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PACIFIC COAST AVIFAUNA
NUMBER 10

A DISTRIBUTIONAL LIST OF THE
BIRDS OF ARIZONA

BY
HARRY S. SWARTH

CONTRIBUTION FROM THE MUSEUM OF VERTEBRATE ZOOLOGY
OF THE UNIVERSITY OF CALIFORNIA



HOLLYWOOD, CALIFORNIA
PUBLISHED BY THE CLUB
May 25, 1914

~~Bill Harrison~~

Steven M. Speck

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Edited by
JOSEPH GRINNELL
and
HARRY S. SWARTH
at the
Museum of Vertebrate Zoology
University of California

NOTE

PACIFIC COAST AVIFAUNA No. 10 is the tenth in a series of publications issued by the Cooper Ornithological Club for the accommodation of papers whose length prohibits their appearance in THE CONDOR.

The publications of the Cooper Ornithological Club consist of two series—THE CONDOR, which is the bi-monthly official organ, and the PACIFIC COAST AVIFAUNA.

For information as to either of the above series, address one of the Club Business Managers, J. Eugene Law, Hollywood, California, or W. Lee Chambers, Eagle Rock, California.

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INTRODUCTION

The beginning of this list of the birds of Arizona dates back about eleven years, to a time when the author was engaged in field work in that state. A hasty compilation was made of a few local lists, and the manuscript carried in the field as a guide and aid in making observations and collections. This beginning proved an incentive to the gathering of further data, and shortly after, the opportunity presenting itself for visiting more extensive libraries than had hitherto been available, a careful and systematic search was made through the literature dealing with the ornithology of Arizona. The resulting information was filed away and added to as chance offered, but more pressing work and other interests interfered to prevent the whole from being put into shape for publication. Furthermore it soon became evident that while a fairly long list of species could be compiled as occurring within the state, the published information concerning a large proportion of them was scanty and fragmentary. The writer had hoped to be in a position to continue field work in certain little known sections of the state, where undoubtedly there is much to be added to our knowledge of the birds, but this contingency became more and more improbable, and under the circumstances it seemed advisable to publish the list as it now stands.

It is hoped that as far as it goes this list will be found to be fairly accurate. Pertinent literature has been gone over with care, and it is doubtful if any important publication has been overlooked. At the same time it can hardly be doubted but that there are in collections specimens whose existence will modify many of the statements made here, and it is also highly probable that there are active collectors who have many unpublished records in their notes which would also occasion changes. Available collections and collectors' notes, however, have been made use of wherever possible.

The aim of the present publication is to give a list of the species of birds occurring in Arizona, with a synonymy of the names applied, as regards their occurrence within the state, and a brief but comprehensive outline of the manner of occurrence. The latter, it is hoped, is in each case as clear and accurate as the present state of our knowledge permits. An effort has been made to give a general statement outlining the range and manner of occurrence, supplemented by the citation of authorities for extreme or unusual instances. Exact dates have been given only for the rarest species, those of which but a few specimens have been recorded. The synonymy consists of those names by which the species has been known in literature pertaining to Arizona ornithology.

Thus the general manner of treatment is closely similar to that followed by Grinnell in his *Check-List of California Birds*,* the main difference lying in the greater elaboration of detail in the outlining of ranges, and the numerous citations of authorities, in the present publication.

The order, and in general the nomenclature, of the American Ornithologists' Union *Check-List*, has been followed. Where there is disagreement from this

* Grinnell, J., *Check-List of California Birds*. Pacific Coast Avifauna, no. 3, 1902, pp. 1-92, 2 pls.

standard it is usually in cases where the author's personal experience leads him to a different view; but there are one or two instances (such as with the group of Juncos) where the conclusions of some specialist, at variance with the *Check-List*, are so closely in accord with observations of the author's (in themselves perhaps insufficient to warrant outspoken disagreement), that this worker's treatment of the group is accepted in its entirety.

The expedition conducted by the California Museum of Vertebrate Zoology down the Colorado River from Needles to Yuma in the early spring of 1910, furnished much valuable information in regard to the manner of occurrence of many species of birds. An apparent inconsistency may be noticed in the citations of certain of these records, inasmuch as some of them pertaining to occurrences on the California side of the river have been quoted. Where this is done, however, it is in the case of species which are known to occur in Arizona, but where there is lack of data defining their status in this valley. In such a case, the record, though strictly speaking not pertaining to Arizona, has a very definite value in defining the status of an Arizona bird, and its use seems to be justified.

The appended bibliography contains the titles of such publications as have been consulted by the author in connection with the present contribution, the criterion for the admission of a title being that the work relate definitely to the ornithology of Arizona. Books of a general nature are not included unless they contain some definite, first-hand information on the subject, something not previously published. It is hardly to be hoped, of course, that nothing has been overlooked, and it is to be expected that additional titles relevant to the subject are still to be found, but it seems unlikely that any such will be of a nature to seriously modify many of the statements made in the following pages.

The author's personal field work in the state has been almost altogether in the region lying between the Gila River and the Mexican boundary line. Trips of varying lengths, during four different years and covering every month except December and January, included parts of this region in great detail, and larger portions in a more superficial manner. Of the three hundred and sixty-two species and sub-species here credited to the state, two hundred and twenty-seven were personally observed. In most cases specimens were collected.

The accompanying map showing life zones of the state is presented with full realization that it is probably open to criticism in many particulars, and will correspondingly doubtless require revision in many of the details. At the same time it is believed that it will be of sufficient aid in illustration of the distribution of many species, and in showing the salient zonal peculiarities of the state, to fully justify its publication, even in its admittedly tentative form. This map is compiled from various sources. The northeastern corner is copied from Merriam's (1890) zone map of the San Francisco Mountain region; the zones of much of the central portion of the state are computed from descriptions of localities in publications of Coues (1866), Henshaw (1875), Scott (1886), Mearns (1890), and others. Maps showing the distribution in Arizona of certain conspicuous forest trees useful as zone indicators, loaned to the author by the District Forester's office, Albuquerque, New Mexico, were also used, and found of great assistance. Much of the region south of the Gila River has been mapped from personal observations of the author.

ACKNOWLEDGMENTS

In going through literature dealing with the subject it became apparent that many of the older government reports, and some more modern works as well, contained, among much trustworthy and valuable information, statements regarding certain species which needed corroborative proof other than that to be found on the printed page. This was a phase of the problem utterly beyond the author's power to deal with, unaided, and he is correspondingly grateful to Mr. W. W. Cooke of the Biological Survey, for cordial assistance in supplying definite information regarding many of these doubtful cases. Further acknowledgment is made in the following pages in each of the rather numerous instances in which his aid was invoked.

To Professor C. B. Cory and Mr. W. H. Osgood, of the Field Museum of Natural History, obligations are acknowledged for permission to print hitherto unpublished data regarding certain specimens in the ornithological collection of that institution. To Mr. F. C. Baker, of the Chicago Academy of Sciences, the author expresses his gratitude for the free use of the library of the academy accorded him, as well as for assistance and advice in the pursuit of the bibliographical portion of the work.

To Mr. G. Frean Morcom grateful thanks are extended for his generous support of, and deep interest in, field work which otherwise could hardly have been undertaken. From Mr. F. S. Daggett, now Director of the Los Angeles Museum of History, Science, and Art, the author received advice and encouragement on many occasions. Mr. Daggett added to his own collection large series of birds collected at certain localities in Arizona which the author had been unable to visit, or which were taken at different seasons of the year from the time of the author's work in the region, and the information gained thereby was freely placed at his disposal.

Mr. F. C. Willard, of Tombstone, Arizona, obligingly read the manuscript of this list, with a view of adding thereto such unpublished records of his own, obtained during a number of years of careful observation of the birds of southeastern Arizona, as would add to the statements made by the author. The valuable information thus secured is cited in the text as "F. C. Willard. MS".

Mr. A. B. Recknagel, Assistant District Forester, Albuquerque, New Mexico, very kindly loaned the author blue print maps which were on file in his office, illustrating the distribution in Arizona of seven conspicuous species of forest trees, useful as zone indicators. The data thus obtained, of the greatest value in compiling a map of the life zones of Arizona, could have been secured in no other way, and the author is deeply appreciative of the courtesy extended him.

Finally, grateful appreciation is hereby expressed for the co-operation of Mr. Joseph Grinnell, whose assistance and advice have materially aided in the completion of this list, and whose helpful suggestions throughout the course of the undertaking have strongly influenced the author, both in regard to matters of form and methods of work.

H. S. SWARTH.

Los Angeles, California, April 1, 1913.

DISTRIBUTIONAL LIST OF THE BIRDS OF ARIZONA

1. **Aechmophorus occidentalis** (Lawrence).

WESTERN GREBE.

Synonym—*Podiceps occidentalis*.

Status—But two published records of its occurrence in Arizona. Henshaw (1875b, p. 488) secured a specimen on the Gila River in November; and Brown (1903, p. 50) reported it as a permanent resident in the vicinity of Yuma. There is, however, no evidence of its breeding there, or anywhere else in the state.

2. **Colymbus nigricollis californicus** (Heermann).

AMERICAN EARED GREBE.

Synonyms—*Podiceps californicus*; *Podiceps auritus californicus*.

Status—This species was found breeding by Mearns (1890a, p. 50) in the high plateau region north of the Mogollon Mountains—Stoneman's Lake, Mormon Lake, and near Flagstaff. It has also been recorded from the Colorado River at Mohave, and from Moencopie, in northern Arizona, in September.

3. **Podilymbus podiceps** (Linnaeus).

PIED-BILLED GREBE.

Synonym—*Podilymbus carolinensis*.

Status—Apparently fairly common on the Colorado River during the migrations and in winter, while it is of only casual occurrence elsewhere. There are no definite breeding records for the state, though Brown (1903, p. 49) speaks of it as a resident in the vicinity of Yuma.

4. **Gavia immer** (Brünnich).

COMMON LOON.

Synonym—*Colymbus torquatus*.

Status—According to Coues (1866a, p. 100) a common winter visitant on the Colorado River. There is in the Museum of Vertebrate Zoology an adult female (no. 6403) taken (probably by W. W. Holder) at "Mineral City on the Colorado River" (=Ehrenberg), April 4, 1864.

5. **Gavia stellata** (Pontopiddan).

RED-THROATED LOON.

Synonym—*Urinator lumme*.

Status—There is but one record for the state, that of an immature male secured by Brown on the Papago Indian reservation, near Tucson, December 20, 1884 (Scott, 1886, p. 383).

6. **Larus delawarensis** Ord.

RING-BILLED GULL.

Status—Seen by Coues (1866a, p. 99) on the Colorado River "in the autumn of 1865." The only recent record known to me is that of Price (1899, p. 90), who doubtfully identified as of this species two small gulls seen near Yuma, November 27, 1898.

7. **Larus philadelphia** (Ord).

BONAPARTE GULL.

Synonym—*Chroicocephalus philadelphia*.

Status—Dr. Coues met with this species on the Gila River (1865b, p. 538), and on the Colorado River, between Forts Mohave and Yuma, in September, 1865 (1866c, p. 259), but it has not been observed in the region by any one since that time.

8. **Sterna forsteri** Nuttall.

FORSTER TERN.

Status—There is in the Museum of Vertebrate Zoology an adult male (no. 12616) taken May 4, 1910, at the mouth of the Gila River, the first definite record for Arizona. The species was included in Coues' (1866a, p. 99) list of birds occurring on the Colorado River, but with no statement as to the time or manner of its occurrence.

9. **Sterna hirundo** Linnaeus.

COMMON TERN.

Status—There is, apparently, record of but a single specimen of this species from Arizona, one secured by Henshaw (1875b, p. 486) on the San Pedro River, September 3, 1872.

10. **Hydrochelidon nigra surinamensis** (Gmelin).

BLACK TERN.

Synonyms—*Hydrochelidon fissipes*; *Hydrochelidon lariformis*; *Hydrochelidon nigra*; *Hydrochelidon surinamensis*.

Status—A rare migrant. Henshaw secured it in southern Arizona in the fall (see Henshaw, 1875b, p. 487; Saunders, 1896, p. 20), and Brewster (1883, p. 36) has recorded one taken at Cienega Station, April 17.

11. **Phaëthon aethereus** Linnaeus.

RED-BILLED TROPIC-BIRD.

Synonym—*Phaëthon americanus*.

Status—One specimen taken by Breninger at Phoenix, April 10, 1905. This bird is now in the collection of the American Museum of Natural History (cf. Miller, 1910, p. 450).

12. **Anhinga anhinga** (Linnaeus).

ANHINGA.

Status—Herbert Brown met with this species near Yuma, during the winter of 1905-06, when it appeared to be not uncommon. He also reports a single specimen, a female, killed on the Santa Cruz River, near Tucson, September 12, 1893 (1906, p. 217). These are the only records for the state.

13. **Phalacrocorax auritus albociliatus** Ridgway.

FARALLON CORMORANT.

Synonym—*Graculus dilophus*.

Status—Mentioned by Coues (1866a, p. 100) as occurring on the lower Colorado River. Seen at various points along the river between Laguna Dam and Yuma, in April and May, 1910 (Mus. Vert. Zool.).

14. **Pelecanus erythrorhynchos** Gmelin.

AMERICAN WHITE PELICAN.

Synonym—*Pelecanus trachyrhynchus*.

Status—The numerous records would indicate this species to be of common occurrence on the Colorado River, and on the lower Gila River, at all times of the year except midsummer. Except for one record from Tucson (Sloanaker, 1913, p. 195), it has apparently not been seen elsewhere in Arizona.

15. **Mergus americanus** Cassin.

AMERICAN MERGANSER.

Synonym—*Merganser americanus*.

Status—Mearns (1890a, p. 50) speaks of this species as breeding in the Mogollon Mountains, in the streams tributary to the Salt and Verde rivers, and also at Fort Verdé. Scott (1886, p. 384) found it rare on the San Pedro River in January.

16. **Mergus serrator** Linnaeus.

RED-BREASTED MERGANSER.

Synonym—*Merganser serrator*.

Status—Merriam observed a few individuals at the bend of the Colorado, and at the mouth of Beaverdam Creek, northwestern Arizona, in May, 1891 (Fisher, 1893b, p. 15). This is the only published record of the occurrence of the species in Arizona. Observed on the Colorado River, near Needles, February 18, and at Chemehuevis Valley, March 8, 1910 (Mus. Vert. Zool.). Two were shot by F. N. Wolcott from a flock of four, near Fairbanks, April 8, 1911 (F. C. Willard, MS).

17. **Lophodytes cucullatus** (Linnaeus).

HOODED MERGANSER.

Status—Known only from the record by Coues (1868, p. 84) of its occurrence at Camp Grant; and by Scott (1886, p. 384) of an immature female in the collection of Herbert Brown, taken near Tucson, December 5, 1885. A lone bird was shot by F. N. Wolcott on the San Pedro River in the fall of 1896 (F. C. Willard, MS).

18. **Anas platyrhynchos** Linnaeus.

MALLARD.

Synonym—*Anas boschas*.

Status—A common winter visitant in suitable localities in southern Arizona, usually along the larger streams. Mearns found it in the Mogollon Mountains in May and June, so it probably breeds, though in limited numbers, in places where conditions are favorable.

19. **Chaulelasmus streperus** (Linnaeus).
GADWALL.

Synonym—*Anas strepera*.

Status—Mearns found this species in summer in the Mogollon Mountains, where it was common and "probably breeding". Coues (1866a, p. 99) met with it on the Colorado River in October, and Scott (1886, p. 384) took a specimen at Tucson in December.

20. **Mareca americana** (Gmelin).
BALDPATE.

Synonyms—*Anas americana*; *Anas penelope*.

Status—A common migrant, and, in southern Arizona, a winter visitant. Reported by Mearns (1890a, p. 50) as occurring in summer at Mormon Lake, in the Mogollon Mountains, where he supposed it was breeding, though no nests were found.

21. **Nettion carolinense** (Gmelin).
GREEN-WINGED TEAL.

Synonyms—*Querquedula carolinensis*; *Anas carolinensis*.

Status—A common migrant, reported from various scattered localities. Remains through the winter in southern Arizona: San Pedro River, Colorado River, Tucson, etc.

22. **Querquedula discors** (Linnaeus).
BLUE-WINGED TEAL.

Synonym—*Anas discors*.

Status—Has been reported from various parts of Arizona. Scott speaks of it as being of occasional occurrence in winter in the vicinity of Tucson, while Mearns (1890a, p. 51) found the species in May and June on the lakes of the Mogollon Mountains, where it may have been breeding. There are also records of individuals taken during the migrations at Tucson, Ehrenberg (Colorado River), Sulphur Spring (Cochise County), and San Francisco Mountain. Not infrequently taken in winter on the San Pedro River (F. C. Willard, MS).

23. **Querquedula cyanoptera** (Vieillot).
CINNAMON TEAL.

Synonyms—*Pterocyanca caeruleata*; *Anas cyanoptera*.

Status—A common migrant throughout the state. Has been found breeding in the Mogollon Mountains, and is reported as a winter visitant in extreme southern Arizona (Tucson, Sulphur Spring, etc.).

24. **Spatula clypeata** (Linnaeus).
SHOVELLER.

Status—A migrant, and, in southern Arizona, a winter visitant. Mearns (1890a, p. 51) found the species in May and June on the lakes in the Mogollon Mountains, where it may have been breeding.

25. ***Dafla acuta*** (Linnaeus).

PINTAIL.

Status—Has been reported as a migrant from various parts of the state. It was found on Mormon Lake, in the Mogollon Mountains, in May, by Mearns. Seen on the San Pedro River in February, so is probably a winter visitant in southern Arizona (Willard, 1910c, p. 110).

26. ***Marila americana*** (Eyton).

REDHEAD.

Synonym—*Aythya americana*.

Status—The only record of the occurrence of this species in Arizona is that by Scott (1886, p. 384), who reported it as occurring in winter in the vicinity of Tucson and on the San Pedro River.

27. ***Marila valisineria*** (Wilson).

CANVAS-BACK.

Synonym—*Aythya vallisneria*.

Status—Scott (1886, p. 384) records a small flock seen on the San Pedro River, January 28, 1886, while Coues (1892a, p. 198) reports it as occurring in large numbers on the Verde River near Fort Whipple, in winter. These are the only records for the state.

28. ***Marila marila*** (Linnaeus).

GREATER SCAUP DUCK.

Synonym—*Aythya marila nearctica*.

Status—Known only from the record by Scott (1886, p. 384), who speaks of it as "rather common on the San Pedro in winter."

29. ***Marila affinis*** (Eyton).

LESSER SCAUP DUCK.

Synonym—*Aythya affinis*.

Status—A record by Scott (1886, p. 384) of "a few seen on the San Pedro during late January." Common near Tucson in March, 1912 (Sloanaker, 1913, p. 195). Observed on the Colorado River, near Ehrenberg, March 24, and at Cibola, April 4, 1910 (Mus. Vert. Zool.).

30. ***Clangula clangula americana*** Bonaparte.

AMERICAN GOLDEN-EYE.

Status—Only one record, that of two specimens taken near Tucson, April 1 and February 1, respectively (Sloanaker, 1912, p. 154).

31. ***Charitonetta albeola*** (Linnaeus).

BUFFLE-HEAD.

Synonyms—*Clangula albeola*; *Bucephala albeola*.

Status—While apparently not common, this species has been reported in winter from various scattered localities in all parts of the state (Tucson, San Pedro River, Bill Williams River, etc.).

32. ***Erismatura jamaicensis*** (Gmelin).

RUDDY DUCK.

Synonym—*Erismatura rubida*.

Status—Though there are curiously few published records of the occurrence of this species, it is, nevertheless, a fairly common migrant. Mearns met with it in summer in the Mogollon Mountains (Stoneman's Lake, Mormon Lake), and near Flagstaff, where they were preparing to breed. It very probably remains through the winter in southern Arizona, though there are no records of its doing so. Observed near Tucson in April, 1896 (Swarth MS), and on the Colorado River, near Laguna Dam, April 23, 1910 (Mus. Vert. Zool.).

33. ***Chen hyperboreus hyperboreus*** (Pallas).

LESSER SNOW GOOSE.

Synonym—*Anser hyperboreus*.

Status—There is a record by Coues (1866a, p. 98) of "specimens taken near Fort Whipple, Oct. 17, 1864." Seen on the Colorado River, near Needles, February 16 and 23, 1910 (Mus. Vert. Zool.).

34. ***Anser albifrons gambeli*** Hartlaub.

WHITE-FRONTED GOOSE.

Synonyms—*Anser albifrons*; *Anser gambeli*.

Status—Coues (1866a, p. 98) found it abundant on the Colorado River. There is no published statement of its occurrence in the region since that time.

35. ***Branta canadensis canadensis*** (Linnaeus).

CANADA GOOSE.

Synonym—*Bernicla canadensis*.

Status—The species has been reported both from the Colorado River, and from the San Pedro River, in winter, but from the paucity of records it would seem to be of uncommon occurrence.

36. ***Branta canadensis hutchinsi*** (Richardson).

HUTCHINS GOOSE.

Synonym—*Bernicla hutchinsi*.

Status—The only records for Arizona are those by Coues of its occurrence on the Colorado River (1866a, p. 98), and at Fort Grant (1868, p. 84).

37. ***Dendrocygna autumnalis*** (Linnaeus).

BLACK-BELLIED TREE-DUCK.

Status—Herbert Brown (1906, p. 217) has reported the killing of six specimens of this duck, out of a flock of eight, on the Santa Cruz River, near Tucson, on May 5, 1899. This is the only Arizona record.

38. **Dendrocygna bicolor** (Vieillot).

FULVOUS TREE-DUCK.

Synonym—*Dendrocygna fukva*.

Status—Coues (1866a, p. 98) has recorded the capture of "a pair taken in November, about twenty miles from Fort Whipple." From a published note of Brown (1906, p. 217) it would seem to be of fairly common occurrence in winter on the Colorado and Gila rivers, in the vicinity of Yuma, and decidedly rare elsewhere in the state.

39. **Olor columbianus** (Ord).

WHISTLING SWAN.

Synonym—*Cygnus americanus*.

Status—Recorded by Coues (1866a, p. 98) from the Colorado River and Fort Mohave. There is a recent instance of its occurrence at Sacaton, Pinal County, November 21, 1910 (Gilman, 1911a, p. 35).

40. **Plegadis guarauna** (Linnaeus).

WHITE-FACED GLOSSY IBIS.

Synonyms—*Ibis ordii*; *Falcinellus ordii*; *Ibis guarauna*; *Ibis thalassinus*; *Plegadis autumnalis*.

Status—Apparently fairly abundant, as there are records of its occurrence during the migration in various parts of the state: Tucson, Little Colorado River, Forts Whipple and Apache, and at various points along the Gila and Colorado rivers. It has been reported as breeding at Mormon Lake, in the Mogollon Mountains (Merriam, 1890, p. 88). Has been found at Tombstone in winter (Cooke, 1913, p. 21).

41. **Mycteria americana** Linnaeus.

WOOD IBIS.

Synonym—*Tantalus loculator*.

Status—Apparently common, during the summer months, from May to September, along the Colorado River, at least as far up as Fort Mohave (Coues, 1866a, p. 96). There are also records for the various tributaries of that stream: the Gila, San Pedro, Bill Williams, etc. It is not known to breed in Arizona, nor has it been observed in winter.

42. **Botaurus lentiginosus** (Montagu).

AMERICAN BITTERN.

Synonym—*Botaurus minor*.

Status—The only breeding record is that of Mearns (1890a, p. 51) who found the species nesting commonly in the Mogollon Mountains (Mormon Lake, etc.). It is a fairly common migrant elsewhere and has been found in winter on the San Pedro River in southern Arizona (Scott, 1886, p. 385).

43. ***Ixobrychus exilis*** (Gmelin).

LEAST BITTERN.

Synonym—*Ardetta exilis*.

Status—Coues (1866a, p. 263) noted this species along the Colorado River between Forts Yuma and Mohave, in September, 1865. This is the only record for the state.

44. ***Ardea herodias treganzai*** Court.

PALLID GREAT BLUE HERON.

Synonym—*Ardea herodias*.

Status—Breeds along the Colorado River, and in southern Arizona, along the Gila River and its tributaries (Mineral Creek, San Pedro River, etc.). Found also in winter in the same region. There appear to be no records whatever from the plateau region of northern Arizona.

45. ***Herodias egretta*** (Gmelin).

AMERICAN EGRET.

Synonyms—*Ardea egretta*; *Herodias alba egretta*.

Status—Probably a migrant only; there are records of its occurrence in April, May, and September, at various points on the Colorado, Gila, and San Pedro rivers.

46. ***Egretta candidissima candidissima*** (Gmelin).

SNOWY HERON.

Synonyms—*Garzetta candidissima*; *Ardea candidissima*.

Status—There are but two instances of the occurrence of this species in Arizona: Coues (1866a, p. 263) observed it on the Colorado River between Forts Mohave and Yuma in September, and Scott (1886, p. 385) reports a flock of five seen, one of which was secured, near Tucson, in May.

47. ***Butorides virescens anthonyi*** (Mearns).

ANTHONY GREEN HERON.

Synonyms—*Butorides virescens*; *Ardea virescens*; *Ardea virescens anthonyi*.

Status—The breeding range of this species appears to be about the same as that of the Great Blue Heron—along the Colorado River, the Gila River, and the tributaries of the latter, north to the Big Sandy and Fort Verde (Oberholser, 1912, p. 543); while it is reported in winter from the lower Colorado near Yuma, November or December, 1898 (Price, 1899, p. 91). Thus far it has not been found in the northern plateau region.

48. ***Nycticorax nycticorax naevius*** (Boddaert).

BLACK-CROWNED NIGHT HERON.

Synonyms—*Nyctiardea gardeni*; *Nyctiardea grisea naevia*.

Status—A common migrant, occurring in suitable localities throughout the region. Remains through the winter along the lower Colorado River, and probably in the warmer valleys of southern Arizona in general. Said to be a permanent resident in the Verde Valley (Mearns, 1890a, p. 51).

49. ***Grus canadensis*** (Linnaeus).

LITTLE BROWN CRANE.

Synonym—*Grus mexicana*, part?

Status—There are several records of the occurrence of this species at various points along the Colorado River as well as in the interior, during the migrations and in winter. Some, at least, of these probably refer to *G. mexicana*, but in the absence of specimens it is impossible to separate them. A late record, authenticated by specimens, is of two birds taken near Tucson (Sloanaker, 1912, p. 154).

50. ***Grus mexicana*** (Müller).

SANDHILL CRANE.

Synonym—*Grus canadensis*, part?

Status—"A few pairs breed at Mormon Lake, where a Mormon settler took its eggs in 1886" (Mearns, 1890a, p. 51). This record for the Mogollon Mountains appears to be the only definite one for the state. A few are reported as seen along the San Pedro River each winter (F. C. Willard, MS).

51. ***Rallus levipes*** Bangs.

LIGHT-FOOTED RAIL.

Status—"Accidental in Arizona" (A. O. U. *Check-List*, 1910, p. 102). According to information received by me from Mr. W. W. Cooke this record was based on a specimen taken August 25, 1902, by Mr. Herbert Brown, at Yuma.

52. ***Rallus virginianus*** Linnaeus.

VIRGINIA RAIL.

Status—The only Arizona records of the Virginia Rail are of a single bird seen on the San Pedro River, January 28, 1886, by Scott (1886, p. 385), and of one taken at Tucson, April 11, 1886, by Brown (Allen, 1886, p. 386, footnote). It should prove to be common, however, if sought for in suitable localities.

53. ***Porzana carolina*** (Linnaeus).

SORA.

Status—Mearns (1890a, p. 51) found this species in the Mogollon Mountains (Mormon Lake, Stoneman's Lake) in May, abundant and probably breeding. Aside from this it has been found in Arizona on but a few occasions, during the migrations and in scattered localities (Colorado River, Camp Apache, Tucson, Moencopie).

54. ***Coturnicops noveboracensis*** (Gmelin).

YELLOW RAIL.

Status—One specimen reported from Sacaton, March 28, 1909 (Gilman, 1910, p. 46). Not otherwise observed in Arizona.

55. ***Ionornis martinicus*** (Linnaeus).

PURPLE GALLINULE.

Status—Two specimens have been secured in Arizona: one on the Santa Cruz River, near Tucson, October 20, 1887 (Brown, 1888a, p. 109), the other at Tombstone, taken in June, 1904 (Willard, 1905, p. 112).

56. **Gallinula galeata** (Lichtenstein).

FLORIDA GALLINULE.

Status—This species is probably fairly common, at least during the migrations, though there are but very few published statements in regard to its occurrence. Scott (1886, p. 386) found it on the San Pedro River in January, and quotes Brown to the effect that it is "not uncommon about Tucson." Rhoads (1892, p. 113) also found it in the vicinity of Tucson in summer.

57. **Fulica americana** Gmelin.

AMERICAN COOT.

Status—Though a few have been noted at different times in southern Arizona during the summer months, the only part of the state where the species has been found breeding is on the high Mogollon Plateau (Mearns, 1890a, p. 52). During the migrations it is quite generally distributed, while it winters in southern Arizona.

58. **Lobipes lobatus** (Linnaeus).

NORTHERN PHALAROPE.

Synonym—*Phalaropus lobatus*.

Status—"A flock of eight, six of which were killed, was found in a little crater lake ('Walker Lake'), August 19" (Merriam, 1890, p. 88). This record from San Francisco Mountain is the only one for Arizona.

59. **Steganopus tricolor** Vieillot.

WILSON PHALAROPE.

Synonyms—*Phalaropus wilsoni*; *Steganopus wilsoni*.

Status—Found on the Colorado River in September by Coues (1866a, p. 263), in southeastern Arizona by Henshaw (1875b, p. 451), who found it common in August, and at Tucson, where Scott (1886, p. 386) found it "common during the migrations."

60. **Recurvirostra americana** Gmelin.

AMERICAN AVOCET.

Status—Has been noted during the fall migration at various points on the Colorado River, the Little Colorado, the Gila, and in the vicinity of Tucson. There is a specimen in the Museum of Vertebrate Zoology (no. 7069) taken, probably by W. W. Holder, at "Mineral City" (Ehrenberg), February 12, 1864.

61. **Himantopus mexicanus** (Müller).

BLACK-NECKED STILT.

Synonym—*Himantopus nigricollis*.

Status—Recorded only from points on the Colorado River, where Coues (1866a, p. 263) met with it in September, and Stephens (1903, p. 77) in August. It should occur during the migrations throughout southern Arizona at least.

