

A REVISION OF THE ROSE-THROATED BECARD

By J. DAN WEBSTER

The only complete systematic treatment of the Rose-throated Becard (*Platypsaris aglaiae*) is that of Ridgway (1907). Since that publication, van Rossem (1930, 1938) and Dickey and van Rossem (1938) described two new subspecies and clarified the relationships of some of the other races. Hellmayr (1929) and the Mexican Check-list (Pac. Coast Avif., 1957) listed the races and ranges. Chapman (1912) and de Schauensee (1950) described new subspecies of *P. homochrous* from Colombia. From 1958 to 1960 I compared 659 skins that constitute most of the material of the species presently found in collections in the United States and México.

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ECOLOGY

The Rose-throated Becard inhabits tropical forests of various types and extends into the borders of the temperate zone along riparian, deciduous, broad-leaved woodlands. In El Salvador, for example, Dickey and van Rossem (1938) called *P. a. latirostris* a resident of the Arid Lower Tropical Zone up to an elevation of 2300 feet. They found the birds (*op. cit.*:341-342) "in thin, second growth and about the edges of clearings and open places such as trails and roads Though the normal habitat is gallery forest, they are by no means averse to brushy, cut-over land and were quite common in the taller mimosa growth about Divisadero. A few were found in the heavy, swamp forest at Puerto del Triunfo, where they were observed in the thin foliage between the ground and the thick forest crown." In the lowlands of Veracruz, Edwards and Tashian (1959) list *P. a. sumichrasti* as a sparse inhabitant of rain forest edge. On the Yucatán Peninsula, Paynter (1955) called *P. a. sumichrasti* a rain forest edge form and *P. a. yucatanensis* a characteristic race of tropical deciduous forest and low rain forest. In the lowlands of Tamaulipas, I saw *P. a. gravis* only in broad-leaved trees along rivers, which agrees with accounts by Sutton (1949, 1951) for Tamaulipas, Nuevo León, and Texas. In southern Arizona and Sonora, the habitat of *P. a. albiventris* is streamside cottonwoods and sycamores (Phillips, 1949; van Rossem, 1945). In Zacatecas and Nayarit I have found *P. a. albiventris* only in tropical deciduous woodland beside permanent streams, at elevations of from 2500 to 5600 feet. In arid tropical regions of the Sinaloa and Nayarit coastal plain and of the Balsas Valley, Phillips (personal communication) found *P. a. albiventris* only in riparian woodland.

Griscom (1932:281) stated that in Guatemala *Platypsaris aglaiae* was found to

about 6000 feet, but that "farther north and west [than southern México] it ascends to 8000 feet, and occurs in pine forests." I do not believe that the species is of regular occurrence in pine forest, or at elevations above 6000 feet, at least in México and the United States. In Guatemala, however, Skutch (*in Bent*, 1942:6) observed a nesting pair, at 8500 feet, in alders and pines. There are few records from elevations over 5000 feet or from temperate localities, and most of these are of vagrants or pioneers. For instance, I examined an immature male found dead by Dwain Warner at 9000 feet in pine-oak-fir country, on the Lagunas de Zempoala, Morelos, on November 16, 1953. An adult female was recorded by Edwards and Martin (1955) as taken in fir forest at 9000 feet, 15 miles south of Pátzcuaro, Michoacán, on March 5, 1948; I have examined this specimen. I have also examined one specimen from "Durango" (= Durango City, elevation 6100 feet?), an immature male taken March 20, 1900. The foregoing records are the only valid ones known to me from the Mexican highlands; the term "highlands" in the Mexican Check-list (*op. cit.*:62-63), therefore, should be amended to read "middle elevations" or "foothills."

The record in the Mexican Check-list from "Chihuahua," presumably meaning Chihuahua City, is dubious. It is apparently based on an adult male (no. 31972) in the Chicago Natural History Museum. The specimen is labeled "Chihuahua, June, 1883," with no collector or precise locality indicated. This specimen agrees with *albiventris* in color, but the measurements are all extreme for that race, but are near mean values for *yucatanensis*. Another specimen (U. S. Nat. Mus. no. 100285) is marked "Sept. 1883, Chihuahua," and also "*yucatanensis*—not from Chihuahua, but unquestionably one of Gaumer's Yucatan specimens—A. J. Van Rossem." I agree with van Rossem's identification. On the other hand, records in the Mexican Check-list from San Feliz, extreme southwestern Chihuahua and Nombre de Dios, Durango, refer to specimens (Moore Collection) from riparian localities at middle elevations and cannot be doubted. The first record from the United States was a first-year male taken on June 20, 1888, by W. W. Price (1888) at 7000 feet in the pine forests of the Huachuca Mountains. The only other Arizonan specimen is also a first-year male (Phillips, 1949; examined by me), as is one of the three Texan specimens (Sutton, 1949; examined by me).

There is apparently a tendency for becards, especially young males, to pioneer, or wander, into highland or more northerly localities in fall and winter. The environment of most individuals of the species, however, does not vary seasonally.

MIGRATION

There is no evidence of any seasonal movement in eastern México, southern México, or Central America, although in Arizona and northern Sonora, the birds are absent for several months in winter (van Rossem, 1945; Phillips, 1949) and their wintering ground is unknown. Presumably they winter somewhere within the range of the subspecies *albiventris*, for no specimens of the race have been taken outside of the general breeding range. Along the Gulf coast, in contrast, most of the Texan records were made in winter. Although the latitudinal range of *P. a. gravis* in the breeding season is much less than that of the western subspecies *albiventris*, there are no winter records of *P. a. gravis* from the breeding ranges of other subspecies to the south. It is necessary to state here that the well-differentiated population of *gravis* is confined to Texas, Nuevo León, and northern Tamaulipas (fig. 1, northern half of subspecies range). The well-differentiated population of *sumichrasti* (encircled in fig. 1) extends south in the lowlands from about Ciudad Veracruz. Between these two well-differentiated populations, from about Ciudad Victoria to Veracruz, there are irregular clines, and individual specimens are not certainly identifiable.

MOLTS

The sequence of molts was determined from a series of 62 sub-adult males and many adult males.

The postjuvinal molt is complete except for the rectrices, primaries, and secondaries; it begins between late July and early September and is completed in November or December.

The first prenuptial molt is quite variable in extent, including as little as most of the crown (two specimens of *gravis* from Nuevo León, May 17) and as much as the two central rectrices, four tertials, and most of the crown and back (one *albiventris* from Sonora, May 7). This molt occurs in March, April, and early May.

