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Bulletin No. 1

FERGUS COUNTY FREE HIGH SCHOOL

Birds of Fergus County, Montana

—BY—

P. M. SILLOWAY,

PRINCIPAL FERGUS COUNTY HIGH SCHOOL.

ISSUED BY THE AUTHORITY AND DIRECTION OF THE BOARD OF
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LEWISTOWN, MONT., 1903.

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Photo by E. R. Warren.

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P. M. SILLOWAY

MEMBER OF THE AMERICAN ORNITHOLOGISTS' UNION, AUTHOR
OF SKETCHES OF SOME COMMON BIRDS, SUMMER BIRDS
OF FLATHEAD LAKE, ETC.

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INTRODUCTORY.

The following list of the birds of Fergus County, Montana, like all similar publications, is intended primarily to aid any worker in this branch of natural history, and to extend the knowledge of the common birds of this region. It is further hoped that it will be a help to any person who may be interested in forming the acquaintance of some of the birds which escape common observation. While possibly not free from errors, the list is believed to be as complete as present information can make it, and hence it will serve as a basis for more detailed and extensive investigation.

In order to make the list usable to general observers, brief descriptions have been included, given in such terms as the ordinary reader may understand. While not aimed to be exact scientific descriptions, it is believed that this feature of the list will add to its value to teachers and others interested in nature study.

The author desires to commend the wise and broad-minded policy of the Board of Trustees of the Fergus County High School, in recognizing so clearly the educative mission of the high school in any community, and in using this means to advance the knowledge of the natural history of this region. To Mr. F. E. Wright, President of the Board of Trustees; Mr. Rudolf von Tobel, Secretary; Mr. David Hilger, Mr. Theo. Hogeland, members, who were foremost in suggesting the preparation of this work; Mr. W. A. Hedges, member; Elizabeth Peebles, former ex-officio member, and Ada Myersick, ex-officio member, the personal thanks of the author are due for hearty support accorded the publication of the list and for ample provision for issuing it in durable and attractive form.

For the illustrations, we acknowledge our indebtedness to Prof. M. J. Elrod, of the University of Montana, from whose photographs the plates of nests and eggs were made; and to Mr. E. R. Warren, of Colorado Springs, for excellent photographs of living birds, from which the plates of birds were made.

Copies of this bulletin can be obtained upon application to the author or to Rudolf von Tobel, Secretary Board of Trustees, Fergus County High School, Lewistown, Mont.

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MAP OF FERGUS CO.

TOPOGRAPHY OF FERGUS COUNTY.

Fergus County lies in the geographical center of Montana. From east to west it has an extent of about 125 miles, and from north to south about 110 miles. The area of the county is 6,762 square miles. Beginning at the Highwood Mountains, at the union of Cascade, Choteau, and Fergus Counties, a point which forms the extreme north-western angle of Fergus County, we follow the boundaries of the county north-east along Arrow River to its junction with the Missouri River. Along the northern boundary we journey eastward down the Missouri to the mouth of the Musselshell, thus reaching the north-eastern corner of the county. Traveling southward up the Musselshell River, we reach the Great Bend of that river, which marks the south-eastern corner of Fergus County. Following up the Musselshell toward the southwest, we trace the southern boundary of the county to Elk Creek, which joins the Musselshell in a course from the northwest, forming with Careless Creek the south-western boundary of the county. Traveling directly westward across the Judith Gap, we strike the Little Belt Mountains, whose ridge forms the further boundary of the county until we reach the north and south line between Cascade and Fergus counties.

The physical features of Fergus County are so varied that its avifauna is correspondingly enriched by representatives of various zones or conditions of bird-life. More than three-fourths of the boundary of the county is formed by the Missouri River and its branches. As the river is a great natural highway of bird movement, many species, which otherwise would limit their activities to the Mississippi valley and the Great Plains, ascend far up the river and its head-waters, and thus become a part of the avifauna of the region. It is likely that such species as brown thrasher, catbird, red-eyed vireo, bronzed grackle, bobolink, kingbird, flicker, red-headed woodpecker, Bartramian sandpiper, and other Mississippi valley species have worked their way gradually along the great water highway, and have established themselves around the upper waters of the Missouri.

The western portions of the county include several of the outlying spurs of the Rockies. Indeed, the Big Snowies and the Little Snowies cut their way eastward more than half the length of the county, while in the northern part lie the two groups of Moccasins and the Judith Mountains. These elevations vary between six and eight thousand feet in height, and the higher Snowies even exceed these limits.

By way of these mountain spurs, the typical alpine species and mountain residents frequently find their way far into the county. Hence we note the occurrence of the mountain chickadee, pygmy nuthatch, American dipper, pine siskin, gray-crowned leucosticte, Clarke's nutcracker, Rocky Mountain jay, and perhaps others.

The portions of the county east of the mountains partake of the

character of the so-called "Bad Lands," and their avi-fauna belongs somewhat to that of the Great Plains region. Arid conditions of climate and soil prevail. Large areas are overgrown with low forms of cacti and dwarf sage. The stream-sides support heavy growths of greasewood and the larger sage-brush. Among such surroundings may be noted the sage thrasher, lark bunting, clay-colored sparrow, western vesper sparrow, McCown's longspur, chestnut-collared longspur, and sage grouse, as the most common.

The immediate valley of the Musselshell River averages more than half a mile wide, and is characterized by a heavy growth of cottonwoods in most places, broken by clumps of box elder, quaking aspen, haw, willow, and other dwarf trees. The plains beyond the river valleys are almost devoid of trees.

The elevation of Fergus County varies from three thousand to eight thousand feet, the larger portion perhaps being between three thousand and three thousand five hundred feet. The altitude of Lewistown at the site of old Camp Lewis is 3,890 feet. In the Judith Gap the altitude is 4,650 feet. Judith Peak is 6,386 feet high. At old Ft. Maginnis the elevation is 4,310. The altitude of Ubet is 4,540 feet; of Utica, 4,420; of Philbrook, 4,260; of Oka, 4,540; of Castle Rock or Butte, 4,947; of Cone Butte, 5,820; of Moccasin Peak, 5,547, of Wild Horse Lake, 2,850. Ft. Keogh, on the Yellowstone, to which frequent reference is made, has an elevation of 2,367 feet.

The western portion of the county contains the beautiful Judith Basin. Fed by the snows of the northern slopes of the Big Snowies and Little Belts, the Judith River takes its rise in the western part of the county, and thence flows in an indirect course to the Missouri on the north. Many small streams feed the Judith River with their crystal cold waters, among which the most important is Big Spring Creek or Big Trout Creek. It is said that only once in the history of Lewistown has this creek been frozen from bank to bank. On its open waters ducks frequently linger through the coldest weather.

In the Judith Basin, the little bends of the small streams and ditches support thick patches of rose bushes, with clumps of dwarf willow, haw, buffalo-berry, and choke-cherry. The coulees and ravines opening into the water-courses are clustered with the foregoing growths, besides service-berry, dwarf aspens, and dwarf conifers. The foot-hills and mountain slopes are burdened with thick areas of pine, fir, and other evergreen. The benches and high prairies of the Judith Basin are covered with choice grass, forming rich grazing lands. In spring myriads of wild flowers deck the hill-sides. Then we see beds of larkspur, shooting-star, harebell, adder's-tongue, wind-flower, buttercup, wild flax, and others of similar habits. The benches and prairies are tenanted by birds, such as McCown's longspur, desert horned lark, long-billed curlew, mountain plover, western meadowlark, western vesper sparrow, and an occasional Sprague's pipit. The prevailing altitude of these level areas is about 4,000 feet.

A PARTIAL BIBLIOGRAPHY OF MONTANA BIRDS.

Allen, J. A. Notes on the Natural History of Portions of Montana and Dakota. Proc. Boston Soc. Nat. Hist., Vol. XVII., June, 1874, Boston. Contains many references regarding the occurrence of birds along the Musselshell border of Fergus County, which have been particularly helpful in the preparation of the present list.

Audubon, J. J. Birds of America, 1840, etc.

Bendire, Charles E. Life Histories of North American Birds with Special Reference to their Breeding Habits and Eggs. Government Printing Office, Washington, 1892. Contains frequent references to Montana localities.

Bishop, Louis B. Montana Redpolls. Auk, Vol. XVIII., p. 195, 1901. Mentions the occurrence of *A. 1. rostrata*, *A. 1. holboellii*, and *A. hornemannii exilipes*, besides *A. linaria*.

Cameron, E. S. The Migration of Phalaropes in Montana. Ibis, Jan., 1900, pp. 67-70.

Cameron, E. S. Migration of the Common American Buzzard in Montana. Ibis, Vol. III., pp. (?).

Cameron, E. S. The Marsh Hawk in Montana. Country Life (London), date unknown.

Cooley, R. A. The Wood Ibis in Montana. Auk, Vol. XX., p. 210, 1903. Regarding the occurrence of *Tantalus loculator* in Madison Valley.

Cooper, J. G. The Fauna of Montana Territory. Amer. Nat., Vol. III., pp. 31-35, 73-84, 1869. Contains many interesting notes regarding the occurrence of eighty-eight species.

Cooper, J. G. Notes on the Fauna of the Upper Missouri. Amer. Nat., Vol. III., 1869, pp. 294-299.

Coues, Elliott B. Birds of the Northwest. Government Printing Office, Washington, 1874. Contains many references to various localities in Montana.

Coues, Elliott B. Field Notes on Birds Observed in Dakota and Montana Along the Forty-Ninth Parallel. Bull. U. S. Geol. and Geog. Surv., Vol. IV., No. 3, Washington, 1878. Contains frequent references to localities in northern Montana.

Coues, Elliott B. On the Nesting of Certain Hawks. Amer. Nat., Vol. VIII., pp. 596-603, 1874. Regarding the nesting of Swainson's Hawk, Ferruginous Rough-leg, American Lanier Falcon, and Duck Hawk.

Coues, Elliott B. Notes on the breeding of *P. mccownii* in Montana. Amer. Nat., Vol. VIII., p. 602, 1874.

Crooker, O. E. *Sitta canadensis* in Montana. The Oologist, Vol. X., pp. 183-184, 1893. Records the taking of a set of eggs at Helena.

Davie, Oliver. Nests and Eggs of North American Birds. Fifth edition, Columbus, Ohio, 1898. Contains frequent references to Montana localities.

Elrod, M. J. A Biological Reconnaissance in the Vicinity of Flathead Lake. Bull. Univ. of Mont., Biol. Ser. No. 3, 1902, Missoula. General references to the ornithology of the various localities described.

Hayden, F. V. Sixth annual Report of the U. S. Geol. Surv., Government Printing Office, 1893. Notes on Birds by C. Hart Merriam. Contains many references regarding the occurrence of birds in western Montana.

Hayden, F. V. On the Geology and Natural History of the Upper Missouri. Trans. Amer. Phil. Soc., Vol. XII., 1862, Philadelphia. Pp. 151-176, Birds.

Jones, Lynds, and Dawson, W. L. A summer Reconnaissance in the West. The Wilson Bulletin, No. 33, Oberlin, Ohio, 1900. Contains lists of birds noted between Thompson's Falls and Livingston, 37 species; Billings, Mont., 35 species; Billings to Miles City, Mont., 31 species.

Ludlow, Wm. Report of a Reconnaissance from Carroll, Montana, to Yellowstone National Park, and return. Government Printing Office, Washington, 1876. Oology by George Bird Grinnell. Pp. 72-92, Birds.

Maximilian, Prinz zu Wied. Reise in das innere Nord-Amerika in den Jahren 1832 bis 1834. 2 Vols., Coblenz, 1839-1841; 3 Vols., Paris, 1840-1843. Contains many references to Upper Missouri localities.

Maximilian, Prinz zu Wied. Verzeichniss der Vogel, etc. Journal fur Ornith., Vol. VI., 1858, pp. 1-29, 97-124, 177-205, 257-284, 337,354, 417-445; Vol. VII., pp. 81-96.

McChesney, Chas. E. Report on the Mammals and Birds of the General Region of the Big Horn River and Mountains of Montana Territory. Report of Chief Engineers U. S. A., App. SS3, 1879, Washington.

Merrill, J. C. Notes on Breeding Habits of Certain Birds in the Big Horn Mountains. Bull. Nutt. Orn. Club, Vol. VI., 1881, p. 205.

Merrill, J. C. Notes on the occurrence of *L. tephrocotis* and *littoralis* at Ft. Shaw. Bull. Nutt. Orn. Club, Vol. V., 1880, p. 75.

Pyfer, Amos M. Nesting of Clarke's Nutcracker. The Oologist, Vol. XIV., pp. 100-101, 1897.

Pyfer, Amos M. Birds of Montana. The Oologist, Vol. XV., pp. 14-15. Contains notes on various species near Salesville, Mont.

Richmond, Chas. W., and Knowlton, F. H. Birds of South-Central Montana. Auk, Vol. XI., pp. 298-308, 1894. Contains an annotated list of 111 species.

Ridgway, Robert. Birds of North and Middle America. U. S. Nat. Mus., Washington. Pt. I., 1901. Pt. II., 1902. Contains many references to Montana localities.

Ridgway, Robert. Rocky Mountain Pine Grosbeak. Auk, Vol. XV., 1898, p. 319. Description of new subspecies.

Shaw, W. T. The American Magpie. The Oologist, Vol. X., pp. 211-212. Locality of Bozeman, Mont.

Silloway, P. M. Summer Birds of Flathead Lake. Bull. Univ. of Mont., Biol. Ser. No. 1, 1901. An annotated list of 128 species, 84 pp. with 16 plates.

CLARKE'S NUTCRACKER.—"CAMP ROBBER."

Photo by E. R. Warren.

Silloway, P. M. Flathead Lake Findings. The Condor, Vol. III., pp. 4-7, 1901. Description of nesting habits of Audubon's warbler and Wright's flycatcher, with two plates.

Silloway, P. M. The Sharp-shinned Hawk. Osprey, Vol. V., pp. 70-71, 1901. Description of two nests.

Silloway, P. M. Notes on McCown's Longspur in Montana. Osprey, Vol. VI., pp. 42-44, 1902. Description of nesting habits.

Silloway, P. M. Notes on the Long-billed Curlew. Condor, Vol. II., pp. 79-82, 1900. Also, Condor, Vol. IV., pp. 31-34, 1902.

Silloway, P. M. The Holboell Grebe in Montana. Condor, Vol. IV., pp. 128-131, 1902. Description of nesting habits.

Silloway, P. M. Montana Magpies. The Oologist, Vol. XVII., pp. 82-91, 1900. Detailed description of nests and eggs.

Silloway, P. M. Additional Notes to the Summer Birds of Flathead Lake. Univ. of Mont. Bull. Biol. Ser. No. 6, Missoula, 1903.

Silloway, P. M. Notes on the Leucostictes, Gray-crowned and Hepburn's. The Wilson Bulletin, Vol. X., pp. 1-4, 1903. Winter habits of the species.

Silloway, P. M. Lectures Delivered at the University of Montana Biological Station, 1902. Univ. of Mont. Bull. Biol. Ser. No. 5, 1903, Missoula.

Silloway, P. M. A-Field at Flathead. Condor, Vol. V., No. 6, 1903. Contains notes regarding the nesting of Holboell's Grebe, Townsend's Warbler, Louisiana Tanager, Ruby-crowned Kinglet.

Thorne, Platte M. List of Birds Observed in the Vicinity of Ft. Keogh, Montana, from July, 1888, to September, 1892. Auk, Vol. XII., pp. 211-219, 1895. An annotated list of 137 species.

Thorne, Platte M. Phalaropus lobatus and Phalaropus tricolor. Auk, Vol. VI., p. 336, 1889. Description of habits.

Williams, R. S. The Breeding Ranges and Songs of Three Thrushes in Montana. Auk, Vol. VII., pp. 292-294, 1890.

Williams, R. S. A Flock of *Chen rossii* East of the Rocky Mountains. Auk, Vol. III., p. 274, 1886.

Williams, R. S. Upper Missouri River Birds. Auk, Vol. V., pp. 14-18.

Williams, R. S. Some Birds of the Belt Mountains, Montana Territory. Bull. Nutt. Orn. Club, Vol. VII., p. 62, 1882.

Mearns, Edgar A. Feathers Beside the Styx. Condor, Vol. V., 1903, pp. 36-38. Contains notes regarding birds of Yellowstone Park.

LIST OF BIRDS.

4. AMERICAN EARED GREBE. *Colymbus nigricollis californicus*.

This grebe is not uncommon as a migrant at Lewistown, though it may breed in suitable localities in the county. My first record of its occurrence is under date of August 23, 1901, when a solitary young bird of the year was taken on a small pond near my home. A female, taken May 2, 1903, is now in the high school collection.

It is likely that the range of this species in Montana is co-extensive with the state. Dr. Elliott Coues reports taking specimens at the headwaters of the Milk River on August 30. Dr. J. A. Allen took a specimen on the Yellowstone in September. On June 20, 1901, I noted this grebe on Sin-yale-a-min Lake, in the Mission Mountains, when young were taken which had evidently been reared on the lake.

Distinguishing features: Width of bill at base greater than depth; chest, as well as neck and head, black; a tuft of yellowish-red feathers at side of head back of the eyes; length 12-14 inches.

6. PIED-BILLED GREBE. *Podilymbus podiceps*.

A regular summer resident. Near my home, in the edge of Lewistown, is a small pond formed by the overflow from an irrigation ditch. This pond is a favored resort of small waterfowl in the fall and spring, and consequently it is an attractive place for thoughtless marksmen. One day in the fall of 1901 I counted a dozen dead grebes lying along the shore of the pond, where they had fallen before the ruthless slaughter of gunners, who had not taken the trouble to pick up their victims.

Distinguishing features: Upper parts brownish, lower parts silvery white; length 12-15 inches; length of bill along its upper ridge not double the depth of the bill.

51. HERRING GULL. *Larus argentatus*.

The herring gull is of common occurrence along the Missouri River in this section of Montana. Dr. Coues mentions a specimen shot by Mr. J. H. Beatty near Ft. Benton, Mont., and in his "Birds of the Northwest," he says that he found this species on the Upper Missouri.

Distinguishing features: Upper parts pearl-gray, eyelids in life yellow, feet pale flesh color, bill bright yellow. Length 22-26 inches.

54. RING-BILLED GULL. *Larus delawarensis*.

On Dec. 31, 1898, a dead gull was brought to me for identification. It was first seen eating from the poisoned carcass of a sheep baited for coyotes. After flying some distance when disturbed, the gull fell to the ground and soon died. It proved to be a ring-billed gull, young of the year, still in the dark grayish plumage.

Late in the fall of 1902, a fine specimen of this gull was taken on Big Spring Creek a few miles below Lewistown. It was mounted, and now is in the window of a Lewistown merchant.

Distinguishing features: Upper parts light pearl-gray, eye-lids in

life vermillion-red, feet pale yellow. Young, brownish-gray, bill brownish-black. Length 18-20 inches.

129. AMERICAN MERGANSER. *Merganser americanus*.

The American merganser occurs regularly along the larger streams forming the northern and eastern boundary of the county, as well as at suitable places elsewhere. Specimens are frequently taken near Lewistown during the migrations. Like some of the other ducks, this species lingers on the open water of Big Spring Creek till hard winter has begun. On April 27, 1903, I noted a male of this species feeding on a sand-bar on the creek near Lewistown.

Distinguishing features: Male with head greenish-black, and crest at back; lower parts creamy white; white wing-coverts with a prominent black bar; length 25-27 inches. Female with head and neck bright brown, also with crest; lower parts yellowish-white.

131. HOODED MERGANSER. *Lophodytes cucullatus*.

This species occurs regularly throughout this region, and according to Dr. Coues, breeds on the Upper Missouri River. Near Lewistown it is known only as a migrant, the conditions being unfavorable to a residence throughout the summer.

Distinguishing features: Male with black head and neck, with white crest; mostly black above, with white lower parts. Female with head and neck grayish brown, crest reddish-brown; lower parts white; length 17-19 inches.

132. MALLARD. *Anas boschas*.

The mallard is a regular summer resident of this region. Along the head-waters of Big Spring Creek, which remain open during the winter, mallards have been seen every month from the autumnal to the vernal migration. Many pairs are reported to breed along the Missouri and Mus-selshell borders of the county. An instance of a mallard's nesting near the electric light plant was reported to me this spring.

Distinguishing features: Male with head and neck bright metallic green, chest bright reddish-brown, speculum of wing violet bordered by black and white bars before and behind; length 20-25 inches. Female generally brownish, varied with buffy markings, wings like the male.

135. GADWALL. *Chaulelasmus streperus*.

Known to me only as a migrant of regular occurrence. Dr. Coues states that it breeds in the Milk River region of this state, and further observation may disclose the fact of its nesting along the large streams which form a part of the Fergus county boundary.

Distinguishing features: Male with head and neck dingy white, speckled with black, middle wing-coverts reddish-brown, bordered by black and white, speculum white, bill dark blue, legs and feet orange-yellow; length 19-22. Female generally brownish, wing like male with colors less prominent.

137. BALDPATE. *Mareca americana*.

Dr. Coues says that the widgeon (or baldpate) breeds in abundance

ROCKY MOUNTAIN JAY—"TALLOWHEAD."
Photo by E. R. Warren.

in Northern Dakota and Montana along the banks of the streams and pools. Regarding its breeding in this county, no data is at hand, but specimens are frequently taken during the fall migration by local gunners.

Distinguishing features: Male with head and neck dingy white speckled with black, except a bar of metallic green extending from the eye backward; upper and lower parts generally marked with waves of black; length 18-22 inches. Female with darker colors, more brownish and grayish.

