Anderson (1907) considered the Harlan's Hawk only a migrant in Iowa, while Bailey (1918) stated that it had been found breeding. No substantiating evidence was offered, only the map of distribution showing two breeding records in Benton County and three in Iowa County. In a series of over sixty Red-tailed Hawks in the University of Iowa Museum and in a series of sixty-seven others in the Museum at Coe College (with the exception of one Krider's Hawk), there are no specimens other than Buteo b. borealis which had been collected in Iowa during the breeding season. The same thing may be said in regard to all the other collections of Iowa Birds examined by the writer. It seems advisable to remove the Harlan's and Western Red-tailed Hawk from the list of Iowa breeding birds until substantiating specimens and eggs are secured.

Center - In one line if possible - Otherwise in two, as typed

Buteo lineatus lineatus (Gmelin).

Northern Red-shouldered Hawk.

A fairly common summer resident in the southern half of the state, uncommon or rare in the northern half; a few are permanent residents. This species

was reported by Bailey (1918) from Winneshiek, Winnebago, and Kossuth counties in the north, and as breeding in Winneshiek and Floyd counties. Allert reported this bird as a summer resident along the Mississippi River in Clayton County. It is reported as rare by the following: Spiker, Chickasaw County; Pierce (1930), Buchanan County; Bennett (1931), Woodbury County; Rosene, Boone County; Gabrielson (1918), Marshall County.

Buteo platypterus platypterus (Vieillot).

Broad-winged Hawk.

An uncommon spring and fall migrant, occasionally appearing in great numbers. Reported as a common summer resident in Wapello County (Spiker, 1924), Polk County (DuMont, 1931), Floyd County (Fenton, 1923-24), and Chickasaw County (Spiker). Bailey (1918) reported this species as a breeder in Floyd, Winnebago, Kossuth, Poweshiek, and Pottawattamie counties. To these may be added Chickasaw, Polk, and Woodbury counties. The writer recorded (1931) that one pair of Broadwinged Hawks were permanent residents in Polk County during 1928 to 1930.

Other observations of these birds at the same locality in Des Moines were reported for December, 1925 and December 26, 1932. Pierce recorded (1930) one found in Devil's Backbone State Park, Delaware County, on December 23, 1923.

In the collection at Coe College there is one of the two melanistic specimens upon which B. H. Bailey based his description (Auk, XXXIV, pp. 73-75) of the "Iowa Broad-winged Hawk" (Buteo p. iowensis). This specimen, from Johnson County is now considered as merely a dark phase, such as occurs in the Swainson's and Rough-legged Hawks. The second specimen cited by Bailey is one taken by A. J. Anderson, twelve miles east of Des Moines, Polk County, on October 30, 1893. The latter is now in the collection of the Pettigrew Museum, Sioux Falls, South Dakota.

Buteo swainsoni Bonaparte. Swainson's Hawk.

An uncommon migrant; a summer resident of dedidedly local distribution. Bailey (1918) recorded it as a breeding bird in Winnebago, Hancock, Benton, Poweshiek, Jasper, and Mills counties. Pierce (1930)

recorded the Swainson's Hawk as a fairly common migrant and he stated that he had numerous summer records which indicated that it must nest in the region. This species was unreported from a number of localities in the state, and reported as rare in others.

The writer has found but three specimens of Swainson's Hawk that were taken in Iowa. A female, No. 15886, in the University of Iowa Museum was taken by one of Talbot's collectors at Sioux City, Woodbury County, September 4, during the 1880's. One in the collection of the Iowa State Teachers College was taken at Cedar Falls, during September, 1907. A specimen in the collection at Coe College was secured at Cedar Rapids, during May, 1932.

Buteo lagopus s. johannis (Gmelin).

American Rough-legged Hawk.

Rairly common winter visitor in the northern part of the state, somewhat less numerous in the southern half. There are numerous specimens of this bird, in both the light and dark phases, with the latter predominating.

Buteo regalis (Gray). Ferruginous Rough-leg.

An irregular and decidedly uncommon migrant in the western part of the state, rarely straggling into the eastern portion. Bailey (1918) recorded it as occurring in Blackhawk, Linn, Woodbury, Pottawattamie, and Mills counties. No doubt this record was based upon the county records as published by Anderson (1907). The observation of this bird in winter, as reported by Berry in Linn County, may well be discredited, lacking substantiating evidence.

Bennett (1931) recorded it as an uncommon migrant in the Sioux City region. Du Mont (1931), recorded that a pair of these birds was observed by Mr. and Mrs. J. E. Stewart at Brenton's Slough, Polk County, May 5, 1929. On June 6, 1929, a pair was seen at the same place by A. T. Watson, K. R. Nelson, and the writer. Nauman reported one seen near Sigourney, Keokuk County, April 2, 1919, and two in the same locality, March 28, 1923. Spiker (1924) recorded one found hanging on a fence, November 4, 1914 in Wapello County. Pierce (1930) observed a single bird on his farm in Buchanan County, March 17 and 19, 1926. Another was seen near Hazelton, in the same county, April 13, 1930.

A female, taken at Cedar Falls, Blackhawk County, June 25, 1901, is in the collection of Iowa State Teachers College, Cedar Falls. Stephens records (1918) that A. J. Anderson of Sioux City mounted one of these birds September 17, 1917, which had been shot at Brown's Lake, Woodbury County. Two other specimens mounted by Anderson were recorded by Stephens (1930). One was a female, taken near Sioux City, October 3, 1921, a very dark specimen; the other, also a female, reported to have been taken near Kingsley, Plymouth County, November 23, 1921.

Parabuteo unicinctus harrisi (Audubon).

Harris's Hawk.

Of accidental occurrence in Iowa. Anderson (1907) says of this species: "Its admission to the Iowa list is based upon a single specimen captured in Van Buren County, near Hillsboro. Walter G. Savage writes concerning it, February 25, 1904: 'Nine years ago a trapper caught one in a steel trap and brought it to me. This is the only one that I can positively identify in our locality.

My father took this hawk and now has a fine painting from it, true to nature. It is identical with your description, and also Coues'. It is surely a Harris Hawk.' "

Aquila chrysaetos canadensis (Linnaeus).

Golden Eagle.

An irregular straggler from the west. Individuals have been captured in all parts of the state, most frequently during the early spring and late fall months. There are specimens or authentic reports of this species from thirty-three of the ninety-nine counties in Iowa.

Haliaeetus leucocephalus alascanus Townsend.

Northern Bald Eagle.

An immature female of this larger northern race was secured March 11, 1896, at Salem, Henry County, Iowa. It is No. 16140 in the collection of the University of Iowa Museum, and was deposited by Paul Bartsch. Measurements in millimeters of the specimen recently taken by the writer are: wing, 682.0; tail, 369.6; tarsus, 105.2; exposed culmen,

69.1; culmen without cere, 56.0; depth of culmen at base, 39.4. This subspecies has not previously been reported from Iowa.

Haliaeetus leucocephalus leucocephalus (Linnaeus).

Southern Bald Eagle.

An uncommon migrant along the larger rivers of the state, less numerous through the interior; occasionally found in winter. Formerly the Bald Eagle was found in greater numbers, and some few nested in favorable localities from the central part of the state north. There are no breeding records since 1892.

Measurements of several Iowa specimens in the collection of the University of Iowa Museum indicate that these birds are more or less intermediate in size between leucocephalus and alascanus and average ~~are~~ nearer the latter form. Only No. 78882 appears to be typical of leucocephalus.

8/21

No.	Sex	Locality	Date	Wing	Tail	Tarsus	Culmen without Cere	Depth
5407	female	Whiting	1885	662.9	360.7	99.3	52.2	35.6
28597	female	Dubuque	Nov. --, 1931	660.4	368.3	85.8	57.0	36.5
16138	female	Burlington	Oct. 10, 1891	596.9	304.8	96.8	51.6	35.6
16136	male	Burlington	Dec. 20, 1894	647.7	292.1	87.6	58.1	37.8
28795	juv.	Johnson Co.	Oct. 26, 1928	635.0	311.1	91.4	54.2	35.8
15474	adult	Johnson Co.	1897	609.6	294.6	84.0	51.4	38.1
16137	male	Burlington	Sept. 22, 1895	558.8	---	88.4	---	34.5
28882	male	Marshalltown	May 13, 1913	548.0	247.0*	61.0	47.3	34.8

*# Tail worn.

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Circus hudsonius (Linnaeus). Marsh Hawk.

A common migrant and fairly common summer resident; found rather frequently in winter, especially in the southern part of the state. It is most numerous as a breeding bird in the northern part of Iowa.

Pandion haliaetus carolinensis (Gmelin). Osprey.

An uncommon migrant along the larger rivers of the state, somewhat rare or irregular through the interior. Bailey (1918) recorded that George H. Berry collected a single addled egg from a nest in which were three young, May 16, 1892, five miles above Cedar Rapids, near the Cedar River, Linn County. This is the only breeding record.

Family Falconidae

Falco mexicanus Schlegel. Prairie Falcon.

A rare straggler in Iowa. Anderson (1907) recorded accounts of the taking of specimens in the following counties: "Blackhawk--'one specimen taken in Blackhawk County many years ago by George D. Peck' (M. E. Peck). Bueno Vista--'Storm Lake,

Iowa, Frank Bond. Specimen in University museum' --No. 3576, male (C. C. Nutting, Proc. Iowa Acad, Science, 1892, 41). Mills-Pottawattamie--'Rare migrant. Though I have seen this species a number of times in Pottawattamie and Mills counties, the only notation of date I have is July 4, 1892, one killed at Honey Creek Lake while trying to catch young Mallard ducks. I have seen it in Mills County during the last five years, in the spring time (April), but have no exact notations.' (Trostler). Sioux--'shot male at Hawarden, in 1890' (Berry)." There is no record of what became of Berry's specimen. Morton E. Peck, now of Salem, Oregon, wrote October 12, 1932, saying: "My father, George D. Peck, collected a specimen of Prairie Falcon in Blackhawk County, more than fifty years ago. It was identified and purchased by someone in the East, but I do not know by whom." The Bond specimen cannot be found.

Harry Tennant has two specimens of the Prairie Falcon in his collection at Arnold's Park. Both birds were taken at Lake Okoboji, one during "duck shooting time" about 1927, the other in the fall of 1925. And adu

1925. An adult, probably a female, was secured in Story County during the fall of 1927, by D. J. Bullock. It is mounted and is in the Bullock collection at Des Moines.

Falco peregrinus anatum Bonaparte. Duck Hawk.

A rare migrant. The recently recorded occurrences of this bird are, indeed, few in number. Three reports during the past decade are from Woodbury, Boone, and Polk counties. This hardly may be considered as a true index of its numbers, as the Duck Hawk has been reported by Roberts (1932) as nesting in the Lake Superior region and along the bluffs of the Mississippi and St. Croix rivers. During the migration periods some of these birds must pass across Iowa.

The Duck Hawk was a former breeder in various parts of Iowa. The last authentic nesting record was published by B. H. Bailey (Proc. Iowa Acad. Sci., X, pp. 93-98). He reported that it nested every year until 1898 along the "Palisades" of the Cedar River, Linn County.

Falco columbarius columbarius Linnaeus.

Eastern Pigeon Hawk.

An uncommon migrant, very rarely remaining until December and January. Bailey (1918) enumerated but two records of the Pigeon Hawk nesting in Iowa, one found near Grinnell by Lynds Jones, probably in the '80's, and the other found April 27, 1908 by George H. Berry in Linn County. On the basis of Iowa specimens recently examined, the Eastern and Western Pigeon Hawks may be considered equally numerous as migrants through Iowa. Two typical examples of Falco c. columbarius are contained in the collection of Coe College. Both are males, taken in Linn County, one on September 18, 1903, the other October 12, 1930. Two in the University of Iowa Museum were taken by Paul Bartsch at Burlington, Des Moines County. No. 16437, an adult female was secured during October, 1895. No. 16241, an adult male was taken October 4, 1895.

Falco columbarius richardsoni Ridgway.

Richardson's Pigeon Hawk.

A rare straggler. Anderson (1907) listed an accidental specimen taken by George H. Peck at Laporte,

Blackhawk County. C. C. Nutting reported that a specimen taken by Frank Bond at Storm Lake, Buena Vista County, was in the University of Iowa Museum. Morton E. Peck wrote that the specimen taken by his father George D. Peck in Blackhawk County, had been disposed of many years ago, to someone in the east. The writer has been unable to find the Bond specimen mentioned above. The collection of the University of Iowa Museum contains an immature female taken December 18, 1894, at Forest City, Winnebago County, by Rudolph M. Anderson. This specimen is typical of Falco c. richardsoni, with the sandy colored plumage and the tail crossed by six light and five dark bands. It is somewhat larger than the Eastern Pigeon Hawk with a wing of 221.0 millimeters and a tail of 131.3 millimeters.

Falco columbarius bendiri Swann.

Western Pigeon Hawk.

Probably an uncommon migrant. Three specimens of this paler western variety, recently identified by H. C. Oberholser, are contained in the collection of the University of Iowa Museum. These are: No. 28084,

female, taken at Emmetsburg, Palo Alto County, September 5, 1921, by David Scott; No. 16242, male, collected by Paul Bartsch at Cedar Rapids, Linn County, April 25, 1893; No. 16438, female, taken at Cedar Rapids, during the spring of 1892, by Paul Bartsch. With a further examination of Iowa specimens, bendirei will probably be found equally numerous with columbarius as a migrant. This subspecies has not previously been reported from Iowa.

Falco sparverius sparverius Linnaeus.

Eastern Sparrow Hawk.

A common migrant, and a fairly common summer resident, breeding throughout the state; occasionally found in winter.

Order Galliformes

Family Tetraonidae.

Bonasa umbellus umbellus (Linnaeus).

Eastern Ruffed Grouse.

Rare or absent in most parts of the state. Most numerous in Allamakee County, and a few remaining in Howard, Butler, Hardin, Guthrie, Van Buren, Iowa, Buchanan (1923), Delaware (1923), Jackson, and Clayton

counties. Allert reports this species as tolerably common in Clayton County.

The Ruffed Grouse was formerly a common resident in all parts of the state with the possible exception of the northwest corner. Leopold (Outdoor America, 1932-'33) has pointed out that this species has disappeared from 11 counties since 1900, and that over most of the state it is nearer extermination than the prairie chicken, and furthermore does not have the advantage of replenishment by migration.

There are numerous Iowa specimens all of which refer to this form, the Canada Ruffed Grouse (Bonasa u. togata)not being found this far south.

Tympanuchus cupido americanus (Reichenbach).

Greater Prairie Chicken.

Greatly reduced in numbers but remnants of breeding flocks are yet found in Fayette, Winneshiek, Howard, Mitchell, Cerro Gordo, Franklin, Marshall, Wright, Hancock, Kossuth, Palo Alto, Dickinson, Clay, Sac, Crawford, Monona, Woodbury, Plymouth, and Lyon counties. The largest of the remaining breeding flocks in the southern part of the state are in Wayne County.

During the winter months the resident chicken population is increased greatly by the influx of migrants from Minnesota and the Dakotas. These flocks are noted more or less regularly through the central and western parts of the state, south, occasionally, to the Iowa-Missouri line.

Leopold (Outdoor America, 1932-'33) has stated ~~pointed out~~ that since the hunting season was permanently closed on the Prairie Chicken in 1916, it has disappeared as a breeding bird from 11 counties. Therefore the preservation of this bird in Iowa is not dependent only upon a cessation of legal shooting but is unquestionably dependent upon a restoration of adequate nesting cover.

There are fifteen mounted specimens in the Shaffer collection, Jefferson County Library, Fairfield, and numerous specimens in most of the other collections.

Pediocetes phasianellus campestris Ridgway.

Prairie Sharp-tailed Grouse.

A rare winter migrant in the northwest corner of the state. Recorded since 1895 as a migrant in Polk, Tama, Bremer, Butler, Franklin (in 1931), Webster, Kossuth,

and O'Brien counties. A wintering flock of 200 was observed repeatedly during 1927 in O'Brien County by William Schuenke.

A specimen secured by W. E. Moore at Des Moines, Polk County, about 1850, is in the collection of the American Museum of Natural History, New York City. One taken in Sac County is in the Smith collection, Odebolt High School.

Family Perdicidae — black face

Perdix perdix perdix (Linnaeus). European Partridge.

An introduced species which has become a fairly common resident in the northwestern part of the state, is apparently limited in distribution to that area which was formerly covered by the Wisconsin glaciation. Leopold (Outdoor America, 1932-'33) gives a full history of this species in Iowa and the following items are taken from his report. The first plantings of this species in Iowa were made in northeast Blackhawk County by Senator H. W. Grant of Waterloo, in 1902, but these disappeared during the hard winter of 1902-3. In 1905, small plantings were made in Palo Alto and Carroll counties. The Carroll County planting disappeared. The Palo Alto

planting made by a Mr. Carter, survived and spread, and constitutes Iowa's first wild stock. During the period 1906-10 plantings were made in six counties. About 1914 all the northeastern counties were systematically covered by standardized plantings of 20 pairs each. At present this European or Hungarian Partridge is found in the northern part of the state and the southern border of its range is through the following counties: Worth, Cerro Gordo, Hancock, Wright, Humboldt, Pocahontas, Buena Vista, Cherokee, Ida, Woodbury, Plymouth, Sioux, and Lyon. There are reports of straggling birds in Webster, Carroll, and Monona counties. An effort will be made to establish this species in the southwestern part of the state by means of systematic planting in a test area.

Colinus virginianus virginianus (Linnaeus).

Eastern Bob-white.

A resident throughout the state, most numerous in the southern half, not common in the northwest and north central portions, common in only a few places in the northwest corner. This species was formerly abundant,

but overshooting, together with severe winters, and a shortage of cover due to intensive farming, have been responsible for reducing their numbers. Since 1916 the Bob-white has been protected by a permanent closed season. Even this benefit has not enabled it to increase to its former numbers. Undoubtedly the introduction of the Pheasant and European Partridge has had some effect on the natural increase of the quail in the northwest.

Family Phasianidae — black face

Phasianus colchicus torquatus Gmelin. —

Ring-necked Pheasant.

This introduced species is a common resident in the northern part of the state. "The present Iowa Pheasant boundary is identical with the glacial boundary from Winneshiek County southeast to Delaware. Then comes a gap where there is no clear pheasant line, but in Tama it again becomes clear and parallels the glacial line westward across the central counties to Carroll. Here the pheasant line departs sharply southwest to the Missouri River." (Leopold, Outdoor America, 1932-'33).

