes many species of expert divers. Usually they are called "hell divers" by hunters. They feed upon snails and insects and also upon fish. They are harmless and their flesh is not valued for food. There is but one species of Grebe that breeds abundantly in this state, and this is found in large numbers about ponds varying from 4,000 to 8,000 feet above the sea level.

1. *Æchmophorus occidentalis* (LAWR.).

Western Grebe.

Migratory; rare. Thus far this species has been found only in southeastern Wyoming; but should be found in greater abundance in the southwestern counties. Mr. Bond has mounted one specimen for the Cheyenne high school and has also observed others during autumn months in the lakes near Cheyenne. Dr. Jesurun took one of these birds at Douglas on Oct. 13, 1897.

2. *Colymbus holboëllii* (RIENH.).

Holboell's Grebe.

Migratory; rare. Dr. Jesurun of Douglas has one specimen taken Oct. 18, 1893 and Mr. Bond has mounted one for the Cheyenne high school collection. Mr. Bond has seen several others on the lakes at Cheyenne.

4. *Colymbus nigricollis californicus* (HEERM.).

American Eared Grebe.

Summer resident and common. Usually found about small lakes and ponds up to 8,000 feet. Breeds abundantly

upon the Laramie plains. In speaking of this species at Lake Como, Carbon county, Dr. Williston remarks: "No bird is so characteristic of the lake, and none so common as this. A single individual was seen May 4th, and in a week there were thousands covering the lakes for acres. I do not remember of seeing one leave the water. They began to lay their eggs on the 2nd and 3rd of June. One can hardly speak of their nest, for they have none. Out in the water, sometimes when four feet deep, a few reeds are broken down to float upon the surface, there forming a raft upon which the eggs are laid, almost invariably five in number. In more than a score of cases hardly one of the eggs were dry; but lying more or less in the water." Coues, Bond and Jesurun report this species as abundant. Grinnell records it from Yellowstone Park, 1875, and McCarthy took specimens from the Sweetwater river in 1859. In the University collection there are three specimens, taken as follows: Howell lake, Sept. 1, 1897; Hutton's lake, Nov. 16, 1898; Hutton's lake, October, 1898.

6. *Podilymbus podiceps* LINN.

Pied-billed Grebe.

Migratory; very rare. The only records are those of Bond of Cheyenne and Dr. Jesurun of Douglas. Dr. Jesurun took one specimen at Douglas, May 5, 1891.

LOONS.

7. *Gavia imber* (GUNN.).

Loon.

Migratory; common. Found on large ponds and lakes, usually during early spring and late fall. I have seen these birds nearly every season at Hutton's lakes. A single bird was taken at Rock Creek station by Mr. Griffin in the fall of 1897. Dr. Jesurun has notes on two specimens taken from the North Platte river near Douglas. Mr. Bond has several records of them being seen at Cheyenne. Mr. West of Buffalo has mounted several that have been taken from Lake DeSmet.

GULLS AND TERNS.

40. ***Rissa tridactyla* (LINN.).**

Kittiwake.

Accidental and very rare. The Wyoming record is based upon a single specimen taken at Douglas by Dr. Jesurun, Nov. 18, 1898. This bird has also been taken in Colorado and occasional stragglers may be looked for.

51 a. ***Larus argentatus smithsonianus* COUES.**

American Herring Gull.

Migratory; very rare. The only Wyoming record comes from Mr. Bond, who has taken a specimen at Cheyenne.

54. ***Larus delawarensis* ORD.**

Ring-billed Gull.

Summer resident; but not common. Common during migration. Breeds on the Laramie Plains. This is the common gull of the state and during migration is found in considerable numbers. Dr. Jesurun reports it as common at Douglas. Bond has found it common at Cheyenne. Williston found it common at Como lake from early spring until the middle of June. Grinnell reports it common on Yellowstone lake in 1875. The specimens in the University collection were taken from the Laramie Plains. Wood took a specimen on the Laramie river July 23, 1857.

60. ***Larus philadelphia* (ORD.).**

Bonaparte's Gull.

Migratory; rather rare. Wood took one specimen on July 23, 1857, on the Laramie river, which would lead one to believe that they occasionally breed within the borders of the state. Williston reports a dozen of these birds, seen at Como lake, May 2 to 17th, 1879. Bond has taken one specimen at Cheyenne and has records of several others. West, of Buffalo, had one specimen mounted in his collection that had been killed near Buffalo. There are ten specimens in the University col-

lection that were taken in the fall of the year on the Laramie Plains.

69. *Sterna caspia* NUTT.

Forster's Tern.

Migratory; rare. Apparently a rare bird in Wyoming; and has been reported only from the southeastern corner of the state. Mr. Bond reports it from Cheyenne and Dr. Jesurun from Douglas. I would naturally expect to find this species as a summer resident.

70. *Sterna hirundo* LINN.

Common Tern.

Migratory; rare. Two specimens were taken by McCarthy on Horse creek, Sweetwater river, 1859. It has also been taken at Cheyenne by Bond.

77. *Hydrochelidon nigra surinamensis* (GMEL.).

Black Tern.

Migratory; rare. Williston reports taking this bird on May 20, 1879, at Como lake. Bond has taken it at Cheyenne, and I have seen what I concluded must be this species at Hutton's lake in November, 1898. Dr. Jesurun has seen this species at Douglas.

CORMORANTS.

119. *Phalacrocorax carbo* (LINN.).

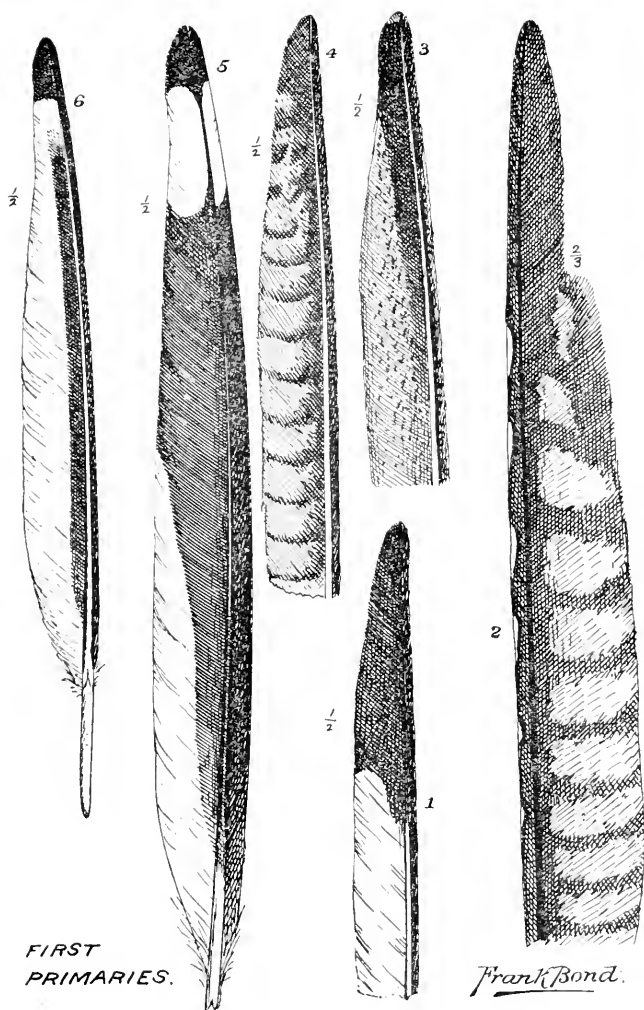
Cormorant.

Probably accidental. There is but one recorded for Wyoming and that is from Bond of Cheyenne.

120. *Phalacrocorax dilophus* (SWAIN.).

Double-crested Cormorant.

Summer resident; rare. A single specimen was taken from a small lake in the Clear Creek valley just west of Buffalo in July, 1897. This was a female and judging from her actions had a brood at some place about the lake. This specimen is



FIRST
PRIMARIES.

- 1 WILLET 2. PRAIRIE FALCON. 3- MARBLED GODWIT
4. CURLEW 5. RING-BILLED GULL. 6. BONAPARTE'S GULL.

in the Wyoming collection and was donated by Mr. West of Buffalo.

PELICANS.

125. *Pelecanus erythrorhynchos* GMEL.

American White Pelican.

Resident, rare; migratory, common. In late spring this species usually visits the large ponds and sub-alpine lakes and breeds in a few localities. Dr. Grinnell in a private letter to me states that he found several fledglings on the Medicine Bow river about the year 1881; he also reports them from the Yellowstone lake, 1875. Bond reports them from Cheyenne; Dr. Jesurun from Douglas. Several have been killed at Hutton's lake, Albany county, and I have seen large flocks about these lakes several times in late spring.

126. *Pelecanus occidentalis* LINN.

Brown Pelican.

Accidental. A single specimen has been taken by Bond at Cheyenne and is now in the high school collection in Cheyenne.

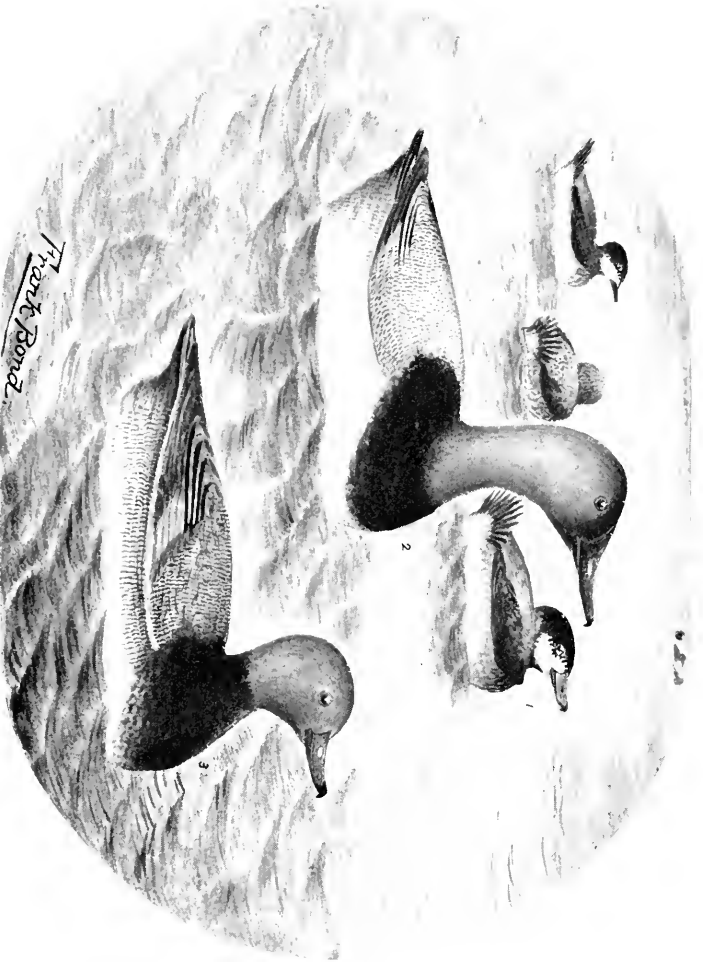
DUCKS, GEESE AND SWANS.

129. *Merganser americanus* (CASS.).

American Merganser.

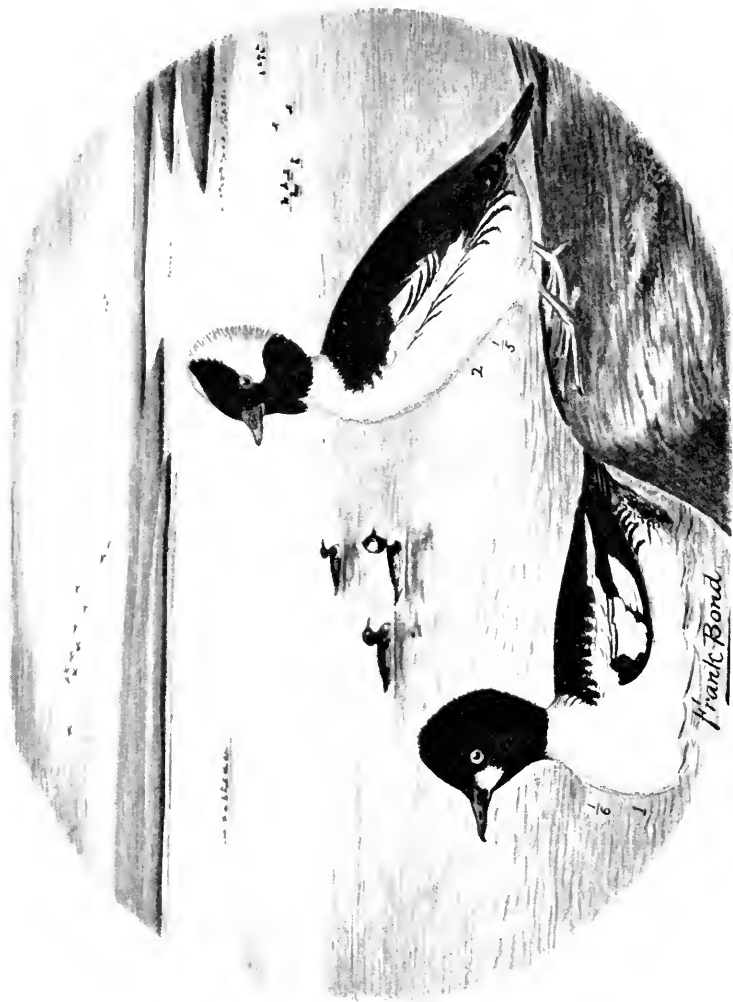
Summer resident; common. This bird is usually called a "fish duck" or "saw bill." It breeds along nearly all the streams in the state below 8,000 feet. Flesh unfit for food, since they feed almost entirely upon fish. Reported common by Bond, Jesurun and Coues. Williston reports it from Como lake; Allen from Fort Fred Steele; Grinnell reports the young unable to fly on Yellowstone lake in August, 1875. The University records are as follows: Hutton's lake; Clear creek, Johnson county; Grey Bull river, Big Horn county; and Green river, Uinta county. Hayden, 1870, reports specimens from Fort Bridger and Sweetwater river.





1. *ERISMATURA RUBIDA*. Ruddy Duck.

2. *AYTHYA VALLISNERIA*. Canvas-Back. 3. *AYTHYA AMERICANA*. Red-Head.



1. CLANGULA CLANGULA AMERICANA. American Golden-eye. 2. CHARITONETTA ALBEOLA. Buffle-head.

130. **Merganser serrator** (LINN.).

Red-breasted Merganser.

Migratory; rare. Bond has taken this species at Cheyenne. Williston's list of birds taken at Como lake has the following note: "This species was abundant in Rock creek throughout September."

131. **Lophodytes cucullatus** (LINN.).

Hooded Merganser.

Probably a summer resident, quite common, but there are no breeding records. Hayden reports this species from Green river, 1870. Allen took a specimen at Fort Fred Steele October, 1871. Bond reports it from Cheyenne. Coues, Birds of the Northwest, reports several specimens from Deer creek and Powder river. There are two specimens in the University collection that were taken on the Laramie Plains.

132. **Anas boschas** LINN.

Mallard.

Resident; common. This species breeds in favorite places below 8,000 feet, all over Wyoming. In the fall the majority of the birds go south; but a considerable number linger about warm springs and streams adjacent. There are also flocks found about rapids and falls in our largest streams during the winter months. Coues reports this species from Deer creek. Williston found them breeding at Como lake. McCarthy took one specimen on Big Sandy river, 1859. Jesurun and Bond report them common at Douglas and Cheyenne respectively. The University records are as follows: Head of Green river; Green River city; Big Horn basin; along the Grey Bull river and at the head of Meeteese creek when young ducks were taken in August, 1897; Sweetwater river; North Platte river; Lake DeSmet; Little and Big Laramie rivers.

135. **Chaulelasmus streperus** LINN.

Gadwall.

Summer resident. On the Laramie Plains these ducks arrive in vast numbers about the middle of April and remain

for some time. I have seen several flocks as late as June 10th about ponds and believe that they breed on the plains. Williston reports them breeding near Lake Como. Jesurun says they are common at Douglas and Bond has found them at Cheyenne. The University records are Big Horn basin, Buffalo, and Hutton's lakes.

137. *Mareca americana* GMEL.

Baldpate.

Probably a summer resident. Arrives from the south with Gadwall and remains on the Laramie Plains about the same length of time about the lakes. Bond reports them common at Cheyenne, and Jesurun finds them annually at Douglas. Coues reports one taken at Pass creek. The University records are Hutton's lakes, Buffalo and Green River.

139. *Nettion carolinensis* (GMEL.).

Green-winged Teal.

Summer resident; rather common. This species nests along very small streams below 8,000 feet, and usually in isolated pairs. They arrive rather late in the spring, when they live about lakes and ponds; but some soon make their homes along streams. Jesurun finds them plentiful at Douglas and Bond the same at Cheyenne. Coues reports several Wyoming records from Deer creek and Green river. Drexel found them at Fort Bridger and Williston at Lake Como. McCarthy captured specimens at Sweetwater and Woods at Pole creek. University records: Green river; Muddy creek, Uinta county; Horse creek, Natrona county; Clear creek, Dyer's ranch, Carbon county, and the Laramie Plains.

140. *Querquedula discors*. (LINN.).

Blue-winged Teal.

Summer resident; rather common. Breeds in considerable numbers on the Laramie Plains. During migration these ducks are found in great numbers along the small streams and rivers at elevations below 8,000 feet. They arrive from the

south about the first of April and all leave by the time the streams freeze in late fall. The following Wyoming records relate to this species: Pole creek, 1856, Wood; Fort Bridger, 1858, Drexel; Fort Bridger, Sweetwater river, McCarthy; Douglas, Jesurun; Cheyenne, Bond; Sherman, Aiken; Grey Bull river, Powder river, Tongue river, Big Wind river, Upper Green river, Cumberland, Evanston, Laramie Plains, Knight.

141. *Querquedula cyanoptera* (VIEILL.).

Cinnamon Teal.

Summer resident. Breeds in considerable numbers in marshy places on the Laramie Plains. Arrives very late in the spring. Williston reports the first birds arrive about May 5th and by the first week in June there were thousands about Lake Como, where he found many breeding. Coues records this species from Popo Agie river, Sweetwater and the North Platte river; Jesurun from Douglas; Bond from Cheyenne and McCarthy from the Sweetwater river. There are three specimens in the University collection, which were taken May 23, 1897, at Hutton's lakes, where they breed.

142. *Spatula clypeata* (LINN.).

Shoveller.

Summer resident and common. Breeds all over Wyoming in suitable places below 8,000 feet. Coues reports specimens taken on the Sweetwater and Green river; Jesurun finds them abundant in Converse county, and Bond in the vicinity of Cheyenne; Williston rather common at Lake Como. There are two skins in the Wyoming collection. One was taken in the fall the other in the spring at Hutton's lake.

143. *Dafila acuta* (LINN.).

Pintail.

Summer resident; not common. In migration they are very common all over the state and are found in large flocks. They follow the Red Heads in spring migration; and are not common until the sloughs and streams are open. They are

seldom found on lakes or large ponds. During the middle of May, 1899, Mr. Chas. Granger of the Palaeontological department of the American Museum, called my attention to a nest of this species that was built in a bunch of greasewood over 100 yards from a temporary pond. A blizzard of unusual severity came up in the afternoon and lasted upwards of 24 hours. Upon visiting the nest a second time it was found that the duck had either abandoned it or she had been captured by some animal, and the eggs were frozen. This is the only record of a nest in the state. I have, however, seen this species above the McGill ranch on the Laramie Plains in the vicinity of ponds as late as June 15th, and am very certain that they were nesting. During migration this species is found as high as 8,000 feet, and thousands of them remain for several weeks at elevations varying from 6,500 to 7,500 feet. Coles reports the Pintail from Rock creek and Shoshone lake; Bond, common at Cheyenne; Jesurun, common at Douglas; Grinnell, very abundant at Lake Como in September, and considerable numbers on Yellowstone lake. University records: Near Buffalo, Hutton's lakes, Laramie Plains and head of Green river.

144. *Aix sponsa* (LINN.).

Wood Duck.

Possibly a summer resident. Rare as either a resident or migrant. Bond has mounted one specimen that was killed at the lakes near Cheyenne. Mr. Fred Bond, state engineer, has noted this species along Pincy creek, Big Horn mountains; but no specimens were secured. It has also been reported from the oak lands in Crook county, but this lacks confirmation.

146. *Aythya americana* (EXT.).

Redhead.

Migratory: very common. This is the first of the ducks to arrive from the south and usually reaches the Laramie Plains about the middle of March, and remains if there are a few open places in the lakes. I have seen an opening of a

couple of acres in the ice on Hutton's lakes completely covered with these ducks during the last week in March. They have been taken at Hutton's lakes as late as January 10, 1896. The University records are as follows: Green River, Buffalo and the Laramie Plains. Jesurun reports them common during migration at Douglas, and Bond plentiful at Cheyenne.

147. *Aythya vallisneria* (WILS.).

Canvas-back.

Migratory; rather uncommon. A few of this species are usually found with the Red Heads. In Wyoming they are more abundant in the fall than spring and are taken every year by the hunters. Bond finds them rather common at Cheyenne and Jesurun reports them common at Douglas. The University records are Hutton's lakes and Lake DeSmet.

148. *Aythya marila* (LINN.).

American Scaup Duck.

Migratory; exceedingly rare. There is no reason why this bird should not be found more frequently. Up to the present the only authentic record has been given by Jesurun of Douglas and but a single bird has been taken.

149. *Aythya affinis* (EYT.).

Lesser Scaup Duck.

Migratory; common. Probably resident. They arrive on the Laramie Plains as soon as the rivers are open and remain for about a month, and are seldom seen on the lakes. Williston reports them common and remaining all summer near Lake Como; but cites no breeding records. Bond finds them common at Cheyenne and Jesurun the same at Douglas. The University records all relate to specimens taken on the Laramie Plains in the spring.

150. *Aythya collaris* (DONOV.).

Ring-necked Duck.

Migratory; very rare. Coues reports one specimen taken at Green River and Jesurun has taken one specimen at Douglas.

151. *Clangula clangula americana* (FAXON.).**American Golden-eye.**

Migratory; very rare. In Williston's notes there is a statement signed M. G., stating that a single female was taken on Como lake September 20. Jesurun has taken this species at Douglas; Bond has taken several of this species at Cheyenne; West has one mounted in his collection at Buffalo that was taken on Lake DeSmet. There is a fine male bird in the University collection that was taken by G. W. Lovejoy at Hutton's lakes in the fall of 1897.

152. *Glaucionetta islandica* (GMEL.).**Barrow's Golden-eye.**

Migratory; rather common. In early spring there are many "whistlers," as they are usually called, about the lakes on the Laramie Plains; but they are quite difficult of approach though they are occasionally taken by the hunters. About the middle of April I have stood in shallow water at Hutton's lake about sunset, when the evening flight of ducks were coming in and could hear "whistlers" passing in large flocks. Often I have kept my place long after sundown and shot at the merest vision of a duck, and for a period of an hour these Golden-eyes would continue to fly; but I have been able to take but a single specimen. I anticipate that a portion of these birds may belong to American Golden-eye. Records of this species are very scarce. Bond has taken a few specimens at Cheyenne and there is a single specimen in the University collection, taken April 17, 1897.

153. *Charitonetta albeola* (LINN.).**Buffle-head.**

Rather abundant during migration and probably an uncommon resident in northern Wyoming. This species is common on the Laramie Plains both spring and fall. Jesurun reports it common at Douglas; Bond rather common at Cheyenne. Coues reports one specimen taken at Fort Sanders.

Stevenson reports them from Yellowstone Park, 1872. Grinnell reports it from Yellowstone Park in 1875. In early August, 1897, I found a few young birds near the head of Mee-teese creek that were unable to fly. There is one specimen in the University collection that was taken at Hutton's lakes.

163. *Oidemia americana* SW. & RICH.

American Scoter.

Migratory; probably accidental. Wyoming record rests upon a single specimen taken by Bond at Cheyenne.

165. *Oidemia deglandi* BONAP.

White-winged Scoter.

Migratory; rare. A few of this species are usually seen during migration. Grinnell has the following note: "Seen on Yellowstone lake in August. I mention this species with a query because although I recognized it satisfactorily to myself I took no specimens." There is a beautiful specimen in the University collection that was taken at Lake DeSmet and presented by H. A. West. I have seen one good specimen that was taken at Hutton's lakes, March, 1898.

166. *Oidemia perspicillata* (LINN.).

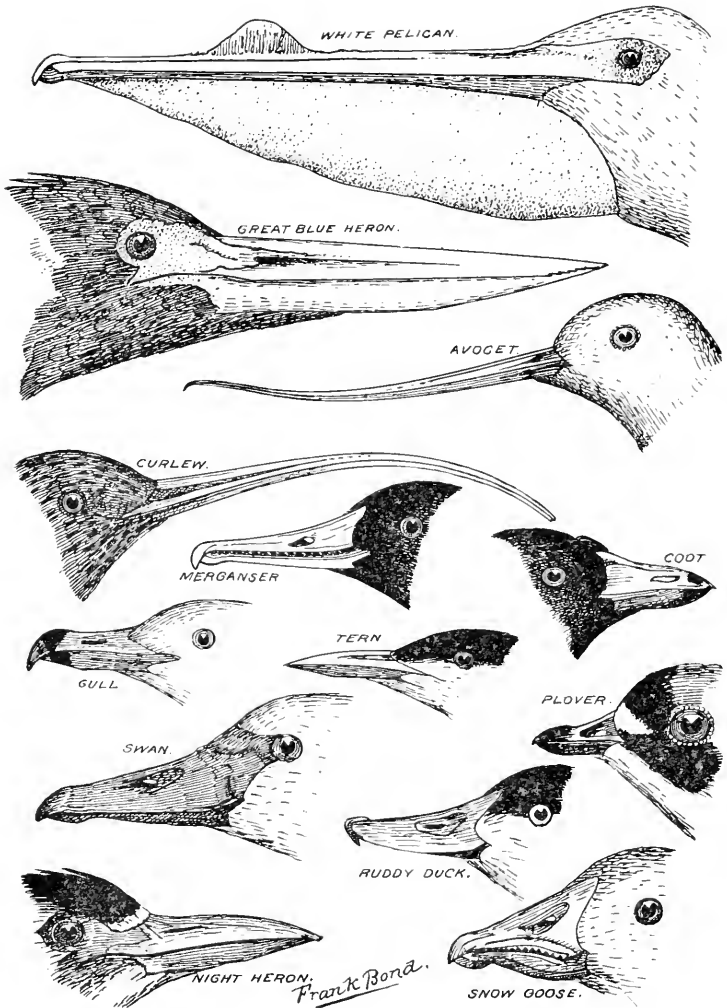
Surf Scoter.

Accidental; extremely rare. Dr. Jesurun has one specimen which he shot on Oct. 10, 1893, at one of the ponds near Douglas.

167. *Erismatura rubida* (WILS.).

Ruddy Duck.

Probably a summer resident. During migration these ducks are quite common all over the state. Coues reports them from Pacific creek; Bond from Cheyenne, and Jesurun from Douglas. McCarthy took one specimen on the Sweet-water, Oct. 10, 1857. West says it is common at Lake DeSmet. The University records all relate to the Laramie Plains, where it is common during migration.



ROSTRAL VARIATION AMONG WADERS AND SWIMMERS.

169. **Chen hyperborea** (PALL.).

Lesser Snow Goose.

Migratory; rare. Grinnell reports having seen a flock of these birds on the Yellowstone river near the lake, 1875. Bond has taken a few at Cheyenne. I have seen several flocks of white geese about Hutton's lakes which I anticipate were of this species; but since none were killed the record is questioned.

171 a. **Anser albifrons gambeli** (HARTL.).

American White-fronted Goose.

Accidental; very rare. Bond reports this species as follows: "I have mounted a fresh specimen which was said to have been killed at the Cheyenne lakes."

172. **Branta canadensis** (LINN.).

Canada Goose.

Summer resident; rather common. During migration they are rather abundant about lakes, and often remain until the 1st of December. Dr. Jesurun has found them nesting in dead trees along the North Platte river near Douglas. The nests were usually from 18 to 25 feet from the ground. They also breed about the lower mountain lakes. I have seen several flocks of this species at the head of Green river and along the Snake river about the middle of August and have also seen several broods just large enough to fly near the mouth of the Grand Canon of the North Platte. Williston found them breeding at Lake Como, and remarks: "Nest was found in marsh May 2, built up securely with weeds and sticks about 18 inches above the water, eggs fresh." Grinnell reports them numerous on Yellowstone lake in 1875. Drexel found them at Fort Bridger, 1858. Jesurun reports them common at Douglas and Bond at Cheyenne. Coues reports the Canada goose from Yellowstone river and Sweetwater river.

172 a. **Branta canadensis hutchinsii** (RICH.).

Hutchin's Goose.

Migratory. I am inclined to believe that this species is

rather common and has not always been distinguished from the Canada goose. Bond has taken this species at Cheyenne and Jesurun at Douglas. Hunters at Laramie often secure a good bag of them from the Laramie river. Mr. Maynard of Laramie presented the University with the only specimen in the collection. This was killed some 25 miles below Laramie, where there are some artificial lakes.

180. *Olor columbianus* (ORD.).

Whistling Swan.

Migratory; very rare. A bird of this species was killed at the lakes, Cheyenne, by Dr. Wyman, and he has the specimen mounted in his office. This determination was made by Bond of Cheyenne and is the only record of this beautiful and graceful bird in Wyoming.

181. *Olor buccinator* (RICH.).

Trumpeter Swan.

Summer resident; not common. Breeds at the lakes near the head of Green river and in Jackson's Hole, where I have seen them in July and August. Bond reports having taken this bird at Cheyenne and Jesurun at Douglas. Grinnell reports seeing a swan in flight at Yellowstone lake, which he thought to be this species, and states that Merriam took one on the lake in 1872. One was killed at lake DeSmet by Mr. Van Dyke of Buffalo in the spring of 1897. A swan was taken at Hutton's lakes, Nov. 19, 1897; but the bird was dressed before notifying the University and whether it was this or the foregoing species is not known. Coues reports this species from the Yellowstone river and also from the Snake river.

IBISES.

187. *Plegadis guarauna* (LINN.).

White-faced Glossy Ibis.

Probably summer resident. While the records of this bird in Wyoming are not abundant they are sufficient to extend its

range well across the state and nearly to the Montana boundary on the north. Hayden took the first bird of this species from Pole creek, August, 1856, which would signify that it was a summer resident. Drexel took one of these birds at Fort Bridger in 1858. In the spring of 1893 R. A. Wallen of Red Bank, Wyo., killed one of these birds and had it mounted. In the spring of 1894 F. J. Niswander killed a young bird near Laramie. In early August, 1899, W. H. Wyman of Cokeville sent to the University a beautiful specimen. I was away from home at the time and the bird spoiled before my return. Mr. Wyman wrote me later that he had killed three or four of these birds during the last ten years. The records are sufficient to prove that this bird is not a straggler.

HERONS, EGRETS, BITTERNS, ETC.

190. *Botaurus lentiginosus* (MONTAG.).

American Bittern.

Summer resident; common. Usually breeds along the swampy irrigated valleys. Jesurun, quite common at Douglas; Cones notes one specimen from Sweetwater river; McCarthy from the North Platte river; Williston reports it from Lake Como. The University records are from Green river, North Platte river, Big Horn Basin and Laramie Plains.

197. *Ardea candidissima* GMEL.

Snowy Heron.

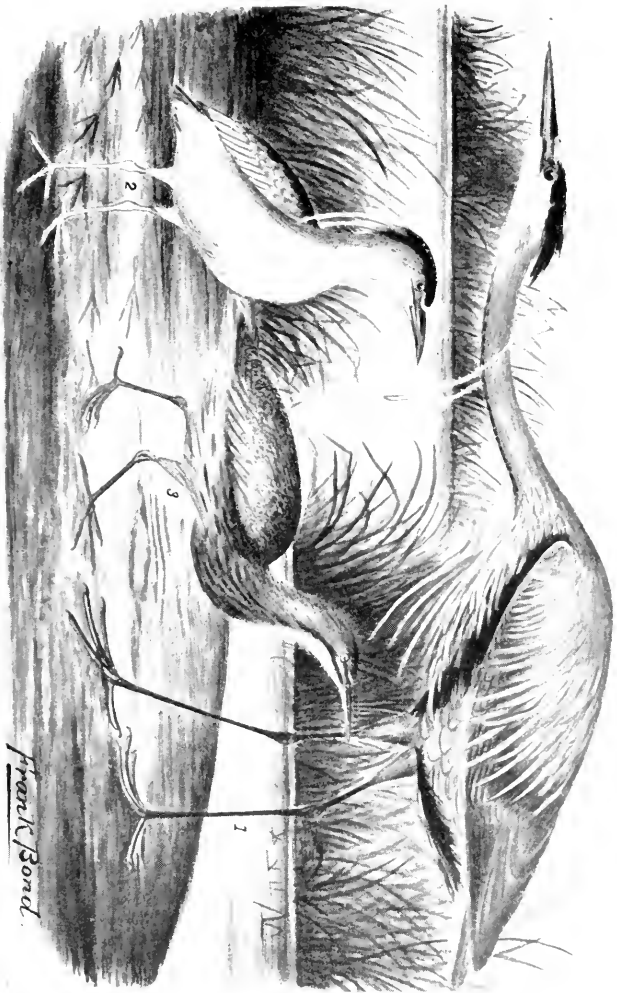
Accidental. About the first of May, 1902, Mr. Lindsey of Red Mountain killed a bird of this species on Sportsman's lake, about 13 miles southwest of Laramie. This specimen was presented to J. A. Johnson, who had it mounted and placed in his collection. The bird is a remarkable specimen in full plumage. This is the only Wyoming record and probably is the northernmost point in the Rocky Mountains that this species has been found.

191. *Ardetta exilis* (Gmel.).**Least Bittern.**

Accidental. Mr. Bond has informed me that he has identified this bird in the collection of M. E. Clark of Cheyenne. Mr. Clark stated that the bird was killed on Crow creek near Cheyenne by some boys. This is the only record in the state.