139. GREEN-WINGED TEAL. *Nettion carolinensis*.

A very common migrant, appearing from the north toward the end of August, and lingering until severe weather in late fall. On Dec. 5, 1902, during freezing weather, specimens of green-winged teal were taken near Deerfield, and it appears that some of these ducks remain with us all winter. It is likely that occasional pairs of this teal breed along the Missouri borders of the county, but no records of such nesting are at hand.

Distinguishing features: Speculum of wing bright metallic green, bordered below by black tipped with white; length 12-15 inches. Female somewhat like male, colors darker and less prominent.

140. BLUE-WINGED TEAL. *Querquedula discors*.

A very common migrant, and doubtless an occasional breeder at suitable places in the county and along the Missouri and Musselshell borders. The blue-winged teal appears in its southern migration about the first of September, and is noted regularly till severe weather of the late fall.

Distinguishing features: The light blue markings of the lesser wing-coverts, speculum dark green; length 14-16 inches.

142. SHOVELLER. *Spatula clypeata*.

Occurs regularly along Big Spring Creek in the migrations. Dr. Coues says that this species is common through the summer in Montana, along the Milk River and its tributaries. It has been taken near Lewistown in the early part of October.

Distinguishing features: Bill spoon-shaped, or narrow at base and broad at end; male with head and neck dark green, chest white, lower parts chestnut; wing-coverts light blue tipped with white, speculum bright green bordered below with white; length 17-21 inches. Female with wing like the male, other colors less prominent.

143. PINTAIL. *Dafila acuta*.

A very common migrant near Lewistown. Like most of the ducks mentioned as belonging to this region, the pintail is reported as breeding in the Milk River district of Montana.

Distinguishing features: Male with head and neck brown, shoulders black bordered with white, speculum varying metallic green and purple bordered below with black tipped with white, wing-coverts with a bar of reddish-brown; length 25-30 inches. Female smaller, with colors less conspicuous, wing much like male.

146. REDHEAD. *Aythya americana*.

Not uncommon as a migrant, though observations along the larger

rivers might show that it is of more common occurrence. In his notes regarding the occurrence of the canvas-back, Dr. Coues says that in most of the Missouri region, the canvas-back is not so common as the redhead.

Distinguishing features: In the male, the bright chestnut-red of the head extends downward to the middle of the neck, where it is displaced by the black of the chest and upper parts; belly white, unmarked; length 17-21 inches. Female has sides of head, neck, and lower parts dull yellowish, lighter below.

147. CANVAS-BACK. *Aythya vallisneria*.

A regular migrant, not met with often away from the larger rivers bordering the county.

Distinguishing features: In the male, the reddish-brown of the head extends downward over the whole neck, and the head is blackish on top; otherwise similar to the redhead, except the belly is marked with fine wavy lines; length 20-24 inches. In the female, the shoulders and sides are whitish.

149. LESSER SCAUP DUCK. *Aythya affinis*.

Occurs regularly in migration along the prairie streams. Dr. Elliott Coues found this duck breeding in numbers along the Upper Missouri and Milk River, in some places seemingly more abundant than any other species. Capt. Platte M. Thorne reports this species as rare at Ft. Keogh.

Distinguishing features: The male has black head, neck, and chest, the head having a purplish tinge; speculum white, with black border below; length 15-17 inches. Female with brown instead of black.

151. AMERICAN GOLDEN-EYE. *Clangula clangula americana*.

A common migrant along the larger streams of this region. On Dec. 6, 1902, a specimen was brought to me which was taken on the Judith River near Deerfield. The American golden-eye doubtless is a regular breeder in this section where dead trees are found on the banks of the streams, as it is one of the tree-nesting ducks, using cavities as does the wood duck.

Distinguishing features: The male has head and upper part of neck black tinged with green, the side of the head having a large round white spot; large white wing-patch; under parts white; length 18-23 inches. Female with brown head, grayish chest, somewhat smaller than male.

153. BUFFLE-HEAD. *Charitonetta albeola*.

A regular migrant generally in the county, and probably breeding occasionally along the Missouri and Musselshell. Dr. Coues is authority for the fact of its breeding along Milk River and its tributaries.

Distinguishing features: The male has head and upper part of neck metallic green, with other reflections, and large white spot behind eye; lower parts and wings chiefly white; length 14-16 inches. Female with brown instead of metallic colors; length 12-14 inches.

167. RUDDY DUCK. *Erismatura jamaicensis*.

The ruddy duck occurs regularly during the migrations in suitable places throughout the county. Dr. Coues notes its presence during the breeding season in Montana, along the Milk River and its northern tributaries. Capt. Thorne reports it rare at Ft. Keogh.

Distinguishing features: The male has upper parts bright reddish brown, with sides of head white; lower parts whitish; length 13-16 inches. Female grayish brown above, lower parts whitish.

170. ROSS'S SNOW GOOSE. *Chen rossii*.

Occurs regularly in migration. A small flock of six was seen on Big Spring Creek a few miles below Lewistown on March 14, 1903. Capt. Platte M. Thorne reports it as rare at Ft. Keogh.

Distinguishing features: Entire head and part of neck white; otherwise whitish, wings with black markings; length 20-26 inches.

172. CANADA GOOSE. *Branta canadensis*.

A regular migrant throughout the county, and breeding in suitable localities. Dr. J. A. Allen reports that this species breeds along the Musselshell, and there is no doubt that broods are regularly reared along the Missouri river border of the county.

On the spring migration, the geese often appear by the first of March, and sometimes they linger several weeks near a particular field, feeding early in the morning and late in the day, and resorting to the water at other times.

Distinguishing features: Head black, with cheek-patches of white meeting on the throat; upper parts brown, varied with gray; lower parts lighter; length 34-44 inches.

181. TRUMPETER SWAN. *Olor buccinator*.

Occurs regularly throughout the county, occasionally breeding in suitable places. A friend told me of seeing an old swan and a young one upon the "Highland" lakes. The two were in flight between the lakes, and the cygnet flew only a few feet directly above the elder, so that it could drop on the parent's back at frequent intervals. The younger swan would fly fifty or sixty yards alone, then drop lightly upon the parent's back to rest, being carried for fifty to sixty yards in this manner; then it would rise upon its own pinions, and flap along above the elder bird until it again became weary of its own exertions.

Distinguishing features: White, with black bill and cheeks; length 60-65 inches.

190. AMERICAN BITTERN. *Botaurus lentiginosus*.

The American bittern is found regularly throughout the county, though nowhere in numbers. On May 19, I heard an individual of this species in a bog along Big Spring Creek, near Lewistown, uttering its hoarse "boo-hoo, hoo" notes all the afternoon, and later I flushed it several times, when it would fly to another part of the bog farther along the creek. The bittern is usually solitary, a hermit of the swamps, lurking alone in the reedy tangle to glean its fare. One that I took in the summer of 1901, in the Flathead region, had its stomach crammed with large dragon-flies, *Eschna constricta*, of which I easily counted thirty, besides the crushed fragments of many others.

Distinguishing features: Brownish yellow, varied with brown and black mottlings; lower parts buffy, with brown stripings; length 24-35 inches.

194. GREAT BLUE HERON. *Ardea herodias*.

The only specimens of this heron that I have observed at Lewistown were in flight, winging their way far overhead.

Dr. Elliott Coues reported that he had observed this species far up on the Missouri River in October. Chas. W. Richmond and F. H. Knowlton report it as rather common in south-central Montana. Platte M. Thorne notes it as common at Ft. Keogh, on the Yellowstone, in the spring and fall, and he thinks that some remain to breed.

Distinguishing features: Upper parts bluish gray, lower parts varied with dusky and white; length 40-50 inches.

206. SANDHILL CRANE. *Grus mexicana*.

Formerly a common migrant, now only occasional. Mr. J. M. Croft, an accurate observer of the birds in former years, tells me that he frequently took specimens of the sandhill crane on Wolf Creek, in this county.

Distinguishing features: Slaty gray color, length 40-50 inches.

214. SORA. *Porzana carolina*.

The sora occurs regularly, and breeds in suitable places in the county. Mr. J. L. Stuart found this rail nesting on his former ranch near the North Moccasins.

Specimens of the sora were taken in the breeding season in Montana by Dr. Elliott Coues, and at Ft. Keogh by Capt. Platte M. Thorne. In the spring of 1902, the writer found the sora breeding in the swamp meadows at Swan Lake, where eggs were brought in by men who were cutting hay.

The ~~sora~~ appears here on the fall migration about the middle of September.

Distinguishing features: Front part of head and throat, black; top of head brown, striped with black; other upper parts brown, with black stripings; length 8-10 inches.

221. AMERICAN COOT. *Fulica americana*.

Occurs locally, in suitable places, and nests where circumstances are favorable in the county. Mr. J. A. Allen did not find the coot common along the Musselshell, but Dr. Coues found it extremely abundant along the northern portions of the state. In "Birds of Dakota and Montana," Dr. Coues says that almost all the pools and reedy sloughs of the prairie throughout the region from the Red River to the Rocky Mountains and Upper Missouri country generally are tenanted by one or more pairs of these very common-place birds. Capt. Thorne reports the American coot as common and breeding at Ft. Keogh. On April 28, 1903, I took a male specimen of this species on a pond near Lewistown, for the high school collection.

NEST AND EGGS OF WILLOW THRUSH.
Photo by M. J. Elrod.

Distinguishing features: Color blackish slate or leaden, bill white in life; length 13-16 inches.

223. NORTHERN PHALAROPE. *Phalaropus lobatus*.

Among the first birds seen after my arrival in Lewistown, was a northern phalarope. It was on a small pond near an irrigating ditch, and was with several lesser yellowlegs, swimming along the edge of the water as the larger birds waded near it. The first phalarope I had seen, I hastened to capture it for positive identification. I have not seen another since in this locality. Capt. Thorne reports this phalarope as rare at Ft. Keogh.

Distinguishing features: Upper parts dark leaden blue, varied with pale yellowish markings; wings dark, the coverts tipped with white; upper part of breast reddish brown; lower parts white; length 7-8 inches; male with colors duller than female; toes with scalloped membranes.

224. WILSON'S PHALAROPE. *Steganopus tricolor*.

In his "Birds of Dakota and Montana," based upon observations made along the northern boundary, Dr. Coues says that Wilson's phalarope breeds throughout the country, from the Red River to the Rocky mountains, and in suitable places it is common, though never observed in large numbers at any one place. Capt. P. M. Thorne reported this species as tolerably common at Ft. Keogh in May and June.

Distinguishing features: Top of head bluish gray, bordered on forehead by black; back part of neck white, sides of neck black; middle of back bluish gray, sides of back reddish brown; upper breast yellowish red; other under parts white; length 9-10 inches. Male with colors less prominent.

225. AMERICAN AVOCET. *Recurvirostra americana*.

On August 23, 1901, a flock of five American avocets appeared on a small pond in the edge of Lewistown. Their handsome colors and stately movements soon attracted my attention, for they were the first avocets I had seen. When alighted, they stood closely together in orderly array at the edge of the water. When shot at with a small rifle they manifested no alarm, and two of them were taken before the remainder flew away. Their flight is much like that of the ring-billed gull, with projecting head and indrawn neck, the legs protruding behind when the birds are settled in flight. The call of the avocet is a loud, mellow whistle, uttered quickly with an intonation of impatience or alarm. This species is often spoken of by ranchers as the little white crane. It appears in the vicinity of Lewistown on the spring migration about the end of April. Capt. Thorne notes the avocet as rare at Ft. Keogh.

Distinguishing features: Bill curved upward toward its outer end; head, neck, and upper part of breast dark brown; upper parts chiefly white; large feathers of wing brownish black; middle of back white; lower parts white; length 15-19 inches.

230. WILSON'S SNIPE. *Gallinago delicata*.

A common migrant, and doubtless breeding sparingly in suitable

places in the county. This species is the well known "jack snipe" of eastern sportsmen. It appears early in the spring, and in the fall it lingers until the middle of October or later. It frequents the wet margins of the streams and the boggy spots of the meadows. Its erratic, zig-zag course in flight, and its harsh call resembling the syllable "scav," uttered as it wings its way from the gunner to a place of safety, serve to aid the novice in identifying this species.

Distinguishing features: Upper parts blackish, varied with light buffy markings; under coverts of wings conspicuously barred with bluish gray; length 10-12 inches.

232. LONG-BILLED DOWITCHER. *Macrorhamphus scolopaceus*.

Occurs in migration. Dr. Elliott Coues says that nowhere did he find the "gray-back" so abundant as in the alkali region along the Upper Missouri.

Distinguishing features: Upper parts chiefly streaked with light reddish-brown and darker colors; lower parts chiefly light reddish-brown; rump and upper tail coverts chiefly white, barred with darker; tail gray, barred with white; length 11-13 inches.

239. PECTORAL SANDPIPER. *Actodromas maculata*.

A common migrant. It generally appears early in March, and clings to the edges of the open water-courses for several weeks. In the fall it appears early in August, and lingers until about the end of October. On October 18, 1900, a single specimen was taken on an irrigating ditch in the edge of Lewistown. On April 22, 1901, a solitary pectoral sandpiper was observed on the dry bench at dusk, where it was feeding from a heap of refuse. On Feb. 22, 1903, a pectoral sandpiper was noted on Big Spring Creek near Lewistown. This species is commonly known hereabout as the "jacksnipe."

Distinguishing features: Upper parts dark buffy, striped with black; lower parts white; length 8-10 inches.

241. BAIRD'S SANDPIPER. *Actodromas bairdii*.

A very common migrant, appearing in this locality on its southward movement about the first of September, and lingering along the pond shores until the middle of the month.

Distinguishing features: Upper parts spotted with brownish black and grayish yellow; lower parts below chest white; length 7-8 inches.

242. LEAST SANDPIPER. *Actodromas minutilla*.

A very abundant migrant, lingering for several weeks in suitable places. A solitary individual of this species was taken on a small pond near my home at Lewistown, August 22. The next day a flock of six or seven was noted on the pond. They were lurking in the grassy margin in preference to wading in the water's edge, and permitted a closer approach than other sandpipers except the spotted. August 28, least sandpipers were about the pond in small numbers. On September 4, I noted that least sandpipers were in greater numbers. When watched, they huddle in groups of five or six on a little weedy point, crouched facing the wind.

When flushed, they fly rapidly in irregular, capricious flight, maintaining a close formation as a flock, and uttering a hurried twittering. They drop abruptly to alight. When feeding, an individual will frequently utter a quiet chirp greatly like that of the song sparrow. When one is flushed alone, it arises obliquely in a hurried, dodging movement, sometimes mounting to a considerable height, darting here and there as though seeking to evade an invisible pursuer, and uttering its sharp, quick call. In this flight it acts very much like Wilson's snipe.

Distinguishing features: Upper parts chiefly streaked and edged with black brown and dull yellowish; rump and upper tail coverts brownish black, unmarked; front parts brownish white, streaked; lower parts dull white; length 5-7 inches.

246. SEMIPALMATED SANDPIPER. *Ereunetes pusillus*.

Rare in migration, occurring chiefly in the fall. Capt. Thorne reports it common in spring and a few in the fall at Ft. Keogh.

Distinguishing features: Upper parts grayish brown tinged with yellowish-brown; breast streaked with darker colors; length 5-7 inches. Can easily be distinguished from the least sandpiper by the fact that all the front toes are united by webs at their bases.

254. GREATER YELLOW-LEGS. *Totanus melanoleucus*.

A very common migrant, entering this region from the north soon after the middle of August, and lingering on the pond shores till the middle of September. It is generally associated with its smaller congener, *T. flavipes*, in the ratio of one to three or four. No large flocks are seen here, as small troops of three to six are the most that I have seen at one time. This yellow-legs has a loud mellow whistle, consisting generally of two syllables, which closely resembles the call of the avocet.

Distinguishing features: Upper parts varied with blackish gray and dull white; throat streaked with darker color; lower parts white, chiefly barred or spotted; length 12-15 inches.

255. YELLOW-LEGS. *Totanus flavipes*.

A very common migrant, generally associating with other shore birds, preferably the sandpipers and phalaropes. The yellow-legs makes its appearance from the north soon after the middle of August, and lingers in suitable places until the middle of September.

Distinguishing features: Like the greater yellow-legs, but smaller, length 9-11 inches.

256a. WESTERN SOLITARY SANDPIPER. *Helodromas solitarius cinnamomeus*.

A regular migrant, appearing on its southward movement about the end of the third week of August, and lingering for two or three weeks, frequenting the pond shores and edges of irrigating ditches and marshy localities. It has the same "teetering" motions that characterize the spotted sandpiper, and its call is a counterpart of the "peet weet" uttered by its smaller relative. Its flight is irregular and capricious, and in alighting it darts abruptly downward to the place where it wishes to feed.

Distinguishing features: Upper parts greenish leaden, speckled with dull white; front part of neck streaked with darker; length 7-9 inches.

258a. WESTERN WILLET. *Symphemia semipalmata inornata*.

This species occurs regularly near Lewistown in the migrations. On May 2, 1903, I took a fine specimen on a small pond just beyond the limits of Lewistown. Like some of the plovers and sandpipers, the willet has a habit of lifting its wings above its back upon alighting, showing the white bands which aid in identification of this species. Dr. Coues observed the willet at various points from the Red River to the Rocky Mountains, and states that it breeds in this region. Capt. Platte M. Thorne states that at Ft. Keogh this species is rather rare in spring. Its occurrence at Moreland, south-central Montana, August 19, is noted by Messrs. Richmond and Knowlton.

Distinguishing features: Upper parts brownish gray, with numerous spots of darker; lower parts chiefly white; sides and flanks yellowish brown, varied with darker; long wing feathers black—broadly marked with white; bill black; tarsus and feet leaden; length 15-17 inches.

261. BARTRAMIAN SANDPIPER. *Bartramia longicauda*.

This fine sandpiper occurs regularly in the prairie districts of the county, but is of somewhat local distribution. A few pairs spend the summer on the benches near Lewistown, where the prolonged indrawn whistle of the so-called plover serves to attract attention to its presence. West of the Rocky Mountains I found the Bartramian sandpiper very locally distributed in the Flathead region, in colonies of only a few families. Capt. Thorne reports its breeding commonly on the elevated prairies near Ft. Keogh.

Distinguishing features: Upper parts light brown, varied with blackish markings; lower parts dull white; length 11-13 inches.

263. SPOTTED SANDPIPER. *Actitis macularia*.

A very common frequenter of the streamsides in summer, appearing generally during the second week of May, and beginning to nest before the end of the month. On June 4, 1901, I found a set of four eggs more than one-half incubated, in a nest made in a recess on a sloping bank of a small pond. It is a prolific breeder, rearing several broods in a season and thus prolonging the nesting season nearly through July. Soon after its young are a-wing this sandpiper concludes its northern sojourn, and it is seldom seen after the middle of August. This species is easily identified by its "teetering" movements when standing or walking; also by its loud, clear call resembling the syllables "peet weet."

Distinguishing features: Upper parts grayish-brown, tail tipped white; lower parts chiefly white, marked with blackish spots; length 7-8 inches.

264. LONG-BILLED CURLEW. *Numenius longirostris*.

This interesting species is found in abundance throughout this region, inhabiting the dry prairies from the middle of April to the middle of September. The first curlews of the season are generally noted by me

WESTERN VESPER SPARROW.
Photo by E. R. Warren.

about the 20th of April, though it is not usually convenient for me to note their first appearance on the adjoining prairie, and others sometimes report them before I see them. Their appearance is the signal for local gunners to go a-field, and the birds suffer somewhat from their hands until the beginning of the nesting season. However, the curlews soon become wary, and it is difficult to get near enough to them to secure large bags. As they feed abundantly on the grasshoppers and other noxious insects that lurk in the prairie herbage, the curlews ought to be protected during the spring season, at least.

During the mating or pre-nuptial season, the curlews are noisy and restless, moving from one part of a favorite pasture to another and uttering their loud calls just before alighting, or feeding restlessly alone within call of the mate or fellows. They manifest a tendency to associate in pairs, though the paired birds are not inseparable and do not feed side by side. In the mating season, when one bird changes its station, the other of the pair is likely to follow in a few moments. The loud, prolonged whistle of the curlews will call attention to them, whether on the ground or a-wing, warning the observer that his presence is known and that his movements will be watched with the closest interest.

A pair of curlews frequently present a pretty sight when sailing in company upward abreast of the wind, moving in perfect accord on wide-spread, motionless pinions curved gently downward, within several feet of each other, then fluttering downward side by side or one in advance of the other, again to sail upward together, uttering the characteristic whistles. The male is extremely jealous in watching over his claimed domain, in evidence of which I once saw a curlew swoop down upon an unoffending ferruginous rough-leg that chanced to wander over the favorite portion of the curlew's home. Time and again the curlew swooped down upon the big Archibuteo as the latter flapped heavily along the edge of a "coulee," and the place resounded with the shrill whistling of the angry curlew.

The male curlew is a most jealous guardian of the premises near the nest. When the female is sitting on her eggs, the male will denote a watchful interest in the movements of anyone who is within several hundred yards of the nest. At such times he will come flying from some quarter of the pasture, and with angry cackling will alight near the disturber, impatiently feeding and watching the movements of the one threatening the peace of his household. If the observer approaches nearer the nest, the male will begin to fly at him in a straight course, turning upward abruptly with a loud whiff of wings when it seems that the disturber must certainly be struck by the determined defender of his home. The nest may still be more than a hundred yards beyond the observer. In the majority of instances, it lies ahead in the line the male points in his flight. As the disturber gets nearer, the male shows more distress and flutters wildly overhead, flying at the disturber from every direction, though not from long distances as before. All the while the female is sit-

ting unconcerned on her eggs, indifferent to the angry and distressed cackling of her spouse. Perhaps by this time a half dozen or more other males have joined in the outcry, and frequently one of these allies will try to mislead the disturber.