Family Meleagrididae — Blackface

Meleagris gallopavo silvestris Vieillot.

Eastern Turkey.

Extinct since 1910 in Iowa. Leopold (Outdoor America 1932-'33) has summarized the former status of this species and these notes are taken from his report. It was last found in Clayton County, northeastern Iowa, about 1853 or '54. They were reported as plentiful in Cherokee County, northwestern Iowa, in 1860 and one was killed in that county by George Rosch of Marcus, in April, 1897. Turkeys were reported as very common in Ida County during the decade 1860 to 1870. In southern Iowa there are numerous reports until about 1900. The last individuals were noted in Appanoose County in 1902, Davis County in 1905, and three in Lucas County, 1910.

Pierce (1930) recorded an account of their former abundance in Buchanan, with flocks of as many as a hundred. Spurrell (1917) stated that three were killed at Grant City, Sac County in 1854. Evidently the turkey was formerly found in all of the wooded areas of the state, ranging as far north as Clayton County along the Mississippi River, and in the northwest to Woodbury and Cherokee counties. Fenton (1923-24) recorded a note relative to the capture of a turkey south of Charles City,

in 1898. Certainly there may be some question as to the probability of one being taken at such a late date in the north central part of the state. The specimen was lacking.

Two specimens are known to have been taken in the state. A juvenal female, taken during November, 1886 by W. O. Crosby, is mounted in the University of Iowa Museum. No more specific locality than Iowa is recorded. A male gobbler, probably killed by J. M. Shaffer, in Jefferson County, is in the collection of birds in the Jefferson County Library, Fairfield.

Introduced stock has been recently planted in several areas in the state.

Order Gruiformes

Family Gruidae — Blackface

Grus americana (Linnaeus). Whooping Crane.

Extinct in Iowa. Anderson (1907) regarded this species as only a rare migrant in Iowa by 1900 stating, however, that it was formerly a well-known and fairly common summer resident in the state, breeding in the large marshes which were at that time characteristic of northern Iowa.

Numerous accounts relative to the breeding of the Whooping Crane in northern Iowa are contained in the writings of the early naturalists. The last pair known to have bred in the state was found by R. M. Anderson in Hancock County, May 26, 1894 (Oologist, IX, 8, 1894).

The writer has been able to find but few records of this crane in Iowa since 1900. Spurrell (1917) stated that his last record of this species in Sac County was March 24, 1904. Gabrielson (1917) recorded that on April 9, 1911, he saw five birds near Webb, Clay County, which were undoubtedly this species. They were standing near the edge of a small pond and he was able to approach within 300 yards and examine them through glasses.

As in the case of all, the extinct or nearly extinct species in Iowa, so few specimens were preserved that it seems advisable to enumerate all of them. A number are to be found lacking any data, but the following are believed to be authentic records. One in the collection at Coe College, No. 492, was taken at Cedar Rapids, Linn County by a Mr. Sinclair, in 1880. Three specimens, one a downy young, were taken in Winnebago County, and are now in the Philadelphia Academy of Natural Sciences. There are three Whooping Cranes in the Shaffer collection

at Fairfield. J. Wilbur Dole wrote that one was presented to the museum by Mrs. Mary McElhinny. The other two were contained in the Shaffer collection and were probably taken in Jefferson County. The dates on the specimens are 1870, 1873, and 1880. A specimen, now in the possession of Frank E. Ellis of Maquoketa was for many years in the school museum at Bellevue, and is believed to have been taken in Jackson County. Seven Iowa specimens were secured by D. H. Talbot and his collectors. Of these four specimens, all from Holly Springs, Woodbury County, remain in the collection of the University of Iowa Museum. They are: No. 5395, female, April, 1887; No. 5399, female, April 8, 1887; No. 5400, sex not recorded, April 8, 1887; No. 5403, sex not recorded, 1887. The data of the other three, as taken from the catalogue are: No. 5392, male, Humboldt, Humboldt County; No. 5397, female, Holly Springs, April 8, 1887; No. 5398, male, Wolf Creek Slough, Woodbury County, April 13, 1884.

Grus canadensis canadensis (Linnaeus).

Little Brown Crane.

The status of this species at the present time is undetermined. Due to the fact that the plumage is exactly the same as in the Sandhill Crane, the difference

between the two being a matter of size, it is out of the question to distinguish between them in the field. The notion has been rather prevalent that as a migrant the Sandhill Crane was by far the more numerous of the two through the Mississippi and Missouri River valleys. Therefore all field observations are generally recorded as of the larger form, Grus C. tabida.

A recent study (Wilson Bull., XLV, pp. 13-15) by the writer, of twenty-eight specimens of Grus canadensis from Iowa and Nebraska, contained in the collection of the University of Iowa Museum, showed that twenty-two of these birds are referable to canadensis and the other six to tabida. All the specimens were secured by D. H. Talbto and his collectors between 1884 and '87. The fourteen Iowa specimens of the Little Brown Crane are from Holly Springs and Sloan, Woodbury County, and Whiting, Monona County. There are no recent reports or additional specimens known to the writer. The Little Brown Crane is not known to breed in Iowa, its breeding grounds being in northern Canada and Alaska.

Grus canadensis tabida (Peters). Sandhill Crane.

A rare migrant at the present time. In 1907 Anderson stated: "It formerly nested quite commonly in the

marshes of northern Iowa, where a few pairs still breed, and it is still fairly common on the prairies as a migrant, though much less abundant than before. Fifteen years ago flocks of hundreds, or even thousands, were frequently seen trooping over cornfields and plowed ground in the early spring in Winnebago and Hancock counties." Gabrielson (1917) considered this species as a fairly common migrant in Clay and O'Brien counties about 1910, when flocks of from forty to fifty were often seen standing about in the cornfields or drifting along in great spirals far overhead.

There are several recent observations recorded for the Sandhill Crane, Gabrielson (1918) noted a flock of thirty-five seen April 1, 1913 in Marshall County. Spurrell (1917) had eight spring migration dates in the twelve years from 1904 to 1915. Stephens (1920) recorded that one was shot September 15, 1918, near the "High Bridge" over the Missouri River, within the city limits of Sioux City. It was too badly damaged for mounting. DuMont (1931) recorded single birds seen in Polk County, April 16, 1928 and during April, 1929. A small flock was seen along the Missouri River in 1931 by William Schuenke. There are a number of Iowa specimens.

Blackface

Family Rallidae

Rallus elegans elegans Audubon. King Rail.

An uncommon migrant, and a somewhat rare summer resident, breeding in favorable localities. The King Rail has become greatly reduced as a breeder in Iowa during the past two decades, due to the extensive draining and drying up of many marshy areas within the state. This species is unreported by some observers and considered as quite rare by others. However, Spurrell (1917) recorded it as a common breeder in Sac County.

Rallus limicola limicola Vieillot. Virginia Rail.

An uncommon migrant and a decidedly uncommon or rare summer resident. Whether this species is actually less numerous than the King Rail as a breeder in Iowa has not been determined. The reports on rails of all sorts, both as migrants and breeders, are so few that it is impossible to determine whether all these birds are becoming scarce in Iowa due to the disappearance of the marshes or to a lack of interest in the study of this group.

Porzana carolina (Linnaeus). Sora

A common migrant, and a fairly common summer resident, breeding throughout the state, but most numerous in the northern half.

Coturnicops noveboracensis (Gmelin). Yellow Rail.

A fairly rare migrant, found occasionally in summer. Anderson (1907) listed the following records: one taken in Blackhawk County; one noted in Dickinson County in the fall of 1895; a specimen, No. 8948, female, taken May 27, 1892, in Johnson County, was formerly in the University of Iowa Museum; rare spring migrant in irregular numbers in Lee County; one shot September 9, 1898, in Scott County; a male and female, now in the University of Iowa Museum were secured by Paul Bartsch September 9, 1898 across the river from Burlington, in Henderson County, Illinois. Widmann (1907) stated that E. S. Currier regarded them as irregular transients at Keokuk. W. E. Praeger found them common April 22, 1888 and April 21, 1889 at Sand Ridge, Clark County, Missouri.

There are several recent records of the Yellow Rail. Two specimens in the Bullock collection, Des Moines, were taken by D. J. Bullock during September, 1928 in Story

County. Two mounted specimens now in the University of Iowa Museum, were taken at Homestead, Iowa County by L. W. Dean. Both are males collected April 23, 1922 and April 22, 1923. A female in the museum was caught inside the Armory, at the University of Iowa, Iowa City, May 18, 1933. One in the collection at Coe College was taken by W. F. Kubichek in Johnson County. One in the museum of Iowa Wesleyan College, Mt. Pleasant, was secured April 15, 1886 at Burlington, Des Moines County. Pierce (1930) stated that one was flushed from the marsh grass at Independence mill-pond by Vance Allyn on May 16, 1926. An adult specimen labelled "Black Rail" is in the collection at Iowa State Teachers College, Cedar Falls. DuMont (1931) records one seen at Des Moines, May 4, 1925, by Arthur T. Watson. In a letter to the U. S. Biological Survey, August 15, 1922, W. J. Kubichek reported taking three specimens in Monroe township, Johnson county.

The only evidence that the Yellow Rail ever nested in Iowa is furnished by John Krider (1869) who stated: "It breeds in Iowa, where I found its nest with eight eggs."

Creciscus jamaicensis stoddardi Coale. Black Rail.

Very rare. Anderson (1907) recorded several occurrences of this species in Iowa as follows: "County records: Blackhawk--'rare migrant; one specimen mounted' (Walters). Des Moines--'Burlington, Iowa, 1892--specimen in flesh examined by me' (Nutting, Proc. Iowa Acad. Sci., 1892, 41). Lee--'very rare--Keokuk district' (Praeger). Linn--'a set of eggs was found by myself in 1899, too far incubated to save' (Berry). Van Buren--'some 17 or 18 years ago a farmer caught one with his hands while plowing in a swamp and brought it to me. This is the only time that I have known it to occur here--Hillsboro' (W. G. Savage). Webster--'rare; July 11, 1899, killed a small rail of some sort new to me, along the edge of the slough in Black's field just east of the rendering works (Fort Dodge). It is 5½ inches in length; dark slate on head and breast, back dark brown tinging to a reddish at back of neck' (Sommes)." The specimen mounted by Walters has been examined by the writer and found to be an adult Yellow Rail. There is no evidence that the specimen examined by Nutting was preserved. Widmann (1907) recorded that one was seen at Iowa City, Johnson County, October 11, 1885.

There are but two recent observations, both by E. D. Nauman of Sigourney. He records (Wilson Bull., XXXIV, pp. 217-19) one seen May 5, 1914 as it flew from the marsh grass within four or five feet of him. Nauman said in a letter that this bird was distinctly a rail, black, and too small for any other species. At that time of year it could hardly have been the young of any other species of rail. Another was seen by him at Sigourney, October 1, 1925. The ~~winter~~ writer has been unable to find an Iowa specimen.

The only basis for considering the Black Rail as a breeding bird in Iowa is the statement by George H. Berry that he took a set of eggs in Linn County in 1899. Some question has arisen recently in regard to the veracity of several of Berry's records. Therefore it seems advisable, as the eggs were neither preserved nor examined by a trained ornithologist, to remove this species from the list of Iowa breeding birds.

Gallinula chloropus cachinnans Bangs.

Florida Gallinule.

An uncommon migrant, and a somewhat rare summer resident, breeding sparingly throughout the state, most numerous in the northwest part.

Fulica americana americana Gmelin. American Coot.

A very common migrant along the larger rivers of the state and common through the interior. The "Mud Hen" is an uncommon summer resident and breeder in the southern and eastern portions of the state and a numerous breeding bird in the northwest.

Order Charadriiformes

Family Charadriidae — Black-face

Charadrius melodus Ord. Piping Plover.

A rare migrant and a casual summer resident. The records of this species as listed by Anderson (1907) were divided between the two subspecies AEgialitis meloda [melodus] and A. m. circumcincta. The latter is not now accepted as a valid race. This bird was formerly more numerous as a migrant, but at the present time is reported only from the Sioux City region. Roberts (1932) records two recent occurrences in southwestern Minnesota and three observations in the southeastern part. William Youngworth found this species breeding three miles west of Sioux City in South Dakota, during 1932. The evidence of its former breeding in the state is negligible. Cooke (1888) stated that it was reported as breeding at Grinnell.

The only Iowa specimen is a male in the University of Iowa Museum, taken at Burlington, Des Moines County, August 27, 1893, by Paul Bartsch. Another specimen in the same collection, a juvenal male, was taken by Bartsch, August 21, 1892 at Burlington, but nearer the Illinois than the Iowa side.

Charadrius semipalmatus Bonaparte.
Semipalmated Plover.

A fairly common migrant, at times appearing in numbers. The abundance of this species depends very largely upon the presence of mud-flats and in localities where these are lacking the bird is but rarely found. When the water level drops, the ponds and sloughs in the state are so quickly overgrown by vegetation that few feeding or resting areas are available except along the larger rivers.

The Semipalmated or "Ring-necked" Plover does not breed in Iowa. There are a number of specimens.

Oxyechus vociferus vociferus (Linnaeus). Killdeer.

A very common migrant, and common summer resident breeding throughout the state.

Pluvialis dominica dominica (Muller).

American Golden Plover.

Spring and fall migrant. This species was reported by Trippe (1872) as abundant in the spring and fall in Decatur and Mahaska counties about 1870. After 1910 it was greatly reduced in numbers and was of rare occurrence in the state. Recently it appears to have increased somewhat, and, while still reported as rare in a number of localities, it may be considered as an uncommon migrant, most frequently heard flying over, or stopping occasionally on burnt-over ground or tracts of original prairie sod. There are no records of breeding.

Squatarola squatarola (Linnaeus).

Black-bellied Plover.

Somewhat rare migrant. This species appears to be increasing in numbers and has recently been reported from the following counties: Clayton (Allert); Chickasaw (Spiker); Buchanan (Pierce, Harry Sanderson); Johnson (specimen, Kubichek; specimen, Tracy Jones; W. C. Thietje; Roberts); Polk (John E. Stewart); Boone (Rosene); Palo Alto (specimen, Iowa Fish and Game Commission); Woodbury (Youngworth, A. J. Anderson). There are several other Iowa specimens.

Arenaria interpres morinella (Linnaeus).

Ruddy Turnstone.

A rare migrant. Anderson (1907) listed records of this species from Winnebago, Des Moines, Linn, and Mills counties, and he mentioned two specimens taken by Paul Bartsch at Burlington, Des Moines County, May 21, 1892. These specimens, both males, are in the University of Iowa Museum. It was reported as a rare migrant in Woodbury County (Bennett, 1931); one was seen in Polk County, June 5, 1926, by Arthur T. Watson (DuMont, 1931); and Harlan reported two seen in the same locality during the fall of 1932. The writer observed a single bird at Little Wall Lake, Hamilton County, June 11, 1928. A flock of fifteen was seen by Roberts at Spirit Lake, Dickinson County during the spring of 1929. Single individuals were seen by Roberts in the same locality on three different occasions but no dates were recorded. Besides the two specimens mentioned above there are two others from Burlington, now in the Museum of Iowa Wesleyan College, Mt. Pleasant.

Family Scolopacidae — black face

Philohela minor (Gmelin). American Woodcock.

A decidedly uncommon migrant and a rare summer resident in the eastern half of the state; recently reported as breeding in Story, Boone, Washington, Blackhawk, and Clayton counties.

The earlier writers recorded this species as common in all of the wooded localities, but by 1900 it was considerably reduced in numbers. Anderson (1907) stated that all observers who reported the Woodcock considered it a rare summer resident in Iowa. The writer has been unable to find any recent records of this species from the western third of the state.

Capella delicata (Ord). Wilson's Snipe.

A common migrant, frequently arriving in March and remaining in suitable localities for several weeks. In the fall the "Jack Snipe" may occasionally linger until late in November. Noted in Polk County December 26, 1930, December 26, 1932, and February 8, 1931. Anderson (1907) recorded it as breeding in Winnebago and Kossuth counties. Reported recently as breeding in Story County (Hendrickson). DuMont (1931) recorded that a nest with four eggs was found May 15, 1927, at

Des Moines, Polk County, by Arthur T. Watson. A single bird was flushed from the same field June 3, 1929, by Watson and the writer.

Numenius americanus americanus Bechstein.

Long-billed Curlew.

Very rare migrant. Formerly a common summer resident, breeding in the northern part of the state. However, there are no nesting records since 1890, or a little earlier. The observations during the past twenty-five years are very few. The following notes from the Sioux City region were contained in a letter from T. C. Stephens, January 30, 1933: "A. J. Anderson, taxidermist, told me of seeing two of these curlews alight on a sand-bar in the Missouri River about opposite Crystal Lake on October 25, 1914. He said that the two birds had bills of different lengths, which he attributed to age. He was quite positive of his identification. On May 14, 1921, Anderson told me of seeing a Long-billed Curlew (on this date) at a slough between Salix and Sargents Bluff." Fenton (1923-24) said that he saw two birds in Floyd County, April 14, 1918, that were without doubt of this species." One was seen by Walter Rosene and Robert Walker of Ogden, Boone County, on May 15, 1932 in a marshy pasture four miles north of Ogden. Rosene, well acquainted with

this bird on its breeding ground in western Nebraska, recognized the call immediately and observed it for several minutes which allowed a study of head markings and a comparison of size.

Few Iowa specimens with data are preserved. A female, No. 10662, in the University of Iowa Museum, was taken at Wolf Creek Slough, Woodbury County, April 8, 1884 by D. H. Talbot. The exposed culmen measures 198.1 mms. One in the Shaffer collection was taken in Jefferson County by C. S. McElhinny, but no date was recorded. The great length of the bill would indicate that it was a female. One in the Odebolt High School was collected by H. B. Smith in Sac County. The exposed culmen measures 200.6 mms. One in the Philadelphia Academy of Natural Sciences was taken in Dickinson County, June 10, 1881, by W. L. Abbott. No. 10151, in the Davenport Public Museum, was taken by S. C. Bowman in Iowa.

Phaeopus hudsonicus (Latham). Hudsonian Curlew.