194. *Ardea herodias* Linn.**Great Blue Heron.**

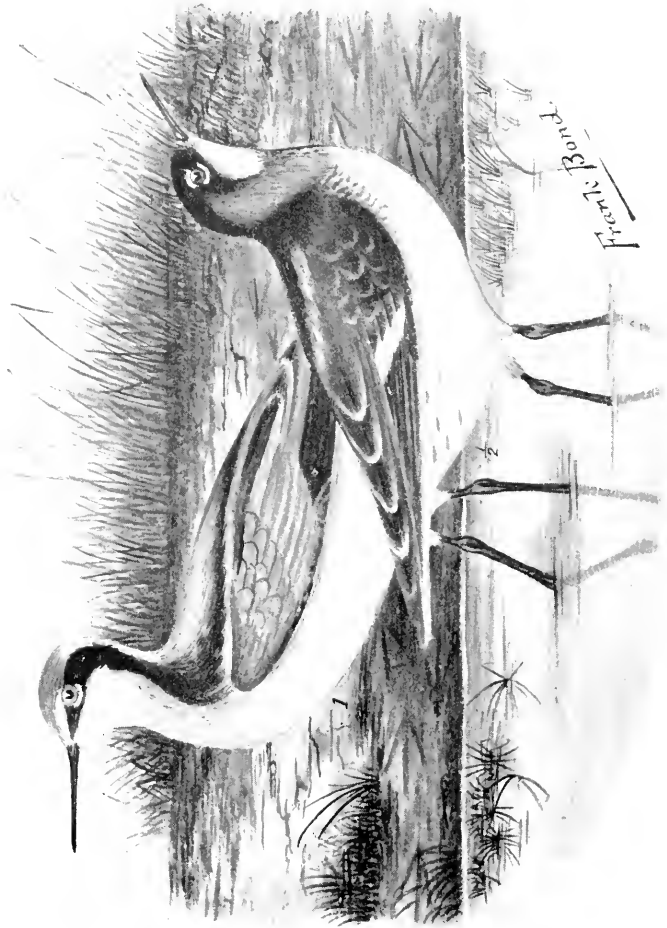
Summer resident. Rather common along streams and near lakes at elevations less than 8,000 feet. These birds arrive on the Laramie Plains about the time the ice disappears from the lakes and for the first few weeks feed almost entirely upon the fish that have died during the winter. About six miles above Laramie there is quite a heronry where some thirty or more nests are built in the tops of cottonwood trees. Mr. C. W. Gilmore visited this heronry on May 21, 1897, and found incubation well advanced. He also observed that the nest contained on an average five eggs. The lowest number found was four and a few had six. On May 12, 1901, he made a second visit and found the eggs quite fresh. Heronry's are uncommon in the state, but will be found occasionally along wooded streams. A second one has been reported to me between Fort Laramie and Guernsey on the North Platte river. As a rule these birds breed as isolated pairs. Unfortunately the average hunter takes delight in killing this beautiful heron, although he must realize that the bird is worthless to him. The flesh is wholly unfit for food and the bird is in no way detrimental to the farmer or grazer. Bond reports them common at Cheyenne; Jesurun at Douglas. The University records are all from the Laramie Plains. I have seen these birds near Sheridan, in the Big Horn Basin, near Otto, and on the Shoshone river, on Clear creek, near Green river, on the Snake river, on the Bear river and near Fort Steele on the Platte.



1. ARDEA HERODIAS. Great Blue Heron.

2. NYCTICORAX NYCTICORAX NAEVIUS. Black-Crowned Night Heron.

3. BOTAURUS LENTIGINOSUS. American Bittern.



1. PHALAROPUS TRICOLOR. Wilson's Phalarope. PHALAROPUS LOBATUS. Northern Phalarope.

202. *Nycticorax nycticorax nævius* (BODD.).

Black-crowned Night Heron.

Summer resident; rare. Drexel took one specimen on the North Platte river in 1858. There is a beautiful male bird in the University collection that was killed at Laramie. A few of these birds nest on the Little Laramie near Sheep Mountain annually. On July 11, 1900, I saw an old bird carrying food in its bill into a clump of trees on the opposite side of the river.

CRANES.

205. *Grus canadensis* (LINN.).

Little Brown Crane.

Migratory; possibly summer resident. Very rare in the greater portion of Wyoming. Grinnell reports them very abundant in the Yellowstone Park, 1875. Drexel took a specimen at Fort Bridger, 1858. Wood took a specimen on Medicine Bow creek, Aug. 7, 1856. Jesurun took a specimen at Glendo, Oct. 7, 1898. The early records in this case are probably confused with *Grus mexicana*, for Coues did not make any distinction in these cranes until 1874.

206. *Grus mexicana* (MULL.).

Sandhill Crane.

Migratory; rare. Bond has taken this bird at Cheyenne. One bird was killed from a flock on Shell creek, Laramie Plains, Oct. 10, 1896. I identified the bird from the head. I have also seen one specimen that had been killed near Buffalo.

RAILS AND COOTS.

214. *Porzana carolina* (LINN.).

Sora.

Probably a summer resident. Jesurun reports it from Douglas, having taken it in May and November. Bond has taken one specimen at Cheyenne, June 23, 1889. Williston reports them common at Lake Como. Drexel took a specimen

at Fort Bridger, 1858. The University data are all from the Laramie Plains, where they have been taken in May and July.

221. *Fulica americana* GMEL.

American Coot.

Summer resident. They are found in vast numbers breeding about small lakes and ponds below 8,000 feet. They are as a rule ruthlessly slaughtered by duck hunters, they claiming that they ruin the feeding grounds for ducks long before the ducks arrive from the north. In the west they are seldom used as food, although highly praised by a few. In the fall of the year it is not an uncommon thing to see flocks containing several hundred on the small lakes on the Laramie plains. When fired upon they half run and half fly, just touching the tips of their toes to the water and soon settle in a new place not far from where they were shot at. They arrive late in March upon the Laramie Plains and in one instance I found a bird with feet frozen in the ice and still alive. Every spring a few of these birds follow the Red-heads and on account of the lakes freezing over after they arrive they usually perish. These birds are so numerous about their breeding places that records are hardly necessary. It can be said that nearly all who have interested themselves in Wyoming birds have found them abundant.

SHORE BIRDS.

PHALAROPES.

222. *Crymophilus fulicarius* (LINN.).

Red Phalarope.

Very rare if not accidental. The only specimen taken in Wyoming was that by C. W. Gilmore on the Laramie plains during the fall of 1897. This skin was identified by Mr. Robert Ridgway of Washington, D. C.

223. *Phalaropus lobatus* (LINN.).

Northern Phalarope.

Migratory; not common. Williston reports having seen two flocks of 75 birds each at Lake Como. They arrived May 18 and remained ten days. Rather common at Douglas, Jesurun. Uncommon at Cheyenne, Bond. Coues reports one specimen from Big Sandy river, Wyoming. The University has no data relating to this species.

224. *Phalaropus tricolor* (VIEILL.).

Wilson's Phalarope.

Summer resident; common. Breeds in large numbers on the Laramie Plains in marshy places. Arrives from the south late in April or the first week in May. Williston found them rather common at Lake Como, and states that they undoubtedly breed. He took a specimen June 9th with a perfect egg in the oviduct. Drexel took this bird at Fort Bridger in 1858. Common at Douglas, Jesurun. Common at Cheyenne, Bond. Taken at Camp Carlin, Coues. There are seven skins in the University collection that were taken May 23, July 28 and Sept. 31 in Albany and Carbon counties.

AVOCETS.

225. *Recurvirostra americana* GMEL.

American Avocet.

Summer resident. Common about rather small alkali ponds. They arrive on the Laramie Plains during the last week in April and the first week in May and remain in flocks for a short time, then separate and go to their nesting places; usually several pairs nest in the same locality. Williston found them common and breeding at Lake Como. Common at Cheyenne, Bond. Common about Douglas, Jesurun. Taken on Yellowstone river, Coues. Taken at Fort Bridger, 1858. Drexel. "They were quite numerous on the Yellowstone river above the falls where the stream is wide and many were seen on the shore of the lake, 1875," Grinnell. Four specimens taken on

the Sweetwater river, McCarthy, 1859. Taken on Laramie river, July 23, and on the west slope of the Medicine Bow Mountains, same date, 1857, Wood. I have noted these birds in the Green River valley above Green River city, in the Big Horn Basin near Otto, along Clear creek, Johnson county, and along the Rattlesnake Mountains in Natrona county. There are nine skins in the University collection that have been collected during the months of June, August and September in Albany and Carbon counties.

SNIPES, SANDPIPERS, ETC.

230. *Gallinago delicata* (ORD.).

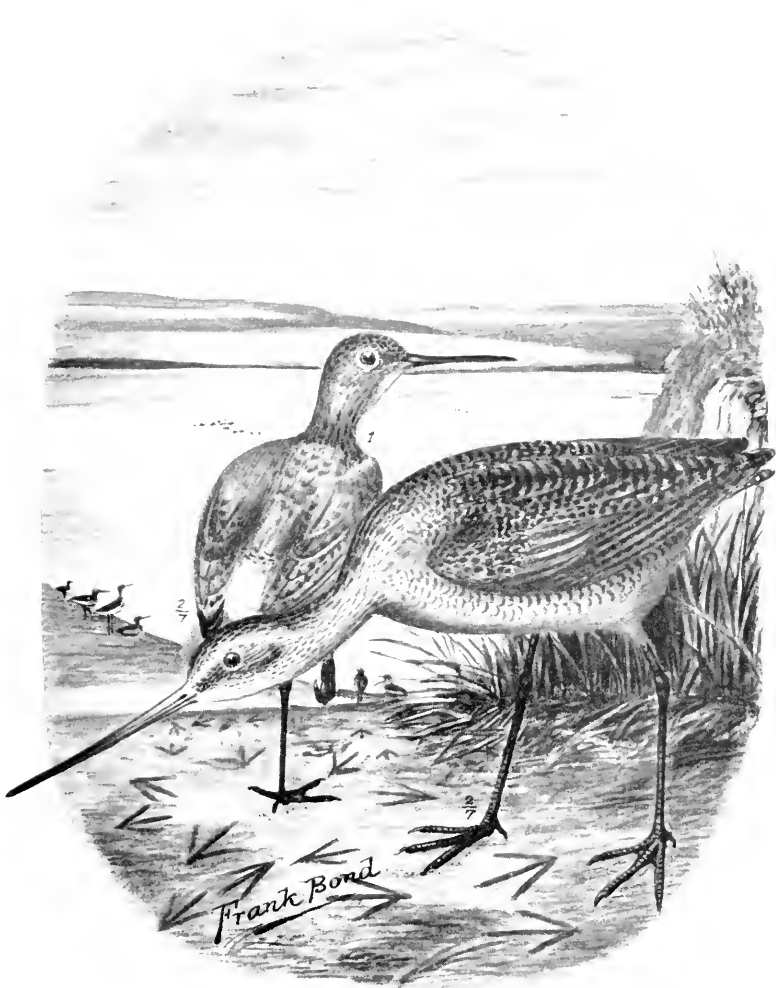
Wilson's Snipe,

Resident; probably breeds. This bird often remains all winter in marshy places where there are warm springs. There are no breeding records; but in all probability such will be reported. In spring and fall these birds are rather common in swampy places along the small streams. On Aug. 20th, 1898, I took one in the Medicine Bow Mountains at an elevation of 9,000 feet, where it was feeding along a small brook. Rather common at Cheyenne, Bond. Rather common at Douglas, Jesurun. Fort Sanders, Black Hills, Wyoming, Coues. Fort Bridger, McCarthy and Drexel. Fort Laramie, Dr. Cooper. Took one bird May 5th and another two weeks later at Lake Como, Williston. The University records all relate to the Laramie Plains. This species has been taken as late as Jan. 27, when a pair of birds were seen.

232. *Macrorhamphus scolopaceus* (SAY.).

Long-billed Dowitcher,

Migratory; rather rare. They reach the Laramie Plains about the 12th of May. All records are confined to southeastern Wyoming. Two specimens taken May 5th, afterwards common at Lake Como for two weeks or more, Williston. Rock Creek, September, 1856, Wood. Bond has one specimen in his collection taken at Cheyenne May 3, 1889. There are



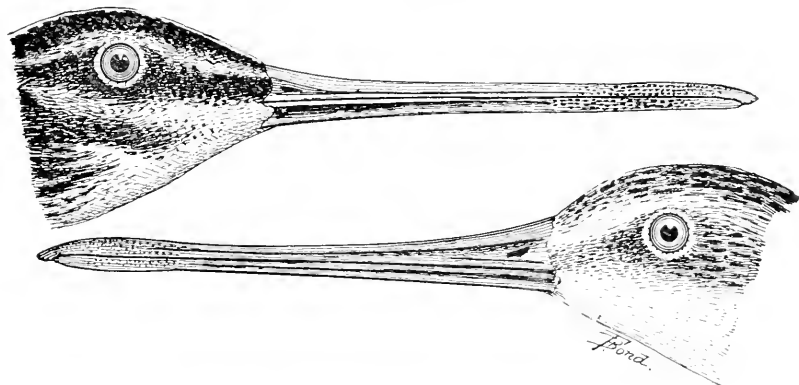
1. *SYMPHETIA SEMIPALMATA INORNATA*. Western Willet.

LIMOSA FEDOA. Marbled Godwit.



PIRANGA LUDOVICIANA. Louisiana Tanager.

three of these birds in the University collection that were taken at Hutton's lakes, Oct. 14, 1899.



WILSON'S SNIPE.

LONG-BILLED DOWITCHER

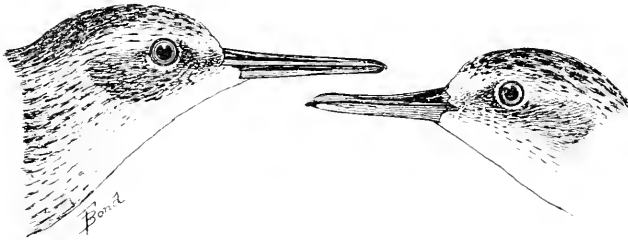
233. *Micropalama himantopus* (BONAP.).
Stilt Sandpiper.

Migratory; rare. But little is known of this species in Wyoming. From the records one can judge that it will be found occasionally in all of the non-mountainous parts of the state. In Bond's collection there is a female bird that was taken March 25, 1889, from a flock of four or five birds. Jesurun has taken this bird at Douglas and Coues reports it from Fort Bridger.

241. *Tringa bairdii* (COUES.).
Baird's Sandpiper.

Migratory; abundant. These birds reach the Laramie Plains in flocks the first week in April and remain for a couple of weeks. Bond has taken them the last of March and the first of April at Cheyenne, when they were abundant. Coues reports them from North Platte, Little Sandy, Lower Geyser Basin, and two general references to this state. Rather common on Lake Como in September in scattering flock, Grinnell. Noticed in flocks of from 50 to 60, 1875, Grinnell. There are

four skins in the University collection that were taken in Carbon and Albany counties.



BAIRD'S SANDPIPER

LEAST SANDPIPER

242. *Tringa minutilla* (VIEILL.).

Least Sandpiper.

Migratory; quite common. This species reaches the Laramie Plains about the first of May, and remains three or four weeks. It is known that these birds breed north of the United States and it appears highly probable that they also breed upon some of the plateaus in the mountains. The fact that the Wyoming records date as late as May 27 and as early as Aug. 20 in the fall does not give ample time for these birds to reach the British possessions, rear their young and return. Common at Douglas, Jesurun. Common at Cheyenne, Bond. Took a single specimen May 2, Williston. Taken at Fort Bridger, 1858, Drexel. Taken on North Fork of the Platte, Cooper, 1857.

246. *Ereunetes pusillus* (LINN.).

Semi-palmated Sandpiper.

Migratory; rather rare. One specimen taken at Horse creek, 1859, McCarthy. Taken at Fort Bridger, 1858, Drexel. There is a single skin in the University collection that was taken at Alkali lake, Oct. 31, 1897. All of the Wyoming records are from the southern part of the state.

248. *Calidris arenaria* (LINN.).

Sanderling.

Migratory and usually rare. Dr. Jesurun reports them quite common in the springtime at Douglas and has four skins in his collection. These were taken on May 18, 23, and 26, 1892. Williston reports having taken one May 5 at Lake Como.

249. *Limosa fedoa* (LINN.).

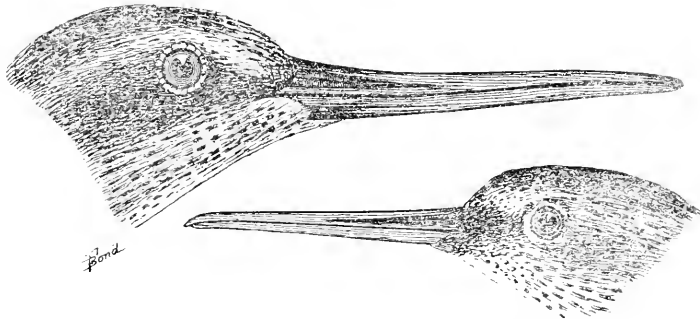
Marbled Godwit.

Migratory, but very likely a summer resident. Dr. Jesurun finds them rather common at Douglas and has taken specimens on May 15 and July 31. The latter indicates that they breed. Bond reports them from Cheyenne.

254. *Totanus melanoleucus* (GMEL.).

Greater Yellow-legs.

Rather common during migration and probably a summer resident. Williston reports a single specimen taken at Lake Como, May 2. Grinnell reports them from Yellowstone Park in 1875. Drexel took this species at Fort Bridger in 1858. Jesurun reports them rather common at Douglas. Bond not common at Cheyenne. Coues reports this bird from several Wyoming localities. West has taken this species at Buffalo. There are no University records.



GREATER YELLOW-LEGS

YELLOW-LEGS

255. **Totanus flavipes** (GMEL.).**Yellow-legs.**

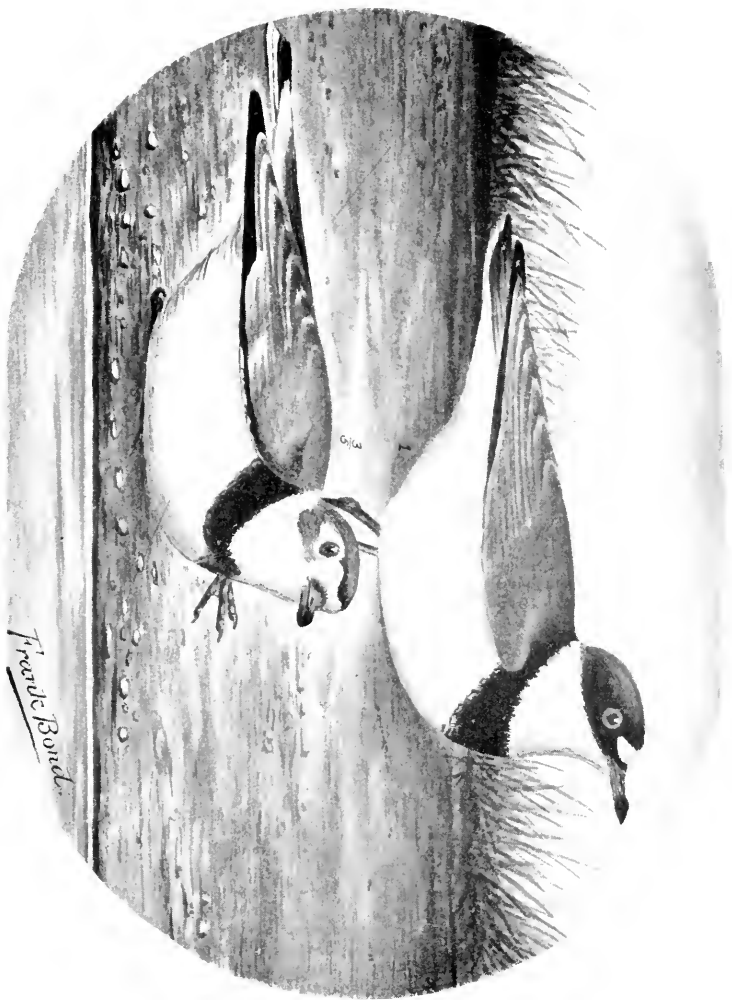
Migratory; rather common, much more so than the Greater Yellow-legs. Woods secured specimens along the Big Laramie and Platte rivers in 1857. Williston took a single bird on Lake Como in 1879. Jesurun reports them from Douglas and Bond from Cheyenne. Cones reports them from Bitter Cottonwood creek, La Bonte creek and North Platte river. There are three specimens in the University collection. One was taken at Laramie and the others at Hutton's lakes.

256. **Helodromas solitarius** (WILS.).**Solitary Sandpiper.**

Quite common during migration and probably there are a few summer residents. I have never seen a nest or eggs, nor very small young; but the fact that they have been taken during July and August leads me to consider them as residents. Bond reports them as common at Cheyenne. Jesurun as common at Douglas. Wood took a specimen on Pole creek, July 29, 1856. Allen observed them in Wyoming in August, 1871. Grinnell observed one in the Upper Geysers Basin, 1875. There is a single skin in the University collection that was taken by Mr. Gilmore on the Little Medicine river, in Carbon county, on Aug. 15, 1897.

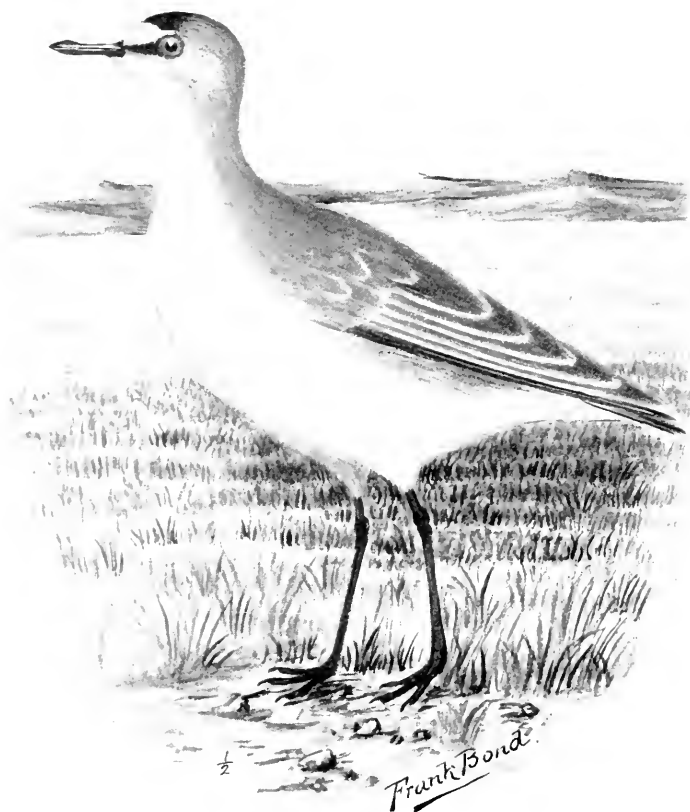
258 a. **Symphemia semipalmata inornata** BREWST.**Western Willet.**

Summer resident and rather common about semi-alpine lakes and ponds. Drexel reports this bird from Fort Bridger, 1858; McCarthy from Big Sandy river, 1859; Grinnell found them abundant at Yellowstone lake, 1875; Williston as quite common at Lake Como for the two weeks following May 2. Bond reports them rather common at Cheyenne and Jesurun the same from Douglas. In the University collection there are three skins. One was taken from a pond near the Cloud's Peak ranch on the Big Horn mountains at an elevation of



1. *EGIALITIS SEMIPALMATA*. Semipalmated Plover.

EGIALITIS MELODA CIRCUMCINCTA. Belted Piping Plover.



ÆGIALITIS MONTANA. Mountain Plover.

about 8,000 feet. The second specimen was taken at Buffalo by West and a third from a pond near Laramie.

261. *Bartramia longicauda* (BECHST.).

Bartramian Sandpiper.

Probably a summer resident. Rather common during migration; but usually confined to valleys and table lands, and never seen above 8,000 feet. Noted only from eastern part of the state. Woods took a specimen on Elk creek, Medicine Bow mountains, Aug. 4, 1857. Williston at Lake Como, May 5, 1879. Bond reports them rather common at Cheyenne and has mounted specimens for the Cheyenne high school. There is a single specimen in the University collection. That was taken by Gilmore on the North Fork of Little Medicine, Aug. 15, 1897.

263. *Actitis macularia* (LINN.).

Spotted Sandpiper.

Summer resident; common. Breeds in the mountains up to 9,000 feet and possibly higher. In summer time they are usually found scattered about the sub-alpine lakes. Drexel reports this species from Fort Bridger, 1858. Allen found them in Wyoming in the summer of 1871. Williston reports them as arriving at Lake Como on May 2nd, but not abundant until the 15th. Bond reports them common at Cheyenne and Jesurun rather abundant at Douglas. Coues reports this bird from Wind river, Fort Fetterman, North Platte and one general reference to Wyoming. The University specimens were taken in Carbon county on the 3d and 4th of August, and one specimen was a young bird.

264. *Numenius longirostris* WILS.

Long-billed Curlew.

Summer resident; common. Breeds rather abundantly upon the higher plateaus and lower mountains. These birds are numerous upon the Laramie Mountains and Plains. Williston reports them as common at Lake Como in June. West

has taken many specimens at Buffalo. Bond finds them rather common at Cheyenne during migration. Jesurun reports them common at Douglas and breeding. Cary found them rather abundant about Newcastle during the summer months. There are two specimens in the University collection one of which was taken on the Little Medicine river and the other on the Laramie Plains. I have found these birds all over the state during the summer.

PLOVERS.

270. *Charadrius squatarola* (LINN.)

Black-bellied Plover.

Migratory and very rare. Cook has reported eight Colorado records and states that the bird is confined to the plains below 5,000 feet. The only Wyoming record is from Bond, who has taken a single bird at Cheyenne, which is over 6,000 feet elevation.

272. *Charadrius dominicus* MULL.

American Golden Plover.

Migratory; quite rare. Bond reports them as rare at Cheyenne and Coues reports one specimen taken at Rock Creek.

273. *Ægialitis vocifera* (LINN.).

Killdeer.

Summer resident and very common in suitable places. They are among the earliest birds to arrive from the south, and have been known to reach the Laramie plains before the ice was out of the streams or the lakes open. One specimen in the University collection was taken at Laramie on March 16th. All of the collectors of birds in Wyoming have noted these noisy fellows and the records are too voluminous to publish. I have noted them breeding at 8,000 feet, but not above, nor have I ever seen them about alpine lakes.

274. *Ægialitis semipalmata* BONAP.

Semipalmated Plover.

Migratory; very rare. Bond has taken and mounted two specimens at Cheyenne. There are no other records pertaining to Wyoming.

277 a. *Ægialitis meloda circumcincta* RIDGW.

Belted Piping Plover.

Migratory; very rare. Bond has a single specimen in his collection that was taken at Cheyenne May 30, 1892.

278. *Ægialitis nivosa* CASS.

Snowy Plover.

Migratory; very rare. Thus far but a single specimen of this species has been taken in Wyoming, by Bond of Cheyenne. There is no reason why these birds should not be found each year during migration.

281. *Ægialitis montana* (TOWNS.).

Mountain Plover.

Summer resident and abundant on the higher plateaus. They usually breed in great numbers at elevations varying from 5,000 to 8,000 feet. They occur west of the front range of the Rocky Mountains in vast numbers and I have seen them near the western border of Wyoming and also quite abundant near the Montana line. Records are numerous. Wood took this species at Pole Creek, 1857; Drexel reports them as not rare at Fort Bridger, 1858; McCarthy took 3 specimens on the Sweetwater river in 1859; Allen reported them from the plains of Wyoming, 1871; Williston found them common at Lake Como; Carey took specimens at Newcastle, 1899; Bond reports them common at Cheyenne.

**PHEASANTS, GROUSE, PARTRIDGES,
QUAILS, ETC.**

297. *Dendragapus obscurus* (SAY.).

Dusky Grouse.

Resident and rather abundant. This admirable but ungamy bird lives in the forests only, or about open parks associated with them. Its usual haunt is about spruce-clad canons and ravines. It is seldom seen below 7,500 feet in Wyoming and it is not uncommon at timber line. Of all the edible birds of the west this and the following variety are the most desirable. The flesh is highly flavored, tender, juicy and as white as that of a tame fowl. They occupy practically the same place summer and winter. I have seen them in January and February about spruce groves where they also were in the early fall. They are a foolish bird as a rule and not easily frightened. When a covey lights in a tree one can easily kill them all if he will shoot the lowest one first and kill them in order so that none of the dead ones will fall and strike near the living birds. Although they are very expert in hiding in the foliage of the spruce; yet they are easily hunted and it often happens than an entire covey is killed. So far as investigations have gone this species is found only in the southern half of Wyoming, the northern limit of the range being the North Platte river and westward on this meridian to the Idaho line. I have taken the Dusky Grouse in the Laramie, Shirley, Seminoe, Ferris, Medicine Bow, Sierre Madre and along the Uinta mountains. They have been reported by all of the collectors of Wyoming birds.

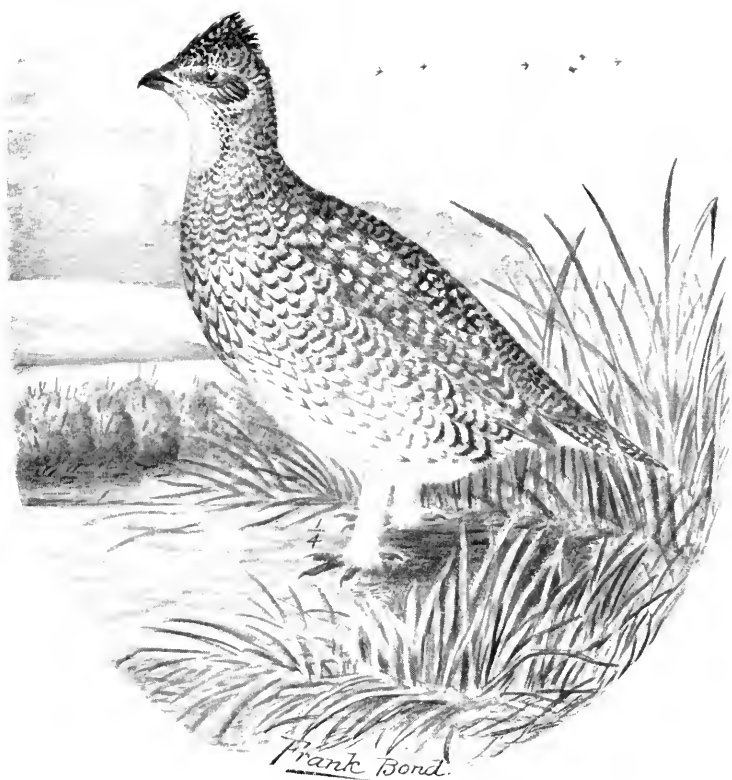
297 b. *Dendragapus obscurus richardsonii* (DOUGL.).

Richardson's Grouse.

This variety replaces the Dusky Grouse in the northern half of Wyoming, and they are very similar to them in every respect. I have taken these birds on the Teton, Wind River, Shoshone, Absaraka, and Big Horn mountains, where they are



BONASA UMBELLUS UMBELLOIDES. Gray Ruffed Grouse.



PEDIOCÆTES PHASIANELLUS CAMPESTRIS. Prairie Sharp-tailed Grouse.

common. While climbing Cloud Peak in 1897 I found these birds at an elevation of 11,500 feet, in localities where there was little vegetation and apparently nothing for them to eat. Coues reports this variety from the Yellowstone river and the Wind River mountains. Grinnell reports them from the Yellowstone Park.

300 a. ***Bonasa umbellus togata*** (LINN.).
Canadian Ruffed Grouse.

Resident and common in northeastern Wyoming along the western slope of the Black Hills and in the Bear Lodge mountains. They are found along some of the streams in the northern Big Horn mountains and westward into Idaho. Several birds have been reported from southwestern Wyoming. Bond has one specimen in his collection that was killed near Fort Bridger, and there is a skin in the University collection that was taken by West in the vicinity of Buffalo.

300 b. ***Bonasa umbellus umbelloides*** (DOUGL.).
Gray Ruffed Grouse.

Resident and quite common in northwestern Wyoming; but unknown in the southeastern part of the state. This species of Ruffed Grouse is much more common in the desirable localities than the previous one noted. Drexel found this species at Fort Bridger, 1858; McCarthy found them in the same locality in 1859; Allen reports them from Wyoming and Montana, 1871; Grinnell reports them from the Yellowstone park in 1875. There is one skin in the University collection that was taken by West at Buffalo. I found this species quite common along the Snake river in Jackson's Hole in 1894.

304. ***Lagopus leucurus altipetens*** OSGOOD.
Southern White-tailed Ptarmigan.

Resident and quite common in alpine districts. They are seldom seen below timber line. The only Wyoming record is based upon my own observation in the Medicine Bow moun-

tains, where I have seen them several times among the glacial boulders. In July of 1890 I found an old bird with a covey of ten or a dozen young that were less than half grown. When the mother gave a note of alarm the birds dropped close to the ground when in the open, or skulked into the dwarf willows and hid. After the fright the old one commenced calling and the young responded very much like young quail. I believe that the Ptarmigan lives in all alpine districts in the state and the one record is due to the fact that other ranges have not been examined thoroughly.

308 a. *Pediocetes phasianellus columbianus* (ORD.).

Columbian Sharp-tailed Grouse.

Resident, but not common. The records of this species in Wyoming are very unsatisfactory; but there is no doubt but that this grouse is found in the state. McCarthy reports this species 100 miles from Fort Laramie; Allen states that it is found on the plains of Wyoming, and Coues notes that it is found in Laramie and Upper Platte regions. So far as I can learn from hunters and from personal observations these birds have never been found on the Laramie plains. Although I have traveled extensively in this state I have never seen one of these birds.

308 b. *Pediocetes phasianellus campestris* RIDGW.

Prairie Sharp-tailed Grouse.

Resident and common in eastern and northwestern Wyoming. I have never seen this species west of the Big Horn or Laramie mountains. They are very abundant in Crook county and are found along the streams on the north and east of the Big Horn mountains. They are rather common in the valley of the Platte below Casper and southward along the Laramie mountains. Jesurun reports them common at Douglas; Bond has taken them at Cheyenne; West at Buffalo. I have killed a number of these birds in Crook county. Carey reports this species at Newcastle.

309. *Centrocercus urophasianus* (BONAP.).

Sage Grouse.