The female sits very closely upon her eggs, flattening herself upon them in such a manner that she resembles a dead chicken lying on the ground. When flushed from the nest, she will fly low for thirty or forty feet, or flutter from the nest and run awkwardly for a short distance, feigning to be crippled. Frequently she will lower her head, with bill almost touching the ground, and run along in a shame-faced manner. Before the nest is discovered, the males who are aiding to mislead the observer will sometimes act in this shame-faced way.

The site of the nest may be anywhere on the boundless prairie, though most of the nests I have examined were on long slopes in the vicinity of dry water-holes or water-courses. Though the curlews are somewhat gregarious and social in their habits, the nests are widely scattered over the area frequented, and there is no suggestion of community in nesting.

Nest No. 1, 1900, was found on May 28. It was made in a slight depression beside dried cowdung, the chief substance used being dried weed-tops. The cavity was eight inches across at the top, and two inches deep. The brim of the nest was elevated an inch and a half above the surroundings. There were four eggs, slightly incubated, which were placed with large end outward from the middle of the nest. The site was on the highest portion of an extensive pasture in the neighborhood of a small stream.

Nest No. 2, 1900, was found on May 29. It was on the high prairie, a half mile from a dry water-hole. It was made beside a pile of dried cow "chips," well made like No. 1, the cavity being seven inches across and two inches deep. This nest was made of a scanty amount of dried grass, and the brim was elevated an inch above the surroundings. The four eggs were placed with small ends together in the middle of the nest. They were found to be slightly incubated.

Nest No. 3, 1900, contained four eggs advanced in incubation on May 30. It was on the prairie near the base of a long gradual slope between shallow depressions. In construction and measurements this nest was similar to the others just described.

Nest No. 4, 1900, was found on May 31, and contained four eggs far advanced in incubation. It was in a low portion of a meadow leading down to an irrigating ditch, and was made among grass stems, beside scattered cow chips. The construction and size were usual.

In 1901, I examined eight nests of the long-billed curlew between May 29 and June 4, inclusive. In the most of these small pellets of dried cow chips were a part of the nest material. All these nests contained four eggs, or four young just emerging from the shell, and all were typical in the matters recorded in the foregoing accounts.

In 1902, circumstances allowed me to give time to the curlews ear-

lier in the season, and on May 13 the first nest was examined. It was in a depression near a shallow water-hole. The site was between two partial heaps of dried manure. The only nest material was soft dried grass, with which the depression was comfortably lined, the rim as usual having the thickest lining. The four eggs in this nest were quite fresh.

On May 17, 1902, I found a nest of the long-billed curlew in the same locality as that of the foregoing. It was in a depression between scattered cow chips, and was made of dried grass and small lumps of dried manure. This nest held four fresh eggs, placed as usual.

The eggs of this species vary considerably in color and size. In one pattern the ground is light greenish olive, with irregular blotches of dark umber and chocolate. Another pattern is much rustier in appearance, both in ground color and in markings. In length they vary from 2.70 inches to 2.40 inches, and in width from 2.00 inches to 1.80 inches.

After the nesting season, the curlews renew their gregarious habits, associating on the prairies in small flocks, of which I have not seen any of more than twenty-five or thirty individuals. Toward nightfall the curlews resort to the water. By the middle of September they have terminated their stay among us for the season.

Distinguishing features: Upper parts pale reddish-brown, irregularly tinged with grayish and varied with black; lower parts paler; length 20-26 inches. Easily identified by its long bill curved downward toward the outer end.

266. ESKIMO CURLEW. *Numenius borealis*.

No data of my own are at hand regarding the Eskimo curlew, but Dr. Coues cites several Upper Missouri records, and there is no doubt that Fergus county is in the line of migration of the species. Further observation may even disclose the fact of its nesting in this region, as Dr. J. G. Cooper reports its breeding near Ft. Benton.

Distinguishing features: Like the long-billed curlew; breast marked with v-shaped spots; much smaller; length 12-15 inches.

272. AMERICAN GOLDEN PLOVER. *Charadrius dominicus*.

A regular migrant, seen more frequently in the eastern portions of the county than in the western. Dr. Chas. E. McChesney reports the golden plover as a migrant in the Big Horn region.

Distinguishing features: Upper parts mottled black and white or dull yellowish; lower parts chiefly black; head and neck marked with white; length 9-11 inches. This plover has no hind toe.

273. KILLDEER. *Oxyechus vociferus*.

A very common summer resident along the streams and pond shores. The first individuals arrive about the middle of March, and the latest to depart are seen about the end of September.

Distinguishing features: Upper parts grayish-brown; fore-head, chin, throat, collar, and lower parts, white; head and neck varied with black; length 10-11 inches. Easily identified by its characteristic call resembling the word "killdeer."

281. MOUNTAIN PLOVER. *Podasocys montanus*.

The mountain plover is a regular resident of the prairies in this locality, and is doubtless found in most parts of the county. Dr. J. A. Allen found it in the neighborhood of the Musselshell, and Dr. Coues met with it throughout most of northern Montana. It generally appears in this locality in the last week of May, taking its place on the prairies with the long-billed curlew, McCown's longspur, and western meadowlark, though in far less numbers than any of its associates. Its nesting is well-known to many of the ranchers, but it has not been my fortune to chance upon its home. The mountain plover generally disappears by the first of September, but is frequently seen later, usually in small flocks which are formed preparatory to the fall migration.

Distinguishing features: Upper parts grayish-brown, irregularly tinged with dull yellowish; under parts dull white, frequently tinged with yellowish on the breast; length 8-9 inches.

297b. RICHARDSON'S GROUSE. *Dendragapus obscurus richardsonii*.

This species is the common "blue grouse" of the mountains in the western and south-western portions of the county. It is also found generally in the Moccasins and in the Judith Mountains. In the early part of June, 1901, a friend reported a nest in the North Moccasins, made beside a fallen log in the woods, containing seven eggs. The nest was constructed of a few dried leaves and pine needles. The female, when disturbed by the observer, showed little alarm and merely moved aside a few steps while he was near the nest.

On Oct. 5, 1902, a fine specimen of this grouse, which had flown into town and had been killed by striking itself against a porch of a house, was brought to me. On Oct. 25, 1902, while in the Big Snowy Mountains, I took a pair of these grouse, whose crops were full of buffalo-berries.

Distinguishing features: Upper parts brownish gray or bluish gray, tail darker; lower parts dark bluish gray varied with white; length 19-23 inches. Easily identified by its twenty tail-feathers.

300b. GRAY RUFFED GROUSE. *Bonasa umbellus umbelloides*.

A common resident of the wooded localities, generally inhabiting the coulees in the vicinity of the water-courses.

Distinguishing features: Upper parts mottled with black, brown, and gray, the rump and upper tail coverts marked with heart-shaped spots of dull gray; tail barred with gray and black, with a broader band near the end; black neck-tufts; lower parts varied white and yellowish-brown; length 15-19 inches. Commonly known as pheasant.

308a. COLUMBIAN SHARP-TAILED GROUSE. *Pedioecetes phasianellus columbianus*.

A very common resident of the prairie regions and the foot-hills, preferring the ranches and the hillsides near the water-courses. During the coldest weather of winter these grouse congregate in large flocks, resorting to the timber in the creek bottoms and coulees. They are gregarious until toward the end of April, when the pairs begin to look forward

WHITE-RUMPED SHRIKE.
Photo by E. R. Warren.

to their home-keeping affairs. The eggs are generally laid in the early part of May, usually from the tenth or twelfth of the month, until the full set is deposited. This grouse is commonly known as "chicken" or "prairie chicken."

The nests of the sharp-tailed grouse that I have examined were in tangled patches of low weeds or rose bushes near irrigating ditches, sometimes on the immediate borders of the ditch. Usually there is nothing to mark the site of the nest, as it is made among upright stems where one part of the environment looks much like any other part.

The first nest of the Columbian sharp-tailed grouse that I ever found was on May 19, 1900. It was in tangled weeds along a ditch, and was covered somewhat by fallen weed-stems, among rose-sprouts and grass. I should not have discovered it if it had not been revealed by the female. She sat so closely that I was standing beside the nest, having partially passed it, and I had turned to watch a sparrow singing in the adjacent bushes, when she fluttered out of the grass at my feet. She fluttered through the grass at one side, uttering the usual "kuh, kuh" cries of alarm. The nest was in a depression bedded with dried grass, the ten eggs being in two layers, seven below and the remainder in an upper row. The lower part of the nest cavity was six inches in diameter and two inches deep. The eggs were nearly fresh. Their prevailing color was that of creamed coffee, and several of them had a fresh bloom like that of ripening plums. Most of the eggs were unmarked, the others having minute black specks scarcely discernible.

On May 24, 1900, I found a nest of this grouse, in a neglected weed-patch beside a small water-course. The nest was in a depression among upright sprouts, and was made of a few dried grasses, sparsely lined with soft feathers. The cavity was eight inches by six inches, two inches deep. There were eleven fresh eggs.

On May 28, 1901, I found two nests of the Columbian sharp-tailed grouse in a weed-patch, the nests being not more than a hundred yards apart. Both were made of dried grass and scantily lined with feathers. Each nest contained fourteen fresh eggs. On June 4, 1901, a nest was shown me containing fifteen eggs, upon which the female was sitting so closely that she might have been lifted from the nest.

Distinguishing features: Upper parts spotted and barred with brown, black, and light tawny; lower parts white, with v-shaped spots; length 15-19 inches.

309. SAGE GROUSE. *Centrocercus urophasianus*.

This resident of the sage brush region is found in abundance in the eastern portions of the county. Dr. J. A. Allen reports that they were more or less common along the Musselshell. Dr. Coues, in his "Birds of Dakota and Montana," says that the sage grouse were not noticed west and north of the mouth of Milk River, as the country there seems too open for them.

Distinguishing features: Upper parts varied with gray, black, dull yellowish, and white; front part of the throat spotted with black and white;

front part of neck, bordered by white; lower parts black, bordered by white; length 25-30 inches.

315. PASSENGER PIGEON. *Ectopistes migratorius*.

Though no record is at hand regarding the present occurrence of the passenger pigeon in Fergus County, there is excellent authority for including the species in the list of birds of the county. In "Birds of the Northwest," Dr. Coues says: "As the Missouri forms for us a highway of communication with the vast districts which would be otherwise almost inaccessible, so it seems to lead the pigeons northwesterly, in great numbers, to meridians of longitude they do not gain in the southwest. I never saw or heard of one in New Mexico or Arizona, and have found no quotations from Colorado, Utah, or California. But the birds reach across Nebraska, probably following the Platte into Wyoming, and through Dakota and Montana, being even conducted to Pacific slopes along the northern border of the United States."

Distinguishing features: Upper parts drab; head, neck, and rump leaden; neck showing changeable metallic tints; chest and sides reddish-brown; other under parts white; length 15-18 inches.

316. MOURNING DOVE. *Zenaidura macroura*.

A regular summer resident of this region, arriving from the south toward the latter part of April, and thence adding its soft cooing to the swelling chorus of wildwood voices. In this neighborhood it frequents the thickets along the water-courses, as the dry prairies appear to offer little attractions to it. In the eastern portions of the county the mourning dove appears to be more widely distributed. Dr. J. A. Allen says that it was abundant everywhere, particularly near the streams. Dr. C. E. McChesney says that at Fort Custer he would daily see hundreds in the woods. Capt. Thorne found it common at Ft. Keogh, and Messrs. Richmond and Knowlton report it as very common in south-central Montana. I did not find it abundant anywhere in the Flathead Lake region.

Distinguishing features: Upper parts brown, with a bluish tinge; head and neck glossed with changeable metallic tints; lower parts soft drab, changing to pale buff on posterior parts; length 11-13 inches.

331. MARSH HAWK. *Circus hudsonius*.

The marsh hawk appears to be very generally distributed over the county. It generally arrives from the south early in April, and thence can be observed quartering over the meadows of the bottoms and over the higher prairies in search of its quarry. By the end of April the pair have decided on a suitable site for their home, and can often be seen hovering over it or hunting in the immediate locality. On May 18, 1901, I examined a small weed-patch along Big Casino, where I had seen a pair of marsh hawks at almost every visit to the neighborhood, and I soon found the nest. The male became quite threatening as I approached the place, and led me to it by flying over the nest and uttering his cries, to which the sitting female responded by shrill whistles. On that day the nest contained one egg. Re-visiting the nest on May 25, I found five eggs. The female, after

being flushed, flew about overhead uttering cries like the syllable "ki" repeated five or six times in series, which is similar to the cries of the male. This nest was about three inches off the ground, among rank rose-bushes, and was made of coarse weed-stems, lined with softer dried grass. The cavity was seven inches across, and one and one-half inches deep. The eggs are very pale greenish blue, unmarked.

On May 30, 1903, I found a nest of the marsh hawk in a weed-patch on Big Casino about four miles from Lewistown. It was made of soft dried grass, the heap being ten inches across and two inches high. The cavity was seven inches in diameter and one inch in depth. There were five eggs in the nest, dirty white and soiled by the feet of the sitting bird, for the eggs were far advanced in incubation. The male of this pair was one of the handsomest hawks I ever saw, being in clear light blue plumage, with prominent black wing markings. He was sitting on guard near the nest, on the ground, and when I drew near the nest he flew overhead uttering a cry consisting of the syllable "kā" with the a short, or like the syllable "ke," in series of four or five. When the female was flushed, after I was about six feet from her, she joined the male in flying overhead, uttering a cry like "ki" or "ke" in series. When I left the place and had gone some distance, the female settled on the nest as if the eggs were yet there, and remained sitting as long as I had time to watch them.

The aerial movements of this hawk are very interesting. In the mating and early nesting season, when the male is passing above his chosen one while she is sitting on the ground or brooding her eggs, he will perform a series of wonderful evolutions, falling headforemost in space until his back is underneath, or whirling over several times in a peculiar side-movement, always promptly regaining his balance and repeating the performance with suitable variations, perhaps thus tumbling and fluttering in space for many minutes.

Except for the first few days after its arrival from the south, it is unusual to see this hawk sitting in a tree. It oftener sits on the ground, stopping thus frequently as it quarters over the meadows. Especially when the nest-site has been selected, and while the female is sitting, the male spends many minutes at some convenient look-out on the ground near the place.

Distinguishing features: Upper parts light bluish gray; lower parts chiefly white, marked with spots of varying brown; the chief distinguishing mark is the white upper tail coverts which show plainly in flight; length 19-24 inches.

332. SHARP-SHINNED HAWK. *Accipiter velox*.

In this locality the sharp-shinned hawk manifests a somewhat retiring disposition, keeping to the thickets along the water-courses, in which it can find easy prey among the smaller birds that frequent the thickets, and where it can rear its brood without molestation. Though not noted in any abundance, it occurs regularly throughout this region, appearing to be more common than Cooper's hawk. One June 6, 1900, I found a nest of this hawk in a thicket along Big Spring Creek, near Lewistown. It was made

of coarse twigs, in a crotch of a haw tree, the brim of the nest being only nine feet from the ground. The structure varied between ten and twelve inches in width and the cavity was one and one-half inches deep. No lining had been made to the nest. It contained four eggs. They are extremely handsome, being a very light greenish blue, heavily blotched with very dark brown.

Distinguishing features: Upper parts bluish gray, darker on top of head; tail crossed by dark bands; lower parts whitish, the breast and sides streaked with dark brown; length 10-12 inches.

333. COOPER'S HAWK. *Accipiter cooperii*.

Cooper's hawk is not nearly so common in this region as its congener, the sharp-shinned hawk. I see it only several times a year, and have not found it nesting, though this is probably due to lack of more extended observation.

Distinguishing features: Like the sharp-shinned hawk, but larger, length 14-17 inches; sides of head and breast tinged with bluish gray. Generally the female hawk is noticeably larger than the male.

334. AMERICAN GOSHAWK. *Accipiter atricapillus*.

Though the identification may not be satisfactory, I am strongly inclined to believe that the following records apply to the American goshawk, and I give them for what they are worth. On September 28, 1898, while attending the Fergus County fair at Lewistown, I noted a hawk fly over the fair grounds. It was a raw, chill afternoon, and the bird in question was flying low, so that it passed not many feet above my head. It appeared somewhat larger than a Cooper's hawk, was trimly-built and rather stocky, showing much white underneath, and in flight showed heavy black lines from the bill along the side of the head. The upper parts were the usual dark slaty blue. March 1, 1900, a hawk a little larger than Cooper's was noted sitting on the gable of a carpenter's shop in Lewistown. It was in plain view to me as I passed along the street a little more than half a block away. My idea at the time was that the hawk had been attracted by the pigeons belonging to a loft nearby. After sitting quietly for a few minutes, the hawk arose in flight and flapped away over town. It is questionable whether a Cooper's hawk would be abroad on the first day of March in this locality. Again, early in February, 1901, I noted a hawk flying over Lewistown in the early afternoon. I was in the school-room, and could give the bird but slight attention at the time, but I managed to move so as to follow the remainder of its course until it disappeared from my view. It then occurred to me that it would be unusual for a Cooper's hawk to be noted at such a time, and that as the bird under observation appeared to be rather larger than the Cooper's it was not improbable that the species in question might prove to be *Accipiter atricapillus*, which undoubtedly occurs in this region.

Distinguishing features: Upper parts clear slate blue; tail crossed by four darker bands; lower parts white, barred with bluish gray; length 20-24 inches.

EGGS OF SWAINSON'S HAWK.
Photo by M. J. Elrod.

337b. WESTERN RED-TAIL. *Buteo borealis calurus*.

This fine hawk occurs regularly throughout the county in suitable places, the heavily timbered bottomlands being its favorite haunts. It is doubtless resident, though not seen often in winter in this neighborhood. Dr. C. E. McChesney reports this hawk as quite common in the Big Horn region. Messrs. Richmond and Knowlton also report it as quite common in south-central Montana.

Distinguishing features: Upper parts chiefly dark grayish-brown; lower parts dull yellowish brown; tail bright rusty red or brown; tail with a band of black near end; length 20-25 inches.

342. SWAINSON'S HAWK. *Buteo swainsoni*.

A very common summer resident, occurring in greater numbers than any other of the Raptores except the sparrow hawk. In this locality, where the trees are confined chiefly to the water-courses, Swainson's hawk is noted mostly in the vicinity of the streams and coulees. However, it is a frequenter of the edges of irrigating ditches, whose banks in this region are frequently high and steep on one side at least, and along these banks the hawks can be seen sitting watching for incautious gophers, grasshoppers, small snakes, and other quarry. This hawk begins to be noticeable early in May, though stragglers are seen earlier in advanced seasons. On May 17, 1900, I watched a pair of Swainson's hawks, and it was evident that they were already mated. The female was sitting on a post along an irrigating ditch, where she remained for nearly an hour, paying no attention to the fact that I was stationed within fifty feet of her and observing her with interest. Once the male came flapping along with a small snake dangling from his feet, and sailed low over her and back. Seeing me, he manifested more caution, and disappeared over the edge of the bank. Presently he came back without his prey, and trampled roughly upon the female, uttering harsh cries; then apparently remembering my presence, he sailed over my head, scolding me with sharp cries. As this performance occurred within sight of a nest in an old willow nearby, I concluded that the pair had decided to take possession of the nest at the suitable time. I was not mistaken, for upon visiting the nest on June 6, I found two eggs advanced in incubation. The nest was an old structure which had been somewhat repaired by adding a few fresh sticks, in the top of an old willow twenty feet from the ground. The eggs are dingy white in color, marked irregularly with blotches and splashes of pale brown in varying hues, the markings predominating at the larger end.

By the beginning of June Swainson's hawk is generally nesting, and many of the nests are furnished with full sets of eggs. On June 1, 1901, I found a nest of this hawk, which contained three eggs in which incubation had advanced to blood. It was twenty feet from the ground in a triple crotch of an old willow in a coulee through which ran a small stream of water, and the branch containing the nest overhung the water. It was an old nest repaired with fresh sticks to which a few leaves were clinging, the interior cavity being eight inches in diameter, and two and one-half

inches deep. On the same day I found another nest of Swainson's hawk, in a cottonwood along Big Spring Creek. This nest was thirty feet from the ground, near the top of the tree, being an old crow's nest repaired with fresh sticks. The cavity was eight inches across and one and one-half inches deep. A partially eaten gopher was lying on the edge of the nest. There were two fresh eggs, which were left until June 5, when no additions had been made to the complement and the nest appeared to be deserted.

A pair of these hawks sometimes manifests unusual zeal in establishing their nest for the season. On May 2, 1903, I found a pair in possession of a nest in a coulee opening into Big Casino Creek, near Lewistown. Thinking that they were only looking forward to occupying the nest later, I did not disturb them; but on May 9 I climbed to the nest, which was in the top of a pine fifty-five feet from the ground. It was an old nest, refurnished with small pieces of fir branches. The structure was about three feet across, the cavity being ten inches in diameter and two and one-half inches deep. There were three eggs, far advanced in incubation. The female always left the nest when I entered the coulee, and soared about over the neighborhood, screaming angrily, in which she was generally joined by her mate.

Distinguishing features: Upper parts grayish brown; chin and throat white; upper part of breast dark reddish-brown; lower parts dull yellowish white, often barred or spotted with darker; length 19-22 inches. This is the common so-called "henhawk" or "chicken hawk" of this region.

