

A STUDY OF THE RED-WINGED BLACKBIRDS OF
SOUTHEASTERN UNITED STATES.¹

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THE nomenclatural status of the Red-winged Blackbirds of eastern United States is at present somewhat in confusion, due chiefly to the lack of adequate breeding specimens from critical localities. Mearns, in 1911,² stated that the typical race (*phoeniceus*) was the form breeding from South Carolina southward through middle Florida; he therefore revived the name *predatorius* for the northern race (formerly called *phoeniceus*), and relegated *floridanus* (which was currently applied to the Florida race) to synonymy. Our studies have demonstrated, however, that the typical race (*phoeniceus*) is the form breeding throughout eastern United States south to northern Florida, and that *floridanus* is restricted to the southern tip of the peninsula, thus leaving the bird of middle Florida without a name.

In the course of field work for the U. S. Biological Survey in 1926 the senior author collected a small series of breeding Red-winged Blackbirds on Santa Rosa Island, Florida, which appeared to represent an undescribed race. To this series, through the coöperation of Mr. Francis M. Weston of Pensacola, Florida, we have since added a number of specimens from the shores of Pensacola Bay.

The junior author, in connection with a revision of the genus *Agelaius*, has recently examined large series of Redwings in the principal collections in eastern museums and during his visit to Washington it developed that the two authors had reached practically identical views with reference to the races of the Redwing in Florida and the other Gulf States. It seemed desirable, therefore, to work out the problems in coöperation.

Our decisions have been based entirely on breeding specimens, and in the present discussion, wintering birds have been ignored.

¹ Joint contribution from the Bureau of Biological Survey and the California Institute of Technology.

² Proc. Biol. Soc. Washington, vol. 24, p. 226, 1911.

***Agelaius phoeniceus phoeniceus* (Linnaeus)**

EASTERN RED-WINGED BLACKBIRD

[*Oriolus*] *phoeniceus* Linnaeus, Syst. Nat., ed. 12, vol. 1, p. 161, 1766
(based on *Sturnus niger, alis superne rubentis* Catesby, Nat. Hist.
Carolina, vol. 1, p. 13, pl. 13, 1731).

Sturnus predatorius Wilson, Amer. Ornith., vol. 4, p. 30, plate 30, 1811.

Subspecific characters.—Compared with *mearnsi* (see *postea*): Size larger; bill slightly shorter and decidedly thicker at base; females with upper parts more blackish (less brownish); under parts clearer white (less buffy), with dark streaks more blackish.

Remarks.—When Dr. Mearns assigned the name *phoeniceus* to the Redwings of the Florida Peninsula and revived *predatorius* of Wilson for the northern race, he based his decision on a small series of breeding birds from the vicinity of Charleston, South Carolina. This series, collected by Mearns, Riley, and Brown is still available in the U. S. National Museum collection and has been reexamined by the writers in the present connection. Of the 9 males, only 3 are adult, the other 6 being one year old birds. It can not be too strongly emphasized that one year old males have decidedly shorter wings and tails than adults, and due to the preponderance of young males in the series examined by Mearns, the average measurements come closer in these particulars to the measurements of Florida adults than to those of the northern race; however, when the adults and immatures are separated the 6 one year old birds are found to closely approximate in measurements immature specimens from the north, and the same is true of the adults. Furthermore, it seems clear to us that Mearns was in error in stating that Catesby's plate represents the slender-billed bird of Florida, for measurements of the figure give the culmen a length of 21 mm.; the bill is shown open, but the combined measurements of maxilla and mandible give the bill a depth at base of 13.2 mm. There is, of course, no certainty that Catesby intended to figure his bird exactly life size, but the proportions of the bill certainly apply only to the northern race.

In color, breeding females from the coast of South Carolina and Georgia are clearly referable to the race ranging throughout the northeastern States, and show no approach in this character to the brownish birds of the Florida peninsula. Specimens from the extreme southern part of the range, however, show intergrada-

tion in measurements with *mearnsi* of the Florida peninsula, as would be expected.

It is generally admitted that the bulk of Catesby's collecting was done in the coast region of South Carolina, and since no more definite locality than "North America" was designated by Linnaeus for this species, we hereby select Charleston, South Carolina, as the type locality of *phoeniceus*. This subspecies ranges from the southern border of Georgia on the coast and from Gainesville, Florida, northward throughout the eastern United States.

Material is lacking from the northeastern coast of Florida to show which form breeds there. A single female specimen from Pellicer's Creek, St. John County, is nearer to *phoeniceus* than to *mearnsi*, being identical with the former in color and intermediate in measurements (as are the Gainesville birds), but on the basis of one specimen, we reserve decision as to the prevailing form in that region.

Specimens examined.—Total number, 56, from localities as follows:

Florida: Gainesville, 4.