Resident: very common. Of all the grouse this is the most abundant and occurs all over the state, ranging from the lowest elevations up to 8,000 feet. They nest away from water, and on the Laramie plains commence to lay between the first and tenth of May. The nests are usually partially hidden in sage brush and are made of grass and imperfectly lined with feathers. The young apparently do without water until they are large enough to fly, which is usually about the last of June. After reaching a spring or stream they remain near by and drink at least twice a day. In some localities they are so numerous that one can locate at least a dozen coveys in going a mile. The young birds are excellent eating, but as soon as frost comes they commence to feed upon sage, which makes their flesh very rank. By the middle of September these birds rely almost entirely upon the sage for food and do not change their diet until spring time brings fresh vegetation and an abundance of insects. I have noticed that these birds do not eat sage unless they are driven to it. In localities where there are large alfalfa fields the sage hens, as they are usually called, feed entirely upon alfalfa as long as it remains green.

PIGEONS.

315. *Ectopistes migratorius* (LINN.).

Passenger Pigeon.

Accidental. There is but one record for Wyoming of this bird. McCarthy reports that he took a single specimen 40 miles west of Fort Laramie in 1859. Robert Ridgway informs me that this report is correct.

316. *Zenaidura macroura* (LINN.).

Mourning Dove.

Summer resident; very common. They breed all over the state up to an elevation of 8,000 feet. Usually they nest upon

the ground and in many localities a wire fence is the only thing that they can substitute for the dead limbs of trees in other regions, where they can rest above the ground. In Wyoming these birds live almost entirely upon weed seeds. For this reason they should be protected and not suffer as they do by the raids of small boys with guns seeking for something to kill. The records are numerous and for this reason are omitted.

AMERICAN VULTURES.

325. *Cathartes aura* (LINN.).

Turkey Vulture.

Summer resident; rather common in eastern Wyoming. Allen found them in Wyoming during the summer of 1871; Jesurun states that they are common about Douglas; Bond finds them about Cheyenne; Gilmore has noted them on the Laramie plains; Cary observed them in the vicinity of Newcastle and reports them common. I have seen them in the following places: Laramie plains, Big Horn basin, near Buffalo, in Crook county and along the Rattlesnake mountains.

VULTURES, FALCONS, HAWKS, EAGLES, ETC.

331. *Circus hudsonius* (LINN.).

Marsh Hawk.

Summer resident; very common. This is the most common hawk in the state and breeds in great numbers along streams and marshes up to 8,000 feet. I have seen them in the fall of the year in marshy parks of the mountains nearly to timber line. They arrive on the Laramie Plains the last week in March and remain until ice forms over the streams. This is one of the most beneficial hawks in the west and should be protected by all. The amount of insects and detrimental mammals they devour annually can not be estimated. The hunter will do well to encourage the protection of these birds and the agriculturists should encourage them to breed in their fields. There are voluminous notes concerning the food of these birds

and I quote the following from Fisher's *Hawks and Owls of the United States*, pages 27, 28, and 29:

"When prey is discovered the hawk poises for a moment over the spot and then drops quickly on it, and if unsuccessful is sure to beat over the same place before leaving. It generally devours its quarry on or near the spot where captured, instead of carrying it away. Its food consists largely of small rodents, such as meadow mice, halfgrown squirrels, rabbits, and spermophiles or ground squirrels. In fact, so extensively does it feed on the last-named animals that the writer rarely has examined a stomach from the west which did not contain their remains. In addition to the above it preys upon lizards, frogs, snakes, insects, and birds; of the latter, the smaller ground-dwelling species usually are taken. When hard pressed it is said to feed on offal and carrion; and in spring and fall, when water fowl are abundant, it occasionally preys upon the dead and wounded birds left by gunners. It seldom chases birds on the wing, though the writer has seen it do so in a few instances.

"Mr. H. W. Henshaw, whose great field experience in the west enables him to speak authoritatively on the subject, says: 'They were seen at all hours of the day in search of mice and gophers, which, when obtainable, constitute the major part of its food. When urged by hunger, it may attack birds; and I remember to have been once robbed of a widgeon I had killed and kept lying in the water, by one of these birds; but generally they confine their attacks to the humblest kind of game, which possess neither the strength to enable them to resist nor the activity to evade the sudden descent of their winged enemy.'

"Although this hawk occasionally carries off poultry and game birds, its economic value as a destroyer of mammal pests is so great that its slight irregularities should be pardoned. Unfortunately, however, the farmer and sportsman shoot it down at sight, regardless or ignorant of the fact that it preserves an immense quantity of grain, thousands of fruit trees, and in-

numerable nests of game birds by destroying the vermin which eat the grain, girdle the trees, and devour the eggs and young of the birds.

"The Marsh Hawk is unquestionably one of the most beneficial as it is one of the most abundant hawks, and its presence and increase should be encouraged in every way possible, not only by protecting it by law, but by disseminating a knowledge of the benefits it confers. It is probably the most active and determined foe of meadow mice and ground squirrels, destroying greater numbers of these pests than any other species, and this fact alone should entitle it to protection, even if it destroyed no other injurious animals."

The Wyoming records are from all parts of the state and the stomach contents reported are usually mice and ground squirrels.

332. *Accipiter velox.* (WILS.).

Sharp-shinned Hawk.

Summer resident; common. A daring bird eater. An enemy to the domestic fowls, as well as to the beneficial small birds. Fisher refers to this bird as follows (Hawks and Owls of the United States, pp. 32-33.):

"The food of this hawk consists chiefly of birds of various sizes, from the smallest of our warblers to the Passenger Pigeon and young chicken, the latter appearing to afford a special temptation to it, as has been above related. I am also aware that it feeds occasionally on small reptiles and insects, and I shot the male represented in the plate, on wing, whilst it held in its claws the small Shrew also represented.

"Little can be said in favor of this hawk although its daring, courage, and impudence are to be admired. On this and the two following species mainly rest the responsibility for the ill favor with which the other hawks are regarded. A score of valuable species suffer because they belong to a class which includes two or three noxious kinds. However, like most vil-

lains, it has at least one redeeming quality, and that is its fondness for the English sparrow, our imported bird-nuisance. This hawk is gradually learning that there is a never-failing supply of food for it in the larger towns and cities. The Sharp-shinned hawk is now common in Central park, New York, all through the winter, where the writer has witnessed it chasing sparrows, as he has also in some of the larger parks in Washington, D. C. Numerous reports from various towns and villages show that the habit of visiting such places for the sparrow is becoming common."

These birds have been taken or reported in Wyoming as follows: Grinnell, Yellowstone Park; McCarthy, Big Sandy; Fisher, Carter; Drexel, Fort Bridger; Woods, Bridger's Pass; Bond, Cheyenne; Jesurun, Douglas; Coues, Powder river, and one general reference to the state; Knight, Sundance, Jackson Hole, South Pass, Otto, Kemmerer; Cary, Newcastle.

333. *Accipiter cooperii* (BONAP.).

Cooper's Hawk.

Summer resident; rather uncommon. None of our hawks cause a continued reign of terror among other birds equal to this constant seeker of other birds to devour. He favors poultry, but always finds ample food when it is scarce, in the way of sparrows and even larger birds. He is also a very sly bird and will often visit a ranch many times and carry off a number of young chickens before he is found out. I believe that hunters as well as agriculturists are at all times warranted in killing this enemy of both bird and man. Fisher in "The Hawks and Owls of the United States" pp. 38-39, refers to this hawk as follows:

"The food of this Hawk, like that of its smaller congener, consists almost entirely of wild birds and poultry, though from its superior size and strength it is able to cope successfully with much larger birds, and hence is much more to be dreaded. Besides birds, it occasionally captures small mam-

mals, batrachians, and insects. Mr. Clavin Rawson saw one of these Hawks make a bold dash at a muskrat, but it was unsuccessful in the capture. From the following quotation by Mr. Charles F. Morrison, it would appear that in Colorado it feeds more extensively on insects than in most parts of the country: 'It preys upon grouse, hares and reptiles. Its fondness for the ranchman's poultry is very nearly paid for by the insects it eats: both this and the preceding adding grasshoppers and bugs to their bill of fare.'

"The following examination, made by Dr. B. H. Warren, gives a very good summary of this Hawk's food: 'Of the thirty-four birds which I have examined, sixteen showed the food taken to have been chickens; ten revealed small birds—sparrows, warblers, and meadow-larks; two, quail; one, bullfrog; three, mice and insects; two, hare and other remains of small quadrupeds.' (Birds of Pennsylvania, 1888, p. 80.)

"This species is preeminently a 'Chicken Hawk,' as may be seen from the foregoing citations. Its devastations in this direction are much greater than those of all the other hawks and owls together, with the possible exception of the Sharp-shinned Hawk, which attacks much smaller chickens."

Drexel reports this bird from Fort Bridger; Wood from Bridger Pass; Bond from Cheyenne; Knight from Big Horn basin, Freezeout hills and Sundance.

334. *Accipiter atricapillus* (WILS.).

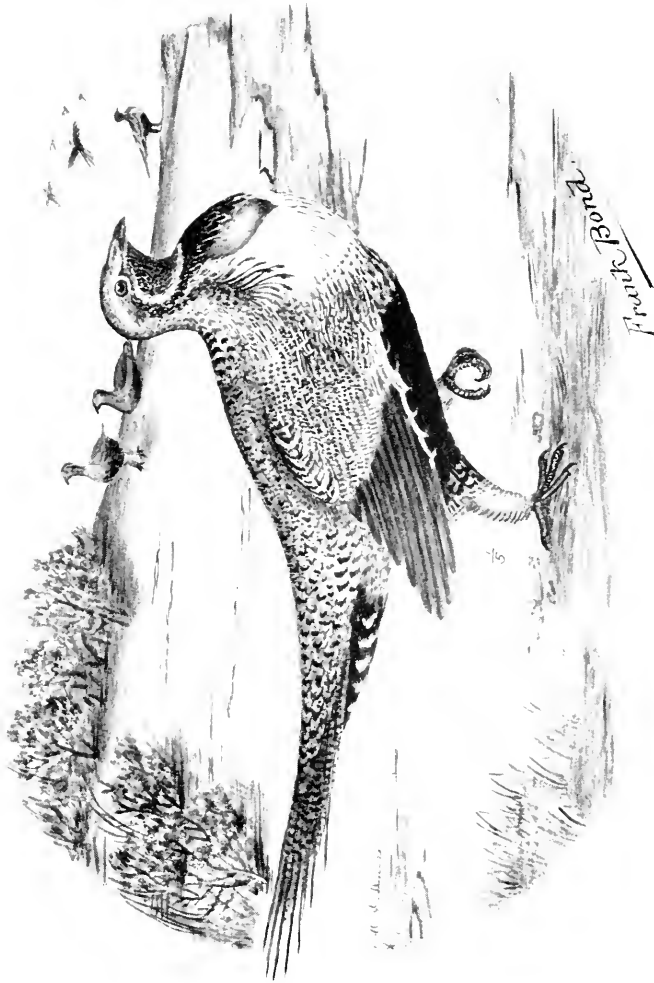
American Goshawk.

Probably a winter resident, but very rare if we are to judge from the records. This bird should be found in reasonable abundance. The only Wyoming record is the one reported by Coues of a specimen taken on Deer creek by G. H. Trook in 1860.

This is another hawk that causes great destruction among birds and poultry and for this reason is a very undesirable bird to allow about a ranch or farm. Fisher in "The Hawks



ACCIPITER VELOX. Sharp-shinned Hawk.



CENTROCERCUS UROPHASIANUS. Sage Cock.

and Owls of the United States." pp. 43-44-45, has the following to say regarding its habits:

"The Goshawk, like the two preceding species of the genus, feeds largely on the flesh of birds, and to a less extent on mammals. Poultry, ducks, grouse, and many of the smaller birds, together with hares, squirrels, and other rodents make up its fare. Fortunately, in most farming districts, at least in the United States, it is comparatively rare except during the fall and winter months, otherwise its depredations among the poultry would be a very serious matter. Its large size and greater strength enable it to carry off heavier quarry than Cooper's Hawk, and consequently its powers for mischief are more to be dreaded by the poultrymen. Mr. L. M. Turner states that in Alaska the lemming forms a considerable part of its food.

"In the general character of its flight, as well as the mode of hunting and capturing its prey, it closely resembles Cooper's Hawk, though it frequents the thick woods rather more than the latter bird. In the fall this Hawk is common along the smaller water courses where it is very destructive to wild ducks and other water fowl, and is able to strike down a bird as large as a full-grown mallard. If its prey is a bird of this size it rarely eats more than the flesh from the breast, leaving the rest of the carcass untouched. Scorning to feed upon carrion, another victim is secured when hunger returns.

"Of the upland game birds the ptarmigan in the north and the ruffed grouse in the middle districts suffer severely from the attacks of this powerful Hawk. Dr. William H. Dall, who found it common in the valley of the Yukon river, states that it feeds largely on the white ptarmigan, the flocks of which it follows from place to place. E. W. Nelson and L. M. Turner both corroborate its destructiveness among these birds. In some parts of the country the Goshawk hunts the ruffed grouse so persistently that it is known by the name of 'Partridge Hawk,' and this bird probably has no worse en-

emy except man. As Audubon was passing down the Ohio he observed one of these Hawks dive into a flock of grackles which was crossing the river, and kill four or five of them. After giving each victim a fatal squeeze the Hawk allowed it to fall to the water and at the close of the chase returned and picked up all from the surface."

337 a. **Buteo borealis kriderii** HOOPES.

Krider's Hawk.

Summer resident; uncommon. A. O. U. check list refers this species to Wyoming and probably some of the early reports on Red-tail Hawks should also be included. Cary found three of these birds near Newcastle in the summer of 1899. The food habits of this species will be referred to under the Western Red-tail, which is a close ally.

337 b. **Buteo borealis calurus** (CASS.).

Western Red-tail.

Summer resident; abundant, and a few may remain all winter. In Wyoming this bird is seldom seen about a ranch, as it depends almost entirely upon small mammals for food. The records from all parts of the United States prove that it is not seriously detrimental to the farm yard. The greater portion of the records cited concerning its food have been collected in thickly settled agricultural districts, when from necessity they occasionally visit the poultry yard. This and the allied species should be especially protected in Wyoming, where they feed largely upon prairie dogs, ground squirrels and mice, which are, taken as a whole, very detrimental to farmers and ranchmen. Fisher in discussing their food habits says (Hawks and Owls of the United States, pp. 49-50):

"Meadow mice seem to form the staple article of its food, although at times other species of mice, arboreal and ground squirrels, rabbits, or an occasional mole or shrew are found among the stomach contents. This Hawk and its allied species render valuable service in reducing the number of ground

squirrels (*Spermophilus* and *Tamias*) and rabbits, so abundant and excessively injurious to crops in some parts of the west. In western Texas Mr. Lloyd states that the Red-tail 'feeds on prairie dogs, cotton-tails, jack-rabbits, and occasionally brings a scaled quail to the young.' (*Auk*, Vol. IV, 1887, p. 188.)

"Of 562 stomachs examined by the author, 54 contained poultry or game birds; 51, other birds; 278, mice; 131, other mammals; 37, batrachians and reptiles; 47, insects; 8, crawfish; 13, offal; and 89 were empty. It has been demonstrated by careful stomach examination that poultry and game birds do not constitute more than 10 per cent of the food of this Hawk, and that all the other beneficial animals preyed upon, including snakes, will not increase this proportion to 15 per cent. Thus the balance in favor of the Hawk is at least 85 per cent, made up largely of various species of injurious rodents—a fact that every thoughtful farmer should remember. It is not to be denied that a good deal of poultry is destroyed by this Hawk, but the damage done is usually among the less vigorous fowls in the late fall, and in view of the great number of injurious rodents as well as other noxious animals which this Hawk destroys it should seem equivalent to a misdemeanor to kill one, except in the act of carrying off poultry. The fact that there are robbers among Hawks is no sound argument for exterminating any and every one."

Jesurun states that these birds are numerous at Douglas; Bond finds them common at Cheyenne, and Coues found them in Wyoming; Grinnell found them abundant in Yellowstone park; Drexel took one specimen west of Fort Laramie, 1857; Cary reports them from Newcastle. There are two skins in the University collection.

342. *Buteo swainsoni* BONAP.

Swainson's Hawk.

Summer resident; common. Nest usually in low trees, the nest being only a few feet from the ground. On the Lar-

amie Plains they usually nest during the last half of May. This species must be considered a ranchman's friend and should be protected in all possible ways. They seldom if ever visit the poultry yard. Their chief food is ground squirrels, mice and insects. The testimonials referring to the food of this bird are very numerous and they almost unanimously agree. Quoting from Fisher again (Hawks and Owls of the United States, pp. 73, 75 and 76,) will amplify this statement:

"The food of this Hawk, like that of the other *Butcos*, is extremely varied, but generally consists of more insect matter than is usually the case in birds of prey of this group. Besides insects, it feeds extensively on gophers (ground squirrels) and other small rodents, reptiles, batrachians, and occasionally on birds.

"Dr. C. Hart Merriam, in the *Forest and Stream* of December 27, 1888, page 455, gives a very interesting account of a flock of these birds which he saw feeding on grasshoppers in Oregon in the summer of 1888, which is here added: 'During the evening of August 20, 1888, Mr. H. W. Henshaw and I drove from Pendleton to the Umatilla Indian Agency, in northeastern Oregon, about 50 miles east of the Great Bend of the Columbia. It had been so hot during the day, the thermometer standing at 104 degrees in the shade, that we were unable to go out. Driving along the crest of the plateau just south of the Umatilla river, at about sundown, we were astonished to see a very large number of large hawks hopping about on the ground, catching grasshoppers. We counted about 150 of these hawks, and there must have been at least 200 in the immediate neighborhood. At first we took them to be rough-legs, but later ascertained that nearly if not all were Swainson's hawks (*Buteo swainsoni*). The period between sundown and dark in that region is so short that the birds were still catching grasshoppers when overtaken by darkness.

"'About 6 o'clock the next morning I visited the same place and was gratified to find the hawks engaged in making

their breakfast of grasshoppers. They were scattered over a larger area than when we saw them the previous evening. Before 8 o'clock most of them had left the hills and settled down for the day in the poplar trees along the river bottom. Here I found the trees literally full of hawks, and counted as many as thirteen in one tree. Two of the three whose stomachs were examined contained grasshoppers and no other food. The third contained, in addition to grasshoppers, the head of a meadow mouse of the genus *Arvicola* (subgenus *Chilotus*). One contained 88 grasshoppers, another 96, and the third 106. Most of the grasshoppers were a large species of *Oedipoda*, though a few belonged to the genus *Caloptenus*.

“Assuming that each hawk captured 200 grasshoppers a day and that there were 200 hawks, the daily catch would be 40,000 grasshoppers. At this rate these hawks would destroy 280,000 grasshoppers in a week and 1,200,000 in a month. I have no means of knowing how long the hawks remained in the neighborhood of Pendleton, but was told that they had been there before our visit. When in southern California, about a month later, I was told by Mr. Edward Merriam that on three occasions he had noticed similar gatherings of hawks in San Diego county. Once he saw a flock of several hundred large hawks catching crickets in cracked adobe soil in the San Marcos valley. At night the hawks came into the live oaks at the head of the valley to rest. He shot one and found its stomach packed full of large black crickets. On two other occasions he saw large flocks of these hawks similarly engaged in catching the same species of cricket. The time was during the latter part of September.’

“Mr. A. S. Bennet, writing to the U. S. Department of Agriculture from Lay, Colo., states that on July 10, 1889, he saw flocks of large hawks, some of which were circling near the ground, while others were perched on it. The mass contained at least 500 individuals, and were feeding upon species of cricket (*Anabrus purpurascens*), which covered over fully

4 acres of surface. A specimen shot for identification contained six of the insects in its stomach. At the report of the rifle the flocks left the vicinity, but in a short time returned to resume their feast.

"From the above testimony it will be seen that Swainson's Hawk, although one of the larger species, is a most beneficial bird, as it destroys immense numbers of noxious mammals and insects and rarely touches poultry or other birds. The services thus rendered should gain for it the good will and protection of all fair-minded farmers and sportsmen, and not the short-sighted prejudice and enmity too commonly shown by these classes of men."

These birds have been observed by nearly every collector in the state. They have been reported by Jesurun from Douglas; Williston from Lake Como; Grinnell from Yellowstone park, Drexel from Fort Bridger; Wood from Medicine Bow river, Carv from Newcastle, and Coues from Powder and Grosventre rivers, and two other Wyoming localities. There are two skins in the University collection that were taken on the Laramie plains.

349. *Aquila chrysaetos* (LINN.).

Golden Eagle.

Resident and common. Of the two species of eagle found in the state this is by far the most abundant. They usually live in a rather rugged country, but visit the plateaus for food. Numerous authors have cited instances of this magnificent bird breeding at very high elevations. While they may all be correct in their observation I have not found any Wyoming birds living high upon the mountains. I have seen at least a dozen eagles' nests and they have all been in the broken country of the foot hills, where there are deep and shelving canons. Their nests were always in inaccessible places in rocks or notches of a canon wall, usually a hundred or more feet from the ground and from 25 to 100 feet from the top of the canon wall. The

nesting places thus far observed by me have varied from 6,000 to 9,000 feet. It has generally been supposed that they breed only in unsettled districts. Here they often nest near a ranch and also near villages. In Wyoming the golden eagle must be classed with the useful birds. I have never heard of one visiting a poultry yard. And although Wyoming is one of the greatest if not the greatest sheep growing states in the United States, there have been but few serious complaints sent in by the flock masters, of their injuring lambs. There is no question but that they will prey upon lambs or the young of other animals if driven to it by hunger. Since there is an abundance of food during the early spring months in the way of rabbits and smaller rodents, besides plenty of birds, there is little or no reason for these eagles visiting the herds of sheep. While they doubtless prefer game of their own killing, they feed largely upon carrion. This is especially true during cold weather. It often happens that people put out poison or traps for wolves and catch eagles.

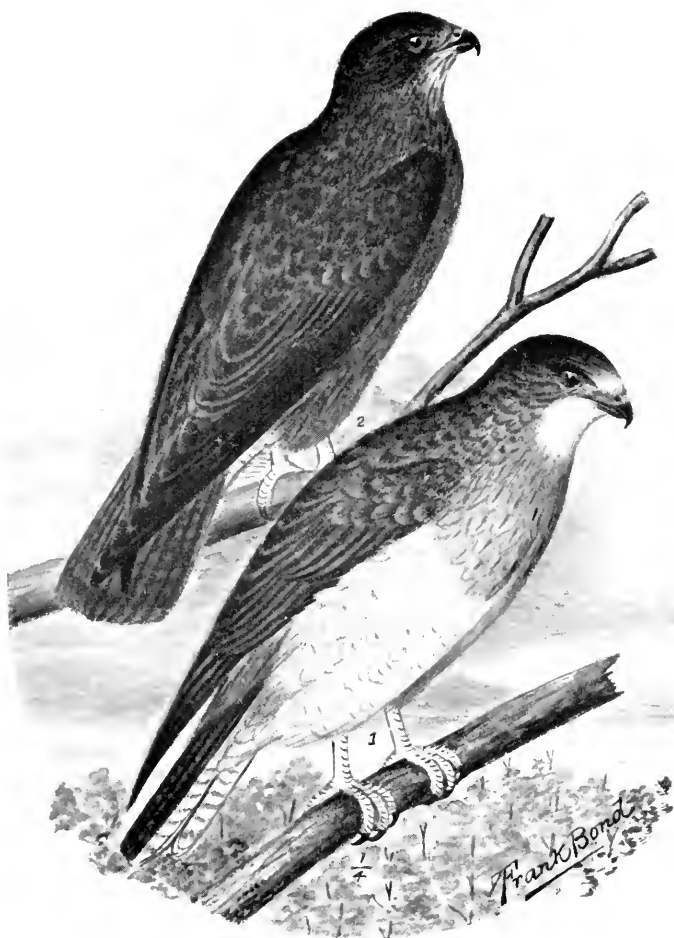
There is no record in Wyoming of an eagle molesting children. The following quotation from Fisher (*Hawks and Owls of the United States*, pp 94-95) is of special interest concerning the numerous reports that are continuously being circulated regarding these birds preying upon various kinds of animals.

“Dr. E. A. Mearns, U. S. Army, in a note on the Golden Eagle, says: ‘Several years ago a Golden Eagle was shot opposite those cliffs by a farmer at Cold Spring (New York) while in the act of destroying a goose belonging to the farmer.’ (Bull. Nutt. Ornith. Club, Vol. III, 1878, p 100.)

“Mr. George A. Boardman captured a Golden Eagle under the following circumstances: ‘When out snipe shooting October 16, (1880), a big Blue Heron flew up and almost immediately dropped to the ground. Instantly a large bird came like a meteor and struck the Heron with full force, and in their excitement I got a fine specimen of the Golden Eagle.’

“Although this eagle usually attacks quarry which is easy to secure, Mr. Robert Ridgway shows that it is capable of capturing agile game: ‘At Camp 19, on the last-named mountains, (East Humboldt, Nev.,) on the 29th of July we were so fortunate as to witness the chase and capture of a Sage-hen (*Centrocercus urophasianus*) by a pair of these Eagles. We were standing a few yards in the rear of a tent when our attention was arrested by a rushing noise, and upon looking up the slope of the mountain we saw flying down its wooded side with the rapidity of an arrow a Sage-hen pursued by two Eagles. The Hen was about 20 yards in advance of her pursuers, exerting herself to the utmost to escape, her wings, from their rapid motion, being scarcely visible. The Eagles in hot pursuit (the larger of the two leading), followed the undulation of the fugitive’s course, steadily lessening the distance between them and the object of their pursuit; their wings not moving, except when a slight inclination was necessary to enable them to follow a curve in the course of the fugitive. So intent were they in the chase that they passed within 20 yards of us. They had scarcely gone by, however, when the Sage-hen, wearied by her continued exertion, and hoping, probably, to conceal herself among the bushes, dropped to the ground; but no sooner had she touched it than she was immediately snatched up by the foremost of her relentless pursuers, who not stopping in its flight, bore the prize rapidly toward the rocky summits of the higher peaks, accompanied by its mate.’ (U. S. Geol. Expl. of the Fortieth Parallel, King, Vol. IV, 1877, p. 591.)

“Numerous sensational stories have appeared from time to time relating to the carrying off of children by Eagles, the great majority of which have originated in the fertile brains of their versatile reporters. There is little doubt that if a hungry Eagle found a young baby unprotected it would carry it off. The statement that babies have been carried away by Eagles and later recovered from the nest uninjured are as ridiculous as they are untrue.



BUTEO SWAINSONI. Swainson's Hawk.

1. Normal Plumage. 2. Melanistic Plumage.



1. HALIÆTUS LEUCOCEPHALUS. Bald Eagle. AQUILA CHRYSÆTOS. Golden Eagle.

"Birds of prey always strike their talons deeply into their quarry before carrying it off, unless they are interrupted at the moment they strike. It is possible that some of the stories found in the older books, especially those relating to Europe, may be true, but we know of no authentic instance within the past fifty years of Eagles attacking children."

On page 96 of the same publication, Fisher refers to the food habits of the Golden Eagle as follows:

"To sum up, it may be stated that in sections of the country where rabbits, prairie dogs, or gophers are abundant the Golden Eagle is very beneficial, confining its attention mainly to these noxious animals; but in places where wild game is scarce it is often very destructive to the young of domesticated animals, and hence in such places has to be kept in check."

My experience with the eagle in this state is similar to Fisher's report. They are usually cowards; and although there are young in the nest nearly ready to fly they will desert the region upon the appearance of man and not offer as much protection to their young as many common birds.

They nest early, and the young can usually fly by the 10th of June. Bond reports them from Cheyenne; Allen reports them from Wyoming, summer 1871; Grinnell, common in winter upon plains, but in summer they remain in the mountains. There are three specimens in the collection, two of which were taken in Albany county. I have observed these birds in the following localities: Buffalo, Hyattville, Evanston, Green River, Ferris, Ervay and Alcova.

352. *Haliaeetus leucocephalus* (LINN.).

Bald Eagle.

Resident; not common. In traveling through the state one will see a dozen or more of the Golden Eagles to one of the Bald. There are no records of this species molesting lambs or fowls in Wyoming. They are a desirable resident and

should be encouraged in every way possible. From Fisher (Hawks and Owls of the United States, pp. 98-100) I quote the following:

In parts of the West and Southwest this bird often does considerable good in destroying noxious mammals. Dr. J. G. Cooper says: 'The Spanish inhabitants rather encourage its presence, on account of the great number of squirrels it kills; and I have been told of instances where young ones raised from the nest have been kept for several years in a domestic state, going out daily to kill squirrels and returning to the house at night.'

"Mr. Lloyd, in a letter dated February 18, 1887, says: 'I went to a Bald Eagle's nest on January 28, and though disappointed at finding young just ready to fly, yet I watched the parents bring two prairie dogs to the nest, and skins of this mammal were mixed up in the debris of the nest.'

"What we have said in reference to the Golden Eagle applies equally well to the bird under consideration, namely that over the greater part of the country where the natural food, fish in the present case, is abundant it is a harmless bird and should be protected; while in sections where it is injurious to sheep or other domesticated animals it should not be allowed to become numerous."

While these birds have been found in all parts of the state, they are never abundant. Bond has mounted several specimens that have been taken in southeastern Wyoming; Jesurun has observed several about Douglas; West has mounted one that was killed at Buffalo; Allen found them in Wyoming during the summer of 1871; Cary reports them from the neighborhood of Newcastle; I have seen this species in Jackson's Hole, at the head of the Green river, DuBois, and Big Horn mountains, west of Buffalo.

355. **Falco mexicanus** SCHLEG.

Prairie Falcon.

Summer resident; abundant. In Wyoming this bird can be said to be very beneficial. There are no notes of consequence regarding the food of this species in the state. Annually during the last week in July and the first week in August I have seen the young of this species on the table lands in considerable numbers, where they were hunting. By 8 or 9 o'clock a. m., they had usually gorged themselves upon young squirrels and prairie dogs, and would be so torpid that one could drive to within twenty yards before they would fly from the rock or possibly from the ground where they were resting. I have killed several birds when in this stupid condition and found that they had all been feeding upon rodents chiefly. Occasionally a young bird had been included in a meal; but these were nothing as compared with the ground squirrels. Fisher, (*Hawks and Owls of the United States*, p. 104) has the following note on the food of this Falcon:

"The food of this Falcon consists of birds, mammals, reptiles, and the larger insects. Among birds it is partial to prairie hens, doves, blackbirds, and in fact any species whose size furnishes a tempting lure. In the destruction of injurious rodents it is of considerable service. Gophers, prairie dogs, rabbits, and mice are greedily devoured, and often in localities where colonies of the first two animals occur it is seen flying over or sitting near the 'towns' on the lookout for the appearance of its prey. Lizards are occasionally taken, and, among the insects, the large crickets and grasshoppers which are so abundant in some sections of the West, are also eaten.

"Dr. George Bird Grinnell says of this Falcon: 'It was seen daily pursuing the blackbirds about the station, and at Medicine Bow one of these birds had almost depopulated the only dove-cote in the town.' (*Forest and Stream*, Vol. XII, 1879, p. 365.)"

Bond reports them common at Cheyenne; Jesurun, quite

common at Douglas; Coues, "very numerous in Wyoming, where it is the characteristic species of its genus;" Grinnell, "this species was very abundant throughout the plains and mountain regions about Como and breeds." Fisher reports one specimen taken at Cheyenne and one from the Laramie mountains, both of which had been feeding upon ground squirrels. There are three specimens in the University collection. One nest has been found and Gilmore made the following note: Nest taken with four eggs, had built in a crevice in the weathered rocks at Sand creek, Albany county. The nest was built of small branches, lined with grass and a few feathers. Eggs fresh, and the nest was about 15 feet from the ground. May 9, 1899.

356. *Falco peregrinus anatum* (BONAP.).

Duck Hawk.

Summer resident; very rare. This vicious falcon has been observed by only two collectors in Wyoming, and these observations were made over a quarter of a century ago. While this is probably the greatest destroyer of birds of any of the hawks or falcons, yet it is not worthy of consideration here on account of its scarcity. Although I have traveled extensively over the state I have never seen one of these birds.

Allen found them on the plains in Wyoming, 1871. Grinnell makes the following note: "This species was abundant in the valley of the Yellowstone above Emigrant peak, and had no doubt been breeding there, as I took a very young bird."

357. *Falco columbarius* LINN.

Pigeon Hawk.

Migratory; rare; possibly may breed in the alpine districts. We know nothing of this blood-thirsty hawk. None of the collectors in recent years have reported them. Hayden in his annual report of 1870 mentions six specimens that were taken on La Bonte creek and Green river and Coues notes that

one specimen had been taken on Green river. With the exception of Coues' data there is no absolute evidence that this species has ever been found in Wyoming. Coues remarks on p. 346 (*Birds of the North West*): "It is apparently not common in the interior of the west, and even less so than has been supposed, a part of the quoted instances like Dr. Hayden's, for instance, really referring to the next species, the history of which has only recently been disentangled from that of the true Pigeon Hawk."

On account of its rarity it is not necessary to go into detail as to its food habits; but simply understand that it feeds almost entirely upon other birds.

358. *Falco richardsonii* RIDGW.

Richardson's Merlin.

Probably a summer resident, but there are no breeding records. Locally it is quite abundant, and during mild winters probably remains during the coldest weather. There is one record of it being taken as late as Nov. 27th on the Laramie plains. Fisher (*Hawks and Owls of the United States*, p. 114) has the following to say of its food habits:

"This Falcon is so closely related to the Pigeon Hawk, the main difference being its lighter color, that it is with the greatest hesitation that the writer treats of it separately, especially as intermediate specimens are at hand. So far as known there is nothing in the food, nesting, or other habits in which it differs in the least respect from the Pigeon Hawk, and what is said under the latter bird applies equally well to the former."

Coues reports specimens that were taken at La Bonte creek, Green river and the Sweetwater river. Dr. Jesurun has four skins in his collection that were taken near Douglas on the following dates: May 16, 1893; Sept. 24, 25 and Oct. 9, 1894. He reports them as very common along the Platte river. In the university collection there is a single skin that was taken on the Laramie plains, Nov. 27, 1895.

360. *Falco sparverius* LINN.

American Sparrow Hawk.