62. **Gallinago delicata** (Ord).

WILSON SNIPE.

Synonyms—*Scolopax wilsonii*; *Gallinago wilsonii*.

Status—A migrant occurring throughout the state. Was found on Bill Williams Fork in February (Kennerly, 1859, p. 34), and is of occasional occurrence in winter in southern Arizona.

63. **Macrorhamphus griseus scolopaceus** (Say).

LONG-BILLED DOWITCHER.

Synonym—*Macrorhamphus griseus*.

Status—There is but little information at hand pertaining to the occurrence of this species in Arizona. Coues (1866a, p. 97) speaks of it as being "sparingly distributed throughout the Territory", without citing any specific instances of its capture. Henshaw (1875b, p. 453) lists a specimen from Mimbres, Arizona, October 22, and comments that the species is "apparently an uncommon visitor in Arizona." A specimen entered in the British Museum Catalogue of Birds (Sharpe, 1896, p. 399): "♀ ad., Arizona, Oct. 22, C. G. Newberry", is probably the same one alluded to by Henshaw.

These are all referred to as *Macrorhamphus griseus*, but it seems more probable that the form occurring in Arizona is *M. g. scolopaceus*. I have seen no specimens from the region.

64. **Pisobia bairdi** (Coues).

BAIRD SANDPIPER.

Synonyms—*Tringa schinzii*; *Actodromas bairdi*; *Tringa bairdi*.

Status—Henshaw (1875b, p. 455) found it quite numerous in the fall in southeastern Arizona, taking specimens at Camp Apache, August 26-29, and at Camp Crittenden, September 2. Merriam (1890, p. 88) met with it at Walker Lake, San Francisco Mountain, August 27 and September 1. Not reported from the Colorado River.

65. **Pisobia minutilla** (Vieillot).

LEAST SANDPIPER.

Synonyms—*Actodromas minutilla*; *Tringa minutilla*; *Limonites minutilla*.

Status—A common migrant throughout the state. It is probably a winter visitant in parts of southern Arizona and along the lower Colorado River, but the only definite record of a winter bird is of a specimen mentioned by Cooke (1910, p. 41), as in the United States National Museum, collected in winter in southern Arizona, no definite date or locality being given.

66. **Pelidna alpina sakhalina** (Vieillot).

RED-BACKED SANDPIPER.

Synonym—*Tringa alpina pacifica*.

Status—Recorded by Scott (1886, p. 386), who secured specimens near Tucson in April, 1883. Apparently not otherwise observed in Arizona.

67.

Ereunetes mauri Cabanis.

WESTERN SANDPIPER.

Synonyms—*Tringa pusilla*; *Ereunetes pusillus*; *Ereunetes occidentalis*.

Status—A common migrant throughout the state: Fort Apache, August 28, 29 (Henshaw, 1874, p. 145); Tucson, spring and fall (Scott, 1886, p. 386); San Francisco Mountain, September 1 (Merriam, 1890, p. 88). On the lower Colorado River at least, a winter visitant (Price, 1899, p. 91).

68.

Totanus melanoleucus (Gmelin).

GREATER YELLOW-LEGS.

Synonym—*Gambetta melanoleuca*.

Status—Has been observed in Arizona on but a few occasions, and at scattered localities. Coues (1866a, p. 98) states that it is "abundant on the Colorado." Reported from Bill Williams River in February (Kennerly, 1859, p. 34); from Tucson in October (Scott, 1886, p. 386); and from the Pima Indian Reservation, south of Phoenix, in September (Breninger, 1901a, p. 45).

69.

Helodromas solitarius cinnamomeus (Brewster).

WESTERN SOLITARY SANDPIPER.

Synonyms—*Rhyacophilus solitarius*; *Totanus solitarius*; *Helodromas solitarius*.

Status—An abundant migrant in suitable localities throughout the state.

70.

Catoptrophorus semipalmatus inornatus (Brewster).

WESTERN WILLET.

Synonyms—*Totanus semipalmatus*; *Symphemia semipalmata*.

Status—The only records for Arizona (beside the general statement of Woodhouse that he found this species abundant in the fall in "New Mexico") are those of birds seen by Coues (1866a, p. 97) near Fort Whipple, on October 18, 1864; and of one collected in "Arizona" by Bischoff, May 5, 1871 (Henshaw, 1875b, p. 457).

71.

Bartramia longicauda (Bechstein).

BARTRAMIAN SANDPIPER.

Synonyms—*Actiturus bartramius*; *Tringoides bartramius*.

Status—Woodhouse reported this species as common in parts of "New Mexico", but the only specimen definitely known to have been taken in Arizona is one collected by Henshaw (1875b, p. 461) at Sulphur Spring, Cochise County, August 18, 1874.

72.

Actitis macularius (Linnaeus).

SPOTTED SANDPIPER.

Synonym—*Tringoides macularius*.

Status—A common migrant throughout the state, and probably to be found on the lower Colorado River during the winter months. Found breeding on San Francisco Mountain at an elevation of 10,000 feet (Mearns, 1890a, p. 82).

73. **Numenius americanus** Bechstein.

LONG-BILLED CURLEW.

Synonym—*Numenius longirostris*.

Status—Coues (1866a, p. 98) secured a specimen at Fort Whipple in August, 1864; Scott (1886, p. 386) recorded it as a migrant about Tucson, on the authority of Brown; Sloanaker (1913, p. 195) reports a specimen from Tucson, October 12, 1911; and Stephens (1903, p. 77) noted it on the Colorado River, at Ehrenberg, in August. These are all the records for Arizona.

74. **Oxyechus vociferus** (Linnaeus).

KILLDEER.

Synonyms—*Charadrius vociferus*; *Aegialitis vociferus*.

Status—A common summer visitant, and, along the lower Colorado River at least, a winter visitant also. Breeds in suitable localities throughout the state, except in the arid Lower Sonoran southwestern portion. Common in summer in the valleys of southeastern Arizona; in the Mogollon Plateau region it ranges up to 7000 feet (Mearns, 1890a, p. 52).

75. **Aegialitis semipalmata** (Bonaparte).

SEMIPALMATED PLOVER.

Status—Seen by Coues (1866a, p. 96) on the Colorado River in September and October, 1865; Scott (1886, p. 387) found it abundant in the vicinity of Tucson, during April, 1883. These are the only records.

76. **Podasocys montanus** (Townsend).

MOUNTAIN PLOVER.

Synonyms—*Aegialitis montanus*; *Eudromias montanus*.

Status—Coues (1866a, p. 96) met with this species, presumably at Fort Whipple, and says that it is "sparingly distributed throughout Arizona." The only other record from Arizona is that of Osgood (1903, p. 128), who found it abundant at Sulphur Spring, Cochise County, in December and January.

77. **Colinus ridgwayi** Brewster.

MASKED BOB-WHITE.

Synonyms—*Ortyx virginianus*; *Ortyx graysoni*; *Ortyx ridgwayi*.

Status—This species formerly occupied a very limited region in extreme southern Arizona. Baboquivari Peak on the west, and the Huachuca Mountains on the east, were about the limits of its extension, nor was it known to range more than thirty or forty miles north of the United States-Mexican boundary line. It is now supposed to be nearly or quite extinct in Arizona; there is no reliable published account of a specimen secured in the state since 1888.

78. **Callipepla squamata squamata** (Vigors).

SCALED QUAIL.

Status—A common resident of the arid, semi-desert, Lower Sonoran valleys of southeastern Arizona, usually below 4000 feet, occasionally up to 4500 feet. Has been found as far west as the Altar Valley and Wood's Station, ninety

miles southwest of Tucson (Bendire, 1892, p. 18). It ranges up the valley of the Santa Cruz River to a point some thirty miles south of Tucson; along the western base of the Santa Rita Mountains it reaches a little farther north. It is abundant on the east side of the Santa Ritas and in the valley of the San Pedro River from the Mexican boundary line to the east slope of the Santa Catalina Mountains. The northernmost points of record are Fort Grant (Henshaw, 1875b, p. 442), Picacho Station, on the Southern Pacific railroad, this probably an extreme, possibly an unusual, extension of range (Brewster, 1883, p. 33), and the Gila River near Clifton (Bendire, 1892, p. 18).

Although the character of country inhabited by this species and *Lophortyx gambeli* is very similar, there are but few points where the two occur together, and where this occurs one or the other is usually greatly in preponderance.

79.

***Lophortyx gambeli* Gambel.**

DESERT QUAIL.

Synonyms—*Callipepla gambeli*; *Lophortyx californicus*.

Status—Though most abundant in the valleys of the lower Colorado and the Gila rivers, this species is quite generally distributed, in the lowlands, throughout the southern and western two-thirds of the state. It is not known to occur in the northern plateau region, north of Fort Apache and the Mogollon Mountains and east of Bill Williams Mountain and Cataract Cañon; and until recently it was very rare in the extreme southeastern corner of the state, the southern half of Cochise County. Of late years has become much more common in the vicinity of Tombstone and the Dragoon Mountains. Occurs in the latter range up to 5000 feet (F. C. Willard, MS).

80.

***Cyrtonyx montezumae mearnsi* Nelson.**

MEARNS QUAIL.

Synonyms—*Cyrtonyx massena*; *Cyrtonyx montezumae*; *Fool Quail*.

Status—Found in the Upper Sonoran and Transition of central and southeastern Arizona. It has been recorded from the following mountain ranges: Chiricahua, Huachuca, Carmelita, Patagonia, Santa Rita, Whetstone, Rincon, Santa Catalina, Pinal, White and Mogollon mountains. The most northern and western record is from the vicinity of Fort Whipple. The range is thus very "spotty" and broken, the intervening valleys between the various ranges being, for the most part, entirely unsuited to the species. The vertical range is from 4000 to 9000 feet.

81.

***Dendragapus obscurus obscurus* (Say).**

DUSKY GROUSE.

Synonym—*Canace obscurus*.

Status—Common in the White Mountains (Mearns, 1890a, p. 52). There is a record of a single bird seen on San Francisco Mountain (Merriam, 1890, p. 89).

82. **Meleagris gallopavo merriami** Nelson.

MERRIAM TURKEY.

Synonyms—*Meleagris gallopavo*; *Melcagris mexicana*.

Status—This species was probably at one time pretty generally distributed throughout the state, south of the Grand Cañon of the Colorado and the Little Colorado River, reaching its western limit, in southern Arizona about the valley of the Santa Cruz, in the north, about the head of Bill Williams River. Now driven back to the most remote mountain ranges, and even in many such, nearly or quite exterminated.

83. **Columba fasciata fasciata** Say.

BAND-TAILED PIGEON.

Status—A common summer visitant in suitable localities throughout the state; that is, in the higher mountain ranges, breeding usually above 6000 feet. Has been found in summer on San Francisco Mountain, Mount Graham, and the White, Mogollon, Santa Catalina, Huachuca, and Carmelita mountains. Is locally migratory, but probably to be found somewhere in the state at all times of the year. I know of no definite midwinter records.

84. **Zenaidura macroura marginella** (Woodhouse).

WESTERN MOURNING DOVE.

Synonyms—*Ectopistes carolinensis*; *Zenaidura carolinensis*; *Zenaidura macroura*; *Zenaidura macroura carolinensis*.

Status—A common summer visitant throughout the state, occurring in places in almost incredible numbers. In the valley of the lower Colorado River, and locally in southern Arizona, it is found throughout the winter.

85. **Melopelia asiatica trudeaui** (Audubon).

WHITE-WINGED DOVE.

Synonyms—*Columba leucoptera*; *Melopelia leucoptera*; *Melopelia asiatica*.

Status—A common summer visitant, locally, in southern and western Arizona. Its range in the state seems to be restricted to the valleys of the lower Colorado and Gila rivers, and the tributaries of the latter (San Pedro, Santa Cruz, Verde, and Salt rivers), in which it ranges up to about 4000 feet. Extends at least as far north as Needles (Stephens, 1903, p. 77), and Fort Whipple (Coues, 1866a, p. 93). Seen in small numbers at Tucson throughout the winter (Bendire, 1892, p. 146).

86. **Chaemepelia passerina pallescens** Baird.

MEXICAN GROUND DOVE.

Synonyms—*Chamaepelia passerina*; *Columbigallina passerina*.

Status—Locally common in southern Arizona, ascending the valley of the Colorado as far north as the Big Sandy (Stephens, 1903, p. 77), in the interior to Fort Verde (Todd, 1913, p. 594). It is partly migratory but stays through the winter in parts of its range. Specimens in the collection of F. S. Daggett taken at Fort Lowell in November and December. According to Gilman (1911b, p. 54) it is a summer visitant only at Sacaton.

87. **Scardafella inca** (Lesson).

INCA DOVE.

Status—Exceedingly local, and recorded from very few points—Tucson, Phoenix, Florence, Tubac (in the Santa Cruz Valley), and the Huachuca Mountains. It particularly favors the towns and settlements, a trait shared to some extent by the Mexican Ground Dove, and is probably more abundant in the vicinity of Phoenix than anywhere else in the state. Reported as a permanent resident at Sacaton, Pinal County (Gilman, 1911b, p. 55).

88. **Cathartes aura septentrionalis** Wied.

TURKEY VULTURE.

Synonyms—*Cathartes aura*; *Rhinogryphus aura*.

Status—A common summer visitant throughout the state; reported from many scattered localities, generally below 6000 feet: Fort Whipple, summer; Santa Catalina Mountains, resident; San Francisco and Mogollon mountains, summer; Keam Cañon, summer; Huachuca Mountains, summer; Santa Rita Mountains, summer. Breeding on the east slope of the Santa Catalina Mountains, in the Dragoon Mountains, and in the Huachuca Mountains (F. C. Willard, MS). It remains during the winter in parts of southern Arizona.

89. **Circus hudsonius** (Linnaeus).

MARSH HAWK.

Synonyms—*Circus cyaneus*; *Circus cyaneus* var. *hudsonius*.

Status—An abundant migrant, and, in southern Arizona at least, a common winter visitant (Scott, 1886, p. 422; San Pedro River, January). Found breeding near Tucson by Bendire (1892, p. 185).

90. **Accipiter velox** (Wilson).

SHARP-SHINNED HAWK.

Synonyms—*Accipiter fuscus*; *Nisus fuscus*; *Accipiter velox rufilatus*; *Accipiter velox pacificus*.

Status—Probably breeds in small numbers in the higher mountains throughout the state, but though observed during the summer months there are no definite published statements of its breeding anywhere in Arizona. Found nesting in the Huachuca Mountains, a set of eggs being taken in Miller Cañon, at an altitude of 6800 feet, May 30, 1907 (F. C. Willard, MS). It is a very common migrant throughout the state, and has been seen in southern Arizona during the winter, at the San Pedro River in January (Scott, 1886, p. 422), and at Sulphur Spring, Cochise County, in November (Osgood, 1903, p. 129).

91. **Accipiter cooperi** (Bonaparte).

COOPER HAWK.

Synonyms—*Accipiter mexicanus*; *Nisus cooperi*.

Status—A very common resident, breeding in suitable localities throughout

the state, in Lower and Upper Sonoran, and to at least the lower edge of Transition. There are breeding records from Picacho, Colorado River (Mus. Vert. Zool.); Santa Cruz River near Tucson (Swarth, 1905a, p. 25); Huachuca Mountains (Swarth, 1904b, p. 6); Santa Rita Mountains (Brewster, 1883, p. 30); Santa Catalina Mountains (Scott, 1886, p. 422); and Fort Grant (Coues, 1868, p. 82). It remains locally through the winter.

92. ***Astur atricapillus atricapillus*** (Wilson).

AMERICAN GOSHAWK.

Synonyms—*Accipiter atricapillus*; *Accipiter atricapillus striatulus*.

Status—There are very few records of the occurrence of this species in Arizona: On San Francisco Mountain, where several were seen (Merriam, 1890, p. 90); a few individuals in the Mogollons in May and on San Francisco Mountain in June (Mearns, 1890a, p. 53); and in the Huachuca Mountains, where it is a rare migrant (Swarth, 1904b, p. 6).

93. ***Parabuteo unicinctus harrisi*** (Audubon).

HARRIS HAWK.

Synonyms—*Morphnus unicinctus*; *Craxirex unicinctus*; *Craxirex harrisii*.

Status—Recorded from the Colorado River in February (Kennerly, 1859, p. 20), and at Ehrenberg in August (Stephens, 1903, p. 77). It ranges across southern Arizona, and has been found breeding in the vicinity of Tucson (Bendire, 1892, p. 202), and at the east base of the Huachuca Mountains, where a set of eggs was collected June 1, 1907 (F. C. Willard, MS). Seen on the San Pedro River, in extreme southeastern Arizona, in February (Willard, 1910c, p. 110).

94. ***Buteo borealis calurus*** Cassin.

WESTERN RED-TAILED HAWK.

Synonyms—*Buteo borealis*; *Buteo calurus*; *Buteo montanus*.

Status—An abundant resident, found in all parts of the state. Breeds from Lower Sonoran up through Transition, exact points of record being Rillito Creek near Tucson, Camp Crittenden, Santa Catalina Mountains, and the pine belt of the Mogollon Mountains.

95. ***Buteo abbreviatus*** Cabanis.

ZONE-TAILED HAWK.

Synonym—*Buteo zonocercus*.

Status—Generally distributed throughout southern Arizona. Recorded from many localities (Colorado River, Santa Cruz Valley, Rincon Mountains, etc.) north to the Verde Valley, Prescott, and the Big Sandy. Numerous breeding records, mostly in the Upper Sonoran zone: Tucson (Brewster, 1883, p. 30); New River (Mearns, 1886a, p. 60); Huachuca Mountains (Bendire, 1887, p. 551); Rincon Mountains (Brown, 1901, p. 392); east slope of Santa Catalina Mountains (F. C. Willard, MS). Except along the lower Colorado it seems to go south of Arizona in the winter. Seen at Yuma in winter (Price, 1899, p. 91).

96. **Buteo swainsoni** Bonaparte.
SWAINSON HAWK.
Synonyms—*Buteo bairdi*; *Buteo insignatus*; *Buteo oxypterus*.
Status—An abundant summer visitant on the plains in extreme southeastern Arizona (Tucson, Fort Grant, Fort Huachuca, etc.); also found breeding near Yuma (Brown, 1903, p. 44). During the migrations it is more widely distributed. Has not been observed in Arizona during the winter months.
97. **Buteo albicaudatus sennetti** Allen.
SENNETT WHITE-TAILED HAWK.
Status—A nest found by G. F. Breninger between Florence and Red Rock in 1897, and a male bird taken by the same collector at Phoenix in the spring of 1899 (1899c, p. 352). Not otherwise observed in Arizona.
98. **Urubitinga anthracina** (Lichtenstein).
MEXICAN BLACK HAWK.
Status—The only breeding record is from the vicinity of Fort Verde, in central Arizona (Mearns, 1886a, p. 60). Other points at which the species has been observed are Forts Bowie, Lowell, and Huachuca. Its occurrence at Fort Bowie in February (Fowler, 1903, p. 70) indicates that it remains throughout the year in some parts at least of southern Arizona.
99. **Asturina plagiata** Schlegel.
MEXICAN GOSHAWK.
Synonyms—*Asturina nitida*; *Asturina nitida plagiata*.
Status—The center of its abundance in Arizona seems to be the valley of the Santa Cruz River, where it is not uncommon during the summer months. It has also been found breeding on Rillito Creek (a tributary of the Santa Cruz), in the foothills of the Santa Rita Mountains, on the San Pedro River, and, the westernmost record, on the Gila River in the vicinity of Gila Bend (Pember, 1892, p. 53).
100. **Archibuteo lagopus sancti-johannis** (Gmelin).
AMERICAN ROUGH-LEGGED HAWK.
Synonym—*Archibuteo lagopus*.
Status—A specimen taken by Coues (1866a, p. 48) at Fort Whipple in the winter of 1865. Henshaw (1875a, pp. 163, 164) cites Bendire as having met with the species at Tucson in winter.
101. **Archibuteo ferrugineus** (Lichtenstein).
FERRUGINOUS ROUGH-LEGGED HAWK.
Status—Coues (1866a, p. 46) found this species abundant in winter in the vicinity of Fort Whipple. Fisher (1893a, p. 91) records a specimen taken at Fort Verde in December. The few other Arizona records are either of doubtfully identified birds, or else are not explicit statements of the place or manner of occurrence. It has not been found breeding in Arizona.

102. **Aquila chrysaëtos** (Linnaeus).

GOLDEN EAGLE.

Synonyms—*Aquila canadensis*; *Aquila chrysaetus* var. *canadensis*.

Status—A fairly common resident of the higher mountain ranges in northern Arizona, and in the eastern part of the state south to the Mexican boundary line. Found breeding at Prescott (Coues, 1892b, p. 201); reported as resident in the Santa Catalina Mountains (Scott, 1886, p. 423), and in the Huachuca Mountains (Swarth, 1904b, p. 7); an old nest seen in the latter range (Swarth MS). Recorded from various other scattered localities: in summer, San Francisco Mountain, Santa Catalina Mountains, Kean Cañon, etc.; in fall and winter, Grand Cañon, Fort Whipple, Huachuca Mountains, etc. Not observed anywhere in the western deserts.

103. **Haliaeëtus leucocephalus leucocephalus** (Linnaeus).

BALD EAGLE.

Status—Reported by Mearns (1890a, p. 53) as breeding at Stoneman's Lake, in the Mogollon Mountains. Coues met with it at Fort Whipple, and Henshaw at Fort Apache in southeastern Arizona; a specimen is listed by Fisher (1893a, p. 97) as collected in the Mogollon Mountains in January.

104. **Falco mexicanus** Schlegel.

PRAIRIE FALCON.

Synonyms—*Falco polyagrus*; *Falco lanarius* var. *polyagrus*; *Falco saker* var. *polyagrus*.

Status—Fairly common resident throughout the state; reported from many different points, winter and summer. Found breeding on San Francisco Mountain (Merriam, 1890, p. 90), and in the Huachuca Mountains (Howard, 1902, p. 57), and an occupied nesting site observed on the Colorado River near the mouth of Bill Williams River in the spring of 1910 (Mus. Vert. Zool.).

105. **Falco peregrinus anatum** Bonaparte.

DUCK HAWK.

Synonyms—*Falco anatum*; *Falco nigriceps*; *Falco communis* var. *anatum*.

Status—Resident and apparently common in the mountains of central Arizona (Mearns, 1890a, p. 54). In the more southern parts of the state it is a rather uncommon migrant.

106. **Falco columbarius columbarius** Linnaeus.

PIGEON HAWK.

Synonym—*Hypotriorchis columbarius*.

Status—I know of no instance of this species breeding in Arizona. It occurs as a fairly common migrant, and, in some localities, possibly as a winter visitant.

107. **Falco columbarius richardsoni** Ridgway.

RICHARDSON MERLIN.

Synonyms—*Falco richardsoni*; *Falco acesalon*.

Status—Cooper secured an adult female at Fort Mohave, January 21, 1861 (Mus. Vert. Zool., no. 4388), and Fisher (1893a, p. 114) lists one collected at Fort Verde, December 9, 1887, the only definite records I know of for Arizona. Coues' (1866a, p. 42) comments on *Falco acesalon* undoubtedly refer to this species, but give no clue as to its status in the region he explored.

108. **Falco fusco-caerulescens** Vieillot.

APLOMADO FALCON.

Synonyms—*Falco femoralis*; *Hypotriorchis femoralis*.

Status—Formerly, at least, a fairly common summer visitant in extreme southeastern Arizona. Henshaw (1875b, p. 413) observed it in this region in 1874, and Bendire (1887, p. 552) describes its nesting near Fort Huachuca. Has been met with but seldom of late years. One seen on the San Pedro River, near Fairbanks, February 13, 1910 (Willard, 1910c, p. 110).

109. **Falco sparverius sparverius** Linnaeus.

AMERICAN SPARROW HAWK.

Synonyms—*Tinnunculus sparverius*; *Falco sparverius deserticolus*; *Falco sparverius phalaena*.

Status—An abundant resident of general distribution, breeding both in the valleys and in the mountains. There are, among others, breeding records from Fort Whipple, Santa Catalina Mountains, Huachuca Mountains, Mogollon Mountains, and Santa Cruz River near Tucson, these points being variously in the Lower Sonoran, Upper Sonoran, and Transition zones. It is locally migratory, but probably to be found in most of the lower valleys during the winter. Explicit winter records are from Fort Whipple, Tucson, Sulphur Spring Valley, and the San Pedro River.

110. **Polyborus cheriway** (Jacquin).

AUDUBON CARACARA.

Synonyms—*Polyborus tharus*; *Polyborus audubonii*; *Polyborus tharus* var. *auduboni*.

Status—Apparently not common. Reported from the vicinity of Tucson in summer, and from Yuma, doubtfully identified by Price (1899, p. 91), and the Salt River (Fisher, 1893a, p. 128) in winter. Found breeding sixteen miles southwest of Tucson by Herbert Brown (Bendire, 1892, p. 317).

111. **Pandion haliaëtus carolinensis** (Gmelin).

AMERICAN OSPREY.

Synonymi—*Pandion carolinensis*.

Status—There seem to be no breeding records for the state though specimens have been taken in the summer months (see Fisher, 1893a, p. 130). Reported from scattered localities throughout Arizona during the migrations, usually along the larger streams.

112. **Aluco pratincola** (Bonaparte).

AMERICAN BARN OWL

Synonyms—*Strix pratincola*; *Strix americana*; *Strix flammea* var. *americana*; *Strix flammea*; *Aluco flammeus pratincola*.

Status—Probably most abundant in the central portions of the state. Coues (1866a, p. 49) states that it is a common resident at Fort Whipple, and Fisher (1893a, p. 132) lists numerous specimens from Fort Verde, taken in May, July, October and December. There are no records from the northern plateau region, and in southern Arizona it is rare. Found breeding at Tombstone on several occasions (F. C. Willard, MS). Found breeding also near Pilot Knob, on the Colorado River (Mus. Vert. Zool.). This was on the California side of the stream, but in the absence of Arizona records from the region, may be cited as evidence of the manner of occurrence of the species in this valley.

113. **Asio wilsonianus** (Lesson).

AMERICAN LONG-EARED OWL.

Synonyms—*Otus americanus*; *Otus wilsonianus*; *Otus vulgaris* var. *wilsonianus*; *Asio americanus*.

Status—Apparently of rare occurrence. Reported during the migrations and in the winter, from various scattered localities throughout the state: Fort Whipple; Tucson, February; Fort Verde, January, February; Sulphur Spring, April; Fort Huachuca, April.

114. **Asio flammeus** (Pontopiddan).

SHORT-EARED OWL.

Synonyms—*Strigiceps uliginosus*; *Brachyotus cassinii*; *Otus brachyotus*; *Asio accipitrinus*.

Status—A migrant and winter visitant. Reported from Fort Whipple, Colorado River, Fort Bowie, Gila Bend, and Sulphur Spring Valley. Met with by but a few observers, and in small numbers, except as reported by Coues (1866a, p. 50), who found it common on the Colorado River.

115. **Strix occidentalis huachucae** Swarth.

ARIZONA SPOTTED OWL.

Synonyms—*Syrnium occidentale*; *Strix occidentalis*.

Status—A resident, probably not very uncommon, in the higher mountains of southeastern Arizona. There seem to be published records of its occurrence only from the vicinity of Tucson (Ridgway, 1874, p. 239; Bendire, 1892, p. 343) and from the Huachuca Mountains (Swarth, 1910b, p. 1).

116. **Cryptoglaux acadica acadica** (Gmelin).

SAW-WHET OWL.

Synonym—*Nyctale acadica*.

Status—Known only from the record by Mearns (1890a, p. 54), who found it breeding on San Francisco Mountain.

117. **Otus asio cineraceus** (Ridgway).

MEXICAN SCREECH OWL.

Synonyms—*Scops mccalli*, part; *Megascops asio trichopsis*, part; *Megascops asio cineraceus*, part; *Scops asio*, part; *Scops asio* var. *maccalli*, part.

Status—A common resident of the Upper Sonoran zone in southern Arizona. It has not been found on the plateau region of northeastern Arizona.

118. **Otus asio gilmani** Swarth.

SAHUARO SCREECH OWL.

Synonyms—*Scops mccalli*, part; *Scops asio*; *Scops asio* var. *maccalli*, part; *Scops asio trichopsis*; *Scops trichopsis*; *Megascops asio trichopsis*, part; *Megascops asio cineraceus*, part; *Otus trichopsis*, part.

Status—A common resident of the hot Lower Sonoran valleys of southern and western Arizona. Ranges east to Tucson and the valley of the Santa Cruz River, west to the Colorado River; it ascends the latter stream at least as far as Fort Mohave (a specimen collected by Cooper at Fort Mohave, February 24, 1861, no. 4395, coll. Univ. Calif. Mus. Vert. Zool.).

119. **Otus trichopsis** (Wagler).

SPOTTED SCREECH OWL.

Synonyms—*Megascops aspersus*; *Megascops trichopsis*.

Status—The Huachuca Mountains seems to be the only place in the United States where this species has been found, though it undoubtedly occurs also in some of the neighboring mountain ranges. In the Huachucas it is known as a rare summer visitant, about ten specimens having been secured. A set of three eggs taken in that range on June 19, 1901, by G. F. Breninger, and now in the collection of the Field Museum of Natural History, establishes a breeding record for the region. The parent bird being taken with the set (no. 16234 coll. Field Mus. Nat. Hist.) renders the identity unquestionable.

120. **Otus flammeolus** (Kaup).

FLAMMULATED SCREECH OWL.

Synonyms—*Scops flammeola*; *Megascops flammeolus*.

Status—Probably a fairly common summer visitant of the higher mountains throughout the state. Specimens have been secured at the Grand Cañon (Merriam, 1890, p. 39), near Camp Apache (Henshaw, 1875b, p. 406), in the Huachuca Mountains (Swarth, 1904b, p. 9), and in the Chiricahua Mountains (specimen in Mus. Vert. Zool.). It has been found breeding in the Huachucas (Willard, 1909c, p. 199).

121. **Bubo virginianus pallescens** Stone.

WESTERN HORNED OWL.

Synonyms—*Bubo magellanicus*; *Bubo virginianus*; *Bubo virginianus pacificus*; *Asio magellanicus pallescens*; *Bubo magellanicus pallescens*; *Bubo virginianus* var. *arcticus*; *Bubo virginianus subarcticus*; *Bubo virginianus saturatus*; *Asio magellanicus pacificus*.