Georgia: Cumberland Island, 8; St. Marys, 2; Chatham County, 3; Macon, 1; Athens, 3; Roswell, 2; Toccoa, 1; Margret (Fannin County), 2; Chatsworth, 4.

South Carolina: Wayne's Place, near Mt. Pleasant, 12; Port Royal, 1.

Alabama: Autaugaville, 4; Barachias, 1; Seale, 1; Attala, 2; Leighton, 1.

Mississippi: Duck Hill, 1; Minter City, 1; Cedar Bluff, 1; Raymond, 1.

In addition to the above, approximately 200 breeding specimens from the general range of the subspecies have been examined and measured.

***Agelaius phoeniceus littoralis* subsp. nov.**

GULF COAST REDWING

Type, ♀ adult, No. 298,920, U. S. Nat. Mus. (Biological Survey collection); collected on Santa Rosa Island, opposite Mary Esther, Florida, April 19, 1926, by A. H. Howell; original number, 2102.

Range.—Gulf coast region, from Choctawhatchee Bay, Florida, westward at least to Galveston, Texas.

Subspecific characters.—Compared with *Agelaius phoeniceus phoeniceus* of northeastern United States: Coloration of females darker, both above and below, particularly on the rump; general tone of upper parts in breeding plumage fuscous-black, with median crown stripe and buffy edgings on nape and interscapular region nearly obsolete; ground color of under parts less buffy (more whitish), the dark streaks broader and averaging more blackish; wing and tail slightly shorter; bill slightly more slender in lateral profile. Compared with *A. p. mearnsi*: Coloration of females throughout very much more blackish (less brownish), the brown and buff edgings to the feathers of the head, nape, interscapular region, and wings very much reduced; streaks on under parts decidedly more blackish, the ground color less buffy (more whitish); bill shorter, and thicker at base; wing averaging slightly longer.

Remarks.—This subspecies, the darkest of all the eastern races, apparently ranges little, if any, above the tidewater region. It appears to be more closely related to *phoeniceus* than to *mearnsi* or *megapotamus*,¹ but material is lacking to show with certainty the area of intergradation with any of these races.

The birds from Whitfield, Florida are not typical; 3 females taken February 13, 14, and March 21 agree with *littoralis* in color but have slenderer bills, thus indicating approach to *mearnsi*; the four males (taken December 30, February 24, March 18 and 23) seem to be typical *littoralis*; one female, taken February 19, is apparently a transient, nearest to *phoeniceus* in characters.

The large series from Gueydan, Louisiana, including both breeding and wintering individuals, are not typical, being slightly paler both above and below, but agreeing in measurements and proportions with typical *littoralis*.

Specimens examined.—Total number, 67, from localities as follows:

Florida: Whitfield, 3; Santa Rosa Island, 6; Pensacola Bay, 8.

Alabama: Mobile, 2.

Mississippi: Bay St. Louis, 3; Jefferson Parish, 1.

Louisiana: Breton Island, 3; Bel Air, 3; Lake Borgne, 1; Timbalier Island, 1; Morgan City, 2; Avery Island, 5; Gueydan, 28.

Texas: Galveston, 1.

¹ Oberholser, *Wilson Bull.*, vol. 31, p 20, March, 1919; from southern Texas and northeastern Mexico.

***Agelaius phoeniceus mearnsi*¹ subsp. nov.**

FLORIDA REDWING

Agelaius phoeniceus floridanus Ridgway (not of Maynard) Birds North and Middle Amer., pt. 2, p. 333, 1902 (part).

Agelaius phoeniceus phoeniceus Mearns (not of Linnaeus) Proc. Biol. Soc. Washington, vol. 24, p. 227, October 31, 1911 (part).

Type, ♀ adult (breeding), No. 176,936, U. S. Nat. Museum. Collected at Alligator Bluff, Kissimmee River, Florida, April 27, 1901, by Edgar A. Mearns; original number, 12,560.

Range.—Greater part of the Florida peninsula, south to the lower Kissimmee Valley and the Caloosahatchee River; north at least to Putnam County (San Mateo) and Anastasia Island; west on the Gulf coast to Apalachicola.

Subspecific characters.—Compared with *phoeniceus*: Size smaller; bill longer and more slender, both actually and relatively; coloration of upper parts in females more brownish (less blackish); under parts more buffy (less whitish), the dark streaks more brownish.

Remarks.—In the present race, the maximum brownish suffusion found in *Agelaius phoeniceus* is attained; this character at once distinguishes *mearnsi* from all the other races occupying the Caribbean area (*bryanti*, *floridanus*, *littoralis*, *megapotamus*, and *richmondi*).