There is no doubt but that this species and Desert Sparrow Hawk mingle in eastern Wyoming and on this account there is no possible way by which the early records can be adjusted, unless the specimens can be found. On this account I have placed nearly all of the Wyoming records under the American Sparrow Hawk; but fully realizing that many of them belong to the succeeding variety. In accordance with the restriction placed upon the range of these two birds, the Desert Sparrow Hawk is the one that should be found in greatest abundance and inhabiting by far the greater portion of the state. The Sparrow Hawk is everywhere abundant, below the alpine districts, and is especially so in the valleys and on the plateaus. They occur in vast numbers where the only resting place they find is a wire fence. They are a great friend to the ranchman and farmer and depend largely upon insects and mice for their food. Fisher (*Hawks and Owls of the United States*, pp. 116-119) has the following to say of these birds:

"The subject of the food of this Hawk is one of great interest, and considered in its economic bearings is one that should be carefully studied. The Sparrow Hawk is almost exclusively insectivorous except when insect food is difficult to obtain. In localities where grasshoppers and crickets are abundant these hawks congregate, often in moderate-sized flocks, and gorge themselves continuously. Rarely do they touch any other form of food until, either by the advancing season or other natural causes, the grasshopper crop is so lessened that their hunger can not be appeased without undue exertion. Then other kinds of insects and other forms of life contribute to their fare; and beetles, spiders, mice, shrews, small snakes, lizards, or even birds may be required to bring up the balance. In some places in the West and South telegraph lines pass for miles through treeless plains

and savannas. For lack of better perches the Sparrow Hawk often uses these poles for resting places, from which they make short trips to pick up a grasshopper or mouse which they carry back to their perch. At times, when grasshoppers are abundant, such a line of poles is pretty well occupied by these hawks.

“In the opinion of many people, unaccountable as it may appear, the benefit accruing from the destruction of a great number of mice or other injurious mammals or insects by hawks does not offset the damage done by the capture of one bird or chicken. This, of course, is not the case with those intelligent farmers who recognize the benefit done by this little hawk, and are not prejudiced against it if it exacts a moderate interest now and then in the shape of a young chicken or bird. In May and June, when the hawks are busy hatching their eggs and rearing their young, there is less time for them to procure their favorite food.

“It is during this period, as we might expect, that a very large proportion of the birds which they capture in the course of the year is taken. It is also at this time that we hear complaints of their depredations in the poultry yard.”

Bond reports them common at Cheyenne; Jesurun very common at Douglas; Coues cites numerous references relating to Wyoming; Williston reports them common at Lake Como, and that he found them preying upon Meadowlarks; Grinnell reported them abundant along the Yellowstone, 1875; McCarthy found them at Little Sandy, 27 miles west of Fort Laramie, and on the North Fork of the Platte river, 1859; Drexel took specimens at Fort Bridger; Wood took specimens at Medicine Bow creek and Pole creek, 1856; Cary reports them common at Newcastle and states that they were commencing to nest June 9.

360 a. *Falco sparverius deserticolus* MEARN'S.**Desert Sparrow Hawk.**

Summer resident and very common. They arrive on the Laramie plains as early as March 29th, and are quite common by the middle of April. Their food is identical with the previous species, and what Fisher has said of that species refers to this western form, with the exception that the great difference in environment would make some slight changes.

I have taken this variety at the following places: Sand creek, Albany county; Hutton's lake, Buffalo, Otto, Chugwater, Evanston, Green river, South Pass and Ervay. There is a single skin in the University collection.

364. *Pandion haliaetus carolinensis* (GMEL.).**American Osprey.**

Summer resident and common in suitable localities. Known to be only along wooded streams, where the trees are of considerable size and the stream abounds with fish. With the exception of this bird feeding upon fish, there can be no possible objections to it. In Wyoming they feed largely upon trout, which are so abundant. I have found these birds most numerous along the Big Wind, Gros Ventre, and Snake rivers, while in Jackson's Hole in 1894 I killed three of these birds and prepared their skins; but these, together with all other collections, were consumed by fire while in transit on the Union Pacific railroad. One of these birds was killed as it was about to light on a nest in the very top of a dead spruce tree. It had captured a trout weighing about a pound, which I secured.

Jesurun reports these birds common at Douglas; Bond has taken them at Cheyenne; Coues reports one specimen from the Wind river; Grinnell makes the following statements: "Nowhere as abundant as on the Yellowstone river. Saw from 6 to 12 birds every day. At the falls of the Yellowstone this species was constantly in sight;" Drexel reports a single specimen taken at Fort Bridger, 1858.



1. *FALCO SPARVERIUS*. American Sparrow Hawk.
FALCO MEXICANUS. Prairie Falcon



1. *ASIO WILSONIANUS*. American Long-eared Owl.

ASIO ACCIPITRINUS. Short-eared Owl

OWLS.

Owls taken as a whole are very desirable birds and should never be molested. They usually feed upon rodents and insects that are enemies to the stockman and farmer alike and seldom prey upon birds of any kind. Unfortunately the average hunter shoots these birds upon sight without provocation, just to see them die. For after looking at a specimen he always throws it aside and probably never considers that he has taken from a community a bird that was of greater benefit as a mouser than any cat in the settlement. By all means protect these birds, and try and encourage their living about your homes and you will not be overrun with mice, which create such havoc about the Wyoming ranches.

366. *Asio wilsonianus* (LESS.).

American Long-eared Owl.

Resident; the most common owl in the state. It usually breeds up to 8,000 feet. The following extract from Fishers' Hawks and Owls of the United States, p. 140, presents this species to the public in its true light:

"The Long-eared Owl is one of our most beneficial species, destroying vast numbers of injurious rodents and seldom touching insectivorous birds. The birds killed by it are mostly seed-eating species which do not benefit the agriculturist to any great extent. As this owl is readily destroyed, it is the one that suffers most when short-sighted legislators enact laws for the destruction of birds of prey. It will be seen from the following testimony that it is both cruel and pernicious to molest a bird so valuable and innocent as the one under consideration.

"Audubon says: 'It preys chiefly on quadrupeds of the genus *Arvicola* and in the summer destroys beetles.' Ornith. Biography, Vol. IV, p. 573.)

"Nuttall remarks: 'Besides mice and rats this species also preys on field mice, moles and beetles.' (Land Birds, 1832, p. 131.)

“Mr. H. V. Henshaw says: ‘Their food consists almost exclusively of field mice, of which they kill vast numbers, a fact which should earn them the protection of the farmer.’ (Report of the Chief of Engineers, U. S. A., p. 1311.)

“Mr. Townsend Glover says: ‘The stomach of one specimen of the Long-eared Owl in the collection contained the skulls and bones of at least 8 field mice and therefore, when about barns and granaries, these birds must be very useful.’ (U. S. Agl. Rept., 1865, p. 37.)

“Capt. Charles E. Bendire, writing from Camp Harney, Oregon, states: ‘Their food consists principally of mice and the smaller rodents.’ (Ornithologist and Oologist, Vol. VI, 1882, p. 82.)

“Dr. B. H. Warren gives the following: ‘I have examined the stomachs of twenty-three Long-eared Owls and found that twenty-two of them had fed only on mice; the other examination made of a specimen taken late in the spring showed some beetles and portions of a small bird.’ (Birds of Pennsylvania, 1888, p. 107.)”

Jesurun reports them common at Douglas; Bond has taken several specimens at Cheyenne; Williston published the following note on this species at Lake Como: “In sage brush near lake May 5th. Common afterwards on Rock creek. Nest May 31, two eggs, fresh. June 8, 5 eggs, fresh. June 10, 4 eggs, slightly incubated.” Grinnell reports them from Yellowstone park, 1875. Cary found a nest with young near Newcastle June 3, 1900; Coues reports taking this species at Powder and Popo Agie rivers. There are two skins in the University collection that were taken on the Laramie plain. I have taken this bird in every county in the state.

367. ***Asio accipitrinus* (PALL.).**

Short-eared Owl.

Resident; but rather uncommon. A valuable bird to any community as the following will prove:

"The food of this Owl consists largely of mice and other small mammals. A number of species of insects, birds, and reptiles also may be mentioned as occasionally contributing to its fare. Fully 75 per cent of the stomachs examined in the Department of Agriculture contained mice. The remains of as many as six of these little mammals were found in one stomach, and several contained three or four each. Prof. F. E. L. Beal reported finding nothing but mice in the stomachs of a pair which he killed in Story county, Iowa. They were shot in an artificial grove swarming with small birds. Mr. Austin F. Park, of Troy, N. Y., in a report on the food of Hawks and Owls, which he kindly sent to this Department, mentions mice and no other kind of food as found in the stomachs of this species." (Fisher, Hawks and Owls of the United States, pp. 145-6.)

The Wyoming records are not numerous. Coues reports two specimens that were taken by Hayden survey, Sweetwater river, 1870. Bond has taken them at Cheyenne and Jesurun at Douglas.

370. **Scotiaptex cinerea** (GMEL.).

Great Gray Owl.

Very rare; probably accidental; but since this bird has been frequently reported from northern Montana, the Wyoming record simply extends its range to the southward, which would be quite natural since in the east they are found in winter as far south as the Ohio river.

Several years ago Mr. Wells, of Wells, Uinta county, Wyoming, killed one of these beautiful birds near the great bend in the Green river. He had it mounted and in the fall of 1900 Mr. Frank Bond of Cheyenne visited this section and identified the specimen. This is the only Wyoming record.

372. **Nyctala acadica** (GMEL.).

Saw-whet Owl.

Resident and quite rare. None of the early collectors found this bird in Wyoming. Bond has taken a few specimens

at Cheyenne. Cary noted this bird at Newcastle as follows: "On June 11, 1900, while walking down the rocky bed of a deep canon, three of these little owls flushed from the thickest top of a small cedar tree where they had been taking their noonday siesta, and alighted further down the canon. I secured one of them, which proved to be an immature bird, with breast and belly of a deep fawn color." There are two skins in the University collection; one was taken on the Laramie plains and the other in Carbon county.

373 e *Megascops asio maxwelliæ* (RIDGW.).

Rocky Mountain Screech Owl.

Resident; but very little is known of this bird in Wyoming. A. O. U. Check List, 2nd Ed., gives the geographical distribution, "Rocky Mountains from Colorado to Montana," which would indicate that it ought to be quite abundant. I travel a great deal and often remain in the field for several weeks at a time, and in seventeen years' experience I have never heard any kind of a Screech Owl in Wyoming. Judging from this I am inclined to think that they are very rare. Jesurun took one of these birds on Jan. 29, 1897, at Douglas, and this is the only one that I have ever seen in Wyoming. Bond has taken this bird at Cheyenne.

375 a. *Bubo virginianus pallescens* STONE.

Western Horned Owl.

Resident and common. I am inclined to believe that the records of the Horned Owls in Wyoming are badly mixed. Formerly all were referred to the Great Horned Owls. Probably the majority of early records have been placed under this head. The food of this variety is practically the same as the eastern form. The record of a stomach is from Wood, who took one at Bridger Pass that contained a wood rat, a meadow mouse and a white-footed mouse. Fisher (*Hawks and Owls of the United States*, p. 176) refers to the food of the Horned Owl as follows:

"The rabbit undoubtedly stands at the head of the list of the mammals most often fed upon by this Owl. In fact its great love for the flesh of rabbits is one of this Owl's redeeming qualities. In some parts of the West, where rabbits are so numerous that it is next to impossible to bring to maturity any large proportion of the crops, this Owl feeds on this destructive rodent almost to the exclusion of other food. The examination of a number of stomachs revealed the fact that even in the east, where rabbits are not so abundant, their remains constitute a fairly large proportion of the contents. The writer is of the belief that where rabbits are comparatively abundant the species under consideration rarely molests poultry, and is a prime factor in destroying these destructive rodents."

In the west the abundance of mice, ground squirrels, as well as rabbits, furnish abundant food for these owls, so that they do not need to prey upon poultry or wild birds.

Coues reports this species from Powder river and Deer creek; Jesurun finds them common at Douglas; Bond has taken several specimens at Horse creek; Wood reports them from Bridger Pass and Medicine Bow river; Drexel took one specimen at Fort Bridger; I have taken this species at Sundance, No Wood river, Big Laramie river and Bates' Hole.

375 b. ***Bubo virginianus arcticus*** (SWAINS.).

Arctic Horned Owl.

Probably a winter resident. None of the Wyoming collectors have found this bird and it has been included in the list upon the report in the A. O. U. Check List, 2nd Ed., p. 148, which reads as follows: "Geographical distribution Arctic America, chiefly in the interior, south, in winter, to Idaho, Montana, Wyoming and South Dakota.

376. ***Nyctea nyctea*** (LINN.).

Snowy Owl.

Winter resident; rare. But little is known of this beautiful bird in Wyoming. Bond has taken a specimen at Chey-

enne, Jesurun at Douglas, and several specimens have been taken near Sherman.

378. *Speotyto cunicularia hypogæa* (BONAP.).

Burrowing Owl.

Resident and common. Usually found from the plain country which varies from 4,000 to 6,000 feet, to the table lands varying from 6,000 to 7,500. I have never seen this peculiar owl above 8,000 feet. Stories are very common in this state concerning the relationship of this owl to the prairie dog, whose home this bird appropriates, and the rattlesnake. The majority of these are unfounded and have been gleaned from the work of unscientific story writers who have no regard for the truth. The following interesting account is an extract from Fisher, (*Hawks and Owls of the United States*, p. 194), which is largely taken from Coues' "Birds of the Northwest:"

"Many stories have been fabricated in regard to the association of the prairie dog, owl, and rattlesnake, some of which are unequaled among fairy tales. The whole story is ably told by Dr. Coues in the 'Birds of the Northwest.' After giving a rather exaggerated account of the relations existing between the reptile, mammal, and bird, according to the views of some, he then explains exactly how matters stand in the colony. The following is his account:

"The case is further complicated by the introduction of the rattlesnakes; and no little pure bosh is in type respecting the harmonious and confidential relations imagined to subsist between the trio, which, like the 'happy family' of Barnum, lead Utopian existences. According to the dense pathos of such nursery tales, in this underground Elysium the snakes give their rattles to the puppies to play with, the old dogs cuddle the owlets, and farm out their own litters to the grave and careful birds; when an owl and a dog come home, paw-in-wing, they are often mistaken by their respective progeny,

the little dogs nosing the owls in search of the maternal font and the old dogs left to wonder why the baby owls will not nurse. It is a pity to spoil a good story for the sake of a few facts, but, as the case stands, it would be well for the Society for the Prevention of Cruelty to Animals to take it up. First, as to the reptiles, it may be observed that they are, like other rattlesnakes, dangerous, venomous creatures; they have no business in the burrows, and are after no good when they do enter. They wriggle into the holes, partly because there is no other place for them to crawl into on the bare, flat plain, and partly in search of owls' eggs, owlets, and puppies to eat. Next, the owls themselves are simply attracted to the villages of the prairie dogs as the most convenient places for shelter and nidification, where they find eligible ready-made burrows and are spared the trouble of digging for themselves. Community of interest makes them gregarious to an extent unusual among rapacious birds; while the exigencies of life on the plains cast their lot with the rodents. That the owls live at ease in the settlement and on familiar terms with their four-footed neighbors is an undoubted fact; but that they inhabit the same burrows or have any intimate domestic relations, is quite another thing. It is no proof that the quadruped and the bird live together that they are often seen to scuttle at each other's heels into the same hole when alarmed; for in such case the two simply seek the nearest shelter, independently of each other. The probability is that young dogs often furnish a meal to the owls, and that, in return, the latter are often robbed of their eggs; while certainly the young of both and the owls' eggs are eaten by the snakes.' "

In Wyoming these birds live in small colonies in prairie-dog towns. They feed chiefly upon insects; but also eat carrion, and occasionally small rodents. Consequently this is a very beneficial bird and should never be destroyed. Nearly all of the early expeditions to Wyoming found this curious little owl. Coues furnishes the following records: Powder

river, Tongue river, Running Water, Big Sandy, and several general references; McCarthy recorded a specimen from the North Platte river; Williston reports them rather abundant in the vicinity of Medicine Bow; Jesurun reports them common in the vicinity of Douglas; Bond finds them common about Cheyenne; Fisher gives the following interesting records: "Specimens taken at Cheyenne, Aug. 21, 1888, stomach contained 10 grasshoppers, 45 beetles and other insects. Specimen taken August 23, 1888, stomach contained 35 grasshoppers, 20 beetles, etc. Specimen taken Aug. 23, 1888, stomach contained 15 grasshoppers and 5 beetles." Cary states that he has found colonies in the vicinity of Newcastle about prairie dog towns. I have found this species near the following places in the state: Sundance, Moorcroft, Douglas, Newcastle, Uva, Rock Creek, Casper, Fort Washakie, Otto, Laramie, and Fort Steele.

CUCKOOS, ETC.

388. *Coccyzus erythrophthalmus* (WILS.).

Black-billed Cuckoo,

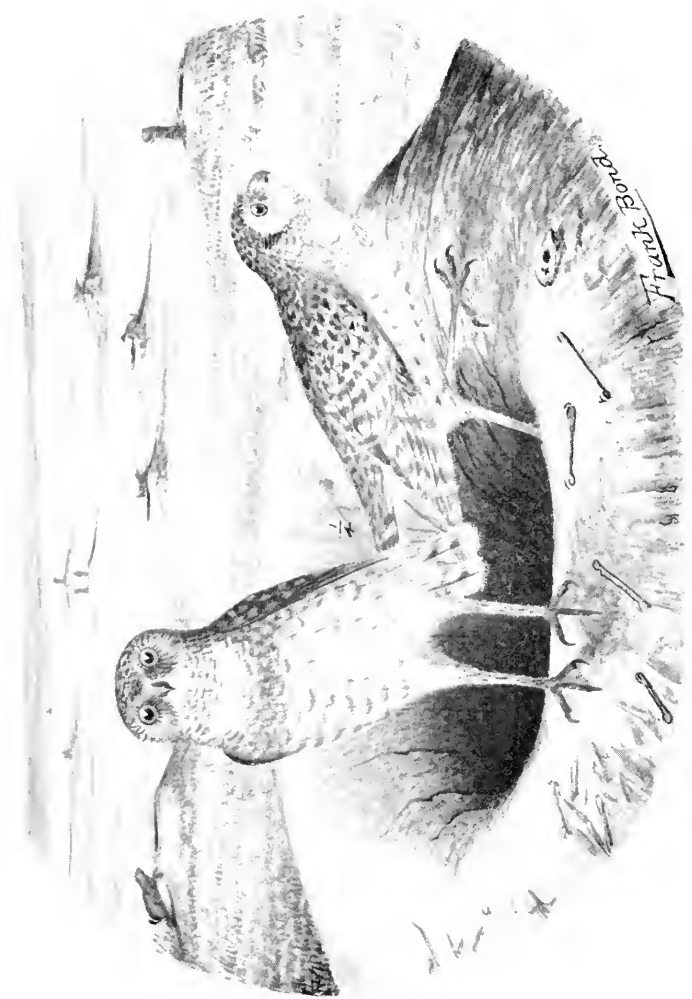
Probably resident; but quite rare. But two collectors* have recorded specimens from this state. Dr. Jesurun reports that they are frequently seen during migration along the valley of the North Platte river and that he captured one May 21, 1893, and a second May 28, 1895.

C. H. Trook reports that he took two specimens on the Big Horn on June 5th, 1860. It is probable that the birds taken by Trook were breeding; but we have no data on this point. Williston while collecting at Lake Como, 1879, reports hearing the yellow-billed cuckoo but he did not take any specimens. It is quite probable that it was the black-billed that he heard, in place of the yellow-billed. The California variety has not been taken; but may be expected.

*On the last of May, 1902, I noted this species on the Little Popo Agie river, twelve miles southeast of Lander.



1. *DRYOBATES VILLOSUS MONTICOLA*. Rocky Mountain Hairy Woodpecker.
MELANERPES TORQUATUS. Lewis's Woodpecker.



SPEOTYTO CUNICULARIA HYPOGÆA. Burrowing Owl.

KINGFISHERS.390. ***Ceryle alcyon* (LINN.).****Belted Kingfisher.**

Summer resident and common along wooded streams up to 8,000 feet. The only objection to this beautiful bird is that it depletes the streams of the small fry; but this is not of sufficient importance to warrant any step to be taken for their extermination. As compared with many other species they are few in number. They are truly expert fishers and seldom miss their prey when seeking it. In September, 1896, while I was standing on the bank of the Little Popo Agie river, south-east of Lander some ten miles, a Kingfisher alighted on a dead tree overhanging a deep pool. He had rested only an instant when he plunged into the water and disappeared while I breathlessly waited his reappearance. I would not say how long he remained under water; but it was many seconds and after I had almost concluded that he had in some manner become entangled in the pool he came to the surface three or four yards from where he disappeared with a good sized fish in his bill, flew to the place where he first alighted and proceeded to swallow the fish. This is the only instance when I have ever seen the Kingfisher disappear beneath the surface of the stream, where he must have had an exciting chase while swimming under water. Nearly all of the bird collectors in Wyoming have reported this species. Coues reports three specimens without giving exact locality. Drexel took specimens at Fort Bridger in 1858; Allen reports them in 1871; Grinnell from the Yellowstone park in 1875; Jesurun from Douglas; Bond from Cheyenne; Cary from Newcastle. Williston reports them May 1st from Lake Como and later occasionally seen along Rock creek. I have noted these birds from every county in the state.

WOODPECKERS.

The notes on the Woodpeckers in the state are anything but satisfactory. Many of the records were made long before the varieties were established. It is very confusing when Coues tells us that Hayden took a Harris's woodpecker at Laramie peak in 1860, and then turn to the check list and find that Harris's Woodpecker is a Pacific coast variety. On account of this and a great many other problems in the proper arrangement of the data pertaining to this group I have placed the various records where I considered that they might naturally belong. In selecting this method I trust it will avoid confusion and that ultimately the data may be placed under the proper headings.

The Woodpeckers as a group are very desirable birds, in no way detrimental to settlement or individuals and being of the greatest value, since they feed upon insects that are injurious to all kinds of trees.

393 d. *Dryobates villosus hyloscopus* (CAB.).**Cabanis's Woodpecker.**

Resident; not common. In all probability a portion of the records referred to the Harris's Woodpecker belong to this variety. But few collectors have noted them, and as a rule have referred it to some other form. Thus far the Wyoming records have been made by the National Museum only, which are as follows: Nos. 38270 and 38272, taken at Laramie peak by Exp. Expd. West of the Missouri River; No. 10789, taken at Fort Bridger by South Pass Wagon Road Expd.

393 e. *Dryobates villosus monticola* ANTH.**Rocky Mountain Hairy Woodpecker.**

Resident; common. But very few collectors have recorded this variety in Wyoming; but in all probability nearly all of the records pertaining to Harris's Woodpecker should be placed here. The following notes have been placed under this heading conditionally: Merriam, Yellowstone; Drexel,

Fort Bridger; Jesurun, Douglas; Bond, Cheyenne; Coues, Wyoming; Cary, Newcastle. The following unquestionably refer to this variety: Bond, Cheyenne; Nos. 60360 and 5226 of the National Museum. There is one Albany county skin in the University collection that has been identified by Mr. Ridgway.

394 b. *Dryobates pubescens homorus* BATCH.

Batchelder's Woodpecker.

Resident; rather common. The data referring to Gardiner's Woodpecker in Wyoming has been placed under this heading. The following have reported this bird: Bond, Cheyenne; Jesurun, Douglas; Drexel, Fort Bridger; Wood, Laramie river, 1856. There are two skins in the University collection that have been identified by Robert Ridgway.

400. *Picoides arcticus* (SWAINS.).

Arctic Three-toed Woodpecker.

Resident; but uncommon. All of the records come from the northwestern corner of the state. Merriam reported this species from the Yellowstone park in 1872; Coues refers to a specimen captured in the lower geyser basins of the park. No. 62261 of the National Museum was taken in Wyoming.

401 b. *Picoides americanus dorsalis* BAIRD.

Alpine Three-toed Woodpecker.

Resident and common in alpine regions. Merriam reports this species from Yellowstone park (1872). Hayden captured several specimens at Laramie peak in 1857. National Museum numbers 8809, 38276 and 62262 were all taken in Wyoming. I have often seen this species in the Big Horn mountains and in August, 1897, captured one at Ten Sleep lake at an elevation of 9,500 feet.

402. *Sphyrapicus varius* (LINN.).

Yellow-bellied Sapsucker.

Possibly a summer resident; but there are no breeding records. Grinnell reports it rather abundant among the large timber on the Medicine Bow river; Hayden captured specimens Aug. 9th at Laramie peak in 1856; Wood took specimens on the Medicine Bow river August 9th, 1856; Holden reports it from the vicinity of Sherman. There is one specimen in the University collection that was taken in Carbon county.

402 a. *Sphyrapicus varius nuchalis* BAIRD.

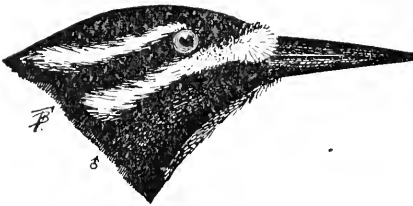
Red-naped Sapsucker.

Summer resident; common. The following have reported this variety: Drexel, Fort Bridger; Bond, Cheyenne; Coues (Hayden) Wind River mountains and Popo Agie river. Nos. 10779, 38280, 10785, 10783, 10776, 19181-4, 8807, 60804 and 61090, 61091, 61092, 61095 from the National Museum have all been taken in Wyoming. There are four skins in the University collection that have been taken in Albany and Carbon counties. I have observed them at Buffalo, Meeteese, Sundance, Hyattville, Garrett and Sheep mountain.

404. *Sphyrapicus thyroideus* (CASS.).

Williamson's Sapsucker.

Summer resident; rather common. There are the following records of this bird in the state: Hayden, Laramie peak; Merriam, Yellowstone park; Grinnell, "observed but once near Tower creek, Yellowstone park;" Jesurun reports one specimen from Douglas; Bond, "rather common during migration at Cheyenne;"



WILLIAMSON'S SAPSUCKER.

Nos. 38286, 38285, 8803, 8804, and 62262 from the National Museum have been taken in Wyoming.

406. *Melanerpes erythrocephalus* (LINN.).

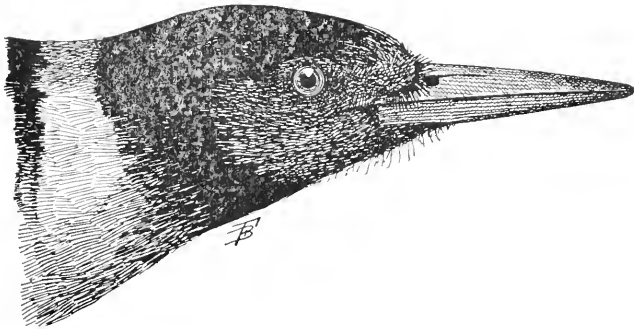
Red-headed Woodpecker.

Summer resident in eastern Wyoming, rather common; but decreasing in number to the westward. They have been reported as follows: Drexel, Fort Laramie; McCarthy, La-Bonte creek; Williston, a dozen seen from May 26 to June 26 at Lake Como; Bond, common at Cheyenne; Jesurun, common at Douglas; West, from Buffalo; Nos. 38303, 88148 and 88150 taken from Fort Laramie, and Laramie peak, by collectors for the Smithsonian Institution. Coues also reports specimens taken from Bitter Cottonwood and LaBonte creeks. To the westward from the Laramie mountains, this species becomes less and less abundant and near the western line of the state is quite rare. There are four specimens in the University collection. Three were taken at Laramie and one at Buffalo.

408. *Melanerpes torquatus* (WILS.).

Lewis's Woodpecker.

Summer resident and very common in northern Wyoming, where they breed in great numbers. In the southern part of



LEWIS' WOODPECKER.

the state there are a few that remain each year in the mountainous country and breed. I have found this beautiful bird in greatest abundance along the streams flowing into the west-

ern side of the Big Horn basin. One August while driving up Meeteese creek they were almost constantly in sight and in many bends of the creek I could count upwards of a dozen perched on the very tops of the tall cottonwood trees. In this locality they were easily approachable and entirely different from what they usually are when migrating or found as isolated pairs.

In 1856 Wood found these birds on Pole creek on Aug. 2nd; Hayden captured 6 specimens at Laramie peak, Aug. 24, 1857; Drexel took a specimen west of Fort Laramie, 1858; Grinnell reports them from Yellowstone park, 1875, and notes "seen in considerable numbers along little timbered streams running into the Yellowstone river." Grinnell also makes the following comment on this species in Wyoming: "Abundant in the mountains near Como" (Medicine Bow mountains,) "and both adult and newly fledged young were secured." Jesurun reports them common at Douglas; Bond reports them rather common at Cheyenne during migration. Coues reports eight other specimens besides those taken by Hayden from the following localities: Snake river, Wind River mountains, Yellowstone river, Big Horn mountains, Wyoming general. West has taken several birds at Buffalo. Cary has furnished the following note concerning this woodpecker at Newcastle: "This fine woodpecker is partial to burnt timber on the sides of canons. They are frequently seen to launch into the air from a dead stub in such a situation and after a few aerial evolutions, to return to the former perch. Whether or not the bird is catching an insect at such times I am unable to state; but it is my firm belief that such is the case. I have found Lewis's Woodpecker at all times to be an extremely wary bird and very difficult to approach.

412 a. ***Colaptes auratus luteus* BANGS.**

Northern Flicker.

Summer resident and breeding in eastern Wyoming. They are seldom seen west of the Laramie or Big Horn moun-

tains in Wyoming and there are no breeding records west of these places.

But few of the early collectors reported this species. Jesurun reports them from Douglas; West has taken several of these birds at Buffalo; Cary reports them fairly common at Newcastle and that on June 4, 1899, he took a nest with nine eggs. Coues reports several specimens from Wyoming under *C. auratus*, which were taken by Fremont and later expeditions. He also remarks that many specimens are hybrids. Along the line where *cafer* and *luteus* mingle hybrids are extremely common. In fact it is seldom that one sees typical *C. a. luteus*. They are generally tinged with *cafer*. The following note from Coues' Birds of the Northwest, p. 293, seems quite appropriate here:

"Dr. Hayden's numerous examples are principally those that enabled Prof. Baird to elucidate one of the most remarkable cases in American ornithology—the perfect intergradation of two such distinct species as *auratus* and *mexicanus*. This author adopted without qualification, the hypothesis of hybridization, remarking in proposing the name of *hybridus*: 'By the above name I intend to cover a remarkable series of Woodpeckers, from the Upper Missouri and Yellowstone, combining the characteristics of *Colaptes auratus* and *mexicanus*, in proportions varying with almost each individual, and leading irresistibly to the conclusion that they are the descendants of originals of the species mentioned above, mixed up by interbreeding of successive generations, to a degree unparalleled in the annals of ornithology.' He traces the successive steps of departure from the typical *auratus* into *mexicanus*, and forcibly illustrates the gradations with a comparative tabulation of the varying characters. The first deviation is the appearance of red feathers in the black maxillary patches; these increase till they prevail, finally to the exclusion of the black, resulting in the wholly red patch of the *mexicanus*. With this occurs the diminution and final extinction of the

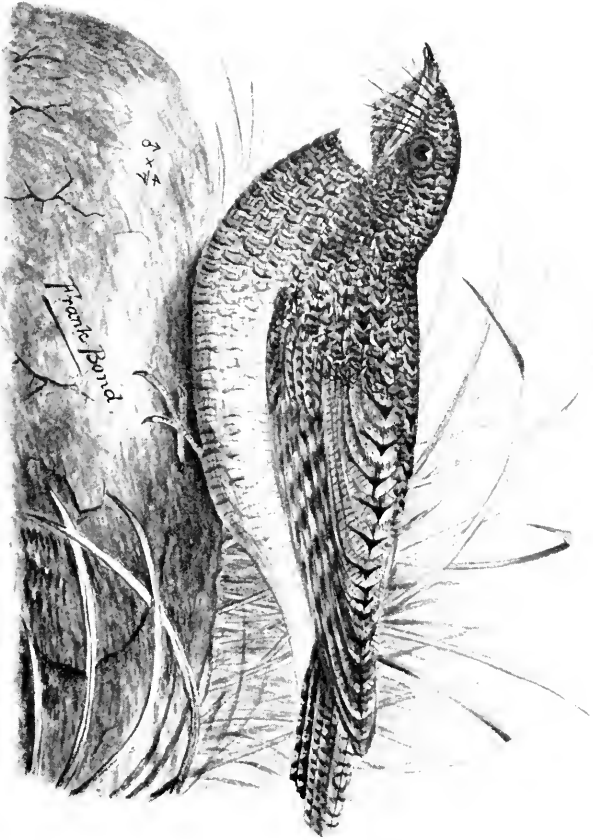
scarlet nuchal crescent, where coincidentally we find the characteristics golden-yellow on the wing and tail passing through an intermediate orange into the red of *mexicanus*, a change which accompanied with another affecting the peculiar lilac-brown of the throat and olive-green of the back, which become respectively merged into ashen and purplish-gray.

"If there ever was a case of hybridization to an unlimited extent, resulting in fertile offspring, that again and again interbred, this would appear to be one; and it has been so accepted by the majority of ornithologists without hesitation. But we may well pause before committing ourselves to an hypothesis of hybridization on such an immense scale. In the light of late researches upon the question of climatic variation according to inflexible and infallible laws, most of the lesser instances of supposed hybridity have seemed less weighty. The present may be considered a test case—the strongest argument of those who maintain hybridity."