Status—A fairly common resident, reported from all parts of the state. Found in Lower Sonoran (Tucson, Gila River, etc.), Transition (Huachuca Mountains, Hualpai Mountains) and Boreal (spruce belt of San Francisco Mountain: Merriam, 1890, p. 91).

122. **Speotyto cunicularia hypogaea** (Bonaparte).

BURROWING OWL.

Synonyms—*Athene hypugaea*; *Athene cunicularia*.

Status—Irregularly and locally distributed throughout the valleys of the state. In general it may be said to be common where the Prairie Dog (*Cynomys*) is found, in the lower Sonoran valleys of northeastern and southeastern Arizona, and decidedly rare elsewhere. Sparingly distributed across the plains of southwestern Arizona.

123. **Glaucidium gnoma pinicola** Nelson.

ROCKY MOUNTAIN PIGMY OWL.

Synonyms—*Glaucidium passerinum* var. *californicum*, part; *Glaucidium gnoma*.

Status—A resident in the Transition zone of the higher mountains throughout the state. Reported from many scattered localities: Prescott, San Francisco Mountain, Huachuca Mountains, Chiricahua Mountains, Mogollon Mountains, White Mountains.

124. **Glaucidium phalaenoides** (Daudin).

FERRUGINOUS PIGMY OWL.

Synonyms—*Glaucidium ferrugineum*; *Glaucidium passerinum* var. *californicum*, part.

Status—Apparently restricted to the valley of the upper Gila River, and its tributaries (Salt River, Santa Cruz River, etc.), where it is not uncommon. Has not been taken west of Gila Bend. A bird of the Lower Sonoran zone almost exclusively. Probably resident, though I know of no definite winter records.

125. **Micropallas whitneyi** (Cooper).

ELF OWL.

Synonyms—*Athene whitneyi*; *Micrathene whitneyi*.

Status—A common species in the Lower Sonoran zone in southern Arizona, from the valley of the Santa Cruz, and the Catalina Mountains, west to the Colorado River; north along the latter to the Big Sandy River (Stephens, 1903, p. 101) and Fort Mohave (Cooper, 1861, p. 118). During the breeding season it is almost entirely restricted to the region occupied by the giant cactus. There is, however, a breeding record from the Huachuca Mountains (Fisher, 1904, p. 80). It is probably migratory to some extent, as the records from scattering points outside the proper breeding range would indicate: Fort Mohave, April; Dragoon Mountains, April; Fort Bowie, October; etc.

126. **Rhynchopsitta pachyrhyncha** (Swainson).

THICK-BILLED PARROT.

Status—Known only as an irregular, occasionally abundant, mid-summer visitant to the Chiricahua Mountains (see Lusk, 1900, p. 129; Smith, 1907a, p. 104).

127. **Crotophaga sulcirostris** Swainson.

GROOVE-BILLED ANI.

Status—A single bird recorded as taken near the Huachuca Mountains in May, 1888 (Poling, 1891, p. 313).

128. **Geococcyx californianus** (Lesson).

ROADRUNNER.

Synonym—*Geococcyx viaticus*.

Status—A fairly common resident of the valleys and foothills below Transition. Reported from many low zone localities in all parts of the state. Probably breeds mainly in the Lower Sonoran zone, wandering to somewhat higher altitudes in late summer.

129. **Coccyzus americanus occidentalis** Ridgway.

CALIFORNIA CUCKOO.

Synonym—*Coccyzus americanus*.

Status—A summer visitant, fairly common, but of irregular distribution. It is found in the valleys of southern Arizona, along the Gila River and its tributaries, and also along the Colorado River, but has not been detected in the high plateau region of northeastern Arizona. Breeds mainly in the Lower Sonoran zone, but also, in limited numbers, in Upper Sonoran almost to the lower edge of Transition (Swarth, 1904b, p. 10).

130. **Trogon ambiguus** Gould.

COPPERY-TAILED TROGON.

Status—A rare and irregular summer visitant in the Transition of some of the higher mountains of extreme southern Arizona. Reported from the Huachuacas (Ridgway, 1887a, p. 161; 1887b, p. 147; Fowler, 1903, p. 69; etc.), the San Luis Mountains (Ridgway, 1911, p. 771) and, doubtfully, from the Santa Catalina Mountains (Scott, 1886, p. 425).

131. **Ceryle alcyon alcyon** (Linnaeus).

BELTED KINGFISHER.

Status—A fairly common migrant in all parts of Arizona. Although reported as a permanent resident, or as a summer visitant, by several observers (Coues, 1866a, p. 59; Scott, 1886, p. 425; Bendire, 1895, p. 34), I know of no specific instance of a nest having been found. Remains through the winter in some of the warmer southern valleys: Tucson (Scott, l. c.), Colorado River, below Yuma (Price, 1899, p. 92).

132. **Ceryle americana septentrionalis** Sharpe.

TEXAS KINGFISHER.

Synonym—*Ceryle americana*.

Status—Coues (1866c, p. 263) observed this species at points on the Colorado River between Forts Mohave and Yuuna, in September, 1865. Since that time it was not again met with until February 13, 1910, when F. C. Willard secured a single specimen, an adult male, on the San Pedro River, near Fairbanks (Willard, 1910c, p. 110). This specimen is now in the University of California Museum of Vertebrate Zoology (no. 13990).

133. **Dryobates villosus leucothorectis** Oberholser.

WHITE-BREASTED WOODPECKER.

Synonyms—*Picus harrisi*; *Picus villosus harrisi*; *Dryobates villosus harrisi*; *Dendrocopus harrisi*; *Dryobates villosus hyloscopus*; *Dryobates villosus icastus*.

Status—A common resident of the higher mountains throughout the state. Breeds in the Canadian and Transition zones, but is of occasional occurrence in winter in some of the lower valleys: Verde Valley in winter (Mearns, 1890a, p. 251); Tucson, winter (Bendire, 1895, p. 53).

134. **Dryobates pubescens homorus** Cabanis and Heine.

BATCHELDER WOODPECKER.

Synonyms—*Picus pubescens*; *Picus gairdneri*; *Picus pubescens gairdneri*; *Dryobates pubescens gairdneri*; *Dryobates pubescens oreoecus*.

Status—There are but few records of the occurrence of this species in Arizona. Henshaw (1875b, p. 388) met with it on the Gila River in October, Scott (1886, p. 426) secured a single specimen at Riverside (also on the Gila River) in April, 1882, while Mearns (1890a, p. 252) found it breeding sparingly in the pine and spruce zones of the San Francisco and Mogollon mountains.

135. **Dryobates scalaris cactophilus** Oberholser.

CACTUS WOODPECKER.

Synonyms—*Picus scalaris*; *Dryobates scalaris*; *Dryobates scalaris bairdi*.

Status—A common resident of the Lower Sonoran zone throughout southern and western Arizona. It ranges north to Fort Apache, the south base of the Mogollon Mountains, and Fort Whipple; along the Colorado River still farther north: confluence of Beaverdam and Virgin rivers (Fisher, 1893b, p. 47).

136. **Dryobates arizonae** (Hargitt).

ARIZONA WOODPECKER.

Synonyms—*Picus stricklandi*; *Dryobates stricklandi*; *Picus arizonae*; *Dendrocopus arizonae*.

Status—A common resident of the live-oak belt of the mountains of the extreme southeastern corner of the state. Reported from the Santa Rita, Chiricahua, Huachuca, Whetstone, and Rincon mountains, and the east slope of the Santa Catalina Mountains.

137. **Picoides americanus dorsalis** Baird.

ALPINE THREE-TOED WOODPECKER.

Status—A resident of the Canadian zone (pine and spruce belts) of the White, Mogollon and San Francisco mountains (Henshaw, 1875b, p. 391; Mearns, 1890a, p. 252).

138. **Sphyrapicus varius nuchalis** Baird.

RED-NAPED SAPSUCKER.

Synonyms—*Picus varius*; *Sphyrapicus varius*; *Sphyrapicus nuchalis*.

Status—A fairly common migrant, and, in extreme southern Arizona and along the Colorado River, a winter visitant. It has several times been reported as "resident" in northern Arizona, but I know of no authentic breeding record.

139. **Sphyrapicus thyroideus** (Cassin).

WILLIAMSON SAPSUCKER.

Synonym—*Sphyrapicus williamsonii*.

Status—Common resident in the Canadian zone of the higher parts of the White, Mogollon and San Francisco mountains (Mearns, 1890a, p. 252). Farther south it is a fairly common migrant and winter visitant in the mountains, while it has once been reported from the Colorado River, at Fort Mohave (Cooper, 1861, p. 121).

140. **Melanerpes erythrocephalus** (Linnaeus).

RED-HEADED WOODPECKER.

Status—A single specimen was taken by Price in the Chiricahua Mountains, in the spring of 1894 (Bendire, 1895, p. 107). This is the only record for Arizona.

141. **Melanerpes formicivorus aculeatus** Mearns.

MEARNS WOODPECKER.

Synonyms—*Melanerpes formicivorus*; *Melanerpes formicivorus bairdi*; *Melanerpes melanopogon*, part; *Balanosphyra formicivora aculeata*.

Status—A common resident of the live-oak regions. In northern Arizona ranges from the Grand Cañon of the Colorado (Merriam, 1890, p. 39), and Bill Williams Mountain (Wetmore, 1908, p. 379)—but not on San Francisco Mountain (see Merriam, 1890, p. 92)—west to the Hualpai Mountains (Stephens, 1903, p. 101) and Fort Whipple (Coues, 1866a, p. 55); extends southeastwardly throughout the state, on the southern boundary ranging west to the Santa Rita Mountains. Absent from the arid southwestern portion, all that would be south and west of a line drawn from the Hualpai to the Santa Rita Mountains. Reported as a straggler at Sacaton, September 5, 1910 (Gilman, 1911a, p. 35).

142. ***Asyndesmus lewisi* Riley.**

LEWIS WOODPECKER.

Synonyms—*Celeus torquatus*; *Melanerpes torquatus*; *Asyndesmus torquatus*.

Status—Mentioned by Merriam (1890, p. 92) as breeding in the piñon and cedar belt on San Francisco Mountain. Elsewhere in Arizona it has been noted as an erratic visitant, present in numbers one year, and absent the next, but apt to occur almost anywhere.

143. ***Centurus uropygialis* Baird.**

GILA WOODPECKER.

Synonyms—*Melanerpes uropygialis*.

Status—A common resident of the Lower Sonoran zone in southern and western Arizona. In the eastern part of the state it does not range north of the Salt River, but it ascends the Colorado at least to Fort Mohave; of occasional occurrence at Fort Whipple (Coues, 1866a, p. 54). It is practically restricted to such parts of the valleys of the Gila River and its tributaries as lie in the Lower Sonoran zone, and to the valley of the lower Colorado River.

144. ***Colaptes cafer collaris* Vigors.**

RED-SHAFTED FLICKER.

Synonyms—*Colaptes rubricatus*; *Colaptes mexicanus*; *Colaptes auratus mexicanus*; *Colaptes cafer*.

Status—Common resident, breeding in Upper Sonoran and Transition. Breeding records from the Santa Catalina, Mogollon, Hualpai, Huachuca and Santa Rita mountains. During the migrations and in the winter it is quite generally distributed.

145. ***Colaptes chrysoides mearnsi* Ridgway.**

MEARNS GILDED FLICKER.

Synonyms—*Colaptes ayresii*; *Colaptes chrysoides*.

Status—A common resident of the Lower Sonoran zone in parts of southern and western Arizona, extending east to the Santa Rita and the east slope of the Santa Catalina mountains, north to Fort Mohave. Its range is almost absolutely coextensive with that of the giant cactus, the easternmost limit of the species, some twenty-five miles southeast of Tucson, being abruptly defined along the line marking the edge of the territory where the cactus grows. West of the Santa Rita Mountains in the giant cactus region, the gilded flicker is abundant, east of that range it is unknown. On the Colorado River it occurs at the few points where the cactus is found, but it has also been taken in different associations, as at Fort Mohave (Cooper, 1861, p. 121).

146. ***Antrostomus vociferus macromystax*** (Wagler).

STEPHENS WHIP-POOR-WILL.

Synonyms—*Antrostomus vociferus*; *Antrostomus vociferus arizonae*.

Status—A fairly common summer visitant in some of the higher mountains of southeastern Arizona. Found in high Upper Sonoran and Transition zones in the Chiricahua, Santa Rita, Graham, Huachuca and Whetstone mountains. Reported once from the Santa Catalina Mountains, in April (Scott, 1886, p. 429).

147. ***Phalaenoptilus nuttallii nuttallii*** (Audubon).

POORWILL.

Synonyms—*Caprimulgus nuttallii*; *Antrostomus nuttallii*; *Phalaenoptilus nuttallii nitidus*.

Status—A common summer visitant throughout the state. Definite breeding records from Arizona are rare, but the birds have been taken or observed in the breeding season in Lower Sonoran, Upper Sonoran, and the lower part of the Transition zone. It has been found in December in the vicinity of Tucson (Bendire, 1895, p. 153).

148. ***Chordeiles virginianus henryi*** Cassin.

WESTERN NIGHTHAWK.

Synonyms—*Chordeiles virginianus*; *Chordeiles popetue*; *Chordeiles henryi*, part; *Chordeiles popetue henryi*.

Status—Common summer visitant of the higher mountains throughout the state: Flagstaff, Fort Whipple, San Francisco Mountain, Hualpai Mountains, Keam Cañon, Whetstone Mountains, Huachuca Mountains. Apparently does not occur below Upper Sonoran, even in the migrations. Has not been observed anywhere in southwestern Arizona.

149. ***Chordeiles acutipennis texensis*** Lawrence.

TEXAS NIGHTHAWK.

Synonyms—*Chordeiles texensis*; *Chordeiles henryi*, part.

Status—An abundant summer visitant of the Lower Sonoran zone in southern and western Arizona. In the eastern part of the state it apparently does not occur north of the Gila River; in the west it extends to a point some fifty miles south of Fort Whipple (Coues, 1866a, p. 58), and, along the valley of the Colorado River, quite to the northern boundary of the state: mouth of Beaverdam Creek (Fisher, 1893b, p. 53).

150. ***Chaetura vauxi*** (Townsend).

VAUX SWIFT.

Synonym—*Acanthylis pelasgia*.

Status—Apparently a rare migrant in Arizona; has been observed at but a few points. Seen in the Santa Catalina Mountains in October (Scott, 1886, p. 429), at the Pima Indian Reservation on the Gila River, in September (Breninger, 1901a, p. 45), in the Huachuca Mountains in May (Swarth, 1904b, p. 16), and along the Colorado River at Potholes, Yuma, and Pilot Knob, in April and May (Mus. Vert. Zool.).

151. **Aëronautes melanoleucus** (Baird).

WHITE-THROATED SWIFT.

Synonyms—*Acanthylis saxatilis*; *Cypselus melanoleucus*; *Panyptila melanoleuca*; *Micropus melanoleucus*.

Status—Breeds commonly on rocky cliffs and precipices throughout the state. Remains through the winter in parts at least of southern and western Arizona.

152. **Eugenes fulgens** (Swainson).

RIVOLI HUMMINGBIRD.

Status—A common summer visitant of some of the higher mountains of southeastern Arizona. While apparently most numerous in the Huachuca and Chiricahua mountains, it has been reported from the Santa Ritas, the San Luis Mountains, the Santa Catalinas (one specimen, Rhoads, 1892, p. 117), and Mount Graham (Henshaw, 1875b, p. 379), the latter being probably its northern limit. The vertical breeding range—where the nests are located—is about from 5000 to 7000 feet, but the adult males are usually to be found in high Transition, above 8000 feet.

153. **Cyanolaemus clemenciae** (Lesson).

BLUE-THROATED HUMMINGBIRD.

Synonym—*Coeligena clemenciae*.

Status—A rather uncommon summer visitant in the damp shady cañons of the mountain ranges of southeastern Arizona. Has been found in the Santa Catalina, Santa Rita, Chiricahua, San Luis, and Huachuca mountains. Nests and eggs have been secured in the last mentioned range (see Breninger, 1903, p. 435; Willard, 1911, p. 46).

154. **Archilochus alexandri** (Bourcier and Mulsant).

BLACK-CHINNED HUMMINGBIRD.

Synonym—*Trochilus alexandri*.

Status—Very common summer visitant, found generally in foothill country and along wooded streams. Ranges north into the Mogollon Mountains in central Arizona, where Mearns (1890a, p. 255) found it breeding in the pine belt, casually still farther north: 1 specimen, Keam Cañon, July 31 (Fisher, 1903, p. 35). Breeds along the Colorado River to the northern boundary of the state.

155. **Calypte costae** (Bourcier).

COSTA HUMMINGBIRD.

Synonyms—*Selasphorus costae*; *Atthis costae*; *Trochilus costae*.

Status—Common summer visitant of the Lower Sonoran zone in southern and western Arizona; reported north to Fort Grant and Tucson in the east, and to Fort Mohave on the Colorado River. A few seem to remain through the winter as it has been found both at Bill Williams River (Baird, 1858, p. 138) and in the extreme southwestern corner of Arizona (Bendire, 1895, p. 202) in February. Though found breeding only at low altitudes, it is of common occurrence in the high mountains during the migrations, especially in the late summer: Huachuca Mountains, 5500 feet, July (Swarth, 1904b, p. 17).

156. ***Calypte anna*** (Lesson).

ANNA HUMMINGBIRD.

Synonym—*Trochilus anna*.

Status—A rare autumnal visitant, reported from Camp Grant in September (Henshaw, 1875b, p. 375), from the Santa Catalina Mountains in October (Scott, 1886, p. 431), and from the Huachuca Mountains in October (Fisher, 1904, p. 80).

157. ***Selasphorus platycercus*** (Swainson).

BROAD-TAILED HUMMINGBIRD.

Synonym—*Trochilus platycercus*.

Status—Common summer visitant in the higher parts of the Transition zone and upward, throughout Arizona; reported from practically all of the higher mountain ranges visited by collectors: White Mountains, Camp Grant, Santa Catalina Mountains, Mogollon Mountains, San Francisco Mountain, Hualpai Mountains, Huachuca Mountains, Santa Rita Mountains. But one lowland record: Sulphur Spring Valley (Osgood, 1903, p. 130).

158. ***Selasphorus rufus*** (Gmelin).

RUFOUS HUMMINGBIRD.

Synonyms—*Polytmus rufus*; *Trochilus rufus*.

Status—During the late summer this species is an exceedingly common migrant in the higher mountains of the state. As it appears in numbers early in July it has been occasionally reported as a "summer resident", but it undoubtedly does not breed anywhere in Arizona. It is of comparatively rare occurrence in the spring.

159. ***Selasphorus alleni*** Henshaw.

ALLEN HUMMINGBIRD.

Synonym—*Trochilus alleni*.

Status—A rare visitant: A male secured in the Santa Catalina Mountains, July 23, 1884 (Scott, 1886, p. 431); specimens taken in the vicinity of Bisbee in August and September (Allen, 1893, p. 36); and in the Huachuca Mountains in July, in 1896 and in 1902 (Swarth, 1904b, p. 19). These are all the records for Arizona.

The Allen and Anna hummingbirds probably belong in the same category in their manner of occurrence in Arizona: species that occasionally wander to this exceptional distance only at the period of general dispersal in the late summer. They can hardly be regarded as migrants, following a fixed path to a definite destination.

160. ***Atthis heloisa morcomi*** Ridgway.
MORCOM HUMMINGBIRD.

Synonym—*Atthis morcomi*.

Status—Known only from two adult females secured by H. G. Rising in Ramsay Cañon, in the Huachuca Mountains, July 2, 1896 (see Ridgway, 1898b, p. 325). One of these two birds, the type, is in the United States National Museum; the second is in the University of California Museum of Vertebrate Zoology (no. 10299).

161. ***Stellula calliope*** (Gould).
CALLIOPE HUMMINGBIRD.

Synonym—*Trochilus calliope*.

Status—A fairly common migrant, chiefly in the higher mountains, where it makes its appearance in July and August. Scott (1886, p. 431) secured a specimen in the Santa Catalina Mountains, April 14, 1885, the only record I know of, of its occurrence in the spring. It has been found in the White Mountains, at Camp Grant and Camp Apache, in the Santa Catalina Mountains, and in the Huachucas.

162. ***Calothorax lucifer*** (Swainson).
LUCIFER HUMMINGBIRD.

Synonym—*Doricha enicura*.

Status—One specimen, an adult female, taken by Henshaw (1875b, p. 381) at Fort Bowie, August 8, 1874. Not otherwise observed in Arizona.

163. ***Uranomitra salvini*** (Brewster).
SALVIN HUMMINGBIRD.

Status—An immature female, the second known specimen, was shot by H. W. Marsden in the Huachuca Mountains, July 4, 1905. This bird is in the collection of L. B. Bishop (see Bishop, 1906, p. 337).

164. ***Basilinna leucotis*** (Vieillot).
WHITE-EARED HUMMINGBIRD.

Status—Rare summer visitant to some of the higher ranges of southeastern Arizona, reported from the Chiricahua, Santa Rita, and Huachuca mountains. There are published records of about half a dozen specimens taken in Arizona (see Fisher, 1894, p. 325; Swarth, 1904b, p. 19). It has not as yet been found actually breeding in the state, though it probably does so.

165. ***Cynanthus latirostris*** Swainson.
BROAD-BILLED HUMMINGBIRD.

Synonyms—*Circe latirostris*; *Iache latirostris*.

Status—A summer visitant, reported from the Santa Catalina, Santa Rita, and Huachuca mountains, and from the Santa Cruz River west of the Patagonia Mountains. Probably most abundant in the Santa Catalinas, where it is found along the streams from 3500 to 5000 feet. In the Huachucas it is of very rare oc-

currence. Henshaw (1875b, p. 380), records three specimens of this hummingbird "secured in the Chiricahua Mountains, at a point a few miles distant from old Camp Crittenden." As old Camp Crittenden is many miles distant from the Chiricahua Mountains, and in the foothills of the Santa Ritas, this would seem to be a mistake, the more so as in a previous report on the same collections (1875a, p. 162) mention is made of "three specimens secured in the Santa Rita Mountains near the border line." Bendire (1895, p. 228) explicitly states that the species is not yet recorded from the Chiricahua Mountains.

166. **Platypsaris aglaiae albiventris** (Lawrence).

XANTUS BECARD.

Synonym—*Platypsaris albiventris*.

Status—Price (1888b, p. 425) secured a single specimen, a male bird, near the summit of the Huachuca Mountains, June 20, 1888. This is the only record for Arizona, and for the United States.

167. **Tyrannus verticalis** Say.

WESTERN KINGBIRD.

Status—A common summer visitant in the Lower Sonoran zone of southern and western Arizona. Found in the valley of the Gila River, and along its more southern tributaries, and also along the Colorado River. Though not reported from any part of the high mountainous, central portion of the state, its presence in the arid northeastern corner is attested by a July record from Keam Cañon (Fisher, 1903, p. 35).

168. **Tyrannus vociferans** Swainson.

CASSIN KINGBIRD.

Status—Common summer visitant in parts of southeastern, and most of central and northern, Arizona. Breeds mostly in the Upper Sonoran zone, in places extending up into Transition. Reported from Nogales in January (Baird, 1858, p. 174). Has not been found in the arid Lower Sonoran southwestern portion of Arizona.

169. **Myiodynastes luteiventris** Sclater.

SULPHUR-BELLIED FLYCATCHER.

Status—A fairly common summer visitant in the higher mountain ranges of extreme southeastern Arizona. Has been found in the Santa Rita Mountains (Henshaw, 1875a, p. 161), the Chiricahua Mountains (Henshaw 1875b, p. 346), and the Huachuca Mountains (Swarth, 1904b, p. 21).

170. **Myiarchus magister magister** Ridgway.

ARIZONA CRESTED FLYCATCHER.

Synonyms—*Myiarchus cooperi*; *Myiarchus mexicanus cooperi*; *Myiarchus mexicanus magister*.

Status—A summer visitant in portions of southern and western Arizona, reported from the vicinity of Tucson and the Santa Cruz Valley (many records), the Gila Valley about Florence and Riverside (Scott, 1887, p. 17), and, the northernmost record, on the Big Sandy Creek, where Stephens (1903, p. 102) found it breeding in July, 1902. In southeastern Arizona, at least, its range coincides exactly with that of the giant cactus, in which it nests.

171. **Myiarchus cinerascens cinerascens** (Lawrence).

ASH-THROATED FLYCATCHER.

Synonyms—*Myiarchus mexicanus*; *Myiarchus crinitus* var. *cinerascens*; *Myiarchus nuttingi*.

Status—Abundant summer visitant, mostly in the Lower Sonoran zone, in southern and western Arizona, ranging north to Forts Apache and Whipple, and up the Colorado River the entire length of the state. It is also reported from Keam Cañon, in extreme northeastern Arizona, in July. Occurs as an occasional winter visitant, having been noted at Phoenix in December (specimen in Field Museum of Natural History), on the Gila River in December (Baird, 1858, p. 179), and at Fort Mohave in January (Cooper, 1870, p. 316).

172. **Myiarchus lawrencei olivascens** Ridgway.

OLIVACEOUS FLYCATCHER.

Synonyms—*Myiarchus lawrencei*; *Myiarchus lawrencei olivaceus*.

Status—Common summer visitant to a few mountain ranges of extreme southeastern Arizona. Most abundant in the Huachuclas and Santa Ritas, but also reported from the Chiricahuas, the Whetstones, the Santa Catalinas (Scott, 1887, p. 18, one specimen), and, doubtfully, from Fort Grant (Bendire, 1895, p. 270). Restricted almost entirely to brushy cañons of the Upper Sonoran zone.

173. **Sayornis sayus** (Bonaparte).

SAY PHOEBE.

Synonym—*Tyrannula saya*.

Status—Exceedingly common summer visitant of the plains and valleys throughout the state. Remains through the winter in southern Arizona: San Pedro River: Santa Catalina foothills (Scott, 1887, p. 18); and in the valley of the Colorado River: Yuma (Price, 1899, p. 92).

174. **Sayornis nigricans** (Swainson).

BLACK PHOEBE.

Synonym—*Sayornis nigricans semiatra*.

Status—Resident in southern Arizona, irregularly distributed, and nowhere very common. Though resident in the region, it is locally migratory, moving up into the hills in summer (to about 6000 feet), and down to the lower valleys during the winter months. It has been traced north to Fort Apache (Henshaw, 1875b, p. 347), Fort Verde (Coale, 1894, p. 215), to a point a few miles south of Fort Whipple (Coues, 1866a, p. 60), and, along the Colorado River, where it is a winter visitant only, to Fort Mohave. Breeding records appear to be all from points in Upper Sonoran, up to the lower edge of Transition.

175. **Nuttallornis borealis** (Swainson)

OLIVE-SIDED FLYCATCHER.

Synonym—*Contopus borealis*.

Status—Common in summer from the Transition zone upward, in the higher mountains north of the Mogollon Plateau; recorded as breeding on the San Francisco, White, and Mogollon mountains. During the migrations it is quite generally distributed.

176. **Myiochanes pertinax pallidiventris** (Chapman).

COUES FLYCATCHER.

Synonyms—*Contopus pertinax*; *Contopus pertinax pallidiventris*; *Horizopus pertinax pallidiventris*.

Status—Common summer visitant in the Transition zone of the mountains of southeastern Arizona (Huachuca, Santa Rita, Santa Catalina and White mountains, Mount Graham, etc.), extending northward, in diminishing numbers, to the Mogollon Mountains, where it was found breeding at Baker's Butte (Mearns, 1890a, p. 256); casually to Fort Whipple: 1 specimen, August 20, 1864 (Coues, 1866a, p. 60).

177. **Myiochanes richardsoni richardsoni** (Swainson).

WESTERN WOOD PEWEE.

Synonyms—*Contopus richardsoni*; *Contopus virens richardsoni*; *Horizopus richardsoni*; *Contopus veliei*.

Status—Common in summer in Upper Sonoran and Transition throughout the state. During the migrations it is generally distributed.

178. **Empidonax difficilis difficilis** Baird.

WESTERN FLYCATCHER.

Synonym—*Empidonax flaviventris* var. *difficilis*.

Status—A fairly common summer visitant, mostly in Transition, occurring in all the higher mountain ranges. Abundant and of general distribution during the migrations.

179. **Empidonax trailli trailli** (Audubon).

TRAILL FLYCATCHER.

Synonyms—*Empidonax pusillus*; *Empidonax trailli* var. *pusillus*.

Status—Probably fairly common in summer along most of the wooded streams in the lower valleys, though found actually breeding at but a few points: Tucson, Fort Whipple, San Pedro River, Santa Cruz River. During the migrations it is abundant and generally distributed.

180. **Empidonax hammondi** (Xantus).

HAMMOND FLYCATCHER.

Status—A migrant, abundant and generally distributed throughout the state. It is not known to breed anywhere in Arizona.

181. **Empidonax wrighti** Baird.

WRIGHT FLYCATCHER.

Synonym—*Empidonax obscurus*, part.

Status—A fairly common migrant, at least in eastern Arizona. I know of no authentic instance of the breeding of this species in the state.

182. **Empidonax griseus** Brewster.

GRAY FLYCATCHER.

Synonyms—*Empidonax obscurus*, part; *Empidonax wrightii*, part.

Status—This species and the last (*E. wrightii*) have been so hopelessly confused in years past that it is impossible to allocate the various citations with accuracy, but it is certain that *E. griseus* has been many times mentioned under the name of the allied species. Both are migrants in Arizona, and both probably occur (*E. griseus* certainly) across the breadth of the state. Of neither form, however, is there any undoubted breeding record for Arizona. *E. griseus* is probably to be found in winter in the warmer parts of southern Arizona, and along the lower Colorado River.

183. **Empidonax fulvifrons pygmaeus** Coues.

BUFF-BREASTED FLYCATCHER.

Synonyms—*Empidonax pygmaeus*; *Mitrephorus pallescens*; *Mitrephorus fulvifrons* var. *pallescens*.

Status—A summer visitant, nowhere very common, but found in several of the mountain ranges of southeastern Arizona. It breeds mostly at the lower edge of the Transition zone, but is very locally distributed—thus it may be fairly common in one cañon, and almost unknown in an adjoining one. Has been found breeding in the Chiricahua, Huachuca, and Santa Rita mountains, and migrating birds have been taken at Forts Apache and Bowie. The subspecies was described from a specimen secured by Coues at Fort Whipple, which would seem to be its extreme northern limit. It has so far not been found in the Mogollon Mountains, which lie south of that point, but the fact of its breeding at Inscription Rock, New Mexico—close to the Arizona boundary (Henshaw, 1874, p. 128), points to the probability of its doing so in the Mogollons.