348. FERRUGINOUS ROUGH-LEG. *Archibuteo ferrugineus*.

A very common resident of this region. Like most of the other large hawks, its activity is more noticeable after the gophers make their appearance, which follows the middle of March in ordinary seasons. This hawk begins to nest about the latter third of April, generally selecting an old nest made by a crow or a more industrious hawk in a preceding year. On April 21, 1900, I disturbed a ferruginous rough-leg from a nest in a large pine tree, in a rugged coulee along Big Casino Creek. The male was hovering low on the opposite side of the coulee. Both birds balanced in air while I remained near the nest. The female uttered several cries like the syllables "cay eye" as she hovered overhead. I did not disturb the nest, fearing that the full complement of eggs had not been deposited. On April 23 I again visited the nest, and as before found the female upon the nest. There was a drizzling rain, and she remained on the nest in spite of my pounding on the trunk of the tree, not leaving until I startled her by throwing a rock among the adjacent branches. I did not visit the nest again until April 25, when the nest was examined and found to contain two fresh eggs, evidently an incomplete set, though the female had occupied the nest steadily since April 21. The two eggs measured about 2.38 by 1.80 inches, and 2.42 by 1.78 inches. One of the eggs was somewhat rain-washed. The other egg was grayish or dingy white in color, marked with reddish brown in blotches, and small irregular spots of similar varying colors. The nest was fifty-two and one-half feet from the ground, and

was a platform of sticks set against the trunk of the tree, at the base of a large branch. The only lining was horse "chips." During the last visit both birds soared high in the air, the female having uttered one or two harsh cries when she had first left the nest.

After being disturbed in their nidification as described in the preceding paragraph, this pair of rough-legs moved into another adjacent coulee, and took possession of a nest in the top of a pine tree fifty-five feet from the ground. It was repaired by lining with horse "chips" as before. The cavity was 13 inches across, and two and one-half inches deep. On May 15, just twenty days after the first two eggs were taken, the nest contained two fresh eggs. These two were a trifle smaller than the first two, measuring about 2.36 by 1.76 inches, and 2.34 by 1.70 inches. When startled from her nest, the female frequently flew overhead uttering a shrill cry, and finally alighted upon an adjacent bluff, occasionally calling harshly. She could be easily known by her ragged wing quills.

Distinguishing features: Upper parts reddish brown, streaked with darker; lower parts white, the thighs reddish brown; long feathers of wing leaden; length 22-24 inches.

349. GOLDEN EAGLE. *Aquila chrysaetos*.

The golden eagle is of very common occurrence throughout the county, though nesting only locally. Numbers are taken every winter in traps set near carcasses of animals left as bait for wolves and coyotes. One was brought to me on Jan. 2, 1902, which had been caught in a wolf trap on Mr. Fred Warren's ranch near Utica. It was said that the snow around the bird had been tramped almost to the bare ground by coyotes which had surrounded the bird in the night and which had been kept away by the courageous captive. The bird became quite tame and allowed me to caress and handle it through the bars of its box. It ate about half a pound of raw beef per day. On Jan. 27, about an hour after I had fed it at noon, it was found lying dead on the floor of its box. Though I had frequently put a basin of water in its box, I never saw the bird drink nor noticed any evidence of its having touched the water. One day, however, it stood with one foot in the edge of the partially over-turned basin, and was either washing its plumage or striking its wings in efforts to escape. About two weeks later it was reported that another golden eagle, supposedly the female mate of the male I have mentioned, was taken at the same place.

Distinguishing features: Plumage generally dark brown; hind part of head and neck with a tinge of dull yellow; can be identified in any plumage by the leg feathered all around down to the toes; length 30-40 inches.

352. BALD EAGLE. *Haliaeetus leucocephalus*.

The bald eagle has not chanced under my observation in this region. Dr. J. A. Allen notes that it was seen only at rare intervals along the Yellowstone and Musselshell Rivers. A pair of these birds, the male in splendid plumage, were seen daily by me at the head of Swan Lake, in the Flathead Lake region, in the spring of 1902.

Distinguishing features: Head, neck, and tail white; other parts dark grayish brown; length 30-45 inches. The bald eagle can be distinguished from the golden eagle in any plumage by the tarsus lacking feathers all around its lower third, just above the bases of the toes.

356. DUCK HAWK. *Falco peregrinus anatum*.

The duck hawk occurs in Dr. J. A. Allen's list, being "seen but once or twice, near the Great Bend of the Musselshell." I have seen it but once in this locality to identify it, on May 7, 1900, when I observed it flying over Big Spring Creek. Having no gun, I followed it about a quarter of a mile, hoping to get a closer view, and found it a-perch of a rocky ledge near a road, high upon the bluff. Seeing me, it arose with a shrill cry and came toward me as if to attack me, but turned when part way and flapped away up an adjacent coulee.

Distinguishing features: Upper parts blackish brown, top of head darker; upper part of breast dull yellowish white; lower parts white; length 16-20 inches.

357. PIGEON HAWK. *Falco columbarius*.

My records contain but one note regarding the occurrence of the pigeon hawk in this locality, though the lack is largely due to the fact that I have little opportunity of collecting at the time when this hawk might be expected to be most noticeable. One day in October, 1902, a fine specimen was brought to me, which had been wounded and was captured on Big Spring Creek. The skin is now in the collection of the Fergus County high school.

Dr. McChesney reports that *F. columbarius* was seen several times along the Yellowstone, above Ft. Keogh, and was again met with August 27 in a spur of the Big Horn Mountains in considerable numbers. Dr. J. A. Allen states that this species was seen at distant intervals on the Yellowstone and Heart Rivers, in September.

Distinguishing features: Upper parts bluish gray; lower parts dull yellowish-white, striped with brown; tail crossed by four black bands; length 10-13 inches.

358. RICHARDSON'S MERLIN. *Falco richardsonii*.

This merlin occurs sparingly throughout this region. Capt. Thorne found it rare at Ft. Keogh, noting two individuals in the fall of 1889. Messrs. Richmond and Knowlton report one specimen taken September 23, on the Madison River. On July 26, 1902, I took a specimen of Richardson's merlin, evidently a young of the year, at the head of Swan Lake, in the Flathead Lake region.

Distinguishing features: Much like the pigeon hawk, but tail is crossed by five (more than four) dark bands; outer webs of long wing-feathers, as well as inner webs, spotted with gray or yellowish; length 12-14 inches.

360. AMERICAN SPARROW HAWK. *Falco sparverius*.

The most abundant of the Raptores in summer. In the spring the sparrow hawk frequents the wooded margins of the streams and the cou-

YOUNG AMERICAN OSPREY.
Photo by M. J. Elrod.

lees, preparatory to rearing its brood in some cavity of the dead timber. The prairies afford it fine foraging ground, as it is fond of the grasshoppers. In the fall, it can be seen perched on the fences, generally with several of its fellows, for the family does not break up immediately after leaving the nest, but forage in company, though scattering somewhat to hunt to better advantage. One day in fall my attention was attracted by a sparrow hawk that was hunting near a small pond near my home, for in one instance he pursued a least sandpiper in air, following it persistently through several attempts to escape the swift dashes of the hawk, though the chase was unsuccessful. The same hawk soon after attempted to capture a yellow-legs, starting toward it when the yellow-legs uttered its whistle as it arose in flight, and making several unsuccessful swoops upon it.

Distinguishing features: Sides of the head marked with one or two black stripes; top of head bluish gray; tail reddish-brown, with broad band of black near end; lower parts dull yellowish white of varying hue; length 8-12 inches.

364. AMERICAN OSPREY. *Pandion haliaetus carolinensis*.

The American osprey occurs regularly along the larger water-courses of this region. I have noted it frequently near Lewistown, and know that it has been taken within a few miles of town.

Distinguishing features: Upper parts grayish brown; tail crossed by six or seven dark bands; head, neck, and lower parts white, the upper part of the breast often spotted or tinged with brown; length 20-25 inches.

366. AMERICAN LONG-EARED OWL. *Asio wilsonianus*.

Rather common. On June 2, 1900, I found a nest of the long-eared owl within a mile of Lewistown. It was sixteen feet from the ground, in an old nest of the American crow, in a willow thicket along Big Spring Creek. The old nest was nearly flat, and had been lined with a few downy feathers. There were in it four eggs in which incubation had begun.

May 11, 1901, I found an incomplete set of three eggs of the long-eared owl, in an old nest made by the American crow, fourteen feet from the ground in a willow thicket inhabited by a colony of crows. No effort had been made to re-line or build up the nest, but a few downy feathers were clinging to the twigs in the edges of the structure, and to adjacent branches of the tree. One of the owners was sitting on the edge of the nest glaring at me as I ascended to a crow's nest in an adjoining tree.

On May 10, 1902, a nest of the long-eared owl came under my observation. It was in the grove on John Glancy's ranch, an old nest of the American crow having been taken possession of by the owls. Only a few downy feathers had been used in refitting the nest. The site was in a willow, fifteen feet from the ground, not far from a path leading through the grove. The nest contained four eggs, snowy-white, partially incubated. Both parent birds were near this nest, the female being found on the eggs. As I examined the nest, she sat nearby, or flew about excitedly, snapping her bill, or uttering a prolonged cat-like cry, or scolding in syl-

lables like "hwah." The other owl only uttered a low hooting noise, and did not manifest so much anger as did the female.

This owl sometimes uses an old nest of the magpie. On May 13, 1903, I found a magpie's nest thus occupied. The lower part of the nest was almost flat, and was very scantily lined with about a half dozen soft dark feathers. This set contained six eggs, which were partially incubated.

Distinguishing features: Upper parts marked with blending dull yellowish, grayish white, and dark brown; lower parts dull yellowish tinged with white and barred with darker colors; ear-tufts prominent; length 13-16 inches.

367. SHORT-EARED OWL. *Asio accipitrinus*.

Occurs regularly throughout the county, though rather locally distributed.

Distinguishing features: Upper parts dull yellowish, striped with dark brown; tail crossed by four or five dark bands; spaces around eyes, black; length 14-17 inches. Ear-tufts not prominent.

368. BARRED OWL. *Syrnium varium*.

Dr. J. A. Allen notes that the barred owl was met with on the Yellowstone and Musselshell.

Distinguishing features: Upper parts very dark brown, with bars of dull yellowish; lower parts dull white, with bars or spots of brown; length 20-24 inches. No ear-tufts.

373e. ROCKY MOUNTAIN SCREECH OWL. *Megascops asio maxwelliae*.

Not generally common, owing to the lack of suitable wooded areas. The only specimen seen near Lewistown by me was lurking in a willow thicket near Big Spring Creek, where it was surprised as I was taking an after-school ramble. It is not mentioned in Dr. J. A. Allen's Musselshell list.

Distinguishing features: Upper parts light yellowish gray varying to more reddish brown, lower parts frequently pure white; ear-tufts prominent; length 8-10 inches.

375a. WESTERN HORNED OWL. *Bubo virginianus pallescens*.

A common resident. The western horned owl begins to nest early in March in this region. On March 16, 1900, I found two nests of this owl. Both were old hawk's nests, one about thirty-three feet from the ground in a crotch of a cottonwood in a grove along Big Spring Creek. This nest had been slightly furnished by adding a scanty lining of downy feathers, presumably from the body of the sitting bird, and its complement was four eggs partially incubated. The second nest was thirty-eight feet from the ground, in a lone cottonwood along a small branch of Big Spring Creek. As in the preceding instance, a few downy feathers were used to make the old nest comfortable, and to receive the three fresh eggs forming the complement.

A second set of eggs of one of the foregoing pair of birds was taken on April 13, from a nest in a grove along Big Spring Creek. It was a

nest of a former season, only ten feet from the ground, and had no lining whatever. In this instance there were two eggs partially incubated.

Distinguishing features: Upper parts grayish brown, varied with fine lines of blackish; upper part of breast white; lower parts pale yellowish, barred with darker colors; tail crossed by six or seven dark bands; length 18-25 inches. Ear-tufts very prominent. Commonly known as "hoot owl."

376. SNOWY OWL. *Nyctea nyctea*.

A very common winter visitant. This handsome owl can be seen stationed on the ground on some small knoll out in the meadow or prairie, often in the coldest weather, and if undisturbed, will frequent the same locality day after day throughout the winter. It generally appears about the first of November, and disappears early in March.

Distinguishing features: Color generally pure white, often with spots and bars of bluish brown; length 20-23 inches. Ear-tufts scarcely noticeable.

378. BURROWING OWL. *Speotyto cunicularia hypogaea*.

Very common on the prairies, and of general distribution in the county. In this locality the burrowing owl is not confined to the prairie dog towns and burrows, but makes itself at home in old tunnels of gophers and badger holes.

Distinguishing features: Upper parts brownish, spotted and barred with dull yellowish; lower parts tinged with pale yellowish; length 9-11 inches.

390. BELTED KINGFISHER. *Ceryle alcyon*.

A regular summer resident along the streams, appearing as early as the first of March, and remaining as late as the end of October. It is not unlikely an occasional winter resident along Big Spring Creek, as it has been reported nearly every month of the year. The fact that this stream is open continuously during the winter adds to the evidence favoring the occasional winter residence of the kingfisher. In 1902, I noted the kingfisher along the creek in the limits of Lewistown on Nov. 18.

Distinguishing features: Upper parts bluish leaden; lower parts white, with a band of bluish across the breast; the female has band of reddish brown across the breast; head with a conspicuous crest; length 11-15 inches.

393e. ROCKY MOUNTAIN HAIRY WOODPECKER. *Dryobates villosus monticola*.

A common resident of the timbered regions, manifesting in all respects the habits of the hairy woodpecker, of which it is a sub-species.

Distinguishing features: Upper parts black, with stripe running lengthwise on back; lower parts white; male with red spot on back of head; length 9-10 inches.

394b. BATCHELDER'S WOODPECKER. *Dryobates pubescens homorus*.

The mountain form of the downy woodpecker is of common occurrence in timbered regions, being generally noted along the wooded bottoms of the water-courses and coulees.

Distinguishing features: Like the hairy woodpecker, but smaller, length 6-7 inches.

402a. RED-NAPED SAPSUCKER. *Sphyrapicus varius nuchalis*.

This woodpecker is not common near Lewistown, but doubtless occurs generally in the wooded mountainous districts. Dr. J. A. Allen notes that it was seen only on the Musselshell, where several specimens were taken. Messrs. Richmond and Knowlton report its breeding in south-central Montana. I found this woodpecker breeding commonly in the Flathead Lake region.

Distinguishing features: Upper parts black varied with white; red patch on throat; patch of red on back of head; under parts smoky yellowish; length 8-9 inches.

406. RED-HEADED WOODPECKER. *Melanerpes erythrocephalus*.

This handsome woodpecker occurs sparingly in the wooded coulees near Lewistown, which is certainly near the western limit of its distribution. On several occasions I have seen it along Big Casino, where it breeds. On June 9, 1903, I noted the presence of the red-headed woodpecker at Cottonwood. Dr. J. A. Allen states that the red-headed woodpecker was abundant everywhere from the Missouri to the Yellowstone, far outnumbering all the other *Picidae* together. It is migratory in this portion of its range, making its appearance about the middle of May, and beginning to nest early in June.

Distinguishing features: Head, neck, and upper part of body crimson; middle of back across, bluish-black; other parts white; length 9-10 inches.

408. LEWIS'S WOODPECKER. *Asyndesmus torquatus*.

Not very common. I have observed it but once near Lewistown, on May 18, 1899, when a specimen was seen clinging to a fence post along Big Spring Creek. Presently it stood upon the post, from which position it flew away when startled, and disappeared in a neighboring coulee.

Distinguishing features: Upper parts greenish black; forehead and cheeks crimson; collar and upper part of breast gray; lower parts chiefly pinkish red; length 10-12 inches.

412a. NORTHERN FLICKER. *Colaptes auratus luteus*.

Dr. J. A. Allen reports that this species, the "yellow-shafted flicker," was seen occasionally westward to the Musselshell.

Distinguishing features: Shafts of wing-feathers yellow; otherwise much like the red-shafted flicker, but "mustache" of male black.

413. RED-SHAFTED FLICKER. *Colaptes cafer collaris*.

A common resident of the woodlands along the streams, though my observations do not warrant my including it as a winter resident. If a migrant, it is uncommonly early in making its appearance, for on March 30, 1901, the calls of this woodpecker were heard along Cottonwood Creek, and several specimens were seen.

Distinguishing features: Shafts of long wing-feathers red; upper parts brownish, with black bars; rump and upper tail coverts white; male

NEST AND EGGS OF CATBIRD.
Photo by M. J. Elrod.

with a mustache of bright scarlet; lower parts pale reddish-brown; length 13-14 inches.

418. POOR-WILL. *Phalaenoptilus nuttallii*.

A common summer resident of the mountain regions. I have observed it in the Big Snowy Mountains at 7,000 and more elevation. It is generally flushed from the ground, among the trees or bushes, and on such occasions will fly but a short distance, always with noiseless wing and in uncertain course, alighting on the ground. Sometimes when flushed it will utter a low, whimpering cry. Its eggs are deposited on the ground, usually among the leaves or pine needles, early in June. Two eggs form the complement. They are white, unspotted. It nests regularly in the Moccasin Mountains, and probably in the Judith Mountains. It is likely of general distribution in the county, as Dr. J. A. Allen reports that a few individuals were seen by him in the pine ridges and ravines along the Musselshell. Dr. C. A. McChesney also gives it in his list of birds of the Big Horn region.

Distinguishing features: Upper parts brownish gray, varied by spots and waves of black; throat with a large spot of white; tail tipped with white; length 7-9 inches.

420a. WESTERN NIGHTHAWK. *Chordeiles virginianus henryi*.

A common summer resident. Late in the summer the nighthawks can be seen quartering over the meadows, beginning their flight soon after the middle of the afternoons. On August 1, 1902, I noted a flock of twenty-five or thirty nighthawks wheeling over a hay meadow near Deerfield, about four o'clock in the afternoon of a clear day.

Distinguishing features: Upper parts mottled with gray and black; tail with several dusky bands; lower parts white, barred with blackish brown; throat with a white spot; length 9-10 inches.

444. KINGBIRD. *Tyrannus tyrannus*.

A common summer resident, inhabiting the thickets and groves of dwarf trees along the streams. The kingbird appears in the second week of May, and begins to nest early in June. It leaves this locality for the south about the end of August, but frequently it is seen early in September. The pugnacious disposition of the kingbird, its loud twittering as it takes an active part in the affairs of its little neighborhood, its peculiar swimming-like manner of flight, and its expert aerial movements in pursuit of flying insects, all combine to give the kingbird a wide reputation. It is reputed to live chiefly on insects, but in two instances I have seen the kingbird try to vary its diet. Once I saw a kingbird fly into a haw tree, pick a berry, and fly out of the tree with the berry in its mouth; however, it seemed awkward in handling the fruit, and let it drop before the bird flew to a perch nearby. On another occasion I noted the kingbird feeding on service-berries.

Distinguishing features: Upper parts grayish black; crown with a concealed spot of yellowish-red; lower parts white; length 8-9 inches.

447. ARKANSAS KINGBIRD. *Tyrannus verticalis*.

Quite common at various places along the Judith River, and doubtless occurring throughout the county in suitable localities, though it has not been observed by the writer in the immediate vicinity of Lewistown. Dr. J. A. Allen, whose itinerary included the Musselshell River on the south-eastern boundary of Fergus county, says of its occurrence: "Exceedingly abundant wherever there is timber, far outnumbering even so common a bird as *T. carolinensis* (kingbird), and more numerous than any other tree-nesting species. After the breeding season seen far away from the timber among the sage brush." Dr. Hayden first observed the Arkansas kingbird in Montana at "a point about one hundred miles below Fort Pierre, and thence to the mountains." Capt. Thorne reports that the Arkansas kingbird is numerous at Ft. Keogh, the kingbird being not as numerous there as *T. verticalis*.

Distinguishing features: Head, neck, and breast bluish gray; wings dark; tail black; lower parts pale yellow; crown with concealed spot of orange-red; length 8-10 inches.

457. SAY'S PHOEBE. *Sayornis saya*.

Early in September, 1900, my attention was called to a "flycatcher," which had entered a store in town and contentedly taken up temporary quarters, proving itself a valuable addition to the establishment by feeding greedily on the flies infesting the windows. The bird would sit upon the articles piled on the upper shelves, from which position it would sally out regularly to capture a fly that attracted it. This flycatcher in reality proved to be a Say's phoebe. After about a week's residence in the store, the phoebe disappeared one day, doubtless winging its way to a more congenial winter home. This phoebe is a common summer resident of this region, its habits being very similar to those of the phoebe of more eastern localities. In 1901, the first Say's phoebe was seen in Lewistown on April 12, when it was observed sitting on a fence-post, flitting its tail nervously. It soon flew across a vacant lot, and alighted on another post; at no part of its flight did it rise above the level of the top of the fence. The loud, querulous call of this phoebe becomes quite noticeable early in May, when the bulk of the individuals are arriving.

This phoebe is especially interesting because of its social disposition and its habit of making its nest about our dwellings, even in town. It is likely to select any convenient nook about the porch or cornices as a site for its home. During the nuptial and nest-building time, the male frequently utters a loud cooing whistle, somewhat similar to the prolonged call of the flicker or "yellow-hammer," but more mellow and musical. The ordinary call of this phoebe is a loud note resembling the syllable "fear" or sometimes like "fear it," and occasionally "de fear" and "de fear it." The nest is a mass of soft materials like rags, string, moss, lichens, hair and stems. The eggs are white, occasionally marked with specks of blackish brown.