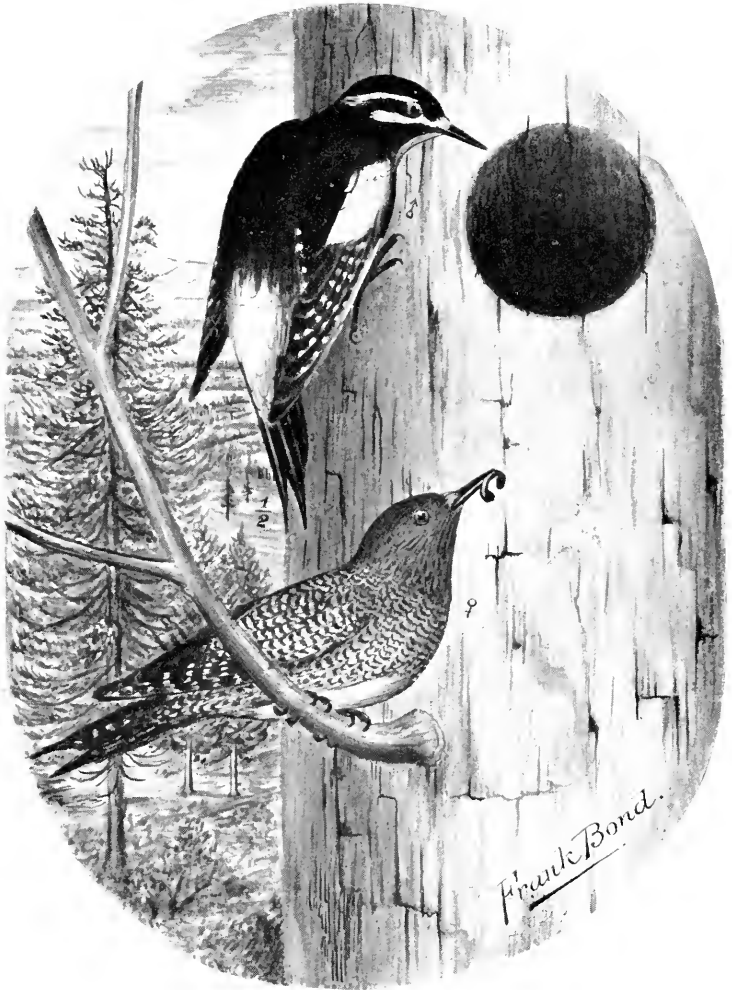
413. **Colaptes cafer collaris** (VIGORS.).

Red-shafted Flicker.

Summer resident and common in wooded districts up to 9,000 feet. Cook in *Birds of Colorado*, p. 85, says that this bird "breeds from the plains up to 12,000 and is almost as common at 11,000 feet as on the plains." Since timberline is about 10,000 feet in this section of the Rocky mountains I can not understand how this species breeds above the limit of trees. In Wyoming and Colorado I visit the mountain country a great deal; but have never found these birds above 10,000 feet. On the other hand I have often seen them upon the desert country feeding in the sagebrush and greasewood and many miles from a tree of any size. Records are abundant from all parts of the state; but this species is more abundant west of the Laramie mountains than east of them. Dr. Cooper took a specimen at Fort Laramie in 1857; Drexel at Fort Bridger in 1858; Grinnell found them abundant in Yel-

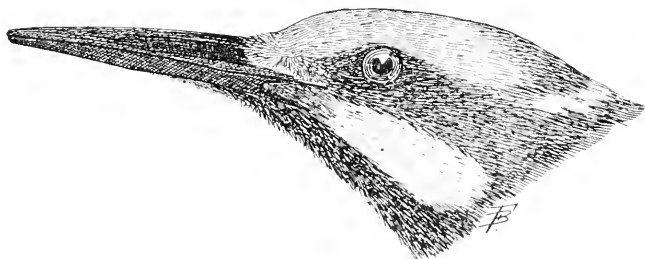


PHALÆNOPTILUS NUTTALLII. Poor-will.



SPHYRAPICUS THYROIDEUS. Williamson's Sapsucker.

lowstone park, 1875. Williston makes the following note: "Not common in the vicinity of Como, owing probably to the scarcity of timber (very abundant in the mountains)." Jesurun finds them abundant at Douglas; Bond states that they arrive at Cheyenne the last week in March. On the Laramie



RED-SHAFTED FLICKER.

plains the earliest record of their arrival is April 6. From the Smithsonian collections I have secured the following data: No. 38309 taken at Laramie peak by Expd. West of Missouri River. No. 38309 taken at Laramie peak by R. B. Hitz." Carv found this species more abundant at Newcastle than the previous. In the University collection there are five skins that have been taken from various localities in the state.

GOATSUCKERS, SWIFTS, ETC.

418. *Phalænoptilus nuttallii* (AUD.).

Poor-will.

Summer resident; common; but I anticipate that they are never found in any considerable number. I have found them most numerous in regions where fires have devastated the forests at less than 9,000 feet elevation, and there are occasional clusters of second growth pines. It favors a dead fallen tree with limbs somewhat above the ground to perch upon.

As the weary traveller makes his bed beside some mountain stream where nature reigns supreme and is undisturbed,

the solemnity and loneliness are doubled as the darkness lowers over all, by the incessant semi human and doleful call of the poor will.

I have found this species in all parts of Wyoming below 9,000 feet, but never above that elevation and seldom above 8,000 feet. Cones reports specimens from Powder river and Big Horn river; Bond has taken several specimens at Cheyenne; West has taken specimens at Buffalo. Cary remarks "The monotonous notes of these birds were heard every night near Newcastle." In the University there are four skins that were taken in Albany and Carbon counties.

420 a. *Chordeiles virginianus henryi* (CASS.).

Western Nighthawk.

Summer resident and very common. This species has been noted by nearly every collector of birds in Wyoming. It should be protected in every possible way from the would be sportsman, who takes special pains to shoot it on the wing for practice. Its food is essentially insects. Wood took four specimens at Bridger Pass, 1856; Cooper took specimens at Fort Laramie, Sept. 16, 1857; Drexel found them at Fort Bridger, 1858; McCarthy took specimens on La Poudre creek, 1859; Williston reported them common at Lake Como after May 31st; Cones makes several references to Wyoming specimens; Jessum finds them abundant at Douglas; Bond reports them abundant at Cheyenne; Cary reports what he considered this variety from Newcastle. In the University collection there are four skins that were taken in Carbon county.

425. *Aeronautes melanoleucus* (BAIRD.).

White-throated Swift.

Summer resident; but very little is known as to its abundance or range. I have seen this species in the canons about the base of the Black hills, along the foothills of the eastern slopes of the Big Horn mountains, and along Medicine Lodge creek on the eastern side of the Big Horn Basin. A. O. U. Check

List, 2nd edition, refers this species to Wyoming; but upon what authority I am unable to state. The Smithsonian Institution reports that their number 88,138 was taken by R. W. Shufeldt at Hunter's ranch, which is in southern Carbon county. Cary notes "abundant breeding in June, in the most inaccessible cracks and crevices on the face of the sandstone cliffs near Newcastle."

HUMMINGBIRDS.

432. *Selasphorus platycercus* (SWAINSON).

Broad-tailed Hummingbird.

Summer resident and very common. This is the only hummingbird that is found in any number in Wyoming. They nest usually in spruce trees up to 8,000 feet. In the Laramie mountains, ten miles east of Laramie, I have seen a half dozen of these birds resting on the branches of a dead tree. The nests are usually fastened to the upper side of the limb of a tree not over six or eight feet from the ground and are covered with moss. The nests that I have taken contained two white eggs. Drexel took specimens of this species at Fort Bridger in 1858; Coles refers to several specimens that have been taken in Wyoming; Grinnell found them abundant in the mountains about Lake Como; Jesurun finds them numerous at Douglas and Bond common at Cheyenne.

433. *Selasphorus rufus* (GMELIN).

Rufous Hummingbird.

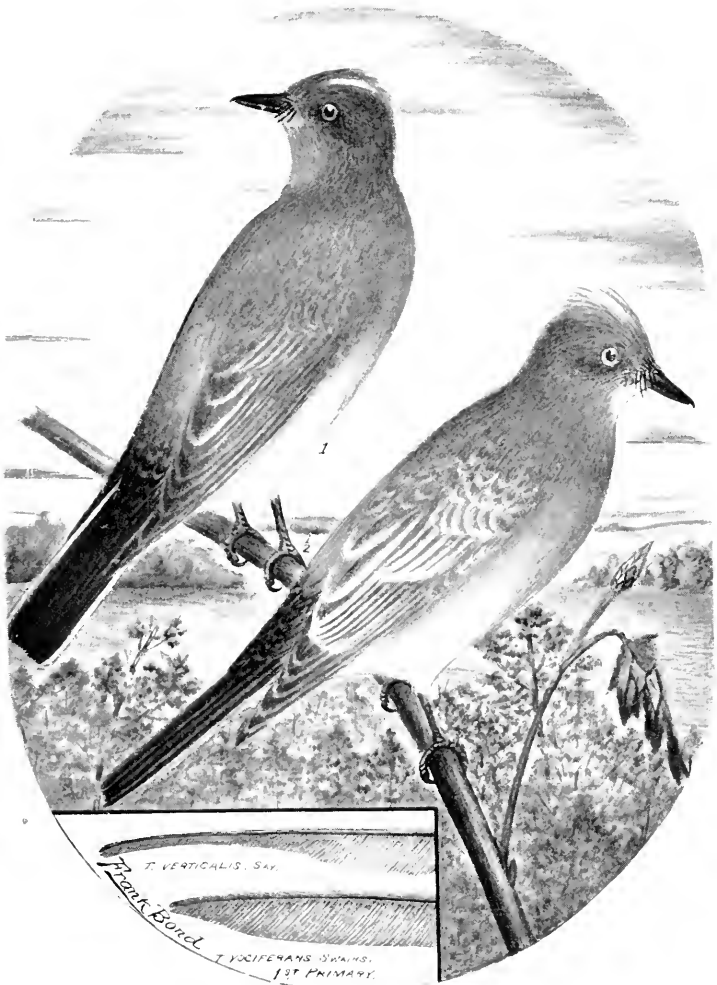
Probably a summer resident. The Wyoming record rests upon two specimens, one of which is in the University museum and the other was taken by Bond at Cheyenne in 1901. The University specimen was taken by Charles Gilmore on Aug. 24, 1897, in the Freezeout hills. Gilmore notes that it was feeding upon a thistle when taken. This record was published by Cooke in Bull. 44, but credit was overlooked.

TYRANT FLYCATCHERS.444. **Tyrannus tyrannus** (LINN.).**Kingbird.**

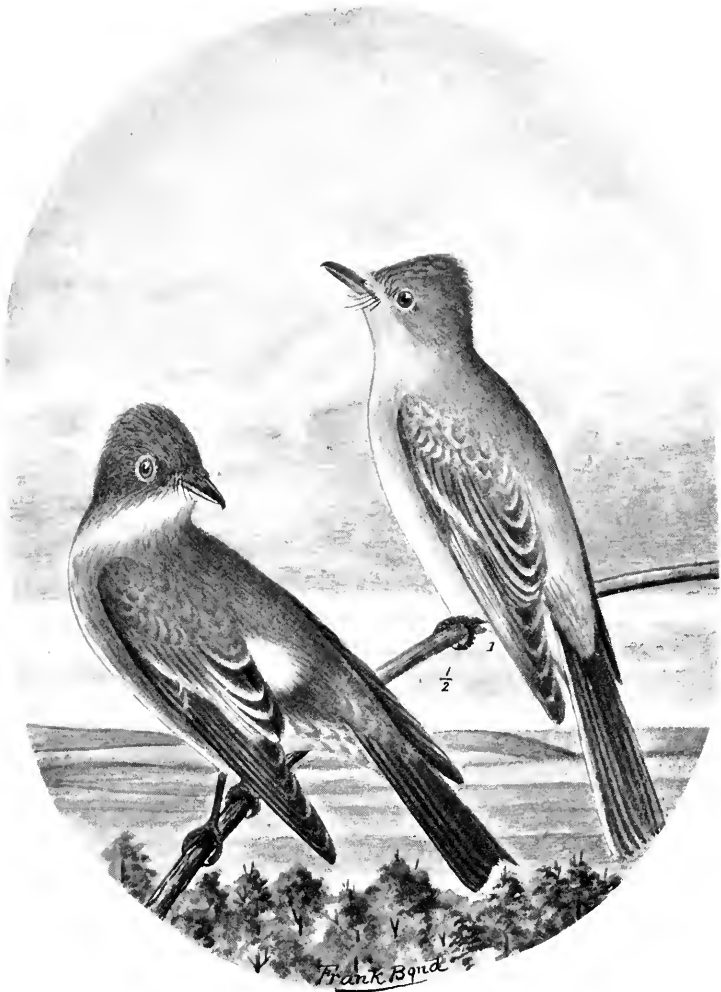
Summer resident and common up to 8,000 feet in eastern Wyoming. In the western half of the state this species is rather scarce; but I have seen quite a number of these birds on the western side of the Big Horn basin and Drexel took a specimen at Fort Bridger in 1858. Cooper reports taking a specimen at Fort Laramie in 1857; Coues makes a few references to Wyoming records; Bond finds them common at Cheyenne; Jesurun reports them common at Douglas; Cary, "fairly common along Beaver creek, seven miles from Newcastle." I have also noted this species from the following places: Sundance, Buffalo, Casper, Chugwater, and Alcova. There are two skins in the University collection.

447. **Tyrannus verticalis** SAY.**Arkansas Kingbird.**

Summer resident and common up to 6,000 and occasionally breeding up to 7,000 feet. This bird prefers the plains and breeds along wooded streams in great numbers. Wood took four specimens on Pole creek July 28 and 29, 1856; Drexel reports specimens taken at Fort Bridger in 1858; McCarthy took specimens at Fort Laramie, Aug. 27, 1857; Grinnell reports this species from Yellowstone park, 1875, and also the following note from Lake Como, 1879: "Seen several times on Rock creek, where no doubt it bred, as it certainly did on Foot creek, 25 miles further southwest. On the latter stream young birds just from the nest were taken. Bond finds them common at Cheyenne; Jesurun reports them plentiful at Douglas. I have observed or taken this bird from the following localities: Sundance, Newcastle, Casper, Fort Steele, Evanston, Alcova, and Bates' Hole.



1. TYRANNUS VERTICALIS. Arkansas Kingbird.
 TYRANNUS VOCIFERANS. Cassin's Kingbird.



1. MYIARCHUS CINERASCENS. Ash-throated Flycatcher.
CONTOPUS BOREALIS. Olive-sided Flycatcher.

448. **Tyrannus vociferans** SWAINS.
Cassin's Kingbird.

Probably a summer resident, but quite rare. Drexel took one specimen west of Fort Laramie, Sept. 8th, 1857; Coues reports one specimen taken at Cheyenne; Jesurun has two skins in his collection that were taken May 19, 1890, and May 6, 1892; Bond reports them uncommon at Cheyenne; but he has secured a few specimens. In the Smithsonian collection No. 80438 was taken by J. S. Newberry at Laramie. I have never seen a live specimen in Wyoming.

452. **Myiarchus crinitus** (LINN.).
Crested Flycatcher.

Rare and probably accidental. The Wyoming record rests upon a single specimen taken by Dr. Jesurun of Douglas on June 14, 1896. The skin is in the doctor's collection at the present writing.

454. **Myiarchus cinerascens** (LAWR.).
Ash-throated Flycatcher.

Very rare; but may be found as a summer resident. Coues, *Birds of the Northwest*, p. 240, remarks: "As in the case of the preceding species, Mr. Akins again furnishes a northernmost quotation, carrying the known range into Wyoming." I have been unable to find Akins' note on the occurrence of *M. crinitus* in Wyoming, which this note refers to. Bond has also taken a single specimen which is at the present time in the Cheyenne High School collection.

456. **Sayornis phœbe** (LATH.).
Phoebe.

Very rare; probably a summer resident in eastern Wyoming, as it is only known from the very eastern side of the state. Cary reports a single specimen from Newcastle. I have heard this bird calling in the vicinity of Sundance and Fort Laramie; but have never taken a specimen.

457. *Sayornis saya* (BONAP.).

Say's Phoebe.

Summer resident and abundant. A peculiar bird that makes its home alike in the midst of a lonely desert or about the houses of western towns. It cares but little where it makes a nest. I have found them in a sagebrush, in medium sized trees, on large rocks and in nooks about houses and in abandoned buildings. They arrive on the Laramie plains about the middle of April. One season the first bird was seen on April 11, and another as late as April 25th. I have seen this bird in every county in the state. It seeks the lower elevations, but is occasionally found breeding at 8,000 feet where there are scattering trees or brush.

Wood reports a specimen taken near Pole creek, July 24th, 1857; Williston found them at Lake Como and notes, "April 24, very common here. While nesting they were quite fearless, not leaving eggs or young till closely pressed." Coues reports three or more specimens from this state; Bond states that they are very common at Cheyenne; Jesurun finds them abundant at Douglas. The following data has been secured from the Smithsonian institution: No. 88126, taken at Fort Laramie by R. W. Shufeldt, and No. 72965, taken at Cheyenne by the U. S. G. S. of the Ters., 1876. Cary furnishes the following note on the occurrence of this species at Newcastle: "This interesting flycatcher is quite common in the canons, where its sweet but somewhat melancholy note may be heard at all times of the day. The favorite perch of this bird is on a boulder in the bottom of the canon, from which it darts forth every few moments to capture a passing insect. But one nest was found, containing two eggs on June 11, 1899, which was situated on a small ledge in a recess of the canon wall. This nest, which was composed almost entirely of moss, was remarkably shallow, the center being not more than two-thirds of an inch lower than the edge."

459. **Contopus borealis** (SWAINS.).

Olive-sided Flycatcher.

Summer resident; but very little is known of this bird in Wyoming. Drexel took a specimen at Fort Bridger in 1858; Merriam found them in Yellowstone park in 1872; Williston took a single specimen at Lake Como in early June, 1879; Bond has taken them at Cheyenne and there is a specimen taken and mounted by him in the Cheyenne High School. More data concerning this species is very desirable and all of those interested in the birds of the state should keep a sharp lookout.

462. **Contopus richardsonii** (SWAINS.).

Western Wood Pewee.

Summer resident; common. Breeds usually in the pine and spruce timber up to 9,000 feet. Drexel took this species at Fort Bridger, 1858. Grinnell has furnished notes on this species as follows: "Taken Yellowstone park, 1875. I frequently notice this species in the Lower Geyser basin (Yellowstone park), but did not observe it at any other point on the route. Very abundant on the Medicine Bow river, wherever large timber was to be found." Merriam reports it from Yellowstone park; Coues refers to two specimens taken on Bitter Cottonwood creek; Jesurun notes that they are common about Douglas; Bond has taken numerous specimens at Cheyenne. Cary makes the following note on the occurrence of this species near Newcastle: "Partial to 'wait-a-bit' brush in the rocky heads of the canons. Here the shy little flycatcher is frequently seen catching insects around the rim rock on a hot day, uttering at intervals its sharp 'ke-wick, ke-wick.'"

I have observed this bird in the Bear Lodge mountains, near Sundance, in the Big Horn mountains near Buffalo, on Meeteese creek in the Absaraka range, in the Medicine Bow and Laramie mountains. There are three skins in the University collection that were taken in Albany county.

464. *Empidonax difficilis* BAIRD.

Western Flycatcher.

Summer resident; but the records will not warrant an expression as to its range or abundance. Dr. Jesurun has three skins in his collection that were taken near Douglas on the following dates: 1 specimen, Sept. 13, 1894; 2 specimens May 29, 1895. I have never seen this species alive in the state. It is very strange that no collector except Dr. Jesurun has observed and taken this flycatcher.

466. *Empidonax traillii* (AUD.).

Traill's Flycatcher.

Probably a summer resident; but data are quite limited and very little is known of this species in the state. Merriam found this bird in the Yellowstone park in 1872; Bond has taken three specimens at Cheyenne; Aiken has reported this species near Sherman. There are no skins in the University collection.

467. *Empidonax minimus* BAIRD.

Least Flycatcher.

Summer resident; but there is very little data as to its distribution and abundance. Drexel took a specimen of this species at Fort Bridger, 1858; Jesurun reports them rather common at Douglas; Bond finds them common at Cheyenne; Cary reports them as common breeders in the choke-cherry thickets in the canons near Newcastle and that he took an incomplete set of eggs (2 eggs) in that section on June 15, 1900. From the evidence in hand they appear to be partial to the lower elevations of the state.

468. *Empidonax hammondi* (XANTUS.).

Hammond's Flycatcher.

Summer resident; but little is known of its occurrence. Coues reports one specimen taken at Pacific Springs; Allen reports this species from Fort Steele; Jesurun has taken one at Douglas. There are three Wyoming skins in the Smithsonian



OTOCORIS ALPESTRIS ARENICOLA. Desert Horned Lark.



1. *PERISOREUS CANADENSIS CAPITALIS*. Rocky Mountain Jay. "Camp Robber."
CYANOCITTA STELLERI DIADEMATA. Long-crested Jay.

collection. No. 38348 and 10880 were taken at Fort Laramie, the latter skin by Dr. Cooper. No. 10868 was taken at Fort Bridger by Drexel.

469. **Empidonax wrightii** BAIRD.

Wright's Flycatcher.

Summer resident; abundant. Drexel reports this species from Fort Bridger; Jesurun finds them abundant at Douglas; Bond has noted them at Cheyenne; Gilmore found them abundant in the Freezeout hills in 1897. There are three skins in the University collection.

LARKS.

474 c. **Otocoris alpestris arenicola** HENSH.

Desert Horned Lark.

Resident and abundant. The early collectors referred many specimens of horned larks to *O. a. leucolæma*; but upon careful investigation I can not find a single authentic record of *leucolæma* in Wyoming. This does not prove that it does not exist. I have made large collections of these birds at various times in the year, and many of these have been referred to Mr. Ridgway of the National Museum and in every case he has referred the Wyoming birds to *arenicola*. Dr. Jesurun from Douglas has likewise studied the horned larks and has also found only the Desert Horned Lark in this state. This is the most abundant bird in Wyoming and remains in vast numbers all winter. I doubt if they migrate at all. During the approach of a severe blizzard, in the winter, these birds congregate about ranches and towns in great flocks. I am safe in saying that I have seen flocks with over a thousand birds in, feeding about sheltered places, where the ground was bare. As soon as the storm is over they scatter out, and in passing over the plains one will find them everywhere. Their food during the cold weather is entirely weed seeds. The records of this species in the state are very abundant. Every col-

lector has reported them. The National Museum has 16 skins or more taken from various places in the state. The University collection contains upwards of a dozen skins.

CROWS, JAYS, MAGPIES, ETC.

475. *Pica pica hudsonica* (SAB.).
Magpie.

Resident and common. They breed up to 8,000 feet, and are occasionally seen above that elevation. They select a stream where there are willow trees with very thick brushy tops in which to build their nests, which are very bulky affairs made of sticks and well enclosed. Those that I have examined usually have but one opening, while others have two nearly opposite. On the Laramie plains they nest late in April and lay from five to nine eggs. It is a common practice in the west to catch the young birds in early June and place them in a cage, where they become very tame and usually talk as well as a parrot. Many people keeping these birds have believed it necessary to split their tongues before they could learn to talk. This is wholly unnecessary and cruel and should be prevented by law if not stopped. Nearly all of the magpies that I have seen in captivity talk more or less.

The magpie is very common all over the state below 8,000 feet. They usually live near a ranch or a settlement; but are seldom seen near towns. In some respects they are a nuisance, since they are always stealing fresh meat and eggs if it is possible. On the other hand they feed to a large extent upon carrion and in this way are serviceable. In two instances ranchmen have told me that they have troubled cattle or horses that have sores upon their backs. This is, however, exceptional. All collectors of Wyoming birds have noticed this scolding but remarkably beautiful bird, consequently the data will not be included here.

Concerning these birds talking I have secured the following data:

They usually learn to repeat all of their words and phrases by the time they are a year old. I have not found any one who has paid special attention to teaching them to talk; but believe that one could by spending a reasonable amount of time teach them many times as much as they generally know. In three instances I have collected data as to what the magpies say, with the following results:

No. I. Owner, Mrs. J. Rhone; bird's name, Mike; words or phrases repeated: Sic-em; Hello; Good-by; Here, Major; Hello, Major; Hello, Mag; Get out of these; Come in; What do you say? Stick of wood; Eliza. This bird also laughs.

No. II. Owner, Mrs. Dr. Coburn; bird's name, Topsy; words or phrases repeated: Topsy; Hello; Good-by; Quit; Topsy-opsie; Pshaw; Pshawie; Oh! Topsy; Pretty Topsy; Ah there. This bird chatters, but words not distinguishable. It whistles, laughs and coughs. When quite young there was a lady neighbor of Mrs. Coburn's, who had a very bad consumptive's cough. The magpie soon learned to imitate the cough and has practiced it ever since. Age of bird, 12 years.

No. III. Owner of bird, Mrs. Hertzog; name, Jack; age of bird, 15 years; words or phrases repeated: Hello; Good morning; Good-by; Pretty polly; What's the matter with the bird—he's a dreadful nice bird—rats; What's the matter with the bird—precious bird; Maggie; Good-by, love; Get there; Come in; Oh, Clara; Nettie; What. This bird laughs, sneezes and coughs. Mrs. Hertzog has two birds. They call each other by name and answer—what. They are also great imitators. Upon seeing Mrs. Hertzog picking flowers they will do the same. They are also very anxious to ride upon a wheelbarrow when in motion or upon a swinging gate. Her birds are very quick to find cut-worms about plants and will steal eggs and little chickens and eat them. They will not eat angle worms; but will catch and hang them over their perches. I am greatly indebted to the owners of these birds for this information.

178 c. *Cyanocitta stelleri annectens* (BAIRD.).

Black-headed Jay.

Resident and rather common in regions with pine-clad hills and mountains. All of the early records of this species have been placed under the Long-crested Jay; but since this bird has been restricted to the southern Rocky mountain region all of these records have been transferred conditionally to this species. It is quite possible that the Long-crested Jay may now and then stray as far north as Wyoming. Hayden took specimens of this species at Laramie peak in 1857; Coues refers to several specimens that have been taken in this state; but calls them the Long-crested Jay; Bond has taken a number of specimens at Cheyenne; Allen records them from the Medicine Bow mountains; Grinnell records them from Yellowstone park in 1875; Aiken found them at Sherman. There are two skins in the University collection. Concerning the food of the Jay, Coues has the following interesting note (*Birds of the Northwest*, pp. 217-18):

"The Long-crested Jay will eat anything eatable. It is said Jays kill and devour small birds, and doubtless they do so on occasion, though I do not think it is habitual with them. They suck eggs, despoiling many a pretty nest; and if they cannot catch winged insects, fat larvae and beetles do not come amiss; but after all, they are principally vegetarians, feeding mainly upon seeds, hard fruits, and berries. In the mountains where the Long-crested Jay lives, pine-seeds afford most of its fare. I have often watched the bird hammering away at a pine-cone, which he would sometimes wedge in a crotch, and sometimes hold under his feet. Though most at home in the pineries, where this particular source of supply is unfailing, he often strays into the adjoining oak openings, and into juniper patches, after acorns or berries, or to pick a quarrel with Woodhouse's Jay and frighten the Sparrows."

480. *Aphelocoma woodhouseii* (BAIRD.).

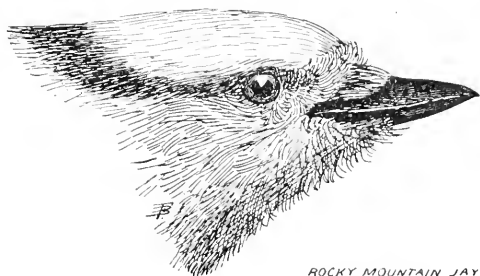
Woodhouse's Jay.

Resident; but the data is too limited to judge of its abundance and distribution. But few collectors have found this Jay in the state. Coues reports two specimens, but does not give the exact location; Aiken found them nesting near Sherman. From the present data this bird has been found only in the southeastern corner of the state; but it should be found to the westward and northward toward Montana.

484 a. *Perisoreus canadensis capitalis* RIDGW.

Rocky Mountain Jay.

Resident and common in all of the pine forests of the state. Usually this bird is called the "camp robber," a name which he earnestly deserves. In traveling in the forest-clad mountains one hardly halts for camp when a half dozen of these noisy fellows will take up their abode in the near-by trees and make ready to feed upon the camp refuse, or possibly upon



ROCKY MOUNTAIN JAY
"CAMP ROBBER"

the camp supplies if they are not properly cared for. They are usually quite tame and will ordinarily hop to within a few feet of one while eating and pick up and carry away bits of

bread or other edibles. When a party camps for several days in a place they will, if not disturbed, come up and take a piece of bread from one's hand. They are very fond of fresh meat. Some years ago while deer hunting we had several carcasses hanging in the trees near by and some quarters that had been skinned. I noticed the birds flying away from the meat whenever I came into camp and upon examining the quarters that

were skinned, I found that they had made several holes through the dried surface, large enough to admit their heads, and that they had eaten from each opening from one to two pounds of meat and had entirely destroyed the quarters. There are many stories circulating of their petty thieving about camps and carrying off cooking utensils, etc., but with an acquaintance of upwards of 15 years with the Wyoming birds I have never known them to take anything except edibles. In Wyoming this bird ranges from 6,000 feet up to timber line. Cook (*Birds of Colorado*, p. 90) cites this species as breeding at 11,500 feet. Since this is 1,500 feet above timber line it is unreasonable to think of this lover of pine trees nesting upon cold isolated peaks, where it would be impossible to secure any food during the breeding period. In Crook county I have taken these birds in August in Rattlesnake canon, at an elevation of about 6,000 feet. In other parts of the state they are usually found between 8,000 and 9,000 feet. There are abundant records of this species from all of the mountainous country of the state.

486. ***Corvus corax sinuatus*** (WAGL.).

Raven.

Resident; but probably not common. The data collected regarding this species would not furnish any opinion as to the bird's abundance or distribution. Drexel took a specimen at Fort Bridger in 1858; Williston saw flocks in winter time at Lake Como, and notes that they were not very common during summer; Coues reports two specimens from Wyoming; W. N. McGraw took a specimen at Fort Laramie, Sept. 13, 1857. I have often observed these birds in going over the state, but find it very difficult to secure specimens. Usually, when one approaches their haunts they utter a few harsh notes and fly high in the air and remain circling about their abodes for hours at a time.

488. *Corvus americanus* AUD.

Crow.

Resident; not common. Although the crow has been reported from all parts of the state except the southwestern corner and the western border, they are never seen in large flocks. Usually there are a few, three or four pairs, that breed in a community. When winter arrives most of them migrate. The next season about the same number will be found living in any particular place. As compared with the east Wyoming has not one crow to Iowa's 100. I have observed the crows in the following places: Fort Steele, Casper, Fort Fetterman, Otto, Sundance, Red Buttes, Buffalo, and Kaycee. Cary notes a small flock some six miles southeast of Newcastle in 1900; Coues has reported a specimen from La Bonte creek; Holden records specimens taken in Wyoming; Jesurun finds them rather common at Douglas, and Bond has noted a few specimens at Cheyenne.

491. *Nucifraga columbiana* (WILS.).

Clark's Nutcracker.

Resident; common in pine forests of the mountains. This bird is usually known by its old name, "Clark's crow." It is also wrongly called the "camp robber" by many. While they prefer a mountainous country varying from 8,000 to 10,000 feet, they are often seen down to 4,000 feet, during early spring and late fall. They go about in small flocks and as a rule keep away from civilization. In September, 1898, I found these birds in vast numbers about the towns at the foot of the Wind River mountains. They remained for the ten days that I was in the locality and fed daily about the back doors of the miners' cabins and became very bold. This was the fall prior to the very severe winter in this region. Since that time I have never seen them in flocks about a village. They breed in the Medicine Bow, Wind River, Laramie and Big Horn mountains, where I have seen them in early spring, but no nests or eggs have been reported. All of the collectors

of birds in the state have noted this peculiar bird, and the data are too voluminous to publish.

492. **Cyanocephalus cyanocephalus** (WIED.).

Pinon Jay.

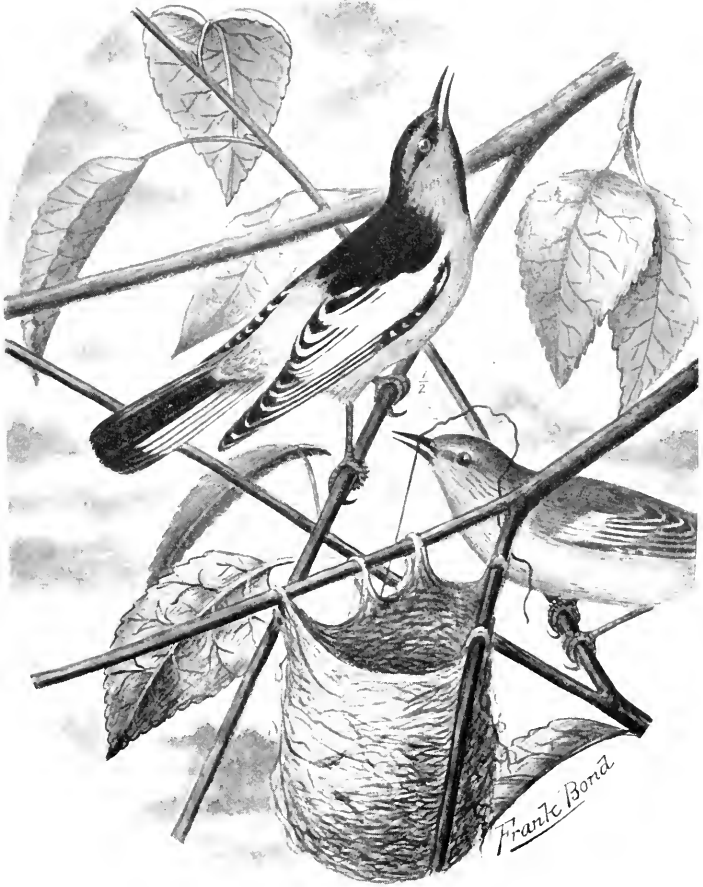
Summer resident; common locally. During migration, especially in the spring, they often appear in good sized flocks. Possibly some may remain in the state all winter. There are no breeding records from southern Wyoming. I have found young birds near the Montana line north of Corbet in a broken country with scattering pines and also at the foot of the Big Horn mountains above Hyattville. But few collectors have found this bird in the state. Coues reports six specimens from Wyoming, three of which were taken in the Big Horn mountains; Bond sees them occasionally at Cheyenne; Aiken reports them from Sherman; Cary has furnished the following note, which applies to the Newcastle vicinity: "This bird is universally disliked by ranchmen, on account of the damage it does to growing crops, and large numbers are killed and poisoned. It is very difficult to get within gunshot of these Jays in summer, but I was told that in cold weather, when driven to the ranch by hunger, they became very bold, even entering the kitchen of the ranch house in search of food. When ravaging the crops Pinon Jays go about in immense flocks, and always keep sentinels posted to warn them of impending danger. They are partial to the foothills, and are seldom seen back in heavy timber. Fully grown young were common on June 4th in 1900."

BLACKBIRDS, ORIOLES, ETC.

494. **Dolichonyx oryzivorus** (LINN.).

Bobolink.