184. **Pyrocephalus rubinus mexicanus** Sclater.

VERMILION FLYCATCHER.

Synonyms—*Pyrocephalus rubineus*; *Pyrocephalus mexicanus*.

Status—An abundant resident along the wooded streams of southern and western Arizona, locally migratory, but occurring in the warmer parts of the region throughout the year. In a general way it may be said to be restricted to the Lower Sonoran zone in the valleys of the Colorado and Gila rivers, and their tributaries. In central Arizona it extends north to Fort Verde (Coale, 1894, p. 218); casually to Fort Whipple (Coues, 1865, pp. 163, 538, 1 specimen); along the Colorado River, to the Big Sandy, Bill Williams River, and Ehrenberg (Stephens, 1903, p. 102), casually to Fort Mohave (Cooper, 1870, p. 333; one seen May 24). In eastern Arizona does not range north of the Salt River.

185. **Camptostoma imberbe** Sclater.

BEARDLESS FLYCATCHER.

Synonym—*Ornithion imberbe ridgwayi*.

Status—A rare summer visitant, known to occur in only a limited area in the Santa Cruz Valley, in the vicinity of Tucson. The conditions apparently required by the species, dense growths of tall timber, are met with in Arizona at so very few points, at the low altitudes frequented by the species, that its known range will probably not be greatly extended in the state.

186. **Otocoris alpestris leucolaema** (Coues).

DESERT HORNED LARK.

Synonyms—(?) *Otocoris alpestris*, part; (?) *Eremophila cornuta*, part; *Eremophila alpestris* var. *chrysolaeama*, part; *Otocorys arenicola*, part; *Otocoris alpestris arenicola*, part; *Otocoris alpestris enthymia*.

Status—Common winter visitant. There are numerous winter records of horned larks from the northern and central portion of Arizona, some of which are known to pertain to this subspecies, and others that probably do so.

187. **Otocoris alpestris adusta** Dwight.

SCORCHED HORNED LARK.

Synonyms—*Eremophila alpestris chrysolaeama*, part; (?) *Otocoris alpestris chrysolaeama*, part; *Otocoris alpestris aphrasta*.

Status—Common resident on the plains of extreme southeastern Arizona, from the west side of the Santa Rita Mountains (Swarth, 1905a, p. 79) east to Fort Bowie (Bendire, 1895, p. 345). North to Tucson and Oracle. Other points of record are Fort Huachuca, San Pedro River, Greaterville, Willow Spring, Sulphur Spring, and Wilcox.

188. **Otocoris alpestris pallida** Dwight.

SONORA HORNED LARK.

Synonyms—*Otocoris alpestris arenicola*, part; *Otocoris alpestris leucansip-tila*.

Status—Resident on the desert plains of extreme southwestern Arizona, and probably northward in the Colorado Valley to southern Nevada (cf. Oberholser, 1902, pp. 864-866).

189. **Otocoris alpestris occidentalis** McCall.

MONTEZUMA HORNED LARK.

Synonyms—*Eremophila cornuta*, part; *Eremophila alpestris chrysolaeama*, part; *Otocoris alpestris adusta*, part; *Otocoris alpestris arenicola*, part; (?) *Otocoris alpestris actia*.

Status—Breeding, and perhaps resident, in northern and central Arizona, north of the Mogollon Divide, and west to Fort Whipple (Coues, 1866a, p. 79). There are breeding records from San Francisco Mountain, Fort Verde, and the Little Colorado River (Oberholser, 1902, p. 855). In the Mogollon Mountains it has been found breeding up to 10,000 feet (Mearns, 1890a, p. 256). Localities at which it has been found at other seasons are Pima County, Wilcox, San Pedro River, and Fort Huachuca.

190. ***Pica pica hudsonia*** (Sabine).

MAGPIE.

Synonyms—*Pica hudsonica*; *Pica caudata* var. *hudsonica*.

Status—Secured by Kennerly (1856, p. 10) on the Little Colorado River. Recorded by Henshaw (1874, p. 123) from the Río Puerco, at a point sixty miles west of Wingate, New Mexico, and hence well within the Arizona boundary. Not otherwise recorded from the state.

191. ***Cyanocitta stelleri diademata*** (Bonaparte).

LONG-CRESTED JAY.

Synonyms—*Cyanocorax stelleri*; *Cyanocitta macrolopha*; *Cyanura macrolopha*; *Cyanura stelleri* var. *macrolopha*; *Cyanocitta stelleri macrolopha*, *Cyanocitta stelleri*.

Status—A common resident of the mountains throughout the state from the Transition zone upward. In northern Arizona it ranges west as far as the Grand Cañon of the Colorado (Merriam, 1890, p. 39), and the Hualpai Mountains (Stephens, 1903, p. 102). Though resident at high altitudes it occasionally wanders into the lowlands, far from the mountains, as observed at Sacaton in November, 1910, by Gilman (1911a, p. 35).

192. ***Aphelocoma woodhousei*** (Baird).

WOODHOUSE JAY.

Synonyms—*Cyanocorax californica*; *Cyanocitta californica*; *Cyanocitta woodhousei*; *Cyanocitta floridana* var. *woodhousei*; *Aphelocoma floridana* var. *woodhousei*.

Status—Fairly common resident, mostly in Upper Sonoran, and occurring in favorable localities throughout the state. Has not been observed anywhere in southwestern Arizona, west of Sacaton, nor along the Colorado River below the Grand Cañon.

193. ***Aphelocoma sieberi arizonae*** (Ridgway).

ARIZONA JAY.

Synonyms—*Cyanocitta sordida*; *Cyanocitta ultramarina* var. *arizonae*; *Aphelocoma sordida arizonae*.

Status—An abundant resident of the live oak regions of the mountain ranges of southeastern Arizona. It has been reported from the Santa Rita, Chiricahua, Santa Catalina, Huachuca, Dragoon, Whetstone, and Rincon mountains, Mount Graham, and from a point thirty miles south of Camp Apache, apparently the northern limit of the species.

194. ***Perisoreus canadensis capitalis*** Ridgway.

ROCKY MOUNTAIN JAY.

Status—Reported only from the White Mountains, where it is apparently a not uncommon resident (Henshaw, 1875b, p. 339; Mearns, 1890a, p. 256).

195. **Corvus corax sinuatus** Wagler.

AMERICAN RAVEN.

Synonyms—*Corvus corax*; *Corvus splendens*; *Corvus cacalotl*; *Corvus car-nivorus*; *Corus corax carnivorus*.

Status—Apparently to be found throughout the year in nearly all parts of Arizona. It appears to breed mostly in the higher mountains, though it is a common sight to see ravens in summer, probably non-breeding birds, almost anywhere in the lower valleys.

196. **Corvus cryptoleucus** Couch.

WHITE-NECKED RAVEN.

Status—Has been observed only in the extreme southeastern corner of Arizona, in Cochise County, and west and north to Oracle, Tucson, and the valley of the Santa Cruz River. It is restricted wholly to the Lower Sonoran zone, and is mainly a summer visitant to the region. Some remain throughout the winter in favorable localities: Wilcox, November (Bailey, 1903, p. 87); San Pedro River, February (Willard, 1910c, p. 110).

197. **Corvus brachyrhynchos hesperis** Ridgway.

WESTERN CROW.

Synonym—*Corvus americanus*.

Status—A very uncommon species in most parts of Arizona. I know of but four records for the state; at Fort Apache in November (Henshaw, 1875a, p. 160); in the Santa Catalina Mountains and at Mineral Creek during the migrations (Scott, 1887, p. 21); breeding commonly in the Mogollon Mountains (Mearns, 1890a, p. 256); and uncommon in the vicinity of San Francisco Mountain (Merriam, 1890, p. 94).

198. **Nucifraga columbiana** (Wilson).

CLARKE NUTCRACKER.

Synonym—*Picicorvus columbianus*.

Status—Recorded as breeding in the higher parts of San Francisco Mountain, where it is common (Merriam, 1890, p. 94). Adults seen feeding full-grown young in the Santa Catalina Mountains, May 21, 1904 (F. C. Willard, MS). During the migrations and in winter, it has been noted at irregular intervals at scattered points: Fort Whipple, White Mountains, Huachuca Mountains, etc., and even from the desert region at Sacaton, on one occasion, October 17, 1910 (Gilman, 1911a, p. 35).

199. **Cyanocephalus cyanocephalus** (Wied).

PIÑON JAY.

Synonym—*Gymnokitta cyanocephala*.

Status—A resident about Fort Whipple, according to Coues (1866a, p. 91). It has also been reported as breeding in the piñon belt of San Francisco Mountain (Merriam, 1890, p. 94), and in the vicinity of Williams (Wetmore, 1908, p. 380). It is an erratic visitant to other parts of Arizona (Huachuca Mountains, Santa Catalina Mountains, Gila River, Keam Cañon, etc.).

200. **Molothrus ater obscurus** (Gmelin).

DWARF COWBIRD.

Synonyms—*Molothrus pecoris*; *Molothrus pecoris* var. *obscurus*; *Molothrus obscurus*; *Molothrus ater*.

Status—Found in the greatest abundance in the valleys of the Colorado and Gila rivers, and their tributaries, and up into the foothills of the adjacent mountains. Most abundant as a summer visitant, and reported from many localities, north to the Mogollon Mountains (Mearns, 1890a, p. 257), Fort Whipple (Coues, 1866a, p. 90), and Fort Mohave (Mus. Vert. Zool.). Remains throughout the winter on the lower Colorado River. The only winter record I know of outside of the Colorado Valley is of a single specimen taken by Bendire (1895, p. 44) on Rillito Creek, near Tucson, January 24, 1873.

201. **Tangavius aeneus aeneus** (Wagler).

BRONZED COWBIRD.

Synonym—*Tangavius aeneus involucratus*.

Status—An occasional summer visitant in the hot valleys of extreme southern Arizona. Seen in the vicinity of Tucson during the summer of 1909, from April to September (Visher, 1909, p. 307; 1910, p. 210); and at Sacaton, also in the summer of 1909 (Gilman, 1910, p. 46).

202. **Xanthocephalus xanthocephalus** (Bonaparte).

YELLOW-HEADED BLACKBIRD.

Synonyms—*Agelaius xanthocephalus*; *Xanthocephalus icterocephalus*; *Xanthocephalus longipes*.

Status—Reported as breeding in the Mogollon Mountains (Mearns, 1890a, p. 257) and at Fort Whipple (Coues, 1866a, p. 91). It winters commonly south of the Gila River (Tucson, Fort Huachuca, etc.), and along the Colorado River from Fort Mohave southward.

203. **Agelaius phoeniceus sonoriensis** Ridgway.

SONORA RED-WINGED BLACKBIRD.

Synonyms—*Agelaius gubernator*, part; *Agelaius phoeniceus*, part; *Agelaius phoeniceus longirostris*.

Status—A common resident in the valley of the Colorado River, at least. Its manner of occurrence in other parts of Arizona has yet to be determined.

204. **Agelaius phoeniceus fortis** Ridgway.

NORTHERN RED-WINGED BLACKBIRD.

Status—According to Ridgway (1902, p. 339) this subspecies occurs during the migrations as far south as "Arizona (Fort Verde, December, February; Big Chino Valley, March)."

205. **Agelaius phoeniceus neutralis** Ridgway.

SAN DIEGO RED-WINGED BLACKBIRD.

Synonyms—(?) *Agelaius phoeniceus*, part; (?) *Agelaius gubernator*, part; *Agelaius phoeniceus sonoriensis*, part.

Status—The status of the red-winged blackbirds of Arizona is as yet unsettled. The type of *A. p. sonoriensis* came from Fort Grant, in southeastern Arizona,* but breeding birds examined from the San Pedro River, in the same general region, are *A. p. neutralis*. It may be that one form (*sonoriensis*) breeds along the Colorado River and the lower Gila, these river valleys being the only portion of the Lower Sonoran zone which is adapted to the species; and that the other (*neutralis*) occupies the higher Upper Sonoran zone in northern and eastern Arizona. At any rate some form of the red-winged blackbird breeds in suitable localities throughout the state. Along the Colorado River, and in the valleys of southern Arizona, they are to be found the year through; in the winter months the several varieties possibly occur together in the same places.

206. ***Sturnella magna hoopesi* Stone.**

TEXAS MEADOWLARK.

Synonym—*Sturnella magna mexicana*.

Status—Known to occur along the United States-Mexican boundary line, at least in eastern Arizona, specimens having been taken at Camp Crittenden, Fort Huachuca and Calabasas; also reported from the vicinity of Williams, in the northern part of the state (Wetmore, 1908, p. 381).

207. ***Sturnella neglecta* Audubon.**

WESTERN MEADOWLARK.

Synonym—*Sturnella magna neglecta*.

Status—Resident throughout the state, but irregularly and locally distributed, and, for the most part, not very common. In the Mogollon Mountains, ranges up to 10,000 feet (Mearns, 1890a, p. 257). In southern Arizona occurs in the Lower Sonoran valleys only.

208. ***Icterus parisorum* Bonaparte.**

SCOTT ORIOLE.

Status—An abundant migrant and fairly common summer visitant in parts of southeastern and central Arizona. It is distinctly a bird of the Upper Sonoran zone, known to breed in southern Arizona, in the foothill regions of the Huachuca, Santa Rita, Santa Catalina, Rincon, Quijotoa and Whetstone mountains; doubtless it is to be found in other ranges in the same general region which have not been reported upon. Has also been found in summer at Oracle (Rhoads, 1892, p. 120) and at Beale Spring in western Arizona (Stephens, 1903, p. 102). Has not been found in southwestern Arizona, nor at any point along the Colorado River, except for one bird doubtfully identified at Fort Mohave (Cooper, 1870, p. 276).

* According to the A. O. U. *Check-List*, 1910 ed., p. 233. Ridgway (*Birds North and Middle America*, II, 1902, p. 337) gives it as Mazatlan, western Mexico.

209. ***Icterus cucullatus nelsoni*** Ridgway.

ARIZONA HOODED ORIOLE.

Synonym—*Icterus cucullatus*.

Status—Common summer visitant of the Lower Sonoran zone in southern Arizona, ranging north to Fort Grant in the east (Coues, 1868, p. 84), and to the Big Sandy and Bill Williams River, in the western parts of the state (Stephens, 1903, p. 103). Found breeding near Pilot Knob, on the California side of the Colorado River (Mus. Vert. Zool.).

210. ***Icterus bullocki*** (Swainson).

BULLOCK ORIOLE.

Status—Summer visitant, found in suitable localities throughout the state. In southern Arizona its range overlaps that of *I. c. nelsoni*, but it is much less abundant than that species. Points of record are all in the Upper and Lower Sonoran zones; it has not been found in the high central plateau region. Breeds commonly along the Colorado River, at least as far up as The Needles (Mus. Vert. Zool.).

211. ***Euphagus cyanocephalus*** (Wagler).

BREWER BLACKBIRD.

Synonyms—*Scolecophagus ferrugineus*; *Scolecophagus cyanocephalus*.

Status—An abundant migrant and winter visitant throughout southern Arizona. There are but few definite breeding records for any part of the state. It is known to breed commonly in the Mogollon and San Francisco mountains (Mearns, 1890a, p. 257), and Coues (1866a, p. 90) speaks of it as a summer resident at Fort Whipple. Otherwise it has been observed in all parts of Arizona as a transient or as a winter visitant.

212. ***Hesperiphona vespertina montana*** Ridgway.

WESTERN EVENING GROSBEAR.

Synonyms—*Hesperiphona vespertina*; *Coccothraustes vespertina*; *Coccothraustes vespertina montana*.

Status—Breeds in the high mountains of central Arizona: San Francisco Mountain (Merriam, 1890, p. 95), White Mountains (Swinburne, 1888a, p. 113), Mogollon Mountains (Mearns, 1890a, p. 246); occasionally in some of the ranges farther south; Santa Catalina and Huachuca mountains (Willard, 1910a, p. 60). During the migrations and in winter it is reported from various scattered localities: Huachuca Mountains, Santa Catalina Mountains, Fort Verde, and Fort Apache.

213. ***Carpodacus purpureus californicus*** Baird.

CALIFORNIA PURPLE FINCH.

Status—The only Arizona record is that of Scott (1887, p. 196), who found the species abundant in the Santa Catalina Mountains from November, 1885, to February, 1886.

214. **Carpodacus cassini** Baird.

CASSIN PURPLE FINCH.

Synonyms—*Carpodacus purpureus*; *Carpodacus pileatus*.

Status—Reported as a resident in the pine belt of the Mogollon Mountains (Mearns, 1890a, p. 258). During the migrations and in winter it is quite generally distributed: Fort Whipple (Coues, 1866a, p. 80); Pueblo Creek and Aztec Mountains, January (Kennerly, 1859, p. 27); Bill Williams Mountain, March (Wetmore, 1908, p. 381). In southern Arizona as a winter visitant only, seldom descending into the low valleys, but common in the higher mountains: Santa Catalina Mountains and Tucson (Scott, 1887, p. 197); Dragoon Mountains (Osgood, 1903, p. 131); Huachuca Mountains (Swarth, 1908, p. 113).

215. **Carpodacus mexicanus frontalis** (Say).

HOUSE FINCH.

Synonyms—*Fringilla frontalis*; *Carpodacus familiaris*; *Carpodacus californicus*; *Carpodacus cassini*, part; *Carpodacus mexicanus obscurus*; *Carpodacus frontalis*.

Status—Fairly common resident throughout the state, though locally migratory. Breeds below Transition; restricted to the warmer valleys in winter. Occurs nowhere in Arizona in such large numbers as are seen on the Pacific coast of California.

216. **Loxia curvirostra stricklandi** Ridgway.

MEXICAN CROSSBILL.

Synonyms—*Curvirostra americana*; *Loxia curvirostra* var. *americana*; *Loxia curvirostra mexicana*.

Status—Breeds from the Transition zone upwards in the mountains of the high plateau region: Williams, breeding (Wetmore, 1908, p. 382); Mogollon Mountains (Mearns, 1890a, p. 258); possibly in some of the more southern ranges also. Noted at various scattered points (usually at high altitudes) during the migrations, and in the winter: San Francisco Mountain, Grand Cañon, Mount Graham, Huachuca, Santa Catalina and Chiricahua mountains.

217. **Passer domesticus** (Linnaeus).

ENGLISH SPARROW.

Status—Common at the present time in most of the larger towns and along the railroads. The species reached Tucson in 1903, and Tombstone in 1904 (Howard, 1906, p. 67). Also recorded from Benson, Flagstaff, Williams, Phoenix and Mellen.

218. **Astragalinus tristis pallidus** (Mearns).

PALE GOLDFINCH.

Synonyms—*Chrysomitris tristis*; *Spinus tristis*; *Spinus tristis pallidus*.

Status—From the paucity of records this is evidently a rare species in Arizona. Henshaw (1875a, p. 158) cites Bendire as having observed it at Tucson; Scott (1887, p. 197) secured six specimens in the Santa Catalina Mountains in December, 1885, and February, 1886; and Mearns (1890a, p. 244) found it, apparently abundant, at Fort Verde in winter and spring.

219. **Astragalinus psaltria hesperophilus** Oberholser.

GREEN-BACKED GOLDFINCH.

Synonyms—*Chrysomitris psaltria*; *Chrysomitris mexicana*; *Chrysomitris mexicanus* var. *arizonae*; *Chrysomitris psaltria* var. *arizonae*; *Astragalinus psaltria arizonae*; *Astragalinus psaltria*; *Spinus psaltria*; *Spinus psaltria arizonae*.

Status—Occurs below Transition throughout the state. In northern Arizona it is a summer visitant only, as is the case in the mountain ranges of the south as well. In the lower valleys of southern Arizona it occurs irregularly throughout the year. Noted as a common resident, and found breeding, along the Colorado River, between Needles and Yuma (Mus. Vert. Zool.).

220. **Astragalinus lawrencei** (Cassin).

LAWRENCE GOLDFINCH.

Synonyms—*Chrysomitris lawrencei*; *Spinus lawrencei*.

Status—Winter visitant, probably regularly, though in small numbers, to the Colorado Valley; of rare and irregular occurrence elsewhere. Coues (1866a, p. 83) noted it at Fort Whipple, and Cooper (1870, p. 171) at Fort Mohave during the winter months.

Its observation on the Colorado River at Riverside Mountain, March 17, 1910 (Mus. Vert. Zool.), although on the California side of the stream, is confirmatory of its probably regular occurrence in this region in winter. Scott (1887, p. 199) recorded a specimen taken by Herbert Brown at Tucson, February 28, 1886, and Price (1899, p. 92) reported it from the vicinity of Yuma in December. These are the only records.

221. **Spinus pinus** (Wilson).

PINE SISKIN.

Synonym—*Chrysomitris pinus*.

Status—Common resident in the high mountains of the plateau region: San Francisco Mountain, breeding (Merriam, 1890, p. 95); Mogollon Mountains, resident (Mearns, 1890a, p. 258); breeding at least as far south as Mount Graham (Henshaw, 1875a, p. 158). Common in winter in the higher ranges of southern Arizona: Chiricahua, Santa Catalina and Huachuca mountains; and of occasional occurrence in the valleys during the migrations: San Pedro River, April (Swarth, 1904b, p. 37).

222. **Calcarius ornatus** (Townsend).

CHESTNUT-COLLARED LONGSPUR.

Synonyms—*Plectrophanes melanomus*; *Plectrophanes ornatus*.

Status—Abundant migrant, and, less commonly, a winter visitant in extreme eastern Arizona, reported from St. Johns, Fort Grant, Fort Huachuca, Fort Bowie, Sulphur Spring Valley, etc.; occasionally straggling farther westward: Santa Catalina Mountains, November 11, 1885; Fort Whipple, 1 specimen, October 17, 1864; Sacaton, October 25, 1909.

223. **Rhynchophanes mccowni** (Lawrence).

McCOWN LONGSPUR.

Synonym—*Plectrophanes maccownii*.

Status—Occurs in the same manner as *Calcarius ornatus*, and over practically the same territory in eastern Arizona. It is more irregular in its appearance and usually not as abundant as the Chestnut-collared Longspur. Reported from Fort Bowie, Fort Apache, St. Johns, Sulphur Spring Valley, Fort Huachuca, and Fort Lowell.

224. **Poocetes gramineus confinis** Baird.

WESTERN VESPER SPARROW.

Synonyms—*Zonotrichia graminea*; *Poocetes gramineus*.

Status—The only breeding records are from the Mogollon and San Francisco mountains (Mearns, 1890a, p. 259), and Fort Whipple (Coues, 1866a, p. 84). It is exceedingly abundant in winter and during the migrations, throughout southern Arizona and along the valley of the Colorado River.

225. **Passerculus sandwichensis alaudinus** Bonaparte.

WESTERN SAVANNAH SPARROW.

Synonyms—*Passerculus savanna*; *Passerculus alaudinus*, part; *Ammodramus sandwichensis alaudinus*.

Status—A migrant and winter visitant in the valleys of southern Arizona and along the Colorado River. There are but few records of the occurrence of the species, and it does not appear to have been found anywhere in abundance.

226. **Passerculus sandwichensis nevadensis** Grinnell.

NEVADA SAVANNAH SPARROW.

Synonym—*Passerculus alaudinus*, part.

Status—The record by Coues (1866a, p. 84) of the occurrence of a Savannah sparrow as a common summer visitant at Fort Whipple probably pertains to this subspecies. Three specimens taken on the Colorado River, two near the mouth of Bill Williams River, March 13, and one five miles north of Laguna, April 22, 1910 (Mus. Vert. Zool.).

227. **Passerculus rostratus rostratus** (Cassin).

LARGE-BILLED SPARROW.

Status—"Casual in Arizona" (A. O. U. *Check-List*, 1910, p. 255). This record was based on a specimen taken August 15, 1902, at Yuma, by Herbert Brown, and sent to the Biological Survey for identification, according to information received by me from Mr. W. W. Cooke.

228. **Ammodramus bairdi** (Audubon).

BAIRD SPARROW.

Synonyms—*Centronyx bairdi*; *Passerculus bairdi*; *Coturniculus bairdi*.

Status—Common migrant on the open grassy plains of the extreme southeastern corner of the state, reported from Camp Grant, Camp Crittenden, and the vicinity of the Huachuca Mountains. A few probably remain through the winter in favorable localities.

229. ***Ammodramus savannarum bimaculatus*** Swainson.

WESTERN GRASSHOPPER SPARROW.

Synonyms—*Ammodramus passerinus*; *Coturniculus passerinus*; *Coturniculus passerinus* var. *perpallidus*; *Ammodramus savannarum perpallidus*; *Ammodromus savannarum*; *Coturniculus savannarum bimaculatus*.

Status—Reported only from western and southern Arizona. Probably breeds in parts of southern Arizona, at least, as Henshaw (1875b, p. 257) secured very young birds in the Sonoita Valley, at the southeastern base of the Santa Rita Mountains; while there is a specimen recorded as taken at Los Nogales in June (Baird, 1859, p. 15). It has been taken at Bill Williams River in February (Kennerly, 1859, p. 28), and in the Santa Catalina Mountains in January (Scott, 1887, p. 199).

230. ***Chondestes grammacus strigatus*** Swainson.

WESTERN LARK SPARROW.

Synonym—*Chondestes grammaca*.

Status—Common summer visitant in suitable localities throughout Arizona. Breeding records are from points in Lower and Upper Sonoran, up to the lower edge of Transition; Santa Catalina Mountains up to 5000 feet (Scott, 1887, p. 199); Mogollon and San Francisco mountains, summer resident (Mearns, 1890a, p. 259); Huachuca Mountains, summer visitant (Swarth, 1904b, p. 39); etc. Locally migratory; during the winter months restricted mainly to the warmer valleys of the southern and western parts of the state: San Pedro River, February (Willard, 1910c, p. 110); Tucson, resident (Scott, l. c.); Yuma, December (Price, 1899, p. 92).

231. ***Zonotrichia leucophrys leucophrys*** (Forster).

WHITE-CROWNED SPARROW.

Status—A common migrant throughout Arizona, usually in company with *Zonotrichia l. gambeli*. Possibly a few remain through the winter in parts of southern Arizona, though there is no authentic instance on record. Mearns (1890a, p. 259) found the species at the base of San Francisco Mountain in June, "apparently breeding". It has not otherwise been found in the summer. Noted as a transient in the Colorado Valley between Needles and Yuma (Mus. Vert. Zool.).

232. ***Zonotrichia leucophrys gambeli*** (Nuttall).

INTERMEDIATE SPARROW.

Synonyms—*Zonotrichia leucophrys*, part; *Zonotrichia gambelii*; *Zonotrichia leucophrys intermedia*; *Zonotrichia intermedia*.

Status—Abundant migrant throughout the state. Winter records are all from points south and west of the Mogollon Divide; Colorado River Valley from Fort Mohave southward, Fort Whipple, San Pedro River, etc., where it is common during the winter months.

233. ***Spizella monticola ochracea* Brewster.**

WESTERN TREE SPARROW.

Synonyms—*Spizella canadensis*; *Spizella monticola*.

Status—Kennerly (1859, p. 29) found this species in December on the Little Colorado River, while Henshaw (1875a, p. 159) reported it, on the authority of Bendire, as of occasional occurrence in winter in the vicinity of Tucson. These are the only records for the state.

234. ***Spizella passerina arizonae* Coues.**

WESTERN CHIPPING SPARROW.

Synonyms—*Spizella socialis*; *Spizella socialis arizonae*.

Status—Common summer visitant in parts of central Arizona. Found breeding at Fort Whipple (Coues, 1866a, p. 87), and on the Mogollon and San Francisco mountains (Mearns, 1890a, p. 259). In southern Arizona it is a very abundant migrant, and in the warmer valleys a winter visitant also. Observed in some numbers along the Colorado River, from The Needles southward in February, March, and April; seen at Potholes, May 1, under conditions possibly indicative of breeding (Mus. Vert. Zool.). Two specimens taken by Cooper at Fort Mohave, December 24, 1860 (in Mus. Vert. Zool.).

235. ***Spizella pallida* (Swainson).**

CLAY-COLORED SPARROW.

Synonym—*Spizella pusio*.

Status—Henshaw (1875b, p. 278) secured specimens at Camp Crittenden in September; and Scott (1887, p. 200) met with the species at Mineral Creek in March, October, and November. These seem to be the only Arizona records. It is highly probable that Cooper's (1861, p. 122) reference to *Spizella pallida* as common in April in the vicinity of Fort Mohave, really pertains to *S. breweri*.

236. ***Spizella breweri* Cassin.**

BREWER SPARROW.

Synonyms—*Spizella pallida*, part; *Spizella pallida* var. *breweri*.

Status—Reported as breeding at Fort Whipple (Coues, 1866a, p. 87), and in the Huachuca Mountains (Willard, 1908b, p. 206), and as probably breeding on the Desert of the Little Colorado (Merriam, 1890, p. 96). In the northern and central parts of the state it is a summer visitant only, but in the lowlands of southern Arizona it remains in numbers throughout the winter, as is also the case along the Colorado River from The Needles southward (Mus. Vert. Zool.).

237. ***Spizella atrogularis* (Cabanis).**

BLACK-CHINNED SPARROW.

Synonym—*Spizella evura*.

Status—There are but few records of the occurrence of this species in Arizona. Found at Fort Whipple as a rare summer visitant but common migrant (Coues, 1866a, p. 87); specimens secured at Mineral Creek in October, and in the Santa Catalina Mountains in February (Scott, 1887, p. 200); found breeding in the Hualpai Mountains at 6000 feet (Stephens, 1903, p. 103); and noted on one occasion in the Huachuca Mountains in April (Swarth, 1904b, p. 40).

238. **Junco hyemalis hyemalis** (Linnaeus).

SLATE-COLORED JUNCO.

Status—Has been reported in winter from many scattered points: Fort Whipple, Fort Mohave, Santa Catalina Mountains, Huachuca Mountains, Williams, etc. Never at all common, but usually found in flocks composed of the various species of juncos wintering in the region.

239. **Junco montanus** Ridgway.

MONTANA JUNCO.

Synonym—*Junco hyemalis montanus*.

Status—"In winter south to Arizona (Tucson)" (Ridgway, 1901, p. 290). I know of no other record.

240. **Junco oreganus thurberi** Anthony.

SIERRA JUNCO.

Synonyms—*Junco oregonus*, part; *Junco hyemalis thurberi*.

