

EARLY MONTANA NATURALISTS AND OOLOGISTS*

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Many eminent naturalists studied birds on the plains of northern Montana. Beginning with Lewis and Clark in 1805, naturalists initially crossed the state using the two major "water highways," the Missouri and Yellowstone rivers, which joined a few miles east of the present North Dakota-Montana boundary. In the 1860s, army surgeons, trained in natural sciences, began to accompany U.S. Army expeditions which surveyed railroad routes through hostile Indian territory. Each surgeon made collections of plants and animals. Two of them, George Suckley and Elliott Coues, briefly crossed the 49th parallel, north into what is now southern Saskatchewan. Records of these early visitors provide a valuable historic perspective concerning the northern great plains, which then contained vast herds of bison, elk, and pronghorn. Nowhere, except perhaps in the pioneering days on the African veldt, had there been comparable numbers of large mammals.²¹

Meriwether Lewis and William Clark were commissioned by President Thomas Jefferson to map the Missouri River and continue to the Pacific Ocean. Clark was the cartographer. Lewis, though much less knowledgeable than later naturalists, and quite unaware of the need to describe and name new species, was to collect the plants and animals. As McKelvey says, "Lewis and Clark were to all intents and purposes untrained in any science and had as their major responsibility the safety of some fifty persons."³⁴ Unaware that the senior La

Verendrye had visited the Mandan villages in December 1738 and that Spanish fur traders already had ascended the Missouri, Lewis mistakenly wrote on 7 April 1805, just before leaving Fort Mandan, (north of present day Bismarck), that he was "about to penetrate a country ... on which the foot of civilized man had never trodden."²¹ Although they were not the first to visit this stretch of river, they made the earliest observations concerning its wildlife. Lewis, for instance, was the first to report Canada Geese nesting in hawk and eagle nests, of a previous year, high in cottonwoods, and Clark's description of the "whistling" note of the swan led George Ord to give the common name of "Whistling Swan" to *Anas columbianus* in 1815. By 26 April the expedition left the mouth of the Yellowstone and entered into what is now Montana. Lewis described northern Montana as "truly a desert barren country," leading early cartographers and later explorers to label it "the Great American Desert".²¹ On 29 April, they shot their first Grizzly Bear just above the mouth of the Poplar River. Lewis' description of this bear, then common on the plains, was the first with anatomical detail and it was later used by Ord as the "type specimen" for *Ursus horribilis* in 1815.³⁷

Unfortunately, specimens Lewis collected between Fort Mandan and Great Falls, which they reached on 22 June, were destroyed by flood waters at Great Falls during the next winter. Without them, most of Lewis' observations do not

* Fifth in a series on oologists of the Northern Great Plains.



Map of Montana

Prepared by Marc J. Bechard

allow confident identification as to species. Nevertheless, Lewis wrote of the Swift Fox and was the first to recognize that the Western and Eastern meadowlarks were different. While exploring the Marias River, he recorded sufficient detail to receive credit for the first sight record of the Sage Grouse, 22 years before Bonaparte gave it a scientific name. Before crossing the Rocky Mountains into Idaho, Lewis collected a Bushy-tailed Wood Rat, which became the type specimen when described by Ord in 1815.³⁷

Lewis' most lasting contributions to ornithology were not made until the expedition's return trip in 1806. Near the present site of Kamiah, Idaho, he collected specimens later named by Alexander Wilson as the Lewis' Woodpecker, Clark's Nutcracker and Western Tanager.² Other "firsts" credited to Lewis by Cutright and Coues were not given

Latin names and thus failed to be recognized as "type specimens."

Lewis' list of botanical "firsts" is more impressive, because a German botanist, Frederick Pursh, gave Latin names to 77 of Lewis' specimens. Many of these were collected along the Marias River during Lewis' return trip through Montana in July and early August of 1806.²¹

Reports of unlimited wildlife, particularly fur-bearers, soon attracted the interest of trading companies. By 1831, steamboats of the American Fur Company went up the Missouri regularly as far as Pierre and once a year as far as Fort Union, built in 1829 near the junctions of the Yellowstone and Missouri rivers. Ornithologists soon followed.