Specimens from the Gulf Coast of Florida, particularly from the northern portion, have somewhat thicker bills than those from central and eastern Florida, thus indicating a gradual approach in this character to *littoralis* of the western Gulf Coast. Specimens from the Caloosahatchee Valley (Alva and Ft. Myers) show approach in paler coloration to *floridanus*, of south Florida.

Breeding material is lacking from the lower St. Johns Valley, hence the area of intergradation with *phoeniceus* is not definitely known; quite probably this race will be found to range northward nearly or quite to Jacksonville.

Specimens examined.—Total number, 144, from localities as follows:

Florida: Anastasia Island, 2; San Mateo, 1; Big Lake George, 1; northern Brevard County, 5; Merritt's Island, 6; Banana River, 5; Canaveral, 3; Lake Jessup, 1; Enterprise, 1; Orlando, 2; Blue Spring, 1; Lake Kissimmee, 4; Lake Arbuckle, 2; Kissimmee

¹ Named for the late Dr. Edgar A. Mearns, whose extensive collections have enabled us to discriminate this subspecies.

River, 18; Ft. Bassenger, 2; Kissimmee (24 miles southwest), 1; Southport Canal (Osceola County), 1; Ft. Thompson, 3; Alva, 9; Ft. Myers, 20; Pine Island, Charlotte Harbor, 11; Gulfport, 6; Seminole, 1; Pasadena, 2; Pass-a-Grille, 8; Indian Rocks (Pinellas Co.), 4; Clearwater, 3; Seven Oaks, 1; Port Richey, 3; Chassahowitzka River, 2; Cedar Keys, 3; Sumner, 3; Lukens, 4; Grassy Island, Taylor County, 2; Aucilla River (mouth), 2; Apalachicola, 1.

Agelaius phoeniceus floridanus Maynard

MAYNARD'S REDWING

Agelaius phoeniceus floridanus Maynard, Birds East. North Amer., 2nd ed., part 40, p. 698, 1895 (Key West, Florida).

Agelaius phoeniceus bryanti Ridgway, Birds North and Middle Amer., Bull. 50 U. S. Nat. Mus., part 2, pp. 334-335, 1902 (part; specimens from Lake Worth, Miami, and Key West).

Range.—Resident on the Florida Keys and the southern end of the Florida Peninsula, north at least to Lake Worth on the east coast and to Everglade, Collier County, on the west coast.

Subspecific characters.—Compared with *mearnsi*: In size and proportions practically identical; coloration of upper parts in females paler, less brownish, and more extensively marked with whitish; superciliary stripe averaging broader and more whitish (less buffy); underparts more whitish (less buffy). Compared with *bryanti*: Size similar; bill of similar proportions but averaging shorter; coloration of females decidedly more brownish (less whitish) below and more brownish and less extensively flecked with whitish above. This race is thus intermediate in color between the strongly brown race of central Florida (*mearnsi*) and *bryanti*, the whitest of all the races of *phoeniceus*.

Remarks.—Described by Maynard in 1895 from Key West, this race was accepted by Ridgway in his 'Birds of North and Middle America' (part 2, p. 333, 1902), but by a strange inconsistency the range assigned to it definitely excluded its type region, whereas the Keys birds were referred to *bryanti*. Following this it was introduced into the third edition of the A. O. U. 'Check-List,' where the same error was perpetuated, its range being given as "Florida (except the southeastern coast and Keys), and west along the Gulf coast at least to Galveston, Texas."

When Mearns, in 1911, applied the name *phoeniceus* to the central Florida form, he relegated *floridanus* to synonymy. Recent collections from extreme south Florida and the Keys, however,

serve to show that *floridanus* is a well marked race, differing from both *bryanti* of the Bahamas and *mearnsi* of central Florida.

Through the kindness of Dr. Thomas Barbour and Mr. Outram Bangs of the Museum of Comparative Zoology, we have been enabled to examine the two cotypes (♂ and ♀) of this subspecies.¹ The female, although taken in midwinter (Nov. 19, 1870), is unmistakably of the pale resident Keys race and the male (Dec., 1870), although showing no diagnostic characters, is likewise in no way distinguishable from breeding birds from the Florida Keys.

One female specimen from Everglade is a typical *floridanus*; another (March 12) is darker above and apparently an intergrade toward *mearnsi*. Evidently, intergradation with *mearnsi* takes place between Everglade and the Caloosahatchee River.

Specimens examined.—Total number, 77, from localities as follows:

Florida: Key West, 5; Big Pine Key, 1; Little Pine Key, 1; Bamboo Key, 1; Cave Key, 1; Cape Sable, 9; Flamingo, 3; East Fox Lake, 1; Bear Lake, 2; Alligator Lake, 2; Royal Palm Hammock, 7; Shark River, 2; Everglade, 5; Coconut Grove, 1; Cutler, 3; Lemon City, 3; Tamiami Trail (20 miles west of Miami), 4; Palm Beach, 10; Lake Worth, 5; Monroe County, 2; Miami, 1.