Status—As this species has been found in abundance in winter in the Huachuca Mountains, of extreme southeastern Arizona (Swarth, 1904b, p. 40) it will doubtless prove to be a common winter visitant in all suitable places west of that point. There is record of a specimen from Fort Whipple (Ridgway, 1901, p. 288). There is a specimen in the Museum of Vertebrate Zoology (no. 4143) taken by J. G. Cooper at Fort Mohave, December 24, 1860.

241. **Junco oreganus shufeldti** Coale.

SHUFELDT JUNCO.

Synonyms—*Struthus oregonus*; *Junco oregonus*, part; *Junco hyemalis oregonus*; *Junco connectens*; *Junco hyemalis connectens*.

Status—A common winter visitant reported from all parts of Arizona, but generally favoring the mountains and the foothill regions, rather than the more open valleys. Nearly all of the numerous records of *Junco oregonus* in Arizona are considered by Ridgway (1901, p. 285) to pertain to this subspecies.

242. **Junco mearnsi** Ridgway.

PINK-SIDED JUNCO.

Synonyms—*Junco connectens*; *Junco ridgwayi*, part; *Junco hyemalis mearnsi*.

Status—A common winter visitant in northern and eastern Arizona, reported from the following localities: Fort Whipple, Prescott, Williams, Santa Catalina Mountains, Huachuca Mountains, and Sulphur Spring Valley.

243. **Junco caniceps** (Woodhouse).

GRAY-HEADED JUNCO.

Synonyms—*Struthus caniceps*, part; *Junco cinereus caniceps*; *Junco ridgwayi*, part; *Junco phaeonotus caniceps*.

Status—A common winter visitant in the Upper Sonoran and Transition zones at least as far north as Fort Whipple. Reported from numerous localities: Fort Whipple, Williams, and the Chiricahua, Santa Catalina, Huachuca, Dragoon and Whetstone mountains.

244. **Junco phaeonotus palliatus** Ridgway.

ARIZONA JUNCO.

Synonyms—*Junco cinereus*; *Junco cinereus palliatus*.

Status—Common resident of the Transition zone of eastern Arizona, from Mount Graham southward. Reported from the Graham, Santa Catalina, Santa Rita, Chiricahua, Pinal, Huachuca, and Whetstone mountains. It is strictly a resident in the higher mountains, there being apparently not even a local migration downward into the valleys during the winter months.

245. **Junco phaeonotus dorsalis** Henry.

RED-BACKED JUNCO.

Synonyms—*Struthus caniceps*, part; *Junco cinereus dorsalis*; *Junco dorsalis*.

Status—Resident in the high mountains of northeastern Arizona, reported from San Francisco Mountain, Grand Cañon of the Colorado, White Mountains, and Mogollon Mountains.

246. **Amphispiza bilineata deserticola** Ridgway.

DESERT SPARROW.

Synonyms—*Poospiza bilineata*; *Amphispiza bilineata*.

Status—Common summer resident in the arid Lower Sonoran plains, of southern and western Arizona, north to Forts Verde, Whipple, and Mohave; also reported in summer from the Desert of the Little Colorado and Keam Cañon, in northeastern Arizona. Remains through the winter in some of the warmer southern valleys.

247. **Amphispiza nevadensis nevadensis** (Ridgway).

SAGE SPARROW.

Synonyms—*Poospiza belli*; *Poospiza belli*, var. *nevadensis*; *Amphispiza belli nevadensis*; *Amphispiza belli cinerea*.

Status—A fairly common winter visitant, reported from various parts of the state: Little Colorado River, December (Kennerly, 1859, p. 29); Fort Whipple (Coates, 1866a, p. 86); San Pedro River and Tucson, December (Scott, 1887, p. 203); Fort Huachuca, winter (Fisher, 1904, p. 80). Price's (1899, p. 93) record of *Amphispiza belli cinerea?* at Yuma in midwinter also probably pertains to this species. As young in the spotted plumage were taken at Flagstaff, on the Desert of the Little Colorado, and at the Grand Cañon of the Colorado (Merriam, 1890, p. 96), the species may breed in this general region.

248. **Peucaea botterii** (Sclater).

BOTTERI SPARROW.

Synonyms—*Peucaea cassinii*, part; *Peucaea aestivalis* var. *arizonae*; *Peucaea arizonae*.

Status—Found only in the Lower Sonoran valleys of southeastern Arizona; reported north to Camp Grant (Henshaw, 1874, p. 118), west to the valley of the Santa Cruz River (Stephens, 1885, p. 226). Possibly resident, but all the records thus far published are of observations made during the summer months.

249. ***Peucaea cassini*** (Woodhouse).

CASSIN SPARROW.

Synonym—*Zonotrichia cassini*.

Status—Locally abundant during the summer in the Lower Sonoran valleys of southeastern Arizona, recorded from over practically the same area as that occupied by *Peucaea botterii*. Ranges north to Fort Grant (Henshaw, 1875b, p. 285), west as far as the Santa Cruz Valley (Stephens, 1885, p. 226). I know of no instance of its having been found actually breeding, though taken throughout the summer, nor do I know of any midwinter record.

250. ***Aimophila carpalis*** (Coues).

RUFIOUS-WINGED SPARROW.

Synonym—*Peucaea carpalis*.

Status—Found only in southeastern Arizona, where it has been reported from Tucson, Fort Lowell, the foothills of the Santa Catalina Mountains (up to 4500 feet), and the Santa Cruz Valley. Probably resident, as specimens have been taken in January as well as in midsummer.

251. ***Aimophila ruficeps scotti*** (Sennett).

SCOTT SPARROW.

Synonyms—*Peucaea ruficeps boucardi*; *Peucaea homochlamys*; *Peucaea ruficeps scotti*.

Status—Common resident of the Upper Sonoran foothills of southeastern Arizona. Occurs in all the ranges south of Camp Apache (Henshaw, 1875b, p. 289), and west of the Santa Cruz River: Santa Catalina, Santa Rita, Chiricahua, Huachuca mountains, etc. Has also been found in the Grand Cañon of the Colorado, below 4000 feet, and on the Desert of the Little Colorado (Merriam, 1890, pp. 40, 97), in extreme northern Arizona.

252. ***Melospiza melodia saltonis*** Grinnell.

DESERT SONG SPARROW.

Synonyms—*Zonotrichia fallax*; *Melospiza fallax*; *Melospiza melodia*; *Melospiza fasciata fallax*; *Melospiza cinerea fallax*; *Melospiza melodia fallax*.

Status—Common resident of the Lower Sonoran river valleys. Occurs along the Colorado River for nearly its entire extent in the state, being reported from below Yuma and as far up the river as Moencopie in northeastern Arizona (Merriam, 1890, p. 97). Occurs in suitable localities (which are not numerous) in southern Arizona, along the valley of the Gila River and its tributaries (Santa Cruz River, San Pedro River, etc.). I know of no song sparrow records from the high plateau region of central Arizona.

253. ***Melospiza melodia fallax*** (Baird).

MOUNTAIN SONG SPARROW.

Synonyms—*Melospiza melodia* var. *heermanni*; *Melospiza fasciata montana*; *Melospiza melodia montana*.

Status—A fairly common winter visitant or transient. Specimens have been taken as follows: San Pedro River and Tucson, winter (Scott, 1887, p. 204); Sulphur Spring Valley, March (Osgood, 1903, p. 149); San Francisco Mountain, August (Merriam, 1890, p. 97); and Colorado River at Needles, mouth of Bill Williams River, and Riverside Mountain, February and March, 1910 (Mus. Vert. Zool.). Probably a migrant in northern Arizona, and a winter visitant along the lower Colorado River, and in the southern valleys.

254. **Melospiza melodia merrilli** Brewster.

MERRILL SONG SPARROW.

Status—Recorded from Apache, Arizona, in winter (Ridgway, 1901, p. 361).

255. **Melospiza lincolni lincolni** (Audubon).

LINCOLN SPARROW.

Synonym—*Peucaea lincolni*.

Status—Of fairly common occurrence as a migrant in suitable places; generally distributed and reported from many scattered localities. Probably remains in the valley of the lower Colorado River throughout the winter, though there is no definite data establishing this as a fact. Possibly a winter visitant in other parts of southern Arizona also. Found on the Bill Williams River in February (Kennerly, 1859, p. 29).

256. **Passerella iliaca schistacea** Baird.

SLATE-COLORED FOX SPARROW.

Synonym—*Passerella townsendi schistacea*.

Status—A rare migrant and winter visitant. There are published records of but four specimens from Arizona: one from a point forty miles south of Camp Apache, September 1, 1873 (Henshaw, 1875b, p. 293); one from Tucson, February, 1880 (Brewster, 1882, p. 197); one from San Francisco Mountain, September 29, 1889 (Merriam, 1890, p. 97); and one from the Huachuca Mountains, November 20, 1894 (Fisher, 1904, p. 81).

257. **Pipilo maculatus montanus** Swarth.

MOUNTAIN TOWHEE.

Synonyms—*Pipilo arctica*; *Pipilo erythrophthalmus*; *Pipilo oregonus*; *Pipilo megalonyx*; *Pipilo maculatus megalonyx*.

Status—Common resident of the Upper Sonoran and Transition zones in northern and eastern Arizona. Its westernmost limits might be indicated by a line drawn from the Santa Rita and Santa Catalina mountains in the southeast, to the Hualpai Mountains in the northwest. Apparently strictly resident where found, there being no migratory movement into the lowlands in winter. There are no records from the valley of the lower Colorado River.

258. **Pipilo maculatus curtatus** Grinnell.

NEVADA TOWHEE.

Status—Rather uncommon winter visitant along the lower Colorado River; specimens taken between Needles and Ehrenberg, in February and March, 1910 (Mus. Vert. Zool.), and one at Fort Yuma January 23, 1913 (collection of A. B. Howell). The capture of these specimens constitutes the only records I know of regarding the occurrence of any form of *Pipilo maculatus* in the lower Colorado Valley (see Grinnell, 1911, p. 309).

259. **Pipilo fuscus mesoleucus** Baird.

CAÑON TOWHEE.

Synonym—*Pipilo mesoleucus*.

Status—Common resident in the Upper Sonoran zone, and in Lower Sonoran also in parts of southern Arizona. All of the published records are from points south and east of the Mogollon divide; but the species is absent from the exceedingly arid southwestern corner of Arizona, and thus seems to occupy a belt extending across the state from Fort Mohave in the northwest (Fisher, 1893b, p. 105), south to the extreme southeastern corner. Coues' (1866c, p. 262) record of the occurrence of the species on the lower Colorado River lacks confirmation. Zonally it occupies an intermediate region between *Pipilo m. montanus* and *P. aberti*, at places ascending or descending slightly into the habitats of those species. In no one spot, however, are all three to be found.

260. **Pipilo aberti** Baird.

ABERT TOWHEE.

Status—Common resident of the valley of the Colorado River, and its tributaries in western and southern Arizona. Abundant in the Lower Sonoran river valleys of the south (Gila, Santa Cruz, San Pedro, etc.) extending as far north as Fort Grant (Coues, 1868, p. 84) and Fort Whipple (Coale, 1894, p. 218). Along the Colorado it has been found to the extreme northwestern corner of the state: confluence of the Beaverdam and Virgin rivers (Fisher, 1893b, p. 105), but no farther to the eastward.

261. **Oreospiza chlorura** (Audubon).

GREEN-TAILED TOWHEE.

Synonyms—*Fringilla blandigiana*; *Zonotrichia blandigiana*; *Pipilo chlorura*; *Atlapetes chlorurus*.

Status—A common migrant, occurring indifferently on Boreal mountain tops or on the arid, semi-desert plains. Reported in winter from the Colorado Valley (Cooper, 1870, p. 248), and as an occasional winter visitant in the Santa Catalina Mountains in extreme southern Arizona (Scott, 1887, p. 204). Specimens in the collection of F. S. Daggett taken at Fort Lowell in October, November, December and January.

262. **Cardinalis cardinalis superbus** Ridgway.

ARIZONA CARDINAL.

Synonyms—*Cardinalis virginianus*; *Cardinalis igneus*; *Cardinalis virginianus igneus*; *Cardinalis superbus*.

Status—Fairly abundant in the valleys of extreme southeastern Arizona, where it is probably resident throughout the year. One specimen in the collection of F. S. Daggett, no. 6475, male, Tucson, January 10, 1908. There is record of one from the "Colorado River, Arizona", November 30, 1871 (Ridgway, 1885c, p. 344). Aside from this it is reported only from localities in the valleys of the Santa Cruz and San Pedro rivers.

263. **Pyrrhuloxia sinuata sinuata** (Bonaparte).

ARIZONA PYRRHULOXIA.

Synonym—*Pyrrhuloxia sinuata beckhami*.

Status—Resident in the Lower Sonoran valleys of southern Arizona. Common in the vicinity of Tucson; also reported from Fort Grant, Yuma, Quijotoa, and the San Pedro and Santa Cruz rivers.

264. **Zamelodia ludoviciana** (Linnaeus).

ROSE-BREADED GROSBEEK.

Status—Only one record, that of an adult male taken by R. D. Lusk in the Huachuca Mountains, June 29, 1894 (Swarth, 1904b, p. 44). The specimen is now in the Swarth collection.

265. **Zamelodia melanocephala melanocephala** (Swainson).

BLACK-HEADED GROSBEEK.

Synonyms—*Guiraca melanocephala*; *Goniaphea melanocephala*; *Hedymeles melanocephalus*; *Habia melanocephala*.

Status—Breeds commonly in the Transition zone of the higher mountains throughout the state; and during the migrations it is of general occurrence elsewhere as well. There is no authenticated instance of its occurrence through the winter months.

266. **Guiraca caerulea lazula** (Lesson).

WESTERN BLUE GROSBEEK.

Synonyms—*Guiraca caerulea*; *Goniaphea coerulea*; *Guiraca caerulea curhyncha*.

Status—Restricted almost entirely to the hot Lower Sonoran river valleys. A common summer visitant along the San Pedro and Santa Cruz rivers, and about Tucson. The various records from the Colorado River are none of them of birds actually found breeding, though there can be little doubt but that they do so: Fort Mohave, May; Yuma, May; confluence of Beaverdam and Virgin rivers, May; Big Sandy River, July. In central Arizona it extends north to Fort Apache and Fort Grant (Henshaw, 1875b, p. 298) and to Fort Whipple (Coues, 1866a, p. 88).

267. **Passerina amoena** (Say).

LAZULI BUNTING.

Synonyms—*Spiza amoena*; *Cyanospiza amoena*.

Status—Of abundant occurrence as a migrant, and quite generally distributed, though I know of no records of its occurrence in northeastern Arizona. Probably breeds, though definite data is lacking. Coues (1866a, p. 89) reports it as an uncommon summer visitant at Fort Whipple, and Scott (1887, p. 205) states that it has been found breeding near Tucson. In neither case is more detailed information given.

268. **Passerina versicolor pulchra** Ridgway.

BEAUTIFUL BUNTING.

Synonym—*Passerina versicolor*.

Status—An adult female taken by F. Stephens at Crittenden, near the Santa Rita Mountains, July 14, 1884 (Brewster, 1885b, p. 198). Not otherwise known to occur in Arizona.

269. **Passerina ciris** (Linnaeus).

PAINTED BUNTING.

Synonym—*Cyanospiza ciris*.

Status—Of occasional occurrence in extreme southeastern Arizona in late summer and during the fall migration. Henshaw (1875b, p. 301) reported it as present in considerable numbers at Fort Bowie and Fort Crittenden in August and September, 1874. One specimen taken in the Huachuca Mountains, July 12, 1902 (Swarth, 1904b, p. 46). There are three specimens in the Museum of Vertebrate Zoology taken at Fort Huachuca on August 29 and September 12 and 13, 1884, respectively.

270. **Spiza americana** (Gmelin).

DICKCISSEL.

Synonym—*Euspiza americana*.

Status—Only known to occur in Arizona as observed by Henshaw (1875b, p. 295), who found it in small numbers and secured specimens on the San Pedro River, at Fort Crittenden and at Fort Lowell, in August and September, 1873 and 1874; and from a specimen taken by Brown at Tucson, September 11, 1884 (Scott, 1887, p. 205).

271. **Calamospiza melanocorys** Stejneger.

LARK BUNTING.

Synonym—*Calamospiza bicolor*.

Status—An abundant migrant and winter visitant on the plains of southern and western Arizona. There are numerous recorded instances of its occurrence at points in the south—Tombstone, San Pedro Valley, Tucson, etc., north to Fort Grant; and it also occurs in lesser numbers along the Colorado River, but apparently not in the extreme southwestern corner, the vicinity of Yuma. Not reported south of Cibola, on the Colorado River (Mus. Vert. Zool.), nor west of Agua Caliente, on the Gila River (Swarth, MS). Neither do I know of any instance of its occurrence in northern Arizona—north of the Mogollon Divide—though it should occur in that region as a migrant.

272. **Piranga ludoviciana** (Wilson).

WESTERN TANAGER.

Synonym—*Pyranga ludoviciana*.

Status—Summer visitant in the Transition zone and upward, of common occurrence in the north: San Francisco Mountain (Merriam, 1890, p. 40); Mogollon Mountains (Mearns, 1890a, p. 260). In diminishing numbers to the southward, as far as the Santa Catalina Mountains (Scott, 1888, p. 29), and Huachuca Mountains (Swarth, 1904b, p. 47). These latter points, where it is of rare occurrence in the summer, probably indicate the extreme southern limits of the breeding range of the species. Common and generally distributed during the migrations.

273. **Piranga hepatica** Swainson.

HEPATIC TANAGER.

Synonyms—*Pyranga azarac*; *Pyranga hepatica*, part.

Status—Common summer visitant in the Transition zone throughout the state. Reported in summer from San Francisco Mountain, the Mogollon, Santa Catalina, Santa Rita, Huachuca, Chiricahua, and White mountains, and at Fort Whipple; and as a migrant from various intervening points. A single specimen was taken in the Hualpai Mountains, July 8, 1902 (Stephens, 1903, p. 104), and one was seen at the confluence of the Beaverdam and Virgin rivers, in extreme northwestern Arizona, May 9, 1891 (Fisher, 1893b, p. 109).

274. **Piranga rubra cooperi** Ridgway.

COOPER TANAGER.

Synonyms—*Pyranga aestiva*; *Pyranga cooperi*; *Pyranga aestiva cooperi*; *Pyranga hepatica*, part.

Status—Common summer visitant in the Lower Sonoran zone of southern and western Arizona, principally along the hot river valleys of the Colorado and its tributaries. Breeds along the Colorado as far north as Fort Mohave (Cooper, 1870, p. 142), in eastern Arizona north to San Francisco River, in Graham County (Henshaw, 1875b, p. 239), and to the vicinity of Tucson.

275. **Progne subis subis** (Linnaeus).

PURPLE MARTIN.

Synonyms—*Progne purpurea*; *Progne subis hesperia*.

Status—Breeds commonly in some sections, but there is not at hand data to indicate the details of its distribution through the state. It is known to be a summer visitant at Fort Whipple, in the Upper Sonoran zone (Coues, 1866a, p. 72), in the Transition of the Mogollon Mountains (Mearns, 1890a, p. 260), and in the Lower Sonoran at Tucson (Swarth, 1905a, p. 49). Reported from other points as a migrant only.

276. **Petrochelidon lunifrons lunifrons** (Say).

CLIFF SWALLOW.

Synonyms—*Hirundo lunifrons*; *Petrochelidon lunifrons tachina*.

Status—A common summer visitant, where suitable conditions prevail,

throughout the state, except along the southeastern boundary, where it is replaced by *P. l. melanogastra*. The cliff swallow has been found breeding abundantly at various scattered points—Fort Whipple, Little Colorado River, Bill Williams River, Fort Verde, and at several places on the Colorado River between Needles and Yuma. Breeding birds from Fort Verde have been referred to *P. l. tachina* (Miller, 1906, p. 177).

277. ***Petrochelidon lunifrons melanogastra*** (Swainson).

MEXICAN CLIFF SWALLOW.

Synonym—*Petrochelidon melanogaster*.

Status—Occurs as a summer visitant along the Mexican boundary of extreme southeastern Arizona, as far west as Nogales (Mearns, 1901, p. 177). The northern limits of its range have not yet been ascertained.

278. ***Hirundo erythrogastra*** Boddaert.

BARN SWALLOW.

Synonyms—*Hirundo rufa*; *Hirundo horreorum*; *Chelidon erythrogaster*.

Status—Of rare and local occurrence. The only breeding records known to me are as follows: Tucson and the Santa Catalina Mountains, up to 5,000 feet (Scott, 1888, p. 31); Elgin, Santa Cruz County (Breninger, 1898a, p. 117); San Pedro River (Swarth, 1904b, p. 48). There are singularly few records of its occurrence as a migrant.

279. ***Iridoprocne bicolor*** (Vieillot).

TREE SWALLOW.

Synonyms—*Hirundo bicolor*; *Tachycineta bicolor*.

Status—I know of no instance of this species having been found breeding at any point in Arizona, and it has been observed but seldom as a migrant. Reported from Cienega Station in April (Brewster, 1882, p. 146), from Tucson in March (Scott, 1888, p. 31), and from the Dragoon Mountains in May (Osgood, 1903, p. 150).

280. ***Tachycineta thalassina lepida*** Mearns.

NORTHERN VIOLET-GREEN SWALLOW.

Synonyms—*Hirundo thalassina*; *Herse thalassina*; *Tachycineta thalassina*.

Status—A common summer visitant of high Transition throughout Arizona. Reported from numerous localities—mountains near Fort Whipple, Santa Catalina Mountains, Mogollon Mountains, Huachuca Mountains, etc. Of general distribution during the migrations.

281. ***Riparia riparia*** (Linnaeus).

BANK SWALLOW.

Synonyms—*Cotyle riparia*; *Clivicola riparia*.

Status—Apparently of rare occurrence. Has been seen in summer at Fort Whipple (Coues, 1866a, p. 72), and in the vicinity of Tucson (Scott, 1888, p. 31) and the Santa Cruz River (Swarth, 1905a, p. 49).

282. **Stelgidopteryx serripennis** (Audubon).

ROUGH-WINGED SWALLOW.

Synonym—*Cotyle serripennis*.

Status—Though there are numerous instances of the occurrence of this species as a migrant in various parts of the state, breeding records are too few to permit a definite statement as to the region occupied during the nesting season. Reported as breeding at Fort Whipple (Coues, 1866a, p. 72), Cienega Station, southeastern Arizona (Brewster, 1882, p. 146), along the Santa Cruz and San Pedro rivers (F. C. Willard, MS), and Tucson, and at points on the Colorado River between Ehrenberg and Yuma (Mus. Vert. Zool). Also observed at Fort Mohave, Gila Bend, confluence of Beaverdam and Virgin rivers, Fort Verde, Mellen, Pima Indian Reservation, Keam Cañon, and the Sulphur Spring Valley. Seen in February on the Colorado River (Kennerly, 1859, p. 24), and at Fort Mohave (Cooper, 1870, p. 110), so it may be found to occasionally pass the winter this far north.

283. **Bombycilla garrula** (Linnaeus).

BOHEMIAN WAXWING.

Synonym—*Ampelis garrulus*.

Status—A rare midwinter straggler from the north. Cooper (1861, p. 122) secured a single specimen at Fort Mohave, January 10, 1861, the only occasion on which the species has been observed in Arizona. This bird, an adult female, is now number 4207, Museum of Vertebrate Zoology.

284. **Bombycilla cedrorum** Vieillot.

CEDAR WAXWING.

Synonym—*Ampelis cedrorum*.

Status—Of rare and irregular occurrence. Henshaw (1875b, p. 299) secured a specimen thirty miles south of Fort Apache, September 11, 1873, under circumstances indicating that it may have been breeding. Otherwise noted during the migrations and in winter, at a few scattered localities: Galeyville, Cochise County, January; Tucson, March, May and June; Grand Cañon, September; Huachuca Mountains, April, May, October.

285. **Phainopepla nitens** (Swainson).

PHAINOPEPLA.

Synonyms—*Ptiliogonys nitens*; *Cichlopsis nitens*.

Status—Common summer visitant in the Lower Sonoran of southern and western Arizona. Reported from many points, north as far as Fort Apache (in August, not necessarily a breeding record), Fort Whipple, and Fort Mohave. Remains through the winter locally in southern Arizona, and along the Colorado River. In the late summer there is a dispersal of individuals into higher altitudes, and possibly to more northern localities, than are occupied during the nesting time. Found breeding at Fort Mohave in February (Fisher, 1893b, p. 113).

286. **Lanius borealis** Vieillot.

NORTHERN SHRIKE.

Synonyms—*Collyrio borealis*; *Collurio borealis*.

Status—Only one record, that of a specimen secured by Coues (1866a, p. 73) at Fort Whipple, in February, 1865.

287. **Lanius ludovicianus excubitorides** Swainson.

WHITE-RUMPED SHRIKE.

Synonyms—*Lanius ludovicianus*; *Collyrio excubitorides*; *Collurio ludovicianus* var. *excubitorides*; *Collurio excubitoroides*.

Status—Found in the Lower Sonoran zone of southern Arizona, along the Colorado River, and the Desert of the Little Colorado in northeastern Arizona. Apparently restricted to the Lower Sonoran zone in the breeding season but ranging into Upper Sonoran in late summer and fall: one specimen, Fort Whipple, September 4, 1864 (Coues, 1866a, p. 73); foothills of the Huachuca Mountains, October (Swarth, 1908, p. 115). Not known to occur in the high plateau region of central Arizona, and but sparsely distributed in the region where it is found.

288. **Vireosylva olivacea** (Linnaeus).

RED-EYED VIREO.

Synonym—*Vireo olivaceus*.

Status—But a single record, that of a specimen secured by Lusk in the Huachuca Mountains, May 20, 1895. This specimen is now in the Swarth collection (Swarth, 1904b, p. 49).

289. **Vireosylva gilva swainsoni** (Baird).

WESTERN WARBLING VIREO.

Synonyms—*Vireo gilvus*; *Vireo swainsoni*; *Vireo gilvus swainsoni*.

Status—A common summer visitant of the Upper Sonoran and Transition zones of northern and central Arizona: Fort Whipple (Coues, 1866a, p. 73); San Francisco Mountain (Merriam, 1890, p. 98). Of rare occurrence south of the central plateau region, but has occasionally been found breeding at the extreme southern boundary of the state: Santa Catalina Mountains (Scott, 1888, p. 32); Huachuca Mountains (Willard, 1908c, p. 230). Abundant and of general distribution during the migrations.

290. **Lanivireo solitarius cassini** (Xantus).

CASSIN VIREO.

Synonyms—*Vireo solitarius*; *Vireosylva solitaria*; *Vireo solitarius cassini*.

Status—A migrant, of common occurrence and general distribution. Reported from numerous localities in various parts of the state, but not from the desert region of the northeast corner. Specimens have been taken at Forts Whipple, Mohave, Apache, and Crittenden, and also at San Francisco Mountain, Mount Graham, and the Santa Rita, Santa Catalina, and Huachuca mountains.

291. **Lanivireo solitarius plumbeus** (Coues).

PLUMBEOUS VIREO.

Synonyms—*Vireo plumbeus*; *Vireosylva plumbea*; *Vireo solitarius plumbeus*.

Status—Common summer visitant of the Transition zone. Reported from San Francisco Mountain, the Mogollon, Santa Catalina, Santa Rita, Huachuca, and Hualpai mountains, Forts Whipple and Apache, and is undoubtedly to be found in all the higher mountain ranges of the state.

292. **Vireo huttoni stephensi** Brewster.

STEPHENS VIREO.

Synonym—*Vireo huttoni*.

Status—Found in the mountain ranges of southeastern Arizona, in the live oak belt and along the cañon streams, ranging upward to the lower edge of Transition. Probably resident, but nowhere very abundant. Reported from the Chiricahua, Santa Catalina, Santa Rita, and Huachuca mountains, and also, the westernmost record, from the Quijotoa Range (Scott, 1888, p. 32).

293. **Vireo belli arizonae** Ridgway.

ARIZONA VIREO.

Synonyms—*Vireo bellii*; *Vireo pusillus*; *Vireo belli pusillus*.

Status—Common summer visitant in southern and western Arizona. Found along the Colorado River at least as far north as Fort Mohave (Cooper, 1861, p. 122) and the Big Sandy (Stephens, 1903, p. 104). In eastern Arizona it breeds abundantly in the valleys of the Santa Cruz and San Pedro, as in all probability it does along the Gila River also. The northernmost points to which it has been traced in central Arizona are the Gila River, Graham County, in September (Henshaw, 1875b, p. 225), and a point fifty miles south of Fort Whipple, breeding (Coues, 1866a, p. 76).

294. **Vireo vicinior** Coues.

GRAY VIREO.

Status—A summer visitant, reported thus far from a few scattered localities in the northern and eastern parts of the state. Coues (1866a, p. 75) secured a single specimen, the type of the species, at Fort Whipple, Henshaw (1875b, p. 227) took migrating birds at Camp Bowie in August, and at Camp Lowell in September, and Stephens (1878, p. 93) found it on the Gila River, presumably about at the Arizona-New Mexico boundary, and also near Tucson in April (Brewster, 1882, p. 142). Apparently the only positive published breeding record for Arizona is that of Scott (1885a, p. 321), who reported the species as a common summer visitant on the eastern slope of the Santa Catalina Mountains, ranging from 2800 to 4000 feet. Merriam (1890, p. 40) found it at the Grand Cañon of the Colorado in September, and Fisher (1903, p. 35) at Keam Cañon in July and August, and it may be presumed to breed at both places.

295. **Protonotaria citrea** (Boddaert).

PROTHONOTARY WARBLER.

Status—Only one record, that of a specimen taken by E. W. Nelson at Tucson, May 1, 1884 (Cooke, 1904, p. 23).

296. **Vermivora luciae** (Cooper).

LUCY WARBLER.

Synonyms—*Helminthophaga luciae*; *Helminthophila luciae*.

Status—An exceedingly abundant summer visitant in the low river valleys of southern and western Arizona. Common in the valleys of the Santa Cruz and San Pedro, along the Gila (probably not above its junction with the San Pedro), and along the Colorado. Ranges north along the Colorado to Fort Mohave at least, in central Arizona to Fort Whipple. Its northern boundary is probably determined by the rise of the country toward the Central Plateau Region. Restricted almost entirely to the Lower Sonoran zone, but in a few places it ranges into Upper Sonoran: west slope of the Santa Rita Mountains (Swarth, 1905a, p. 81); west slope of the Huachuca Mountains (Willard, 1908b, p. 206). Not reported from east of the San Pedro River.