The possibility exists that the prenuptial molt may rarely overlap the postnuptial molt in midsummer. The first postnuptial molt occurs in August and September and brings the bird into adult plumage. According to Dickey and van Rossem (1938), the second winter plumage is different from that of the third or subsequent years; I have verified that one of van Rossem's specimens of *latirostris* is molting from worn first nuptial plumage into a winter plumage with slightly brownish tips on the ventral surfaces of the rectrices and slightly browner underparts than the majority of birds from El Salvador. A few other specimens, of *gravis* and *sumichrasti*, wear a fresh winter plumage which is slightly tinged with brown below as compared with the majority of comparable specimens from the same locality. However, this variation is lacking in adequate series of other races, and I regard it as individual variation, rather than as age

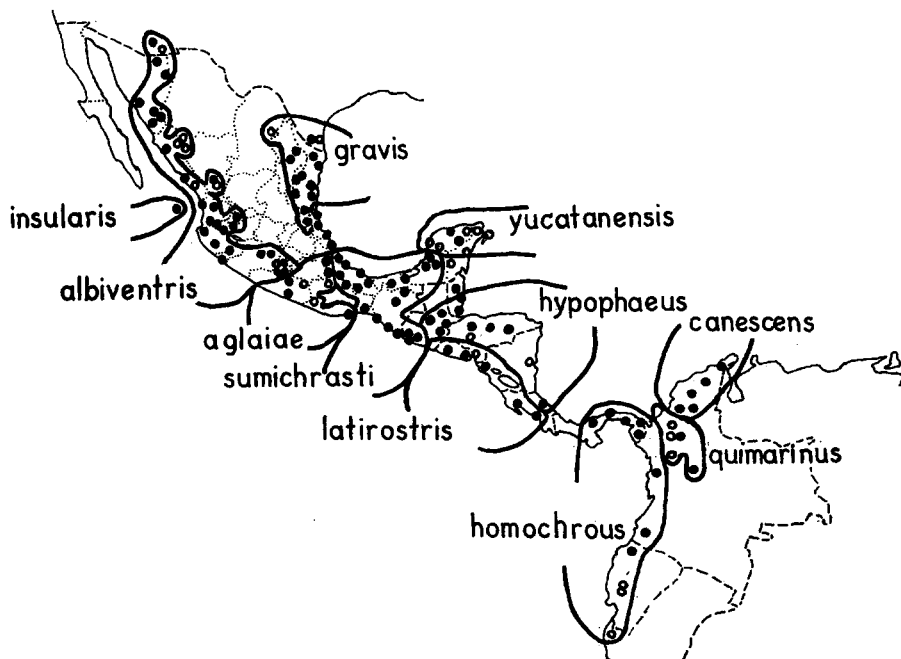


Fig. 1. Range of the Rose-throated Becard (*Platypsaris aglaiae*) in Middle America. Dashed lines mark international boundaries; dotted lines mark the boundaries of the states of México; broad, solid lines approximate the boundaries of the subspecies; solid dots mark localities where one or more specimens were examined in the present study; open circles mark localities where specimens have been recorded in the literature.

variation. It is certainly less common in *latirostris*, *gravis*, and *sumichrasti* than I would expect if all second year males wore this plumage.

In adults, the complete postnuptial molt extends from the middle of August into September. Two or three specimens of *sumichrasti* suggest a very incomplete prenuptial molt in March or April, including part of the crown and one or two tertials. Considerably better spring series of other races show no prenuptial molt, however.

The sequence of molts in females is the same as that in males, except that there is no prenuptial molt at any age.

For purposes of comparison, specimens were termed "fresh plumaged" if they were far enough along in the fall molt to have one-half the body plumage fresh and were taken no later than January 31. Specimens were classified "worn plumaged" if they were taken between February 1 and the date when almost half of the fall molt had been completed. All statements about color of plumage are based on "fresh plumaged" specimens. Capitalized color names were compared directly with the color scale of Palmer and Reilly (1956).

SEXUAL DIMORPHISM

Sexual dimorphism in color of adults is so extreme and well known that there is no need to recapitulate. A color plate by Grayson of *P. a. albiventris* in the Mexican Checklist (*op. cit.*: opp. 62) serves to illustrate this point. Some rose is present on the throat of adult females as a fairly common variation (see beyond). However, some museum curators have doubted this, I judge, for two or three of these rose-throated females have a query (in a different handwriting) beside the sex mark on the label! Because these specimens were collected by at least 10 different persons, two of whom wrote "*sic*" beside "♀," and because at least two of these collectors were extremely careful field ornithologists, there is no occasion for doubt.

Sexual reversal of plumage occurs. I have examined five specimens in adult female plumage which were marked ♂ by the five different collectors. The specimen of *latirostris* which was collected by van Rossem (Dickey and van Rossem, 1938) is certainly trustworthy, and I have no particular reason to doubt the authenticity of the sexing of the others—2 *sumichrasti*, 1 *albiventris*, and 1 *latirostris*. Two specimens marked "♀," one of *latirostris* and one of *hypophaeus*, are in adult male plumage. However, I doubt the accuracy of the sexing; both were taken by professional collectors more than 50 years ago.

I can see no sexual dimorphism in the juvenal plumages. The first winter plumage of males includes red in the throat and black or gray elsewhere, so that by October the sexes differ prominently.

GEOGRAPHIC VARIATION

Length of wing.—In accordance with Bergmann's Rule, mean wing length is longer in the northern populations. Such difference is slight, however, and insignificant as a criterion of subspecific difference except in the northeastern race, *gravis*, and the Panamanian race, *homochrous* (see tables 1, 2). Measurement was of the chord.

Bill size.—Van Rossem (1938) stressed bill size more than any other geographically variable character. As shown in tables 3 and 4, my measurements indicate much greater individual variation than reported by van Rossem. In general, the culmen is longer in specimens from the Atlantic coast than in those from the Pacific coast and reaches a minimum size in specimens from the Tres Mariás Islands and in a local population of *aglaiae* from Jalapa, Veracruz. Bill width varies in the same pattern. Bill width was measured with calipers at the center of the nostril; exposed culmen was measured with dividers.