MEASUREMENTS OF ADULT MALES

Agelaius phoeniceus phoeniceus (Linnaeus)

50 adult males from: Penn. (19); New Jersey (2); New York (11); Mass. (18).

Wing	Tail	Culmen	Depth	Tarsus	Mid-toe (with Claw)
113.5–128.5 (120.7)	86.0–98.0 (91.3)	21.9–25.0 (23.7)	11.3–13.3 (12.5)	27.0–30.3 (29.0)	19.4–22.2 (20.7)

12 adult males from: Charleston, South Carolina (3); Georgia (interior, 3; Camden County, 5; and Savannah, 1).

113.5–122.5 (119.2)	86.0–98.0 (92.0)	23.3–25.7 (24.6)	11.8–13.5 (12.6)	29.0–30.0 (29.5)	19.0–22.0 (21.0)
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2 adult males from Gainesville, Florida.

116.0–117.5 (116.8)	86.0–91.0 (88.5)	24.8–24.9 (24.9)	12.2–12.4 (12.3)	29.2–30.0 (29.6)	20.3–22.0 (21.2)
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¹ Nos. 13963, 13976, Mus. Comp. Zool.

Agelaius phoeniceus mearnsi Howell & van Rossem

35 adult males from interior and eastern central Florida.

109.0-118.5	81.0-93.5	23.8-27.2	10.5-12.1	27.2-30.0	19.0-22.0
(113.1)	(87.4)	(25.0)	(11.2)	(28.7)	(20.3)

Agelaius phoeniceus floridanus Maynard

26 adult males from southern Florida and Keys.

107.5-119.0	76.5-92.5	23.2-27.0	10.2-12.0	25.7-29.5	18.6-21.3
(113.2)	(86.2)	(25.1)	(11.0)	(27.8)	(20.2)

Agelaius phoeniceus littoralis Howell & van Rossem

2 adult males from Santa Rosa Island and Pensacola, Florida.

113.0-116.0	85.5-86.0	23.8-24.0	12.1-12.1	27.5-29.5	19.4-21.2
(114.5)	(85.8)	(23.9)	(12.1)	(28.5)	(20.3)

13 adult males from coast of Louisiana.

110.0-118.0	85.0-93.0	23.2-27.0	11.4-13.1	28.3-30.2	20.3-22.3
(114.5)	(88.8)	(25.2)	(12.0)	(29.2)	(21.2)

One year old males of all races average about 9% smaller.

ADULT FEMALES

Agelaius phoeniceus phoeniceus (Linnaeus)

40 adult females from: Penn. (18); New York, (3); Mass. (16); Conn. (3).

Wing	Tail	Culmen	Depth	Tarsus	Mid-toe
95.0-104.0	67.0-78.0	18.1-21.4	10.0-12.1	24.5-27.7	17.1-19.4
(98.9)	(72.7)	(19.9)	(10.7)	(25.8)	(18.3)

16 adult females from: South Carolina, (Charleston, 3); Georgia, (interior, 8; Cumberland Island and Savannah, 5).

92.0-102.0	68.0-77.5	19.0-22.9	9.9-11.3	24.3-27.0	17.2-19.2
(96.5)	(72.0)	(20.4)	(10.8)	(25.8)	(18.6)

1 adult female from Gainesville, Florida.

93.5	74.0	19.8	10.0	25.4	18.8
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Agelaius phoeniceus mearnsi Howell & van Rossem

20 adult females from interior and eastern central Florida.

89.0-96.5	66.5-74.5	19.4-22.2	8.9-10.3	24.2-26.0	16.8-19.8
(92.8)	(70.9)	(21.0)	(9.7)	(25.2)	(17.9)

Agelaius phoeniceus floridanus Maynard

18 adult females from southern Florida and Keys.

89.0-96.5	65.5-74.5	19.2-21.5	8.8-9.8	23.8-25.8	17.0-18.5
(93.2)	(70.2)	(20.3)	(9.4)	(24.8)	(17.6)

Agelaius phoeniceus littoralis Howell & van Rossem

9 adult females from Santa Rosa Island (5) and Pensacola (4), Florida.

94.0-98.0	69.0-71.0	20.3-21.4	10.0-11.5	24.5-26.1	16.5-18.8
(95.5)	(70.2)	(20.8)	(10.7)	(25.0)	(17.7)

23 adult females from coast of Louisiana.

90.0-96.0 ¹	68.0-73.0 ¹	19.4-23.0	10.1-11.1	25.0-26.9	17.1-19.0
(92.6)	(70.5)	(21.0)	(10.6)	(25.7)	(18.1)

¹ Eight birds not measured for wing and tail because of excessive wear.

U. S. Biol. Survey, Washington, D. C.
and Pasadena, Calif.