In 1833, Alexander Maximilian, Prince of Wied-Neuwied, spent 2 weeks at Fort Union, and then followed up the

Missouri the full width of the plains to Fort McKenzie on the Marias River, 11 miles northeast of present Fort Benton. Maximilian shot and prepared many birds, but most were lost when the steamboat carrying them went up in flames.³² A Pinyon Jay specimen was nevertheless saved and described by Maximilian as a species new to science.

In 1843, John James Audubon, accompanied by Edward Harris, Isaac Sprague and John G. Bell, all of whom thereby contributed their names to new bird species, ascended the Missouri and resided at Fort Union for over 2 months, 12 June to 16 August. Once or twice they followed buffalo hunts southwest into what is now Montana. On 24 June Sprague killed a new species, the Sprague's Pipit, and discovered its nest with five eggs. As Audubon remarked to Harris, "it had very rarely happened to him to discover a new bird and to ascertain all its habits and to procure its nest and eggs in the course of a few days."³³

At Fort Union, Audubon also collected a new sparrow, which he named for a 20-year-old student, Spencer Fullerton Baird, who had been unable to accompany the expedition.²³ The Western Meadowlark, long overlooked in spite of a very different song from the well-known Eastern Meadowlark, was recognized by Audubon and Harris as the "New Meadowlark" as they ascended the Missouri.³ The "type specimen" was not collected until they reached Fort Union,² then in "Nebraska Territory" though the territory was not formally promulgated until 1854. Such listings for "Fort Union, Nebraska" have confused many an ornithologist because, although just 67 miles south of the 49th parallel, the address did not change to "Dakota Territory" until 1867.

Dr. George Suckley, who accompanied the Northern Pacific Railroad Expedition of 1853, was the first naturalist

who travelled overland and did not rely on the river for transportation.⁴² Led by Governor I.I. Stevens of the new Washington Territory, the party left Sauk Rapids, Minnesota, on 6 June. Before reaching Fort Union, Suckley led a side trip on 28 July to visit the pierced rock (Roche Percee), in "British Territory."⁴¹ Suckley collected bird specimens in North Dakota and Saskatchewan and preserved them in alcohol, but unfortunately they were lost in the Ohio River en route to Washington.³¹ Suckley left Fort Union on 9 August, travelling with horses and wagons alongside the Missouri River across the Northern Great Plains. He reached Fort Benton on 8 September and continuing west reached Fort Colville on 13 November and the mouth of the Columbia River on 9 December. At Shoalwater Bay, Washington, he collected the type specimen of the dark subspecies of the Merlin, named *Falco columbarius suckleyi* by Ridgway. With J.G. Cooper he wrote *A Report on the Birds Collected on the Route Near the 47th and 49th Parallels*, which was later reprinted with a different title.^{16 17 42}

In 1854 and 1855, Ferdinand Vandiveer Hayden accompanied Colonel Alfred Vaughan, an Indian agent, to Montana. They explored the Yellowstone River and the Missouri River west to Fort Benton. Hayden returned for further explorations of both rivers in 1856, this time under Lieutenant G.K. Warren. Hayden's greatest contributions were to Geology, but he published notes on 183 species of birds. His accounts are disappointingly vague as to locality and date. However, he reported the Turkey Vulture as "very abundant," and the Merlin as "one of the most common and abundant birds in the Northwest ... usually along the woody bottoms of streams." The Common Raven was "very abundant ... in the vicinity of large herds of buffalo," and the Black-billed Magpie was observed feeding on the meat of the "buffalo and

other game." Hayden collected some bird skins, including specimens of the Eskimo Curlew taken in migration near Fort Union.²⁹