TABLE 1
MEASUREMENTS OF WING LENGTH (MM.) IN MALE ROSE-THROATED BECARDS

Population	Sample size	Range	Mean	Standard deviation	Coefficient of variation
<i>gravis</i> (northern)	13	92-98	95.08	1.59	1.67
<i>gravis</i> (southern)	45	90-98	95.20	1.93	2.03
<i>gravis</i> x <i>sumichrasti</i> (N Veracruz)	9	91-98	95.44	2.01	2.11
<i>aglaiae</i>	9	90-93	91.55	1.07	1.17
<i>albiventris</i> (southern)	41	87-93	90.63	1.39	1.54
<i>albiventris</i> (northern; = " <i>richmondii</i> ")	23	89-94	91.61	1.44	1.57
<i>insularis</i>	3	86-87	86.67	.....	.....
<i>sumichrasti</i> (most of Chiapas; Pacific coast of Oaxaca; Western Guatemala)	21	87-95	90.67	1.96	2.16
<i>sumichrasti</i> (Campeche; Tabasco, Palenque district of Chiapas)	11	87-90	88.46	0.89	1.01
<i>sumichrasti</i> (Veracruz and NE Oaxaca lowlands)	27	87-95	90.63	1.87	2.06
<i>yucatanensis</i>	26	86-92	89.27	1.56	1.75
<i>yucatanensis</i> x <i>hypophaeus</i> (N British Honduras)	1	85	85.00	.....	.....
<i>hypophaeus</i> (northwestern)	10	84-94	89.80	2.89	3.22
<i>hypophaeus</i> (southeastern)	15	85-93	88.77	2.05	2.31
<i>latirostris</i>	28	87-93	91.04	1.66	1.82
<i>homochrous</i> , <i>canescens</i> , and <i>quimarinus</i> (all three races lumped)	15	81-90	86.80	2.14	2.46
<i>homochrous</i>	9	81-90	86.56	2.54	2.93
<i>canescens</i>	4	85-89	87.00	.....	.....
<i>quimarinus</i>	2	86-88	87.00	.....	.....

Color of throat in males.—Variation is of two types, hue of the rose area and size of the rose area. The throat was white or pale gray in all 9 *homochrous*, all 4 *canescens*, both *quimarinus*, 17 of the 24 *hypophaeus*, and 7 of the 29 *latirostris*. The patch of color was small in the rest of the *hypophaeus* and *latirostris*, and also in the one intergrade of *hypophaeus* x *yucatanensis*, 2 of the 28 *yucatanensis*, and 2 of the 67 *sumichrasti*. The patch of color was classified as large in the rest of the *yucatanensis* and

TABLE 2
MEASUREMENTS OF WING LENGTH IN FEMALE ROSE-THROATED BECARDS

Population	Sample size	Range	Mean	Standard deviation	Coefficient of variation
<i>gravis</i>	53	89-99	93.04	2.41	2.59
<i>gravis</i> x <i>sumichrasti</i> (N Veracruz)	6	93-96	93.86	.....	.....
<i>aglaiae</i>	13	88-93	89.77	1.37	1.52
<i>albiventris</i> (southern)	25	85-92	89.28	1.82	2.04
<i>albiventris</i> (northern)	21	86-93	90.38	1.52	1.68
<i>insularis</i>	2	86-88	87.00	.....	.....
<i>sumichrasti</i>	52	85-94	89.46	2.21	2.47
<i>yucatanensis</i>	16	86-93	89.37	1.65	1.85
<i>yucatanensis</i> x <i>hypophaeus</i> (N British Honduras)	2	83-84	83.50	.....	.....
<i>hypophaeus</i> (northwestern)	11	84-93	88.09	2.73	3.10
<i>hypophaeus</i> (southeastern)	15	83-90	86.07	2.40	2.79
<i>latirostris</i>	29	87-94	89.79	1.88	2.09
<i>homochrous</i>	7	82-90	86.71	.....	.....
<i>quimarinus</i>	2	88-89	88.50	.....	.....
<i>canescens</i>	6	83-90	87.00	.....	.....

TABLE 3
MEASUREMENTS OF CULMEN LENGTH IN MALE ROSE-THROATED BECARDS

Population	Sample size	Range	Mean	Standard deviation	Coefficient of variation
<i>gravis</i>	57	14.4-17.0	15.73	.613	3.90
<i>gravis</i> x <i>sumichrasti</i>	9	15.0-17.0	15.68	.627	4.00
<i>aglaiae</i>	8	13.5-15.9	14.69	.625	4.27
<i>albiventris</i> (southern)	40	13.8-16.2	15.00	.545	3.63
<i>albiventris</i> (northern)	22	13.8-16.2	14.97	.602	4.02
<i>insularis</i>	3	13.8-14.1	13.97	.....	.....
<i>sumichrasti</i> (southern)	21	14.5-16.2	15.47	.514	3.32
<i>sumichrasti</i> (northwestern and northeastern)	37	14.5-17.0	15.99	.709	4.43
<i>yucatanensis</i>	25	15.0-17.0	15.98	.514	3.22
<i>yucatanensis</i> x <i>hypophaeus</i>	1	15.6	15.60	.....	.....
<i>hypophaeus</i> (northwestern)	10	14.0-15.7	14.97	.580	3.87
<i>hypophaeus</i> (southeastern)	14	14.5-16.7	15.64	.608	3.89
<i>latirostris</i>	28	14.0-16.2	15.30	.616	4.02
<i>homochrous</i>	9	14.8-16.8	15.59	.611	3.92
<i>quimarinus</i>	2	14.5-15.8	15.15	.....	.....
<i>canescens</i>	4	14.7-15.8	15.25	.....	.....

TABLE 4
MEASUREMENTS OF BILL WIDTH IN MALE ROSE-THROATED BECARDS

Population	Sample size	Range	Mean	Standard deviation	Coefficient of variation
<i>gravis</i>	59	7.2-9.3	8.53	.405	4.74
<i>gravis</i> x <i>sumichrasti</i>	9	7.9-9.4	8.88	.462	5.20
<i>aglaiae</i>	9	7.0-8.7	7.82	.512	6.54
<i>albiventris</i> (southern)	41	6.9-8.8	8.08	.112	1.39
<i>albiventris</i> (northern)	23	7.2-8.7	8.10	.373	4.60
<i>insularis</i>	3	7.1-7.4	7.30	.....	.....
<i>sumichrasti</i>	59	7.8-9.7	8.68	.452	5.22
<i>yucatanensis</i>	25	7.9-9.3	8.83	.305	3.45
<i>yucatanensis</i> x <i>hypophaeus</i>	1	7.9	7.90	.....	.....
<i>hypophaeus</i> (northwestern)	10	7.7-8.7	8.00	.313	3.91
<i>hypophaeus</i> (southeastern)	15	8.0-8.9	8.43	.277	3.29
<i>latirostris</i>	28	7.5-9.0	8.17	.287	3.51
<i>homochrous</i>	9	7.7-8.7	8.28	.274	3.31
<i>quimarinus</i>	2	7.7-8.7	8.20	.....	.....
<i>canescens</i>	4	7.7-8.7	8.07	.....	.....

sumichrasti and in all specimens of the four northern races; however, it averaged definitely smaller in *sumichrasti* than in *yucatanensis* and the four northern races.

Categories expressing variation in hue of the "rose" throat are as follows: (1) nearest Ruby, but slightly toward Rose (all *insularis* and *albiventris*); (2) between Ruby and Rose, nearer the latter (all *yucatanensis*; most *aglaiae*); (3) dusky, rubyish Rose (all *gravis*; some *sumichrasti*, including intergrades with *gravis*); (4) dusky Magenta (some *aglaiae*; some *sumichrasti*); (5) between Magenta and Violet Magenta (some *sumichrasti*; one *yucatanensis* x *hypophaeus* intergrade; some *hypophaeus*); (6) dusky Violet Magenta (some *sumichrasti*); (7) faint, orangish Pink (one *hypophaeus*; all colored *latirostris*).