A casual visitor. Anderson (1907) states: "I have a female specimen of the Hudsonian Curlew in my private collection, shot on the prairie west of Crystal Lake, Hancock County, May 25, 1895. The bird was alone and

very wary and much careful stalking was necessary in order to secure it." In a letter from Anderson he says: "There was no mistake about the identity, as the bird had the light median crown stripe. I kept the specimen for some time, but my recollection is that the dermestes ate away most of the membrane from the bill and part of the head feathers around base of bill, and probably the skin was discarded later." This is the only Iowa record.

Phaeopus borealis (Forster). Eskimo Curlew.

Extinct in Iowa. It had been greatly reduced in numbers before 1907, when Anderson wrote of it as follows: "The Eskimo Curlew is also a rare migrant in Iowa. It was listed by Allen (White's Geol. of Iowa, ii, 1870, 426). John Krider says; 'I found it in Iowa in May, migrating westward' (Forty Years' Notes, 1879, 68).

"County records: Des Moines--Mus. No. 16803, taken at Burlington, April 5, 1893, by Paul Bartsch. Jackson--'rare transient' (Giddings). Johnson--specimens in University museum taken by Frank Bond (Nutting, Proc. Acad. Sci., 1892). Van Buren--'spring migrant, very rare' (W. G. Savage)." The specimen taken by Bartsch is now mounted in the University of Iowa Museum, but ~~the ones~~ those taken by Bond cannot be found. There appear to be no Iowa

records of the Eskimo Curlew after 1893. The writer recorded (1931) that a pair was shot by C. H. Schroeder at Des Moines, Polk County, about 1893. These specimens were presented to the Iowa State Historical Society, but cannot now be found. Besides the Bartsch bird the only other Iowa specimen is a female, No. 10158, in the Davenport Public Museum. It was collected by S. G. Bowman, April 20, 1874, in "Northern Iowa".

Bartramia longicauda (Bechstein). Upland Plover.

An uncommon migrant and summer resident, somewhat localized; greatly reduced in numbers. It is reported as breeding in the following counties: Clayton, uncommon (Allert); Chickasaw, common (Spiker); Buchanan, fairly common (Pierce, 1930); Story, one pair found about every two square miles near Ames (Hendrickson); Polk, rare (DuMont, 1931); Boone, only a few found (Rosene); Dickinson, rare (Roberts). It was recorded as a migrant in Woodbury County, uncommon (Bennett, 1931), and as rare (Youngworth). Spurrell (1917) stated that it was a tolerably common spring and fall migrant in Sac County. Gabrielson (1918) classed it an uncommon fall migrant and mentioned that several years before, they had bred in considerable numbers in northwestern Iowa.

Actitis macularia (Linnaeus). Spotted Sandpiper.

A common migrant and a fairly numerous summer resident, breeding throughout the state.

Tringa solitaria solitaria Wilson.

Eastern Solitary Sandpiper.

A fairly common migrant along all of the rivers and streams in the state. Anderson (1907) stated that it was found occasionally in summer; he called attention, however, to the difficulty of finding its nest, and mentioned that none had been recorded as found in Iowa. There are no recent reports of probable breeding.

Catoptrophorus semipalmatus inornatus (Brewster).

Western Willet.

A fairly rare migrant. Unreported by several observers in the state, and classed as rare by all in the eastern half of Iowa. Bennett(1931) recorded it as an uncommon migrant in the Sioux City region, and as formerly nesting. In listing the records of the Willet in Iowa, Anderson (1907) included both Symphemia semipalmata [semipalmatus] and S. s. inornata. The records of the former were, in no case, based on specimens; this may be attributed to the fact that the subspecies inornatus

had not been recognized when the earlier records were published. Three specimens in the University of Iowa Museum, from Des Moines, Johnson, and Marshall counties, all are referable to inornatus. Breeding records were listed by Anderson from Jasper and Sioux counties. There are no recent reports of breeding.

Totanus melanoleucus (Gmelin).

Greater Yellow-legs.

A fairly common spring and fall migrant, fluctuating somewhat in numbers, and seldom as numerous as Totanus flavipes. Reported by a few observers as rare, or seen irregularly. There are no breeding records.

Totanus flavipes (Gmelin). Lesser Yellow-legs.

A common spring and fall migrant in all parts of Iowa. It is not known to breed in the state.

Pisobia melanotos (Vieillot). Pectoral Sandpiper.

A common spring and fall migrant. Its distribution in the state is widespread, due primarily to its habits of feeding in the grassy meadows as well as on the mud flats along the streams and lakes. There are no breeding records.

Pisobia fuscicollis (Vieillot).

White-rumped Sandpiper.

A fairly common migrant in the spring and fall. Recorded by Anderson (1907) as the Bonaparte Sandpiper. So very little attention is paid to the shore birds by the majority of bird students, that it is not surprising so few reports of this bird and the Baird's Sandpiper were received. During the last half of May in central Iowa the flocks of Sandpipers consist, in about equal numbers, of White-rumped, Baird's, and Semipalmated. The bulk of the Pectoral and Least Sandpipers, as well as both of the Yellow-legs, have moved northward by that time, and the Ring-necked Plover is the only other shore bird found in any numbers in these mixed flocks. There are a few Iowa specimens.

Pisobia bairdi (Coues). Baird's Sandpiper.

A fairly common spring migrant, less numerous in the fall. It is about equal in numbers with Pisobia fuscicollis, with which it is associated during late spring migration. There is but one fall record of it in Polk County (DuMont, 1931), but Gabrielson (1918) recorded this bird as tolerably common from August 15 to September 7, 1914. Unreported by several observers in the state, and a few reported it as rare. There are several Iowa specimens.

Pisobia minutilla (Vieillot). Least Sandpiper.

A common spring and fall migrant. A report of a set of eggs taken by Joseph Brown of Norway, Benton County, recorded by Anderson (1907) unquestionably is a mistake. Admission is made by Brown's daughter that the notebook which contained data to her father's egg collection was lost.

Pelidna alpina sakhalina (Vieillot).

Red-backed Sandpiper.

An irregular spring and late fall migrant; occasionally appearing in some numbers. Allert classed it as an uncommon migrant in Clayton County; Roberts reported it as rare in Johnson County; Kubichek took three specimens at Swan Lake, Johnson County, May 21, 1931; Nauman considered it very rare in Keokuk County; DuMont (1931) listed three Polk County records and stated that J. R. Harlan collected two specimens from a flock of ~~over~~ more than a hundred birds; Gabrielson (1918) recorded four seen October 6, 1913, and sixty October 10, 1913, when five were collected; Rosene said it was accidental in Boone County; Spurrell (1917) recorded it as rare in Sac County; and Youngworth reported it as rare in Woodbury County.

Limnodromus griseus griseus (Gmelin).

Eastern Dowitcher.

A rare migrant. In this study sight records have been entirely disregarded. Certain specimens collected in Iowa have bills measuring less than 68.0 mm. in the females, and less than 60.0 mm. in the males. There are certain minor color differences between these specimens and those of scolopaceus. These differences are inconstant and appear to be the result of wear.

The breeding bird of Alberta and Manitoba, supposedly intermediate in size between griseus and scolopaceus has been described as new by William Rowan (Auk, XLIX, pp. 14-35) and named L. g. hendersoni. If this so-called Inland Dowticher is given a place in the next A. O. U. Check-List these short-billed Iowa specimens may be assigned to it instead of to griseus.

However, Pierce Brodkorb, of the University of Illinois, has recently examined two specimens which the writer considered referable to hendersoni. He wrote that these two juvenal birds were clearly griseus. Both are in the University of Iowa Museum. No. 16290, a female, was collected by Paul Bartsch at Burlington, Des Moines County, August 16, 1893. The culmen measures 62.4; wing 150.0; and tarsus, 38.2. No. 28662, is probably

a female, and was collected by Ira N. Gabrielson at Marshalltown, Marshall County, August 10, 1914. The culmen measures 60.9; wing, 146.0; and tarsus, 35.4. Additional specimens are needed.

Limnodromus griseus scolopaceus (Say).

Long-billed Dowitcher.

A fairly rare migrant in all parts of the state. It was reported as an uncommon migrant in Woodbury County (Bennett) and in Polk County (DuMont). This bird was originally described by Thomas Say as Limosa scolopacea, from several specimens collected near the "Bowyer Creek," Pottawattamie County, Iowa.

There are several specimens in which the bill of the female exceeds 68.0 mm., and that of the male, exceeds 60.0 mm.

Micropalama himantopus (Bonaparte). Stilt Sandpiper.

Fairly rare migrant. Anderson (1907) listed this bird from Floyd, Allamakee, Des Moines, Winneshiek, Mills, and Pottawattamie counties. All but the last two reports were based on collected specimens. At present an uncommon migrant in the Sioux City region (Bennett, 1931, and Youngworth). Tinker (1914) recorded that two

adult males were taken by Rutheyan and Peet at a small pond near Virgin Lake, Palo Alto County, August 15, 1907. An adult female was secured by the same collectors in Clay County, August 27, 1907. Logan J. Bennett wrote that he observed five of these birds and collected one on Green Slough, Clay County, May 16, 1933; he saw another on Virgin Lake, May 26, 1933. Spurrell (1917) recorded it as a rare migrant in Sac County. Rosene reported it rare in Boone County. Du Mont (1931) recorded three Polk County observations, and one bird was seen there by Rosene, May 14, 1932. Roberts reports it as rare in Johnson County. Only two Iowa specimens have been examined. A male, No. 16505, in the University of Iowa Museum, was secured at Burlington, Des Moines County, by Paul Bartsch on September 28, 1889. A female, No. 2261, Coe College Museum, was taken at Swan Lake, Johnson County, by W. F. Kubichek, May 21, 1931.

Ereunetes pusillus (Linnaeus).

Semipalmated Sandpiper.

A fairly common spring and fall migrant, reported as common in several localities and as a rare migrant in Keokuk County (Nauman), and Chickasaw County (Spiker).

Ereunetes maurii Cabanis. Western Sandpiper.

The present status is undetermined. The only Iowa record is of two males and a female, collected by Paul Bartsch at Burlington, Des Moines County, October 15, 1895. These specimens are in the University of Iowa Museum. This species has been reported as a migrant at Lincoln, Nebraska, during September and October. In eastern South Dakota it has been collected in April. Gault (Check List, Birds of Illinois) records this species as an uncommon migrant. No doubt a little more collecting of small shore birds would reveal this bird to be a regular migrant through Iowa between the breeding grounds in Alaska and the eastern part of its wintering area along the Atlantic coast from the Carolinas southward.

Tryngites subruficollis (Vieillot).

Buff-breasted Sandpiper.

A rare spring and fall migrant. DuMont (1931) recorded four observations in Polk County as follows: "April 30, 1927 (Watson and Nelson); May 5, 1927.... (Watson); May 20, 1923 and May 14, 1924 (Nelson)." Nauman reported it as rare in Keokuk County. Bennett (1931) recorded it as rare in the Sioux City region; specimens taken by D. H. Talbot, August 2, 1884. These

specimens, two miles, are in the University of Iowa Museum. A third specimen, without data, was probably taken at the same time. Fenton (1923@24) says: "I have one specimen, secured near Charles City on September 9, 1915. The specimen was identified by Dr. B. H. Bailey." Fenton wrote that he believed that the specimen had since been discarded.

Limosa fedoa (Linnaeus). Marbled Godwit.

A very rare migrant. Anderson (1907) stated that it was formerly a fairly common migrant, and nesting records were listed for Pottawattamie, Kossuth, Cerro Gordo, Sioux, and Winnebago counties. However, there are no breeding reports after 1890. Spurrell (1917) said that it was reported by Lee as formerly common in Sac County and that nests with eggs had been reported. A specimen taken by B. H. Smith in Sac County is in the Odebolt High School. Bennett (1931) recorded it as an uncommon migrant in the Sioux City region. Roberts observed one May 12, 1927 at Spirit Lake, Dickinson County. Reported seen at Carter Lake, Pottawattamie County, April, 1928 (Letter of Information, Nebr., Orni., Union). There are seven specimens in the Philadelphia Academy of Natural Sciences,

taken by W. L. Abbott. Five were taken in Palo Alto County during June, 1881, and two in Dickinson County, June 12, 1881. One in the Coe College Museum was secured at Eagle Lake, near Britt, Hancock County by James Ward, May 6, 1913. No. 10154 in the Davenport Public Museum, was collected by Wm. L. Allen in Scott County.

Limosa haemastica (Linnaeus). Hudsonian Godwit.

A rare migrant. Anderson (1907) considered this even rarer than Limosa fedoa. He listed records from Blackhawk, Monona, Webster, and Woodbury counties, all based on specimens. At present it is considered an uncommon migrant in the Sioux City region (Bennett, 1931), and as rare in the same locality (Youngworth). Logan J. Bennett wrote that during 1933 he observed one on Trumbull Lake, May 7; one on Mud Lake, May 17; and one on Green Slough, May 21, all three localities in Clay County. Rosene reports it as rare in Boone County. Single birds were seen May 17, 1921 and May 15, 1932. A specimen taken by H. B. Smith in Sac County is in the Odebolt High School. Three birds were seen by Harlan during the spring of 1921, in north Des Moines, Polk County, and one was collected May 3, 1931, in the same

locality. It is in the State Historical Museum, Des Moines. Two were seen at Swan Lake, Johnson County, by Roberts two different times during May, 1931. A female, now in the Coe College Museum, was collected at Swan Lake, by Kubichek, May 23, 1931. Two in the Museum of Iowa Wesleyan College, Mt. Pleasant, were taken at Burlington, Des Moines County, May 2, 1887. No. 10149, in the Davenport Public Museum was collected by W. C. Putnam in Hardin County. A female, No. 17093, in the University of Iowa Museum was secured by J. F. Baker at Sioux City. There are no breeding records.

Crocethia alba (Pallas). Sanderling.

A rare migrant. The county records given by Anderson (1907) would indicate that it was formerly an irregular migrant along the Mississippi and Missouri rivers. Recently reported as a rare migrant at Sioux City (Youngworth). DuMont recorded (Wilson Bull., XLIV, p. 173) a single bird at Long Pond, Dallas County, June 6, 1928. Reported as a rare migrant in Johnson County (Roberts). Two specimens in the museum of Iowa State Teachers College were collected at Cedar Falls, Blackhawk County, October 6, 1908. Two males, now in the Coe College Museum, were secured at Swan Lake, Johnson County, by Kubichek, May 21, 1931. A female, No. 16339, in the University of Iowa

Museum, was collected at Burlington, Des Moines County, October 15, 1895.

Family Recurvirostridae — Black-face

Recurvirostra americana Gmelin. Avocet.

A rare migrant. Anderson (1907) cited the record of Thomas Say, who observed it at Engineer Cantonment, February 20, 1820. Occurrences were reported from the following counties: Sioux, Woodbury, Dickinson, Pottawattamie, Mills, Johnson, and Lee. A single breeding record is given for Sioux County: "June 2, 1900, I collected a set of four eggs of the American Avocet but was unable to blow them as they were too far advanced. I saw two or three pairs of the birds; locality, prairie, about three miles east of Hawarden (Berry)." Spurrell (1917) states that Henry Colburn of Sac City killed twenty Avocets along the Cedar Creek in 1894. In the fall of 1914 Spurrell saw two birds along the inlet of Wall Lake which probably were this species. Bennett (1931) records: "Formerly common (Thos. Say), formerly nesting (Berry, at Hawarden, 1900), now rare migrant." DuMont (1931) states that two birds were seen at Des Moines, Polk County, by A. T. Watson, May 27, 1927. A flock of six was seen in the same locality by Winifred Gilbert during the spring of 1925.

An immature specimen, taken in Cedar County, September 17, 1910, is in the Coe College Museum. Three specimens are in the University of Iowa Museum. No. 18535, a female, was taken by H. C. Fairchild, near Iowa City, Johnson County, April 22, 1902. No. 28710, a female was secured by Fred Stevens at Onawa, Monona County, October 1, 1929. No. 28711, was collected near Coralville, Johnson County, about 1930.

Himantopus mexicanus (Muller).

Black-necked Stilt.

A casual visitor. Anderson (1907) included five dates of occurrence for the vicinity of Omaha, and listed the following county records: "Mills-Pottawattamie--'Scarce migrant' (Trostler). Sioux--'shot one female at Hawarden in 1890' (Berry). Webster--'several were killed here in summer of 1898' Fort Dodge (Somes). Wayne--(Brown). Woodbury--'rare transient--Sioux City' (Rich)." Cooke (Bio. Sur., Bull., 35, p. 21) recorded one seen by Rich at Sioux City, April 20, 1902. Reported at Carter Lake, Pottawattamie County, May 9, 1928 (Letter of Information of the Nebr. Orni. Union). Pierce (1930) recorded that a pair was seen frequenting some flood ponds north of Lamont, Buchanan County. The birds were discovered during August,

1924 by Mrs. R. I. Bordner, who saw them almost daily until September 8, 1924. There are no Iowa specimens.

Family Phalaropodidae

Steganopus tricolor Vieillot. Wilson's Phalarope.

A fairly common migrant. Formerly a common summer resident, breeding in the northern part of the state. The lack of recent breeding records in Iowa coincides with the conditions pertaining in Minnesota. Roberts (1932) states that it disappeared as a breeder about 1900 and only within the last few years is returning to its former nesting areas. Some observers reported this Phalarope as irregular or rare. There are several specimens.

Lobipes lobatus (Linnaeus). Northern Phalarope.

An uncommon migrant along the Missouri River Valley, rare in the other portions of the state. Reported from the following counties: Woodbury, uncommon migrant (Bennett); Emmet, rare migrant (Wolden); Boone, rare (Rosene); Johnson, rare migrant (Roberts). There are two Iowa specimens. A male, No. 16525 in the University of Iowa Museum, taken by Paul Bartsch at Burlington, Des Moines County, August 10, 1894. A female in the Coe College Museum, taken by W. F. Kubichek

at Swan Lake, Johnson County, May 21, 1931.

Family Stercorariidae

Stercorarius parasiticus (Linnaeus).

Parasitic Jaeger.

A casual visitor. An immature male, No. 25004 in the University of Iowa Museum, was shot on the Des Moines Rapids of the Mississippi River, near Keokuk, on October 6, 1896. The skin was prepared by William E. Praeger who later donated it to the Museum. A specimen in the Coe College Museum was secured by James Ward September 20, 1905, at Eagle Lake, near Britt, Hancock County. It is an immature bird, probably a female. There are no other Iowa records.

