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A STUDY OF THE COLETO OR BALD STARLING (*SARCOPS CALVUS*)

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In the course of studies relating to the birds of Bataan Peninsula, Luzon, I have had occasion to examine critically 111 study skins of the monotypic Philippine genus *Sarcops* from the islands of Luzon, Catanduanes, Mindoro, Panay, Samar, Mindanao, Basilan, and the Sulu group.

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Casual observations of Coletos collected on Bataan caused me to question the validity of the so-called color phases which have long been attributed to *S. calvus* and, in due course, to reëxamine Grant's hypothesis (1895, *Ibis*, pp. 258-260) that these plumage differences represent geographical variation, not seasonal, sexual, or age factors.

The initial idea of color phases was introduced by Bowdler Sharpe (1890, *Catalogue of the birds in the British Museum*, vol. 13, p. 97) in annotations concerning the validity of *Sarcops lowii* which he had earlier described (*Sarcops lowii* Sharpe, 1876, *Trans. Linnaean Soc.*, ser. 2, vol. 1, p. 344; Sibutu Island) from the southernmost island in the Sulus. He wrote: "Both males and females are in the [Philippine] collection with the back entirely grey, and the breast entirely black. From the remains of grey both above and below overspreading the black plumage, it would appear that the pure silvery-grey colour is a seasonal plumage."

Confident that the coloration of upper parts in this species was

due to geographical factors, Grant later named the dark-backed birds *S. melanonotus* (1906, Bull. Brit. Ornith. Club, vol. 16, p. 100; Davao). In his description he wrote: "[Males and females] differ from the adult of *S. calvus* (Linn.) in having the upper-back smoky black instead of silvery grey."

Grant (*op. cit.*) presented his original hypothesis regarding the geographical distribution of the types of dorsal coloration of *S. calvus* in a confusing manner. He wrote: "... We find that east of longitude 122 degrees, or thereabout, all the Philippine examples of *S. calvus* have the mantle and upper back brownish black; while west of this line all have the upper parts uniform silvery grey; intermediate forms being met with only in localities situated along the line where the two forms intergrade." Actually the distribution of this species is much more clearly definable on the basis of latitude, for nearly all of central and northern Luzon lies west of longitude 122° E., and the remainder of the Philippine Archipelago, except the western half of Basilan Island, lies east of it.

The most recent reference to color phases in the Coletos appears in Delacour and Mayr's "Birds of the Philippines" wherein Mayr (1946, pp. 244-245) writes: "Mantle black or silvery grey . . . the black-backed color phase being the most common on the eastern islands."

In the opinion of the author, the following is the true picture concerning this problem:

1. The dorsal color phases that have long been attributed to this species are in reality relatively stable characters associated with geographical variation, except in birds from southern Luzon which are in a state of flux.

2. Four morphological characters vary geographically. In order of importance these are (1) color of back, (2) color of under tail coverts, (3) length of tail, and (4) length of wing.

Generally speaking *S. calvus* is divisible into two main types: (1) a silver-backed group which inhabits north and central Luzon, Mindoro, and the Sulus, and (2) a black-backed group which occurs on Samar and eastern Mindanao.

The silver-backed group may be subdivided into at least three races, as follows:

1. *Sarcops calvus calvus* (Linnaeus) (*Gracula calva* Linnaeus, 1766, Systema naturae, vol. 1, p. 164). Northern and central Luzon. This small form (see table 1) has the under tail coverts strongly tipped with gray. Birds from southern Luzon are provi-

sionally included with this form, although they are quite variable. About half of the 45 examples before me from Sorsogon and Camarines have dark gray backs; the remainder are as light above as the nominate population of the north. It is this south Luzon population that probably gave rise to the belief in color phases. A single dark-backed specimen from Catanduanes Island is included with this subspecies.

2. A form herein described from Mindoro Island which is similar to central and northern Luzon birds but larger.

3. An undescribed race from the central Sulu Islands which differs from *calvus* by having under tail coverts black or black with subobsolete gray tipping, not black strongly tipped with gray. Judging from Grant's (*op. cit.*) description of the type and only known specimen of Sharpe's *lowii* from Sibutu Island in the southern Sulus, there can be little doubt that the above undescribed form is distinct from it. Grant writes: "This allied form, of which only the type is known, has the sides of the chest and the whole of the underparts grey, with only a line of blackish feathers down the middle of the belly, and appears to me to be perfectly distinct from *S. calvus*, which is found in the adjacent Tawi Tawi group and northwards throughout the Philippines. I think Dr. Sharpe was right in the first instance when he described the Sibutu bird as distinct." As pointed out in the introduction, Sharpe later erroneously concluded that the black underparts of *S. calvus* were due to seasonal change. Because of this belief he united his *S. lowii* with it. I have seen no specimen in the extensive material at hand which fits the above description of *lowii*, but I am convinced that additional material from Sibutu Island will confirm the validity of this race and permit description of the aforementioned undescribed population.

In this connection, it is well to point out that several species are known to have distinct racial representatives on Sibutu and Tawitawi. In fact, the most pronounced zoological break extant in the Sulu Archipelago occurs between these two closely situated islands.