Color of throat in females.—The throats of certain females are suffused with faint pink, particularly in the northeastern populations:

Race	Sample size	Per cent with pink throats
<i>gravis</i>	53	15
<i>sumichrasti</i> (including intergrades with <i>gravis</i>)	58	5
<i>aglaiae</i>	13	8
<i>albiventris</i>	46	2
<i>insularis</i>	2	0
<i>yucatanensis</i>	16	6
<i>hypophaeus</i> (including intergrades with <i>yucatanensis</i>)	28	0
<i>latirostris</i>	29	0
<i>homochrous</i>	7	0
<i>quimarinus</i>	2	0
<i>canescens</i>	6	0

This count includes specimens in worn plumage, some of which might have lost a faint pink suffusion on the throat through wear. Occasional worn specimens retained the pink suffusion.

Color of venter (exclusive of the rose) in males.—The underparts of males vary from smoky Pale Gray (nearly white), in the extreme northwestern population, to smoky, brownish Dark Gray in almost half of the individuals in the population of the humid Gulf coast lowlands. As shown in figure 2, there is variation within each race in degree of darkness (neutral grayness) and in degree of brownness. The positions of *insularis* and *quimarinus* are questionable, for only worn specimens were available.

Color of the dorsum in males.—The dorsal coloration of males is one of the most prominent geographically varying characters. It varies from brownish Black to smoky Light Gray. The pattern of this variation (see figs. 1, 3) is in almost perfect accordance

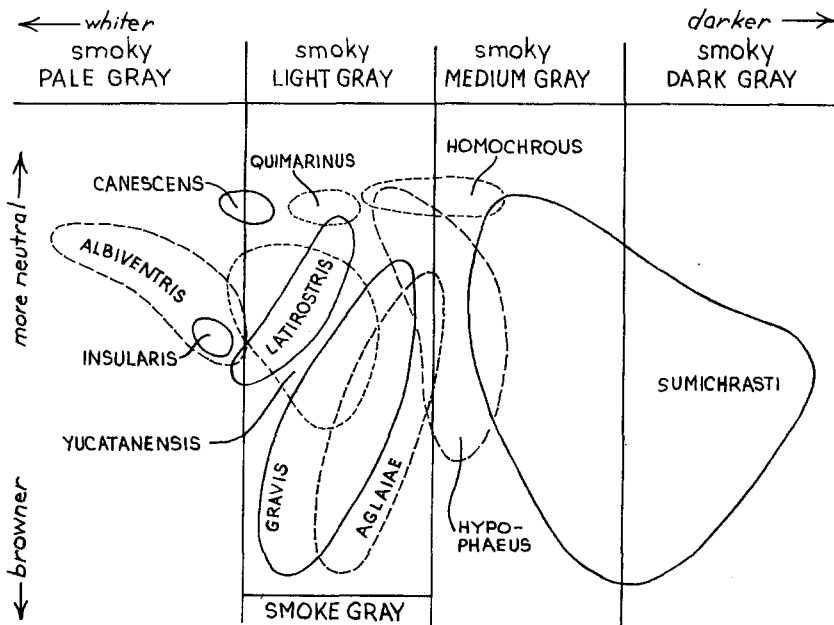


Fig. 2. Diagram showing results of comparing ventral surfaces, exclusive of the rose, in fresh-plumaged adult male Rose-throated Becards. Each enclosed area shows the limits of color variation in one race. Comparison was made directly with the color standard of Palmer and Reilly (1956).

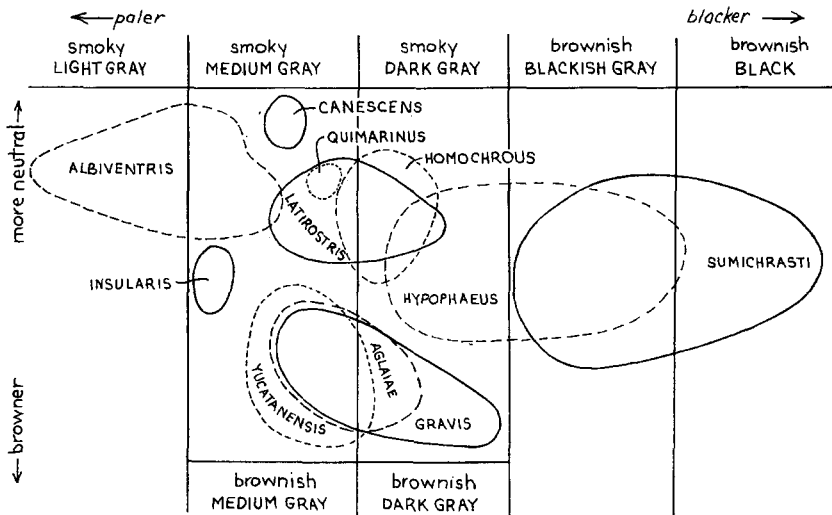


Fig. 3. Diagram showing results of comparing dorsal surfaces in fresh-plumaged adult male Rose-throated Becards. Each enclosed area shows the limits of color variation in one race. Comparison was made directly with the color standard of Palmer and Reilly (1956).

with Gloger's Rule. Darker subspecies inhabit humid areas; paler subspecies inhabit more arid areas. The positions of *insularis* and *quimarinus* are questionable, for only worn specimens were available.

Color of venter (exclusive of rose in throat) in females.—The ventral surface color of females varies from a deep, orangish tawny in some *sumichrasti* and *hypophaeus* to almost white in *albiventris* and some *yucatanensis*. A tabulation of specimens examined in fresh plumage is given in table 5.

Color of dorsum in females.—The color of the back in females is one of the most prominently variable characters in the species and is the most dependable for sub-

TABLE 5
COLOR OF VENTER IN FRESH PLUMAGED FEMALE ROSE-THROATED BECARDS

← Darker		Lighter →			
Orangish Tawny	Pale orangish Tawny	Paler orangish Tawny	Tawny Cinnamon	Very pale tawny Cinnamon	Whitish Tawny
3 <i>sumichrasti</i> *	7 <i>sumichrasti</i>	11 <i>sumichrasti</i>			
	6 <i>hypophaeus</i>	*			
	2 <i>gravis</i>	1 <i>gravis</i>	10 <i>gravis</i>	2 <i>gravis</i>	
		1 <i>aglaiae</i>	3 <i>aglaiae</i>	3 <i>aglaiae</i>	
		*	11 <i>latirostris</i>	4 <i>latirostris</i>	
				2 <i>yucatanensis</i>	4 <i>yucatanensis</i>
					14 <i>albiventris</i>
	1 <i>homo-chrous</i>	1 <i>homo-chrous</i>	1 <i>homo-chrous</i>		
			1 <i>canescens</i>	3 <i>canescens</i>	

* Worn specimens indicate that variation of this race probably occurs in this column.