Distinguishing features: Upper parts brownish gray, with tail dark-

er; breast light gray, other lower parts light yellowish-brown; length 7-8 inches.

462. WESTERN WOOD PEWEE. *Contopus richardsonii*.

A common summer resident in the wooded regions. Dr. J. A. Allen observed this species at various points along the Musselshell, and Dr. McChesney reports it as quite common along the Yellowstone and Big and Little Horn Rivers. Capt. P. M. Thorne reports the western wood pewee as common at Ft. Keogh, and Richmond and Knowlton mention it in their list of birds of south-central Montana.

Distinguishing features: Upper parts grayish brown, wings and tail darker; lower parts lighter, generally tinged with yellowish; length 6-7 inches.

466. TRAILL'S FLYCATCHER. *Empidonax traillii*.

A specimen was taken near Lewistown, August 30, 1898.

Distinguishing features: Upper parts olive, grayer on head; lower parts white, breast tinged with gray and other parts tinged with dull yellow; length 5-6 inches.

474c. DESERT HORNED LARK. *Otocoris alpestris leucolaema*.

This horned lark is the regular summer resident of this region. Though found generally over the prairies, it prefers the benches in the vicinity of settlements and ranches, in which situations it is noted in abundance. Before the end of February, frequently as early as the middle of the month, the nuptial songs of the males can be heard, continuing increasingly through March and April and until the later broods appear. Nesting begins about the middle of April, and the eggs are deposited by the end of the month. On May 4, 1900, I found a nest of the desert horned lark, containing three eggs far advanced in incubation, while on the same day I found another nest near the first containing three eggs of a complement of four which was completed the following day. Four days later, May 9, I observed a young desert horned lark on the same bench, evidently taking its first lessons in self-support, under the care of the male parent. It was well fledged, seeming at least two weeks old, though it did not try to fly, but crouched low on the ground while its parent walked rapidly away to call me from the youngling.

The nest of the horned lark can usually be found by watching ahead for the sitting bird to step from the nest. The male, who takes his turn in incubation when the duties become too confining for his mate, sits very closely, and seldom leaves the nest until the intruder is almost upon him; hence when he is taking care of the home, it is more difficult to find the nest, unless one chances upon it in walking. The female, however, is more watchful, and in most instances leaves the nest by stepping from it when the disturber is about thirty feet away, in which case she begins to glean quietly from the neighboring vegetation, but gradually leaves the vicinity of the nest.

Nest No. 1, May 4, 1900, was unmarked in any way, being flush with the surrounding surface, except where the northern side of the brim was a trifle elevated. On the higher side were a few blades of green

grass. The nest was two and three-eighths inches average diameter, and one and five-eighths inches deep, made of dried grass, with several pieces of soft napkin paper in bottom for bedding. Nest No. 2, May 4, 1900, was at the head of a small run leading to the foot of the bench. The brim of this nest was built above the surrounding level, and the elevated walls were banked up with coarse pieces of cow chips. On the north side were some grass and tanzy several inches high. This nest was of size similar to No. 1, and was made of dried grass with cottony fibers in the bottom for bedding. Nest No. 3, May 5, 1900, was on the same bare bench, where a lot of refuse consisting of old tin cans, rags, bones, and other rubbish had been strewn. This nest was snugly made against the base of a single weed-stem, which bent over somewhat to resemble a tuft. As in the preceding instance, the brim was slightly elevated, and banked around with dirt and fragments of cow chips. The nest was made of dried grass, with a bedding of cottony fibers. In size it was two inches and two and one-half inches minor and major axes, and one and three-fourths inches deep. Behind this nest, lying beside the weed-stem, was a piece of old white cloth, which served to mark the site. The complement was three eggs in which incubation had begun. Nest No. 4, May 8, 1900, was about ten feet from an old road, made in a hoof-track beside a tuft of moss which was level with the brim of the nest, though between the brim and the moss was the usual bank of cow chips. This nest was made entirely of dried grass, and contained four eggs advanced in incubation.

On May 20, 1900, I found a nest of the desert horned lark containing four eggs advanced in incubation. Upon visiting the nest the next day, I found that two of the eggs had hatched, and later a third youngster was found, the fourth egg being infertile. I inspected the household regularly in the following days, and on May 27 I noted that the three nestlings about filled the nest, and were feathering out nicely. Both parents attended them assiduously, but the elders made no demonstrations whatever when the nest was visited. The well-fledged younglings left the nest about noon on May 30, exactly nine days after they emerged from the shell. It is noticeable that the male seems to assume entire charge of the young birds for the first few days after they leave the nest, while they are learning to care for themselves.

Data of nests found the following season are quite similar to those already given. One found May 6, 1901, was in a round hole sunken beside an insignificant tuft of moss, in dried cow chips, on the sunny side of the moss tuft. It contained four fresh eggs. Another on May 8, 1901, containing three half-incubated eggs, was in a cavity sunken beside a stone. This nest was made of dried grass and lined with downy pistils, and retained its shape when removed from the depression. A third nest, found May 12, 1901, was in a cavity sunken on the sunny side of a moss tuft, and was banked around with cow chips. It was made as usual of dried grass, and was lined with downy pistils. It contained three eggs far advanced in incubation. A fourth nest May 14, 1901, held four fresh eggs. It was in a depression on the sunny side of a tuft of moss in an old road,

DESERT HORNED LARK.
Photo by E. R. Warren.

and about ten feet from a traveled road. It was made of dried grass, with a few downy pistils in the bottom, and was banked around with small clods and fragments of cow chips. A fifth, May 14, 1901, was about twenty-five feet from a road, in a depression beside moss among cow chips. This nest contained four eggs far advanced in incubation. Two males were singing their nuptial songs within a hundred yards of this nest.

On April 20, 1902, I found a nest of the desert horned lark containing four eggs, the fourth egg having been deposited that morning, for on the preceding afternoon the nest contained only three eggs. This nest was made in a depression in a wagon track of an old road. The eggs were taken, but as the nest was wet from a rain and snow that had fallen during the preceding night, it was left in situ. Happening to stroll past the place on April 25, I found that a fresh track had been made by a wagon that morning, and both wheels of one side of the wagon had passed squarely over the nest, crushing it into its depression. Thus it appears that nests of this species are liable to accident besides the danger of eager collectors. The eggs are dull grayish olive, thickly speckled with dark brown.

The pallid horned lark, *Otocoris alpestris articola*, is said to be a winter visitor or resident in this region. Not having given sufficient attention to the variations of the horned larks hereabout, I am not able to list this species from personal observation, as I do not recall having seen any horned larks in this locality in December and January. To the general observer it is in all respects similar to the desert horned lark.

Distinguishing features: Upper parts sandy gray, back streaked with darker colors; a horn-like tuft extending backward from side of head, black; head marked with black and yellowish white; sides sandy gray, other lower parts white or pale yellow; length 7-8 inches.

475. AMERICAN MAGPIE. *Pica pica hudsonia*.

Abundant, inhabiting the thickets along the water-courses, and being of general distribution throughout the county.

The favorite nesting sites are haw and willow trees of the thickets. Pine trees are often used, in which the nest is constructed at the outer ends of strong branches, upon a strong foundation of coarse sticks. In the haws and willows the nest is made in a stout crotch formed by several upright branches, though frequently the size of the structure causes the affair to extend much beyond the main supporting branches. Quite often the nest is based upon a drooping branch, and built into other convenient supports. Within the foundation of sticks is a bowl of clay or earthy material, from six to ten inches in its varying axes across the top, and from six to eight inches in depth. Within this bowl is the inner nest, generally made of coarse dried root fibers, and sometimes lined with a scant amount of horsehair. Above the body of the nest is a canopy or roof of sticks similar to those in the base, and around the sides there is a lattice-like shelter of more or less thickness, often so closely woven that the collector's arm can be inserted only with difficulty.

Frequently a nest of enormous size is found. On April 23, 1901, I found a nest of the American magpie in a haw tree in a small coulee. This nest was made on nearly horizontal branches, though they might have bent later beneath the weight of material piled upon them. This nest was four feet high, four feet long, and forty inches wide, a great mass of tangled sticks forming the canopy, while the base contained enough material to fill a large clothes basket. It is fair to say that one-fourth of the material in this nest would have made the average nest.

In a record of fifteen nests examined in 1900-01, two were sixteen feet from the ground to base of nest, one was twelve feet, three were ten feet, one was nine feet, and the remainder were seven feet from the ground, the average being between nine and ten feet.

The number of eggs in the complement varies from six to nine. I found six eggs in only two full set; seven, eight, and nine are found generally, the larger numbers being the commonest in first sets when the birds are disturbed in their nidification. "The eggs are grayish-white, with a yellowish, occasionally with a greenish tinge, spotted, dashed and dotted with markings of purplish or violet-brown; most thickly around the larger end. Average size, 1.34 x .89 inches."

Distinguishing features: Head, neck, back, breast and upper part of legs, velvet black; other upper parts rich metallic greenish blue and other hues; shoulders, sides and other under parts pure white; length 17-22 inches.

478c. BLACK-HEADED JAY. *Cyanocitta stelleri annectens*.

This handsome jay has never chanced under my observation in this region, but several good observers have reported its occurrence in the Big Snowy Mountains, where wooded ravines and coulees containing streams form its favored haunts. In the Flathead Lake region, I found this jay frequenting the dwarf pines near the rocky summits of Hall's Peak, at 7,500 feet elevation, as well as near the lake shore.

Distinguishing features: Upper parts dark blue, head chiefly black; lower parts blue; head with a prominent crest; length 12-14 inches.

484a. ROCKY MOUNTAIN JAY. *Perisoreus canadensis capitalis*.

A common resident of the higher mountainous districts, and known among the prospectors and ranchers as the "tallowhead." In their list of birds of south-central Montana, Messrs. Richmond and Knowlton state that this jay is very common in the mountains from the lowest limit of the coniferous forests up to at least 9,000 feet, above which altitude the observers did not have occasion to go.

Distinguishing features: Upper parts pale bluish gray, the head and neck lighter; lower parts light gray, with a brownish tinge; length 11-13 inches.

486. AMERICAN RAVEN. *Corvus corax sinuatus*.

The raven occurs regularly along the Missouri border, and also near the other larger water-courses of the county, but its general distribution seems to be quite local or variable. Dr. J. A. Allen reports that the raven was

more or less common from the Missouri to the Musselshell, being seen almost daily, but nowhere very numerous. At Ft. Keogh, Capt. Thorne found it not common.

Distinguishing features: Plumage glossy black; length 21-26 inches.

488. AMERICAN CROW. *Corvus americanus*.

In this immediate region, the crow is migratory. Where the crows reared in this neighborhood spend the winter, I have no idea worth recording. The first crows of the season appear early in April, the earliest for 1900 being seen on April 7, though in 1901 the first crow was noted on March 30. For the four years that include my observation in Montana, a single pair of crows have had quarters along Little Casino Creek, where they have generally succeeded in rearing a brood. The largest colony that I know in this locality is on John Glancy's ranch along Big Spring Creek, where perhaps two dozen families of crows are reared each season in the willow groves.

Though the crows appear to arrive in the spring in pairs or small groups, it is likely that they depart in the fall in a body including most of the colony in any neighborhood. For several weeks preceding their departure, they go nightly to some favored roosting-place, returning to pass the day in their summer feeding-grounds. On August 28, 1899, I noted that a large body of crows, consisting of forty to fifty individuals, was flying northward about the middle afternoon. On September 11, a large flock of crows was seen about 3:30 p. m., flying in compact body toward the north. No stragglers were seen. There were between fifty and seventy-five individuals in this flock. On October 2, I noted that a large flock of crows was flying southward about four in the afternoon. October 12th brought evidences of changing weather, with fine snow in the air, and the wind raw and chilling. A flock of about fifty crows was seen flying in compact formation toward the south about three in the afternoon, and this movement was apparently the final migration, for no crows were seen thereafter, until the opening of the next season.

Distinguishing features: Plumage glossy black, length 18-20 inches.

491. CLARKE'S NUTCRACKER. *Nucifraga columbiana*.

This species is a common resident of the mountainous districts. It is popularly known as "camp robber," because of its notorious disposition to visit the camp of the prospector, hunter, or tourist, to pick up tid-bits of food lying about the premises. It sometimes carries its depredations so far as to sample the contents of the open mess-chest. It is a noisy bird, having a harsh, crow-like call consisting of several scolding syllables. During most of the year the nutcracker ranges over the mountainous localities in troops of small numbers, usually frequenting the tops of tall pines and other conifers. In the Big Snowy Mountains the nutcracker is common at altitudes of seven and eight thousand feet. On May 9, 1903, a young Clarke's nutcracker, taken from a brood of three about to leave the nest, was brought to me from Whisky Gulch, Judith Mountains. The

nest was about sixteen feet from the ground, made beside the main stem of a small evergreen on the mountain-side.

Distinguishing features: Upper parts ashy gray, lighter on the head; wings and two middle tail feathers, black; other parts of wings and tail, white; length 12-13 inches.

494. BOBOLINK. *Dolichonyx oryzivorus*.

A very common migrant, appearing about May 20, and lingering two or three weeks in song. In the fall it is abundant in the weedy borders of the stubble along the streams, where its metallic "chink" can be heard for several weeks in late August and early September. It is likely that the bobolink breeds in suitable localities in the county. Messrs. Richmond and Knowlton found the bobolink very common at one place in the northern part of the Gallatin valley about the middle of August, where a large number was observed in a rank growth of wild sunflowers (*Helianthus*). In a considerable tract of nearly ripe oats nearby, they found only a few stray birds.

Distinguishing features: Back of head and neck, shoulders, rump, and upper tail coverts, pale yellowish white; other parts black; length about seven inches. The female lacks the whitish markings, and has upper parts streaked with brown and pale tawny.

495. COWBIRD. *Molothrus ater*.

The cowbird is not noticeably common in this region. It is not often seen before the first week of May, but its shrill whistling call soon announces its presence, and by the second week of May the cowbird is well established in its haunts. As is generally well-known, this bird is parasitic to the extent that its eggs are deposited in the nests of certain other species, for the cowbird never makes a home of its own to rear its young. Upon others, in whose nests its eggs are laid, is imposed the burden of hatching its eggs and rearing its young, frequently to the utter ruin of the family of the selected foster-parents.

Brewer's blackbird is the chief victim of the cowbird in this locality. I have found as many as five eggs of the parasite in a nest containing only two eggs of the blackbird. Frequently the cowbird manages to deposit the first egg in the finished nest. The yellow warbler also suffers very generally from the impositions of the cowbird. Sometimes the little songster prefers to cover over the cowbird's egg with its own, and thus avoid the burden of caring for the alien. In the fall of 1900, I found two nests of the yellow warbler in the rose bushes along Little Casino, which had evidently served their purpose as homes of young warblers. Under the soft bedding in each nest, however, two eggs of the cowbird were found thus snugly covered. When the nests were finished, the cowbird had found the snug cots before the owners had taken permanent occupancy, and had deposited its eggs for the care of the warbler. The warbler, manifestly unwilling to take upon themselves the care of the cowbird eggs and younglings, had placed additional material over the eggs of the parasite, thus defeating the purpose of the cowbird, while relieving themselves of unwelcome aliens in their homes.

NEST AND EGGS OF WARBLING VIREO.

Photo by M. J. Elrod.

Distinguishing features: Head and neck dark brown; other parts black, generally with metallic hues; length 8-9 inches.

497. YELLOW-HEADED BLACKBIRD. *Xanthocephalus xanthocephalus*.

This fine blackbird is not uncommon at Lewistown during the spring and fall migrations, though only a few are seen at a time. As it is a bird of the swamps, it does not find many localities in this region suitable to its habits, and hence probably does not breed to any extent in this county. Records of other observers show that the yellow-headed blackbird is not seen in numbers in this portion of its habitat. Dr. J. A. Allen reports that this species was seen but three or four times on the whole journey. "A small colony found breeding near the point where we crossed the Big Muddy, and a single small flock seen near the head of the Great Porcupine Creek. A small flock seen once also on Heart River." Dr. McChesney does not mention it in his list of birds of the Big Horn region, and Dr. Elliott Coues did not notice it on this portion of the Missouri River. In the spring of 1902, the writer noted the yellow-headed blackbird sparingly in the swamp at the head of Swan Lake, in the Flathead region, with good evidence of its breeding there, though no nests were found. Not more than half a dozen individuals were seen in an area of a square mile.

Capt. Platte M. Thorne found this blackbird abundant in suitable localities at Ft. Keogh, where it breeds.

Distinguishing features: Head, neck, and upper part of breast yellow; wing-coverts chiefly white; other parts black; length 10-11 inches.

498. RED-WINGED BLACKBIRD. *Agelaius phoeniceus*.

This handsome blackbird is seen regularly in this region, inhabiting reedy swamps throughout the prairie districts of the county. In the season of 1900, the first red-winged blackbird appeared on the morning of April 9 at Lewistown, calling cheerfully in spite of a light fall of snow. In 1902, the first red-wing of the season was observed on March 22, singing in rusty tone in a thicket in a marshy place on Big Spring Creek.

Owing to its local distribution, this blackbird is not noted in numbers except when it congregates in the restricted marshy areas. Dr. J. A. Allen says that it was met with only at distant intervals, and nowhere in considerable numbers. He did not observe it either on the Musselshell or the Yellowstone. Dr. McChesney reports that he did not believe this blackbird entered the Big Horn region. At Ft. Keogh, however, Capt. Thorne found it common and breeding.

In the late fall, the red-winged blackbird forms large flocks with Brewer's blackbird, the former fully equaling the latter in its proportions in the flocks. It no longer confines its movements to the swamps, but enters the towns with its associate, and gleanes from the feed-lots. None are seen generally after the end of October.

Distinguishing features: Black, with wing-coverts bright red; female lacks the red marking, and is streaked; length 9-10 inches.

501b. WESTERN MEADOWLARK. *Sturnella magna neglecta*.

A very common resident in summer, preferring the cultivated districts, and the vicinity of ranches. The meadowlark appears irregularly from the first to the middle of April, taking possession of meadows and grainfields, and scattering its ringing melody everywhere during the latter half of April. It lingers late in the fall, being active and musical from the middle of September till the middle of October, after which only stragglers are seen and heard.

The meadowlark begins to nest about the second week of May, and the nest generally has its full complement of eggs by the 20th of May. On May 24th, 1900, I found a nest of the western meadowlark, containing six eggs advanced in incubation. The nest was among short sprouts in the margin of Big Casino Creek. It was made of coarse dried grass, and protected by a strong dome formed of over-arching dried grass, with a circular entrance, three inches in diameter, in one side. The nest was five inches in diameter, one and one-half inches deep in the depression, and was lined with finer dried grass. As usual, the eggs were white, with spots and blotches of reddish brown.

On May 25, 1901, I found a nest of the western meadowlark in the same neighborhood as that mentioned in the preceding paragraph. It was made under drooping bush stems in a weedy patch. The walls of the nest were formed of fine dried grass, curved upward and over to make a firm arched covering. The cavity measured five inches from front to back, and four inches in height. Like the one found in 1900, its entrance faced the rising sun. This nest contained six eggs in which incubation had begun.

Distinguishing features: Upper parts mottled with brown, gray, and black; throat and breast yellow, with a black crescent on upper part of breast; lower parts whitish, frequently with a yellowish tinge; outer tail feathers marked with white; length 8-11 inches.

508. BULLOCK'S ORIOLE. *Icterus bullocki*.

This oriole is a common summer resident in this region, inhabiting the wooded bottom lands, and associating itself almost exclusively with the deciduous growth that fringes the streamsides. It generally appears in this locality in the second week of May, and soon begins to construct its pendulous nest in the aspens, cottonwoods and low haw trees, the site being usually between ten and twenty feet from the ground. None of the nests which I have examined was so pendulous as those of the Baltimore oriole, the style of support being more like that used by the orchard oriole, as the nest is generally suspended from several upright twigs in a way that gives the structure only such movement as is common to the swaying supporting branches. The usual material of the nest is coarse weed fibers, and the same material constitutes most of the structure. A soft bed of wool or other downy material completes the nest of the oriole. The eggs, like those of the other orioles, have a background of grayish white, and are very irregularly and curiously marked with spots and lines of blackish brown.

Distinguishing features: The male has forehead, stripe over eye, sides of body and flanks orange yellow; other parts similar but with a tinge of olive; wing prominently marked with black and white; female lacks much of the bright coloring of the male; length 8-9 inches.

510. BREWER'S BLACKBIRD. *Scolecophagus cyanocephalus*.

This is our common blackbird, abundant everywhere in summer. In 1899, the first Brewer's blackbirds appeared in Lewistown on April 29, when a flock of ten or twelve spent the day in some aspens on Main street. In 1900, the first were noticed on April 23; in 1901, the first blackbirds were seen on April 27; and in 1902, a solitary specimen on April 28 marked the opening of the season for Brewer's blackbird. Before the regular nesting period, the blackbirds resort to the vacant feed-lots about town and about the ranches. By the middle of May, however, they have established themselves in the bushy tracts along the streams and irrigating ditches, ready to begin nidification.

Brewer's blackbird nests in colonies, the size of the colony depending upon the extent of the bushy tract available. A clump of bushes ten feet square may accommodate several pairs of birds. The nest is placed about two feet from the ground, generally among upright stems. The first nest of this blackbird which fell under my observation was nineteen inches from the ground, in a crotch of a bush. The brim was twenty-four inches from the ground, the nest cavity being four inches across and two and one-half inches deep. There was an outer layer of coarse twigs, a middle layer of dried grass-stems plastered with mud, and a lining of rootlets and horsehair. This nest contained five eggs of the blackbird and two eggs of the cowbird, partially incubated on May 29. The eggs vary considerably in color and markings, having a background of grayish or greenish white, splashed and blotched with varying shades of brown.