Stercorarius longicaudus Vieillot. Long-tailed Jaeger.

Accidental. R. M. Anderson recorded (Auk, XXV, p. 215) the capture of a fully plumaged female killed by Charles Prizler near Lone Tree, Johnson County, June 15, 1907. The specimen is mounted in the University of Iowa Museum.

Family Laridae

Larus argentatus smithsonianus Coues. Herring Gull.

A fairly common migrant along the larger rivers of

the state, less numerous through the interior. Bennett (1931) records it as a common winter resident in the Sioux City region.

Larus delawarensis Ord. Ring-billed Gull.

A fairly common migrant throughout the state. Somewhat more numerous through the interior than the Herring Gull, and arriving approximately two weeks later. There are no breeding records.

Larus pipixcan Wagler. Franklin's Gull.

A common migrant in the western part of the state, reported as uncommon or rare in the eastern portion. The phenomenon of the autumnal concentration of these birds about the lakes in Dickinson County has been described by Aldo Leopold (Wilson Bull., XLIV, p. 116) and F. L. R. Roberts (Iowa Bird Life, II, pp. 26-27) when many thousand were present. There are several reports of this bird as a summer resident. Roberts (1932) stated that during a visit to Heron Lake, Jackson County, Minnesota, in June, 1916, the nests of this gull were estimated to be at least fifty thousand. However, evidence of its breeding in Iowa is lacking.

Larus philadelphia (Ord). Bonaparte's Gull.

An irregular and uncommon migrant frequenting the lakes and larger rivers of the state. Rare through the interior. Reported by Allert as a common migrant along the Mississippi River at McGregor. There are several Iowa specimens.

Rissa tridactyla tridactyla (Linnaeus). Atlantic Kittiwake.

Accidental. An immature male was collected by James R. Harlan at Des Moines, Polk County, on November 22, 1931. The specimen is mounted in the collection of the State Historical Museum, Des Moines. Full details of its capture were recorded by the writer (Auk, L, pp. 102-103).

Xema sabini (Sabine). Sabine's Gull.

A casual visitor. There are three Iowa specimens. Two in the University of Iowa Museum were taken by Paul Bartsch at Burlington, Des Moines County. No. 15981, a male (?), was secured October 15, 1891, and No. 15982, a female, was collected October 12, 1894. One in the Davenport Public Museum No. 10215, was taken in Scott County, by W. L. Allen. Date and sex were not recorded.

Sterna forsteri Nuttall. Forster's Tern.

A fairly common migrant in all parts of the state. There are no breeding records. On the basis of specimens this bird is considerably more numerous than Sterna hirundo. Due to the difficulty of determining between the two in the field, except in winter plumage, sight records have been disregarded in this summary and specimens alone have been used as an index to the comparative abundance of the two. Anderson (1907) recorded specimens from Cerro Gordo, Dickinson, Johnson, and Linn counties. Others have been examined from Johnson, Sac, Dickinson, and Polk counties. There are seven specimens in the Coe College Museum, and five in the Philadelphia Academy of Natural Sciences, the latter taken in Palo Alto County during June, 1881, by W. L. Abbott. It has been reported as a breeder at Heron Lake, Jackson County, Minnesota and may be found nesting in northwestern Iowa.

Sterna hirundo hirundo Linnaeus. Common Tern.

An uncommon migrant. Anderson (1907) listed specimens from Johnson and Des Moines counties. There are two males and three females in the Coe College Museum, taken by George H. Berry and B. H. Bailey on May 13, 1913 at Cedar Rapids, Linn County. One in the collection of Otto W. Remer was secured at Le Mars, Plymouth County,

and was received for mounting by A. J. Anderson, Sioux City taxidermist, on October 5, 1919. This appears to be the only record for northwestern Iowa.

Sterna antillarum antillarum (Lesson). Least Tern.

An uncommon summer resident. Anderson (1907) recorded it from Cerro Gordo, Pottawattamie, Lee, Linn, Polk, Sioux, and Winnebago counties, with reports of former breeding in Cerro Gordo and Pottawattamie counties and probable nesting in Lee County. Spurrell (1917) stated that it was a rare migrant in Sac County. A dead bird was found at Wall Lake, September 29, 1912. Four were seen at the Lake, June 19, 1916. Mrs. John E. Stewart recently noted it throughout the breeding season at Des Moines, Polk County. Youngworth (Wilson Bull., XLII, pp. 102-103) recorded the breeding of this tern in the Sioux City region, and on August 3, 1931 noted not less than 150 on a sand-bar in the Missouri River (ibid, XLIII, p. 309).

Hydroprogne caspia imperator (Coues).
Caspian Tern.

An uncommon and irregular migrant in the eastern half of the state, principally along the Mississippi

River, rare through the interior, and apparently unrecorded from the western portion. Anderson (1907) recorded several occurrences mostly from the Mississippi, Iowa and Cedar rivers. One only taken in central Iowa. DuMont (1931) stated that one was seen at Des Moines, Polk County, on June 7, 1931, and four at the same place, September 24, 1931; both observations by Mr. and Mrs. John E. Stewart. There are ten specimens in the Coe College Museum, from Hancock, Linn, and Johnson counties, all taken in the fall between September 16, and October 5. Six specimens in the University of Iowa Museum are from Linn, Cedar, Johnson, and Des Moines counties, all taken in the fall.

Chlidonias nigra surinamensis (Gmelin). Black Tern.

A common migrant less numerous in the fall. Breeds in the northern part of the state and reported by Wolden as an abundant breeder in Emmet County. It has been found nesting in Dallas County during June, 1932 (Rosene and DuMont) and present during the breeding season in Boone, Hamilton, and Buchanan counties. Reported as a migrant only in Marshall and Clayton counties.

Family Alcidae Blackface

Uria lomvia lomvia (Linnaeus). Brunnich's Murre.

Accidental. Anderson (1907) listed two specimens which were found following the storm of December 16, 1896, which resulted in a number of interior records of this bird. One was caught alive at Atlantic, Cass County, December 20, 1896, by Frank Pellett. This mounted specimen, which is now in the possession of T. C. Stephens, Sioux City, was recently examined by Ludlow Griscom of the Museum of Comparative Zoology, Cambridge. It was stated to be a young Brunnich's Murre of the year (Wilson, Bull., XLIV, p. 239). The second specimen was found in Johnson County during January, 1897. It was given to George C. Hoover of West Branch who mounted it. The present whereabouts of this bird is not known.

Order Columbiformes

Family Columbidae Blackface

Columba livia livia Gmelin. Rock Dove.

This is the common Domestic Pigeon which is reared so commonly throughout the state. Occasionally some of these birds revert to the wild state and may be found nesting about the buildings in our cities. Charles J. Spiker has recently recorded (Iowa Bird Life, III,

pp. 10-11) two examples of apparent reversion. On September 22, 1932 a flock of at least fifty birds was found about the rock face of an abandoned quarry, a few miles north of Anamosa, Jones County. Since 1917, this dove has frequented the rocky palisades of the Iowa River at Iowa Falls. It is, indeed, difficult to determine when our Domestic Pigeon becomes sufficiently self-sustaining and naturalized to justify its recognition as the Rock Dove.

Zenaidura macroura carolinensis (Linnaeus).

Eastern Mourning Dove.

A common summer resident, a few remaining each winter. Restricted to the extreme eastern and southeastern part of the state. This darker eastern race appears to intergrade with marginella, along the Mississippi River Valley, although the exact range cannot be delineated without additional specimens. A male in the Dwight collection of the American Museum of Natural History, New York City, was taken by W. G. Savage at Hillsboro, Henry County, April 20, 1895. It was examined by J. T. Zimmer who stated that it was clearly referable to carolinensis.

Zenaidura macroura marginella (Woodhouse).

Western Mourning Dove.

A common summer resident, a few remaining throughout the winter. Breeds commonly in all parts of the state except the extreme east and southeast where it is replaced by the eastern race carolinensis. Breeding specimens from Johnson and Iowa counties were examined by H. C. Oberholser and determined as typical of marginella. There are recent reports of its wintering from as far north as Woodbury and Buchanan counties.

Ectopistes migratorius (Linnaeus). Passenger Pigeon.

Extinct. Formerly an abundant migrant. Breeding records are extant for Woodbury, Sac, Winnebago, Cerro Gordo, Floyd, and Jackson counties. The last great flights through Iowa were during the years 1868 to 1870 (Herbert Osborn: Annals of Iowa, VI, pp. 561-570). By 1880 this "Wild Pigeon" was greatly reduced in numbers and after 1890 there are these few observations which are probably reliable. 1891-Des Moines County, flock of twenty (Paul Bartsch); 1893-Jackson County, one small flock and two single birds (H. J. Giddings); 1893-Franklin County, a flock of twenty birds and one found dead (Frank H. Shoemaker); 1894-Jackson County, small flock (H. J. Gid-

dings); 1894-Lee County, ten pigeons (E. S. Currier); 1895-Winneshiek, small flock seen by a farmer (Carsten C. Smith); 1896-Jackson, a small flock, the last seen (H. J. Giddings); 1896-Lee County, a single female seen May 19, and a young male collected September 7, 1896 (W. E. Praeger); 1897-Floyd, "The last authentic record is by Clement L. Webster, in 1897." (Fenton); 1899-Lee County, last ones seen May 14, 1899 (E. S. Currier); 1899-Polk County, a flock of twenty-five or thirty reported seen during the fall at Des Moines (Lester P. Fagen); 1903-Kossuth County, "Three were seen April 6, 1903." (W. H. Bingaman). Praeger's specimen is the last one taken in the state. The flock seen by Fagen was unusually large to have been seen at such a late date.

Few Iowa specimens are preserved. Elliott Coues (Birds of the Northwest, 1877) listed two males, No's. 4856 and 4857, as contained in the U. S. National Museum. They were secured at the "Mouth of Big Sioux" River, Woodbury County, May 3, 1856, by F. V. Hayden, a member of Lieut. Warren's Expedition. The Davenport Public Museum has two mounted birds, No's. 19334 and 10333, taken by W. L. Allen in Scott County. No date is recorded. There are four birds in the Shaffer collection, Fairfield, probably all secured by J. M. Shaffer in Jefferson County before 1880. Two in the Philadelphia Academy of

Natural Sciences, were taken by W. L. Abbott, one September 7, 1879 in Mitchell County, the other June, 1881, in Palo Alto County. A male, in the possession of O. M. Greenwood, Manchester, was collected by his father, Wm. H. B. Greenwood, in Delaware County, May 10, 1881. Another, taken in the same locality, was disposed of to Frank M. Chapman. The University of Iowa Museum has one secured by John Williams, near Coralville, Johnson County, May 7, 1884. The writer has not learned what became of the bird secured by W. E. Praeger, September 7, 1896, in Lee County.

Order Psittaciformes

Family Psittacidae

Conuropsis carolinensis ludovicianus (Gmelin).

Louisiana Paroquet.

Extinct. Anderson (1907) has summarized the observations of this bird as contained in the reports of the early explorers up the Missouri River. Thomas Say stated that it was seen several times during the winter of 1819-20 at Engineer Cantonment, near the present site of Ft. Calhoun, Washington County, Nebraska. Prince Maximilian recorded an Iowa observation on May 14, 1834, a little below "Weeping-water River". Audubon and Bell

had several observations during May, 1843. The last authentic record is given by T. Martin Trippe (1872): "A resident of Decatur County told me that he had several times seen a flock of Parrots in the southern part of the county on a tall, dead cottonwood tree, known to the neighboring inhabitants as the "parrot tree", from its having been frequented at intervals by the same flock for several years....and that he had shot one of them on one occasion." There are no Iowa specimens.

Order Cuculiformes

Family Cuculidae — Blackface

Coccyzus americanus americanus (Linnaeus).

Yellow-billed Cuckoo.

A fairly common summer resident, breeding in all parts of the state.

Coccyzus erythropthalmus (Wilson).

Black-billed Cuckoo.

A fairly common summer resident, breeding throughout the state, most numerous in the northern part.

Order Strigiformes

Family Tytonidae — Blackface

Tyto alba pratincola (Bonaparte). Barn Owl.

A rare resident in all parts of the state, somewhat more numerous in the southern and western portions. Anderson (1907) listed observations of specimens from the following counties: Blackhawk, Franklin, Webster, Woodbury, Cass, Boone, Polk, Poweshiek, Linn, Johnson, Des Moines, Lee, and Wayne. Bailey (1918) added records of occurrences from Mitchell, Floyd, Hancock, Sac, Delaware, Dubuque, and Lucas counties. Stephens and Youngworth have reported seventeen specimens from the Sioux City region of which nine are from Woodbury and Harrison counties. Recently reported from these additional counties: Clayton, Chickasaw, Buchanan, Jackson, Keokuk, and Story.

Family Strigidae — Blackface

Otus asio naevius (Gmelin). Eastern Screech Owl.

A common permanent resident, breeding in all parts of the state. A male, in the gray phase, from Sioux City, Woodbury County, taken during December, 1884, was identified by J. Van Tyne as typical of this subspecies.

Otus asio aikeni (Brewster). Aiken's Screech Owl.

Rare in the northwestern corner of the state. Three specimens of this bird have been identified by J. Van Tyne. A male, No. 13183 in the University of Iowa Museum, was collected by J. Fulton at Onawa, Monona County, February 12, 1885. A female, No. 8657, in the same collection, was taken by M. Finnerly at Dakota City, Nebraska, December 22, 1885. A specimen in Youngworth's collection was caught by two boys in Sioux City, Woodbury County, during August, 1932. The sex was not registered.

The writer believed that aikeni would prove to be a winter visitor into northwestern Iowa, but the August specimen would indicate both naevius and aikeni as resident subspecies in the same area. Additional specimens are needed to determine the status of these two birds in northwestern Iowa. Aiken's Screech Owl has not previously been reported from Iowa.

Bubo virginianus subarcticus Hoy. Arctic Horned Owl.

A casual visitor. There are three Iowa specimens. Two in the University of Iowa Museum were secured during the winter of 1888 and '89. No. 3343, a female was collected in Johnson County, December 18, 1888, by

William Mueller. No. 11612, sex not recorded, was taken by Charles Hagelin, in Woodbury County during February, 1889. Frank E. Ellis reports mounting one during the winter of 1913-'14, which was killed on the farm of a Mr. Bolte, four miles from Maquoketa, Jackson County. The specimen remains in Bolte's possession. The first two specimens were listed by Anderson (1907) under Bubo v. pallescens-occidentalis, the present race not being included in his report.

Bubo virginianus virginianus (Gmelin).

Great Horned Owl.

A fairly common resident most numerous in the wooded areas of the south and east, and less so in the northwest away from the Missouri River bottoms. Breeding specimens from all parts of the state are typical of virginianus. Several very dark birds, taken in Iowa, have the legs heavily mottled with black, and seemingly are as dark as saturatus of the Pacific northwest. These were examined by H. C. Oberholser, who determined them as virginianus, pointing out that the rufous caste of this race was retained, although nearly suffused by the duskiness.

Bubo virginianus occidentalis Stone.

Montana Horned Owl.

An uncommon winter visitor, found in nearly all parts of the state, but most numerous in the northwest. The type specimen of occidentalis was secured in Mitchell County, Iowa, during the winter of 1880, and subsequently was obtained from the local collector by W. L. Abbott for the Philadelphia Academy of Natural Sciences, where it now is No. 26435.

Anderson (1907) reports three specimens from Hancock County, April, 1891, January 26, 1894, and a male, November 14, 1898. Several specimens are in the University of Iowa Museum. A female, No. 3347, was taken during January, 1887 in Johnson County. A male was secured by P. Dvorsky in Johnson County, January 11, 1907. A male, No. 16172 was collected for Paul Bartsch in Clayton County, January 11, 1896. A female, No. 8698, was secured by one of the Talbot collectors, December 8, 1884 at Little Sioux, Harrison County. A female, No. 11610, was taken by D. H. Talbot at Sioux City, Woodbury County during 1889. No. 14582, was taken by Talbot collectors at Blue Lake, Monona County, in 1885. No. 15435, is a Talbot specimen with no further data than "Iowa". A male in H. R. Dill's collection was

taken by Hewitt at Iowa City, Johnson County, October 23, 1923. No. 881, in the Coe College Museum was secured in Boone County during 1907. One in the Allert collection was secured October 28, 1926 at Beulah, Clayton County. One in the Rosene collection was taken in Boone County. One collected by D. H. Bullock in Story County, during January, 1927 is now in his collection. Harry Tennant has three taken in the vicinity of Arnold's Park, Dickinson County. Otto Remer secured one at Le Mars, Plymouth County. T. C. Stephens (1918) records the following four specimens mounted by A. J. Anderson, former Sioux City taxidermist, during the fall of 1917: November 10, a male from Kelley, Story County; November 19, a female from Alta, Buena Vista County; December 4, a male taken seven miles east of Leeds, Woodbury County; December 5, a male taken near Morningside, Woodbury County. Stephens listed five field observations in Woodbury County between December 16, 1917, and February 17, 1918.

Nyctea nyctea (Linnaeus). Snowy Owl.

A fairly rare and irregular winter visitor, probably a few visiting northern Iowa each winter. Periodic invasions have been noted during the winters 1882-'83,

1886-'87, 1905-'06, 1909-'10, 1917-'18, and 1930-'31, when numbers of these birds were collected or seen. T. C. Stephens (1918) recorded forty specimens and six field observations during the winter 1917-'18, in the Upper Missouri Valley. A record of forty-six specimens mounted by A. J. Anderson, former Sioux City taxidermist, between the years 1900 and 1917 is contained in manuscript notes of Stephens. A record of the twenty-three specimens secured by D. H. Talbot and his collectors in northwestern Iowa between 1884 and 1887 is contained in a manuscript of the writer. Specimens or reports are extant from thirty-nine of the ninety-nine counties.

Speotyto cunicularia hypugaea (Bonaparte).

Western Burrowing Owl.

A summer resident in the northwest part of the state. Anderson (1907) listed records from six counties. They are as follows: Dickinson- one seen during the fall of 1895, seven miles southwest of Lake Park (Salisbury); Kossuth- one collected two miles south of the Minnesota line, two and one-half miles southwest of Elmore, Minn., on June 8 or 9, 1904 (Bingaman); Lyon- Bohumil Shimek reported it fairly common during 1896, two or three being usually seen in a day's drive;

Sioux- is common summer resident. During 1902 young, unable to fly, were found (Johnson); George H. Berry reported it fairly common around Hawarden in 1890, three males and one female collected; Woodbury- uncommon summer resident, a farmer related that a pair bred on his farm in this county (Rich); a Winnebago Indian reported to I. S. Trostler that this owl had nested in the northwestern corner of the county during the 1880's; Cherokee- a small colony near Meridan, about 1897. A full set of eggs taken (Frank Bond).