In 1860 Dr. James Graham Cooper (for whom the Cooper Ornithological Society was named, and the son of William Cooper, for whom Bonaparte named Cooper's Hawk) was attached to a military expedition under Major G.M. Blake, to follow the overland route along the new military road constructed by Captain John Mullan through the Rocky Mountains west of present Helena.¹⁵ Leaving Fort Union in mid-June, Cooper collected "numerous specimens of small mammals, birds and eggs," which were sent to the Smithsonian Institution but "were never received there."¹⁹ Cooper's bird observations in five instalments in the *American Naturalist* were not published until 1868 and 1869.¹⁸ ¹⁹ Cooper was on the first steamboat to ascend the Missouri to Fort Benton.¹⁵ On this trip the Lark Bunting, "the pretty and musical bird of the high plains," was everywhere. The Passenger Pigeon, he said, "breeds here," though the only nest of a Columbidae found was that of a Mourning Dove with two eggs. Black-billed Magpies were not encountered until he reached Fort Benton.¹⁹

In 1873, Joel Asaph Allen, later to be first president of the American Ornithologists' Union and editor of *The Auk* for 28 years, was naturalist with the second Northern Pacific Railroad Expedition under General D.S. Stanley. They left the Missouri at Fort Rice, south of present Bismarck, crossed the Heart River near its Big Bend on 26 June, and followed the north bank of Big Muddy Creek for 20 miles, where they were detained from 28 June to 1 July. Here within present North Dakota, Allen, a keen nest finder, found the first nest ever found of the Baird's Sparrow, and collected several new species of butterflies for Samuel Scudder. Of 18 Lark Bunting egg

sets he collected, 5 contained Brown-headed Cowbird eggs, whereas 29 nests of other ground-nesting birds had no cowbird eggs.¹ On 10 July, they crossed the Little Missouri River and by 13 July they reached Beaver Creek, near present Wibaux, Montana.

Upland Sandpipers were common on the prairies and an occasional Ferruginous Hawk nest contained "coarse sticks mixed with the ribs of antelopes and buffalos." On 16 July they reached the Yellowstone River near present Glendive. Here they found Mountain Bluebirds and Sage Grouse, but only a few Barn Swallows nesting under projecting rocks. They ascended the Yellowstone to Pompey's Pillar, crossed overland to the Musselshell River west of present Roundup, and then cut back across the Yellowstone near Little Porcupine Creek, returning much the way they had come. Allen reported that the Black-billed Magpie was seen only at "distant intervals."¹

Dr. Elliott Coues, whose lifetime publications totalled over 600, spent his second summer surveying birds with the United States Northern Boundary Commission in 1874.²² His first survey had begun the previous summer at Pembina on 1 July; "in some particular spots" between there and the Souris River, Baird's Sparrow surprisingly had "outnumbered all the other birds together."²⁰

Coues began his 1874 survey on 21 June at Fort Buford, just 3 miles east of Fort Union.²² Following the north bank of the Missouri and then the Frenchman River, where American Bison were first encountered, they found the Mountain Plover common, locating a nest with three eggs on 15 July. Other characteristic species in the Missouri drainage in 1874 were Sage Grouse, Burrowing Owl, Horned Lark, Western Kingbird, Le Conte's Sparrow, and McCown's Longspur. At that time the Swift Fox was common,

but Black-billed Magpies were encountered only west of the Milk River. Baird's Sparrows, Sprague's Pipits and Chestnut-collared Longspurs were, surprisingly, less common than they had been the previous summer. Upland Sandpipers were not seen after leaving the Missouri, but the Long-billed Curlew was "found in profusion over the prairie" along the Milk River. The Mountain Plover was common near the Frenchman River and a nest with three eggs was found on 9 July. Coues collected five sets of Swainson's Hawk eggs, (none with more than two eggs), all from nests on a projecting shelf of ground, generally near the top of a creek embankment.²⁰ This is one of the first records of Swainson's Hawk nesting in structures other than trees — a necessity in this nearly treeless country.