The site of the nest varies with the surroundings. Once I found a nest of Brewer's blackbird in a crotch of a haw tree, seven feet from the ground; and frequently the structure is made in the base of a bush, on or near the ground.

This blackbird is a very common victim of the cowbird in seeking suitable foster-parents for its offspring. On June 4, 1901, I found a nest of Brewer's blackbird, containing five eggs of the cowbird and two of the owner. Indeed, it is unusual with me to find a nest of this species containing a full complement of eggs without any of the cowbird's. On May 31, 1902, however, I found a nest of Brewer's blackbird in a bush in a clump, which contained six eggs of the blackbird without any products of the cowbird.

By the first of August the blackbirds are forming into heavy flocks, and thus they congregate on the ranches and feed-yards. Associated with Brewer's blackbirds are red-winged blackbirds and cowbirds. The flocks are largest about the end of August to the middle of September; thereafter the flocks gradually decrease in numbers until about the first of November, after which the blackbirds are seldom seen except as belated stragglers.

There are many interesting traits in the manners of Brewer's blackbird. In the late fall, they sit frequently on the roofs of barns, arranging themselves in regular order along the ridge or on other parts of the roof, so that nearly the same distance intervenes between any two; if others join them, the newcomers do not crowd among those already seated, but dispose themselves in the same order. It is customary for a flock thus to spend a short time before retiring to their roosting-place for the night.

In our city streets during the late fall days, the blackbirds are much like the English sparrows in more eastern localities in their boldness and disregard of human surroundings, gleaning in the backyards and about the kitchen doors, moving out of the way when disturbed, but acting otherwise as if perfectly at home.

Distinguishing features: Plumage glossy black, the head and neck with metallic reflections; female slaty brown; length 9-10 inches.

511b. BRONZED GRACKLE. *Quiscalus quiscula aeneus*.

This blackbird occurs in the eastern portion of the county, along the Musselshell borders. Dr. J. A. Allen reports it as abundant on the Missouri at Fort Rice, common along Heart River, and on the Yellowstone as far up as it was ascended (Pompey's Pillar). He states also that along the Yellowstone and Musselshell are found nearly all the species observed at Fort Rice, though more sparingly represented. Dr. McChesney reports this blackbird as common in the Big Horn region, and Dr. Elliott Coues traced it westward along the northern boundary of the state to the Rocky Mountains. The writer has not observed it in the vicinity of Lewistown.

Distinguishing features: Plumage bronze black or brassy olive, neck with metallic hues; length 12-13 inches.

515a. ROCKY MOUNTAIN PINE GROSBEEK. *Pinicola enuncleator montana*.

The pine grosbeak is common as a winter visitant, appearing irregularly in the foot-hills and mountains in the late fall. It is a handsome bird, of striking appearance, a worthy accompaniment of the evergreen hillsides where it comes and goes in the winter season. On October 15, 1901, a fine specimen was brought to me from the foot-hills of the North Moccasin Mountains, where it is reported to be common in winter. The natives know this grosbeak as the "deer bird."

Distinguishing features: Upper parts generally dark reddish pink; shoulders, flanks, and under parts chiefly ashy gray; wings and tail darker, coverts marked with dull white; length 8-9 inches.

521. AMERICAN CROSSBILL. *Loxia curvirostra minor*.

The American crossbill is mentioned in Dr. J. A. Allen's list as quite frequent in occurrence on the Musselshell in the vicinity of the pine covered bluffs and ravines. It doubtless occurs more commonly in the western portions of the county, where mountainous conditions prevail. I have not noted its occurrence near Lewistown. In the late summer the crossbill is likely to appear after or during stormy weather, roaming the woods in small flocks or troops in quest of food. The crossbill is fond of the seeds

NEST AND EGGS OF AMERICAN REDSTART.
Photo by M. J. Elrod.

of the common fir or Douglas spruce, and several birds will feed together in a tree-top, uttering their clinking notes and dropping a shower of loose cones which they detach in their energetic movements. Occasionally a crossbill will utter a chattering song not unlike that of the American goldfinch. The usual note is a syllable like "preen," repeated three or four times after the clinking call. The song of the crossbill can be suggested by the syllables, "Quit, quit, quit, quit, preen-preen-preen."

Distinguishing features: Plumage dull red, wings and tail darker; female has grayish olive instead of red; length about 6 inches.

522. WHITE-WINGED CROSSBILL. *Loxia leucoptera*.

An irregular winter visitant in the mountainous regions.

Distinguishing features: Plumage dull red, frequently with a tinge of yellow; shoulders, tail, and wings black, the latter varied with two broad bands of white; female has olive instead of red; length 6-7 inches.

524. GRAY-CROWNED LEUCOSTICTE. *Leucosticte tephrocotis*.

A regular winter resident at Lewistown, where it is known as "brown snowbird." It generally appears about the first of November, though in pleasanter weather it may not be observed before the 8th or 10th. It is gregarious, moving about daily in flocks of varying size, usually scattering about town in smaller troops until severe weather, when most of the troops unite into one large flock, often containing as many as two or three hundred individuals.

The leucostictes are our English sparrows in social manners. They feed at the door-steps, or in the yards. On a warm winter morning I have seen from forty to fifty of these birds sitting on a wood-pile in the doorway, sunning themselves and gleaning from refuse. In the late afternoons the individuals of a flock scatter out to accustomed nooks for the night. A particular male, and sometimes a female, have regular sleeping-nooks in the porch of the writer's home, and long before nightfall the birds seek their quarters. I have seen one enter a tubular eaves-trough, there to spend the night. Frequently they flutter under projecting eaves, and cling to some projecting support for the night.

In 1899, I first noted the leucostictes on October 30, when a flock of fifteen was seen gleaning on a vacant lot on Main street. When disturbed, they arose with sharp, metallic scolding notes, keeping together and flying away in irregular, undulating, capricious flight. By November 16, the number of the flock had increased to about sixty. They were feeding near the school building, and were quite fearless and friendly, as individuals frequently alighted within six feet of me. They are extremely restless, flitting in irregular, jerky movements on the wing. They have a trilling chirp which they utter a-wing and on the ground. They alight about the school building very much like English sparrows, preferring projecting parts, gutters, window-sills. Frequently one will alight in the window and even though someone is standing at the window within.

The leucostictes feed on the seeds of the dwarf sage, or glean from the snow about the bases of such plants. They are fond of gleaning along

the hillsides at the margin of the snowy areas. In the spring, when a thaw is taking place, a flock will congregate on a spot eight or ten feet across, all pecking industriously from the bare ground. They also frequent the margins of dry ditches, and a walk or fence on sloping ground, where exposed areas can be found, are favored feeding-places. Some of the flock are in motion at any time, flitting nervously to another portion of the feeding-place. Often the whole flock will take wing with a dull whirring sound of wings, many of the birds uttering a quick alarm note like the syllable "quir," or "chie," or "quie quie." Rising in scattering body, with capricious, undulating movement, they may circle down immediately to the same forage spot.

The rapid flitting of the wings of the leucostictes in flight is noticeable, though sometimes one will soar through the air with outspread wings, fluttering the wings only enough to give movement. The flitting of the wings appears to be caused by their tips being elevated above the general level of the bird's back.

Very early the leucostictes give evidence of the approach of the nuptial season. After the middle of January, one male will frequently chase another coquettishly, like meadowlarks in amorous sport. Occasionally at this season a male will sit for a few moments, uttering a pretty little trill, like "tree-ree-ree-ree-ree-ree," enunciating the syllables with great rapidity. As the season approaches, and the warm sunshine of late February announces the further advance of the vernal period, the leucostictes increase in their musical numbers. Sitting on the ridge of house or barn, generally at the end of the ridge, alone or in small troops, they utter their wheezy chants, sometimes with no more force than that used by the grasshopper sparrow, sometimes with greater force and more varied expression.

The males sing also while sitting on the ground, appearing to be picking up morsels of food, and singing as a frequent variation. In such instances the song has a ventriloquial effect, appearing to issue from a point much farther away. A male singing on the ground will sidle toward a female, and if she coyly takes wing a reckless, amorous pursuit will follow. They care little for surroundings, if an appreciative female listener is near. Late in February I observed a male sitting on a telegraph pole in front of the post office at mail time, and disregarding the bustle below, he uttered his low, hurried trills.

In early March the wing-bars of their plumage become more prominent, the purple of the sides to show more noticeably, and the colors generally to assume their vernal or nuptial hues. By the middle of April the last of the leucostictes has disappeared.

Distinguishing features: Plumage brown cinnamon; back of head, above ears, hoary gray; bill yellowish in winter; length 6-7 inches.

524a. HEPBURN'S LEUCOSTICTE. *Leucosticte tephrocotis littoralis*.

This associate of the gray-crowned leucosticte can be easily distinguished by the greater amount of gray upon the head, the color frequently marking the entire head above the lower part of the ears. Hepburn's leu

costicte mingles with the gray-crowned in proportion of one to six or eight of the latter, in this locality. In habits it is a counterpart of the one previously described at length, hence further account would be needless repetition.

528. REDPOLL. *Acanthis linaria*.

The redpoll is the common "snowbird" of this region. It regularly spends the greater part of the winter with us, and several hundred individuals make their headquarters in the immediate neighborhood of Lewistown. They haunt the shrubbery of gardens and weed-patches, picking up such seeds and morsels of food as they can find. Stragglers frequently find their way under sidewalks in feeding, and they often fly out from under the feet of the passerby. Their usual notes are a call suggesting the syllables "chickie," or "chickie-chie." Another call is an exact counterpart of the goldfinch's plaintive "pee pee." The first call is one of alarm, and is heard most frequently in the ordinary movements of the redpoll. In the late winter, after the first bright days in March, the singing of the redpoll can be heard, a short hurried trill somewhat like that of the chipping sparrow, but much shortened and uttered in a harsher tone. This song is uttered by the performer either sitting or flying, and is frequently given by many of the birds flying in a flock. The redpoll generally arrives early in November, and remains until about the middle of April.

Among the numbers of redpolls that visit us, I am certain of the occurrence of the hoary redpoll, *Acanthis hornemannii exilipes*, if the paler tinge of pink on the sides as examined at close range is a safe basis of identification. In Auk, XVIII., page 195, Mr. Louis B. Bishop calls attention to specimens of this species taken at Miles City, authentically identified, confirming me in my opinion of the occurrence of this form here and elsewhere throughout this region of Montana in winter. Without having taken specimens, but having seen the birds only a few feet away in the clearest light, the writer is tolerably certain of the occurrence of Holboell's redpoll, *A. 1. holboellii*, at Lewistown. Since Mr. Louis B. Bishop has recorded its presence at Miles City, there is no occasion to doubt its occurrence in Fergus county at least as a winter visitant.

The evidence of the occurrence of the greater redpoll, *A. 1. rostrata*, is equally strong. In several instances it has been seen associating with leucostictes, in whose company it was the more readily noticed because of its smaller size and different markings. I have not observed it with other redpolls, and only on a few occasions with the leucostictes in mid-winter.

Distinguishing features: Upper parts brownish gray, streaked with darker; top of head with dark red or brownish red (in winter); sides streaked with dusky; breast and sides pink; length 4.50-5 inches.

529. AMERICAN GOLDFINCH. *Astragalinus tristis*.

Doubtless generally distributed over the county. Dr. J. A. Allen reports that it is "quite common along the better timbered portions of the larger creeks and rivers, particularly along the Musselshell." It resorts to the weedy patches along the ditches in fall, feeding among the weeds

that fringe the margin of the water. Throughout September its pleasing call-notes can be regularly heard as it works industriously in gathering its daily fare of seeds, and its sweet songs can be heard as the songster wings its way overhead in billowy flight. The winter habits of the American goldfinch in this region are unknown to me. Toward the latter part of May its summer songs begin to enliven the observer's rambles, and then it begins to show its bright summer attire. Congregating in the clumps of willows that crowd the little bends of our Big Spring and other creeks, associating with yellow warblers recently arrived from their southern winter homes, the goldfinches form sweet choruses with their gentle calls, and revel in the wealth of opening buds and warming breezes.

Distinguishing features: Upper parts bright yellow, the forehead, crown, sides of head, wings, and tail black; other parts chiefly yellow; female has brownish or grayish olive instead of yellow; length 4.50-5.50 inches.

533. PINE SISKIN. *Spinus pinus*.

The pine siskin inhabits the coniferous forests of the county in summer. In the upland prairie regions it is seldom seen, as it is essentially a bird of the forest, where it flits among the tops of the tallest pines and other evergreen trees. Its presence may be noticed by its harsh, sibilant call, as it swings here and there in active and noisy companionship. A common note of the pine siskin is exactly like the goldfinch's usual plaint, a single or double call resembling the syllable "pee" or "pee pee," and when the goldfinch and the redpoll are in the neighborhood, it is difficult to distinguish the difference, if there be any, between their calls and that of the pine siskin.

Distinguishing features: Upper parts grayish brown, lower parts lighter, everywhere streaked with darker colors; bases of tail and long wing feathers marked with yellowish; length 4.50-5 inches.

534. SNOWFLAKE. *Passerina nivalis*.

A regular winter visitant. The snowflake generally makes its appearance with snow-storms of November, flitting overhead in small, scattered troops, uttering its trilling call. My record contains no note of more than six or eight together at any time, and it does not appear that the snowflake forms here such large flocks as may be seen in more southern localities. Frequently a troop will alight to feed on some exposed area, taking flight easily at any alarm, and whirling away from the neighborhood. The snow-bird is seldom seen after early February, except in cases of storms of unusual severity.

Distinguishing features: Winter plumage of upper parts dull white, usually tinged with reddish brown; back, shoulders, and part of wing, black; chest tinged with brown, other under parts white; length 6-7 inches.

536. LAPLAND LONGSPUR. *Calcarius lapponicus*.

This boreal species is an accompaniment of the winter storm and the severest weather. Generally it whirls southward on the wings of the snow-laden blasts, calling downward to us in cheery note as it passes overhead. Sometimes a flock will sweep down on an exposed area of the

NEST AND EGGS OF LOUISIANA TANAGER.
Photo by M. J. Elrod.

bench to glean from the weed-tops, and if disturbed will sweep away on restless wings, moving in undulating, capricious flight wherever impulse may lead them.

Distinguishing features: (Winter plumage) Crown brownish gray, extending downward on back of neck; wing coverts edged with brown; upper parts streaked with brown and black; under parts white, streaky; length 6-7 inches.

538. CHESTNUT-COLLARED LONGSPUR. *Calcarius ornatus.*

The chestnut-collared longspur occurs on the high prairies of the county in summer, though in small numbers. Each spring I observe several chestnut-collared longspurs, among the hundreds of McCown's longspurs that nest on the prairies adjacent to Lewistown. Dr. J. A. Allen states that he rarely observed it beyond the Yellowstone, only two or three individuals being seen during his journey up the Yellowstone and across to the Musselshell and back. It is likely that this longspur breeds only sparingly in the eastern districts of the county.

Distinguishing features: Upper parts grayish brown, streaked with darker colors; head marked with black, white, and dull yellow; breast and belly black; back part of neck with a prominent band of bright reddish-brown; female lacks the prominent colors of the male; length 5.50-6.50 inches.

539. McCOWN'S LONGSPUR. *Rhynchophanes mccownii.*

An abundant summer resident, breeding in numbers on the high prairie districts of the county. This longspur appears in this locality late in April. At first the birds keep in flocks, sitting on the ground so closely that an observer can get among them without detecting their presence until he startles one or more almost under his feet. On such occasions the startled birds will fly a few feet, while the remainder of the flock will continue to crouch upon the ground. As the days pass, the males utter a low, trilling song, not greatly different from that of the horned larks. Soon the longspurs scatter over the prairie, and the peculiar flight-songs of the males begin. Rising with twittering, hurried chant, after an ascent of a few yards, they will drop downward with out-spread, unmoving wings, uttering their gush of song, thus descending parachute-like to earth.

The period of nidification begins about the middle of May in this region, though in some instances broods are hatched by the end of this month. On May 27, 1900, I chanced upon a nest of McCown's longspur containing young about three days old. Two days later I found a nest containing four eggs somewhat advanced in incubation. The site was a depression among grass-blades, open above. The nest was made of dried grass felted at the bottom with a few downy pistils, the style of architecture being very similar to that followed by the horned lark. The cavity was two and one-half inches in diameter, and two inches in depth. A nest found on May 29, 1901, was in a depression at the base of a small coronilla bush, a very common site, and one most generally selected by this longspur. The eggs are grayish-olive, copiously marked with irregular blotches of dark brown. On May 29, 1903, I found a nest of McCown's longspur on the

elevated bench near Lewistown. It was made in a depression in a small tuft of grass, flush with the general surroundings. The material was grayish dried grass, bedded on one side with cow-hair. The female flushed in flight from the nest when I was about fifteen feet from her. The nest contained three fresh eggs.

Distinguishing features: Upper parts chiefly grayish brown, streaked with darker; top of head, and large crescent on breast, black; wing coverts reddish-brown; lower parts grayish white; female with less prominent colors; tail white, with prominent black tips to inner feathers; length 5.50-6.50 inches.

540a. WESTERN VESPER SPARROW. *Pooecetes gramineus confinis*.

The commonest of the summer sparrows. It prefers the meadows bordering the water-courses, where its pleasing song is a regular feature of the springtime. In 1900, the first western vesper sparrow was noted on May 1; in 1901, the first was seen on April 25. On May 4, 1901, the males of this species were very common, and were noticeably prominent in sitting on the fences along the roadside and persistently singing. They are very noticeable during the first half of May.

On June 4, 1900, I found a nest of this sparrow in a meadow bordering Big Spring Creek, near Lewistown. It was made at the base of a sprangling bush, and was formed of coarse dried grass, and had a lining of horsehair. The cavity averaged two and three-eighths inches in diameter, and was two inches deep. There were four fresh eggs. The ground color of the eggs is very pale green, and they are irregularly dotted and blotched with varying hues of reddish-brown.

My first nest of this sparrow found in 1901 is recorded for June 6. It was found on the prairie near Little Casino Creek, a small feeder of Big Spring Creek. The nest was in a depression sunken at the base of a small weed, sloping somewhat under the weed, but open above, well-cupped and heavily brimmed. The brim of the nest projected above the ground level an inch. As usual, dried grass was the only substance composing the walls, the lining being formed of fine dried grass and horsehair. The nest cavity measured two and three-fourths inches and two and one-half inches major and minor axes, and was two and one-half inches deep. The sitting female was flushed as I stepped over the nest, and she fluttered out directly between my feet.

The vesper sparrow takes its departure for the south about the end of September.

Distinguishing features: Upper parts brownish gray, streaked with darker; outer tail feathers white, a very helpful marking in identification; lower parts grayish white, upper part of breast streaked with brown; small wing-coverts marked with rusty brown; length 6-7 inches.

542b. WESTERN SAVANNA SPARROW. *Passerculus sandwichensis alaudinus*.

This sparrow occurs commonly throughout the prairie districts of the county, inhabiting the hay meadows of the ranches in summer. In the fall it resorts to the weeds in the vicinity of irrigating ditches and ponds.

When flushed along a ditch, it flies ahead in the ditch, alighting on the sides of the ditch where the overhanging grass affords it protection. It is one of the shyest of the sparrows, and seldom gives the observer an opportunity to study its movements in an open area. In his "Birds of Dakota and Montana," Dr. Elliott Coues states that this sparrow breeds in profusion throughout the region explored. Besides finding it on the open prairie, he found it in the brush along the streams and larger rivers. He says that the nest is placed on the ground, simply made of dried grass, with a lining of horsehair; the eggs are four or five in number, usually laid in the first half of June. This sparrow can be noted in this region generally till the end of September.

Distinguishing features: Upper parts grayish brown, streaked with gray and black; yellow stripe over eye, and similar stripe in middle of crown; lower parts whitish, streaked on breast and sides; length about 6 inches.

546a. WESTERN GRASSHOPPER SPARROW. *Coturniculus savannarum bimaculatus.*

A common summer resident. The males are generally heard singing their wheezy trills near Lewistown about the 10th of May, increasing in numbers and persistency of song until the latter part of the month. They manifest more boldness in the execution of their songs than at other seasons, as they will sit on fence-posts and sing regardless of passers-by, a disregard of observation not shown by them except in the height of the mating and nesting period.

Dr. J. A. Allen reports that this sparrow was common at intervals from the Missouri to the Musselshell, though much more numerous east of the Yellowstone than beyond it.

Distinguishing features: Upper parts grayish, streaked with dull yellow, brown, and black; front of neck and breast dull yellow; chest and sides streaked with brown; other lower parts dull white; front edge of wing yellow; length about 6 inches.

552a. WESTERN LARK SPARROW. *Chondestes grammacus strigatus.*

This lark sparrow has never chanced under my observation, but Dr. J. A. Allen found it to be one of the most abundant and generally diffused species, frequenting the edges of the wooded bottom-lands and the bushy ravines, but also found occasionally quite far out on the prairies. Dr. C. E. McChesney reported in his list of birds of the Big Horn region that this sparrow was quite common among the pines in the mountains.

Distinguishing features: Upper parts brownish gray, back streaked; lower parts dull white; tail tipped with white; length 6-7 inches.