Bailey (1918) added breeding records in southwest Sac County, where the birds were locally distributed, but fairly common in 1916 (J. A. Spurrell). On September 20, 1914 seven members of the Sioux City Bird Club visited a breeding colony of three pairs, eight miles southeast of Sioux City, Woodbury County (A. F. Allan).

Notes furnished from the files of the U. S. Biological Survey are as follows: Sac County- first noted September 16, 1907, obsdrved July 2, 1917, near Wall Lake, five and one-half and three miles south (J. A. Spurrell); Buena Vista- once nested near Marathon (Crane); Osceola County- seen April 22 and 29, 1928 (C. J. Spiker); Woodbury County- last seen, October 5,

1924, one (Spiker); one seen April 15, 1925, near Sioux City (Spiker); one seen near Sioux City, March 20, and April 6, 1916 (T. C. Stephens).

It was recently reported from Dickinson County by Roberts, Mrs. W. H. March, and Bennett. The latter reported it as probably breeding. He added an observation by M. B. Townsend, one seen, June 8, 1911, between Smithland and Sioux City, Woodbury County. Paul L. Errington reports one seen in Lyon County, not far from the South Dakota line, early in July, 1931. Reported by Wolden as a rare breeder in Emmet County. Hendrickson saw a pair near Ocheyedan Mound, Osceola County, in 1928. Gabrielson (1917) reported three pairs nesting at Granville, near the Sioux and O'Brien County line, June 16, 1911. Four birds seen May 9, 1928, near Paton, Greene County were reported to the late E. W. Sells. He saw two of them May 12. On June 12, one was seen at the same place by Robert Walker, Walter Rosene, Kenneth Nelson and the writer. Seen again by Rosene on June 26 and six were seen later in the summer by Sells who concluded that four young grew to maturity (Wilson Bull., XLIV, pp. 174-175). The most easterly record in Iowa, and probably in the entire Mississippi Valley region, is reported by Henry

Birkeland. During the summer of 1923 a pair nested and reared a family of young in some burrows of his pasture, near Nevada, Story County. The writer has seen no Iowa specimens with data.

Strix varia varia Barton. Northern Barred Owl.

A common resident, most numerous along the heavily wooded flood plains of the rivers; breeding in all parts of the state. A darker race S. v. brunnescens has recently been described by Louis B. Bishop (Proc. Biol. Soc. Wash., XLIV, p. 94) in which the light and dark areas are more contrasted, the light areas nearly pure white, lacking the ochraceous of varia, and the brown areas more sooty. It is described from a series of eight birds taken in extreme northern Minnesota. If brunnescens is recognized in the next A. O. U. Check-List an Iowa specimen recently examined by H. G. Oberholser must be included. It is a female, secured at Coralville, Johnson County, during November, 1928.

Scotiaptex nebulosa nebulosa (Forster).

Great Gray Owl.

A casual visitor. Anderson (1907) recorded that it was listed by J. A. Allen (White's Geology of Iowa, II, p. 424), and it was reported by I. S. Trostler on December 17, 1893, near Omaha (Rev. Bds. Neb., p. 55). Trippe (1872) stated that a very large bird was killed at Oskaloosa, in Mahaska County, which, from the description given him by the person who shot it, must have been this species. Walter G. Savage writes from Hillsboro, Henry County: "In 1860 my father shot one. I have not known them to occur since. There is no mistake in this owl. My father shot it in a tree standing in our dooryard one night, and it was nothing else but a Great Gray Owl." David L. Savage, writing in 1894, says: "A friend in Van Buren County shot a Great Gray Owl a few winters ago. This is the only time I ever heard of this species being found in Iowa, but the identity is certain."

A sight record is listed hypothetically by DuMont (1931) because substantiating evidence, in the form of a specimen, is lacking. Four were seen under favorable conditions by A. J. Palas and John Woodmansee in Polk County, December 24, 1922. Nauman reports that one

was found during the winter of 1920-'21, four miles north of Sigourney, Keokuk County. It was discovered by several boys, high in a tree, and one of them succeeded in hitting it with a thrown club. The bird was caged for several days and during that time Nauman identified it as unquestionably of this species. He noted the great size, large facial disc, yellow eyes, and the lack of ear tufts. (There is some slight discrepancy as to the date of capture. Nauman's report to the writer stated about February 10, while his report to the U. S. Biological Survey gave April 25. He mentions that the ground was covered with snow). There are no Iowa specimens.

Asio wilsonianus (Lesson). Long-eared Owl.

An uncommon or somewhat rare resident in all parts of the state, breeding in suitable localities. As this species is noted more frequently in winter there may be a slight migratory movement from the north.

Asio flammeus flammeus (Pontoppidan).
Short-eared Owl.

An uncommon winter resident, and a rare summer resident in the northern part. Bailey (1918) reported

breeding records for Linn, Boone, Winneshiek, Floyd, Winnebago, Buena Vista, Dickinson, and Emmet counties. Gabrielson (1917) recorded it as a common breeding species in Clay and O'Brien counties. Nauman (1926) recorded a summer observation for Keokuk County in 1916. Spurrell (1917) considered this species a rare breeder in Sac County, and at times an abundant winter resident.

Cryptoglaux acadica acadica (Gmelin). Saw-whet Owl.

An uncommon and irregular winter visitor. Unrecorded by a number of observers. There are a number of specimens. Six in the University of Iowa Museum were taken in Woodbury, Boone, Scott, and Johnson counties. Four in the Coe College Museum were taken in Allamakee, Linn, and Iowa counties. Specimens are extant from Sac, Blackhawk, Story, Dallas, and Henry counties.

Anderson (1907) states: "'It is known to breed quite regularly across the river from Omaha and probably does on the Nebraska side also' (Rev. Bds. Neb., 1904, 55). Dr. Trostler also records it as a scarce summer resident in Pottawattamie County. D. L. Savage writes: 'The 6th of May, 1893, while out in the woods,

I shot a female Saw-whet Owl, the first one I have found in this county' (Henry)." The writer knows of no positive breeding records.

Order Caprimulgiformes

Family Caprimulgidae. Blackface

Antrostomus vociferus vociferus (Wilson).

Eastern Whip-poor-will.

An uncommon summer resident, less numerous in the northern part of the state. It has become considerably reduced in numbers since the invasion by the white settlers and the attending destruction of woods and underbrush. Wolden reported it as absent in Emmet County for a number of years, Spiker classed it rare in Chickasaw County, and Nauman reported it rare in Keokuk County. Allert considers it a common summer resident along the Mississippi bottoms in Clayton County.

Phalaenoptilus nuttalli nuttalli (Audubon).

Nuttall's Poor-will.

A casual summer resident; a single breeding record. Anderson (1907) says: "Dr. Isidor S. Trostler

gives the species as a 'Very rare summer resident in Pottawattamie county. I took a set of two eggs May 5, 1895; bird shot almost to pieces, but enough saved to make identity certain.'" There is no specimen or additional records.

Chordeiles minor minor (Forster).

Eastern Nighthawk.

A very common migrant, and a common summer resident in all parts of the state except, perhaps, the extreme northwest corner. In a study of this genus, H. C. Oberholser (U. S. Not. Mus. Bull. 86) restricted the breeding range of virginianus = minor in Iowa, south and east of Woodbury and Winnebago counties, the northwestern corner being occupied by Chordeiles sennetti. Specimens nearly intermediate between senetti and minor, but nearer the latter race, were examined from Winnebago County, August 12 and 26, 1879, and September 1 and 3, 1879. A single example taken in Dickinson County during June, 1881, was considered nearer sennetti. J. Van Tyne wrote that two adult females collected in Clay County, July 8 and 24, 1907, had recently been identified by Oberholser as the typical subspecies. A study of additional breeding specimens is

needed to determine the nesting form of the northwest.

Chordeiles minor sennetti Coues. Sennett's Nighthawk.

A fairly common migrant in the western half of the state. This may prove to be the breeding form in the northwestern corner of the state (see above). A specimen in the Philadelphia Academy of Natural Sciences was taken in Dickinson County, during June, 1891, by W. L. Abbott. It was identified by Oberholser (ibid, p. 52). A specimen in the U. S. National Museum, in juvenal plumage, from four miles southeast of Boone, Boone County, was collected October 27, 1898 by Carl Fritz Henning. A male, No. 17883, in the University of Iowa Museum, was secured by A. G. Frank at Sioux City, Woodbury County, July 21, 1884. This specimen was examined by Robert Ridgway. A specimen in the H. B. Smith collection in the Odebolt High School, was taken in Sac County. Spurrell (1919) reported one seen resting in a plowed field near Wall Lake, Sac County, August 12, 1909. It was discribed as a pale silvery color, probably a young bird. One was seen by Mary L. Bailey at Sioux City, September 10, 1930 (Bulletin, Iowa Orni, Union, VII, p. 36). Youngworth considers sennetti a common migrant. Stephens, Bennett, and Youngworth believe that the breeding bird in Woodbury County is the

darker minor. Observed by the writer in Polk County, August 29, and September 18, 1932.

Order Micropodiiformes.

Family Micropodidae — Blackface

Chaetura pelagica (Linnaeus). Chimney Swift.

A common summer resident, breeding in all parts of the state.

Family Trochilidae — Blackface

Archilochus colubris (Linnaeus).

Ruby-throated Hummingbird.

A common summer resident, breeding in all parts of the state. Reported as fairly common in Story County (Hendrickson) and Emmet County (Wolden). Pierce (1930) recorded it as a scarce summer resident in Buchanan County.

Order Coraciiformes

Family Alcedinidae — Blackface

Megaceryle alcyon alcyon (Linnaeus).

Eastern Belted Kingfisher.

A fairly common summer resident along all of the streams in Iowa. Reported during the winter from all

parts of the state, but most numerous in the southern half.

Order Piciformes

Family Picidae.

Colaptes auratus luteus Bangs. Northern Flicker.

A common summer resident, uncommon in winter, breeding throughout the state.

Colaptes cafer collaris Vigors. Red-shafted Flicker.

Typical examples are not frequently noted, but hybrids between this species and Colaptes auratus probably occur regularly as migrants along the Missouri River Valley, and occasionally straggle to other parts of the state. Anderson (1907) reported specimens or observations from Blackhawk, Tama, Van Buren, Winnebago, Hardin, Boone, Cass, Sioux, Woodbury, Pottawattamie, and Mills counties. Trostler, reporting from the last two counties, considered it a summer resident. D. H. Talbot of Sioux City wrote as follows: "While this bird is not common in this part of the state, yet it is very frequently found. I have observed it here nearly every season for twenty-odd years and have secured quite a number of specimens, including several

hybrids..." (Iowa Orn., 1, 3, 1895, p. 74).

Notes from the files of the U. S. Biological Survey contain the following observations: Ashton, Osceola County, seen January 23, and March 26, 1927, and April 7, 1928 (Charles J. Spiker); Ames, Story County, one December 5, 1878 (Henning); Wall Lake, Sac County, one reported (Spurrell).

Spiker (1926) recorded one seen at Quorn, Plymouth County, October 16, 1922 and one along the Missouri River, west of Sergeant Bluff, January 25, 1923. Youngworth (1931) stated that it was a rather common winter visitor in the Sioux City region; two records are November 19 and 23, 1928. DuMont (1931) recorded occurrences in Polk County in 1905, 1906, 1924, and 1928.

Ceophloeus pileatus albieticola Bangs.

Northern Pileated Woodpecker.

A rare and very local permanent resident, confined to the heavy timber of the south and east. Anderson (1907) stated that it was formerly a not uncommon resident in heavily timbered portions of Iowa, and that an individual or isolated pair was still occasionally reported from localities where belts of

native timber remained. Records for the following counties were listed: Winneshiek, Kossuth, Woodbury, Boone, Polk, Decatur, Blackhawk, Linn, Van Buren, and Lee.

Until a few years ago this huge woodpecker seemed doomed to extinction in the state. Surprising enough it appears now to be increasing slightly, and has been reported from several localities. A. J. Palas reported one seen in Allamakee County, June 21, 1931. Allert classed it as a tolerably common permanent resident in Clayton County. Spiker reported it as rare in Chickasaw County. Hendrickson saw one in Blackhawk County in 1924. Pierce observed it in the Backbone State Park, Delaware County, May 21, 1931, September 21, and December 26, 1932. Ellis reported a pair near the old deserted town of Clay Mills, Jones County, two seen in Jackson County, and a specimen taken near Toronto, Clinton County, all within the last few years. Grover C. Hawk reported seeing a pair four different times in Keokuk County. It was noted in the same county by Nauman, who stated that a few were seen. E. L. Breitenbach has seen it several times recently in Keokuk County. DuMont (1931) recorded

one seen in Polk County, by Andy Harkins, during February, 1923. There are several Iowa specimens.

Centurus carolinus (Linnaeus).

Red-bellied Woodpecker

A fairly common resident in the southern half of the state, rare in the northern portion. This species has gradually been extending its range northward and while Anderson (1907) recorded only three straggling occurrences (Allamakee, Winneshiek, and Franklin counties) it now is a resident in small numbers through the entire northern portion of the state. Allert states that it is common in Clayton County, more common in winter than summer, thus suggesting a slight migratory movement.

Melanerpes erythrocephalus (Linnaeus).

Red-headed Woodpecker.

A common summer resident. Fairly regular and at times a common winter resident in the southern part, less numerous and less frequent in the northern portion. It breeds in all parts of the state.

Asyndesmus lewis Gray. Lewis's Woodpecker.

A casual visitor. The only record is of a single individual that remained in Riverside Park, Sioux City, Woodbury County, from November 28, 1928, when it was discovered by Mrs. W. J. Armour, until March 20, 1929. It was seen repeatedly during the intervening time by the members of the Sioux City Bird Club. While the specimen was not collected, there can be no doubt as to the identification. (Youngworth, 1931).

Sphyrapicus varius varius (Linnaeus).
Yellow-bellied Sapsucker.

A fairly common migrant and a rare summer resident, occasionally remaining in winter in the southern portion. Anderson (1907) listed it as a tolerably common summer resident in most parts of the state, especially in the northern parts. Breeding records were given for Poweshiek, Pottawattamie, Mills, Polk, Lee, Linn, and Warren counties. At present it is reported as a rare summer resident in Clayton County (Allert). There is a single recent nesting record in Polk County (Kenneth R. Nelson).

Dryobates villosus villosus (Linnaeus).

Eastern Hairy Woodpecker.

A fairly common permanent resident, somewhat more numerous in winter. Breeds throughout the state. Anderson (1907) included Dryobates v. leucomelas= septentrionalis in his list, on the basis of eight specimens from the Talbot collection, taken at Sioux City in November, 1885, and December, 1884. These were identified by Robert Ridgway, who stated that they were intermediate between villosus and leucomelas. These birds, along with a series of other Iowa specimens, were recently examined by H. C. Oberholser, who considered them all villosus. Measurements of five specimens from Sioux City, Woodbury County contained in the University of Iowa Museum are as follows:

Museum No.	Date	Sex	Wing	Tail	Exposed culmen
13498	Dec. --, -	male	122.0	77.5	31.2
13497	Dec. 6,1884	female	120.6	73.7	29.9
13499	Nov.13,1885	--	122.0	81.3	30.5
13496	Dec. 10, --	female	122.7	78.2	31.2
13500	Dec.12, --	female	126.5	77.7	30.9

A typical male and female of septentrionalis from Grand Rapids, Manitoba, compare as follows:

Museum No.	Date	Sex	Wing	Tail	Exposed culmen
9361	Feb. 11,1893	male	134.1	89.7	34.8
9362	Feb. 16,1893	female	132.8	89.7	33.3

Dryobates pubescens medianus (Swainson).

Northern Downy Woodpecker.

A common permanent resident, breeding in all parts of the state.

Picoides arcticus (Swainson).

Arctic Three-toed Woodpecker.

A casual winter visitor. There are but two records. Anderson (1907) recorded the following report from Walter G. Savage: "About twenty years ago [about 1885] my father shot one, the only record I have in our locality. I have a painting of the bird and was with the man when he shot it. It was taken in the western part of Henry County, on Big Cedar." DuMont (1931) says: "Rare winter visitor. The only record is of one seen February 18, 1924, in Crocker Woods, Des Moines, by Miss Anna K. Bernard and A. T. Watson." Watson became acquainted with this bird in Maine and

the writer accepts his observation as unquestionable. One was seen March 6, 1927, by C. A. Mitchell in the Fontenelle Forest Reserve, south of Omaha, Nebraska, and across the Missouri from Pottawattamie County, Iowa. There are no Iowa specimens.

Order Passeriformes.

Family Tyrannidae — Blackface

Tyrannus tyrannus (Linnaeus). Eastern Kingbird.

A common summer resident, breeding in all parts of the state.

Tyrannus verticalis Say. Arkansas Kingbird.

A common summer resident in the northwestern corner of the state, gradually spreading east and south. Irregular or rare as a migrant in the eastern portion. Evidence by Anderson (1907) does not indicate when this bird first invaded Iowa as a breeding species, but the following county records suggest the extent of its invasion at the time he wrote: "Dickinson—'One nest found at Spirit Lake, June 15, 1902' (Bingaman). 'Shot one July 30, 1902, at Spirit Lake; two others seen' (Bailey). Sioux—'tolerably common summer resident at Hawarden in 1895' (Berry)....Woodbury—uncommon

summer resident. Several were seen and two shot in September, 1903; also August 10 and 16, 1901; May 4, 1902; at Sioux City' (Rich). "

Reported as a common summer resident; breeding at Spirit Lake, Dickinson County (Roberts). Tinker (1914) recorded that it was found in most of the prairie districts throughout Clay and Palo Alto counties. Adults and immature birds of both sexes were secured during August, 1907. Considered as a fairly common summer resident; breeding in Emmet County (Wolden). Bennett (1931) recorded it as a common summer resident in Woodbury County. Gabrielson (1917) recorded it as tolerably common during 1910 and 1911 in Clay, O'Brien, and the surrounding counties. Hendrickson stated that he had seen this bird during the past five or six summers in Winnebago, Hancock, and Kossuth counties. He stated that a Miss Tysseling found a pair nesting recently in Polk County, southwest of Des Moines. Hendrickson believed there could be no doubt as to her identification. Noted as an irregular migrant in Boone County (Rosene). Spurrell observed a single individual at Ames, Story County, May 12, 1916. Hendrickson reported one in the same place, May 30, 1933. Recorded as a rare migrant in Polk County and Clayton County, with four records for the former and five for

the latter locality.