Coues reached the 49th parallel at Battle River on 15 July. John E. Parson's 1963 book, *West on the 49th Parallel*, allows identification of the sites of two of Coues' most important raptor nests, with a map showing the location of the astronomical station on the 49th parallel at Lodge Creek.³⁹ This is almost exactly where the Willow Creek customs entry post is now located on Saskatchewan Highway 21. Within "a few hundred yards" of the astronomical station, Coues located one nest each of the Swainson's Hawk, Ferruginous Hawk and Prairie Falcon. Upstream to the northwest "a few miles," (later rendered as "ten miles") was an active Peregrine Falcon nest with three young, on a slight shelf 12 feet below the top of a 90-foot perpendicular "cut-bank" of Lodge Creek. This was undoubtedly the first Peregrine Falcon nest ever recorded in Saskatchewan and was only one valley west of Battle Creek where J.E. Bowman found one Peregrine pair nesting in 1914, one in 1916, and two in 1917.^{4 5} Although misrepresented on the Cutright-Brodhead map²², Coues continued within Canada, across what is now the Alberta boundary, to reach Milk

River Lake, 49° 01' N 110° 12' W, on 22 July. Coues then moved slightly south of west to the "Three Buttes" in the Sweetgrass Hills of Montana where he found Mountain Sheep for the first time.

In the 1880s, two keen oologists were successively stationed at Fort Custer, where the mountains of southern Montana meet the Northern Great Plains. The first was Dr. James Cushing Merrill, who in 1881 published "*Oological notes from Montana*" in which he claimed to have found the first-ever sets of the "Pink-sided Junco" and "Red-naped Sapsucker."^{31 36} He also took sets of the Ruby-crowned Kinglet, Mountain Chickadee, Audubon's Warbler, and Arctic Towhee, very few of which had been obtained previously.³⁶ The earliest Montana egg sets in the Western Foundation of Vertebrate Zoology (WFVZ) collections are two sets of Vesper Sparrow eggs collected at Fort Custer, one in 1881 by Merrill and another in 1885 by the second oologist, Major Charles Emil Bendire, a hospital steward in the U.S. Army. Bendire was one of the most indefatigable egg collectors of all time; he published two magnificent volumes of Life Histories, famous for their colour plates of birds' eggs.⁶ Coues arranged for Bendire's collection to form the basis of the oological cabinet at the Smithsonian and for Bendire to be its honorary curator until his death.³¹ Fort Custer was also visited for 3 days in 1889 by a third Army surgeon, Dr. Edgar Alexander Mearns, who published a short list of birds in the area.³⁵

From July 1888 through September 1892, Captain Platte M. Thorne of the 22nd Infantry, U.S. Army, was stationed at Fort Keogh, just a few miles above present Miles City. He published a list of 137 species of birds identified there. He listed the Upland Sandpiper, Long-billed Curlew and Sage Grouse as common. Raptors, with the exception of the American Kestrel and Great Horned Owl, had already become scarce.⁴³



E.S. Cameron

Photo courtesy *Ray Quigley*

The first serious resident student of breeding birds in Montana was Ewen Somerled Cameron, who had been born and raised in the Western Isles of Scotland. Before he came to ranch in Montana in 1889 at the age of 34, he had attended Oxford University and had been elected a Fellow of the Zoological Society of London and a Member of the British Ornithologists' Union.³⁸

Cameron and his wife lived briefly at a ranch on the west side of the Powder River south of Terry, before moving to their own ranch closer to Terry. In 1902 they moved to another ranch four miles north of Fallon on the north side of the Yellowstone. These ranches were near the boundary between Dawson and Custer counties. An enthusiastic hunter, Cameron took long trips as far as the Missouri Brakes south of Jordan (now occupied by the Fort Peck Reservoir), where he hunted Grizzly Bear. He had

a rule "never to kill wild birds on his ranch." Though he made detailed observations of the nesting behaviour of the Golden Eagle,^{7 11} Ferruginous Hawk,¹⁴ Swainson's Hawk,^{12 13} and Great Blue Heron,⁸ he seems to have collected only an occasional addled egg.¹² His long, well-written articles on the above species, illustrated with excellent photographs, appeared in *The Auk*, together with detailed notes on 192 species.^{9 10} Like most birdwatchers of his day, he did not identify birds by their songs, so had fewer records of the smaller species.