554a. GAMBEL'S SPARROW. *Zonotrichia leucophrys gambelii.*

A regular migrant, seen and heard chiefly in the fall, none having been noted as a summer resident. This sparrow appears on its northward movement about the 20th of September, frequenting the edges of the thickets of the stream-sides, and associating with migrant towhees and other sparrows. It is partial to the choke-cherry, buffalo-berry, and scarlet haw.

On a warm afternoon of late September or early October it sits in the haw thickets and sings in low, subdued medley, uttering a plaintive "fear away" in persistent repetition. Now and then one sparrow will chase another out and back into the bush as in vernal sport. It is likely that some representatives of this sparrow stay in this region throughout the winter. Capt. Platte M. Thorne reports that this sparrow is tolerably common in spring and fall at Ft. Keogh. In south-central Montana Messrs. Richmond and Knowlton found it very common in the valleys after September 1, and they state that it breeds in the mountains.

Distinguishing features: Upper parts grayish brown, streaky; head striped with black and white, middle stripe white; lower parts grayish white, not striped; length 6-7 inches.

559a. WESTERN TREE SPARROW. *Spizella monticola ochracea*.

A regular winter resident of this region, frequenting the thickets along the water-courses of the prairie districts. One of the bright mornings of late winter their tinkling notes give considerable animation to the frosty surroundings. When these sparrows appear on their movement from the north, usually early in October, many of them are in song, uttering their pretty trills in rather subdued execution. Very early in the spring, or rather in late winter, the males begin their vernal singing, late February and early March giving renewed voice to these songsters of the thickets. These sparrows linger among us until the middle of April, after which they soon disappear. I have not noted their presence here in mid-winter.

Distinguishing features: Top of head cinnamon brown; back and shoulders brown, streaked with black; other upper parts grayish brown; wing coverts tipped with grayish white; lower parts gray; length 6-7 inches. The reddish-brown crown is generally divided by a decided lighter middle line. The middle of the chest has a distinct dark spot.

560a. WESTERN CHIPPING SPARROW. *Spizella socialis arizonae*.

A summer resident, probably abundantly represented everywhere throughout the county in the vicinity of water-courses and in woodlands.

Distinguishing features: Top of head reddish-brown; lower parts dingy white, unstriped; back with narrow streaks of black; length 5-6 inches.

561. CLAY-COLORED SPARROW. *Spizella pallida*.

This sparrow is a regular resident of the sage-brush districts in the eastern portions of the county. I have not noted its occurrence near Lewistown. Dr. J. A. Allen found that to the westward of the Yellowstone, this sparrow was replaced by *Spizella breweri*, or at least no specimens of *pallida* were taken thereafter. Dr. Elliott Coues traced the clay-colored sparrow along the northern boundary of the state to the Rocky Mountains. It is reported as nesting at Ft. Keogh, and Dr. McChesney reported it as quite common in the bottom near Custer in August and September.

Distinguishing features: Upper parts light-brown, streaked with black; lower parts dingy white, breast tinged with rusty brown; chest and sides streaky; length 5-6 inches.

NEST AND EGGS OF JUNCO.
Photo by M. J. Elrod.

562. BREWER'S SPARROW. *Spizella breweri*.

Of this species, Dr. J. A. Allen says that it is a common inhabitant of the sage brush everywhere; especially numerous in the valleys of the Yellowstone and Musselshell. It is also included in Thorne's list of birds breeding at Ft. Keogh.

Distinguishing features: Upper parts light grayish brown, streaked with black; lower parts dingy white, streaky; length 5-6 inches.

567.1. MONTANA JUNCO. *Junco montanus*.

The exact ornithological status of our junco in this region is a matter of doubt, which can be determined only by examination of many more specimens than are available for the purpose. Under the name of Montana junco, Mr. Robert Ridgway cites *Junco montanus* breeding in the Belt Mountains, while under the name of pink-sided junco, he cites *Junco mearnsi* as breeding in the Big Horn Mountains. What may be the exact name of the form prevailing in the county, we know not; but of our junco we are certain, and shall leave to others wiser than we to christen him after due consideration of all his features.

The junco appears in this region on its northward movement about the 20th of April. It frequents the thickets and shrubbery along water-courses, and the coulees of the foot-hills and mountains. Many remain to breed in the mountainous districts, while the majority push onward to more favorite nesting regions. It passes southward through this locality in late September and early October.

Distinguishing features: Head, neck, and upper breast lead color, back and shoulders dark brown; sides pinkish, other lower parts dingy white; outer tail feathers white; bill pinkish; length about 7 inches.

581b. MOUNTAIN SONG SPARROW. *Melospiza cinerea montana*.

This hardy songster, the genial soloist of the bushes in the early spring, appears early in April, and thenceforth the charming songs of this sparrow can be heard along the streams wherever there are bushes to shelter it. It leaves us about the middle of September.

Distinguishing features: Upper parts grayish brown, streaky; lower parts dingy white, chest and sides streaky; length 6-7 inches.

583. LINCOLN'S SPARROW. *Melospiza lincolni*.

This sparrow is not uncommon as a migrant, loitering along the water-courses where there are trees and bushes. I have not noted it in the spring, but each fall a few are seen in the vicinity of Big Spring Creek near Lewistown. Chas. W. Richmond and F. H. Knowlton report this sparrow as rather common in south-central Montana, and state that it breeds in the mountains, as a young bird was taken on July 29 at Traill Creek. Capt. Platte M. Thorne reports this species as rare at Ft. Keogh, having noted it there in early May.

Distinguishing features: Back grayish brown, streaked with black; crown hazel, streaked with black; lower parts dingy white, streaky; broad band of dull yellow across chest; length 5-6 inches.

588. ARCTIC TOWHEE. *Pipilo maculatus arcticus*.

A common inhabitant of the shrubbery along the streams in summer. On May 2, 1900, I noted the first towhee of the season; for 1901, the first towhee was noted on May 4. The towhee lingers in this region until the early part of October, when the bulk of both residents and migrants have generally disappeared.

Distinguishing features: Upper parts, as well as chest, brownish-black; wing-coverts and shoulders varied with white; breast and belly white, sides reddish-brown; female has brown instead of black; length 8-9 inches.

596. BLACK-HEADED GROSBEAK. *Zamelodia melanocephala*.

This fine songster is a common resident in summer near Lewistown, where it frequents the thickets adjacent to Big Spring Creek. It reaches our latitude in the latter part of May, and by the beginning of June its mellow song is a pleasing feature of the swelling chorus of birdland.

Owing to the development of the trees in many parts of Lewistown, the black-headed grosbeak is becoming a frequent visitor in the city in early August. In the late summer of 1902, this species was noticeable while lingering several days in the trees near Mr. F. E. Wright's and James Kane's homes.

Distinguishing features: The male has head black, with throat and crown varied with dull buffy cinnamon; wings and tail black, with white markings; collar around neck, rump, breast, and sides buffy cinnamon; belly and under side of wings light yellow; female with less prominent colors, more streaky; length 8-9 inches.

599. LAZULI BUNTING. *Cyanospiza amoena*.

This handsome bunting occurs regularly along the streams near Lewistown. Dr. J. A. Allen states that it was met with throughout his journey. It has been reported as breeding in the Big Horn Mountains, and it is also one of the most abundantly represented species of the Flat-head Lake region. Capt. Platte M. Thorne reports it as rare at Ft. Keogh; Messrs. Richmond and Knowlton state that it is quite common in the valleys and foot-hills of south-central Montana. Persons who are familiar with the song of the indigo bunting in eastern localities will readily recognize the lazuli bunting from its similar performance, as well as from its similarity of habits.

Distinguishing features: Upper parts turquoise-blue; breast and part of sides reddish-orange; other lower parts white; wing varied with two white bands; female has grayish-brown instead of blue; length 5-6 inches.

605. LARK BUNTING. *Calamospiza melanocorys*.

This species popularly known as the "white-winged blackbird," is not very common in this portion of the county. Each spring I see several in the vicinity of Lewistown. One spring I observed a specimen in the school grounds, and watched its leisurely movements as it gleaned along the fence. On May 27, 1901, two lark bunting were noted on the high prairie near Big Casino Creek. On June 1, 1901, two lark buntings were seen on an irrigating ditch north of Lewistown, and on June 5 the same

or two other lark buntings were seen and heard singing in the same situation. Whether they were migrants or were nesting in the locality, I could not determine.

Distinguishing features: Plumage black, wing-coverts white, making a prominent white bar; length about 7 inches.

607. LOUISIANA Tanager. *Piranga ludoviciana*.

This beautiful tanager occurs commonly throughout the wooded districts of this region. It is a resident of the coniferous forests of the foothills and mountainous localities, though it does not neglect the groves of tall deciduous trees bordering the larger streams. This songster is the most striking gem of our woodlands, glowing with unwonted beauty in its somber setting. Wings and tail are adorned with velvet jet; the head is attired in rich crimson, while the remaining parts are robed in bright lemon yellow.

The singing of the Louisiana tanager is nearly like that of the robin, though it is executed more nervously and brokenly, and is pitched in somewhat higher key.

The name Louisiana tanager seems rather inappropriate for one of our Fergus County birds; but when we remember that the Louisiana of Audubon's time embraced the larger part of the Rocky Mountain region, and know that this tanager inhabits the chief part of that extensive domain, the name is found to be historically fitting.

The nest of the Louisiana tanager is generally situated in coniferous trees, among the lower branches. In the Flathead Lake region, I found a nest of this tanager on July 4, 1903. It was in a Douglas spruce, on one of the stunted branches among the lowest bearing vegetation. The site was a tuft of twigs about four feet from the main stem, at a height of about twenty-five feet from the ground. The outer framework of the nest was made of coarse twigs, within which was a wall of fine rootlets with a lining of horsehair. There were four eggs in the nest, and their color was light bluish green, with minute specks of blackish brown.

611. PURPLE MARTIN. *Progne subis*.

The purple martin has chanced under my observation but once at Lewistown. On May 10, 1902, several individuals were seen fluttering about an electric lamp on Main street. It is likely that they were transients, and I have no information that this species spends the summer in this immediate neighborhood.

Dr. J. A. Allen reported the purple martin as more or less frequent along the Yellowstone, but did not report its occurrence on the Musselshell. Dr. McChesney also noted this species on the Yellowstone.

Distinguishing features: Plumage glossy blueish-black, under part more dingy; length about 8 inches.

612. CLIFF SWALLOW. *Petrochelidon lunifrons*.

Common in local colonies. Several pairs nested regularly under the eaves of the old school building in Lewistown, and a small colony had found quarters along the rocks about a mile above town, attaching their mud-houses to the vertical sides of the cliffs.

Distinguishing features: Upper parts chiefly bluish-black; forehead white; back of neck grayish brown; wing and tail blackish brown; rump cinnamon; lower parts chiefly grayish brown; length 5-6 inches.

613. BARN SWALLOW. *Hirundo erythrogastra.*

The barn swallow is very generally distributed over the prairie districts of the county as a summer resident. Most of the barns along the stage routes, as well as the barns of the ranches, have small colonies of this species. The first barn swallows generally appear early in May, and after that time their graceful evolutions over the water and about the ranch-lots are a familiar part of our summer avian life. They remain in this neighborhood until the middle of September.

Distinguishing features: Upper parts steel-blue; forehead rusty brown; wings and tail blackish; front of neck and upper breast cinnamon, enclosed by steel-blue sides of chest; other lower parts varying cinnamon; length 6-7 inches.

614. TREE SWALLOW. *Iridoprocne bicolor.*

The tree swallow is found in all suitable localities throughout this region. Dr. J. A. Allen states that this swallow was common at one locality on the Musselshell, but not seen elsewhere. Owing to the lack of suitable conditions, the tree swallow is not found in the immediate neighborhood of Lewistown. It prefers the dead trees on the margins of rivers and lakes, where it can make its nest in the deserted cavities made by woodpeckers. Trees in places annually submerged by high water are the most favored resorts of the tree swallow, and in such surroundings it lives in colonies of varying numbers.

Distinguishing features: Upper parts steel-blue, lower parts white; length 5-6 inches.

616. BANK SWALLOW. *Riparia riparis.*

A very common bird of the streams where there are high banks to attract it. Many colonies live along Big Spring Creek. This swallow arrives from the south early in May, generally in the first week, and remains until the end of August.

Distinguishing features: Upper parts grayish brown; lower parts white, chest and sides with a band of brownish gray; length about 5 inches.

618. BOHEMIAN WAXWING. *Ampelis garrulus.*

A common visitant in winter, generally in flocks of varying size, sometimes numbering several hundred. On Feb. 21, 1903, I startled a large flock of waxwings in a patch of rose bushes on Big Spring Creek near Lewistown. They rose in a dense body, with loud whirl of wings, and immediately settled for a few moments, after which they again arose and flew away far across the town. They are noted most commonly on a bright day preceding or following a storm. Mrs. Sloane told me of an instance when a large flock of these waxwings alighted in a small tree in F. E. Wright's dooryard, at least two hundred crowding into the tree and sitting thus in compact array, as their custom is when at rest. In November, generally after our first fall of snow, Bohemian waxwings congregate in the

NEST AND EGGS OF YELLOW WARBLER.
Photo by M. J. Elrod.

large trees along the creek near Mr. von Tobel's residence in Lewistown, from which they sally out in irregular troops to feed in the adjacent clumps of rose bushes.

This waxwing appears along the streams in the late fall. October 29, 1898, was a beautiful autumn day. Waxwings in numbers were frequenting the higher trees of the creekside above Lewistown, flitting restlessly about and uttering their plaintive lisping chirp. They were continually fluttering upward or outward from the tree-tops, hovering in air like kingbirds capturing insects a-wing. Their aerial movements were much like those of swallows over water, as they sailed, fluttered, or hovered with expanded tail, or mounted obliquely upward with rapidly beating wings. Frequently a crowded company of them would fly outward from some tree in which they had been sitting, keeping together in undulating flight, veering abruptly upward or downward or sidewise in capricious evolution. In alighting they seemed partial to the tops of bare deciduous trees, though numbers alighted in the sheltering tops of the pines. From the conifers of the hillsides bordering the road, individuals would sally out over the highway, greedily taking insects on the wing. In one part of the road a brood of gnats was arising, and there the waxwings hovered most frequently. Occasionally when flitting onward an individual would dart obliquely several feet, then wheel and flutter downward like the red-headed woodpecker in taking its insect fare a-wing. In all their movements the waxwings reminded me of the tree swallows in numbers, some alighting for a few moments, others wheeling in air in irregular, capricious evolutions.

Distinguishing features: Crown with a long pointed crest; upper parts grayish brown; tail tipped with yellow; secondaries of wings tipped with bright red, like sealing wax; under tail coverts cinnamon brown, by which it can be distinguished from the cedar waxwing; forehead and sides of head like under tail coverts; length 8-9 inches.

619. CEDAR WAXWING. *Ampelis cedrorum*.

A regular summer resident, appearing later than most of the other summer birds, and lingering later in the fall. During the middle summer it is an expert insect catcher, taking them on the wing like the kingbird and other flycatchers. Later it feeds on the berries which grow in profusion along the streams and in the coulees of the foothills.

Distinguishing features: Prominent crest of long pointed feathers; upper parts grayish brown; secondaries tipped with bright red; tail tipped with yellow; under tail coverts white, by which it can always be distinguished from the Bohemian waxwing; length about 7 inches.

621. NORTHERN SHRIKE. *Lanius borealis*.

A regular winter visitor in this region. On Feb. 2, 1902, a shrike was seen in Lewistown toward evening, sitting on a telephone pole. As I approached to observe it more closely, it flew to another similar position nearby. Upon being again disturbed, it flew away over the town out of view.

On March 22, 1902, a shrike was observed hunting in the thicket

back of Crowley's ranch near town. The forager was first noticed flying in to the top of a cottonwood tree. It had scarcely settled, however, when it flew down to the edge of the creek bank, not twenty feet from me, seized a mouse venturing out of its burrow, and after a sharp squeak by the victim, the shrike returned to the tree with its prey. I was surprised at the power of vision of the shrike, and at the display of audacity in thus picking up its victim almost under my feet.

Distinguishing features: Upper parts ashy gray, with shoulders, rump, and upper tail coverts lighter; sides of head marked with black; lower parts white, breast and sides barred with gray; length 10-11 inches.

622a. WHITE-RUMPED SHRIKE. *Lanius ludovicianus excubitorides*.

This shrike is not uncommon as a summer resident of this region. Dr. J. A. Allen states that a few pairs were met with, widely scattered throughout the whole district traversed by the expedition. Dr. C. E. McClesney says that in the Big Horn region this shrike was observed in the mountains in some numbers. Dr. Elliott Coues reported that along the northern boundary of the state, the white-rumped shrike was common in suitable localities. Capt. Platte M. Thorne reports this species as rare at Ft. Keogh. Messrs. Richmond and Knowlton note that this shrike is common in the valleys in south-central Montana.

Distinguishing features: Like the northern shrike, but smaller, length 8-10 inches; sides but faintly tinged with gray.

624. RED-EYED VIREO. *Vireo olivaceus*.

One of the common summer birds of the region. It inhabits the deciduous groves in the bottomlands of the larger streams, associating with yellow warbler, catbird, black-headed grosbeak, and birds of similar resorts. Its nest is placed in a drooping fork near the extremity of a branch, being attached to the twigs by its brim.

Distinguishing features: Upper parts olive-green; lower parts lighter; length about 6 inches.

627. WARBLING VIREO. *Vireo gilvus*.

A regular summer resident in suitable localities. Among the haw and willow thickets this vocalist can be seen and heard, spending its time in gleaning its insect fare from the foliage, or caring for its household a swing in the fork of some low-bending twig. The female warbling vireo has a pretty habit of sitting in her nest and singing in response to her mate.

The nests of the vireos are worthy of special mention. They are always suspended by the brim in a small fork of a slightly drooping branch. The exterior walls of the swinging habitation are made of strips of plant bark, with which are interwoven shreds of birch bark, bits of gossamer, and scraps of hornet paper. The nest is lined with fine dried grass. The eggs are delicately white, with dots and specks of blackish brown.

Distinguishing features: Upper parts olive-gray, tinged with greenish on rump and upper tail coverts; white streak over eye; lower parts white, tinged with yellow; length about 5 inches.

652. YELLOW WARBLER. *Dendroica aestiva*.

This beautiful songster, the familiar yellow bird of our groves and thickets, is abundant in summer in the woodlands of our prairie districts. By the second week of May, the ringing ditties of this warbler make the groves vocal with melody. One Memorial Day of a belated season, a company of yellow warblers and goldfinches had congregated in the trees on the creek near the home of Rudolf von Tobel, and as they flitted here and there among the branches, uttering their gentle snatches of song, the scene was one to attract the attention of any friend of the birds.

The yellow warbler nests in the low bushes of its resorts, selecting a site in an upright crotch between three and eight feet from the ground, though at times nests are found in higher situations. The nest is made of strips of weed-bark, and shreds of grayish material, felted within with downy pistils and other soft substances. The eggs have a greenish, white background, and are marked with varying shades of dark brown.

Distinguishing features: Upper parts yellowish olive; lower parts gamboge yellow, chest and sides streaked with reddish brown; length about 5 inches.

646. ORANGE-CROWNED WARBLER. *Helminthophila celata*.

This warbler is not uncommon as a migrant in this region, and its occurrence has been noted chiefly in early spring. Capt. Thorne found it common in April and May at Ft. Keogh. Messrs. Richmond and Knowlton reported its occurrence in south-central Montana early in September.

Distinguishing features: Upper parts dark olive-green; head with a crown-patch of concealed orange-red; lower parts pale yellow, frequently indistinctly streaked with darker; length about 5 inches.

655. MYRTLE WARBLER. *Dendroica coronata*.

This handsome warbler is a common migrant near Lewistown, where it is noted chiefly in the spring. On April 26, 1903, a male in fine plumage was taken in a thicket near Big Spring Creek, where it was in company with another, both in song. Capt. Thorne reports the species common at Ft. Keogh in the spring.

Distinguishing features: Crown with a yellow stripe; rump, and spot on side of breast, yellow; other upper parts chiefly bluish gray, striped with black; wings with two bands of white; throat and belly white; breast streaked with black; outer tail feathers with inner webs marked with white; female with duller colors; length 5-6 inches. Easily distinguished from Audubon's warbler by having throat white, instead of yellow, and by the white stripes in front of and behind the eye.

656. AUDUBON'S WARBLER. *Dendroica auduboni*.

A resident of the higher mountainous regions in summer. This warbler frequents the tall coniferous trees, flitting actively among the foliage in quest of food, and singing in well-voiced measures as it pursues its domestic duties. The song is somewhat like that of the Townsend warbler, but is continued where that of the latter ends, by the addition of several "zee" syllables. In this region the singing of the Audubon war-

bler is heard much later in the summer than that of the Townsend warbler.

Distinguishing features: Upper parts bluish gray, back streaky; head with a partially concealed crown of yellow; rump yellow; throat yellow; large patch of white on wings; other lower parts whitish, streaked with black; length 5-6 inches.

661. BLACK-POLL WARBLER. *Dendroica striata*.

A regular migrant, the first for 1903 having been seen May 13. At the close of the storm which prevailed during the week of May 16-23, 1903, a specimen of black-poll warbler was sent me from Deerfield by Mr. Theo. Hogeland. It was a male, which had evidently fallen a victim of the storm. The skin is now in the collection of the Fergus County high school. This warbler is reported as common at Ft. Keogh, where Capt. Thorne met it as a migrant in the latter part of May.