Summer resident; rather common in eastern Wyoming, but decreasing in numbers rapidly to the westward. The attitude of the citizens of Wyoming toward the Bobolink is entire-



ICTERUS BULLOCKI. Bullock's Oriole. ♂ ♀ Nest.



FOUR WYOMING CROWS.

1. *CORVUS CORAX SINUATUS*. American Raven. 2. *CYANOCEPHALUS CYANOCEPHALUS*. Pinon Jay.
3. *NUCIFRAGA COLUMBIANA*. Clark's Nutcracker. 4. *CORVUS AMERICANUS*. American Crow.

ly different from that of the people of the South Atlantic coast. In the rice growing districts there is no question but what they often seriously injure a crop and for that reason they are the despised bird of that region, where they are slaughtered by the thousands, and still they annoy the rice grower and many claim that they destroy as high as five bushels of rice per acre each season.

Unquestionably they wage a serious war upon the rice grower and can truly be considered his worst enemy. In Wyoming their food is almost entirely weed seeds and insects and no one thinks of them as a detrimental species, but all favor their existence. Both Drexel and McCarthy reported this species from Fort Bridger; Williston reports a single specimen at Lake Como; Bond notes that the bobolinks are not uncommon at Cheyenne, that he has taken them yearly for several years and sometimes within the city limits; Jesurun finds them quite common at Douglas; Hayden reported a bobolink from Wyoming on one of his first expeditions to the state.

495. ***Molothrus ater*** (BODD.).

Cowbird.

Summer resident; common. This is the little black bird that likes to live with the cattle upon the plains. They are usually seen feeding near the head of a steer, for while eating he is continually scaring up insects which fall easy prey to the cowbird. It is not an unusual thing to see them perched upon the cattle's backs. These birds never rear their young. They always deposit their eggs in other birds' nests and are dependent upon the kindness of their associates to perpetuate their kind. There has been a great deal of discussion concerning the food habits of this species, and whether or not they are beneficial to the farmer and ranchmen. F. E. L. Beal (Bul. 13, U. S. D. Ag., Div. of Biol., pp. 29 and 30) gives the following note concerning the food of this species:

"Of the 544 stomachs only 2 were filled with grain alone,
—(8)

while 94 contained nothing but weed seed. The amount of weed seed destroyed by birds in a single year in the United States is immense, and it is evident that the cowbird is one of the noteworthy agents by which the already overflowing tide of noxious weeds is kept within its present limits.

"In summing up the results of the investigation, the following points may be considered as fairly established: (1) Twenty per cent of the cowbird's food consists of insects, which are either harmful or annoying. (2) Sixteen per cent is grain, the consumption of which may be considered a loss, though it is practically certain that half of this is waste. (3) More than 50 per cent consists of the seeds of noxious weeds, whose destruction is a positive benefit to the farmer. (4) Fruit is practically not eaten.

"In view of the fact that so much has been said in condemnation of the cowbird's parasitic habits, it may not be out of place to inquire whether this parasitism is necessarily as injurious as has been claimed. When a single young cowbird replaces a brood of four other birds, each of which has food habits as good as its own, there is, of course, a distinct loss; but, as already shown, the cowbird must be rated high in the economic scale on account of its food habits, and it must be remembered that in most cases the birds destroyed are much smaller than the intruder, and so of less effect in their feeding, and that two or three cowbird eggs are often deposited in one nest."

The records of this bird in Wyoming are fairly abundant. Drexel found them at Fort Bridger, 1858; Wood took some specimens on Pole creek; 1856; Williston has published the following note from Lake Como: "a pair was seen among the Brewer's Blackbirds May 12th, but I did not find them at all common afterward;" Gilmore has noted them in the Freeze-out hills; Coues reports them from La Bonte creek; Jesurun finds them common at Douglas; Bond rather common at Cheyenne. I have noted them at Sundance, Buffalo, Bonanza, Lander, Casper, Ferris and on the Laramie plains.

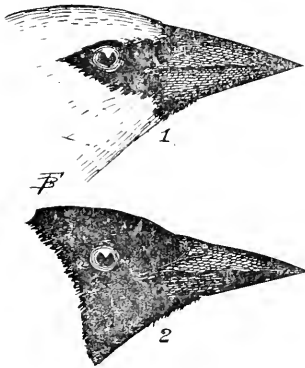
497. *Xanthocephalus xanthocephalus* (BONAP.).

Yellow-headed Blackbird.

Summer resident and common about marshy places below 8,000 feet, while breeding. This bird is found all over the state in regions below the pine forests. Although known to feed upon grain in farming districts, yet there has been no complaint offered that they are in any way detrimental here. Concerning their food F. E. L. Beal (Bul. 13, U. S. Dep. of Ag., pp. 32-33) gives the following summary:

"From this brief review some conclusions may be drawn, but the somewhat fragmentary nature of the evidence makes

it probable that they may be subject to considerable modification in future. It is almost certain that the rather peculiar distribution of the various items of food through the season will prove to be more apparent than real in the light of more extensive observations. In the meantime we may safely conclude (1) that the Yellowhead feeds principally upon insects, grain, and weed seed, and does not attack fruit or garden produce; (2) that it



1. YELLOW-HEADED BLACKBIRD.
2 BREWER'S BLACKBIRD.

does much good by eating noxious insects and troublesome weeds, and (3) that where too abundant it is likely to be injurious to grain.

"When it is considered that the Redwing has been accused of doing immense damage to grain fields, it is evident that the Yellowhead, which has been found to eat nearly three times as much grain as the former, must be capable of much mischief in localities where it becomes superabundant."

Data are rather abundant on the occurrence of this species in Wyoming. Cooper reports it from Fort Laramie, 1857; Williston found them abundant at Lake Como; Coues reports

specimens from Devil's Gate, Sweetwater, and Green river; Bond reports them from Cheyenne; Jesurun reports them common at Douglas. The National Museum records include the following: No. 88087 taken by Shufeldt at Fort Laramie, No. 71278 taken at Fort Bridger by Shufeldt, No. 8221 taken at Fort Laramie, and No. 38514 taken at Laramie peak. There are a half dozen skins in the University collection. Five of them were taken on the Laramie plains and one by West of Buffalo. They breed in considerable numbers on the Laramie plains at elevations varying from 7,250 to 7,500 feet. Aiken reports them from near Sherman.

498. *Agelaius phoeniceus* (LINN.).
Red-winged Blackbird.

Summer resident; rather common, but never abundant. They nest with the Yellow-headed Blackbird about the marshes and lakes and also with Brewer's along the small streams up to an elevation of 8,000 feet. The Red-wings nesting with Brewer's are different from those found about the marshes. The red patches on their wings are a brick color, and most of the feathers of the back and wings of the male are edged with rufous. Although these differences are persistent Mr. Ridgway refers this bird to *phoeniceus*. In Wyoming the Red-wings do not gather in vast flocks as they do further east and although they eat some grain, the insects and weed seeds they devour pay for the grain eaten a hundred-fold. F. E. L. Beal has the following to say of their food (Bul. 13, U. S. D. Ag., Div. of Biol., p. 32):

"Weed seed is apparently the favorite food of the Red-wings, since the total amount of grass and weeds is 54.6 per cent, more than half of the year's food, and more than four times the total grain consumption. These seeds are the principal article of diet of the birds in the northern states in the early spring and late fall, and the stomachs received from the south during the winter are filled with them almost exclusively.

"In summing up the economic status of the Redwing the principal point to attract attention is the small percentage of grain in the year's food, seemingly so much at variance with the complaints of the bird's destructive habits. Judged by the contents of its stomach alone, the Redwing is most decidedly a useful bird. The service rendered by the destruction of noxious insects and weed seeds far outweighs the damage due to its consumption of grain. The destruction that it sometimes causes must be attributed entirely to its great abundance in some localities."

McCarthy reports five specimens from the North Platte river, 1859; Drexel reports them from Fort Bridger, 1858; Hayden's report, 1870, reports them from Camp Stevenson on Henry's Fork; Williston reports them from Lake Como, and Grinnell from the same place; Aiken found them near Sherman; Bond has taken numerous specimens at Cheyenne; Jesurun reports them common at Douglas. I have noted these birds from every county in the state. There are seven skins in the University collection, all of which were taken in Albany county.

501 b. ***Sturnella magna neglecta*** (AUD.).

Western Meadowlark.

Summer resident; common. One of the earliest of the migratory birds to reach the state in the spring and they remain very late in the fall; but no records of them remaining during the coldest months. Found all over the state below elevations of 8,000 feet. The following data concerning their occurrence in Wyoming has been collected: Taken at Fort Bridger by Drexel, 1858; on Pole creek by Wood, 1857; Williston, common at Lake Como; Allen, plains of Wyoming, 1871; a dozen or more specimens reported by Coues; Jesurun, common at Douglas; Bond, common at Cheyenne. There are four skins in the University collection that were taken in Albany county. I have observed this bird in every county in the

state. Cary reports them abundant and breeding at Newcastle; Aiken reports them from Sherman.

508. *Icterus bullocki* (SWAINS.).

Bullock's Oriole.

Summer resident; rather common in suitable places. They arrive on the Laramie plains as early as May 18th, but most of them remain only a short time and pass on northward. They nest at Cheyenne (Bond) and Laramie. They have been reported as follows: Drexel from Fort Bridger; McCarthy from LaBonte creek; Grinnell from the Yellowstone park; Bond from Cheyenne, and Jesurun from Douglas; Coues reports them from Popo Agie river, Big Horn mountains and river and from the Wind river. The National Museum has the following specimens that have been taken in Wyoming, 88108, 88109, 88117, 11282 and 69885.

510. *Scolecophagus cyanocephalus* (WAGL.).

Brewer's Blackbird.

Summer resident; common. This is the common blackbird of the state. They usually arrive on the Laramie plains early in April and remain until cold weather. They favor the low mountain ranges to breed in and nest usually in willows along small brooks. Nests have also been found in tall grass about willow trees, but not in marshy places. Some have reported these birds breeding in the high mountains and also seen as high as 13,000 feet. In Wyoming you seldom see a Brewer's blackbird at an elevation of 9,000 feet. If any blackbird could be considered detrimental to farming and stock raising, surely this would be the one for Wyoming. There are 100 of these birds to one of any of the other kinds. They usually breed in isolated places away from ranches and towns and during the months of May and June live entirely upon insects and seeds of the wild plants. When they arrive in the spring they feed about the ranches in large flocks; but what

they get must be considered waste grain. In the late summer they may damage grain in the shock or stack; but in Wyoming this has not been considered a serious matter. Until they are found in greater numbers and do a great deal more damage there will be but few who consider them enemies. F. E. L. Beal (Bul. 13, U. S. D. Ag., Div. of Biol., pp. 51 and 52) sums up the food habits of Brewer's Blackbird as follows:

"In summing up the results of this investigation it must be acknowledged that the stomachs examined are too few, and are not distributed widely enough geographically, to justify a final economic classification of the bird. Nevertheless some very salient points seem to have been brought out, viz: (1) No order of insects is especially sought except grasshoppers (*Orthoptera*), which constitute more than half of the animal food; (2) more than 88 per cent of the vegetable food consists of grain, which is eaten freely at all seasons, even when insects are abundant; and (3) seeds of harmful weeds are eaten sparingly.

"In spite of this apparently discreditable record complaints of this Blackbird have been fewer than of several other species, while on the other hand, some observers speak highly of it. Prof. A. J. Cook, of Claremont, Cal., says that he considers it one of the most valuable species in that state. So far as shown by field observation and stomach examination it does not attack fruit, and this is an important point in a California bird. Mr. J. F. Illingworth, of Ontario, Cal., in a paper read before the Pomona Farmers' club, speaks of the species as a beneficial one that should be protected. It is possible that the large amount of grain found in the stomachs consists principally of gleanings from the harvested fields, corrals, and other places; but even if this be true, a bird with such a pronounced taste for grain would, if abundant, always be a menace to ripening crops."

The Wyoming records are too numerous to include in this bulletin.

511 b. *Quiscalus quiscula æneus* (RIDGW.).
Bronzed Grackle.

Summer resident; but not common. With one exception all of the Wyoming records are confined to the eastern half of the state. They do, however, cross the range of the Rocky mountains annually; but are only occasionally seen. There are so few of these birds in Wyoming that it is not necessary to discuss whether or not they are of economic importance. Drexel reported this species as rare at Fort Bridger, 1858; Bond has taken a few specimens at Cheyenne; Jesurun has taken one specimen at Douglas; Cary states that he saw them occasionally near Newcastle. I saw one carrying food to its young on the Little Laramie river in early June, 1900. Also noted a pair of these birds on Crazy Woman creek, Johnson county, in August, 1901.

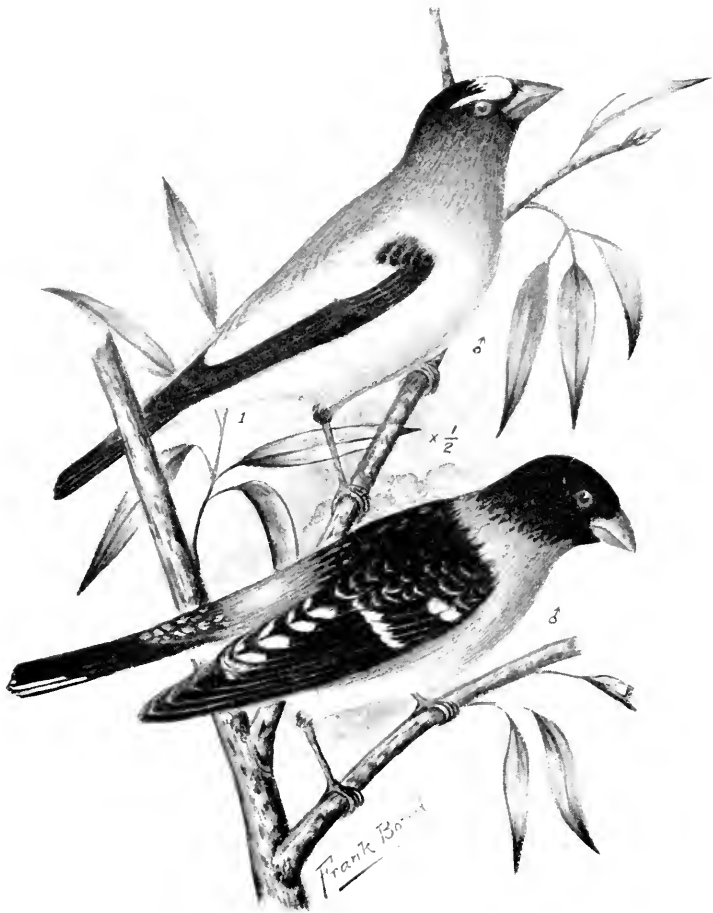
FINCHES, SPARROWS, ETC.

514 a. *Coccothraustes vespertinus montanus* (RIDGW.).
Western Evening Grosbeak.

It is not known whether this bird is resident or merely a visitant. The records are few. Aiken reports that he saw several in the foothills near Sherman on Jan. 20, 1872. Bond has taken one specimen at Cheyenne and notes seeing several others.

515 a. *Pinicola enucleator montana* RIDGW.
Rocky Mountain Pine Grosbeak.

Summer resident; but not common. Cary reports having taken one at Newcastle, June 8th, 1900. I have seen this species at Sundance and taken them at Hyattville in the Big Horn basin. In the vicinity of Hyattville they were quite numerous, among them several young birds. There is one skin in the University collection.



1. *COCCOTHAUSTES VESPERTINUS MONTANUS*. Western Evening Grosbeak.
HABIA MELANOCEPHALA. Black-Headed Grosbeak.



1. *LOXIA CURVIROSTRA BENDIREI*. Bendire's Crossbill
LOXIA LEUCOPTERA. White-winged Crossbill.

518. *Carpodacus cassini* BAIRD.

Cassin's Purple Finch.

Summer resident; but not common. Coues (Key to N. A. Birds, p. 347) has the following note on the distribution of this species: "Rocky mountains of the United States and westward, especially in the southern Rocky mountain region, as Utah, Nevada, Arizona and New Mexico; North to British Columbia; east to Wind River mountains." Grinnell notes that they were quite abundant in the Medicine Bow mountains, where he took a number of specimens. Grinnell also reports having taken one at the Mud volcano in Yellowstone park in 1875; Merriam reports them in the Yellowstone park in 1872; Aiken reports this species from Sherman; Jesurun has taken a few of them at Douglas.

519. *Carpodacus mexicanus frontalis* (SAY.).

House Finch.

Summer resident; and common in southeast Wyoming. With the exception of Aiken none of the early collectors found this species in the state, and the A. O. U. check list does not include Wyoming in its geographical distribution. Bond has taken numerous specimens at Cheyenne. At Laramie and Cheyenne they breed in considerable numbers annually. There are five specimens in the University collection that were taken near Laramie. Bond reports that they remained in Cheyenne all winter, 1901-2. They arrive on the Laramie plains usually between the 10th and 15th of April.

521 (b?) *Loxia curvirostra bendirei* RIDGW.

Bendire's Crossbill.

Resident; common in the pine forests. In accordance with Mr. Ridgway's latest classification, (Birds of North and Middle America, Bul. Smithsonian Inst. No. 50, p. 50) Bendire's Crossbill includes the Crossbills of Wyoming that have previously been called *L. c. minor* and *L. c. stricklandi*. Drexel took this species at Fort Bridger, 1858; Hayden at Laramie

peak in 1857; Grinnell has the following note from the Yellowstone: "This species was found in great numbers near the falls of the Yellowstone in August. It had undoubtedly bred in the immediate vicinity, as I saw old birds feeding young just from the nest. The food seemed to consist entirely of the seeds of the pine." Coues also notes other records and Ridgway still others in Bulletin No. 50. I have observed this bird in all of the pine-clad mountains of the state. In 1897 while in the Bear Lodge mountain I saw these birds in flocks of several hundred. It was on the 24th of July and the young were full grown. At this time I took a dozen specimens, three of which are in the University collection.

522. *Loxia leucoptera* GMEL.

White-winged Crossbill.

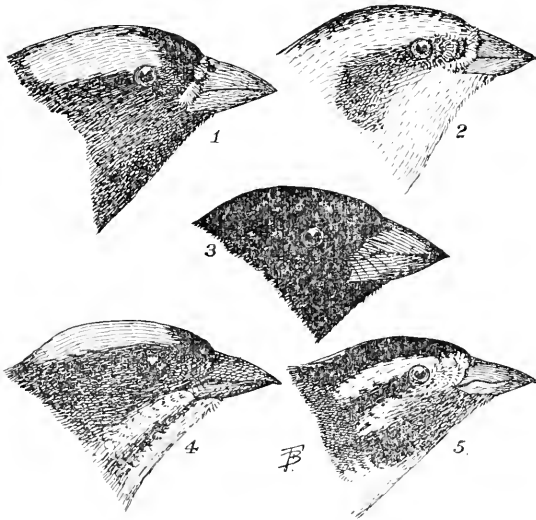
Resident; not common. None of these birds have been reported in recent years. Hayden reports two specimens taken at Laramie peak, Aug. 25, 1857, and two specimens taken on the west side of the Wind River mountains June 5, 1860. Coues reports one specimen taken at Box Elder creek, Aug. 21, 1870. From these records, there is no doubt about their breeding in the state and I am quite certain that they remain all winter; but there are no winter specimens reported.

524. *Leucosticte tephrocotis* SWAINS.

Gray-crowned Leucosticte.

Winter resident; very common in eastern Wyoming. Their arrival from the north depends upon the severity of the season. The earliest record that I have recorded is Oct. 25, 1898, which was prior to the coldest and longest winter ever recorded for the Rocky mountains. In the fall of 1901 they did not arrive until Dec. 2nd. They depart for the north between the 1st and middle of April. In their winter home they are partial to civilization, and congregate in large flocks about the towns and ranches. At Laramie I have seen as high as 500 in a single flock feeding upon weed seeds. Annually quite

a number live about the University building in the nooks and recesses. I have also noted small flocks about ranches on the Laramie plains, above Casper and south of Buffalo. All of the Wyoming records are from the south and eastern portions of the state, but there can be but little doubt that they are common in the western and northwestern parts. Coues refers to



1. GRAY CROWNED LEUCOSTICTE 2. SNOW BUNTING
3. LARK BUNTING. 4. GREEN-TAILED TOWHEE
5. CHESTNUT-COLLARED LONGSPUR.

a great many specimens that were taken in the winter of 1859-60 by Hayden and Trook at Deer creek. Some of these specimens may belong to the other varieties or species, but the most of them can safely be placed here. Jesurun reports them very abundant during the winter at Douglas; Bond reports them common at Cheyenne during the winter; Allen noted them in December, 1871, in Carbon county. Burnett sent me one of these birds late in the winter of 1900 that he had taken at the head of Little Medicine river. There is quite a series of skins

in the University collection that have been taken on the Laramie plains. The following data have been received from the National Museum: Nos. 88042, 88039, 88043 and 88041, all taken at Fort Fetterman by R. W. Shufeldt; Nos. 60896, 68668 and 68661, taken at Sherman by C. E. Aiken; 68404 taken at Fort Sanders by A. G. Brackett.

524 a. **Leucosticte tephrocotis littoralis** (BAIRD.).

Hepburn's Leucosticte.

Winter resident; not common and only known from the southeastern part of the state. Jesurun has four specimens that were taken at the following dates at Douglas: Oct. 5 and 22, 1891; two March 18, 1899. Dr. A. G. Brackett took three specimens at Fort Sanders in February and March, about 1870. Specimens numbered 88045 and 88044 of the National Museum were taken at Fort Fetterman by R. W. Shufeldt.

525. **Leucosticte atrata** RIDGW.

Black Leucosticte.

But very little is known of this species in Wyoming. The first specimens known to science were taken at Sherman. Aiken notes the following in speaking of a specimen that was taken prior to the one reported by him from Sherman: "It was shot at Sherman, Wyoming, by J. Deuchman and sent by express to Mr. Holden in Chicago. This specimen is still in Mr. Holden's collection." None of these birds have been reported in recent years and I have never seen them in Wyoming.

528. **Acanthis linaria** (LINN.).

Redpoll.

Winter resident; and common about the foothills. They arrive on the Laramie plains between the 1st and 15th of November and large flocks are not uncommon during the winter. They prefer the mountainous region; but when these are covered with snow often remain in and about towns for weeks at a time. Coues reports a number of Wyoming specimens, but

does not cite localities; Jesurun finds them common at Douglas in winter; Bond finds them common at Cheyenne and has taken a number of specimens; Hayden's Annual Report, 1870 (Stevenson), gives the following localities where they have been taken: Camp Reynolds, Green river, Rock creek, Sulphur springs and Laramie river. There are five specimens in the University collection that have been taken on the Laramie plains. The following data have been received from the National Museum: Nos. 88046, 88048, taken at Fort Laramie by R. W. Shufeldt; No. 60979, taken on Little Laramie by U. S. Geol. Sur. of the Ters.

529 a. **Astragalinus tristis pallidus** MEARNS.

Western Goldfinch.

Summer resident; rather uncommon. More abundant below 7,000 feet than above. All of the Wyoming records have been referred to the western form. Until recently, however, all of these birds have referred to the American Goldfinch. Coues refers to a half dozen specimens taken in Wyoming; Bond reports them rather common at Cheyenne; Jesurun, common at Douglas; Dr. Cooper reports a specimen taken at Fort Laramie, Sept. 8, 1857; The National Museum reports one specimen, No. 69856, taken at Laramie by Dr. J. S. Newberry; Cary reports them from near Newcastle about creeks and springs; West reports them from Buffalo. There are five skins in the University collection that were taken in Big Horn, Crook, Johnson and Albany counties. I have noted these birds at the following places: Sundance, Belle Fourche Oil Field, Welcome, Cambria, Buffalo, Hyattville, Otto, Glenrock, Casper, Guernsey, Chugwater, Laramie and Centennial valley.

530. **Astragalinus psaltria** (SAY.).

Arkansas Goldfinch.

Probably very rare if not accidental. The Wyoming record rests upon a single specimen taken by Bond at Cheyenne, May 26, 1889. Mr. Bond has the skin in his collection.

533. *Spinus pinus* (WILS.).

Pine Siskin.

Summer resident and rather common in the pine forests and ranging from 5,000 to 10,000 feet in elevation. Drexel took this species at Fort Bridger in 1857. Grinnell has published the following notes: "Abundant while migrating in the Medicine Bow mountains. Though this species was noted several times while in the park, it did not seem to be common there. The birds were seen among the pines or else feeding on the thistles below, after the manner of *C. tristis* (1875)." The National Museum notes that No. 69866 was taken at Laramie by Dr. J. S. Newberry. Merriam reports them from Yellowstone park.

Bond reports them from Cheyenne, where they have been taken during migration, and Jesurun reports them from Douglas; Aiken found these birds in the vicinity of Sherman in 1870; Cary reports that he saw this species once or twice in the vicinity of Newcastle. There is a single skin in the University collection that was taken by Gilmore in the northwestern corner of Albany county.

Passer domesticus (LINN.).

European House Sparrow.

Resident and gradually becoming more and more common over the state. In localities above 7,000 feet most of them migrate for the winter. These birds have been in Cheyenne for upwards of ten years, but have been kept down through the persistent efforts of Mr. Frank Bond. In the winter time when there are no other birds about he feeds them with wheat soaked in a solution of strychnine and in a single day has picked up over 180 dead birds. At Laramie they never have been abundant, but each season there are a few more. At the University buildings they have taken absolute possession and driven away the blue birds, house finches, phoebes and wrens. In my opinion every effort possible should be put forth to ex-

terminate these birds, whose continual monotonous notes are enough to drive any sane man distracted. Not only this, they drive away the few song birds that would gladly seek our towns for a home, and also possess many other disagreeable traits.

534. *Passerina nivalis* (LINN.).

Snowflake.

Winter resident; rather common and found in large flocks. While these birds have often been observed all of the known specimens have been taken by Bond and Jesurun. Bond has six skins in his collection which were taken on Feb. 17 to 19, 1889. Jesurun has taken this species at Douglas in November, species about Laramie; but have never taken any specimens. I am aware that Ridgway has recently (Bul. No. 50, Birds of North and Mid. America, p. 148) placed this bird under the name *Passerina nivalis nivalis* (Linn.). Whether this will take the place of 534 of the Check List or is to be given a place as 534b I have been unable to learn.

536 a. *Calcarius lapponicus alascensis* RIDGW.

Alaskan Longspur.

Winter resident and rather common. Prior to Mr. Ridgway, December and February. I have often seen flocks of this way describing this variety all of the Wyoming records were placed under *Calcarius lapponicus*. It has been thought best to refer all of the records to this new variety, since Wyoming is wholly within the geographical limitation assigned by Mr. Ridgway. Drexel reported this species as early as 1857, from Fort Laramie; Coues reports three specimens from Deer creek and one from the source of the Cheyenne river; Jesurun has two skins in his collection that were taken Feb. 17 and Nov. 29, 1893; Bond has two specimens that were taken Feb. 17 and 18, 1889. There are three skins in the University collection that were taken on the 1st and 3d of April, 1899.

538. *Calcarius ornatus* (TOWNS.).**Chestnut-collared Longspur.**

Summer resident; but so far as known rare. There are some records given by Coues, such as Black hills and Running Water which may belong to Wyoming; but are not so considered here. In Coues' Key to North American Birds, p. 360, there is the following note: "Breeds in profusion on the prairies of Colorado, northward, in parts of Dakota and Montana, etc." The only absolute records of this species in Wyoming are those from Bond, who has taken at Cheyenne the following specimens: In 1889, on April 17, 2; April 18, 1; April 21, 2; March 16, 1890, 1.

539. *Rhynchophanes mccownii* (LAWR.).**McCown's Longspur.**

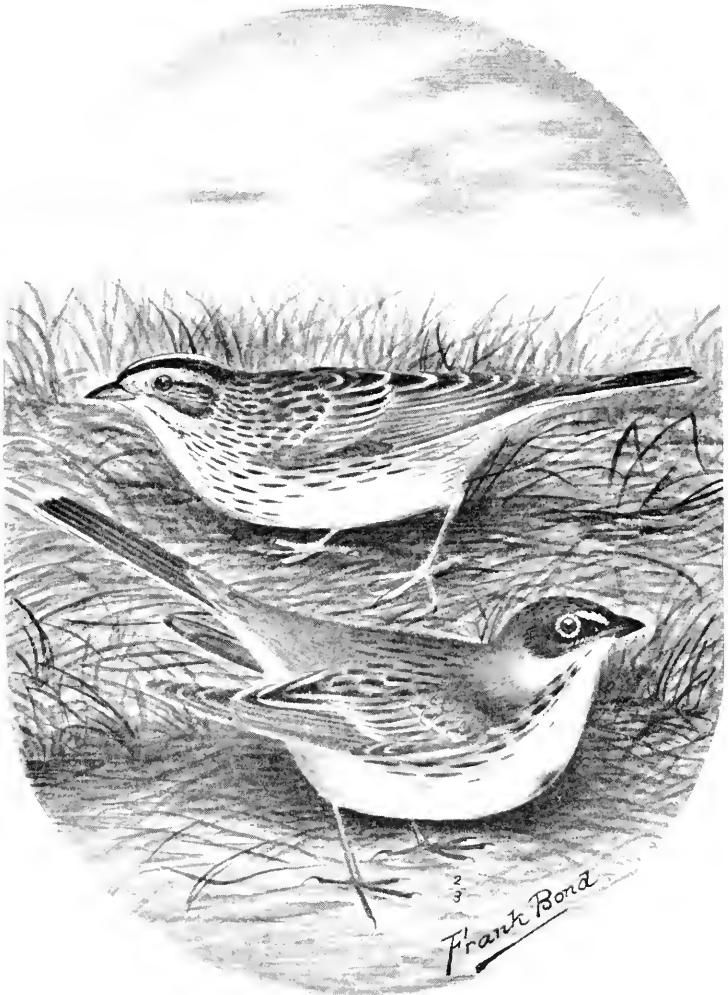
Summer resident, and locally breeding in great numbers. These are nearly as abundant during the breeding season on the Laramie plains as the Desert Horned Lark, and the Western Vesper Sparrow. Coues reports this species from Wyoming. Allen has published the following note (Bul. M. C. Z., III, 1872, pp. 145-177): Cheyenne, Wyoming Terr., abundant, breeding. Jesurun finds them abundant at Cheyenne. Specimens in Bond's collection were taken April 8, 17, 18, 1888-89, and on Oct. 14th and 20th, 1888. There are three skins in the University collection that were taken on the Laramie plains on the 21st and 23rd of May, 1897. I have also taken one specimen on Chugwater creek on May 29, 1898.

540 a. *Poœcetes gramineus confinis* BAIRD.**Western Vesper Sparrow.**

Summer resident, and abundant. Found at the lower elevations all over the state. The following have reported this species: Wood, Pole creek, Aug. 4, 1856; Cooper, Fort Laramie, 1858; Drexel, Fort Bridger, 1858; Aiken, Sherman, 1870; Grinnell, Yellowstone park, 1875; Merriam, Yellowstone park, 1872; Williston, breeding at Lake Como, 1879; Bond, abundant



1. *CALCARIUS ORNATUS*. Chestnut-collared Longspur.
RHYNCHOPHANES MCCOWNII. McCown's Longspur.



1. *AMMODRAMUS SANDWICHENSIS ALAUDINUS*. Western Savanna Sparrow.
AMPHISPIZA BELLI NEVADENSIS. Sage Sparrow.

at Cheyenne; Jesurun, abundant at Douglas. They arrive quite early from the south, some having been taken as early as April 12. National Museum records No. 88054 taken by Shufeldt at Fort Laramie. West has sent in one specimen from Buffalo. There are three skins in the University collection, besides nests and eggs. The number of eggs varies from 6 to 7 in the nests taken. Nests built at the base of bushes, or in thick grass.

542 a. ***Ammodramus sandwichensis savanna*** (WILS.).
Savanna Sparrow.

Accidental. This has been placed in the Wyoming list upon a single specimen which Dr. Jesurun has taken at Douglas. I have examined the skin and I am unable to distinguish it from the typical eastern bird.

542 b. ***Ammodramus sandwichensis alaudinus*** (BONAP.).
Western Savanna Sparrow.

Summer resident; common. They arrive early in April and remain until rather late in the fall. Coues reports several specimens which must belong to this variety; Drexel reports them common at Fort Bridger, 1858; Williston reports them quite abundant at Lake Como and generally in open country; Bond notes that they are very common at Cheyenne; Jesurun claims them abundant at Douglas. There are two specimens in the University collection that were taken on the Laramie plains and identified by Robert Ridgway.

552 a. ***Chondestes grammacus strigatus*** (SWAINS.).
Western Lark Sparrow.

Summer resident; common. This variety has been reported as follows: Holden, Wyoming; Coues, Yellowstone park, Bitter Cottonwood creek and other references; Bond, common at Cheyenne; Jesurun, common at Douglas; Grinnell, Yellowstone park; National Museum, Fort Laramie by Schufeldt; Cary, "common breeder at Newcastle. A nest contain-

ing five slightly incubated eggs was found on June 14, 1900. The nest was on the ground and composed of grass, the lining was fine grass and horse-hair. Eggs similar to those of *C. grammacus*."

553. *Zonotrichia querula* (NUTT.).

Harris's Sparrow.

Migratory; rare. Dr. Jesurun has two skins in his collection that were taken on Oct. 7 and 15, 1894. No other Wyoming records. It is quite probable that this species is more abundant to the northward, for they are occasionally reported from Oregon.

554. *Zonotrichia leucophrys* (FORST.).

White-crowned Sparrow.

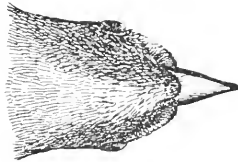
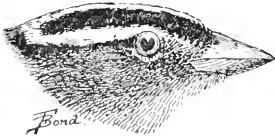
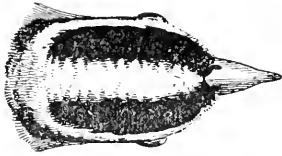
Summer resident, and common in the lower mountain regions. Breeds abundantly from 8,000 to 9,000 feet. It has not been noted above timber line in Wyoming. The following records have been secured: Taken by Wood, Cheyenne pass and Pole creek, July 20 and 28, 1856; Stevenson, Wyoming, 1870; Aiken, Sherman, 1870; Coues, several Wyoming specimens; Grinnell "abundant in Yellowstone park. It was seen during August and September in small flocks of 10-12 individuals, old and young, feeding on the ground in company with *A. arctica* and a host of small sparrows (1875)." Also reported by Merriam from the Yellowstone park, 1872; Bond, common at Cheyenne. There are a half dozen skins in the University collection that have been taken from the following localities: Chugwater, Tepee creek, Ten Sleep lake and Laramie. The National Museum reports Nos. 11141 and 11148 taken at Fort Bridger and No. 88060 at Fort Laramie. I have observed these birds at Atlantic, Evanston, Fossil, Saratoga, Casper Mountain, Ervay, Meeteese creek, head of Clear creek, near Buffalo and Medicine Bow mountains. I am inclined to think that the early records are not reliable in this instance and may prove to be in part 554a. Ridgway in Bull. 50 (Birds of

North and Middle America, p. 336) refers this species to *Zonotrichia leucophrys leucophrys* (Forster.).