Cameron provides details of the almost universal persecution suffered by raptors in the early ranching days, mirroring the philosophy evident at that time across the border in Saskatchewan: "...all large hawks, lumped together under the name of hen-hawk, have their nests destroyed, and their young ruthlessly stoned at sight, even if the parent birds escape being shot."¹² As a result, Swainson's Hawks were greatly reduced in numbers by 1913, and the Ferruginous Hawk, once "abundant" had become "very scarce," although nesting pairs had the protection of the rancher at two localities.¹⁴

Cameron tells how the Golden Eagle was "very common" during his first years in Montana until high bounties were placed on wolves. During 1897, 22,082 coyotes and 6,112 wolves were killed as "eastern Montana swarmed with professional wolfers ... their average catch was three to six eagles apiece each winter." Fifty to 60 Golden Eagles were trapped and poisoned each year near Terry, together with many migrating and wintering Rough-legged Hawks.⁷ "Magpies were entirely exterminated on the south side of the Yellowstone," evidence that non-raptorial species suffered as well.⁷

Until the last bison had been killed in 1893, Turkey Vultures were "incredibly numerous" and roosted "in the thousands" near Dan Bowman's ranch

on the Powder River south of Terry. A "colony" of 75 persisted until 1887, but they rapidly declined; Cameron himself had only six sightings of up to six individuals and no nesting reports between 1889 and 1906.⁹

Pinyon Jays were common permanent residents in the pine hills. Cameron described in detail the first two nests found in Montana, and told of flocks of 100 of these interesting jays.⁹

Cameron's dedication is evident from the fact that he and his wife moved 40 miles to a friend's ranch for 9 months in 1907, simply to study the Golden Eagles that nested there in a tall pine on a steep hillside. These eagles were unusual because they lived almost exclusively on Black-tailed Prairie Dogs. They took no notice of a man mounted on a horse. Cameron could ride beneath the branch on which the adults perched and photograph them without disturbance.¹¹ Unfortunately, in early 1915 horses fell on Cameron twice; he died that May after a four-month illness.³⁸

In 1903, George Willett, later of the Los Angeles County Museum, spent the summer near Malta.³⁰ He published an important article about the birds on two nesting islands in Bowdoin Lake, where there were hundreds of Great Blue Herons and a small colony of White Pelicans. Willett swam to the island with a ten-pound wooden pickle bucket to bring back the eggs.⁴⁵ On the prairies he found 50 nests of the Sage Grouse, with clutches of 8 to 15 eggs.⁴⁴ His sets of eight species, including a single Golden Eagle egg, are in the collections of the Western Foundation of Vertebrate Zoology (WVZ).

Near Chinook, William A. Bowman and John E. Bowman collected raptor eggs with great enthusiasm. William is known to have collected a set of four Western Grebe eggs at Sweetwater Lake,



George Willett, Alaska, 1912

Photo courtesy Ray Quigley

North Dakota, on 28 May 1899.⁴⁴ He took a set of four Long-billed Curlew eggs from the Bearpaw Mountains south of Havre on 13 May 1902, the year after Ed Boyer had taken a similar set from the same area for E.S. Bryant. Thereafter Bowman seems to have restricted his collecting entirely to raptors. He took a set of three Golden Eagle eggs from a pine 60 feet from the ground in the Bearpaw Mountains on 27 April 1902 and the same day a set of five Prairie Falcon eggs from a cliff hole. He returned to this cliff and took a second set the following year. Presumably the N.R. Bowman who took a Ferruginous Hawk set in 1903 was a relative, if not a mis-reading for W.A. Bowman.