Distinguishing features: Crown, black; sides of head, throat, under parts, and edges of wing-coverts, white; upper parts striped with black, gray, and darker; sides streaked with black; length about 5 inches.

675a. GRINNELL'S WATER-THRUSH. *Seiurus noveboracensis notabilis*.

Dr. J. A. Allen notes that a water-thrush, probably *S. noveboracensis* Nutt., was seen at the Big Bend of the Musselshell. Capt Platte M. Thorne reports a specimen taken at Ft. Keogh September 12, 1889. This water-thrush is a very common resident of the Flathead region in summer, where its loud, clearly enunciated song is a characteristic of the swamp-woods.

Distinguishing features: Upper parts grayish brown; dull yellow stripe above eye; lower parts whitish, with a yellow tinge, streaky; length about 6 inches.

680. MACGILLIVRAY'S WARBLER. *Geothlypis tolmiei*.

This handsome ground warbler is a regular summer resident of the foothills and mountains in the western districts of the county, and is occasionally noted in the more eastern portions. Dr. J. A. Allen says that it was seen a few times along the Musselshell. It is likely that this warbler occurs in the Judith and Moccasin Mountains, though I have no information regarding such occurrence.

Distinguishing features: Head, neck, and chest ashen-gray; sides of head varied with black; other upper parts olive-green; other lower parts bright yellow; length 5-6 inches.

681a. WESTERN YELLOW-THROAT. *Geothlypis trichas occidentalis*.

A common inhabitant of this region in summer, usually appearing in the second week of May, and announcing its presence by its familiar "wich-i-ty, wich-i-ty, wich-i-ty" song, one easily identified after once being closely noticed. The male yellow-throat is a handsome little creature, easily recognized by the black mask marking the face and upper part of the head, the other parts being bright yellow. The female is no less handsome, having a plumage of bright yellow, the throat being noticeably bright, but she lacks the black marking of the male and hence is more easily confounded with other yellow birds. This warbler resorts to the weeds and bushes of moist places, irrigating ditches, and borders of ponds

NEST AND EGGS OF WESTERN YELLOW-THROAT.
Photo by M. J. Elrod.

and streams. Its nest is placed in a tuft of grass, generally about eight inches from the ground; it is made of coarse weed-stems, lined with finer grasses. The eggs are rosy-white, dotted and blotched with dark-brown.

683a. LONG-TAILED CHAT. *Icteria virens longicauda*.

A common summer resident of this region, frequenting the bushy tracts in the vicinity of the streams and irrigating ditches. It does not appear until late in May, but is generally established in song by the end of the month. The first that I noted of this songster was at John Glancy's grove on Big Spring Creek, where a few pairs nest in the shrubbery. Later I observed it at other localities in the neighborhood, but its distribution is governed by such conditions as it desires. It is a most loquacious musical performer, its productions being a series of schoolboy-like whistles and grotesque imitations. This chat may claim a place among our bird-beauties—a yellow bird, rather smaller than the catbird, whistling from the shrubbery and smaller trees, though loath to allow the observer a fair view of it, as somehow it has a trick of always keeping behind a bit of foliage when one desires to watch it.

Distinguishing features: Upper parts olive-gray; lower parts rich yellow, belly whitish; length 7-8 inches.

687. AMERICAN REDSTART. *Setophaga ruticilla*.

A common summer resident, frequenting the groves and thickets of the larger streams. Flitting among the leaves in quest of insects, the redstart reveals a wealth of color as it spreads its black wings, showing their flame-yellow lining, and spreads its fan-like tail marked with bands of orange color. Its song is a short ditty very similar to that of the yellow warbler. In some fork formed by a small twig with a larger upright branch, from six to twenty feet from the ground, the nest of the redstart may be found, a tiny cup-shaped structure scarcely larger than that of the humming-bird's. It is made of strippings of bark, fibers of weed-stems, and gossamer, lined with fine grasses. The eggs are white or grayish-white, marked irregularly with reddish-brown.

During the chilling storm of May 17, 1903, a male redstart fell exhausted in the snow near my home. It was brought in the house and cared for, but was found dead the next morning. On May 23, while the same storm was continuing, another redstart was seen flying along Main street, frequently falling; but rising and resuming its course after a short rest. Hundreds of the weaker birds doubtless perished in this storm.

697. AMERICAN PIPIT. *Anthus pensilvanicus*.

A regular migrant, appearing in flocks about the last week of September, and thereafter noticeable until bad winter weather. It is probable that specimens may be seen during the milder parts of the winter, though I have no record of such occurrence. They are seen most frequently in meadows near marshes or boggy places. On Oct. 15, 1902, I took a specimen along the irrigating ditch north of Lewistown, where several pipits were associating with migrating sparrows. In the spring they are oftenest seen in small flocks on the elevated prairies, in company with longspurs, horned larks, and snow buntings. The usual call of the pipit is suggestive of its

name, as it is greatly like the syllables "quit it." This call, uttered several times in repetition, forms the fall song of the pipit.

Distinguishing features: Upper parts grayish brown, streaky; dull yellow stripe above the eye; lower parts dull yellow, streaky; length 6-7 inches.

700. SPRAGUE'S PIPIT. *Anthus spragueii*.

Not common as a summer resident. On May 29, 1901, I found a nest of Sprague's pipit on the high prairie west of Lewistown. It was made in a cavity in the ground at the base of a small coronilla bush, flush with the surroundings. It was made of fine dried grass, the cavity measuring inter-iorly two and one-half inches and two inches major and minor axes, and two inches deep. The female started from the nest when I was about six feet away, and as she displayed the white of her outer tail feathers, my first thought was vesper sparrow. The different flight, however, and the general structure of the nest, together with the entirely different eggs in the nest, told a different story. There were four eggs, perfectly fresh. In form they appear much elongate.

Distinguishing features: Upper parts streaked with grayish yellow, brown, and dusky; two outer tail feathers chiefly white; lower parts dingy white, tinged with yellow; chest buffy, streaked; length 6-7 inches.

701. AMERICAN DIPPER. *Cinclus mexicanus*.

The American dipper has not chanced under my personal observation near Lewistown, but well-informed persons report to me that it is seen here frequently, playing in the falls at the electric light plant. It is a regular resident in summer along the mountain streams.

Distinguishing features: Plumage slate-gray, head and neck brownish; length about 8 inches.

702. SAGE THRASHER. *Oroscoptes montanus*.

Noted by Dr. J. A. Allen as occurring along the Musselshell, and "seen only at intervals, either singly or two or three together, and very difficult to approach. Frequents the sage brush and grease wood, often far away from streams or timber." I have not observed this species near Lewistown. Capt. Thorne reports it as rare in the vicinity of Ft. Keogh. Messrs. Richmond and Knowlton note its occurrence in south-central Montana.

Distinguishing features: Upper parts brownish-gray, wings with two white bands; outer tail feathers varied with white; lower parts dingy white, partially tinged with dull yellowish, and partially spotted and streaked with dusky; length 8-9 inches.

704. CATBIRD. *Galeoscoptes carolinensis*.

A common resident of the shrubbery in summer, manifesting the characteristics that distinguish it elsewhere throughout its extensive range.

Distinguishing features: Plumage leaden-slaty, top of head and tail black; under tail-coverts reddish brown; length 8-9 inches.

705. BROWN THRASHER. *Toxostoma rufum*.

Mentioned in Dr. J. A. Allen's list, as "more or less common everywhere in the thickets along the streams from the Missouri to the Mussel-shell." On several occasions in the spring I have heard its song along Big Spring Creek, but have not been able otherwise to determine its occurrence here. Mr. Theo. Hogeland reports it as common at Deerfield.

Distinguishing features: Upper parts reddish cinnamon; lower parts dusky white, with spots of dark brown; length 11-12 inches.

715. ROCK WREN. *Salpinctes obsoletus*.

A common summer resident in suitable localities. It inhabits the steep hillside along Big Spring Creek south of town, where its peculiar song can be heard in the spring. It doubtless frequents similar localities in other portions of the county. Capt. Thorne reports it as common and breeding in the bad lands in the vicinity of Ft. Keogh. Messrs. Richmond and Knowlton found the rock wren quite abundant in south-central Montana.

Distinguishing features: Upper parts grayish brown, sparsely speckled with darker; tail varied with black and reddish brown; under parts dingy white, barred with dusky; length about 6 inches.

721b. WESTERN HOUSE WREN. *Troglodytes aedon aztecus*.

A very common summer resident, probably everywhere throughout the county except in the higher mountainous districts. The first wrens appear near Lewistown early in May, and soon their singing is a common feature of the approaching spring season. The wren resorts most commonly to the ranches and settled surroundings, but open woods or cleared areas always attract it, as in such places it can find suitable cavities for nesting. It is very generally represented along the streams wherever there is timber of any size.

Distinguishing features: Upper parts grayish brown, barred with darker; under parts dull white, slightly barred with darker; length about 5 inches.

722. WINTER WREN. *Anorthura hiemalis*.

The only specimens of winter wren observed by me in this neighborhood were noted in the fall, and on such occasions it has been in song—not such overflowing, continuous gushes of melody as mark the vernal and summer seasons, but in a less degree tuneful, singing from the base of some brush-heap or other similar shelter.

Distinguishing features: Upper parts dark brown, brighter on posterior parts; under parts dull white, posterior portion barred with dusky; length about 4 inches.

726b. ROCKY MOUNTAIN CREEPER. *Certhia familiaris montana*.

Occurs regularly throughout the wooded districts of this region, but more common in the foothills and mountains.

Distinguishing features: Upper parts dark brown, streaky, brighter on rump; lower parts whitish; length about 5 inches.

727c. ROCKY MOUNTAIN NUTHATCH. *Sitta caolinensis nelsoni*.

A common resident throughout this region, inhabiting the wooded districts of the foothills and the mountainous localities, and also occurring less commonly among the groves of deciduous trees in the vicinity of the water-courses.

Distinguishing features: Upper parts bluish gray, top of head black, sides of neck white, wings varied with black; under parts white; length 5-6 inches.

728. RED-BREASTED NUTHATCH. *Sitta canadensis*.

Not uncommon in the wooded foothills and mountains. Messrs. Richmond and Knowlton took specimens at low elevations in September in south-central Montana.

Distinguishing features: Upper parts bluish gray, top and sides of head black; white stripe above eye; under parts light rusty red; length 4-5 inches.

730. PYGMY NUTHATCH. *Sitta pygmaea*.

Dr. J. G. Cooper, in "The Fauna of Montana Territory," says that flocks of this little bird were met with at intervals from the eastern base of the Rocky Mountains, in August, frequenting the open woods of pine, and were more gregarious, lively, and noisy than the other nuthatches, constantly chirping like young chickens, and like them seeking insects more among the leaves than in the bark.

Distinguishing features: Upper parts dull bluish gray, top of head brown; lower parts dull white; length about 4 inches.

735a. LONG-TAILED CHICKADEE. *Parus atricapillus septentrionalis*.

A common resident of the timber and bushy tracts along the water-courses, and also occurring everywhere in the wooded foothills and mountains.

Distinguishing features: Upper parts ash-gray, wings varied with white; lower parts dingy white, with a faint yellowish tinge; top of head black; length 5-6 inches.

738. MOUNTAIN CHICKADEE. *Parus gambeli*.

A regular resident of the wooded foothills and mountains, though less common than the other chickadee in lower altitudes.

Distinguishing features: Much like the long-tailed chickadee, but easily known by the white stripe above the eye. The wing-coverts also lack the whitish edgings which are noticeable in the other species.

748. GOLDEN-CROWNED KINGLET. *Regulus satrapa*.

Occurs regularly in summer throughout the mountains of this region.

Distinguishing features: Upper parts grayish-olive, wing-coverts with whitish edges; crown with a patch of orange-red, bordered by yellow with black; lower parts dull white; length about 4 inches.

749. RUBY-CROWNED KINGLET. *Regulus calendula*.

Found regularly in the mountainous districts of this region. In the summer of 1903, I found the ruby-crowned kinglet nesting in the Flathead Lake region. A nest was taken on July 6, which was situated in a fir tree beside a road through the woods. The nest was near the extremity of a

NEST OF RUBY-CROWNED KINGLET.
Photo by M. J. Elrod.

branch about fifteen feet from the ground. It was partially saddled on an oblique twig on the under side of the branch, and partially pendent from several twigs. The structure resembled a ball of lichen, of which it was chiefly composed, having also deerhair, gossamer, and shreds of bark wrought in the walls. In outward dimensions it was four inches wide and three inches deep. On the day mentioned the nest contained eight young about ready to fly.

Distinguishing features: Upper parts grayish-olive; much like the preceding species; crown with a patch of bright scarlet-red.

754. TOWNSEND'S SOLITAIRE. *Myadestes townsendii*.

This species has been seen by me but once in the vicinity of Lewistown, when a single individual was observed in the fall in a willow thicket on the Day ranch. It was catching insects among the trees, acting much like one of the larger flycatchers, but flitting about low among the slender tree-trunks. It was not noticeably shy, and allowed me to watch its movements at a satisfactory distance. Capt. Thorne found it rare at Ft. Keogh.

Distinguishing features: Upper parts brownish-gray, lower parts lighter; tail feathers varied with white; length 8-10 inches.

756a. WILLOW THRUSH. *Hylocichla fuscescens salicicola*.

Not uncommon as a summer resident in the thickets and groves of the water-courses. On June 8, 1901, I found a nest of this thrush in a willow clump near Big Spring Creek. The brim of the nest was fourteen inches from the ground, in the base of a clump of small willow. The nest was made of coarse weed-stems and strips of bark, lined with finer dried grass stems, and bedded with pieces of dried leaves. The cavity was three inches across and two inches deep. There were only two eggs, upon which the female had been sitting since June 5, but they showed no signs of incubation. When I was near the nest, the female flitted about nearby, but made no sound of any sort. The eggs of this thrush are deep green, generally unmarked, but sometimes marked with fine, almost invisible dots of blackish-brown. The nest is usually situated on a mass of muddy and decayed leaves, as was the case in the instance recorded.

Distinguishing features: Upper parts russet-olive; lower parts grayish brown, chest buffy with spots of dark brown; length 7-8 inches.

758a. OLIVE-BACKED THRUSH. *Hylocichla ustulatus swainsonii*.

A regular migrant in this region, seen chiefly in the spring. Capt. Thorne reports it as abundant in the spring, rare in the fall, at Ft. Keogh. Messrs. Richmond and Knowlton secured young birds at Mystic Lake on July 27, south-central Montana. This species was found to be one of the most common summer birds of the Flathead Lake region.

During the severe storm of May 17-23, 1903, numbers of this thrush appeared in town, many of them seeking shelter under the high side-walks and in porches. Hundreds of thrushes were no doubt in the neighborhood, as several could be seen in every block in town except on Main Street, and they appeared to be equally numerous in neighboring places. One that had perished in the storm was sent me from Deerfield by Theo. Hogeland.

Distinguishing features: Upper parts dark grayish olive; chest pale

buffy, with large triangular spots of dusky; length about 7 inches. A noticeable ring of buffy white around the eye.

761a. WESTERN ROBIN. *Merula migratoria propinqua*.

Very common as a summer resident throughout this region. The first robins usually appear in the first week of April, and after the middle of the month they are generally musical. They begin to nest early in May, inhabiting the willow groves beside the streams, as well as suitable situations about the ranches and settlements. In the fall they congregate in the mountain coulees and thickets where berries are abundant, and remain until the end of October in ordinary seasons, singing cheerfully as they feast during the day on the clustering berries. Trustworthy ranchers frequently report that several robins and bluebirds reside throughout the winter at Castle Rock, or at least appear in late winter. It was also reported to me that a pair of robins wintered in a coulee in the Judith Mountains.

Distinguishing features: Upper parts gray, head and neck darker, frequently blackish; breast reddish-brown, other lower parts whitish; length 10-11 inches.

768. MOUNTAIN BLUEBIRD. *Sialia arctica*.

A regular summer resident, though not occurring as commonly as circumstances might warrant. On the next morning after my arrival in Lewistown, Aug. 29, when all the western birds were new to me, I saw a small troop of this bluebird flitting about in the warm sunshine near the old school building on the bench in the south-western part of town. They were silent, and were not inclined to allow close observation. Soon they passed from the neighborhood.

Distinguishing features: Upper parts cerulean-blue, wings and tail azure; lower parts light blue, posterior portion white; length 7-8 inches.

INTRODUCED SPECIES

289. BOB-WHITE. *Colinus virginianus*.

This species has been successfully introduced into several localities of Fergus county, where it has become one of the familiar birds of the neighborhood. It is well represented in the vicinity of Utica, and can frequently be seen feeding near the feed-yards and grain-stacks. A strict observance and enforcement of the law protecting this prince of prairie game-birds will result in the rapid spread of bob-white, as the brushy coulees near the ranches are admirably suited to the habits of this species.

HOUSE SPARROW. *Passer domesticus*.

This species, the so-called English sparrow, has only recently invaded Montana. Last summer a few pairs established themselves in Helena. This spring, 1903, a single pair was noted at the court house by Mr. James Croft, and this pair formed the nucleus of a small troop which now can be seen wandering over the city of Lewistown. These sparrows multiply rapidly, and in a short time they will manifest all the traits which characterize their life in the cities.

EXPLANATION

In the foregoing list, the number accompanying each title is the number assigned to the species in the American Ornithologists' Union Check-List of North American Birds. The length of a bird is the distance from the tip of the bill to the end of the tail, as it lies on its back. Resident birds are those which remain with us during all seasons of the year, or which have representatives thus observable. Migrants are those which pass northward in the spring and southward in the fall. Summer residents are those which appear here in the spring, rear their young, and disappear in the fall. Winter residents appear in the fall, remain during the winter, and disappear in the spring. Winter visitors are such as are seen only irregularly in the winter.

A REVIEW

An examination of the foregoing list shows that the following species may be classed as residents: Richardson's grouse, gray ruffed grouse, Columbian sharp-tailed grouse, sage grouse, ferruginous rough-leg, golden eagle, bald eagle, long-eared owl, short-eared owl, barred owl, Rocky Mountain screech owl, western horned owl, burrowing owl, Rocky Mountain hairy woodpecker, Batchelder's woodpecker, red-naped sapsucker, desert horned lark, American magpie, black-headed jay, Rocky Mountain jay, American raven, Clarke's nutcracker, Rocky Mountain creeper, Rocky Mountain nuthatch, red-breasted nuthatch, pygmy nuthatch, long-tailed chickadee, mountain chickadee, bob-white, house sparrow—30 species.

Summer residents are as follows: American eared grebe, pied-billed grebe, American merganser, hooded merganser, mallard, gadwall, baldpate, green-winged teal, blue-winged teal, American golden-eye, Canada goose, American bittern, sora, American coot, American avocet, Bartramian sandpiper, spotted sandpiper, long-billed curlew, killdeer, mountain plover, mourning dove, marsh hawk, sharp-shinned hawk, Cooper's hawk, American goshawk, western red-tail, Swainson's hawk, duck hawk, pigeon hawk, Richardson's merlin, American sparrow hawk, American osprey, belted kingfisher, red-headed woodpecker, Lewis's woodpecker, northern flicker, red-shafted flicker, poor-will, western nighthawk, kingbird, Arkansas kingbird, Say's phoebe, western wood pewee, Traill's flycatcher, American crow, bobolink, cowbird, yellow-headed blackbird, red-winged blackbird, western meadowlark, Bullock's oriole, Brewer's blackbird, bronzed grackle, American goldfinch, pine siskin, chestnut-collared longspur, McCown's longspur, western vesper sparrow, western savanna sparrow, western grasshopper sparrow, western lark sparrow, western chipping sparrow, clay-colored sparrow, Brewer's sparrow, Montana junco, mountain song sparrow, arctic towhee, black-headed grosbeak, lazuli bunting, Louisiana tanager, cliff swallow, barn swallow, tree swallow, bank swallow, cedar waxwing, white-rumped shrike, red-eyed vireo, warbling vireo, yellow warbler, Audubon's

warbler, Grinnell's water-thrush, Macgillivray's warbler, western yellow-throat, long-tailed chat, American red-start, Sprague's pipit, American dipper, sage thrasher, catbird, brown thrasher, rock wren, western house wren, winter wren, golden-crowned kinglet, ruby-crowned kinglet, Townsend's solitaire, willow thrush, olive-backed thrush, western robin, mountain bluebird, lark bunting—101 species.

The migrants may be classed as follows: Shoveller, pintail, red-head, canvas-back, lesser scaup duck, buffle-head, ruddy duck, Ross's snow goose, trumpeter swan, sandhill crane, northern halarope, Wilson's phalarope, Wilson's snipe, long-billed dowitcher, pectoral sandpiper, Baird's sandpiper, least sandpiper, semi-palmated sandpiper, greater yellow-legs, yellow-legs, western solitary sandpiper, western willet, Eskimo curlew, American golden plover, passenger pigeon, Gambel's sparrow, Lincoln's sparrow, orange-crowned warbler, myrtle warbler, black-poll warbler, American pipit—31 species.

The following are winter residents or visitors: Snowy owl, pallid horned lark, Rocky Mountain pine grosbeak, American crossbill, white-winged crossbill, gray-crowned leucosticte, Hepburn's leucosticte, snowflake, Lapland longspur, western tree sparrow, northern shrike, Bohemian waxwing, redpoll—13 species.

Other visitors are as follows: Herring gull, fall and winter; ring-billed gull, fall and winter; great blue heron, summer and fall; purple martin, summer—4 species.

Summary: Residents, 30 species; summer residents, 101 species; migrants, 31 species; winter residents or visitors, 13 species; other visitors, 4 species; total, 179 species.

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