The black-backed group is composed of one well-marked race and one race-in-the-making as follows:

1. *Sarcops calvus melanonotus* Grant (*op. cit.*) of eastern Mindanao and Samar (?) which is deep black across the shoulders. This is the smallest of the forms. A single specimen from Samar differs from topotypical *melanonotus* from southeastern Mindanao

by reason of longer wing and tail and more extensive black upper parts. Additional material is needed before an accurate interpretation can be made of these apparent differences.

2. A large, dark gray-backed population inhabiting the peninsula of Zamboanga, western Mindanao, and Basilan Island. The specimens at hand from western Mindanao originated in the vicinity of Ayala, a prison in the western coast of Zamboanga near the southwestern extremity of the peninsula. They agree with a series from Basilan Island and together they appear to represent a distinct but poorly marked intermediate population between *melanotus* of eastern Mindanao and the undescribed form believed to inhabit the central Sulus. A single female from Panay appears to belong here.

The new form from Mindoro Island is to be known as herein named and described.

Names of colors are capitalized when direct comparison has been made with Ridgway's "Color standards and color nomenclature."

***Sarcops calvus mindorensis*, new subspecies**

TYPE: From the base of Mt. Dulungan, Mindoro Island, Philippine Islands. No. 667051, American Museum of Natural History, Rothschild Collection. Adult male collected January, 1896, by J. Whitehead.

DIAGNOSIS: Nearest to *calvus* of central and northern Luzon, but with a considerably longer tail and wing (see table 1); white central shaft streaks on throat more profuse in fully adult birds.

RANGE: Probably restricted to Mindoro Island.

DESCRIPTION OF TYPE: Head with large, nude, circumocular wattles; the crown narrowly feathered on the midline and occiput with Black; other areas surrounding the wattles, including forehead, lores, malar regions, and auriculars, Black; hind neck, sides of neck, back, rump, upper tail coverts, flanks silvery gray, a little lighter than Pallid Neutral Gray, becoming somewhat darker, more Pale Neutral Gray on the shoulders and the central back; remainder of bird black, the wings and tail with a deep greenish cast; the feathers of the throat with fine white central streaks broadening terminally and contrasting vividly against the black of the throat. Bill (in dried skin) glossy black; feet brownish black. Wing, 140 mm.; tail, 125.5; culmen from base, 30; bill from anterior edge of nostril, 19; tarsus, 33.

REMARKS: Males and females are apparently similar in coloration and size. The white throat markings are very pronounced in the type and in the single female at hand. They are less distinct in the two remaining males which, in other respects, appear completely adult.

TABLE 1
MEASUREMENTS OF MALES

	Wing		Tail	
<i>S. c. calvus</i>				
1 Benguet, northern Luzon	—		105.0	
7 Lamao, central Luzon	127-135	(130.5)	105-113.5	(110.5)
1 Laguna de Bay, central Luzon	129.0		—	
1 Sampaloc, central Luzon	130.0		113.5	
1 Tayabas, southern Luzon	132.0		110.0	
14 Sorsogon, southern Luzon	113: 123.5-132.5	(128.8)	101: 104-117	(110.5)
<i>S. c. mindorensis</i>				
3 Mindoro Island	134-140	(136.2)	119-125.5	(121.5)
<i>S. c. subspecies?</i>				
5 Sulu Islands (central)	129-136	(133.5)	113-120	(116.0)
<i>S. c. melanonotus</i>				
1 Samar Island	132		113	
3 Davao and Daliaun, southern Mindanao	122-130	(127)	99-105	(102.3)
<i>S. c. subspecies?</i>				
2 Ayala, Zamboanga, western Mindanao	133-134	(133.5)	106-111	(108.5)
6 Basilan Island	128.5-133.5	(131.2)	101-112	(106.8)

SPECIMENS EXAMINED

Sarcops calvus calvus:

LUZON ISLAND:

Benguet, 1 ♂; Lamao, Bataan, 8 ♂¹, 2 ♀¹; Mt. Mariveles, Bataan, 1 ♀; Mt. Maquiling, Laguna, 1 ♂; Sampaloc, 1 ♂, 1 ♀; San Antonio, 1 ♂; Calauan, 1 ♀; Tayabas, 1 ♂, 2 ♀; Camarines, 7 ♂, 7 ♀; Sorsogon, 14 ♂, 18 ♀; Luzon, 3 ♀; "Philippines," 2 ♀

CATANDUANES ISLAND:

Catanduanes Island, 1 ♀.

Sarcops calvus mindorensis:

MINDORO ISLAND:

Base of Mt. Dulungan, 1 ♂ (type); Calapan, 1 ♂; Baco, 1 ♀; Mindoro Island, 1 ♂.

¹ Four ♂, 5 ♀, 1 ? in the National Museum of the Philippines.

Sarcops calvus melanonotus:

SAMAR ISLAND:

Bonga, 1 ♂.

MINDANAO ISLAND:

Davao, 1 ♂; Daliaun, 2 ♂, 1 ♀; Mindanao, 1 ?

Sarcops calvus subspecies ?:

MINDANAO ISLAND:

Ayala, 2 ♂, 1 ♀.

BASILAN ISLAND:

Basilan Island, 6 ♂, 2 ♀.

PANAY ISLAND:

Panay Island, 1 ♀.

Sarcops calvus subspecies ?:

SULU ISLANDS:

Bongao Island 1 ♂;

Sulu Island, 4 ♂, 1 ?;

Tiangi, Sulu Island, 1 ♀.