For the next few years William Bowman took a special interest in Buteo eggs. In 1904, his most active year, he collected at least eight sets of Ferruginous Hawk and one set of Swainson's Hawk eggs plus a set of Prairie Falcon eggs. His

Peregrine Falcon sets collected in 1905 and 1906 are important records for Choteau County; one nest was 20 feet from the top of a 40-foot face and the second was 6 feet from the top of a 31-foot face.

In 1904 and 1907 William Bowman made trips into Saskatchewan, each year collecting one set each of Prairie Falcon eggs and of Ferruginous Hawk eggs. His last set of Ferruginous Hawk eggs was taken in 1909 near Chinook. He remained in Chinook for several years, variously listed as a restaurant owner, a saloon owner, a homesteader, and a painter. In 1914 the *Chinook Opinion* reported he had shot a deer in the Rockies that season.

John E. Bowman began collecting eggs in 1911, after William had stopped. Since the *Chinook Opinion* reported instances of John visiting William, one suspects that John was either a son or a younger brother of William's. In 1911, John took 14 sets of Ferruginous Hawk and five sets of Swainson's Hawk eggs in Choteau County between 23 April and 1 May; two of the Swainson's sets found their way to

E.J. Darlington and R.M. Barnes and are now in the Field Museum of Natural History in Chicago. In 1914, John began annual trips along the tributaries of the Milk River in Hill, Choteau and Blaine counties and into southwestern Saskatchewan. Presumably he travelled on horseback, along Lodge Creek, then called "West Fork Creek" or "Willow Creek," along the east fork of Battle Creek called "East Fork," and along Battle Creek, then called "North Fork Creek." In Saskatchewan alone he took 17 Ferruginous sets, all on Battle Creek or Lodge Creek, and all on cutbanks, never in trees. John also took nine Prairie Falcon sets in Saskatchewan and six sets in Montana. Important for the historical record are the eight sets of Peregrine Falcon eggs, four along Battle Creek in Saskatchewan and four in Montana, between 1914 and 1917.

John Bowman did not collect eggs after 1917. In addition to sets in the WFVZ and Field Museum, other eggs are in the collections of the Carnegie Museum (Pittsburgh), American Museum of Natural History (New York), Agassiz Museum of Harvard University (Cambridge), and the



Bowman residence, Chinook, Montana (corner of Illinois and Third; one of the oldest houses standing in Chinook)
Keith C. Abel



A.D. Du Bois taking bird photographs

Photo courtesy Ray Quigley

Richter Collection of the University of Wisconsin (Green Bay).

The other oologist of consequence in Montana was Alexander Dawes Du Bois, who worked for the Forest Service in Flatland National Forest in 1914 and then homesteaded for several years near Dutton in Teton County. Seven of his sets are in the WFVZ: four of McCown's Longspur, two of Chestnut-collared Longspur, and one of the Sora. He contributed two minor notes to *The Condor* at the time, and then in the 1930s he published exemplary life-history studies of the Baird's Sparrow, Chestnut-collared Longspur and Horned Lark, based on careful, detailed observations years earlier in Montana.^{24 26 25} More popular accounts were published posthumously in book form, *Birds and their Ways* including his Montana accounts of the

habits of prairie birds.^{27 28} Du Bois was a pioneer in life history studies who deserves to be remembered.

Interest in oology declined early. There have been no resident oologists on the Montana plains since 1917, when L.L. Walters took a set of Sage Grouse eggs near Jordan. Visiting oologists since then have included W.J. Sheffler, A. Walker and Ed N. Harrison.

Montana thus has a rich historical legacy, largely forgotten by modern ornithologists. As regards oology, we might wish the Bowmans had shown a little restraint, yet their records provide our only evidence that the Peregrine Falcon once nested in southwestern Saskatchewan. Ewen Cameron's writings offer corroborating evidence to that provided in adjacent Saskatchewan by Spencer

Pearse and Laurence Potter and in Manitoba by Ernest Thompson Seton, regarding the disastrous effects of raptor persecution in the early years of settlement.

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