297. **Vermivora virginiae** (Baird).

VIRGINIA WARBLER.

Synonyms—*Helminthophaga virginiae*; *Helminthophila virginiae*.

Status—An abundant migrant, and a fairly common summer visitant in the Transition zone of some, probably all, of the higher mountain ranges. It has been found in the summer months in the White, Santa Catalina, Huachuca, and San Francisco mountains. Rare in the Hualpai Mountains, where Stephens (1903, p. 104) saw several in June. Of occasional occurrence in the low valleys during the migrations.

298. **Vermivora rubricapilla gutturalis** (Ridgway).

CALAVERAS WARBLER.

Synonyms—*Helminthophaga rubricapilla*; *Helminthophila rubricapilla*; *Helminthophila rubricapilla gutturalis*; *Helminthophila rubricapilla gutturalis*.

Status—Abundant and generally distributed during the migrations. Reported from the valley of the Colorado River (Mus. Vert. Zool.), from San Francisco Mountain in the north, and from the Huachuca, Santa Rita and Santa Catalina mountains, and the valley of the San Pedro River, in southern Arizona.

299. **Vermivora celata celata** (Say).

ORANGE-CROWNED WARBLER.

Synonyms—*Helminthophila celata*; *Vermivora celata orestera*.

Status—But few records from Arizona. Reported from Mount Graham (breeding), San Francisco Mountains, San Pedro River, Adonde, Tucson, Fort Huachuca, and Bisbee (*V. c. orestera* Oberholser, 1905, p. 243); from the Huachuca Mountains and San Pedro River in April and September (Swarth, 1904b, p. 52); and from the Colorado Valley (Needles, Cibola, Picacho, and Pilot Knob) from February to May (Mus. Vert. Zool.).

300. **Vermivora celata lutescens** (Ridgway).

LUTESCENT WARBLER.

Synonyms—*Helminthophaga celata*; *Helminthophila celata lutescens*.

Status—An abundant migrant, occurring in all parts of Arizona. Has been found at every point where collecting has been carried on in the spring and fall.

301. **Peucedramus olivaceus** (Giraud).

OLIVE WARBLER.

Synonym—*Dendroica olivacea*.

Status—Breeds in the Transition zone of the mountains of southern and central Arizona. Has been found in the Huachuca, Chiricahua, Santa Catalina, Mogollon and White mountains, and on Mount Graham, and there are other high ranges at intermediate points where it will also probably be found. It does not appear to be very abundant in any part of its range in Arizona. A few individuals probably remain through the winter, as it has been reported from the Santa Catalina Mountains, at 10,000 feet altitude, November 26-29 (Scott, 1885b, p. 172), and from the Huachuca Mountains at 9000 feet, February 21 (Swarth, 1904b, p. 53).

302. **Dendroica aestiva sonora** Brewster.

SONORA YELLOW WARBLER.

Synonyms—*Dendroica aestiva*, part; *Dendroica aestiva morcomi*, part.

Status—A common summer visitant in southern and western Arizona, apparently confined almost entirely to the Lower Sonoran river valleys, the Colorado and the Gila, with their tributaries. Has been reported from various points along these streams: Fort Mohave, Yuma, Gila Bend, Tucson, Tombstone, etc.; and occasionally from localities in Upper Sonoran: Santa Catalina Mountains, resident up to 4500 feet (Scott, 1888, p. 34). The northernmost record I have seen from central Arizona is from Fort Verde (Coale, 1894, p. 218). I know of no breeding record of a yellow warbler from any point in Arizona north of the Mogollon Divide; what form it is that migrates through this region I do not know (*Dendroica aestiva* Merriam, 1890, p. 98, San Francisco Mountain, etc., August and September; Fisher, 1893b, p. 113, confluence of Beaverdam and Virgin rivers, May; etc.).

303. **Dendroica aestiva brewsteri** Grinnell.

CALIFORNIA YELLOW WARBLER.

Synonyms—*Dendroica aestiva*, part; *Dendroica aestiva morcomi*, part.

Status—A common migrant in southern Arizona. I have seen specimens from the Huachuca Mountains, in the extreme southeastern portion of the state (Swarth, 1904b, p. 53), and from points on the Colorado River (Mus. Vert. Zool.). These are distinctly *D. a. brewsteri*, as distinguished from *D. a. aestiva* of the eastern United States.

304. ***Dendroica coronata*** (Linnaeus).

MYRTLE WARBLER.

Status—Four records: One from the Chiricahua Mountains, March 26, 1881 (Brewster, 1882, p. 137); one from Tucson, January 28, 1886 (Scott, 1888, p. 34); Pima Indian Reservation, September, "one seen" (Breninger, 1901a, p. 46); Tucson, one seen January 28, 1912 (Sloanaker, 1913, p. 197).

305. ***Dendroica auduboni auduboni*** (Townsend).

AUDUBON WARBLER.

Synonym—*Sylvicola audubonii*.

Status—Common summer visitant in high Transition and upward in the mountains of northern Arizona: San Francisco Mountain, Mogollon Mountains, etc. Abundant in winter in the Lower Sonoran valleys of the southern and western parts of the state: Tucson, San Pedro River, Yuma, etc. Winter visitant in the Colorado Valley at least as far north as Fort Mohave. Occasional in winter at Fort Whipple (Coues, 1866a, p. 69). Very abundant and of general distribution during the migrations.

306. ***Dendroica auduboni nigrifrons*** Brewster.

BLACK-FRONTED WARBLER.

Synonyms—*Dendroica auduboni*, part; *Dendroica nigrifrons*.

Status—Reported from the Huachuca and the Chiricahua mountains, where it is a fairly common summer visitant in the Transition zone. *D. a. auduboni* has been recorded as an uncommon summer visitant in the Santa Catalina Mountains (Scott, 1888, p. 34), but I have seen typical examples of *nigrifrons* (in the collection of F. S. Daggett) taken in these mountains in June, 1906, so that the breeding range of this form extends at least that far north. Probably it includes all the high mountains south of the Mogollon Plateau, but it is impossible at present to indicate exactly the dividing line between the breeding ranges of *nigrifrons* and *auduboni*. From the critical comments made upon *Dendroica auduboni* by Coues in his "List of Birds of Fort Whipple" (1866a, p. 69) it is evident that he collected in that region specimens approximating the characters of *D. a. nigrifrons*.

307. ***Dendroica graciae*** Baird.

GRACE WARBLER.

Status—A summer visitant in the Transition zone of eastern and central Arizona, apparently least abundant in the extreme southern part of the state. In the Huachuca Mountains it is common during the migrations, but decidedly rare in the breeding season. Reported from the Huachuca, Chiricahua, Santa Catalina, Mogollon, and White mountains, San Francisco Mountain and Fort Whipple. There is no record of its occurrence in the lowlands during the migrations.

308. ***Dendroica nigrescens*** (Townsend).

BLACK-THROATED GRAY WARBLER.

Status—A common summer visitant in low Transition throughout Arizona. Has been found breeding in the Huachuca, Santa Rita, Whetstone, and Santa Catalina mountains, San Francisco Mountain, and at Fort Whipple. Abundant and generally distributed during the migrations.

309. ***Dendroica virens*** (Gmelin).

BLACK-THROATED GREEN WARBLER.

Status—Only one record for Arizona, that of an adult male secured at Ramsay Cañon, Huachuca Mountains, May 9, 1895 (Fisher, 1904, p. 81).

310. ***Dendroica townsendi*** (Townsend).

TOWNSEND WARBLER.

Status—An abundant migrant at all altitudes, both spring and fall, reported from many scattered localities throughout the state (San Francisco Mountain, Huachuca Mountains, Tucson, Yuma, etc.). Scott (1888, p. 35) took one specimen at Mineral Creek, Pinal County, November 2, 1882, but there are no mid-winter records.

311. ***Dendroica occidentalis*** (Townsend).

HERMIT WARBLER.

Status—An abundant migrant, occurring in all parts of Arizona in the spring and fall. Reported from Fort Whipple, San Francisco Mountain, Huachuca Mountains, Yuma, etc.

312. ***Seiurus noveboracensis notabilis*** Ridgway.

ALASKA WATER-THRUSH.

Synonyms—*Seiurus tenuirostris*; *Seiurus noveboracensis*; *Siurus naevius*.

Status—A rare migrant. The published records are as follows: Rio Colorado, October (Gambel, 1843, p. 261); one specimen, Camp Crittenden, August (Henshaw, 1875b, p. 204); one specimen, adult male, Tucson, May 4 (Brewster, 1882, p. 138); two specimens, Santa Catalina Mountains, 3500 feet, an adult female on September 2, and an adult male on September 3, 1884 (Scott, 1888, p. 35); one specimen, Huachuca Mountains, 5500 feet, August 31, 1903 (Swarth, 1904b, p. 56).

313. ***Oporornis tolmiei*** (Townsend).

MACGILLIVRAY WARBLER.

Synonyms—*Geothlypis macgillivrayi*; *Geothlypis philadelphia* var. *macgillivrayi*; *Geothlypis tolmiei*.

Status—A summer visitant in the higher mountains of central Arizona. Fort Whipple, April to September (Coues, 1866a, p. 70); east central Arizona, "common summer resident" (Henshaw, 1875a, p. 156). Abundant and generally distributed during the migrations.

314. ***Geothlypis trichas occidentalis*** Brewster.

WESTERN YELLOWTHROAT.

Synonym—*Geothlypis trichas*, part.

Status—A common migrant, and, on the lower Colorado River, a winter visitant. May breed in northern Arizona, a summer record from Fort Whipple (Coues, 1866a, p. 69), possibly pertaining to this subspecies. Colorado River below Yuma, December (Price, 1890, p. 93). Huachuca Mountains, migrant (Swarth, 1904b, p. 56).

315. ***Geothlypis trichas scirpicola* Grinnell.**

TULE YELLOWTHROAT.

Synonyms—*Geothlypis trichas*, part; *Geothlypis trichas occidentalis*, part.

Status—Breeds in the valleys of extreme southern Arizona and along the lower Colorado River, but from the generally unfavorable nature of the region outside of the latter district, it occurs in but small numbers, and at widely scattered intervals. Found in summer in the vicinity of Tucson (Scott, 1888, p. 35), on the San Pedro River (Swarth, 1904b, p. 56), and on the lower Colorado River (Mus. Vert. Zool.). For the use of the name *scirpicola* for the breeding yellowthroat of southern Arizona, see Swarth, 1912, p. 71.

316. ***Icteria virens longicauda* Lawrence.**

LONG-TAILED CHAT.

Synonyms—*Icteria viridis*; *Icteria longicauda*.

Status—Abundant summer visitant in the Lower Sonoran river valleys, and through the Upper Sonoran zone in the lower cañons of the mountain ranges. Found in summer at Fort Mohave, Fort Whipple, Fort Grant, Tucson, Fort Apache, Huachuca Mountains, etc.

317. ***Wilsonia pusilla pileolata* (Pallas).**

PILEOLATED WARBLER.

Synonyms—*Myiodioctes pusillus*; *Myiodioctes pusillus pileolatus*, part; *Myiodioctes pileolatus*; *Sylvania pusilla pileolata*; *Sylvania pusilla*, part.

Status—The only breeding record for Arizona is that of Coues (1866a, p. 71) who reported the species as a common summer visitant about Fort Whipple, where he found it from May to September. It is an exceedingly common migrant in all parts of the state, and one that is found at all altitudes.

318. ***Wilsonia pusilla chryseola* Ridgway.**

GOLDEN PILEOLATED WARBLER.

Synonyms—*Myiodioctes pusillus pileolatus*, part; *Sylvania pusilla*, part.

Status—Occurs "during migration southward and eastward to . . . Arizona (Pinal County, September, October; Lowell, April; Fort Verde, May; San Francisco Mountains, August 31; Cienega; Tucson)" (Ridgway, 1902, p. 714). Observed as a common migrant in the Colorado Valley, between Cheme-huevis Valley and Potholes in the spring of 1910 (Mus. Vert. Zool.).

319. ***Setophaga ruticilla* (Linnaeus).**

AMERICAN REDSTART.

Status—Its occurrence in Arizona is based upon the record by Scott (1888, p. 36), of two specimens, an adult male taken by himself in the Santa Catalina Mountains, 4500 feet elevation, August 12, 1884, and another taken by Herbert Brown at Tucson.

320. **Setophaga picta** Swainson.

PAINTED REDSTART.

Status—A common summer visitant in the high mountains of southern and central Arizona, in low Transition and high Upper Sonoran. Found as far north as the Mogollon Mountains and the Tonto Basin (Mearns, 1890a, p. 261). Reported from Camp Apache, Mount Graham, and the Chiricahua, Santa Rita, Huachuca, Santa Catalina, and Whetstone mountains.

321. **Cardellina rubrifrons** (Giraud).

RED-FACED WARBLER.

Status—Common summer visitant in the Transition zone of the mountains of southeastern Arizona. The northernmost point to which it has been traced is the Mogollon Mountains (Mearns, 1890a, p. 261), and it has also been found in summer at Fort Apache, Mount Graham, the Santa Catalina, Santa Rita, and Huachuca mountains. There are other high ranges from which there are no reports, where it undoubtedly occurs.

322. **Anthus rubescens** (Tunstall).

AMERICAN PIPIT.

Synonyms—*Anthus ludovicianus*; *Anthus pensilvanicus*.

Status—A common winter visitant in the lowlands of southern and western Arizona, reported from various scattered localities—Fort Whipple, Yuma, Tucson, etc. No winter records from points north of the Mogollon Divide. Possibly breeds on San Francisco Mountain, where it was found at timber line in the late summer (Merriam, 1890, p. 99).

323. **Cinclus mexicanus unicolor** Bonaparte.

AMERICAN DIPPER.

Synonyms—*Hydrobata mexicana*; *Cinclus mexicanus*.

Status—There are but three definite published statements in regard to the occurrence of the dipper in Arizona. Although Coues (1866a, p. 66) included the species in his list of birds of Fort Whipple, he did not himself meet with it. Henshaw (1875b, p. 159) found it fairly common in summer on some of the streams of the White Mountains; Brewster (1882, p. 76) records a specimen secured in the Chiricahua Mountains, March 20; and one was seen in the Huachuca Mountains, August 4, 1902 (Swarth, 1904b, p. 59).

324. **Oreoscoptes montanus** (Townsend).

SAGE THRASHER.

Synonym—*Mimus montanus*.

Status—An abundant winter visitant of the plains and valleys of southern Arizona, reported from many localities between Yuma and the eastern boundary; also along the lower Colorado River. I know of no winter records from points north of the Mogollon Divide. There are no published instances of its breeding in Arizona, though it may be found doing so in the northeastern portion—from the Little Colorado River northward—where Merriam (1890, p. 100) observed it in small numbers in the late summer of 1889.

325. **Mimus polyglottos leucopterus** (Vigors).

WESTERN MOCKINGBIRD.

Synonyms—*Mimus polyglottus*; *Mimus polyglottus* var. *caudatus*.

Status—A common summer visitant in the Lower Sonoran valleys, and in places extending up into Upper Sonoran. It is permanently resident in the hot valleys of southern Arizona, but there is a vertical migration downward from the foothill regions where it occurs in summer; and possibly an entire departure from northern Arizona during the winter months. Coues (1866a, p. 65) speaks of it as a summer resident only in the vicinity of Fort Whipple, and Osgood (1903, p. 150) mentions its arrival in the Sulphur Spring Valley, Cochise County, on April 15. In the foothills of the Huachuca Mountains it occurs in summer only, while it is reported in February from a point on the San Pedro River, fifteen miles distant and about five hundred feet lower (Willard, 1910c, p. 110). The few records from northern Arizona (Little Colorado River, Keam Cañon, and Hualpai Mountains), are all for the summer months.

Probably a winter visitant only on the Colorado River below Needles (Mus. Vert. Zool.).

326. **Toxostoma rufum** (Linnaeus).

BROWN THRASHER.

Status—But one record for Arizona, that of a male bird taken in the foothills of the Huachuca Mountains (4500 feet altitude), on October 5, 1907 (Swarth, 1908, p. 115).

327. **Toxostoma curvirostre palmeri** (Coues).

PALMER THRASHER.

Synonyms—*Toxostoma vetula*; *Harporhynchus curvirostris*; *Harporhynchus curvirostris palmeri*.

Status—A common resident in the Lower Sonoran valleys of southeastern Arizona. Its range has been traced east to the valley of the San Pedro (Brewster, 1882, p. 71), north to the Hassayampa (l. c.) and the Big Sandy (Stephens, 1903, p. 105), to Fort Grant (Coues, 1868, p. 83) and the Salt River Valley.

328. **Toxostoma bendirei** (Coues).

BENDIRE THRASHER.

Synonyms—*Harporhynchus bendirei*; *Harporhynchus cinereus* var. *bendirei*.

Status—Locally a common resident in the Lower Sonoran valleys of southeastern and northeastern Arizona, but our present knowledge seems to indicate an exceedingly irregular and disconnected range. In southeastern Arizona it is very abundant in the valley of the Santa Cruz, west of the Santa Rita Mountains, while it is almost unknown east of that range. It is common in the plains and valleys stretching northwest of Tucson, as far as Phoenix and along the Gila River at least as far as Gila Bend (Pember, 1892, p. 6). In northern Arizona it has been reported from Keam Cañon in July and August (Fisher, 1903, p. 35), and from Beale Spring in July (Stephens, 1903, p. 105).

329. **Toxostoma lecontei lecontei** Lawrence.

LECONTE THRASHER.

Synonyms—*Harporhynchus lecontei*; *Harporhynchus redicivus lecontei*.

Status—A resident of the arid Lower Sonoran plains of southern and western Arizona. In the valley of the Colorado River north to the extreme northwestern corner of the state (Merriam, 1895, p. 59); east in the valley of the Gila about to Phoenix, Maricopa, Casa Grande, and Picacho Peak (Mearns, 1886b, p. 299); its northwestern limits at the base of the Plateau escarpment (Merriam, l. c.). In southern Arizona it has not been observed at any point east of the valley of the Santa Cruz River.

330. **Toxostoma crissale** Henry.

CRISSAL THRASHER.

Synonym—*Harporhynchus crissalis*.

Status—Common resident, principally in Lower Sonoran; locally abundant but rather irregularly distributed. Ranges north in the valley of the Colorado River as far as the mouth of Diamond Creek, Mohave County (Mearns, 1886b, p. 292); in central Arizona to Fort Verde (Mearns, l. c.). In the valley of the Gila it has been traced east to the mouth of San Carlos Creek (Mearns, l. c.). In southeastern Arizona it is common at Fort Bowie, and in the valleys of the San Pedro and Santa Cruz rivers; in the northwest reported as breeding in the Hualpai Mountains (Stephens, 1903, p. 105). There are no records from northeastern Arizona, and in all probability its range in this direction is limited by the great Mogollon Divide.

331. **Heleodytes brunneicapillus couesi** (Sharpe).

CACTUS WREN.

Synonyms—*Campylorhynchus brunneicapillus*; *Heleodytes brunneicapillus*; *Heleodytes brunneicapillus anthonyi*.

Status—A common resident of the Lower Sonoran zone in southern and western Arizona. Most abundant in the hot valleys of the southern part of the state. In western Arizona ranges as far north as Beale Spring (Stephens, 1903, p. 105); in eastern Arizona there are no records from north of the Gila River.

332. **Salpinctes obsoletus obsoletus** (Say).

ROCK WREN.

Synonyms—*Troglodytes obsoletus*; *Thryothorus obsoletus*.

Status—Has been found in every part of Arizona where observations have been made. In the southern valleys a permanent resident, but in the north probably found in summer only (see Coues, 1866a, p. 77), as also in the higher mountains.

333. **Catherpes mexicanus conspersus** Ridgway.

CAÑON WREN.

Synonyms—*Thryothorus mexicanus*; *Catherpes mexicanus*; *Catherpes mexicanus punctulatus*; *Catherpes mexicanus polioptilus*.

Status—Common resident in suitable localities throughout the state, ranging through Lower and Upper Sonoran into lower Transition. Most abundant in the Upper Sonoran zone of the various mountain ranges, but found also on low, rocky hills in the hot southern valleys, along the Colorado River, and on the deserts of northeastern Arizona.

334. **Thryomanes bewicki eremophilus** Oberholser.

DESERT WREN.

Synonyms—*Thryothorus bewickii*; *Thryothorus bewicki leucogaster*; *Thryomanes bewicki leucogaster*; *Thryothorus bewickii murinus*; *Thryothorus bewickii bairdi*; *Thryomanes bewickii bairdi*; *Thryomanes bewickii drymoecus*.

Status—Common resident in the Upper and Lower Sonoran zones of southern, and parts of western, Arizona. Has been reported in summer from the Chiricahua, Huachuca, Santa Rita and Santa Catalina mountains, Santa Cruz River near Tucson, Fort Whipple, the Big Sandy River, and many intermediate points, all south and west of the Mogollon Divide. I have seen no records from Arizona localities north of that range. A winter visitant only in the lower Colorado Valley (Mus. Vert. Zool.).

335. **Troglodytes aëdon parkmani** Audubon.

PARKMAN WREN.

Synonyms—*Troglodytes parkmani*; *Troglodytes domesticus parkmani*; *Troglodytes aëdon*; *Troglodytes aëdon marianae*; *Troglodytes aëdon aztecus*.

Status—A summer visitant in the Transition zone of the higher ranges. Remains through the winter in the valley of the Colorado River, and probably in others of the hot valleys of southern Arizona; generally distributed during the migrations. Has been found in summer in the Santa Catalina, Santa Rita, Huachuca, Mogollon, Hualpai, and San Francisco mountains, and at Fort Whipple.

336. **Nannus hiemalis pacificus** (Baird).

WESTERN WINTER WREN.

Synonym—*Olbiorchilus hiemalis pacificus*.

Status—But one published record for Arizona, that of a specimen taken in the Huachuca Mountains, April 2, 1902 (Swarth, 1904b, p. 60). There is a specimen in the Field Museum of Natural History, Chicago (no. 8140) labelled "Grand Cañon, March, 1887."

337. **Telmatodytes palustris plesius** (Oberholser).

WESTERN MARSH WREN.

Synonyms—*Cistothorus palustris*; *Telmatodytes palustris*; *Cistothorus palustris* var. *paludicola*; *Cistothorus palustris plesius*.

Status—Possibly a summer visitant at suitable points, but the only definite record I have seen of a marsh wren as such is from Fort Whipple, where Coues (1866a, p. 78) found it a common summer resident. There are singularly few published references to the species, even as a migrant in Arizona: Tucson, a rare migrant (Scott, 1888, p. 165); Moencopie, September (Merriam, 1890, p. 100); Sulphur Spring, Cochise County, March (Osgood, 1903, p. 151); Colorado River, March, 1910 (Mus. Vert. Zool.).

338. ***Certhia familiaris albescens*** Berlepsch.

MEXICAN CREEPER.

Synonym—*Certhia familiaris mexicana*.

Status—A common summer visitant in high Transition in the mountain ranges of extreme southeastern Arizona. Reported from the Chiricahua Mountains (Brewster, 1882, p. 81), the Santa Rita Mountains (Brewster, 1885b, p. 197), the Santa Catalina Mountains (Scott, 1885c, p. 350), and the Huachuca Mountains (Swarth, 1904b, p. 60).

339. ***Certhia familiaris montana*** Ridgway.

ROCKY MOUNTAIN CREEPER.

Synonyms—*Certhia familiaris*; *Certhia americana*; *Certhia familiaris* var. *americana*.

Status—Summer visitant in the higher mountains of northern and central Arizona. Has been found breeding on San Francisco Mountain, Mount Graham, and the Mogollon Mountains. One record of its occurrence as a migrant in southern Arizona (Swarth, 1904b, p. 61; Huachuca Mountains, March, two specimens), and one from northern Arizona in winter (Kennerly, 1859, p. 29; Pueblo Creek, January).

340. ***Sitta carolinensis nelsoni*** Mearns.

ROCKY MOUNTAIN NUTHATCH.

Synonyms—*Sitta carolinensis*; *Sitta aculeata*; *Sitta carolinensis aculeata*.

Status—Common summer visitant in the Transition zone, sometimes in high Upper Sonoran. In some of the more southern ranges, the Santa Catalina and Huachuca mountains, it is known to remain throughout the year. In central Arizona it is recorded as a permanent resident at Fort Whipple (Coe, 1866a, p. 78), and as occurring in the Mogollon Mountains in summer, and in the Verde Valley in winter (Mearns, 1890a, p. 262). Found at Williams in February (Wetmore, 1908, p. 386). The only record from the arid Lower Sonoran southwestern portion of Arizona is from Sacaton (Gilman, 1911a, p. 35), where it was seen from September 3 until the first week in December, 1910.

341. ***Sitta canadensis*** Linnaeus.

RED-BREASTED NUTHATCH.

Status—There are very few Arizona records. One taken at Fort Yuma (Baird, 1861, p. 6). The next record is of a specimen in the Santa Catalina Mountains, October 29, 1885 (Scott, 1888, p. 165). Found breeding in the highest parts of the San Francisco and Mogollon mountains (Mearns, 1890a, p. 263); four specimens in the Huachuca Mountains, April 6, 1902 (Swarth, 1904b, p. 61), and several seen at Sacaton during October, 1910 (Gilman, 1911a, p. 35).

342. ***Sitta pygmaea pygmaea*** Vigors.

PYGMY NUTHATCH.

Synonym—*Sitta pusilla* var. *pygmaea*.

Status—Common resident in the Transition zone throughout the state. Is apparently non-migratory, and though found on all of the higher mountains, has never been observed, even in winter, in the intervening low valleys.

343. ***Baeolophus inornatus griseus*** (Ridgway).

GRAY TITMOUSE.

Synonyms—*Lophophanes inornatus*; *Parus inornatus ridgwayi*; *Parus inornatus griseus*.

Status—Several records from the lower slopes of San Francisco Mountain and neighboring localities, where it is probably resident. Also reported from the Grand Cañon in September (Merriam, 1890, p. 41), from Kean Cañon in July, and from Fort Defiance (Baird, 1861, p. 6). Coues (1866a, p. 79) found it as a winter visitant at Fort Whipple. Apparently of rare occurrence in southern Arizona, judging from the absence of records. The only definite statement of its occurrence in the south is that of Brewster (1882, p. 79), who states that it is of rare occurrence in the Chiricahua Mountains. Henshaw (1875b, p. 167) speaks of it as occurring in the oak region of southern Arizona, but mentions no particular locality, and lists no specimens.

344. ***Baeolophus wollweberi*** (Bonaparte).

BRIDLED TITMOUSE.

Synonyms—*Lophophanes wollweberi*; *Parus wollweberi*; *Baeolophus wollweberi annexus*.

Status—Common resident of the Upper Sonoran foothill country of the mountains of southeastern and central Arizona. Reported from nearly all the ranges south and west of the Mogollon Divide, and as far north as Fort Whipple (Coues, 1866a, p. 79). Occasionally wanders to a lower zone in the fall and winter, as evidenced by its occurrence at Sacaton in October and November, 1909 (Gilman, 1910, p. 46). Preeminently a bird of the oak woods.

345. ***Penthestes sclateri*** (Kleinschmidt).

MEXICAN CHICKADEE.

Synonym—*Parus meridionalis*.

Status—In Arizona it is known to occur only in the Transition zone of the Chiricahua Mountains (7000 to 10,000 feet), where it is reported to be not uncommon (Brewster, 1882, p. 79).

346. ***Penthestes gambeli gambeli*** (Ridgway).

MOUNTAIN CHICKADEE.

Synonyms—*Parus montanus*; *Poecile montanus*; *Parus gambeli*.

Status—Common resident in the higher mountains of northern and central Arizona: San Francisco Mountain, Mogollon Mountains, Fort Whipple, etc., south to Mount Graham. Occurs in the Santa Catalina Mountains in winter

(specimens in the collection of F. S. Daggett) and may breed in that range, as it has been seen there in June and July (Rhoads, 1892, p. 125). Mr. F. S. Daggett also has specimens in his collection taken in the Santa Catalina Mountains in June.

347. ***Psaltriparus plumbeus*** (Baird).

LEAD-COLORED BUSH-TIT.

Synonyms—*Psaltria plumbea*; *Psaltriparus minimus* var. *plumbeus*; *Psaltriparus santaritae*; *Psaltriparus melanotis lloydi*.

Status—Abundant in Upper Sonoran and Transition zones in northern and eastern Arizona. Reported from many localities: Fort Whipple, Keam Cañon, Little Colorado River, Hualpai, Huachuca, Santa Rita, and Chiricahua mountains, etc. There are no records from the arid southwestern portion of the state, nor from the Colorado River Valley, at its western border.

348. ***Auriparus flaviceps flaviceps*** (Sundevall).

VERDIN.

Synonym—*Paroides flaviceps*.

Status—Common resident of the Lower Sonoran valleys of southern and western Arizona. Occurs along the Colorado River to the extreme northwestern corner of the state (Beaverdam Creek, Fisher, 1893b, p. 142). In eastern Arizona it is not reported from any point north of the Gila River. The northern and eastern limits of its range are formed by the rising slopes of the mountains forming the great divide which extends diagonally across the state.

349. ***Regulus calendula calendula*** (Linnaeus).

RUBY-CROWNED KINGLET.

Status—A summer visitant of the higher parts of the mountains of northern and central Arizona. Recorded as breeding on San Francisco Mountain, Mount Graham, and the Mogollon, White and Chiricahua mountains. Known to breed also in the Santa Catalina Mountains (F. C. Willard, MS). Remains through the winter in the lower valleys throughout the state. Generally distributed during the migrations.

350. ***Polioptila caerulea obscura*** Ridgway.

WESTERN GNATCATCHER.

Synonym—*Polioptila caerulea*.

Status—Breeds principally in the Upper Sonoran zone. Definitely reported in summer from San Francisco Mountain, Fort Whipple, and the Hualpai Mountains, in the north; and from the Santa Catalina and Huachuca mountains in southern Arizona. In winter occurs locally in the warmer valleys of southern Arizona (Tucson, etc.), and along the lower Colorado River, from Needles southward.

351. ***Polioptila plumbea*** (Baird).
PLUMBEOUS GNATCATCHER.

Synonyms—*Culicivora plumbea*; *Polioptila melanura*; *Polioptila caerulea* var. *plumbea*.