TABLE 6
COLOR OF DORSUM OF FEMALE ROSE-THROATED BECARDS IN FRESH PLUMAGE

	←Grayer	DARKER ↑	Redder→
Sepia tinged DARK GRAY	Slightly rusty or brownish SEPIA	Sepia BROWNISH RED 2 Oaxaca <i>sumichrasti</i> 1 Chiapas <i>sumichrasti</i> * <i>gravis</i>	Dull, rusty BROWNISH RED 8 Guatemala <i>sumichrasti</i> 6 Veracruz <i>sumichrasti</i> 2 Oaxaca <i>sumichrasti</i> 1 Campeche <i>sumichrasti</i> 1 Chiapas <i>sumichrasti</i> 6 <i>hypophaeus</i> 1 Panamá <i>homochrous</i>
	7 <i>aglaiae</i> 6 <i>yucatanensis</i> 1 N Tamaulipas <i>gravis</i>	Dusky BROWNISH RED or between BUFFY BROWN and BROWNISH RED 9 S Tamaulipas <i>gravis</i> * <i>sumichrasti</i>	1 Salvador <i>latirostris</i> 2 Costa Rica <i>latirostris</i> * <i>quimarinus</i>
14 <i>albi-ventris</i>	* <i>insularis</i>	Olivaceous or cinnamon BROWNISH RED 2 N Tamaulipas <i>gravis</i> 2 S Tamaulipas <i>gravis</i> 1 Texas <i>gravis</i>	Pale, rusty BROWNISH RED 8 Salvador <i>latirostris</i> 1 W Honduras <i>latirostris</i> 1 Panamá <i>homochrous</i> 1 Ecuador <i>homochrous</i> 1 <i>canescens</i> 1 Salvador <i>latirostris</i>
		Dull, pale, rusty BROWNISH RED 3 <i>canescens</i>	
		↓ PALER	

* Worn specimens.

specific identification. It varies from Dark Gray in *albiventris* to dull Brownish Red in *sumichrasti* and *hypophaeus*. A tabulation is presented in table 6, although I can distinguish several finer categories than are differentiated in the table.

Color of crown in females.—The pileum of adult females varies from rufescent brown to gray and to black. There is much more individual variation in this character than in the color of the dorsum or venter. Van Rossem (1938) stated that there were three color phases of the crown—gray, brown, and black. As shown in table 7, I prefer to categorize crown color under 10 headings. Actually, there are either more than three crown color phases in any one of the more variable populations, or else most specimens are intermediate. It will be seen from the table that the races *gravis*, *latirostris*, and *sumichrasti* are especially variable, whereas *albiventris* shows little variability.

Collar in females.—In most females, a more or less distinct dorsal and lateral collar sets off the plumage of the head from that of the back and flanks. The color of the collar was not studied in detail, but it is generally some shade of tawny. It is especially prominent in the races *albiventris* and *aglaiae* where the tawny line sets off the gray crown from the gray or sepia back. It is fairly prominent in many individuals of *sumi-*

TABLE 7
COLOR OF CAP IN FEMALE ROSE-THROATED BECARDS IN FRESH PLUMAGE

MORE NEUTRAL		
←Paler	↑	Blacker→
BLACKISH GRAY		BLACK
14 <i>albiventris</i>	4 <i>yucatanensis</i>	16 <i>sumichrasti</i>
5 <i>aglaiae</i>	5 <i>gravis</i>	2 <i>hypophaeus</i>
1 <i>gravis</i>	2 <i>latirostris</i>	
* <i>insularis</i>	* <i>aglaiae</i>	
* <i>latirostris</i>		
	FUSCIOUS BLACKISH GRAY	BLACK and FUSCIOUS, half and half streaked
	8 <i>gravis</i>	
	12 <i>latirostris</i>	
Grayish BROWNISH	2 <i>aglaiae</i>	1 <i>sumichrasti</i>
OLIVE	4 <i>sumichrasti</i>	
1 <i>gravis</i>	3 <i>hypophaeus</i>	
* <i>latirostris</i>	2 <i>yucatanensis</i>	
Blackish gray	FUSCIOUS BLACKISH	BLACK and BROWNISH RED, half and half streaked
FUSCIOUS	GRAY and FUSCIOUS, half and half streaked	1 <i>hypophaeus</i>
1 <i>latirostris</i>	* <i>gravis</i>	* <i>sumichrasti</i>
* <i>gravis</i>	* <i>latirostris</i>	* <i>gravis</i>
	* <i>sumichrasti</i>	
	Brownish TAWNY	Tawny BROWNISH RED
	4 <i>canescens</i>	3 <i>homochrous</i>
	* <i>quimarinus</i>	* 2 Guatemala <i>sumichrasti</i>
		REDDER
		↓

* Worn specimens.

chrasti, *gravis*, and *latirostris*, where it is a pale tawny line marking off a gray or black crown from a rusty back. I tabulated the specimens in table 8 according to distinctness of the collar.

Width of ninth primary.—Ridgway (1907) stated that in adult males the width of the short ninth primary is less than 5 mm. in *P. homochrous* and more than 5 mm. in *P. aglaiae*. I measured the greatest width of this feather in a number of adult male specimens with the following results: *P. a. sumichrasti*, 15 specimens, range 4.7–6.0 (mean

TABLE 8
DISTINCTNESS OF COLLAR IN FRESH PLUMAGED FEMALE ROSE-THROATED BECARDS

Distinct	Moderately distinct	Indistinct or invisible
* <i>insularis</i>		
14 <i>albiventris</i>		
7 <i>aglaiae</i>		
1 <i>latirostris</i>	12 <i>latirostris</i>	2 <i>latirostris</i>
* <i>gravis</i>	15 <i>gravis</i>	* <i>gravis</i>
	13 <i>sumichrasti</i>	8 <i>sumichrasti</i>
	1 <i>yucatanensis</i>	5 <i>yucatanensis</i>
	1 <i>hypophaeus</i>	4 <i>hypophaeus</i>
		2 <i>homochrous</i>
		3 <i>canescens</i>
		* <i>quimarinus</i>

* Worn specimens.

5.2 mm.); *P. a. hypophaeus*, 19, 4.1–5.4 (5.0); *P. a. latirostris*, 10, 4.7–5.5 (5.1); *P. h. homochrous* (Panamá only), 5, 4.2–5.3 (4.9); *P. homochrous* (Colombia only, but specimens of all three races included), 9, 4.3–5.5 (4.9). The measurements indicate only slight average differences between *homochrous* and *aglaiae*; the two "species" overlap to a major extent.