Myiarchus crinitus boreus Bangs.

Northern Crested Flycatcher.

A common summer resident in the wooded areas of the south and east, less numerous in the prairie region of the northwest; breeding through-out the state.

Sayornis phoebe (Latham). Eastern Phoebe.

A common summer resident, breeding in all parts of the state. Reported by a few observers as fairly common, or diminishing in numbers.

Sayornis saya saya (Bonaparte). Say's Phoebe.

Formerly a casual summer resident. Anderson (1907) recorded one occurrence which seems reliable: "Dr. I. S. Trostler records the species as a rare summer resident in Mills County." There is no Iowa specimen and no additional occurrence.

Empidonax flaviventris (Baird and Baird).

Yellow-bellied Flycatcher.

An uncommon spring and fall migrant. Several breeding records listed by Anderson (1907) must be considered

as errors in identifications as this species does not nest south of the Canadian Zone. In no case was there a record of eggs collected. There are eight specimens in the Philadelphia Academy of Natural Sciences, taken in Mitchell and Winnebago counties during August and September, 1879. Besides these there are several others.

Empidonax virescens (Vieillot). Acadian Flycatcher.

An uncommon summer resident in central Iowa, rarely found in the northern portion. Anderson (1907) recorded nesting records for Pottawattamie, Winnebago, and Linn counties, and noted that it was a common summer resident in Blackhawk, Poweshiek, Warren, and Lee counties. He considered it rare in Winnebago County, where a nest with two eggs was taken June 16, 1896. Allert reported it as a tolerably common summer resident along the Mississippi River at McGregor, Clayton County.

Nauman (1926) listed one or two of these birds in Keokuk County each breeding season between 1916 and 1925.

DuMont (1931) recorded it as an uncommon summer resident in Polk County, with nesting records in 1929 and 1930. Swenk and Dawson (Wilson Bull., XXXIII, p. 138) state that at Omaha it is a fairly common summer resident and breeder. Bennett (1931) recorded it as

uncommon in the Sioux City region on the basis of observations by A. F. Allen. There is a male in the Dwight collection, American Museum of Natural History, New York City, taken by Walter G. Savage, at Hillsboro, Henry County, May 27, 1895. A female collected by W. A. Willard at Grinnell, Poweshiek County is in the collection at Grinnell College. The nest and eggs of this bird were placed in the Parker Museum at the college.

Empidonax trailli trailli (Audubon).

Alder Flycatcher.

A fairly common summer resident, breeding in all parts of the state. The nest of this bird is generally placed in a thick clump of willows. Reported as a fairly common summer resident by Allert in Clayton County and by DuMont (1931) in Polk County. Unreported or considered as rare by a few observers.

Anderson (1907) listed the records for this species under Traill Flycatcher, Empidonax trailli (Aud.), and Alder Flycatcher, E. trailli alnorum Brewster. In the A. O. U. Check-List, 4th. Edition, the latter is considered a synonym of E. t. trailli, but the common name Alder Flycatcher is retained.

Empidonax minimus (Baird and Baird).

Least Flycatcher.

A common migrant, and a summer resident in the extreme northern part of the state. Anderson (1907) recorded it as a common summer resident, and as a nesting bird in Winnebago County. Gabrielson (1917) considered it as a common summer resident in Clay and O'Brian counties. Bennett (1931) recorded it as a common summer resident at Sioux City. A nesting pair was noted by the writer in Polk County. Reported as a migrant only in Clayton, Buchanan, Johnson, and Keokuk counties.

Myiochanes virens (Linnaeus). Eastern Wood Pewee.

A common summer resident in all of the woodlands, breeding throughout the state.

Nuttallornis mesoleucus (Lichtenstein).

Olive-sided Flycatcher.

An uncommon or somewhat rare late spring and fall migrant. Reported as an uncommon migrant in Clayton County (Allert), in the Sioux City region (Bennett)(and Youngworth) and in Polk County (DuMont). It is considered as rare in Chickasaw County (Spiker), Buchanan County

(Pierce), Johnson County (Roberts), Keokuk County (Nauman), Boone County (Rosene), Marshall County (Gabrielson), and Sac County (Spurrell). There are no breeding records.

The name Nuttallornis m. majorinus Bangs and Penard has been proposed for the slightly larger birds breeding from the Rocky Mountain westward. If this race is recognized in the next A. O. U. Check-List these Iowa specimens may be referred to it. A female in the University of Iowa Museum, taken by Ira N. Gabrielson at Marshalltown, Marshall County, May 21, 1913, measures: wing, 102.0; tail, 76.0; exposed culmen, 18.1; tarsus, 15.0. A male in the same collection, secured by R. M. Anderson in Winnebago County, August 28, 1897, measures: wing, 107.0; tail, 79.1; exposed culmen, 16.8; tarsus, 16.3.

Family Alaudidae. Blackface

Otocoris alpestris hoyti Bishop. Hoyt's Horned Lark.

A regular and probably a fairly common winter resident from November to March. It is the opinion of the writer that the bulk of the wintering birds are of this race, praticola being absent or nearly so until the middle of February. Field identifications

of these poorly differentiated subspecies have been entirely disregarded in this summary. In a large series of Iowa specimens examined by H. C. Oberholser, eight examples of hoyti were identified. A male, No. 1222 in the Coe College Museum, was secured by Kubichek at Cedar Rapids, Linn County, February 10, 1929. A number of specimens are in the University of Iowa Museum. No. 28097, a female, was collected at Emmetsburg, Palo Alto County, December 25, 1921. A male, No. 14124, was collected by John Swanson, at Sergeant Bluff, Woodbury County, January 1, 1886. Four other males taken by Swanson were probably from the same locality. They are No. 14106, March 2, 1886; No's. 14125 and 14121, February 9, 1886; No. 14123, February 19, 1886. A male, secured by Robert Walker at Ogden, Boone County, February 16, 1933, was identified by J. Van Tyne as this subspecies. A male praticola, collected at the same time, had testes measuring 4.5 mm., or twice as large as in the male hoyti.

Otocoris alpestris alpestris (Linnaeus).

Northern Horned Lark

A rare winter visitor. A male, No. 1211 in the Coe College Museum, was collected by Robert Walker at

Ogden, Boone County, February 3, 1929. This specimen was recently examined by H. C. Oberholser. Another male No. 2006 in the same collection was secured by W. F. Kubichek in Linn County, January 24, 1930. A juvenile was collected by William Youngworth in Woodbury County, November 16, 1932. The last two specimens were identified by J. Van Tyne.

Otocoris alpestris praticola Henshaw.

Prairie Horned Lark.

A common summer resident, breeding in all parts of the state. Some few individuals are to be found during the winter, more commonly in the southern portion, thus giving rise to the belief that all are permanent residents. However, only two winter specimens have been examined. A female was secured at Marshalltown, Marshall County, by Ira N. Gabrielson, December 13, 1913, and a female was collected at Emmetsburg, Palo Alto County, December 27, 1921. It is altogether probable that the bulk of the Iowa breeding birds move southward, being replaced by a few praticola from the north and principally, in the west at least, by Hoyti. The return northward is during the first or second week of February.

The Desert Horned Lark Otocoris a. leucolaema (Coues) may occur as a migrant along the western border of the state, but no specimens have been secured.

Family Hirundinidae Blackface

Iridoprocne bicolor (Vieillot). Tree Swallow.

A common migrant, occasionally appearing in flocks of considerable size. This is an uncommon breeding bird in the northern part of the state, and irregularly a nesting bird in the southern half. A nesting record in Muscatine County was reported by Roberts. Nauman stated that it sometimes nested in Keokuk County. DuMont (1931) reported a pair building in Polk County during June, 1928, but the nest was later abandoned.

Riparia riparia riparia (Linnaeus). Bank Swallow.

A common summer resident in all parts of the state, breeding wherever there are suitable clay banks for the location of its nests. This species is most numerous in the northwestern part of the state.

Stelgidopteryx ruficollis serripennis (Audubon).

Rough-winged Swallow.

A common summer resident, breeding in all parts of

the state. This species seems to be equally numerous with the Bank Swallow and somewhat more generally distributed.

Hirundo erythrogaster Boddaert. Barn Swallow.

A common summer resident, breeding in all parts of the state. Anderson (1907) summarized the accounts of the early writers who reported this species as rare in Iowa. Nests were placed on the vertical sides of bluffs along the Missouri River. With the advent of the settlers it rapidly increased until now scarcely a farm does not have a nesting pair.

Petrochelidon albifrons albifrons (Rafinesque). Northern Cliff Swallow.

A common migrant, and a locally numerous summer resident. Formerly this species was the most numerous swallow. Anderson (1907) said: "With the settlement of the country the species has almost abandoned the cliff-nesting habit, finding the eaves of buildings more suitable. This has resulted in a much more general diffusion of the species over the prairie country." Roberts (1932) noticed a diminution of this bird in Minnesota after 1900, and a similar condition

existed in Iowa. It has been reported from all parts of the state that breeding colonies have recently increased. The writer witnessed a flight of these birds in Polk County, September 7, 1931. A flock estimated to contain at least three thousand birds was seen.

Progne subis subis (Linnaeus). Purple Martin.

A common summer resident throughout the state, breeding wherever houses are provided for its use. Large migratory flocks are frequently seen in the fall.

Family Corvidae. Blackface

Cyanocitta cristata cristata (Linnaeus).

Northern Blue Jay.

A permanent resident, common in the summer, and less numerous in the winter, breeding in all parts of the state. A partial migration has been noted in the spring and fall with a corresponding decrease of wintering birds, particularly in the northern portion of the state.

Pica pica hudsonia (Sabine). American Magpie.

An uncommon migrant and winter resident in the northwest portion of the state, irregular and rare in

the eastern part. Anderson (1907) stated that the Magpie was not uncommon in Iowa during the early days. Winter and early spring records, all before 1900, were listed for the following localities: across the Missouri River from Pottawattamie County (Say and Audubon); from Council Bluffs north, along the Missouri River (F. V. Hayden); near Sioux City (Elliot Coues); a specimen in Winnebago County during the spring of 1875 (John Krider); a specimen caught in a steel trap, in Blackhawk County (Morton E. Peck); one taken in Lee County during the '70's (E. S. Currier); another obtained in Lee County about 1893 (W. E. Praeger); a Nebraska specimen, obtained near Sioux City was measured by Guy C. Rich. He had been told that this bird was not uncommon in that locality years ago.

The only Iowa record between 1893 and 1914 was reported by Spurrell (1919) who said that one was seen in Sac County by C. O. Lee in 1904. Seven birds were seen by Bennett in Woodbury County, within the city limits of Sioux City, October 31, 1914. Subsequent observations by Bennett are four November 11, and three November 25, 1914, and two December 23, 1915, all in Plymouth County, near Sioux City. Stephens (1918) recorded that one was observed a mile east of

Morningside, Woodbury County, on February 10, 1918 by Paul Jones. Stephens (1920) stated that the Magpies were more numerous than usual in the Upper Missouri Valley, during the winter of 1919-'20. Stephens (1920) recorded that the fall of 1921 brought an unprecedented eastward movement of Magpies across the Missouri River and well into the central part of Iowa. A. J. Anderson, former Sioux City taxidermist, received specimens for mounting from Sioux, Plymouth, Woodbury, O'Brien, and Cass counties. Additional reports were recorded by Stephens from Plymouth, Woodbury, Cherokee, Dickinson, Palo Alto, Pocahontas, Sac, Audubon, Madison, Floyd, and Linn counties. Spiker (1926) stated: "During the past few winters a few of these birds have been found in a deep and thickly timbered ravine in Plymouth County, less than a mile north of the county line, and near the Big Sioux River. On January 24, 1924 I found a small flock of these birds along the Rock River in Sioux County, north of Hawarden." Bennett reported five seen October 26, and twelve, November 2, 1924, north of Stone Park, near Sioux City. Spiker (1926) reported a pair wintering at the same place in 1925-1926. Youngworth

(1931) noted that records of this bird were almost lacking between 1926 and 1930. Several seen near Stone Park, but in Plymouth County, October 31, 1926. Roberts reported that several were seen in Dickinson County during the winters of 1914 and 1921. Wolden found this bird to be a winter resident at Estherville, Emmet County during the winter 1921-'22. DuMont (1931) recorded that during the winter of 1924 George Findley, of Grimes, saw seven of these birds in Polk County. One was collected.

Corvus corax sinuatus Wagler. American Raven.

Extinct for many years in Iowa. There is no evidence that the raven ever bred in the state. However, Thomas Say noted it at Engineer Cantonment, with young nearly able to fly, May 12, 1820. Prince Maximilian recorded observations of this bird, probably on Iowa soil, above the Nishnabotna River, May 1, 1833. Audubon, while below the mouth of the Little Sioux River, stated that a fine large Raven passed at one hundred yards. Trippe (1872) said: "A resident of Decatur County who had become familiar with the Raven in the northwest assures me that he had occasionally seen it in this county."

The determination of the subspecific form of Raven which formerly occurred in Iowa is certainly speculation. No specimens have been preserved nor is there any evidence that one was ever collected. The writer has followed the A. O. U. Check-List, 4th Edition, wherein the bird occupying the area from Montana, North Dakota, and Illinois southward is referred to sinatus, the Northern Raven Corvus c. principalis Ridgway occurring from central Minnesota northward.

Corvus brachyrhynchos brachyrhnchos Brehm.

Eastern Crow.

A very common permanent resident, breeding in all parts of the state. During the winter months these birds congregrate in crow "roosts", which sometimes contain several thousand individuals.

Nucifraga columbiana (Wilson).

Clark's Nutcracker.

Accidental. This bird of the western mountains has occurred in Iowa upon three occasions, in each instance the record being substantiated by a specimen. No. 10753 in the University of Iowa Museum

was shot by Cal Brown four miles southof Boone, Boone County, September 23, 1894. This specimen was donated to the Museum by Carl Fritz Henning (Nutting: Proc. Iowa Acad. Sci., 1894, p.44). A mounted bird in the same collection was secured by A. W. Hemphill, at Tiffin, Johnson County, November 27, 1919. One in the Smith collection, Odebolt High School, was taken by B. H. Smith in Sac County.

Blackface

Family Paridae.

Penthestes atricapillus atricapillus (Linnaeus).

Black-capped Chickadee.

A common permanent resident, breeding in all parts of the state except perhaps in the region along the Missouri River Valley. It is possible that systematic collecting would show that septentrionalis is the breeding form in this area. However, three males in the collection at Morningside College, taken by T. C. Stephens at Sioux City, Woodbury County, are all referable to atricapillus. They were taken March 20, and April 15, 1918, and February, 1916. A juvenal female collected by Ruthevan in Clay or Palo Alto County, July 14, 1907, was recorded by Tinker (1914) as septentrionalis. This specimen was recently examined

by J. Van Tyne, who stated that he did not consider it septentrionalis.

Measurements of the wing and tail of several typical specimens of articapillus are as follows:

Seven males

County	Date	Wing	Tail
Woodbury	February, 1916	68.1	67.8
"	March 20, 1918	71.9	69.6
"	April 15, 1918	72.6	66.8
Marshall	January, 25,1914	66.1	64.3
"	April 21, 1914	66.5	65.0
Polk	February 28,1885	68.6	67.1
Clayton	April 29, 1931	66.5	63.5

Three females

Clay or Palo Alto	July 14, 1907	65.0	62.0
Polk	April 22, 1885	64.5	64.3
Johnson	-- - 1887	64.3	62.7

Penthestes atricapillus septentrionalis (Harris).

Long-tailed Chickadee.

A fairly common winter resident in the northwestern part of the state where it is found to commingle with atricapillus. Throughout the central and eastern parts

of the state this bird is a rare winter visitor. Exceedingly few breeding specimens from the Missouri River Valley have been examined by the writer but all of these were referable to atricapillus. The area of intergradation between these two races undoubtedly is not far west of Iowa, but considerable collecting is needed to determine the exact ranges of the two.

Anderson (1907) listed breeding records from Fremont, Pottawattamie, Mills, Sioux, Mitchell, Winnebago, and Polk counties. The writer entertains considerable doubt in regard to the accuracy of the record in the four counties last named. The lack of agreement in regard to the status of this race is shown by the fact that Roberts (1932) listed no specimens for Minnesota; Over and Thomas (Bull. 9, Series XXI, Univ. South Dakota) recorded this race as a winter resident in the Black Hills of western South Dakota; Swenk (Letter of Information, Nebr. Orni. Union) considers the resident chickadees in eastern Nebraska as referable to this form; Widmann (1907) listed this race for a number of localities in western Missouri.

A male was collected by Anderson at Iowa City, Johnson County, December 30, 1899. DuMont (1931)

recorded a specimen taken in Polk County, now in the Schroeder collection, Des Moines. A male in the collection at Morningside College, was taken by A. J. Anderson at Sioux City, Woodbury County, during February, 1916. The wing measures 69.6 and the tail, 69.3. A series of fifteen specimens secured by D. H. Talbot and his collectors at Sioux City during December, 1884 is contained in the University of Iowa Museum. Four of these birds were identified as septentrionalis by Robert Ridgway in 1906, and the entire series was recently examined by H. C. Oberholser, who reaffirmed this opinion. Oberholser has pointed out to the writer the importance of distinguishing these birds by coloration as well as by measurements. Septentrionalis is slightly larger than atricapillus, and has the secondaries and outer webs of the rectrices margined with white, the back and rump is a paler shade of gray. Measurements of the wing and tail of several specimens of septentrionalis are as follows:

Six males

Tabulation follows

Locality	Date	Wing	Tail
Sioux City, Woodbury Co.	Dec. 8, 1884	69.1	68.1
" " "	" 9, "	68.6	67.8
" " "	" 12, "	69.1	65.5
" " "	" 8, "	68.6	65.5
" " "	" 9, "	67.6	69.1
Grand Rapids, Manitoba	" 30, 1892	67.6	67.3
	Six females		
Sioux City, Woodbury Co.	Dec. 10, 1884	67.3	64.3
" " "	" 9, "	66.3	64.3
" " "	" 9, "	66.3	64.3
" " "	" 10, "	64.3	65.5
" " "	" 9, "	64.3	65.3
Grand Rapids, Manitoba	Nov. 17, 1892	65.0	65.0

10-12-23

Penthestes carolinensis carolinensis (Audubon).