Status—Fairly common resident of the Lower Sonoran zone of southern, western, and parts of northern Arizona. Found breeding in all the low valleys south of the Mogollon Divide (Gila, Santa Cruz, San Pedro, etc.), north to Fort Whipple (Coues, 1866a, p. 66) and Fort Mohave. Also reported in summer from Keam Cañon, in northwestern Arizona (Fisher, 1903, p. 36). As it has been taken at some of the northernmost points of record in Arizona during the winter months, it is probably a permanent resident wherever it is found in the state, though possibly there are slight local migrations.

352. ***Myadestes townsendi*** (Audubon).
TOWNSEND SOLITAIRE.

Synonym—*Ptilogonys townsendii*.

Status—Breeds in the Boreal zone of the San Francisco Mountains (Merriam, 1890, p. 101); not known to do so elsewhere in Arizona, though it may prove to be a summer visitant in some other of the higher ranges (Mogollon Mountains, White Mountains, etc.). A pair of birds seen in the Huachuca Mountains during June, 1910, under circumstances possibly indicative of their breeding (F. C. Willard, MS). A common migrant in the Upper Sonoran and Transition zones, observed at various points in eastern Arizona. Seen in northern Arizona in January and February (Kennerly, 1859, p. 25). Has occurred through the winter in the Santa Catalina Mountains (Scott, 1888, p. 167), and in the Dragoon Mountains (Osgood, 1903, p. 151).

353. ***Hylocichla fuscescens salicicola*** Ridgway.
WILLOW THRUSH.

Synonym—*Turdus fuscescens salicicolus*.

Status—The only positive record for Arizona is that of a specimen taken by Herbert Brown at Tucson, in May, 1882 (Scott, 1888, p. 167). Breninger (1901a, p. 46) reported one as seen on the Pima Indian Reservation, south of Phoenix, in September [1900?], but the bird was not taken.

354. ***Hylocichla ustulata ustulata*** (Nuttall).
RUSSET-BACKED THRUSH.

Synonyms—*Turdus ustulatus*; *Hylocichla ustulata swainsoni*.

Status—Although there are singularly few records of the occurrence of this species in Arizona, it is nevertheless a common migrant in the southern and western parts of the state. The published records are as follows: Santa Rita Mountains, May 17, 1881, one specimen (Brewster, 1882, p. 68); Fort Lowell, May 21, 1884, one specimen (Brewster, 1885a, p. 85); Yuma, May, three specimens (Morcom, 1887, p. 57); Huachuca Mountains, common migrant in the spring (Swarth, 1904b, p. 63). Re-examination of specimens recorded as *H. u. swainsoni* (Swarth, l. c.) shows them all to be examples of *H. u. ustulata*.

355. ***Hylocichla guttata guttata* (Pallas).**

KADIAK HERMIT THRUSH.

Synonyms—*Turdus nanus*; *Hylocichla nana*; *Turdus pallasi* var. *nanus*; *Turdus unalascae*; *Turdus aonalaschkae*.

Status—Common migrant and winter visitant in the valleys and foothills of southern Arizona, and along the Colorado River. Verde Valley, winter (Mearns, 1890a, p. 263); Santa Catalina Mountains, winter (Scott, 1888, p. 167); Fort Whipple, migrant (Coues, 1866a, p. 65). It has not been reported from any point in Arizona north and east of the Mogollon Divide.

356. ***Hylocichla guttata auduboni* (Baird).**

ROCKY MOUNTAIN HERMIT THRUSH.

Synonyms—*Turdus pallasi* var. *auduboni*; *Turdus unalascae auduboni*; *Turdus aonalaschkae auduboni*; *Turdus guttatus auduboni*.

Status—Summer visitant in the higher mountains of northern and eastern Arizona. Has been found breeding on Mount Graham (Henshaw, 1875b, p. 144), the Mogollon Mountains (Mearns, 1890a, p. 263), San Francisco Mountain (Merriam, 1890, p. 101), and the Chiricahua Mountains (Fisher, 1904, p. 81). In the Santa Catalina Mountains Scott (1885c, p. 349) found it very rare but apparently breeding. Reported as a migrant in the Dragoon Mountains (Osgood, 1903, p. 151), and in the Huachuca Mountains (Swarth, 1904b, p. 64). There are no records from localities in the lowlands.

357. ***Hylocichla guttata nanus* (Audubon).**

DWARF HERMIT THRUSH.

Status—Apparently of rare occurrence in Arizona. The following two references are the only ones I have seen relating definitely to this subspecies: Huachuca Mountains, one specimen, April 6, 1903 (Swarth, 1904b, p. 64); "Santa Catalina Mountains, October 30; . . . Fort Verde, November 9; Tucson, January 17" (Ridgway, 1907, p. 42). There is in the Museum of Vertebrate Zoology a skin (no. 6432) taken by J. G. Cooper at Fort Mohave, January 25, 1861.

358. ***Hylocichla guttata slevini* Grinnell.**

MONTEREY HERMIT THRUSH.

Status—A rare migrant, reported only from the Huachuca and Chiricahua mountains (Swarth, 1904b, p. 64).

359. ***Planesticus migratorius propinquus* (Ridgway).**

WESTERN ROBIN.

Synonyms—*Turdus migratorius*; *Planesticus migratorius*; *Turdus migratorius propinquus*; *Merula migratoria propinqua*.

Status—Breeds commonly in most of the high mountain ranges of eastern Arizona. Has been reported in summer from the Mogollon Mountains, San Francisco Mountain, Huachuca Mountains, and the vicinity of Fort Whipple. Winters in the valleys and lowlands generally.

360.

***Sialia sialis fulva* Brewster.**

AZURE BLUEBIRD.

Synonym—*Sialia sialis azurea*.

Status—Rare in summer in the high mountains of extreme southern Arizona: Santa Rita Mountains, June 18 and 20, 1884, three specimens (Brewster, 1885a, p. 85); Huachuca Mountains (Ridgway, 1907, p. 146). The latter record, according to information received by me from Mr. W. W. Cooke, is based upon a specimen taken by Dr. A. K. Fisher, at Fort Huachuca, April 30, 1892. The species is not of regular or of common occurrence in either of these mountain ranges, where *Sialia mexicana bairdi* is the common breeding bluebird; in fact the above records are the only ones known to me, though the region has been visited frequently by collectors.

361.

***Sialia mexicana bairdi* Ridgway.**

CHESTNUT-BACKED BLUEBIRD.

Synonyms—*Sialia occidentalis*; *Sialia mexicana*; *Sialia mexicana occidentalis*.

Status—Common resident in high Transition in the mountains of northern and eastern Arizona, ranging west to the Hualpai Mountains (Stephens, 1903, p. 105). Also definitely reported as occurring in summer on San Francisco Mountain, and in the Mogollon, Chiricahua, Santa Catalina, and Huachuca ranges. Of more general distribution during the winter: still to be found in the high ranges of southern Arizona, but in the valleys and plains also, and along the Colorado River.

362.

***Sialia currucoides* (Bechstein).**

MOUNTAIN BLUEBIRD.

Synonym—*Sialia arctica*.

Status—A summer visitant of the higher mountains north of the Mogollon Divide. Reported as breeding in the San Francisco and Mogollon mountains (Mearns, 1890a, p. 264). Occurs during the winter at Fort Whipple, along the lower Colorado River, and in the valleys of southern Arizona—Tucson, San Pedro River, etc.

HYPOTHETICAL LIST

I.

***Colymbus auritus* Linnaeus.**

HORNED GREBE.

Synonym—*Podiceps cornutus*.

Status—Known only from the records by Cbues of its occurrence on the Colorado River (1866a, p. 100), and at Fort Grant (1868, p. 84), statements which are not sufficiently explicit.

2. **Gavia pacifica** (Lawrence).

PACIFIC LOON.

Synonyms—*Colymbus pacificus*; *Colymbus arcticus* var. *pacificus*.

Status—The only reason for including this species in a list of the birds of Arizona lies in the fact that it is contained in Coues' "List of the Birds of Fort Whipple" (1866a, p. 100). No specific instance of its occurrence is cited, however; in fact he does not even explicitly state that the species was found in the region, and though it may occur in winter on the Colorado River, there is at present no proof that such is the case.

3. **Larus occidentalis** Audubon.

WESTERN GULL.

Status—Recorded as seen commonly in midwinter along the Colorado River from its mouth to a point forty miles south of Yuma (Price, 1899, p. 90). If no mistake was made in identification the species may be found ranging up the river to within the Arizona boundary.

4. **Larus heermanni** Cassin.

HEERMANN GULL.

Status—Seen by Rhoads, in winter, on the lower Colorado River, "as far up as Yuma, Arizona" (Stone, 1905, p. 687). The improbability of the occurrence demands the verification of specimens actually secured.

5. **Larus atricilla** Linnaeus.

LAUGHING GULL.

Synonym—*Chroecocephalus atricilla*.

Status—"Colorado River, particularly its lower portions. A specimen taken over a hundred miles from any body of water, near the eastern border of the Territory" (Coues, 1866a, p. 99). This is the only Arizona record.

6. **Larus franklini** Richardson.

FRANKLIN GULL.

Synonym—*Chroecocephalus franklini*.

Status—"I am under the impression that I also saw *Ch. franklinii* about twenty miles from the river near Fort Mojave" (Coues, 1866a, p. 99).

7. **Branta bernicla glaucogastra** (Brehm).

BRANT.

Synonym—*Bernicla brenta*.

Status—Mentioned by Coues (1865b, p. 538) as occurring on the Gila River, and by Woodhouse (1853, p. 102) as abundant in "New Mexico". Both statements seem improbable.

8. **Guara rubra** (Linnaeus).

SCARLET IBIS.

Status—Known only from the record of a flock of seven or eight birds, supposedly this species, seen at Rillito Creek, near Fort Lowell, September 17, 1890 (Brown, 1899a, p. 270).

9. **Creciscus jamaicensis** (Gmelin).

BLACK RAIL.

Synonym—*Porzana jamaicensis*.

Status—Doubtfully recorded from the vicinity of Tucson, on the basis of a bird, believed to be of this species, seen April 23, 1881 (Brewster, 1883, p. 36).

10. **Limosa fedoa** (Linnaeus).

MARBLED GODWIT.

Status—A bird supposed to be of this species seen, but not secured, on the San Pedro River, January 27, 1886 (Scott, 1886, p. 386).

11. **Limosa haemastica** (Linnaeus).

HUDSONIAN GODWIT.

Status—Its occurrence in the state can not be considered as established by the record of the observation of a bird "probably of this species" (Visher, 1910b, p. 280).

12. **Totanus flavipes** (Gmelin).

YELLOWLEGS.

Status—One record, of its occurrence near Tucson, in September (Visher, 1910b, p. 280). In the absence of specimens it may be questioned.

13. **Charadrius dominicus dominicus** Müller.

GOLDEN PLOVER.

Status—The only record is that of two seen, but not secured, near Tucson (Visher, 1910b, p. 281).

14. **Columba flavirostris** Wagler.

RED-BILLED PIGEON.

Status—Known only from the record by Bendire (1892, p. 128) of three birds (not seen by himself) said to have been shot in the foothills of the Graham Mountains, near Fort Grant, July 25, 1886.

15. **Gymnogyps californianus** (Shaw).

CALIFORNIA CONDOR.

Synonyms—*Cathartes californianus*; *Pseudogryphus californianus*.

Status—"Resident in Southern Arizona. Individuals observed at Fort Yuma in September, 1865" (Coues, 1866a, p. 42). The statement as to its occurrence in southern Arizona lacks confirmation; Fort Yuma is on the California side of the river. There are doubtful records of its occurrence in the Santa Catalina Mountains (Rhoads, 1892, p. 114), and at Pierce's Ferry, Colorado River (north-west Arizona), in March, 1881 (Brown, 1899b, p. 272).

16. **Sarcoramphus papa** (Linnaeus).

KING VULTURE.

Synonym—*Gyparchus papa*.

Status—The very doubtful records of its occurrence on San Francisco River (Coues, 1866a, p. 49), and the Verde River (Coues, 1881b, p. 248) lack confirmation.

17. **Elanus leucurus** (Vieillot).

WHITE-TAILED KITE.

Status—The only definite record for Arizona is that of F. T. Pember, who claimed to have met with the species near Gila Bend, in April (1892, p. 49).

18. **Buteo lineatus elegans** Cassin.

RED-BELLIED HAWK.

Synonym—*Buteo elegans*.

Status—The only record of the occurrence of this species in Arizona is that of a specimen collected by Kennerly and Mollhausen on the Colorado Chiquito, November 17, 1853 (Baird, 1858, p. 28). According to information received by me from Mr. W. W. Cooke it is not now to be found in the National Museum collection, although entered in the catalogue, with data as given above. Under the circumstances the species may be excluded from the regular list until the occurrence can be confirmed.

19. **Xenopicus albolarvatus** (Cassin).

WHITE-HEADED WOODPECKER.

Status—The alleged occurrence of this species in the Santa Catalina Mountains (Visher, 1910b, p. 282) seems doubtful.

20. **Otocoris alpestris praticola** Henshaw.

PRAIRIE HORNED LARK.

Status—One specimen recorded from Fort Verde, in winter (Oberholser, 1902, p. 825). The possibility presents itself of this bird being an individual extreme of some one of the several races regularly frequenting the region, or an intergrade between two of them, rather than belonging to the race to which it has been referred. In treating slightly differentiated subspecies of such a variable species it seems unsafe to assert such an extraordinary extension of range on such slender evidence.

21. **Agelaius phoeniceus californicus** Nelson.

BICOLORED RED-WINGED BLACKBIRD.

Synonym—*Agelaius gubernator californicus*.

Status—Stragglings east to western Arizona (A. O. U. *Check-List*, 1910, p. 235). According to information received by me from Mr. W. W. Cooke, this statement is based upon a specimen found dead July 6, 1907, by Mr. Vernon Bailey, at Casa Grande. Intergradation between this form and *neutralis* has been demonstrated, and the possibility suggests itself of the supposed specimen of *californicus* being really an individual extreme of *neutralis*, a common species in the region. The occurrence of *californicus*, apparently a non-migratory form, so far from the normal boundaries of its range, should receive the strongest possible verification.

22. **Wilsonia pusilla pusilla** (Wilson).

WILSON WARBLER.

Status—According to Ridgway (1902, p. 710) this species is "occasional during migration in . . . Arizona (Tucson, May; Fort Whipple, May)".

23. **Regulus satrapa satrapa** Lichtenstein.

GOLDEN-CROWNED KINGLET.

Synonym—*Regulus satrapa olivaceus*.

Status—Most of the statements relative to the occurrence of this species in Arizona can be traced back to Woodhouse's casual mention of birds seen on San Francisco Mountain (1853, pp. 67, 68). In the absence of specimens, and of subsequent confirmation by other observers, it seems best to exclude the species from the regular list. A recent record from the Santa Catalina Mountains, in July (Rhoads, 1892, p. 125), can not be considered as satisfactory, as specimens were not secured.

24. **Ixoreus naevius naevius** (Gmelin).

VARIED THRUSH.

Synonym—*Turdus naevius*.

Status—Said to have been obtained by Lieut. Ives' expedition on the Colorado River between Forts Mohave and Yuma (Baird, 1861, p. 5). This may or may not have been on the Arizona side of the river, and on this account alone the species may be omitted from the Arizona list. At most it can be but an exceedingly rare straggler into the region.

AN ANALYSIS OF THE AVIFAUNA OF ARIZONA

From the foregoing data the birds occurring in the state of Arizona may be divided into the following classes:

Resident	152
Summer visitant	72
Winter visitant	57
Transient	30
Of casual occurrence	51

giving a total of 362 species and subspecies found within the state.

RESIDENT SPECIES

- | | |
|--|---|
| 1. <i>Mergus americanus</i> | 20. <i>Colinus ridgwayi</i> |
| 2. <i>Anas platyrhynchos</i> | 21. <i>Callipepla squamata</i> |
| 3. <i>Chaulelasmus streperus</i> | 22. <i>Lophortyx gambeli</i> |
| 4. <i>Mareca americana</i> | 23. <i>Cyrtonyx montezumae mearnsi</i> |
| 5. <i>Querquedula discors</i> | 24. <i>Dendragapus obscurus obscurus</i> |
| 6. <i>Querquedula cyanoptera</i> | 25. <i>Meleagris gallopavo merriami</i> |
| 7. <i>Spatula clypeata</i> | 26. <i>Columba fasciata fasciata</i> |
| 8. <i>Dafila acuta</i> | 27. <i>Zenaidura macroura marginella</i> |
| 9. <i>Erismatura jamaicensis</i> | 28. <i>Chaemepelia passerina pallescens</i> |
| 10. <i>Botaurus lentiginosus</i> | 29. <i>Scardafella inca</i> |
| 11. <i>Ardea herodias treganzai</i> | 30. <i>Cathartes aura septentrionalis</i> |
| 12. <i>Butorides virescens anthonyi</i> | 31. <i>Circus hudsonius</i> |
| 13. <i>Nycticorax nycticorax naevius</i> | 32. <i>Accipiter velox</i> |
| 14. <i>Grus mexicana</i> | 33. <i>Accipiter cooperi</i> |
| 15. <i>Porzana carolina</i> | 34. <i>Parabuteo unicinctus harrisi</i> |
| 16. <i>Gallinula galeata</i> | 35. <i>Buteo borealis calurus</i> |
| 17. <i>Fulica americana</i> | 36. <i>Buteo abbreviatus</i> |
| 18. <i>Actitis macularius</i> | 37. <i>Urubitinga anthracina</i> |
| 19. <i>Oxyechus vociferus</i> | 38. <i>Aquila chrysaetos</i> |

39. *Haliaeetus leucocephalus leucocephalus*
40. *Falco mexicanus*
41. *Falco peregrinus anatum*
42. *Falco fusco-caerulescens*
43. *Falco sparverius sparverius*
44. *Polyborus cheriway*
45. *Aluco pratincola*
46. *Strix occidentalis huachucae*
47. *Cryptoglaux acadica acadica*
48. *Otus asio cinereus*
49. *Otus asio gilmani*
50. *Bubo virginianus pallescens*
51. *Speotyto cunicularia hypogæa*
52. *Glaucidium gnoma pinicola*
53. *Glaucidium phalœnoides*
54. *Micropallas whitneyi*
55. *Geococcyx californianus*
56. *Dryobates villosus leucothorectis*
57. *Dryobates pubescens homorus*
58. *Dryobates scalaris cactophilus*
59. *Dryobates arizonae*
60. *Picoides americanus dorsalis*
61. *Sphyrapicus thyroideus*
62. *Melanerpes formicivorus aculeatus*
63. *Asyndesmus lewisi*
64. *Centurus uropygialis*
65. *Colaptes cafer collaris*
66. *Colaptes chrysoides mearnsi*
67. *Phalaenoptilus nuttalli nuttalli*
68. *Aeronautes melanoleucus*
69. *Calypte costae*
70. *Tyrannus vociferans*
71. *Myiarchus cinerascens*
72. *Sayornis sayus*
73. *Sayornis nigricans*
74. *Pyrocephalus rubinus mexicanus*
75. *Otocoris alpestris adusta*
76. *Otocoris alpestris pallida*
77. *Otocoris alpestris occidentalis*
78. *Cyanocitta stelleri diademata*
79. *Aphelocoma woodhousei*
80. *Aphelocoma sieberi arizonae*
81. *Perisoreus canadensis capitalis*
82. *Corvus corax sinuatus*
83. *Corvus cryptoleucus*
84. *Corvus brachyrhynchos hesperis*
85. *Nucifraga columbiana*
86. *Cyanocephalus cyanocephalus*
87. *Molothrus ater obscurus*
88. *Xanthocephalus xanthocephalus*
89. *Agelaius phoeniceus sonoriensis*
90. *Agelaius phoeniceus neutralis*
91. *Sturnella magna hoopesi*
92. *Sturnella neglecta*
93. *Euphagus cyanocephalus*
94. *Hesperiphona vespertina montana*
95. *Carpodacus cassini*
96. *Carpodacus mexicanus frontalis*
97. *Loxia curvirostra stricklandi*
98. *Passer domesticus*
99. *Astragalinus tristis pallidus*
100. *Astragalinus psaltria hesperophilus*
101. *Spinus pinus*
102. *Poœcetes gramineus confinis*
103. *Passerculus sandwichensis nevadensis*
104. *Ammodramus savannarum bimaculatus*
105. *Chondestes grammacus strigatus*
106. *Spizella passerina arizonae*
107. *Spizella breweri*
108. *Junco phaeonotus palliatus*
109. *Junco phaeonotus dorsalis*
110. *Amphispiza bilineata desertyicola*
111. *Aimophila carpalis*
112. *Aimophila ruficeps scotti*
113. *Melospiza melodia saltonis*
114. *Pipilo maculatus montanus*
115. *Pipilo fuscus mesoleucus*
116. *Pipilo aberti*
117. *Cardinalis cardinalis superbus*
118. *Pyrrhuloxia sinuata sinuata*
119. *Phainopepla nitens*
120. *Lanius ludovicianus excubitorides*
121. *Vireo huttoni stephensi*
122. *Peucedramus olivaceus*
123. *Dendroica auduboni auduboni*
124. *Cinclus mexicanus unicolor*
125. *Mimus polyglottos leucopterus*
126. *Toxostoma curvirostre palmeri*
127. *Toxostoma bendirei*
128. *Toxostoma lecontei lecontei*
129. *Toxostoma crissale*
130. *Heleodytes brunneicapillus couesi*
131. *Salpinctes obsoletus obsoletus*
132. *Catherpes mexicanus conspersus*
133. *Thryomanes bewicki eremophilus*
134. *Troglodytes aedon parkmani*
135. *Telmatodytes palustris plesius*
136. *Certhia familiaris montana*
137. *Sitta carolinensis nelsoni*
138. *Sitta canadensis*
139. *Sitta pygmaea pygmaea*
140. *Baeolophus inornatus griseus*
141. *Baeolophus wollweberi*
142. *Penthestes sclateri*
143. *Penthestes gambeli gambeli*
144. *Psaltriparus plumbeus*
145. *Auriparus flaviceps flaviceps*
146. *Regulus calendula calendula*
147. *Polioptila caerulea obscura*
148. *Polioptila plumbea*
149. *Myadestes townsendi*
150. *Planesticus migratorius propinquus*
151. *Sialia mexicana bairdi*
152. *Sialia currucoides*

These species are resident in the sense that the available data seems to show that they occur somewhere in the state at all times of the year. Many of them are truly migratory, and, in making altitudinal migrations, spend the summer and winter in as widely different surroundings as if they had travelled instead over the length of the continent. Some are almost entirely restricted to the warm valleys of the lower parts of the Colorado and Gila rivers during the winter.

From the list of residents may be selected the following species which are probably to be found over the same grounds the year through, though some of them may, in fall and winter, spread out over a somewhat wider territory.

<i>Colinus ridgwayi</i>	<i>Passer domesticus</i>
<i>Callipepla squamata</i>	<i>Junco p. palliatus</i>
<i>Lophortyx gambeli</i>	<i>Junco p. dorsalis</i>
<i>Cyrtonyx m. mearnsi</i>	<i>Aimophila r. scotti</i>
<i>Dendragapus o. obscurus</i>	<i>Melospiza m. saltonis</i>
<i>Meleagris g. merriami</i>	<i>Pipilo m. montanus</i>
<i>Buteo b. calurus</i>	<i>Pipilo f. mesoleucus</i>
<i>Bubo v. pallescens</i>	<i>Pipilo aberti</i>
<i>Speotyto c. hypogaea</i>	<i>Vireo h. stephensi</i>
<i>Geococcyx californianus</i>	<i>Toxostoma c. palmeri</i>
<i>Dryobates v. leucothorectis</i>	<i>Toxostoma bendirei</i>
<i>Dryobates s. cactophilus</i>	<i>Toxostoma l. lecontei</i>
<i>Dryobates arizonae</i>	<i>Toxostoma crissale</i>
<i>Picoides a. dorsalis</i>	<i>Heleodytes b. couesi</i>
<i>Centurus uropygialis</i>	<i>Salpinctes o. obsoletus</i>
<i>Colaptes c. mearnsi</i>	<i>Catherpes m. conspersus</i>
<i>Otocoris a. adusta</i>	<i>Thryomanes b. eremophilus</i>
<i>Otocoris a. pallida</i>	<i>Sitta p. pygmaea</i>
<i>Cyanocitta s. diademata</i>	<i>Baeolophus wollweberi</i>
<i>Aphelocoma woodhousei</i>	<i>Psaltriparus plumbeus</i>
<i>Aphelocoma s. arizonae</i>	<i>Auriparus f. flaviceps</i>
<i>Perisoreus c. capitalis</i>	<i>Polioptila plumbea</i>

SUMMER VISITANTS

1. <i>Colymbus nigricollis californicus</i>	19. <i>Basilinna leucotis</i>
2. <i>Plegadis guarauna</i>	20. <i>Cynanthus latirostris</i>
3. <i>Mycteria americana</i> (not known to breed)	21. <i>Tyrannus verticalis</i>
4. <i>Melopelia asiatica trudeaui</i>	22. <i>Myiodynastes luteiventris</i>
5. <i>Buteo albicaudatus sennetti</i>	23. <i>Myiarchus magister magister</i>
6. <i>Buteo swainsoni</i>	24. <i>Myiarchus lawrencei olivascens</i>
7. <i>Asturina plagiata</i>	25. <i>Nuttallornis borealis</i>
8. <i>Otus trichopsis</i>	26. <i>Myiochanes pertinax pallidiventris</i>
9. <i>Otus flammeolus</i>	27. <i>Myiochanes richardsoni richardsoni</i>
10. <i>Coccyzus americanus occidentalis</i>	28. <i>Empidonax difficilis difficilis</i>
11. <i>Trogon ambiguus</i>	29. <i>Empidonax trailli trailli</i>
12. <i>Anrostomus vociferus macromystax</i>	30. <i>Empidonax fulvifrons pygmaeus</i>
13. <i>Chordeiles virginianus henryi</i>	31. <i>Camptostoma imberbe</i>
14. <i>Chordeiles acutipennis texensis</i>	32. <i>Tangavivus aeneus aeneus</i>
15. <i>Eugenes fulgens</i>	33. <i>Icterus parisorum</i>
16. <i>Cyanolaemus clemenciae</i>	34. <i>Icterus cucullatus nelsoni</i>
17. <i>Archilochus alexandri</i>	35. <i>Icterus bullocki</i>
18. <i>Selasphorus platycercus</i>	36. <i>Zonotrichia leucophrys leucophrys</i>
	37. <i>Spizella atrogularis</i>

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| 38. <i>Peucaea botterii</i> | 56. <i>Vireo vicinior</i> |
| 39. <i>Peucaea cassini</i> | 57. <i>Vermivora luciae</i> |
| 40. <i>Zamelodia melanocephala melanocephala</i> | 58. <i>Vermivora virginiae</i> |
| 41. <i>Guiraca caerulea lazula</i> | 59. <i>Vermivora celata celata</i> |
| 42. <i>Passerina amoena</i> | 60. <i>Dendroica aestiva sonorana</i> |
| 43. <i>Piranga ludoviciana</i> | 61. <i>Dendroica auduboni nigrifrons</i> |
| 44. <i>Piranga hepatica</i> | 62. <i>Dendroica graciae</i> |
| 45. <i>Piranga rubra cooperi</i> | 63. <i>Dendroica nigrescens</i> |
| 46. <i>Progne subis subis</i> | 64. <i>Oporornis tolmiei</i> |
| 47. <i>Petrochelidon lunifrons lunifrons</i> | 65. <i>Geothlypis trichas scirpicola</i> |
| 48. <i>Petrochelidon lunifrons melanogastra</i> | 66. <i>Icteria virens longicauda</i> |
| 49. <i>Hirundo erythrogastra</i> | 67. <i>Wilsonia pusilla pileolata</i> |
| 50. <i>Tachycineta thalassina lepida</i> | 68. <i>Setophaga picta</i> |
| 51. <i>Riparia riparia</i> | 69. <i>Cardellina rubrifrons</i> |
| 52. <i>Stelgidopteryx serripennis</i> | 70. <i>Certhia familiaris albescens</i> |
| 53. <i>Vireosylva gilva swainsoni</i> | 71. <i>Hylocichla guttata auduboni</i> |
| 54. <i>Lanivireo solitarius plumbeus</i> | 72. <i>Sialia sialis fulva</i> |
| 55. <i>Vireo belli arizonae</i> | |

For comments upon the species included in this list see beyond, under the discussion of the composition of the avifauna of the different life zones within the state.

WINTER VISITANTS

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| 1. <i>Aechmophorus occidentalis</i> | 30. <i>Ceryle alcyon</i> |
| 2. <i>Podilymbus podiceps</i> | 31. <i>Sphyrapicus varius nuchalis</i> |
| 3. <i>Gavia immer</i> | 32. <i>Otocoris alpestris leucolaema</i> |
| 4. <i>Phalacrocorax auritus albociliatus</i> | 33. <i>Agelaius phoeniceus fortis</i> |
| 5. <i>Pelecanus erythrorhynchos</i> | 34. <i>Astragalinus lawrencei</i> |
| 6. <i>Mergus serrator</i> | 35. <i>Calcarius ornatus</i> |
| 7. <i>Nettion carolinense</i> | 36. <i>Rhynchophanes mccowni</i> |
| 8. <i>Marila americana</i> | 37. <i>Passerculus sandwichensis alaudinus</i> |
| 9. <i>Marila valisineria</i> | 38. <i>Ammodramus bairdi</i> |
| 10. <i>Marila marila</i> | 39. <i>Zonotrichia leucophrys gambeli</i> |
| 11. <i>Marila affinis</i> | 40. <i>Junco hyemalis hyemalis</i> |
| 12. <i>Charitonetta albeola</i> | 41. <i>Junco oreganus thurberi</i> |
| 13. <i>Chen hyperboreus hyperboreus</i> | 42. <i>Junco oreganus shufeldti</i> |
| 14. <i>Anser albifrons gambeli</i> | 43. <i>Junco mearnsi</i> |
| 15. <i>Branta canadensis canadensis</i> | 44. <i>Junco caniceps</i> |
| 16. <i>Branta canadensis hutchinsi</i> | 45. <i>Amphispiza nevadensis nevadensis</i> |
| 17. <i>Dendrocygna bicolor</i> | 46. <i>Melospiza melodia fallax</i> |
| 18. <i>Olor columbianus</i> | 47. <i>Melospiza lincolni lincolni</i> |
| 19. <i>Grus canadensis</i> | 48. <i>Passerella iliaca schistacea</i> |
| 20. <i>Rallus virginianus</i> | 49. <i>Pipilo maculatus curtatus</i> |
| 21. <i>Recurvirostra americana</i> | 50. <i>Oreospiza chlorura</i> |
| 22. <i>Gallinago delicata</i> | 51. <i>Calamospiza melanocorys</i> |
| 23. <i>Pisobia minutilla</i> | 52. <i>Bombycilla cedrorum</i> |
| 24. <i>Ereunetes mauri</i> | 53. <i>Geothlypis trichas occidentalis</i> |
| 25. <i>Podasocys montanus</i> | 54. <i>Anthus rubescens</i> |
| 26. <i>Archibuteo ferrugineus</i> | 55. <i>Oreoscoptes montanus</i> |
| 27. <i>Falco columbarius columbarius</i> | 56. <i>Hylocichla guttata guttata</i> |
| 28. <i>Asio wilsonianus</i> | 57. <i>Hylocichla guttata nanus</i> |
| 29. <i>Asio flammeus</i> | |

Most of these are migratory species which spend the summer at varying distances directly to the northward, and it is to be expected, of course, that they should occur in winter in this state. The occurrence of *Junco o. thurberi* and *Hylocichla g. nanus* is further evidence of the existence of a migration route across the deserts to the westward, as shown by the various Pacific Coast birds migrating through Arizona.