554 a. *Zonotrichia leucophrys gambelii* (NUTT.).

Gambel's Sparrow.

Migratory; but common. There have been so many changes in the arrangement of the varieties of this species and



of this genus, that more or less confusion will doubtless result, and some of the data given here must be considered tentative. Drexel reported this variety from Fort Bridger, and I have learned that this has been passed upon by Mr. Ridgway as a typical form. Bond has also had Mr. Ridgway identify four skins as *gambellii*. Holden's skins taken at Sherman belong to this variety. Probably some of the material collected or published by Coues belongs here. Dr. Jesurun has reported sparrows under the name Intermediate Sparrow, which

ZONOTRICHIA LEUCOPHRYS GAMBELI. (Auct.)
GAMBEL'S SPARROW.

has been replaced by Gambel's Sparrow and they are included here for that reason. Merriam has also included a Yellowstone park record under *intermedia* which is probably *gambelii*. Williston also noted an abundance of what was then known as Gambel's Sparrow, near Lake Como and in the Medicine Bow mountains. These data have also been included under this head.

558. *Zonotrichia albicollis* (Gmel.).

White-throated Sparrow.

Summer resident; but there are very little data in hand, and nothing can be said of its distribution or abundance. The Check List, 1895, notes, "Breeds in Montana and Northern Wyoming;" etc. Ridgway notes (Bull. 50, Birds of North and Middle America, p. 345) that it has been taken on the North Platte river; but does not refer to collector. Dr. Jesurun has the only specimen that I have seen from Wyoming. He took this on Oct. 8, 1894, at Douglas.

559 a. *Spizella monticola ochracea* Brewst.

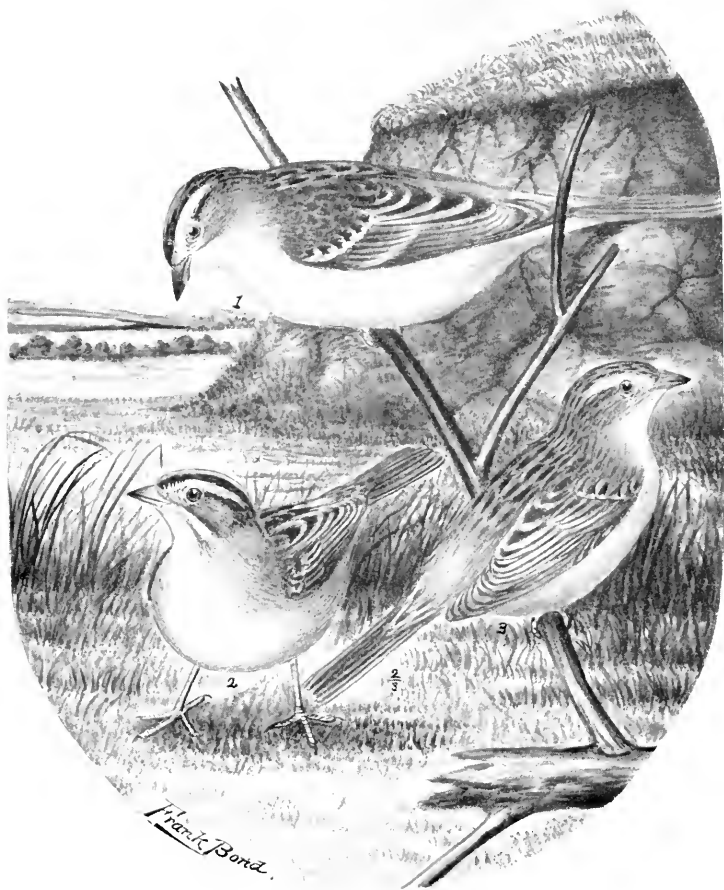
Western Tree Sparrow.

Probably resident; common. These birds are most numerous in fall and spring, but they have been taken at all times in the year. They are most abundant on the Laramie plains during November and April. The records are numerous. Hayden reports them from Laramie peak for the months of January and March; Coues notes a dozen specimens taken from various localities; Wood took a specimen at Pole creek Aug. 2, 1857; Drexel found them at Fort Bridger, 1858; Bond reports them common at Cheyenne; Jesurun, common at Douglas. There are seven specimens in the University collection that have been taken on the Laramie plains. Holden reports them from Sherman; Stevenson from Green river, Henry's Fork and Rock creek.

560. *Spizella socialis* (Wils.).

Chipping Sparrow.

Probably a summer resident; but rare. The record of this species in the state comes from the National Museum. Specimen No. 38477 was taken at Laramie peak and No. 11213 at Fort Bridger. It is quite probable that it may be common along the eastern border of the state.



1. *SPIZELLA SOCIALIS ARIZONAE*. Western Chipping Sparrow.

2. *SPIZELLA PALLIDA*. Clay-colored Sparrow. 3. *SPIZELLA BREWERI*. Brewer's Sparrow.



1. JUNCO CANICEPS. Gray-Headed Junco. 2. CALAMOSPIZA MELANOCORYS. Lark Bunting.
3. MELOSPIZA LINCOLNI. Lincoln's Sparrow. 4. JUNCO HYEMALIS. Slate-Colored Junco.

560 a. **Spizella socialis arizonæ** COUES.

Western Chipping Sparrow.

Summer resident; common. Breeds rather abundantly over the entire state. Arrives on the Laramie plains early in May. Wood took a specimen on Pole creek, 1856; Drexel reports them from Fort Bridger, 1858; Coues reports it from Green river, Little Sandy and one general reference; Grinnell reports them from the Yellowstone park; Jesurun reports them common at Douglas; Bond states that they are common at Cheyenne. There are seven specimens in the University collection that have been taken in Carbon and Albany counties.

561. **Spizella pallida** (SWAINS.).

Clay-colored Sparrow.

Summer resident; rather common. Williston notes that it was first seen at Lake Como May 12; Wood records a specimen taken on Pole creek, Aug. 1st, 1856; Bond reports them from Cheyenne and Jesurun from Douglas. West of Buffalo has sent one skin to the University. The National Museum reports No. 88063 taken at Fort Laramie.

562. **Spizella breweri** CASS.

Brewer's Sparrow.

Summer resident and abundant. They arrive on the Laramie plains from the 10th to the 20th of May and have been taken as late as Oct. 21st. Drexel found this species at Fort Bridger, 1858; Coues reports it from Bitter Cottonwood, Fort Fetterman, Big Sandy and Green river; Jesurun states that they are common about Douglas; Bond finds them common at Cheyenne. There are seven skins in the University collection that have been taken in Albany and Carbon counties.

566. **Junco aikeni** RIDGW.

White-winged Junco.

Summer resident, and rather common in the northern mountains during the summer. It is very desirable that we

should know more of this species in Wyoming. Present data do not give one an idea as to its range and abundance. Jesurun has taken one specimen at Douglas, on March 26, 1893; Cary reports it as a common breeder near Newcastle. He saw several families of young birds near that place on June 11, 1900. There is a single skin in the University collection that was taken in the Laramie mountains Oct. 23, 1897, by Gilmore. I have noted this species on the Wyoming side of the Black hills, in the Bear Lodge mountains and in the Big Horn mountains during July and August, 1897. Ridgway (Bull. No. 50, Birds of North and Middle America, p. 277.) notes that they breed in the Bear Lodge mountains. I have seen the young in this range; but it was too late to tell whether they bred or not. I have also found them common at 9,000 feet in the Medicine Bow mountains and am quite certain they breed along that range.

567. **Junco hyemalis** (LINN.).

Slate-colored Junco.

Migratory; probably breeds in the northern mountains. This species is most abundant during early spring and late fall. Aiken notes, "None seen (Sherman) until about March 20th. From that date they were common for about three weeks." Jesurun finds them common during the spring and fall at Douglas. The following data pertain to the National Museum collection: No. 61025, Green river; 71115, no locality; Nos. 11190, 11191, Fort Bridger; No. 115711, Green river. There are two skins in the University collection that were taken in April and May, in Albany county.

567 b. **Junco hyemalis connectens** COUES.

Intermediate Junco.

But little is known of this variety, which must be quite abundant in Wyoming during migration. The National Museum has specimens Nos. 11181 and 11184 that were taken at Fort Bridger by Drexel. Stevenson reports it from Green river and Holden and Aiken from near Sherman.

567 I. **Junco montana** RIDGW.

Montana Junco.

Possibly a winter resident. But little is known of this species. It is very certain that data originally referred to the Oregon Junco in part belongs to this species. These birds arrive in Laramie about the middle of March and remain for only a few weeks. There is one skin in the University collection that was taken at Laramie, Sept. 27, 1898. The National Museum has the following numbers belonging to this species, that were taken in Wyoming: 71114, taken by A. G. Brackett, and 11180 and 11186, taken by Drexel at Fort Bridger.

568. **Junco mearnsi** RIDGW.

Pink-sided Junco.

Probably a summer resident, and rather common in the mountains of the northern part of the state. During migration common over the state. Bond has taken several specimens at Cheyenne and states that they are common during the spring; Jesurun reports them common about Douglas. The following numbers of the National Museum collection belong to this species: 11168, taken at Fort Bridger; 138543, South pass, U. S. Dept. Ag.; 11187, Fort Bridger, Drexel. West has sent one skin from Buffalo. There are three other skins in the University collection that were taken on the Laramie plains. I have seen this species in the Big Horn mountains near Ten Sleep lake during the months of July and August. Many of the birds were quite young. While I am quite certain they breed in that region I have never seen their eggs nor nests.

569. **Junco caniceps** (WOODH.).

Gray-headed Junco.

Summer resident, and a few may remain all winter. Common in the mountainous districts from 8,000 to 10,000 feet. Breeds in the Laramie and Medicine Bow mountains and Freezeout hills. There are the following records pertaining to the capture of this species in Wyoming: Drexel, Fort Bridger,

1858; Hayden, Laramie peak, 1857; Williston, Elk mountain, 1879; Merriam, Fort Bridger; Jesurun, Douglas; Bond, Cheyenne. There are five skins in the University collection that have been taken in Albany and Carbon counties during May and July. In August, 1897, I saw this species near Sundance and also above Hyattville on Paint Rock creek.

574 a. **Amphispiza belli nevadensis** (RIDGW.).
Sage Sparrow.

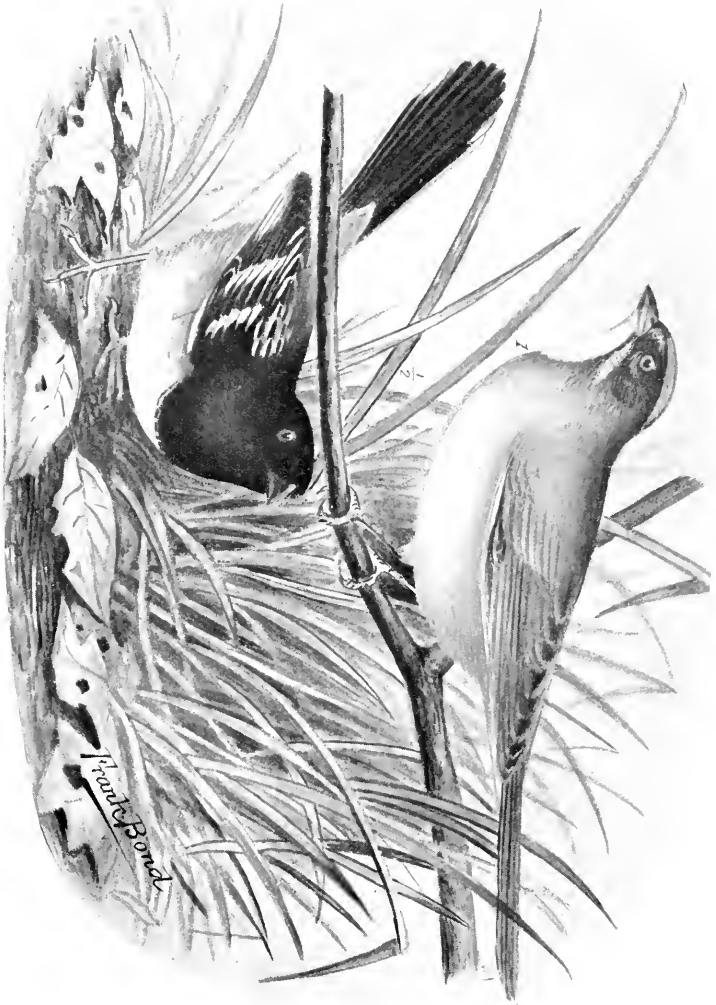
Summer resident; common. Reported by Drexel as very abundant near Fort Bridger. Stevenson reports it from Henry's Fork, Green river and Rock creek; Ridgway, (Bull. 50, Birds of North and Middle America, p. 270) in southern Wyoming, east to eastern base of the Rocky mountains in Wyoming, (near Cheyenne); Bond has taken one specimen at Cheyenne, which is now in the Cheyenne High School.

581 b. **Melospiza cinera montana** HENSH.
Mountain Song Sparrow.

Summer resident; abundant. All of the early collectors referred a great many sparrows to the Desert Song. I have provisionally referred the records of Drexel, Coues, Grinnell, Williston, and others that were originally under the Desert Song Sparrow to this variety. Drexel reports it from Fort Bridger; Coues reports two dozen specimens from various Wyoming localities, but remarks that they are variety *fallax*; Grinnell reported them from Yellowstone park in 1875; Merriam from Yellowstone park. 1872; Bond finds them common at Cheyenne. There are three skins in the University collection that were taken in Carbon and Albany counties. The National Museum refers their Nos. 11224 and 114048 to this variety. Holden reports them from Sherman.

583. **Melospiza lincolni** (AUD.).
Lincoln's Sparrow.

Probably a summer resident in the mountains. Common during migration. There are the following records: Drexel,



1. PIPILIO CHLORURUS. Green-tailed Towhee. PIPILIO MACULATUS ARCTICUS. Arctic Towhee.



1. *CALAMOSPIZA MELANOCORYS*. Lark Bunting.
2. *LEUCOSTICTE TEPHROCOTIS*. Gray-Crowned Leucosticte.
3. *PLECTROPENAX NIVALIS*. Snowflake.

taken at Fort Bridger; Dr. Cooper, taken at Fort Laramie; Jesurun, taken at Douglas; Bond, taken at Cheyenne; Stevenson, Wyoming; Holden, Wyoming; Cones, Henry's Fork and Green river.

588. *Pipilo maculatus arcticus* (SWAINS.).

Arctic Towhee.

Summer resident; rather common in northern Wyoming. Dr. Cooper took this variety at Fort Laramie, Sept. 12, 1857; Drexel reports it from Fort Bridger, 1858; McCarthy from La-Bonte creek, 1859; Stevenson from Wyoming, 1870; Bond has taken several specimens at Cheyenne during migration; Jesurun reports them rather common at Douglas; The National Museum reports Nos. 38495, 38499, 38503, 38503 all taken at Laramie peak, 1864, and Nos. 8219 and 69895 taken at Laramie; Holden reported this variety from Sherman, 1872. Cary furnishes the following interesting note in reference to Newcastle: "Abundant breeder. Two nests were found, the first on June 3, 1900, containing four fresh eggs; the second on June 13, containing four young. Both nests were on the sloping sides of a canon about six feet from the bottom, beside small rocks. They were composed of pine needles and lined with fine grass." I saw these birds at Lander in May, 1902.

I am of the opinion that some of this data belongs to *megalonyx*. Along the eastern part of the state it is very difficult to separate the arctic variety from the spurred. Two skins belonging to the University collection, which were taken in Johnson and Crook counties, have been identified by Ridgway as *megalonyx*.

588 a. *Pipilo maculatus megalonyx* (BAIRD.).

Spurred Towhee.

Summer resident in northeastern Wyoming and abundant. I have found these birds in great numbers about Sundance mountain and the Bear Lodge mountains early in July, with their young just able to fly. There are but three recorded

skins. Drexel reports one from Fort Bridger, and there is one skin in the University collection that was taken by West at Buffalo and another that was taken at Sundance. Coues reports this variety from Powder river, The Tower, and five specimens in general from the state.

592-1. *Oreospiza chlorura* (AUD.).

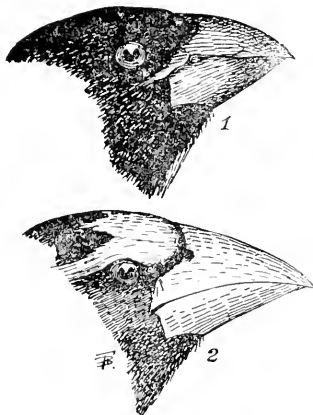
Green-tailed Towhee.

Summer resident and abundant over the state. They prefer a hilly or mountainous country, where there is an abundance of brush and scattering trees. I have found them breeding in the Laramie, Medicine Bow, Ferris, Rattlesnake, Big Horn, Bear Lodge and Wind River mountains at elevations varying from 6,000 to 8,000 feet. Nearly all observers have reported them and the records are too voluminous to publish.

596. *Zamelodia melanocephala* (SWAINS.).

Black-headed Grosbeak.

Summer resident in Big Horn, Johnson and Crook counties and probably further southward; not common. There are



1. BLACK-HEADED GROSBK
2. EVENING GROSBK.

no breeding records from southern and western Wyoming. Coues records this species from Sinking creek and the Big Horn river; Grinnell from Yellowstone park; Jesurun from Douglas; Bond from Cheyenne and Silver Crown. The following records have been obtained from the National Museum: Nos. 88077 and 88078, taken at Fort Laramie; No. 68889, taken at Laramie; Nos. 11241, 11246 and 11248, taken at Fort Bridger. West has sent one skin from Buffalo.

There are two Wyoming skins in the University collection-

599. *Cyanospiza amœna* (SAY.).**Lazuli Bunting.**

Probably a summer resident, but there are no breeding records; not common. During migration these birds appear annually; but never in great numbers. Coues refers to specimens that have been taken at Laramie peak, Yellowstone river and Wind river; Allen reports them from Cheyenne; Jesurun finds them annually at Douglas; Bond reports the capture of a few at Cheyenne. West has sent in one skin taken at Buffalo.

605. *Calamospiza melanocorys* STEJN.**Lark Bunting.**

Summer resident and abundant on the east side of the Big Horn and Laramie mountains up to 6,500 feet; and a few breeding as high as 7,300 feet. To the westward of these ranges they decrease in abundance very rapidly and in western Wyoming are seldom seen. Between Fort Laramie and Rawhide Buttes there are places where there are a dozen or more pairs breeding on each section. The following are the important records: Wood, Pole creek, 1856; Stevenson, Wyoming, 1870; Holden, Wyoming, 1872; Coues, Big Horn mountains and Bitter Cottonwood creek; Williston, common, Lake Como; Jesurun, common at Douglas; Cary, common south of the B. M. R. R. south of Newcastle; The National Museum reports three specimens taken at Laramie and Cheyenne. There are two specimens taken at Laramie in the University collection.

607. *Piranga ludoviciana* (WILS.).**Louisiana Tanager.**

Summer resident and rather common in regions below 7,500 feet. Much has been said about the vertical range of this species in the Rocky mountains. In Wyoming I have never found it breeding at 8,000 feet, nor have I ever seen it above that elevation. During migration they arrive on the Laramie plains about the 15th of May, remain a week or so and disappear. From an elevation of 6,000 feet, downward,

they are abundant along streams with thickets and groves. In no place have I found them breeding in such abundance as in the Bear Lodge mountains at elevations varying from 4,500 to 5,500 feet. From the days of Wood, 1856, every collector of any note in the state has reported this bird. The records cover nearly every part of Wyoming and are too extended to publish here.

608. *Piranga erythromelas* VIEILL.

Scarlet Tanager.

Accidental. But a single specimen has been reported from Wyoming. Mr. Frank Bond took one at Cheyenne on May 28th, 1889. The skin is in his collection. It is a male bird, in gorgeous plumage, and was alone.

SWALLOWS.

611. *Progne subis* (LINN.).

Purple Martin.

Probably a summer resident; but uncommon. All of the Wyoming records are from the eastern part of the state and chiefly from the valley of the North Platte river, where they are most abundant. McCarthy reports taking one specimen 27 miles west of Laramie, 1859; Coues reports two specimens from Bitter Cottonwood creek; No. 38382 of the National Museum was taken at Laramie peak; Bond reports them from Cheyenne; Jesurun states that they are common at Douglas.

612. *Petrochelidon lunifrons* (SAY).

Cliff Swallow.

Summer resident; abundant. They breed ordinarily up to 8,000 feet. Some breed about buildings, but where there are protected rock walls they appear to prefer the isolated life. Nests by the hundreds are common over the state on the walls of red sandstone. This species has been taken as follows: Wood, Pole creek, 1856; Drexel, Fort Bridger, 1858; Merriam, Yellowstone park, 1872; Grinnell, Yellowstone park, 1875; Dr.

Hammond, Fort Laramie, 1857; Bond, common at Cheyenne; Jesurun, abundant at Douglas; Gilmore, nest built under the eaves of water tank, Harper's: nest with three eggs and no lining; Holden, Black hills (Sherman), 1872; Coues, two Wyoming references; Williston, abundant Lake Como.

613. *Hirundo erythrogastra* BODD.

Barn Swallow.

Summer resident; common. Breeding below 7,500 feet. Drexel reports them from Fort Bridger, 1858; Merriam, Yellowstone park, 1872; Grinnell from Yellowstone park, 1875; Williston as abundant at Lake Como, 1879; Jesurun, common at Douglas; Bond, common at Cheyenne; Coues reports them from Lower Geyser Basin and Yellowstone river; Cary, common breeder under ranch sheds about Newcastle; Aiken reported them from near Sherman. I have seen this species in the following localities: Sundance, Sheridan, Buffalo, Otto, Bonanza, near Casper and on the Laramie plains. There are five skins in the University collection that have been taken in Albany and Carbon counties.

614. *Tachycineta bicolor* (VIEILL.).

Tree Swallow.

Summer resident; not common. Locally they seem to be plentiful, but are very particular in selecting a breeding place. Drexel reported this species from Fort Bridger in 1858; Bond has taken a few at Cheyenne; Cary has observed them near Newcastle. I have found them breeding on the Little Laramie river, 20 miles west of Laramie, and along Medicine Lodge creek in Big Horn county.

615. *Tachycineta thalassina* (SWAINS.).

Violet-green Swallow.

Summer resident and abundant in desirable localities. They arrive on the Laramie plains about the 1st of May and by the 15th they are seen in great numbers in the vicinity

of their breeding places. They are partial to red sandstone walls where there are slight crevices and wind-made cavities. Usually the nests are out of sight and I have reached into an opening an arm's length and could not touch the nest. Although common there are only a few collectors that have observed this most gorgeous swallow. Coues reports this species from Wind river and Grey Bull river; Drexel captured them at Fort Bridger and stated that they were numerous; Wood reports having taken them at Bridger pass and Medicine Bow creek, 1857; Grinnell reports them from Medicine Bow mountains and Yellowstone park. There are two skins in the University collection. One was taken at Sand creek, Albany county, and the other from Medicine Lodge creek, Big Horn county. I have also noted these birds on the Shoshone river, above Cody, along Wood river, Paint Rock, Canon creek and South Fork of Powder river.

616. *Riparia riparia* (LINN.).

Bank Swallow.

Summer resident; but can not say just how abundant. From present data they breed in greater numbers in northern Wyoming than in any other place. But few have observed them. Coues reports Hayden's specimen taken on the Wind river in 1860; Grinnell reports having seen them at Lake Como; Aiken found them near Sherman. There is one skin in the University collection that was taken at Ten Sleep lake. I have seen this species nesting in considerable numbers along the vertical walls of the Big Horn and Grey Bull rivers and have taken specimens from Chugwater creek. In June, 1902, noted them nesting on the Big Popo Agie river east of Lander.

617. *Stelgidopteryx serripennis* (AUD.).

Rough-winged Swallow.

Probably a summer resident; but data insufficient to warrant further suggestions as to its occurrence in Wyoming. Bond has taken this species at Cheyenne, and Drexel reports it from Fort Bridger.

WAXWINGS.

618. *Ampelis garrulus* LINN.

Bohemian Waxwing.

Winter resident; locally abundant. They usually arrive from the north in late October and remain as late as the last of April. They are most abundant along the foot-hills and occasionally visit towns during the winter. Flocks numbering several hundred are not uncommon in localities where they remain all winter. Coues cites eight specimens taken by Hayden on Deer creek in January and February, 1860; Drexel reports taking this species at Fort Bridger; Bond has taken several specimens at Cheyenne; Jesurun reports them rather common at Douglas; West of Buffalo has sent a skin to the University that he captured on the 24th of November; No. 70719 of the National Museum was taken at Fort Sanders by A. G. Brackett; Aiken reports them from near Sherman. There are annual records of their visiting Laramie. I have seen them in large flocks in November in the Seminoe and Ferris mountains and during the month of December noted many flocks on the North Fork of the Laramie river.

619. *Ampelis cedrorum* (VIEILL.).

Cedar Waxwing.

Resident, and common in suitable localities. Aiken reports them from near Sherman; Bond notes them as not uncommon at Cheyenne and Jesurun has taken them at Douglas. I have noted this species in the fall of the year, September and October, in the following localities: Wind river, Little Popo Agie river, Rattlesnake mountains, Big Horn mountains, above Spring creek, Ferris mountains, along Sand creek, and in the canon of the North Platte below Douglas.

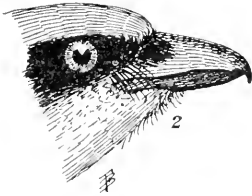
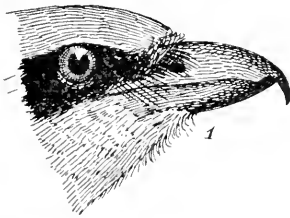
SHRIKES.

621. *Lanius borealis* VIEILL.

Northern Shrike.

Winter resident and rather common. This is the most vicious bird that I am acquainted with in the state. He is

not only vicious, but possesses an unpardonable desire to kill any and all kinds of birds that are small enough for him to conquer. He not only kills them to eat but apparently for pastime. I have often found a headless sparrow pinned to a barb on a wire fence in the vicinity where this wicked bird lives. Their boldness in securing prey is almost incomprehensible. Last fall while in the field I was taking a picture in a gulch, when suddenly a sparrow passed me and only a



1 NORTHERN SHRIKE.
2. WHITE RUMPED SHRIKE.

few feet behind it flew a shrike. The sparrow circled and returned, passing me again. This time I threw my hammer at the shrike, but with no effect. I then gathered a handful of stones and the sparrow came nearer and nearer as the shrike in close pursuit seemed absolutely certain of securing his prey. After throwing a dozen or more times one stone passed so near the shrike's wings that he lost his balance and in a second the sparrow sought refuge in some small bushes. The shrike did not give up the chase, however, and after resting for a

moment on a stick commenced to look again for the sparrow, and it is useless to say that my arm was lame long before I made the shrike abandon his search. Dr. Jesurun of Douglas reports that he considers these birds beneficial since in the vicinity of Douglas during the winter months, they feed upon English Sparrows. Although this is a desirable trait, the fact that they destroy hundreds and thousands of beneficial birds annually is enough to absolutely condemn them as residents of any locality. The following collectors have reported this bird from Wyoming: Drexel, Fort Bridger, 1858; McCarthy, Fort Laramie, 1859; Coues, Rock creek and Green



1. *SETOPHAGA RUTICILLA*. American Redstart.

1. *GEOTHPIS TRICHAS OCCIDENTALIS*. Western Yellow Throat.



DENDROICA AUDOBONI. Audobon's Warbler.
GEOTHYLPIS TOLMIEI. Macgillivray's Warbler.

river; Jesurun, Douglas; Bond, Cheyenne, and Aiken, Sherman. There are three skins in the University collection that were taken at Laramie.

622 a. **Lanius ludovicianus excubitorides** (SWAINS.).

White-rumped Shrike.

Summer resident, and abundant at elevations below 8,000 feet. Although closely related to the Northern Shrike, this variety is a much smaller bird and depends to a considerable extent upon insects for its food. To be sure it kills birds, but not to the extent of the larger species. Just what percentage of the food of the White-rumped Shrike is insects I am unable to state, but they in part, at least, make up for the damage they do to desirable bird life by eating injurious insects.

This variety is so common that nearly every collector in Wyoming has reported it and has something to say of its habits. The data is too voluminous to be included here.

VIREOS.

624. **Vireo olivaceus** (LINN.).

Red-eyed Vireo.

Possibly a summer resident; but quite rare and largely confined to eastern Wyoming. But a single record comes from west of the Laramie mountains. Drexel reported this species from Fort Bridger in 1858; Jesurun took one specimen at Douglas on May 26, 1899; Bond took one specimen at Cheyenne May 26, 1889; Cary reports having seen this bird at Newcastle occasionally during the summer of 1900.

627. **Vireo gilvus** (VIEILL.).

Warbling Vireo.

Summer resident and rather common. So far as known this is the most common Vireo found in the state. They breed in brush patches along the small streams up to 8,000 feet. There are the following records for Wyoming: Drexel, Fort Bridger, 1858; Coues, Green river; Bond, Cheyenne; Jesurun,

Douglas, July 12, 1892, and Aiken, Sherman. There are three skins in the University collection that were taken in Albany and Carbon counties.

629. *Vireo solitarius* (WILS.).

Blue-headed Vireo.

Accidental. The Wyoming record is based upon a single specimen taken by Drexel at Fort Bridger, 1858.

629 b. *Vireo solitarius plumbeus* (COUES.).

Plumbeous Vireo.

Probably a summer resident; but no breeding records. Coues (B. N. W., p. 100) notes that Dr. R. B. Hitz captured several specimens at Laramie peak. No. 38428 of the National Museum was taken at Laramie peak and No 11064 was taken at Fort Bridger; Cary reports seeing this variety frequently near Newcastle during the summer of 1900; Aiken reported this bird from Sherman; Jesurun took one specimen at Douglas, Sept. 12, 1896.

633. *Vireo bellii* AUD.

Bell's Vireo.

Probably accidental. The only Wyoming record comes from Grinnell, which is as follows: "Quite abundant late in August among the timber and low brush on the streams flowing out from the Freezeout mountains where the writer took specimens."

WOOD WARBLERS.

636. *Mniotilta varia* (LINN.).

Black and White Warbler.

Accidental. Dr. Jesurun has one specimen in his collection that he captured at Douglas, May 17, 1899. The bird was alone.

644. *Helminthophila virginiaë* (BAIRD.).

Virginia's Warbler.

It seems singular, but little is known of this bird in Wyoming. In accordance with its geographical distribution it

should be a summer resident, but none of the recent observers have reported it. The A. O. U. Check List, Sec. Ed., reports it as belonging to Wyoming. Besides this Aiken is the only one to report it from the state. He notes the following: "A fine singer usually found on the hillsides covered with brush." He also states that he took eggs and nests. Further notes on this species are very desirable.

645. **Helminthophila rubricapilla** (WILS.).

Nashville Warbler.

Rare summer resident. Bond has taken a single specimen at Cheyenne and I have taken one specimen on Chugwater creek, May 29, 1898. Mr. Chas Gilmore captured two specimens in the Freezeout hills in 1897, both of which are in the University collection. One of these skins was conditionally referred to the Calaveras Warbler by W. W. Cooke (Further Notes on the Birds of Colorado, Bull. 44., State Ag. Col., Colo., March, 1898, p. 168.)

646. **Helminthophila celata** (SAY.).

Orange-crowned Warbler.

Summer resident; not common. The following records have been collected: Drexel, Fort Bridger; McCarthy, Green river; Grinnell, Como bluff; Jesurun, Douglas; Bond, Cheyenne.

646 a. **Helminthophila celata lutescens** (RIDGW.).

Lutescent Warbler.

The data regarding this variety is insufficient to warrant an expression as to its occurrence in the state. It is altogether probable that this bird is a common resident of western Wyoming, and that this and the Orange-crown Warbler commingle in central Wyoming. Coues reports two specimens taken at Fort Bridger and Little Sandy and one from Green river. Aiken reports seeing them near Sherman on May 2nd, rare on May 14th, but afterward common for a short time.

647. *Helminthophila peregrina* (WILS.).

Tennessee Warbler.

Accidental. Mr. Bond has a single specimen that he captured at Cheyenne on May 24, 1888. There are no other Wyoming records.

648. *Compsothlypis americana* (LINN.).

Parula Warbler.

Accidental. There are but two records of this bird being taken in Wyoming, and they are both from the southeastern corner of the state. Bond has one specimen that he took May 30, 1888, at Cheyenne; Aiken reports killing a single specimen near Sherman on May 11, 1870.

652. *Dendroica æstiva* (GMEL.).

Yellow Warbler.

Summer resident and common in brush patches along the streams up to 8,000 feet. I have taken specimens at 9,500 during late August. This species has been taken by the following collectors: Drexel, Fort Bridger; Coles (Hayden, Wind river), Powder river, Bitter Cottonwood creek, La Boute creek, Fort Bridger and Green river; Williston, Lake Como; J. A. Allen, Cheyenne; Nos. 69879 and 68878, National Museum, Newberry, Laramie; Holden, Sherman; Cary, Newcastle; Jesurun, Douglas; Bond, Cheyenne; West, Buffalo. There are four skins in the University collection that were taken in Johnson, Albany and Carbon counties.

655. *Dendroica coronata* (LINN.).

Myrtle Warbler.

Migratory and rather uncommon. Williston reports taking two specimens on Rock creek, May 2; Bond reports them not uncommon at Cheyenne during spring migrations having taken one specimen April 27 and a second May 10; Jesurun has taken specimens at Douglas; Aiken reports them rather uncommon at Sherman, but took one specimen April 29; No. 69873 from the National Museum was taken at Laramie by J. S. Newberry.