THE SPECIFIC LIMITS OF PLATYPSARIS AGLAIAE

My very brief study of the West Indian and South American species of *Platypsaris* merely served to confirm Ridgway's (1907) conclusion that *P. homochrous* was more nearly similar to *P. aglaiae* than were the other species. Therefore, I included a detailed study of all three races of *P. homochrous* in the preceding analysis. I must admit that I have provided little information on the relationship of *P. homochrous* and *P. aglaiae* beyond that offered by Ridgway. The geographic gap is from central Costa Rica to central Panamá; males of the geographically closest populations are indistinguishable without recourse to statistics; females are quite distinct in color pattern, although a few extreme individual variants come close to bridging the gap. Only field work in southern Costa Rica or western Panamá is likely to clarify the relationship of the two forms.

Ridgway noted the following differences between the southern races (*hypophaeus* and *latirostris*) of *aglaiae* and the species *homochrous*:

<i>P. aglaiae</i>	<i>P. homochrous</i>
Ninth primary of males wider.	Ninth primary of males narrower.
Crown of females black or gray, contrasting with back and/or marked off by a contrasting collar.	Crown of females tawny and concolor with back, collar absent.

As previously noted, the width of the ninth primary is subject to so much overlap between *aglaiae* and *homochrous* that the slight average difference seems unimportant at even the subspecific level. I have examined two females of *sumichrasti* from Guatemala in which the crown was tawny Brownish Red, concolor with the back, and the collar obscure. Collection of a large series of *hypophaeus* would probably reveal similar variants.

Length of wing in both sexes (tables 1, 2) shows a definite break between *latirostris* and *homochrous* and a lesser change between *hypophaeus* and *homochrous*. *P. a. homochrous* is the smallest of the three races.

In view of these observations, I regard *P. aglaiae* and *P. homochrous* as conspecific by modern standards. However, actual geographic intergradation has not been demonstrated. There is little doubt that the genus originated in South America, and that *P. a. homochrous* is very close to the ancestral type of the species, if not of the entire genus.

NOMENCLATURE OF THE MEXICAN RACES

The type locality of *Platypsaris aglaiae* could hardly be in a worse place, from the point of view of nomenclature. This statement should not be construed as critical of Nelson's (1897) action in restricting the type locality to Jalapa. Nelson quite properly restricted the type locality to the place where La Fresnaye's type was probably collected. Jalapa, Veracruz, is ecologically and geographically marginal and is located very close to the junctions of four subspecies, of which three are very distinct.

My decision to handle the race *P. a. aglaiae* as here limited is open to criticism, but it is convenient and has some scientific validity. On the one hand, *P. a. aglaiae* may

be regarded as little more than a group of populations variously intermediate between *sumichrasti* and *albiventris*. On the other hand, females of *P. a. aglaiae* are as consistent in coloration as are those of most other races *inter se*, and the bill averages smaller than that of any adjacent race. If no intermediate race were recognized, then both *aglaiae* and *albiventris* would be considerably more variable than herewith constituted.

It may be argued that the races *gravis* and *aglaiae* should be united, an arrangement proposed by Ridgway (1907). Although the two forms are similar in most respects, there are two significant differences: *gravis* is longer winged and the females of *gravis* are redder-backed (tables 1, 2, 6).

The race *P. a. richmondi* van Rossem (1930) from Sonora is not distinct enough for subspecific status. The northern population of *albiventris* averages slightly longer winged than the southern population (tables 1, 2), but I cannot appreciate the color difference claimed by van Rossem. Recently taken topotypical series in fresh plumage from Sonora and Colima were compared and found to be very similar. Indeed, the race *albiventris* is more uniform in coloration than any other race of the species, despite the fact that it has the largest range. I can only conclude that van Rossem was misled by foxed and poorly labeled old material from Nayarit and Colima, or that he did not make enough allowance for seasonal wear.

SYNOPSIS OF THE RACES

In the following diagnoses only those features are included which are of value in the characterization of the particular subspecies being diagnosed and which provide comparisons with adjacent or nearly adjacent subspecies. Also, each comparison is given only once, rather than in the diagnosis of both of the two subspecies being discussed.

Platypsaris aglaiae gravis van Rossem

Platypsaris aglaiae gravis van Rossem (1938:262). Alta Mira, Tamaulipas. Holotype male in U. S. Nat. Mus.; examined.

Range.—Rio Grande Valley of Texas, south through river valleys and coastal plain of Nuevo León, Tamaulipas, and eastern San Luis Potosí to the border of Veracruz. In addition, a population intergradient with *sumichrasti* occupies the northern Veracruz coastal plain south to Papantla and Carrizal.

Diagnosis.—Wing longer than in any other race. Females paler and less reddish both dorsally and ventrally than those of *sumichrasti*; males average paler dorsally and ventrally and with rose of throat more ruby, less magenta, than in *sumichrasti*. As compared with *aglaiae*, females more reddish backed and with the collar less distinct.

Remarks.—The northern population, in Texas, Nuevo León, and northern Tamaulipas, is paler than that to the south. Certain of these paler males are very similar to *aglaiae* and *yucatanensis*, although none is as pale as *albiventris* as herein defined. It is these specimens, or those which resemble them, which have been responsible for the records of *albiventris* from Nuevo León (Ridgway, 1907: 851; specimen examined) and Coahuila (Mexican Check-list, 1957:62) and that of *gravis* from Morelos (van Rossem, 1938:263).

Platypsaris aglaiae albiventris (Lawrence)

Hadrostomus albiventris Lawrence (1867:475). Plains of Colima. Male and female cotypes in the U. S. Nat. Mus.; examined.

Range.—Valleys of southeastern Arizona (Sonoita Creek and Guadalupe Canyon; see Levy, 1958) south through eastern Sonora and the coastal plain and foothill valleys of southern Sonora, Sinaloa, Nayarit, Jalisco, Colima, Michoacán, and northern Guerrero. Also up the river valleys to middle elevations in Chihuahua, Durango, Zacatecas, Jalisco, Michoacán, northern Guerrero (Coyuca and Iguala), and Morelos.

Diagnosis.—Paler and grayer in every respect than any other race. Throat of male more nearly ruby, less rose or magenta than in any other race except *insularis*.

Remarks.—The northern population, south to central Sinaloa, averages slightly paler and larger than the southern population, as discussed previously. In addition, some female specimens from the Balsas Valley (Morelos and Michoacán, but not northern Guerrero) are slightly browner than those from farther west, which is a tendency toward *aglaiae*.

Platypsaris aglaiae insularis Ridgway

Platypsaris insularis Ridgway (1887:325). Tres Marias Islands. Two male and one female cotypes in the U. S. Nat. Mus.; examined.

Range.—Tres Marias Islands. Only María Madre Island is specifically recorded (Nelson, 1899; Stager, 1957).