Carolina Chickadee.

Accidental. Anderson (1907) recorded that he had examined a specimen taken by George H. Berry, at Keokuk, Lee County, May 4, 1888. This specimen is now in the Museum at Coe College. It measures: wing, 58.9; tail, 49.3; tarsus, 16.0. The identification was recently confirmed by H. C. Oberholser.

Fred J. Pierce reported that a bird of this species was observed by Charles J. Spiker and himself, in Buchanan County, October 7, 1929. The peculiarities of its song were carefully noted. In the experience of the writer the song of this bird is the best clue for its identification.

Baeolophus bicolor (Linnaeus). Tufted Titmouse.

A common permanent resident in the southern half of the state, uncommon or fairly rare in the northern portion, breeding throughout its range. In 1907, Anderson recorded this bird as a rather rare resident in southern Iowa, seldom reaching the northern part of the state. Records were listed for Blackhawk, Delaware, and Linn counties, as well as several localities in the south. The northward invasion of this Carolinian species has been one of the conspicuous changes in the bird life of Iowa during the past two decades.

Allert reported this bird as uncommon in Clayton County. Several usually seen each year, but none noted during the summer. Spiker considered it a rare straggler in Chickasaw County. Pierce (1930) recorded

it as a fairly common permanent resident in Buchanan County. This bird was first noted at Estherville, Emmet County in 1919, by Wolden who reports it rare at the present time. Roberts had no observations for Dickinson County. Stephens (1920) reported observations of this bird at Smithland, in southeastern Woodbury County, during the winter of 1919-'20 by Ada B. Wendell. It had been reported for several years previously. However, at that time none had been seen at Sioux City. Spiker (1926) recorded it as a rare winter resident in Plymouth County. Youngworth (1931) listed one winter record from Moville, in central Woodbury County, February 12, 1929. Bennett (1931) listed it as uncommon in the Sioux City region. In the southern part of the state, DuMont (1931) has summarized the number of these birds present in the winter as recorded on the Bird-Lore Christmas Census at Des Moines. The minimum number seen during the past decade was 53 in 1924, and the maximum, 132 in 1928. To properly evaluate these figures it must be noted that twice as many observers participated in the census of 1928 as did on the earlier occasion.

Family Sittidae Blackface

Sitta carolinensis carolinensis Latham.

White-breasted Nuthatch.

A common permanent resident, breeding in all parts of the state. Several observers have noted that it is either more numerous or more conspicuous during the winter months.

Sitta canadensis Linnaeus. Red-breasted Nuthatch.

An uncommon and somewhat irregular migrant, infrequently found as a winter resident during January and February. The fall and spring migration periods may actually be periods of residence. Birds are noted as early as August 30 (Winnebago County), and irregularly thereafter until the end of December. There are a few records of birds seen throughout the winter but most frequently they reappear in March and are then noted until the second week in May (Woodbury, Floyd, Buchanan, Marshall, and Scott counties).

Family Certhiidae Blackface

Certhia familiaris americana Bonaparte. Brown Creeper.

A common migrant, and a fairly common winter resident. Anderson (1907) recorded the only authentic

breeding record for Iowa. A nest containing three newly-hatched young was found by Burtis R. Wilson, on an island in the Mississippi River five miles below Davenport, Scott County, May 10, 1891. Both birds were seen to visit the nest with food for the young. Other summer occurrences and possible nesting records were listed for Polk, Pottawattamie, Mills, and Woodbury counties.

In recent years this species has either been overlooked as a summer resident or it has retired northward. Roberts (1932) noted it as a breeder only in the pine forests of northern Minnesota. The only recent Iowa report is by Fenton (1923-'24) who noted it during June, July, and August in six localities in Floyd County, once in Cerro Gordo County, and near Waverly, in Bremer County during June of 1918 and August of 1917. No evidence of nesting was obtained.

Family Troglodytidae — Blackface

Troglodytes aedon parkmani Audubon.

Western House Wren.

A very common summer resident, breeding in all parts of the state. Several observers in the southern and eastern portions reported it as abundant. There is

no evidence that the Eastern House Wren, Troglodytes a. aedon Vieillot, occurs in Iowa. Specimens from the eastern half of the state were examined by J. T. Zimmer and H. C. Oberholser, who determined them all as parkmani.

Nannus hiemalis hiemalis (Vieillot).

Eastern Winter Wren.

A fairly common migrant in the eastern half of the state, uncommon or somewhat rare in the western half, and a fairly rare winter resident. Allert reported it as a common migrant in Clayton County, with one winter record. Spiker considered it as a fairly common migrant in Chickasaw County. Pierce (1930) recorded it as a rather scarce migrant in Buchanan County. Ellis reported seeing a few in Jackson County. Nauman regarded it as very rare in Keokuk County. Gabrielson (1919) stated that this bird was a tolerably common migrant in Marshall County. DuMont (1931) recorded it as a fairly common migrant and an uncommon winter resident in Polk County. Hendrickson has observed it as a winter resident several times in Story County. Rosene considered it rare in Boone County.

Wolden reported it as rare in Emmet County. Both Bennett (1931) and Youngworth have found this bird to be an uncommon migrant in the Sioux City region.

Thryomanes bewicki bewicki (Audubon). Bewick's Wren.

An uncommon summer resident in the extreme southeastern corner of the state, a fairly rare and irregular summer resident in the central and extreme eastern part of the state, along the Mississippi River. Bredding records have been reported from the central and southern parts. Anderson (1907) listed it as rare and very locally distributed. A specimen was taken by Paul Bartsch at Burlington, Des Moines County, April 10, 1893, and two nests were found May 25, 1892 and May 30, 1893. Giddings reported it as a rare migrant in Jackson County; one seen April 6, 1890, one the next day, and several on April 8, 1890. W. E. Praeger reported it as a scarce summer resident, breeding in Lee County. E. S. Currier considered it an uncommon summer resident in the same locality. W. G. Savage reported it as a tolerably common summer resident in Van Buren County. Melvin P. Somes stated that a specimen had been taken in Webster County.

Miss Althea R. Sherman has seven records of this bird at National, Clayton County. Allert collected a male, April 12, 1933 in the same county. A pair nesting in a bird box at Iowa City, Johnson County, raised a brood of four young during May, 1933 (DuMont). H. E. Jaques reported one seen at Mt. Pleasant, Henry County, April 28, 1933. W. G. Ross found this bird at Fairfield, Jefferson County, before 1907. A male in the Dwight collection, American Museum of Natural History, was taken by W. G. Savage at Hillsboro, Henry County, April 19, 1895. One was seen by Spiker (1924) in Wapello County, May 6, 1913. Nauman reported nine observations during late March or early April between 1919 and 1929. His only fall observation was October 29, 1925. DuMont (1931) recorded this bird as a fairly rare migrant, a rare summer resident, and breeder. Noted April 26, 1925 and September 24, 1924, by A. T. Watson. A single breeding record was obtained during June, 1931. The nest was placed in a mailbox and later rebuilt in another. Of the seven eggs laid only one hatched before the nest was deserted (J. E. Stewart and Clivia McCabe). Rosene has one record for Boone County.

Thryothorus ludovicianus ludovicianus (Latham).

Carolina Wren.

An uncommon and irregular resident in the southern half of the state, very few records in the northern half. Recorded as a breeder only in the southern part of Iowa. Anderson (1907) classed this bird as very rare and local. Thomas Say reported it at Engineer Cantonment in 1819-'20, and it was listed by J. A. Allen in 1870. Records were given by Anderson for Webster, Linn, Van Buren, and Lee counties.

Pierce (1930) recorded an observation of this bird in Buchanan County, April 20, 1923. A specimen in the museum of Iowa Wesleyan College was secured at Burlington, Des Moines County, September 2, 1886. A male in the Dwight collection, American Museum of Natural History, was taken by W. G. Savage at Hillsboro, Henry County, May 1, 1900. Stephens (1917) recorded a specimen captured by G. O. Ludcke, at Sioux City, Woodbury County, early in October, 1916. It was identified by Ludcke and A. F. Allen and then released. Stephens (1918) recorded another which was seen by Allen and himself, February 27, 1918, in the same locality. It remained until March 21. DuMont (1931) recorded this as an uncommon and irregular

resident in Polk County. A summary of numerous observations at Des Moines indicated that this bird was more numerous or more frequently seen during the winter months than in the summer. Mrs. Toni Wendelburg recorded (Bulletin, Iowa Orni. Union, VII, pp. 14 and 17) that a pair resided in her garden at Des Moines for two years, nesting during 1928 and 1929.

Telmatodytes palustris dissæptus (Bangs).

Prairie Marsh Wren.

A fairly common migrant, a fairly common summer resident in the northcentral and northwestern parts of the state, uncommon or rare in the southern and eastern portions, breeding throughout its range. In 1907 Anderson recorded this bird as a common summer resident in all parts of the state where suitable sloughs and marshes were found, being even abundant in some localities. As a result of the extensive draining of such marshes this bird has become considerably reduced in numbers. In 1932, F. L. R. Roberts reported it abundant in the sloughs about Spirit Lake, Dickinson County, ten years ago, nesting in some numbers. During the last eight years no nests have been found.

Cistothorus stellaris (Nauman).

Short-billed Marsh Wren.

An uncommon migrant, and a rare summer resident in the southern half of the state, fairly common in the northern part. Allert reported it as a common migrant, rather irregular as to nesting; some years it was common, during others, entirely absent. Spiker considered it rare in summer in Chickasaw County. Fenton (1923-24) recorded it as tolerably common migrant and rare summer resident in Floyd County. Pierce (1930) recorded it as a fairly common but local summer resident in Buchanan County. Wolden reported it as fairly common in Emmet County. Gabrielson (1917) recorded a colony at Webb, Clay County. Spurrell (1921) considered this bird a common migrant and a common breeder in suitable localities in Sac County. Youngworth reported it as an uncommon breeder in Woodbury County, and Bennett (1931) recorded it as a tolerably common migrant in the same locality. All observers in the southern part of the state reported it as a rare or local breeder.

Salpinctes obsoletus obsoletus (Say). Common Rock Wren.

A casual summer resident along the western border

of the state. Anderson (1907) stated that it was first recorded from Iowa by T. Martin Trippe who took a specimen in October, and saw several others, in Decatur County. Trippe recorded: "It was seen on several occasions, far out on the prairie, running over the ties of the railroad track, retreating, when alarmed, into the dense prairie grass" (Am. Nat., 1873, p. 566).

Guy C. Rich wrote Anderson from Sioux City as follows: "The Rock Wrens were here and bred for two or three years, but I have not seen them now for several years. A nest of eggs was discovered on June 25, 1898, badly incubated. On May 28, 1899, the two birds were again seen. On June 1, 1899, I saw two and possibly three birds. They sing a great deal. Found no nest, though. I thought them to be breeding. On June 10, 1900, the birds were discovered in another deep dirt-cut along railroad; no nest found. On September 15, 1901, had a bird brought in from another locality. I have also seen the measurements of two birds shot June 22, 1898." Rich wrote Bennett that the nest at Sioux City, was found June 25, 1898 by Stanley Hills at the side of the big cut on the Riverside car track. The nest and eggs were deposited in the museum of the Sioux City Academy of Science.

A single bird was observed by Walter W. Bennett and A. W. Lindsay at Stone Park, in Woodbury County, April 1, 1910. The bird was observed under ideal conditions, at one time not more than 6 feet distant. A complete description of the plumage and song was made at the time of observation (Wilson Bull., XXXVII, p. 43). Miss Althea R. Sherman observed one of these wrens at National, Clayton County, September 27, 1914. It was watched for some time through 8-power glasses from a distance of 30 feet. A complete description was written while observing the bird (Auk, XXXII, p. 234). There are no Iowa specimens.

Blackface

Family Mimidae

Mimus polyglottos polyglottos (Linnaeus).

Eastern Mockingbird.

An uncommon and irregular summer resident in the southern third of the state. Wandering individuals have been reported from all parts of Iowa during the summer months; occasionally present in winter. Anderson (1907) stated that it was a rare but regular summer resident in the southern part of Iowa and that there were a number of records of its occurrence in the central, and even in the northern part. A nesting record was

listed for Sioux County. Guy C. Rich reported that a bird had been seen in several localities in Sioux City, Woodbury County, between May 30, and June 1, 1902, and that one had been observed the previous year. Keyes and Williams (1889) reported a specimen taken at Charles City, Floyd County. Peck and Walters both noted it in Blackhawk County. One was seen in Marshall County, September 3, 1894. H. W. Parker recorded three observations in Poweshiek and Jasper counties. Johnson stated that he had mounted one or two which had been killed near Des Moines, Polk County. Jeffrey reported a nesting record in Warren County, May 8 to 20, 1898. It was noted in the summer in Wayne County, and one was seen in Van Buren County during 1894. Cooke (1888) listed two winter records at Burlington, Des Moines County. Several observers found this bird to be a scarce summer resident, breeding in Lee County.

It has been reported recently as breeding in several localities. Several pairs have nested four miles northeast of Maquoketa, Jackson County, since 1914 (Ellis). A. W. Lindsey found a nesting pair in Sioux City, Woodbury County during the summer of 1911 or 1912 (Bennett). A pair nesting south of Valley Junction, Polk County, during June, 1929, was seen by several

observers (DuMont, 1931). It was reported as nesting for three years, 1928 to 1930, six miles southwest of Stanton, Montgomery County (C. E. Hoskinson). A pair was reported nesting at Martinsburg in 1914, and another pair at South English, during the summer of 1926. Both localities are in Keokuk County. During July, 1929, a pair was found nesting seven miles west of Sigourney, in the same county, by J. B. Slate (Nauman). A pair breeding at Mt. Pleasant, Henry County, during 1925, was found by Pete Parks and H. E. Jaques.

There are a number of observations during the summer months. Observed in Woodbury County during April, 1925 by Charles J. Spiker and Mrs. Marie Dales. Another seen by the latter October 3, 1926. Mrs. Maud L. Moser reported two occurrences at Dallas Center, Dallas County. In Polk County it was seen during June, 1922 by K. R. Nelson; during April, 1925, by A. T. Watson; seven birds seen in four different localities during 1929; a pair remained for five weeks during May and June, 1932 (DuMont). One was seen at Grinnell, Poweshiek County, during April, 1929 by Wayne Gard, Mrs. W. H. Mack, and Donald Douglas. Nauman reported observations in Keokuk County during 1927 and 1929, and

one by J. B. Slate during April, 1928. Spiker (1924) recorded two occurrences in Wapello County, one during 1911, and the other in June, 1923. It was reported seen at Fairfield, Jefferson County, by W. G. Rose. Miss Althea R. Sherman observed one at National, Clayton County, August 16, 1931. One was seen at Vinton, Benton County, by Walter L. Burk in 1930. One was noted at Cedar Rapids, Linn County, May 9, 1931 by A. J. Palas and W. F. Kubichek.

There are two winter records. One visited several feeding trays in west Des Moines, Polk County, during February, 1932. Walter Rosene reported one during December, 1932 and January, 1933 at Ogden, Boone County. It remained five weeks. No Iowa specimens have been found by the writer.

Dumetella carolinensis (Linnaeus). Catbird.

A common summer resident, breeding in all parts of the state. Anderson (1907) listed two winter records. Recently one was noted at Des Moines, Polk County, visiting a feeding table during December, 1923. One was noted at Rock Rapids, Lyon County, during December, 1931. A slightly crippled individual was seen at a feeding board at Iowa City, Johnson County, throughout December, 1931. In 1932, another, apparently uninjured, frequented the same board during that month.

Toxostoma rufum (Linnaeus). Brown Thrasher.

A common summer resident, breeding throughout the state. It is occasionally found in winter. DuMont (1931) recorded that individuals were seen in Polk County during December of 1928, 1929, and one remained through the winter of 1929-30. One was seen there December 26, 1932. One was seen by Mrs. S. Anderson at Ogden, Boone County, December 13, 1930. O. S. Thomas recorded (Iowa Bird Life, II, pp. 25-26) that one spent most of the winter of 1931-32 at Rock Rapids, Lyon County.

Family Turdidae — Blackface

Turdus migratorius migratorius Linnaeus.

Eastern Robin.

An abundant summer resident, breeding in all parts of Iowa. It is an uncommon but regular winter resident in the southern half of the state, somewhat rare and irregular in the northern portion.

Hylocichla mustelina (Gmelin). Wood Thrush.

A common summer resident in the heavily wooded areas of southern Iowa, and along all the larger rivers,

less numerous in the northcentral part of the state. Wolden reported it a rare summer resident in Emmet County, and Roberts noted it only as a migrant in Dickinson County.

Hylocichla guttata faxoni Bangs and Penard.

Eastern Hermit Thrush.

A fairly common migrant in the eastern part of the state and uncommon in the western portion. There are several typical examples.

It is certain that some form of Hylocichla guttata other than faxoni occurs as a migrant in Iowa. Two specimens in the Dwight collection, American Museum of Natural History, identified by the late J. Dwight as sequoiensis, were taken by Walter G. Savage at Hillsboro, Henry County. No. 12858, a male, secured April 7, 1897, measures as follows: wing, 93.7; tail, 69.8; exposed culmen, 16.0; tarsus, 29.8. It appears to be typical of sequoiensis. No. 12857, a female, taken April 20, 1895, measures as follows: wing, 94.0; tail, 73.5; exposed culmen, 14.7; tarsus, 30.8. It is identical in coloration with No. 12858 and, except for the slightly short wing, might be referred to auduboni.

Concerning these two specimens J. T. Zimmer wrote as follows: "Certainly they match sequoiensis best, but geographically should not belong to that form. They should be auduboni, if not faxoni, and they are decidedly paler than the latter form. They are smaller than the measurements given by Ridgway for auduboni, but agree with some other western specimens probably belonging to the same form."