656. *Dendroica auduboni* (TOWNS.).

Audubon's Warbler.

Summer resident and common in the pine forests. Breeds most abundantly between 7,000 and 9,000 feet, and as low as 5,000 in northeastern Wyoming. Cooke cites this species breeding above timber line; but I have never seen this beautiful bird above the limit of the pines, nor have I found it breeding at timberline. It has been observed by all collectors in Wyoming. Data too extended to warrant publishing.

659. *Dendroica pensylvanica* (LINN.).

Chestnut-sided Warbler.

Probably accidental. The Wyoming record rests upon a single specimen taken at Cheyenne, May 23, 1889, by Mr. Frank Bond. Mr. Bond published this record in *The Auk*, VI, 1889, 341, and has the skin in his collection.

661. *Dendroica striata* (FORST.).

Black-Poll Warbler.

Possibly a summer resident; but no data. A very rare eastern bird that occasionally reaches Wyoming. Jesurun reports having taken it at Douglas, and Bond has two skins in his collection that were taken at Cheyenne. Williston reports a single specimen taken at Lake Como.

668. *Dendroica townsendi* (TOWNS.).

Townsend's Warbler.

Probably a summer resident in western Wyoming. The only record of the occurrence of this bird in Wyoming comes from Dr. Jesurun. He took one specimen on Oct. 6, 1893, and another on Sept. 25, 1894, at Douglas. These data extend the geographical range to the eastward for a considerable distance.

675 a. *Seiurus noveboracensis notabilis* (RIDGW.).

Grinnell's Water-Thrush.

Probably a summer resident. There are but little data regarding this variety, the type of which was taken by Dr.

Williston at Lake Como on May 10, 1878. Bond has taken a few specimens at Cheyenne, and the specimen taken by Drexel at Fort Bridger, 1858, and originally placed under the name Water-Thrush, proved to belong to this variety. (So determined by U. S. National Museum.)

680. *Geothlypis tolmiei* (TOWNS.).

Macgillivray's Warbler.

Summer resident; quite common. Arrives on the Laramie plains late in May, and breeds up to 8,000 feet. Drexel reports them as very common at Fort Bridger, 1858; Dr. Cooper captured two specimens at Fort Laramie, Aug. 31, 1857; Grinnell reports them from the Yellowstone park, 1875; Coues reports one specimen from Box Elder creek; Aiken found them in the vicinity of Sherman; Jesurun reports them common at Douglas; Bond has found them rather common at Cheyenne. There are four skins in the University collection that have been taken in Albany and Carbon counties.

681 a. *Geothlypis trichas occidentalis* BREWST.

Western Yellow-throat.

Summer resident; rather common. All of the early records of this variety have been included under the Maryland Yellow-throat, and have been transferred purely upon the geographical range of the two birds. Drexel reports this species from Fort Bridger, 1858; Dr. Cooper took a specimen at Fort Laramie, 1855; the National Museum No. 69863 was taken at Laramie by Dr. Newberry; Coues reports a specimen taken at La Bonte creek; Aiken found them near Sherman; Jesurun finds them rather common at Douglas; Bond has taken numerous specimens at Cheyenne; Cary found them abundant near Newcastle; West has sent in one skin taken at Buffalo, to the University.

683 a. *Icteria virens longicauda* (LAWR.).

Long-tailed Chat.

Summer resident; common below 7,000 feet; above that elevation rare. Although there are but few reports, there are

abundant observations on this variety. Living as it does in dense thickets and being extremely shy accounts for so few records. Jesurun reports it common at Douglas; West has presented the University with a specimen taken at Buffalo; the National Museum No. 38402 was taken at Laramie peak; Cary reports them from near Newcastle. I have observed these birds in the following places: Sundance, Lander, Linden, Guernsey, Horseshoe creek and Clear creek.

685. **Wilsonia pusilla** (WILS.).

Wilson's Warbler.

Summer resident; not uncommon. Breeds from 7,000 to 9,000 feet. There are the following records: Drexel, Fort Bridger; Coues, Henry's Fork, Lower Geyser Basin and Teton lakes; National Museum No. 87997 taken at Fort Fetterman by Shufeldt; No. 8799 taken at Fort Laramie; Bond, Cheyenne; Jesurun, Douglas. There are three skins in the University collection that were taken in Big Horn, Albany and Carbon counties respectively. I have observed this species in the Bear Lodge, Absaraka and Big Horn mountains.

687. **Setophaga ruticilla** (LINN.).

Redstart.

Summer resident; not common. Reported by the following collectors: Drexel, Fort Bridger; Coues (Hayden). Wind river, La Bonte creek; Jesurun, Douglas; Bond, Cheyenne; West, Buffalo; Aiken, Sherman. There is a single specimen in the University collection that was taken on the Laramie mountains.

WAGTAILS.

697. **Anthus pensilvanicus** (LATH.).

Pipit.

Probably a summer resident. They are quite abundant in marshy places for the last week of April and the first two weeks in May. No one has reported them breeding. There

are the following records for Wyoming: Coues, Henry's Fork and Snake river; Aiken, Sherman; Jesurun, Douglas; Williston, Lake Como, Merriam, Yellowstone park; Drexel, Fort Bridger. There are five skins in the University collection that have been taken on the Laramie plains.

700. **Anthus spragueii** (AUD.).

Sprague's Pipit.

Thus far this species has been reported only by Mr. Bond of Cheyenne, who has two skins in his collection that were taken April 24, 1888. This will probably prove a rare species in Wyoming, but not accidental.

DIPPERS.

701. **Cinclus mexicanus** SWAINS.

Dipper.

Resident and quite common along the mountain streams. In summer it reaches the very head of the mountain streams, but whether it breeds at high altitudes has not been determined. The highest point that I have observed a nest is 10,000 feet. This bird loves rough canons, rapids and waterfalls and appears to enjoy especially the spray-covered coves and nooks. No lover of birds could fail to see this curious little fellow along all of the mountain streams. There are the following records of its occurrence in the state: Drexel, Fort Bridger (abundant); Coues, seven specimens from Laramie peak; Jesurun, Douglas; Bond, Cheyenne; Merriam, Yellowstone park; Grinnell, Yellowstone park; Aiken, Sherman. I have observed this bird in the following localities: Gros Ventre river, Jackson Hole, Big Wind river, Meeteese creek, Tongue river, Little Horn river, Ten Sleep creek, Clear creek, Little Laramie river, Big Laramie river, Rock creek, Sweetwater river and Ham's Fork.

While I have not made careful observation on the nesting habits of this species I have found three nests, all of which were attached to nearly vertical walls in canons and in shape



CINCLUS MEXICANUS. American Dipper. (Nest in Background.)



Frank Bond

1. ANTHUS SPRAGUEII. Sprague's Pipit.

SEIURUS NOVEBORACENSIS NOTABILIS. Grinnell's Water Thrush.

resembled that of a Cliff Swallow. One nest that I observed at Ten Sleep creek was about a foot in diameter and was so near a water fall that the exterior was constantly moistened with spray. The opening was near the water's edge, circular, and reminded me of the neck-like opening of the nest of the Cliff Swallow. See the illustrations in the background of the picture of this species.

THRASHERS.

702. *Oroscoptes montanus* (TOWNS.).

Sage Thrasher.

Summer resident, and common. Formerly this remarkable singer was known as the "Rocky Mountain Mocking Bird," and it seems a pity that this befitting name could not have been retained. This is the most remarkable songster of the Rocky Mountain region. To be sure there is an occasional Mocking Bird found in the southeastern part of Wyoming, which is not considered as common to the Rocky mountains. They are shy birds, seldom seen about towns or ranches, preferring the sage brush country to live in. On one occasion I found a nest containing four young of this species in a greasewood bush within five feet of the Rawlins and Lander trail, which is used constantly. I have never seen this bird above the limit of the sage brush, although it has been reported to breed up to 10,000 feet. The records of this bird in Wyoming are plentiful, as it is common in every county in the state.

703. *Mimus polyglottos* (LINN.).

Mockingbird.

Summer resident; not common in southeastern Wyoming. Until recent years this species was not known in Wyoming. Mr. Bond captured the first specimen near Cheyenne some ten years ago, and since that time they have been noticed breeding along Crow creek. Annually they cross the Laramie mountains, but seldom remain to breed. In 1897 one pair remained in Laramie and reared their young. These were taken by Dr. Coburn who has one of them caged at the present time. A

single record from Carbon county makes the extreme western limit of this species in this state. Bond has five skins in his collection that were taken at Cheyenne; Jesurun has three skins that were taken at Douglas. There is one skin in the University collection that was taken in Carbon county.

704. **Galeoscoptes carolinensis** (LINN.).

Catbird.

Summer resident; rather common below 7,500 feet along water courses. The following collectors have reported this species: Drexel, common at Fort Bridger; Merriam, Yellowstone park; Grinnell, Yellowstone park; Williston, Lake Como; Bond, Cheyenne; Jesurun, Douglas; U. S. National Museum Nos. 69891 and 80423 were taken at Laramie. There is a single skin in the University collection that was taken at Table mountain, Laramie county. I have also observed this bird in the following places: Sundance, Welcome, Buffalo, Basin City, Otto, Cody, Lander and Chugwater. Cary has observed it at Newcastle.

705. **Toxostoma rufum** (LINN.).

Brown Thrasher.

Summer resident; not uncommon in eastern Wyoming, especially in areas that are below 7,000 feet elevation. Coues reports this species from Bitter Cottonwood creek; Bond, Cheyenne; Jesurun, Douglas; West, Buffalo; U. S. National Museum Nos. 69,894, 38,447, 38,449, 38,440 and 38,444 were all taken at Laramie, Fort Laramie and Laramie peak; Cary reports them breeding near Newcastle; Williston found them common along Rock creek. Central Wyoming seems to be the western limit of this species in this state.

WRENS.

715. **Salpinctes obsoletus** (SAY.).

Rock Wren.

Summer resident and abundant in suitable places. Nearly every collector of birds visiting or living in Wyoming has

found this a common species. Data too voluminous to publish.

717 a. **Catherpes mexicanus conspersus** RIDGW.

Canon Wren.

The only authentic record of this bird being found in Wyoming is that of Aiken (Bull. M. C. Z., 1872, p. 196), in which he states: "Quite a rare resident in winter. Found only in the mountains among large masses of rock on the faces of cliffs. Has a peculiar note, which one might easily mistake for a chirping cricket." The A. O. U. Check List includes it as a Wyoming bird, but probably from the above data.

721 b. **Troglodytes aedon aztecus** BAIRD.

Western House Wren.

Summer resident; common. It is very probable that the references to Parkman's Wren, relating to Wyoming, should be included under this variety. The following collectors have taken this bird in Wyoming: Jesurun, Douglas; Cary, common breeder, Newcastle; Aiken, Sherman. I have observed this species at Sundance, Chugwater, Bonanza and Buffalo. There are three specimens in the University collection that were taken in Albany and Carbon counties.

722 a. **Olbiorchilus hiemalis pacificus** (BAIRD.).

Western Winter Wren.

Probably a rare summer resident. Mr. Gilmore during the summer of 1897 found, in the Freezeout hills, a nest containing two young just ready to fly. He noted that the nest was in a hole in a dead tree and was composed of small twigs. The specimen taken from this nest was identified by Mr. Ridgway. This extends the range of the species eastward for a considerable distance, for prior to this time its eastern limit was placed in the mountains of Idaho.

724. *Cistothorus stellaris* (LICHT.).

Short-billed Marsh Wren.

Accidental. Mr. Bond of Cheyenne has a single skin in his collection that has been identified at Washington.

725. *Cistothorus palustris* (WILS.).

Long-billed Marsh Wren.

But very little is known of this bird in the state, and there is a possibility that the following data should refer to some other species: Williston reports them as not uncommon about Lake Como. Grinnell notes, "seen but once on a muddy slough near the bridge over the Yellowstone river."

725 c. *Cistothorus palustris plesius* OBERHOLSER.

Western Marsh Wren.

Until quite recently this variety was placed with the southwestern form under the Tule Wren. In 1899 (See Auk, Vol. XVI.) the Western Marsh Wren was recognized and the Tule Wren restricted to the Pacific coast region. On this account the records of Jesurun and Bond have been changed to agree with the geographical distribution. This variety is undoubtedly a summer resident; but there are no breeding records. Jesurun has taken them at Douglas, and Bond at Cheyenne. There is one skin in the University collection that was taken at Hutton's lake by Mr. Bond and presented to the University.

CREEPERS.

726 b. *Certhia familiaris montana* RIDGW.

Rocky Mountain Creeper.

Summer resident; but very little is known of this variety in the state. Bond has taken them at Cheyenne and Jesurun at Douglas, which includes all of the records.

NUTHATCHES.

727 a. *Sitta carolinensis aculeata* (CASS.).

Slender-billed Nuthatch.

Resident; quite common. The following collectors have

taken or reported this variety: Drexel, Fort Bridger; Merriam, Yellowstone park; Jesurun, Douglas; Bond, Cheyenne; Cary, Newcastle; Aiken, Sherman.

728. *Sitta canadensis* LINN.

Red-breasted Nuthatch.

Resident; rather common in wooded districts. But few have noticed this species, which is locally abundant. Drexel reports them from Fort Bridger; Coues from Green river and other localities; Bond from Cheyenne; Jesurun from Douglas, and Grinnell from Freezeout hills. I have observed this bird near Steamboat mountain, at Atlantic, Laramie peak and on Douglas creek.

730. *Sitta pygmæa* VIG.

Pygmy Nuthatch.

But little is known of this species. It should be found rather abundant. Bond has the only specimen that I have ever seen that has been taken in the state. Aiken reports them as winter residents near Sherman.

CHICKADEES.

735 a. *Parus atricapillus septentrionalis* (HARRIS.).

Long-tailed Chickadee.

Resident; common in the mountains. This variety has been noted by many. Coues reports it from Bitter Cottonwood creek, Fort Bridger and Green river; Jesurun from Douglas; Drexel from Fort Bridger; Allen from Green river; Grinnell from Yellowstone park; West from Buffalo; Aiken from Sherman; and Cary from Newcastle. There are two skins in the University collection.

738. *Parus gambeli* RIDGW.

Mountain Chickadee.

Resident; the common chickadee of the state. Coues makes several references to Wyoming specimens; Bond reports them from Cheyenne; Jesurun from Douglas; Grinnell

from Freezeout hills; Merriam from Yellowstone park; Wood, Medicine Bow creek, and Aiken from Sherman. I have observed them on Douglas creek, Bear Lodge mountains, near Buffalo and Lander. There are three skins in the University collection that have been taken in Albany county.

BUSH-TITS.

744. *Psaltriparus plumbeus* BAIRD.

Lead-colored Bush-Tit.

Resident; uncommon. More abundant in western than eastern Wyoming. Stevenson reports one specimen taken at Green river; Aiken notes seeing them in flocks during the winter near Sherman; Ridgway notes (Manual of N. A. Birds, p. 565) that this species extends from western Colorado and Wyoming to eastern Oregon, etc.

KINGLETS.

748. *Regulus satrapa* LICHT.

Golden-crowned Kinglet.

The only record of this species being found in Wyoming was made by Aiken. He notes that they were first seen on April 23rd and were rather common. In my opinion they are extremely rare, if not accidental.

749. *Regulus calendula* (LINN.).

Ruby-crowned Kinglet.

Summer resident; rather common. Reported by Drexel, Fort Bridger; Merriam, Yellowstone park; Stevenson, Green river and Henry's Fork; Coues, Green river and Little Sandy; Aiken, Sherman; Jesurun, Douglas; Bond, Cheyenne. There is one skin in the University collection that was taken in Albany county.

754. *Myadestes townsendii* (AUD.).

Townsend's Solitaire.

Resident; common. Breeds from 7,000 to 10,000 feet, quite abundant on the high sage-brush covered table lands.

This bird has been taken by all collectors in Wyoming. There are a half dozen skins in the University collection.

THRUSHES.

756 a. *Hylocichla fuscescens salicicola* RIDGW.

Willow Thrush.

Summer resident; rather common. The records of Drexel, Coues and Stevenson referring to Wilson's Thrush have been included under this variety. Reported by Drexel, Fort Bridger; Stevenson, Green river; Baird, Fort Bridger; West, Buffalo; Jesurun, Douglas. There is one skin in the University collection that was taken in Johnson county.

758 a *Hylocichla ustulata swainsonii* (CAB.).

Olive-backed Thrush.

Summer resident; common in northern Wyoming. During migration they are abundant over the entire state. The following have reported this variety: Drexel, Fort Bridger; Cooper, Fort Laramie; Hayden, Wind river; Bond, Cheyenne; Jesurun, Douglas. There are two skins in the University collection that have been taken in Albany county.

759. *Hylocichla guttata* (PALLAS.).

Alaska Hermit Thrush.

There is but a single record for Wyoming. I took this specimen at Laramie, Sept. 9, 1898. Mr. Ridgway identified the bird.

759 a. *Hylocichla guttata auduboni* (BAIRD.).

Audubon's Hermit Thrush.

Although this bird should be found commonly in Wyoming, there is but one record for the state. That is of Drexel, taken at Fort Bridger. I have learned through Mr. Ridgway that this identification is correct.

761. *Merula migratoria* (LINN.).

Robin.

Summer resident, east of the Laramie mountains and north and eastward to the Black hills. Reported by Bond of

Cheyenne, Jesurun of Douglas, and Cary. Bond has several skins in his collection and reports this species common on the plains about Cheyenne.

761 a. ***Merula migratoria propinqua*** RIDGW.
Western Robin.

Summer resident; abundant. This is the typical robin of the state and is found throughout central and western Wyoming. In the eastern portion of the state this and the eastern species intermingle. Records are very abundant. They remain very late in the fall and during a warm spell have been seen late in January, also in February; but they do not remain. Usually they appear in great numbers on the Laramie plains about April 10th.

766. ***Sialia sialis*** (LINN.).
Bluebird.

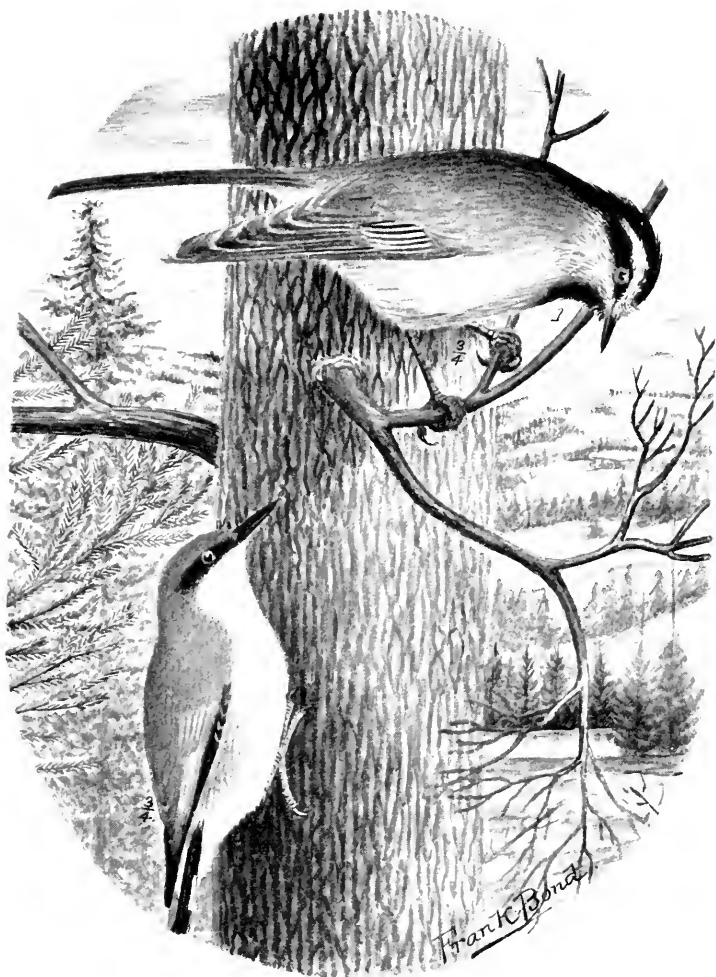
It is a question whether this species breeds in Wyoming. Possibly it may along the eastern borders of the state. Bond of Cheyenne has captured several specimens, two of these last fall. These are the only Wyoming records.

767 a. ***Sialia mexicana bairdi*** RIDGW.
Chestnut-backed Bluebird.

There is only one authentic record for Wyoming. This was made by McCarthy, who took a specimen on the Sweet-water river in 1859. There is no doubt but what they frequent southwestern Wyoming and probably breed.

768. ***Sialia arctica*** SWAINS.
Mountain Bluebird.

Summer resident; abundant. One of the first birds to arrive from the south. The common bluebird of the state. They seem to enjoy civilization and will nest in the door yard if there is a small box placed in a tree. They also breed in the most lonely places about the foothills, usually occupying an abandoned woodpecker's nest or hollow limb. The records are very abundant and will not be included.



1. *PARUS GAMBELI*. Mountain Chickadee. *SITTA PYGMÆA*. Pygmy Nuthatch.



MYAESTES TOWNSENDII. Townsend's Solitaire.

Hypothetical List.

Since there are a few records of birds in Wyoming that have not been satisfactorily disposed of, it has been deemed advisable to place them in a hypothetical list. These data were prepared for the regular list and have been transferred as written.

204. **Grus americanus** (LINN.).

Whooping Crane.

Reported by C. E. Aiken, 1872; but lacks confirmation.

212. **Rallus virginianus** LINN.

Virginia Rail.

Reported by C. E. Aiken, 1872; but lacks confirmation.

465. **Empidonax virescens** (VIEILL.).

Green-crested Flycatcher.

Accidental, if it is entitled to a place in the Wyoming fauna. The only record is that of Drexel who reported it from Fort Bridger in 1858.

474 a. **Otocoris alpestris leucolæma** (COUES.).

Pallid Horned Lark.

There are numerous records referring to this variety as occurring in Wyoming. I have endeavored to confirm the evidence offered; but have been wholly unable to locate a single skin or specimen that has been taken. On this account it has been placed in this list and further investigations as to its western range are very desirable.

478. **Cyanocitta stelleri** (GMEL.).

Steller's Jay.

Rare or accidental. The only possible record of this bird being taken in Wyoming comes from the National Muse-

um. Their No. 62243 reads "taken at Shoshone lake by Dr. C. Hart Merriam."

478 b. **Cyanocitta stelleri diademata** (BONAP.).

Long-crested Jay.

Owing to the numerous references to the Long-crested Jay, by all of the early and some of the recent collectors, I place it conditionally among the Wyoming birds. If it belongs to Wyoming it will be found only along the southern boundary of the state.

487. **Corvus cryptoleucus** COUCH.

White-necked Raven.

Rare, so far as known. The Wyoming record is based upon the observation of C. E. Aiken (Am. Nat., VII, 1873, 16) Cheyenne, Wyo. He also states in his article in Pr. Bost. Soc., 1872, 203, "Very common along the base of the mountains." No other collector has found this raven in the state.

509. **Scolecophagus carolinus** (MULL.).

Rusty Blackbird.

It is with some hesitancy that I place this among the Wyoming birds. Yet the data seem unquestionable and come from high authority. Dr. Brewer in his communication to Boston Society of Natural History, 1872, p. 193, which was data secured by Holden and Aiken in the vicinity of Sherman, has the following note: "The character of the region of Sherman, which is 8,000 feet above the sea level, is dreary in the extreme. It consists of several level plateaus, interspersed, with canons and meadows. I found no birds plentiful with the exception of the Rusty Blackbird, and it was difficult to obtain more than four or five specimens in a day." It is evident that this was written by either Holden or Aiken. It is strange that no other collector has ever taken this species in the state, and it must be considered very rare.

563 a. ***Spizella pusilla arenacea*** CHADB.
Western Field Sparrow.

Practically nothing is known of this variety in Wyoming. The only record is one from Dr. Allen (Bull. Mus. Comp. Zool., III, 1872, 145) in which he notes taking this bird at Cheyenne.

585 c. ***Passerella iliaca schistacea*** (BAIRD.).
Slate-colored Sparrow.

Probably a summer resident; but nothing is known of this variety in Wyoming except the data obtained by Drexel, and he remarked that they were common. It is quite probable that this variety is common in the western part of the state and seldom if ever reaches the eastern boundary.

683. ***Icteria virens*** (LINN.).
Yellow-breasted Chat.

Allen reported this species from Cheyenne, Mus. Comp. Zool., III., 1872. This bird is not known to occur in the state and possibly it may refer to 683a.

733 a. ***Parus inornatus griseus*** RIDGW.
Gray Titmouse.

The Wyoming record rests upon the report of Aiken. He notes it as a "common winter resident, gregarious during the first part of the winter, but since January seen only singly or in pairs."

Addenda.

Through some unaccounted for mistake three species as given below were omitted from the regular list, and are included here.

239. **Tringa maculata** VIEILL.
Pectoral Sandpiper.

Migratory and rare. It has been taken by Jesurun at Douglas and once upon the Laramie Plains. The latter specimen is in the University collection and was taken at Seven Mile Lake in November, 1897.

347 a. **Archibuteo lagopus sancti-johannis** (GMEL.).
American Rough-legged Hawk.

Migratory and rather common. This species may be a winter resident. Hayden reported this bird from Fort Laramie, 1860. Jesurun has taken them at Douglas and Bond at Cheyenne. Grinnell notes that it is not common in the vicinity of Lake Como. Allen reports it abundant in Carbon county in winter. Grinnell also reports it from the Yellowstone Park. There is one specimen in the University collection that was taken on the Laramie Plains during the fall of 1897. Its stomach contained portions of a rabbit.

Although this is a large, powerful hawk, it seldom attacks birds of any kind. In the fall of the year it feeds chiefly upon rodents in this state, and is especially fond of ground squirrels, rabbits and mice.

348. **Archibuteo ferrugineus** (LICHT.).
Ferruginous Rough-leg.

Summer resident and common. This is one of the most valuable hawks known to this state. They feed almost entirely

upon various kinds of ground squirrels and young prairie dogs. In nesting they select a place near water and build upon inaccessible pinnacles of rock or in the tops of scrubby pine trees. Their nests are usually built of small sticks and lined with grass. In the valley of Sand Creek, twenty miles south-west of Laramie, there is a nest built upon a pillar of sandstone that is twenty-five or thirty feet above the ground. The nest stands over four feet high and is three feet across at its base. This has been occupied for many years by this species of hawk and each season they add a little to its height.

Jesurun reports them common at Douglas and Bond the same at Cheyenne. Williston reports them from Lake Como. I have taken them in the Big Horn Basin, Buffalo, Sundance, Chugwater and on the Laramie Plains. There are two skins in the collection and two nests of eggs. One was secured on April 30th and the other on May 9th.

Total number of species and varieties of birds known to have been taken in Wyoming up to date, 288.

NOTE.

Inadvertently I omitted to include the name of Mr. Merritt Cary among those who have furnished valuable notes for this bulletin, under "Acknowledgments," and take this opportunity to thank him for his list that was taken at Newcastle.

I also take pleasure in thanking Dr. A. K. Fisher of the Department of Agriculture for valuable suggestions and aid while this bulletin has been passing through the press.

Supplement.

Since there are so few people in Wyoming that are acquainted with our laws protecting birds, and making an open season for those that are justly entitled to be called "game birds," I have included these laws in this bulletin, hoping that they may have a greater support and a wider recognition.

PROTECTION OF BIRDS.

(Chapter 37, Session Laws of 1901.)

SECTION 1. Any person who shall, within the State of Wyoming, kill or catch or have in his possession, living or dead, any wild bird other than a game bird, or who shall purchase, offer, or expose for sale any such wild bird after it has been killed or caught, shall for each offense, be subject to a fine of not more than five dollars for each such bird killed or caught, or had in possession living or dead, or imprisonment for not more than ten days, or both, at the discretion of the court. For the purposes of this act the following only shall be considered game birds: The *Anatidac*, commonly known as Swans, Geese, Brant and River and Lake Ducks; the *Rallidac*, commonly known as Rails, Coots and Mud-hens; the *Limicolac*, commonly known as Shore-birds, Plovers, Snipe, Sandpipers, Tatlers, Willets, Curlews, Godwits and Avocets; the *Gallinac*, commonly known as Grouse, Prairie Chickens, Pheasants, Sagehens, Partridges and Quails.

SEC. 2. Any person who shall, within the State of Wyoming, take or needlessly destroy the nest or the eggs of any wild bird, or shall have such nest or eggs in his or her possession, shall be subject for each offense to a fine of not more than five dollars, or imprisonment for not more than ten days, or both, at the discretion of the court.

SEC. 3. Sections 1 and 2 of this act shall not apply to any person holding a certificate giving the right to take birds, their

ests and eggs, for scientific purposes, as provided for in Section 4 of this act.

SEC. 4. Certificates may be granted by the superintendent of public instruction to any properly accredited person of the age of fifteen years or upwards, permitting the holder thereof to collect birds, their nests or eggs, for strictly scientific purposes only. No such certificate shall be issued until the applicant therefor shall have filed with the said superintendent of public instruction written testimonials from two well known scientific men or educators, certifying to the good character and fitness of said applicant to be entrusted with such privilege. Said applicant must file with said persons or officers a properly executed bond, in the sum of two hundred dollars, signed by two responsible citizens of the state as sureties. This bond shall be forfeited to the state, and the certificate become void, upon proof that the holder of such certificate has killed any birds or taken the nest or eggs of any bird, for other than the purposes named in Sections 3 and 4 of this act, and shall be further subject for each offense to the penalties provided therefor in Sections 1 and 2 of this act.

SEC. 5. The certificate authorized by this act shall be in force for one year only from the date of their issue, and shall not be transferable.

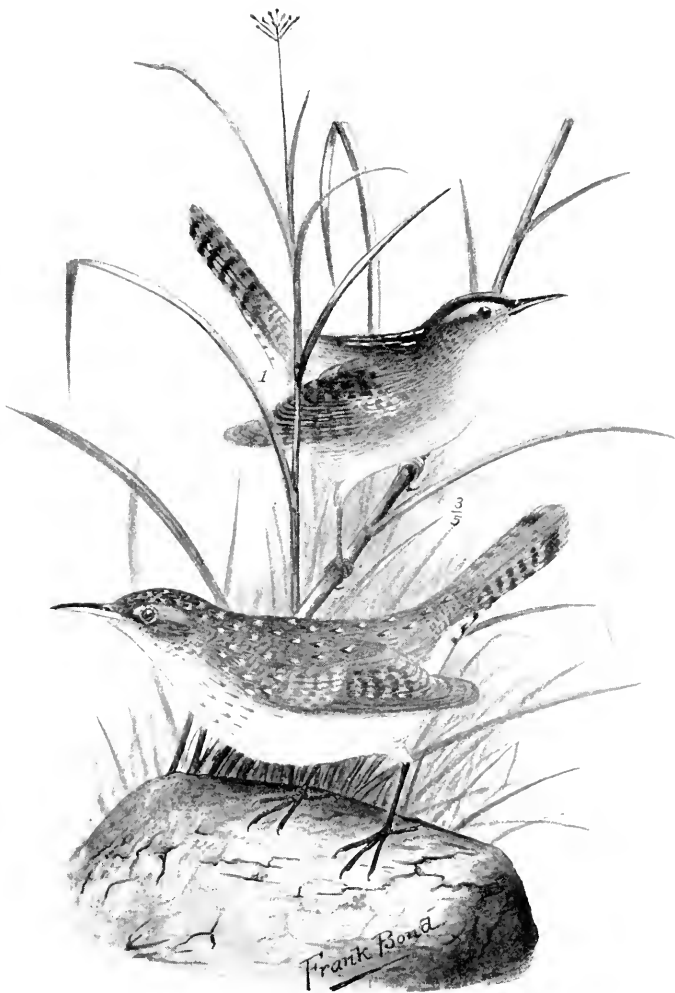
SEC. 6. The English or European House Sparrow (*Passer domesticus*) and Magpies are not included among the birds protected by this act.

OPEN SEASON FOR GAME BIRDS.

No person shall kill, net or trap within this state, except as hereinafter provided, any snipe, green shank, tattler, godwit, curlew, avocet, or other wader or plover, nor quail, lark, whip-poorwill, finch, thrush, snowbird, turkey buzzard, robin or other insectivorous birds, except that partridges, pheasant, prairie chicken, prairie hen or grouse may be shot from August fifteenth to December first of each year, and sage chickens may be shot from July fifteenth to October fifteenth of each year; and

if at any time any person shall be found in possession of any partridge, pheasant, prairie hen, prairie chicken or grouse, or sage chicken at any other time than between the dates above mentioned, or any other of the fowls or birds mentioned in this section, except in the season, it shall be *prima facie* evidence that the same was killed, netted, ensnared or trapped by such person in violation of the provisions of law. *Provided*, That snipe, green shank, tatter, godwit, curlew, avocet, or other wader or plover, may be shot from the first day of September to the first day of May, in each year; *Provided, also*, That this section shall not be construed to prohibit any person from importing or dealing in quail, partridge, prairie chicken, prairie hen, pheasant or grouse imported into this state from any other state or territory, said person to furnish proof that such game birds were killed out of this state. Any person who shall violate any of the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in any sum not less than ten, nor more than fifty dollars, together with costs of suit, and shall be prosecuted and punished in the same manner as in other cases of misdemeanor.—(Section 2105, Revised Statutes.)

No person or persons shall ensnare, net or trap within this state any wild duck, wild goose, or wild swan at any time. Any person or persons who shall violate the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than twenty nor more than fifty dollars for each duck, goose or swan so ensnared, netted or trapped. There shall be established from the first day of September until the first day of May, an open season in which ducks, brant or geese may be shot, killed or taken by means of gun shot, but nothing but shoulder guns may be used at any time. And it shall be unlawful to kill any of the above mentioned water fowls by any other means, or during any other period, than above specified; *Provided*, That it shall be unlawful for any person or persons to kill any wild swan in the state of Wyoming. Any person or persons who shall violate the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than ten nor more than twenty-five dollars for each offense, and may be imprisoned in the county jail for not more than sixty days.—(Section 2106, Revised Statutes.)



1. *CISTOTHORUS PALUSTRIS PLESIUS*. Western Marsh Wren.
SALPINCTES OBSOLETUS. Rock Wren.



OROSCOPTES MONTANUS. Sage Thrasher.

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