Diagnosis.—No genuine color diagnosis can be made without specimens in fresh plumage; and the sample is too small for a statistical evaluation of size differences. The few worn specimens support Ridgway's diagnosis: size smaller than *albiventris*, males slightly darker gray dorsally and ventrally than *albiventris*, females slightly browner ventrally and darker dorsally than *albiventris*.

Remarks.—I examined five of the six specimens available to Nelson (1899) and Ridgway (1907). Apparently the race was collected only by Grayson and Nelson and Goldman.

Platypsaris aglaiae aglaiae (La Fresnaye)

Pachyrhynchus aglaiae La Fresnaye (1839:98). México = Jalapa, Veracruz, as designated by Nelson (1897). Type in Mus. Comp. Zool.

Range.—Middle elevations and foothill valleys of southern México, from central western Veracruz (Jalapa and Mirador) west to the upper Balsas Valley (Matamoros Izucar, Puebla; Cuapongo, Guerrero) and central Guerrero (Omiteme, Chilpancingo, Almolonga) and probably central and northern Oaxaca. Also the Pacific coastal plain from southern Guerrero (Acapulco) to southern Oaxaca (Chacalapa).

Diagnosis.—As compared with *albiventris*, males more rose or magenta throated, darker gray ventrally, and browner and darker dorsally; females more reddish, both dorsally and ventrally. As compared with *sumichrasti*, bill smaller; males paler, grayer, both dorsally and ventrally; females paler ventrally, less reddish dorsally, and with collar more distinct.

Remarks.—Available material of this intermediate race is inadequate, especially in view of the large and varied range.

Platypsaris aglaiae sumichrasti Nelson

Platypsaris aglaiae sumichrasti Nelson (1897:52). Otatitlán, Veracruz. Male holotype in the U. S. Nat. Mus.; examined.

Range.—Gulf coast lowlands from central Veracruz (Potrero Viejo, Presidio, Boca del Río) through eastern Oaxaca, southern Veracruz, Chiapas, Tabasco, and southwestern Campeche (Palizada); and, in a form somewhat intermediate toward *yucatanensis*, also to south-central Campeche (Matamoros and La Tuxpeña). Probably also extends to northern Guatemala. Also found in Pacific lowlands and to middle elevations in Chiapas, southern Oaxaca (Tapanatepec), and western Guatemala (even to 8500 feet). A population intergradient with *gravis* is found in the lowlands of northern Veracruz.

Diagnosis.—As compared with *yucatanensis*, males of *sumichrasti* have the rose of the throat a more violet shade, rather than Ruby, are darker gray ventrally, and are darker, nearly or quite Black dorsally; females are darker Tawny ventrally and redder and darker dorsally. As compared with *hypophaeus*, males have the magenta throat patch larger and always present, and the venter is a darker gray; females are not consistently distinguishable, although usually paler ventrally, with the collar more distinct, and are longer winged. As compared with *latirostris*, males have a larger, more magenta, and more deeply colored throat patch (always present), and are darker both dorsally and ventrally; females are darker dorsally, darker and more tawny ventrally.

Remarks.—The Mexican Check-list (*op. cit.*:62) states that "the existence of paler and darker color phases is suspected." I would unhesitatingly state that most of the individual variation in

Platypsaris aglaiae is continuous, for a major fraction of the specimens are intermediate, whichever color character is being considered. The males of *P. a. sumichrasti*, however, show great variability which approaches a diphasic situation. Dark phase specimens have a Black back, Dark Gray underparts, and Violet Magenta throat; light phase specimens have a Blackish Gray back, Medium Gray underparts, and Rose throat (see pp. 387-390). Some intermediate specimens are seen, and along the Pacific coast section of the range of this race only the light phase and intermediate males occur. Color of throat, back, and venter may be closely linked, for they are usually at about the same level of expression (all dark, all light, or all intermediate). I believe that more extensive series of specimens in fresh plumage will show that all individual variation in *Platypsaris aglaiae* is continuous.

The population of the coast of northern Veracruz has the color of *sumichrasti* but the long wing of *gravis*. The population of south-central and southeastern Campeche includes some individuals as pale as *yucatanensis* but more which are as dark as *sumichrasti*.

Platypsaris aglaiae yucatanensis Ridgway

Platypsaris aglaiae yucatanensis Ridgway (1906:120). Yucatán. Male holotype in U. S. Nat. Mus.; examined.

Range.—Arid, northern part of Yucatán Peninsula. According to Paynter (1955) also found in northern Campeche and northern Quintana Roo.

Diagnosis.—As compared with *hypophaeus*, males are larger billed, have a larger and nearer Ruby (less Magenta) throat patch, which is always present, and are paler dorsally and ventrally; females are much paler both dorsally and ventrally.

Remarks.—I have not seen the two specimens from southern Quintana Roo, which Paynter (1955) reported as intermediate, nearest *sumichrasti*.

Three specimens from Orange Walk District, northern British Honduras, in the Louisiana State Museum, are distinctly intermediate, probably involving the races *yucatanensis*, *sumichrasti*, and *hypophaeus*. A female taken in November is near *yucatanensis*, although small and dark dorsally for that race. A female taken in April has underparts as rufescent as in *hypophaeus* and back coloration between the Sepia of *yucatanensis* and the Brownish Red of *hypophaeus*. A male taken in April could be called either *hypophaeus* or *sumichrasti*.

Platypsaris aglaiae hypophaeus Ridgway

Platypsaris aglaiae hypophaeus Ridgway (1891a:467). San Pedro Sula, Honduras. Male holotype in U. S. Nat. Mus.; examined.

Range.—Caribbean coast of Central America, from central British Honduras (Toledo District) and central Guatemala (Choctum and Cobán, Vera Paz) to west-central Costa Rica (Jimenez).

Diagnosis.—As compared with *latirostris*, throat of males (if colored, and excepting Motagua Valley population) Magenta instead of Pink, and males darker gray ventrally and (usually) darker, more blackish, dorsally; females darker, more tawny, ventrally and darker, deeper Brownish Red dorsally. As compared with *homochrous*, males indistinguishable unless throat colored (throat never colored in *homochrous*, often colored in *hypophaeus*); females darker backed and with cap Gray or Black instead of Tawny.

Remarks.—As indicated by the variability of wing length (table 1), the population from Guatemala (excepting that of the arid Motagua Valley) and British Honduras is not homogeneous, probably being somewhat intermediate toward *sumichrasti*. In color, however, they match well a recently taken series from Honduras (Carnegie Mus.). If the eastern Guatemalan population were lumped with *sumichrasti*, as was done by Griscom (1932), *hypophaeus* could not be recognized at all but would have to be merged with the otherwise highly variable race *sumichrasti*.