TRANSIENT SPECIES

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| 1. <i>Herodias egretta</i> | 16. <i>Empidonax griseus</i> |
| 2. <i>Egretta candidissima candidissima</i> | 17. <i>Spizella pallida</i> |
| 3. <i>Steganopus tricolor</i> | 18. <i>Passerina ciris</i> |
| 4. <i>Himantopus mexicanus</i> | 19. <i>Spiza americana</i> |
| 5. <i>Pisobia bairdi</i> | 20. <i>Iridoprocne bicolor</i> |
| 6. <i>Totanus melanoleucus</i> | 21. <i>Lanivireo solitarius cassini</i> |
| 7. <i>Helodromas solitarius cinnamomeus</i> | 22. <i>Vermivora rubricapilla gutturalis</i> |
| 8. <i>Numenius americanus</i> | 23. <i>Vermivora celata lutescens</i> |
| 9. <i>Aegialitis semipalmata</i> | 24. <i>Dendroica aestiva brewsteri</i> |
| 10. <i>Pandion haliaetus carolinensis</i> | 25. <i>Dendroica townsendi</i> |
| 11. <i>Chaetura vauxi</i> | 26. <i>Dendroica occidentalis</i> |
| 12. <i>Selasphorus rufus</i> | 27. <i>Seiurus noveboracensis notabilis</i> |
| 13. <i>Stellula calliope</i> | 28. <i>Wilsonia pusilla chryseola</i> |
| 14. <i>Empidonax hammondi</i> | 29. <i>Hylocichla ustulata ustulata</i> |
| 15. <i>Empidonax wrighti</i> | 30. <i>Hylocichla guttata slevini</i> |

The thirty species listed above occur, as far as we know, merely as migrants, passing through Arizona on their way to and from their breeding grounds, neither nesting nor wintering anywhere within the state. Twelve of these species spend the summer on the Pacific coast in California or farther north, and their abundance during the migrations indicates the presence of a well defined migration route from southeast Arizona almost due westward and across the intervening deserts. These species are: *Chaetura vauxi*, *Selasphorus rufus*, *Stellula calliope*, *Empidonax hammondi*, *Lanivireo s. cassini*, *Vermivora r. gutturalis*, *Vermivora c. lutescens*, *Dendroica townsendi*, *Dendroica occidentalis*, *Wilsonia p. chryseola*, *Hylocichla u. ustulata*, and *Hylocichla g. slevini*.

Five of the species listed breed in the far north, and pass through Arizona in the course of a direct north and south migration. These are: *Pisobia bairdi*, *Totanus melanoleucus*, *Helodromas s. cinnamomeus*, *Aegialitis semipalmata*, *Seiurus n. notabilis*. Four other species breeding at nearer points north of Arizona, and hence following the same migration route through the state, are: *Steganopus tricolor*, *Himantopus mexicanus*, *Numenius americanus*, *Dendroica a. brewsteri*.

Spizella pallida, *Passerina ciris*, and *Spiza americana* are species from regions east of Arizona whose manner of occurrence, usually in the late summer, is apparently indicative of established migration routes. Of the remaining six species on the list of migrants, *Herodias egretta*, *Egretta c. candidissima*, *Pandion h. carolinensis*, *Empidonax wrighti*, *Empidonax griseus*, and *Iridoprocne bicolor*, it may be that some or all will be found breeding within the state, but the data available at the present time shows their presence only during the period of migration.

SPECIES OF CASUAL OCCURRENCE

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|--|--|
| 1. <i>Gavia stellata</i> | 27. <i>Melanerpes erythrocephalus</i> |
| 2. <i>Larus delawarensis</i> | 28. <i>Calypte anna</i> |
| 3. <i>Larus philadelphia</i> | 29. <i>Selasphorus alleni</i> |
| 4. <i>Sterna forsteri</i> | 30. <i>Atthis heloisa morcomi</i> |
| 5. <i>Sterna hirundo</i> | 31. <i>Calothorax lucifer</i> |
| 6. <i>Hydrochelidon nigra surinamensis</i> | 32. <i>Uranomitra salvini</i> |
| 7. <i>Phaëthon aethereus</i> | 33. <i>Platypsaris aglaiae albiventris</i> |
| 8. <i>Anhinga anhinga</i> | 34. <i>Pica pica hudsonia</i> |
| 9. <i>Lophodytes cucullatus</i> | 35. <i>Carpodacus purpureus californicus</i> |
| 10. <i>Clangula clangula americana</i> | 36. <i>Passerculus rostratus rostratus</i> |
| 11. <i>Dendrocygna autumnalis</i> | 37. <i>Spizella monticola ochracea</i> |
| 12. <i>Ixobrychus exilis</i> | 38. <i>Junco montanus</i> |
| 13. <i>Rallus levipes</i> | 39. <i>Melospiza melodia merrilli</i> |
| 14. <i>Coturnicops noveboracensis</i> | 40. <i>Zamelodia ludoviciana</i> |
| 15. <i>Ionornis martinicus</i> | 41. <i>Passerina versicolor pulchra</i> |
| 16. <i>Lobipes lobatus</i> | 42. <i>Bombycilla garrula</i> |
| 17. <i>Macrorhamphus griseus scolopaceus</i> | 43. <i>Lanius borealis</i> |
| 18. <i>Pelidna alpina sakhalina</i> | 44. <i>Vireosylva olivacea</i> |
| 19. <i>Catoptrophorus semipalmatus inornatus</i> | 45. <i>Protonotaria citrea</i> |
| 20. <i>Bartramia longicauda</i> | 46. <i>Dendroica coronata</i> |
| 21. <i>Astur atricapillus atricapillus</i> | 47. <i>Dendroica virens</i> |
| 22. <i>Archibuteo lagopus sanctijohannis</i> | 48. <i>Setophaga ruticilla</i> |
| 23. <i>Falco columbarius richardsoni</i> | 49. <i>Toxostoma rufum</i> |
| 24. <i>Rhynchopsitta pachyrhyncha</i> | 50. <i>Nannus hiemalis pacificus</i> |
| 25. <i>Crotophaga sulcirostris</i> | 51. <i>Hylocichla fuscescens salicicola</i> |
| 26. <i>Ceryle americana septentrionalis</i> | |

That this list is of such length is undoubtedly largely due to the defective data at our command; and many of the species included may prove to be of fairly common, or at any rate regular, occurrence, at some season of the year. Of certain of them, however, the individuals taken were evidently beyond the normal bounds of the species. These are: *Phaëthon aethereus*, *Rallus levipes*, *Crotophaga sulcirostris*, *Ceryle a. septentrionalis*, *Melanerpes erythrocephalus*, *Platypsaris a. albiventris*, *Zamelodia ludoviciana*, *Passerina v. pulchra*, *Lanius borealis*, *Vireosylva olivacea*, *Protonotaria citrea*, *Dendroica virens*, *Setophaga ruticilla*, *Toxostoma rufum*, *Nannus h. pacificus*, *Hylocichla f. salicicola*.

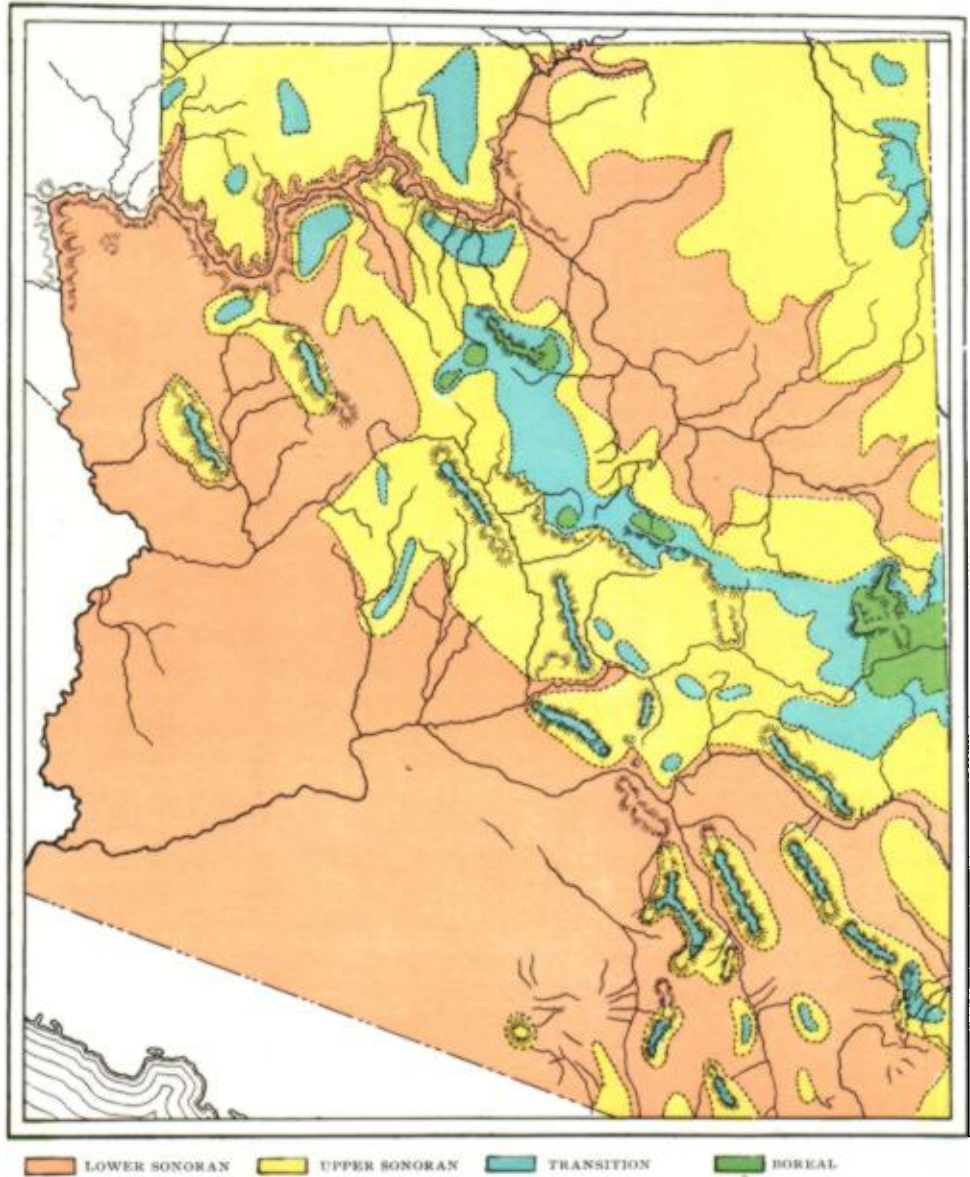
Each of the above is admitted to the state list of birds on the basis of the capture of at least one specimen, but it is not to be expected that the species prove to be of regular occurrence.

Two others, *Calypte anna* and *Selasphorus alleni*, have occurred with sufficient frequency to have entitled them, perhaps, to a place in the category of migrants, but the present definition seems to best express their manner of occurrence, late summer wanderers, and not travelers to a determined destination.

SPECIES OCCURRING IN THE LOWER SONORAN ZONE

SUMMER VISITANT

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|----------------------------------|----------------------------------|
| 1. <i>Melopelia a. Trudeaui</i> | 10. <i>Tangavius a. aeneus</i> |
| 2. <i>Buteo a. sennetti</i> | 11. <i>Icterus c. nelsoni</i> |
| 3. <i>Buteo swainsoni</i> | ✓12. <i>Peucaea botterii</i> |
| 4. <i>Asturina plagiata</i> | ✓13. <i>Peucaea cassini</i> |
| 5. <i>Chordeiles a. texensis</i> | 14. <i>Guiraca c. lazula</i> |
| 6. <i>Tyrannus verticalis</i> | 15. <i>Piranga r. cooperi</i> |
| ✓7. <i>Myiarchus m. magister</i> | 16. <i>Vireo b. arizonae</i> |
| 8. <i>Empidonax t. trailli</i> | 17. <i>Vermivora luciae</i> |
| 9. <i>Camptostoma imberbe</i> | 18. <i>Dendroica a. sonorana</i> |



LIFE ZONES OF ARIZONA

RESIDENT

- | | |
|--------------------------------------|--------------------------------------|
| 1. <i>Colinus ridgwayi</i> | 20. <i>Otocoris a. adusta</i> |
| 2. <i>Callipepla squamata</i> | 21. <i>Otocoris a. pallida</i> |
| 3. <i>Lophortyx gambeli</i> | 22. <i>Corvus cryptoleucus</i> |
| 4. <i>Chaemepelia p. pallescens</i> | 23. <i>Molothrus a. obscurus</i> |
| 5. <i>Scardafella inca</i> | 24. <i>Amphispiza b. deserticola</i> |
| 6. <i>Parabuteo u. harrisi</i> | 25. <i>Aimophila carpalis</i> |
| 7. <i>Falco fusco-caerulescens</i> | 26. <i>Melospiza m. saltonis</i> |
| 8. <i>Polyborus cheriway</i> | 27. <i>Pipilo aberti</i> |
| 9. <i>Otus a. gilmani</i> | 28. <i>Cardinalis c. superbus</i> |
| 10. <i>Speotyto c. hypogaea</i> | 29. <i>Pyrrhuloxia s. sinuata</i> |
| 11. <i>Glaucidium phalaenoides</i> | 30. <i>Phainopepla nitens</i> |
| 12. <i>Micropallas whitneyi</i> | 31. <i>Toxostoma c. palmeri</i> |
| 13. <i>Geococcyx californianus</i> | 32. <i>Toxostoma bendirei</i> |
| 14. <i>Dryobates s. cactophilus</i> | 33. <i>Toxostoma l. lecontei</i> |
| 15. <i>Centurus uropygialis</i> | 34. <i>Toxostoma crissale</i> |
| 16. <i>Colaptes c. mearnsi</i> | 35. <i>Heleodytes b. couesi</i> |
| 17. <i>Calypte costae</i> | 36. <i>Auriparus f. flaviceps</i> |
| 18. <i>Sayornis sayus</i> | 37. <i>Poliottila plumbea</i> |
| 19. <i>Pyrocephalus r. mexicanus</i> | |

The Lower Sonoran zone occupies a larger portion of the state than any other of the faunal subdivisions. It includes the vast desert area of western Arizona, and extends as long, narrow ribbons far up the valleys of the Gila River and its tributaries, and along the Colorado River to, and including, the desert of the Little Colorado River, in the northeastern corner of the state. In these Lower Sonoran valleys of Arizona many of the distinctive southwestern desert types attain their greatest development. The group of thrashers is a good example of this class; while there are distinctive low zone species of doves, quails, and woodpeckers, several species of each, with great abundance of individuals.

The various associations found within the Lower Sonoran zone present combinations of species quite as distinctive as those inhabiting different zones. Among these may be mentioned the association of the mesquite-bordered streams, in which are found the White-winged Dove, Vermilion Flycatcher, Crissal Thrasher, Lucy Warbler, Sonoran Yellow Warbler and Verdin; that of the giant cactus, with the Sahuaro Screech Owl, Elf Owl, Gilded Flicker, and Arizona Crested Flycatcher; and that of the creosote and cholla cactus covered mesa, with the Black-throated Sparrow, Palmer, Bendire and Leconte thrashers, Cactus Wren, Plumbeous Gnatcatcher and Texas Nighthawk. These lists, of course, are not at all complete, but include merely some of the most conspicuous and typical birds of each association. The subject is deserving of careful study, such as cannot be attempted in this connection, and should include consideration of the mammals and reptiles of the regions as well as of the birds. Many of the correlations noted even in a cursory survey of the available data, are extremely interesting.

SPECIES OCCURRING IN THE UPPER SONORAN ZONE

SUMMER VISITANT

- | | |
|-------------------------------------|-----------------------------------|
| 1. <i>Cyananthus latirostris</i> | 4. <i>Icterus parisorum</i> |
| 2. <i>Myiarchus l. olivascens</i> | 5. <i>Vireosylva g. swainsoni</i> |
| 3. <i>Myiochanes r. richardsoni</i> | 6. <i>Vireo vicinior</i> |

RESIDENT

- | | |
|-----------------------------------|----------------------------------|
| 1. <i>Otus a. cineraceus</i> | 7. <i>Aimophila r. scotti</i> |
| 2. <i>Dryobates arizonae</i> | 8. <i>Vireo h. stephensi</i> |
| 3. <i>Melanerpes f. aculeatus</i> | 9. <i>Baeolophus i. griseus</i> |
| 4. <i>Tyrannus vociferans</i> | 10. <i>Baeolophus wollweberi</i> |
| 5. <i>Aphelocoma woodhousei</i> | 11. <i>Polioptila c. obscura</i> |
| 6. <i>Aphelocoma s. arizonae</i> | |

The Upper Sonoran zone occupies a comparatively limited area in the state, and the list of birds confined to it solely is a short one. In southern Arizona this zone is in few places of greater width than is comprised in the belt of live-oak covered foothills between the higher mountains and the valleys below. Of the seventeen species listed as peculiar to this zone, eleven are preeminently birds of this live-oak association, as follows: *Otus a. cineraceus*, *Dryobates arizonae*, *Melanerpes f. aculeatus*, *Tyrannus vociferans*, *Myiarchus l. olivascens*, *Aphelocoma woodhousei*, *Aphelocoma s. arizonae*, *Vireo h. stephensi*, *Baeolophus i. griseus*, *Baeolophus wollweberi*, *Polioptila c. obscura*.

Of the remaining six, *Cyananthus latirostris*, *Myiochanes r. richardsoni*, and *Vireosylva g. swainsoni* are to a great extent denizens of the sycamores along the cañon streams in the foothills, *Icterus parisorum* and *Aimophila ruficeps scotti* frequent the agave and scrub-oak covered hillsides, while *Vireo vicinior* is in the denser brush of the same region.

SPECIES IN THE TRANSITION ZONE AND HIGHER, MORE NEARLY RELATED TO THE
ROCKY MOUNTAIN FAUNA TO THE NORTHWARD

SUMMER VISITANT

- | | |
|--------------------------------------|-----------------------------------|
| 1. <i>Chordeiles v. henryi</i> | 8. <i>Vermivora virginia</i> |
| 2. <i>Nuttallornis borealis</i> | 9. <i>Dendroica a. auduboni</i> |
| 3. <i>Zonotrichia l. leucophrys</i> | 10. <i>Dendroica graciae</i> |
| 4. <i>Zamelodia m. melanocephala</i> | 11. <i>Dendroica nigrescens</i> |
| 5. <i>Piranga ludoviciana</i> | 12. <i>Wilsonia p. pileolata</i> |
| 6. <i>Tachycineta t. lepida</i> | 13. <i>Hylocichla g. auduboni</i> |
| 7. <i>Lanivireo s. plumbeus</i> | |

RESIDENT

- | | |
|---------------------------------------|--------------------------------------|
| 1. <i>Dendragapus o. obscurus</i> | 15. <i>Loxia c. stricklandi</i> |
| 2. <i>Columba f. fasciata</i> | 16. <i>Spinus pinus</i> |
| 3. <i>Aquila chrysaetos</i> | 17. <i>Pipilo m. montanus</i> |
| 4. <i>Strix o. huachucae</i> | 18. <i>Troglodytes a. parkmani</i> |
| 5. <i>Cryptoglaux a. acadica</i> | 19. <i>Certhia f. montana</i> |
| 6. <i>Glaucidium g. pinicola</i> | 20. <i>Sitta canadensis</i> |
| 7. <i>Dryobates v. leucothorectis</i> | 21. <i>Sitta p. pygmaea</i> |
| 8. <i>Picoides a. dorsalis</i> | 22. <i>Penthestes g. gambeli</i> |
| 9. <i>Sphyrapicus thyroideus</i> | 23. <i>Regulus c. calendula</i> |
| 10. <i>Cyanocitta s. diademata</i> | 24. <i>Myadestes townsendi</i> |
| 11. <i>Perisoreus c. capitalis</i> | 25. <i>Planesticus m. propinquus</i> |
| 12. <i>Nucifraga columbiana</i> | 26. <i>Sialia m. bairdi</i> |
| 13. <i>Hesperiphona v. montana</i> | 27. <i>Sialia currucoides</i> |
| 14. <i>Carpodacus cassinii</i> | |

SPECIES IN THE TRANSITION ZONE AND HIGHER, MORE NEARLY RELATED TO THE
MEXICAN PLATEAU FAUNA TO THE SOUTHWARD.

SUMMER VISITANT

- | | |
|--------------------------------------|--|
| 1. <i>Otus trichopsis</i> | 8. <i>Myiochanes p. pallidiventris</i> |
| 2. <i>Otus flammeolus</i> | 9. <i>Empidonax f. pygmaeus</i> |
| 3. <i>Trogon ambiguus</i> | 10. <i>Piranga hepatica</i> |
| 4. <i>Antrostomus v. macromystax</i> | 11. <i>Dendroica a. nigrifrons</i> |
| 5. <i>Eugenes fulgens</i> | 12. <i>Setophaga picta</i> |
| 6. <i>Cyanolaemus clemenciae</i> | 13. <i>Cardellina rubrifrons</i> |
| 7. <i>Myiodynastes luteiventris</i> | 14. <i>Certhia f. albescens</i> |

RESIDENT

- | | |
|----------------------------------|---------------------------------|
| 1. <i>Cyrtonyx m. montezumae</i> | 4. <i>Junco p. dorsalis</i> |
| 2. <i>Meleagris g. merriami</i> | 5. <i>Peucedramus olivaceus</i> |
| 3. <i>Junco p. palliatus</i> | 6. <i>Pentsthes sclateri</i> |

Dividing the sixty species occurring in the Transition zone and higher into two groups we find that there are forty which are the same as, or closely related to, species occurring to the northward, in the Rocky Mountains or in the Sierra Nevada of California, and twenty which are the same as, or most closely related to, Mexican forms.

Many of the first mentioned group find their southern limit in northern or central Arizona, some extend to southern Arizona, and about half the list occur southward onto the plateau region of northern Mexico. A division of this group into summer visitants and residents results in thirteen of the former and twenty-seven of the latter. From these relative numbers it is evident that the birds of the high mountains of northern and central Arizona are mostly species at the southernmost extension of their ranges, indicating, in fact, the southern limit of the Rocky Mountain avifauna.

Now turning to the species of Mexican affinities we find conditions reversed, in that of the twenty forms listed, fourteen are summer visitants, while only six are resident. These birds, of tropical derivation, are here at their northernmost limits, and but a small proportion of them can endure the winter climate of this latitude. Of the fourteen summer visitants all but one extend only into the southern half of Arizona, many of them but an extremely short distance north of the southern boundary of the state.

A great difference in the bird life of the higher zones of northern and southern Arizona is that while in the former region a great part of the population is resident, in the latter most of the species depart during the winter months. The highest parts of the mountains of southern Arizona are noticeably deficient of bird life in winter, and many of the birds seen at this time belong to species nesting farther north in the state, which occur here in winter only.

In general it may be said of the avifauna of the high mountains of Arizona, that the ranges of the northern part of the state are more nearly like the Rocky Mountains to the northward, and the northern Sierra Nevada, while the southern mountain chains bear a somewhat closer resemblance to the mountains of southern California. In the northern and central parts of the state we find such species as *Dendragapus obscurus*, *Picoides a. dorsalis*, *Perisoreus c. capitalis*, *Zonotrichia*

leucophrys and *Hyalocichla g. auduboni*. While the distinctive feature of the southern mountain chains is, of course, the strikingly large element of Mexican species, many of them distinctly subtropical, such as *Cyrtonyx m. mearnsi*, *Dryobates arizonae*, *Peucedramus olivaceus*, *Cardellina rubrifrons*, *Trogon ambiguus*, and the numerous species of hummingbirds, there are besides these, many others closely related to southern California forms. In this class may be mentioned *Strix o. huachucae*, *Melanerpes f. aculeatus*, *Aimophila r. scotti*, *Pipilo f. mesoleucus*, *Vireo h. stephensi*, *Sitta pygmaea*, and *Baeolophus i. griseus*. Of these the *Strix*, *Aimophila*, and *Vireo* are of peculiar interest, for although but slightly distinguished from their California relatives, the habitats of the Pacific Coast and Arizona representatives are so widely separated that there is no possibility of their joining at any point. These birds must be treated as subspecies rather than species on the ground of the slight degree of difference between the races, for they are resident wherever they occur, and from the manner in which they are isolated in comparatively limited areas of Upper Sonoran and Transition in the vast surrounding extent of Lower Sonoran desert, there is no possibility of continuity of range with their closest allies.

To sum up, it thus appears that the bird life of the higher mountains of Arizona is a rather curious composite, of more northern Rocky Mountain forms extending southward, and of the southern, Mexican plateau forms extending northward, the two faunas meeting, and to a certain extent interdigitating. Added to these are other species, probably of southern derivation, closely allied to Pacific Coast races but entirely isolated from them. Somewhat similar conclusions were reached by Mearns in a paper on the avifauna of the mountains of central Arizona (1890, pp. 45-50), but with an assumption of more continuous connection of the Arizona mountains with the Sierras of central California than seems to exist.

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1884. [Brown, H.] *Ortyx virginianus* in Arizona. <Forest and Stream, XXII, 1884, p. 104.
Announcement of the capture of "a pair of genuine Bob White quail . . . in the Barboquiviri range, about sixty miles southwest of Tucson" (= Tucson).

1884. Grinnell, G. B. A Quail new to the United States Fauna. < Forest and Stream, XXII, 1884, p. 243.

Imperfect specimens collected by Herbert Brown ("An almost complete skin of a female bird, and portions of the wing, breast and tail of a male") identified by Ridgway as *Ortyx graysoni*.

- 1884a. Ridgway, R. *Ortyx virginianus* not in Arizona. < Forest and Stream, XXII, 1884, p. 124.

Refers to the note published in the preceding number of the same paper (see Brown, 1884, p. 104). The bird is presumed to be *Cyrtonyx massena*, or else "one of the Mexican species of *Ortyx* (perhaps *O. Graysoni*)."

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- 1884c. Ridgway, R. Remarks on the Type Specimens of *Muscicapa fulvifrons*, Giraud, and *Mitrephorus pallescens*, Coues. < Proc. Biol. Soc. Wash., II, 1884, pp. 108-110.

- 1885a. Brewster, W. Preliminary Notes on Some Birds Obtained in Arizona by Mr. F. Stephens in 1884. < Auk, II, 1885, pp. 84-85.

- 1885b. Brewster, W. Additional Notes on Some Birds Collected in Arizona and the Adjoining Province of Sonora, Mexico, by Mr. F. Stephens in 1884; with a Description of a New Species of *Ortyx*. < Auk, II, 1885, pp. 196-200.

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- 1885a. Brown, H. Peculiar Eggs of *Scops Trichopsis*. < Ornithologist and Oologist, X, 1885, p. 96.

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- 1885b. Brown, H. Arizona Bird Notes. < Forest and Stream, XXIV, 1885, p. 367.

- 1885c. Brown, H. Arizona Quail Notes. < Forest and Stream, XXV, 1885, p. 445.

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- 1885b. Ridgway, R. Some Emended Names of North American Birds. < Proc. U. S. Nation. Mus., VIII, 1885, pp. 354-356.

- 1885c. Ridgway, R. Description of a New Cardinal Grosbeak from Arizona. < Auk, II, 1885, pp. 343-345.

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- 1885d. Ridgway, R. On *Junco cinereus* (Swains.) and its Geographical Races. < Auk, II, 1885, pp. 363-364.
- 1885a. Scott, W. E. D. On the Breeding Habits of Some Arizona Birds. First Paper. *Icterus parisorum*. < Auk, II, 1885, pp. 1-7. Second Paper. *Icterus cucullatus*. Pp. 159-165. Third Paper. *Phainopepla nitens*. Pp. 242-246. Fourth Paper. *Virco vicinior*. Pp. 321-326.
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- 1885c. Scott, W. E. D. Early Spring Notes from the Mountains of Southern Arizona. < Auk, II, 1885, pp. 348-356.
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- 1905c. Swarth, H. S. *Atratus* versus *Megalonyx*. < Condor, VII, 1905, pp. 171-174, map.
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- 1909a. Gilman, M. F. Among the Thrashers in Arizona. < Condor, XI, 1909, pp. 49-54, 1 fig.
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- 1909b. Gilman, M. F. Some Owls Along the Gila River in Arizona. < Condor, XI, 1909, pp. 145-150, 5 figs.
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- 1909c. Gilman, M. F. Nesting Notes on the Lucy Warbler. < Condor, XI, 1909, pp. 166-168.
- 1909d. Gilman, M. F. Red-eyed Cowbird at Sacaton, Arizona. < Condor, XI, 1909, p. 173.
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- 1910a. Swarth, H. S. Two New Owls from Arizona, with description of the juvenal plumage of *Strix occidentalis occidentalis* (Xantus). < Univ. Calif. Publ. Zool., VII, pp. 1-8.
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- 1910b. Swarth, H. S. Miscellaneous Records from Southern California and Arizona. < Condor, XII, 1910, pp. 107-110.
- 1910a. Visher, S. S. A Correction: A New Bird for the United States. < Auk, XXVII, 1910, p. 210.
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- 1910b. Visher, S. S. Notes on the Birds of Pima County, Arizona. < Auk, XXVII, 1910, pp. 279-288.
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- 1911b. Gilman, M. F. Doves on the Pima Reservation. < Condor, XIII, 1911, pp. 51-56.
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