There are two other gray-flanked Iowa specimens with wings measuring over 99.0. Both are in the University of Iowa Museum. One was taken by Anderson at Forest City, Winnebago County, April 6, 1897; the other was taken by Rosene at Ogden, Boone County, April 17, 1928. They probably are auduboni. However, until a revisionary study of Hylocichla guttata is made, it seems advisable to leave these Iowa specimens unnamed.

Hylocichla ustulata ustulata (Nuttall).

Russet-backed Thrush.

Accidental. There is but one record of this Pacific coast species in Iowa. There is a male, No. 26745 in the Dwight collection, American Museum of Natural History, collected at Keokuk, Lee County, May 20, 1907. This bird was formerly in the C. K. Worthen collection (DuMont: Wilson Bull., XLI, p. 252).

Hylocichla ustulata swainsoni (Tschudi).

Olive-backed Thrush.

A fairly common migrant, slightly more numerous in the eastern part of the state. Normally it appears in numbers about equal with the Gray-cheeked Thrush, although this proportion varies from season to season.

Hylocichla minima aliciae (Baird).

Gray-cheeked Thrush.

A fairly common migrant. Allert reported it a common migrant in Clayton County. Spiker considered it rare in Chickasaw County. It was reported as a common migrant in Johnson County by Roberts. Nauman reported it as rare in Keokuk County. It was reported as fairly common in Wapello, Polk, Story, and Boone counties. Wolden noted it as a common migrant in Emmet County, and both Bennett and Youngworth reported it common in Woodbury County.

Hylocichla fuscescens salicicola Ridgway.

Willow Thrush.

A fairly common migrant in the eastern part of the state, uncommon or somewhat rare in the western portion. A few observers considered it as rare. Formerly

it nested rarely as far south as central Iowa. Allen (1868) recorded it as being very common in western Iowa during July, 1867. Trippe (1872) had no records of it in Decatur and Mahaska counties. Keyes and Williams (1889) stated that several nests had been taken at Des Moines, Polk County. Bingaman found one nest in Kossuth County during May, 1903. Anderson (1907) recorded it as a summer resident in Winnebago County; he found no nests. He stated that Carl Kelsey noted it as a fairly common summer resident in Poweshiek County. There are no recent breeding records in Iowa.

A series of six specimens from eastern Iowa was examined by J. Van Tyne.. He determined them all as salicicola. A male in the Coe College Museum, taken August 2, 1902, appears to be as dark as typical fuscescens, but it is too dirty to be identified. J. T. Zimmer wrote that a male in the Dwight collection, American Museum of Natural History, taken by Walter G. Savage at Hillsboro, Henry County, May 1, 1895, is equivocal, but not clearly separable from fuscescens. Both Oberholser and Van Tyne believe that all Iowa birds belong to the form salicicola.

Sialia sialis sialis (Linnaeus). Eastern Bluebird.

A common summer resident, breeding in all parts of the state. A few are found irregularly in winter in southern Iowa. Pierce (1930) recorded this bird as a scarce summer resident. Both Bennett and Youngworth considered it a common resident in the Sioux City region with numerous winter records. DuMont (1931) recorded it as an abundant summer resident in Polk County, and stated that none had been seen during December or January. However, a pair was seen there December 26, 1932.

Family Sylviidae

Polioptila caerulea caerulea (Linnaeus).

Blue-gray Gnatcatcher.

A fairly common summer resident in the southern part of the state and along the Mississippi River, uncommon in the central portion, rarely found in the upper Missouri River Valley. Anderson (1907) stated that it was a common summer resident in the southern part of Iowa, occurring regularly in the central part of the state, very seldom reaching northern Iowa. He listed reports from Pottawattamie, Decatur, Warren, Polk, Poweshiek, Mahaska, Blackhawk, Delaware, Linn, Johnson, Scott, Muscatine, Henry, Van Buren, and Lee counties.

Allert stated that it was a common summer resident along the Mississippi bluffs, in Clayton County. They were found breeding in several parts of the county. Spiker reported it as rare in Chickasaw County. Pierce (1930) recorded observations during May in 1923 and 1928 in Buchanan County, and stated that Mrs. Bordner found it nesting in Devil's Backbone State Park, Delaware County, in 1923. Hendrickson noted a pair in the same locality during June, 1924. On May 17, 1932, Pierce found a nest of this bird in Delaware County. Nauman reported it as a breeding bird in Keokuk County. DuMont (1931) recorded it as an uncommon migrant in Polk County. Mrs. J. E, Stewart found a pair nesting there in 1930. The writer observed this species in the Ledges State Park, Boone County, each summer between 1918 and 1920. Bennett (1931) recorded it as rare in the Sioux City region. He cited observations by T. C. Stephens and Mrs. H. M. Bailey. Margaret L. Weir recorded (Wilson Bull, XLIII, p. 230) seeing this bird at Hawarden, Sioux County, during the summers of 1929 and '30. A nest was found during June, 1931. There are several specimens.

I believe these two heads are too long to set in one line

Regulus satrapa satrapa Lichtenstein.

Eastern Golden-crowned Kinglet

A common migrant in all parts of the state, a moderately common winter resident in the southern half, irregular and somewhat rare in the northern part.

Corthylio calendula calendula (Linnaeus).

Eastern Ruby-crowned Kinglet.

A common migrant throughout the state, infrequently found during the winter in the extreme southern part. This bird appears to be more common than Regulus satrapa.

Family Motacillidae — black phase

Anthus spinoletta rubescens (Tunstall).

American Pipit.

An uncommon and irregular migrant. Anderson (1907) recorded it as a tolerably common migrant and listed records from Woodbury, Greene, Polk, Decatur, Hancock, Blackhawk, Mahaska, and Lee counties.

Allert reported it as a fairly common migrant in Clayton County. Spiker considered it a common migrant in Chickasaw County. Fenton (1923-24) recorded one observation in Floyd County, April 17, 1917. Pierce (1930) recorded six observations of birds seen in plowed fields,

Buchanan County. A flock of eight was seen by the writer at Fairfield, Jefferson County, May 6, 1933. Rosene observed it once in Boone County. Wolden reported it as a former migrant in Emmet County, but that none had been seen for a number of years. Youngworth stated that it was rather uncommon as a migrant in Woodbury County, and Bennett (1931) recorded it as a tolerably common migrant. There are several specimens.

Anthus spraguei (Audubon). Sprague's Pipit.

The present status is undetermined. Anderson (1907) stated that the only Iowa record was that of I. S. Trostler, who reported it as a straggler in Pottawattamie County; one killed near Manawa Lake, September 14, 1895. The writer has been unable to learn what became of this specimen. There are no further records.

Roberts (1932) listed this as a common summer resident in the Red River Valley region of northwestern Minnesota. Before the breaking up of the prairie it was a nesting bird in the southwestern part of that state. It is possible that migrants of this species through the Missouri River Valley have been confused with the American Pipit. A series of skins is needed.

Family Bombycillidae, — black face

Bombycilla garrula pallidiceps Reichenow.

Bohemian Waxwing.

An uncommon winter visitor in the northern part of the state, somewhat rare and irregular in the southern part. The erratic wandering of this bird appears to be governed by the presence or absence of berries or other fruits (Stephens, 1920). Anderson (1907) noted this bird November 24, 1894 in Winnebago County. The bulk of them are seen between December and March. However, Stephens (1920) recorded small flocks seen throughout April and as late as May 4, 1920 in Woodbury County. From twenty to a hundred birds are normally aggregated in these flocks. Miss Althea R. Sherman has recorded (Auk, XXXVIII, pp. 278-279) an account of the invasion of these birds into Iowa during the winter of 1908-'09. A flock in Clayton County seen by Jerome Jones and Mrs. D. A. Wright was estimated to have contained thousands of these birds. A. J. Palas observed a flock at Des Moines, March 18, 1923 which contained between five and six thousand individuals (DuMont, 1931). There are numerous specimens.

Bombycilla cedrorum Vieillot. Cedar Waxwing.

A common but irregular migrant, and a fairly common winter resident, most numerous in the southern part of the state; a few remain irregularly to breed. Wandering flocks may appear during any month of the year but are most frequently seen during the cherry season. Anderson (1907) listed breeding records from several parts of the state, and it has recently been reported as nesting in Clayton, Keokuk, Polk, Boone, and Woodbury counties.

Family Laniidae. Black face

Lanius borealis borealis Vieillot, Northern Shrike.

A rare winter visitor. Most of the wintering birds of this species are referable to the western subspecies invictus. One example, in a series of twelve Iowa specimens examined by Alden H. Miller of the University of California, was determined as typical borealis. It is a female, No. 12712 in the Dwight collection, American Museum of Natural History, secured by Walter G. Savage at Hillsboro, Henry County, December 8, 1898. Three specimens were determined by Miller as intergrades between borealis and invictus. These are:

No. 12710, a female in the Dwight collection, taken by Savage at Hillsboro, February 18, 1897; No. 17836, in the University of Iowa Museum, secured by Lawrence Martin at Sioux City, Woodbury County, November 25, 1885; a female in the J. Eugene Law collection, taken at Perry, Dallas County, January 3, 1895.

Lanius borealis invictus Grinnell.

Northwestern Shrike.

A fairly common winter resident in all parts of the state. Of twelve specimens examined by Miller (see above), one was determined as borealis, three as borealis-invictus intergrades, and eight as typical of invictus. Miller wrote: "The large shrikes seem to tend more to the invictus type than toward borealis. None are of the extreme large size of invictus, but two or three of the five adults are very typical invictus as regards coloration." Five so determined were taken by Walter G. Savage at Hillsboro, Henry County, and are now in the Dwight collection, American Museum of Natural History. They are: No. 12707, a male, secured January 6, 1896; No. 12706, a male, February 19, 1895; No. 12708, a female, January 13, 1896; No. 12713, a male, January 4, 1900; No. 12711, a male, March 1, 1897.

Three are in the D. H. Talbot collection, University of Iowa Museum. These are: No. 17840, secured at Little Sioux, Harrison County, December 3, 1884; No. 17835, a male, taken at Sioux City, Woodbury County, December 8, 1884; No. 17838, a male, taken at the same place, January 3, 1884.

Lanius ludovicianus migrans Palmer. Migrant Shrike.

A fairly common summer resident, breeding in all parts of the state. It was reported as common by a number of observers. A series of seven specimens was submitted to Alden H. Miller of the University of California for examination. All were determined as migrans. Included in this series was a male taken in Woodbury County during April, a female from Sioux County in September, a male from Marshall County in April, a male from Linn County in March, and three males from Clayton County taken during April and May. One of the latter, taken at Giard, May 13, 1932, was determined as migrans with characters slightly approaching excubitorides.

Anderson (1907) listed both excubitorides and migrans, stating, however, that he believed most of the Iowa records should be referred to the latter form. The writer has found no evidence for including the White-

rumped Shrike in the Iowa list. Certainly straggling individuals must come into the western part of the state during migration, but at present no substantiating specimens are to be found.

Family Sturnidae (black face)

Sturnus vulgaris vulgaris Linnaeus. Starling.

Following its introduction in New York City during 1890 this bird increased rapidly along the Atlantic coast, and about 1916 it crossed the Alleghany Mountains.

The first record in Iowa was of a single bird that was caught and shown to W. S. Long at Lamoni, Decatur County, during December, 1922. No more were seen until 1928 when a few were noted by Kubichek during March in Johnson County. During 1929 it was reported in Polk, Chickasaw, and Johnson counties. The invasion became widespread in 1931 and 1932.

At the present time (1933) it is a fairly numerous breeding bird in the eastern half of the state, and an uncommon winter resident. About one hundred and twenty reports of the starling have been received, mostly from the eastern third of the state. An irregular line marking the distribution westwardly would extend through the following counties: Floyd, Bremer, Blackhawk, Tama,

Story, Boone, Dallas, Polk, Marion, Mahaska, Keokuk, Jefferson, and Van Buren. There are reports of starlings in all counties east of this line, and besides the 1922 Decatur County record there are reports from Union County (1932), Monona County (1932), and Ida County (1933). This bird may be expected in increasing numbers in all parts of the state.

Family Vireonidae. black face

Vireo griseus griseus (Boddaert). White-eyes Vireo.

A decidedly uncommon summer resident in the southern third of the state, and a rare straggler in the northern part. The writer has learned of no recent breeding records. Anderson (1907) recorded it as a tolerably common summer resident in southern Iowa and rather rare or irregular in the central part of the state. A summary of the county records listed by him is as follows: one collected in Woodbury County, April 18, 1900 (Rich); Walters reported it as a rare nesting species in Blackhawk County; Giddings reported it as a common summer resident in Jackson County; Berry stated it was a common summer resident in Linn County; W. A. Bryan reported it quite common in Story County; Henning

classed it as fairly common in Boone County; Trostler reported it a common summer resident in Pottawattamie County. The reporters from the southern counties more or less agreed that this bird was a summer resident.

The writer is unable to account for the utter lack of recent records. One was identified by Roberts at Spirit Lake, Dickinson County, May 18, 1923. DuMont recorded (1931) it as an uncommon migrant in Polk County. Migration dates ranging from April 23, 1924 (Wendelburg) to May 22, 1928 (Watson) were listed for the spring, and for the fall, from August 29, 1926 (Watson) to September 13, 1925 (Watson). There are reports of this bird in Jefferson County before 1907 (W. G. Ross). It was reported from Omaha May 15, 1926 (Letter of Information of the Nebr. Orni. Union). There are several specimens taken before 1900.

Vireo belli belli Audubon. Bell's Vireo.

A fairly common summer resident in the southern and western parts of the state, somewhat rare in the northeastern portion, breeding throughout its range. Anderson (1907) listed this bird as a common or abundant

summer resident. Allert and Pierce did not report it from Clayton and Buchanan counties. Spiker considered it a rare summer resident in Chickasaw County. DuMont (1931) recorded it as a fairly common summer resident in Polk County. Bennett (1931) stated that it was common in summer in the Sioux City region.

Vireo flavifrons Vieillot. Yellow-throated Vireo.

A fairly common migrant, and a somewhat rare summer resident, breeding in small numbers throughout the state. It has recently been reported as a summer resident in the following counties: Clayton, uncommon (Allert); Chickasaw, common (Spiker); Buchanan, occasionally (Pierce); Keokuk, rare breeder (Nauman); Polk, rare (DuMont); Story, rare (Hendrickson).

Vireo solitarius solitarius (Wilson).
Blue-headed Vireo.

A fairly common migrant in all parts of the state. Reported by a few observers as a common migrant, and by others as rare.

Vireo olivaceus (Linnaeus). Red-eyed Vireo.

A very common migrant, and a common summer resident, breeding in all portions of the state.

Vireo philadelphicus (Cassin).

Philadelphia Vireo.

An uncommon migrant. Anderson (1907) stated that it must have been rare in Iowa or else was overlooked, owing to its close resemblance to the Warbling Vireo. Specimens were listed from Winnebago, Woodbury, and Johnson counties.

Roberts considered this bird a fairly common migrant in Johnson County. DuMont (1931) recorded it as a fairly common migrant in Polk County. Eleven observations in the spring range from April 28 to May 20. Nine fall records are from September 2 to October 8.

There are four specimens in the Keyes collection, Iowa State College, Ames, that were secured in Polk County during 1885 and 1886. One in the University of Iowa Museum was also taken in Polk County during May, 1885. Two others in the same collection were secured in Marshall County during September, 1914. Another, a female, was taken August 31, 1901, at Forest City,

Winnebago County. A female was collected at Iowa City, Johnson County, May 20, 1904. One in the Coe College Museum was collected during May, 1913, probably in Linn County. Two females in the Allert collection were secured at Giard, Clayton County, 1928 and October 1, 1927.

Vireo gilvus gilvus (Vieillot). Eastern Warbling Vireo.

A common summer resident, breeding throughout the state.

Family Compsothlypidae. black face

Mniotilta varia (Linnaeus). Black and White Warbler.

A common migrant in all parts of the state. Anderson (1907) listed it as a breeding bird in Blackhawk, Linn, Van Buren, and Lee counties. It was noted as well during the summer in Winneshiek, Franklin, Woodbury, Polk, Henry, and Scott counties. Youngworth noted young birds at Sioux City, Woodbury County, August 11, 1929 and concluded that they were reared in the vicinity. However, no nests have been found within recent years in Iowa.

Protonotaria citrea (Boddaert). Prothonotary Warbler.

A fairly common summer resident along the wooded streams and river-bottoms in southern Iowa. This Carolinian form has continued to increase slightly in numbers, and it has slowly been extending its range northward along the larger rivers. Anderson (1907) said that it about reached its northern limit on the Iowa River in Johnson County, on the Cedar River in Blackhawk County, and on the Des Moines Rive in Webster County. Trostler reported it as a common summer resident in Mills County. Guy C. Rich considered it rare at Sioux City, Woodbury County. Bailey collected two males in Allamakee County in 1904.

Youngworth reported it as a breeding bird in the Sioux City region. A specimen was collected west of that city, in South Dakota, May 11, 1929. Roberts observed it at Spirit Lake, Dickinson County, May 17, 1928. Hendrickson considered it rare in Story County. DuMont (1931) listed four observations in Polk County. A specimen in the museum of Iowa State Teachers College was collected at Cedar Falls, Blackhawk County, in 1925. Pierce (1930) recorded one observation in Buchanan County. Allert reported it as a common summer resident along the Mississippi River bottoms in Clayton County.

There are numerous observations from southeastern Iowa, as well as several specimens.

Helmitheros vermivorus (Gmelin). Worm-eating Warbler.

A fairly rare summer resident in extreme southern Iowa. Anderson (1907) recorded it as breeding in Henry, Van Buren, and Kossuth counties. Concerning the latter record, which is from the northern edge of the state, he says: "Nest with five badly incubated eggs taken June 4, 1904, in quite heavy timber on slightly sloping hillside; male taken" (Bingaman)." It was noted as a migrant in Linn and Lee counties. Chapman (Warblers of North America, 1907, p. 49) states that it has been taken at Des Moines, Polk County, and on May 15, 1886, at Grinnell, Poweshiek County.

DuMont (1931) listed it as a rare migrant in Polk County with the following observations: one observed May 25, 1915 (McCabe); one seen in the woods at Camp Dodge, September 10, 1925 (Palas); one noted September 13, 1930 (Wendelburg). Nauman reported six observations in Keokuk County, ranging from April 27 to May 15. Spiker (1924) recorded one in Wapello County, May 25, 1913. There are three specimens in the Dwight collection, American Museum of Natural History, secured