Carriker and de Schauensee (1935) reported the race *yucatanensis* from Guatemala on the basis of nine specimens from Marajuma and Gualan, in the arid Motagua Valley of southeastern Guatemala. I examined these and also one other specimen from the same area (Chiquimula, U. S. Nat. Mus.). Four of the ten were lighter than either *sumichrasti* or *hypophaeus*, and one male had a restricted light pink throat matched only by *latirostris*. In view of the geographic proximity of *latirostris* and the climatic similarity of the Motagua Valley to the Pacific coast, it would seem more reasonable to call this light-colored tendency a variance in the direction of *latirostris*. As noted in the section

on variation, females of *yucatanensis* are considerably grayer than those of *latirostris*, and males are browner backed, with a brighter rose throat and wider bill. The Motagua Valley sample seems to be intermediate between *hypophaeus* and *latirostris* (nearer the former), with no close relationship to *yucatanensis*. Chiquimula is only 26 miles from the El Salvador border, across a 4000-foot pass, and in the same vicinity the 3000-foot contour lines on the Atlantic and Pacific slopes approach to within 18 miles of one another. Very likely the population of *Platypsaris aglaiae* is almost continuous across the Continental Divide here. Perhaps the Guatemalan specimen of *latirostris* from Villanueva (locality unknown) referred to by Ridgway (1907:856, footnote), and by Griscom (1932) actually came from the Motagua Valley rather than the Pacific coast as those authors suggested.

As Ridgway (1907) stated, the population from Costa Rica, to which he had earlier (1891b:474) applied the name *obscurus*, is not significantly different from that of Honduras.

Platypsaris aglaiae latirostris (Bonaparte)

Pachyrhamphus latirostris Bonaparte (1854:658). Nicaragua. Type presumably in Paris Museum.

Range.—Pacific slope of Central America, from northern El Salvador (Lake Guija) to northwestern Costa Rica (Chomes, Nicoya).

Diagnosis.—As compared with *homochrous*, longer winged, the males also paler gray ventrally and with the throat usually pink instead of white; females with the cap at least partly black or grayish, instead of Tawny, and with the collar more or less distinct, instead of obscure.

Remarks.—Dickey and van Rossem (1938) split into two parts the race as defined here and by Ridgway (1907), adding the population of northern El Salvador to *sumichrasti*. I cannot agree with the action of Dickey and van Rossem, for the males from northern El Salvador are completely distinguishable from *sumichrasti* on the basis of color of throat, back, and venter, and about 80 per cent of the females are distinguishable in the basis of color of back and venter. I examined most of van Rossem's material plus more recent specimens. The northern males of *latirostris* average darker than the southern males; the major distinction is that white-throated males are lacking in the north, whereas they become increasingly common southward. When more material from Costa Rica and Nicaragua is available, it may be possible to split *latirostris* into two races. One of these would have to be described as new, from El Salvador. At present, such a split would be unwise, for it would be based almost entirely on one character (color of throat) in one sex (male).

Platypsaris aglaiae homochrous (Sclater)

Pachyrhamphus homochrous Sclater (1859:142). Pallatanga, Ecuador. Type in British Museum.

Range.—Central Panamá (Canal Zone and Cana), southeast through Panamá and the Pacific slope of Colombia to Ecuador (as seen, Paribilar). According to Sclater (1888) and de Schauensee (1950), also south to northern Perú.

Diagnosis.—As compared with *quimarinus*, males slightly darker both dorsally and ventrally; females slightly darker on pileum and, all over, a brighter, less dull, shade of Tawny.

Remarks.—I have not examined enough specimens from the South American part of the range of this subspecies to make adequate comparisons with the Colombian races. All but one specimen (British Museum) available from Panamá have apparently been examined.

The specific status of *homochrous* has been discussed. As might be predicted on general biogeographical grounds, *homochrous* is somewhat more similar to *hypophaeus* than to *latirostris*.

Platypsaris aglaiae quimarinus de Schauensee

Platypsaris homochrous quimarinus de Schauensee (1950:221). Quimari, southwestern Bolívar, Colombia. Type in Phila. Acad. Sci.

Range.—Northern Colombia in the state of Bolívar and in the southern part of Magdalena.

Diagnosis.—As compared with *canescens*, slightly darker both dorsally and ventrally in both sexes.

Remarks.—The diagnosis is based on comparison of worn specimens taken in March and April, inasmuch as I examined no fresh material. However, these confirm de Schauensee's differentiation.

A single worn female, taken July 9, 1916, at Gamarra, southern Magdalena (Carnegie Mus.) was pointed out to me by Kenneth Parkes. It is slightly darker than *quimarinus* but lacks the bright reddish tint of *homochrous*. I regard it as a variant of *quimarinus*.

Platypsaris aglaiae canescens Chapman

Platypsaris homochrous canescens Chapman (1912:155). Cacagualito, Santa Marta Mountains, Colombia. Type in Amer. Mus. Nat. Hist.

Range.—Santa Marta region, Magdalena, Colombia.

Diagnosis.—As compared with *homochrous*, males paler both dorsally and ventrally; females paler on back and venter, and duller, browner, and less reddish on back and pileum.

SPECIMENS EXAMINED

- P. a. albiventris* (133): Arizona, 1; Sonora, 48; Sinaloa, 10; Nayarit, 22; Jalisco, 20; Colima, 13; Michoacán, 4; Morelos, 6; northern Guerrero, 3; Durango, 1; Zacatecas, 3; Chihuahua, 2 (probably mislabeled).
- P. a. insularis* (5), Tres Marias Islands.
- P. a. gravis* (133): Texas, 3; Nuevo León, 17; Tamaulipas, 76; San Luis Potosí, 37.
- P. a. aglaiae* (24): central and southern Guerrero, 9; Pacific coast of Oaxaca, 2; Puebla, 2; interior Veracruz, 11.
- P. a. gravis* x *P. a. sumichrasti* (16), northern Veracruz.
- P. a. sumichrasti* (127): Oaxaca, 11; Chiapas, 33; western Guatemala, 9; Tabasco, 9; southern Campeche, 8; southern Veracruz, 57.
- P. a. yucatanensis* (44), Yucatán.
- P. a. yucatanensis* x *P. a. hypophaeus* (4), northern British Honduras.
- P. a. hypophaeus* (52): southern British Honduras, 3; eastern Guatemala, 18; northern Honduras, 24; eastern Costa Rica, 7.
- P. a. latirostris* (67): El Salvador, 53; western Nicaragua, 4; western Costa Rica, 9; southern Honduras, 1.
- P. a. homochrous* (17): Panamá, 8; Choco, Colombia, 4; Río Atrato, Colombia, 4; Ecuador, 1.
- P. a. quimarinus* (4): Bolívar, Colombia, 3; Magdalena, Colombia, 1.
- P. a. canescens* (13), Santa Marta region, Magdalena, Colombia.

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