# THE RACES OF THE BALD STARLING OF THE PHILIPPINES

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Two authors have recently sought to determine the number of subspecies worthy of recognition within the species *Sarcops calvus,* the Coleto or Bald Starling of the Philippines. Gilliard (Amer. Mus. Novitates No. 1429, 1949:1-6) studied the material in the collections of the American Museum of Natural History and the National Museum of the Philippines. On the basis of this material he recognized three subspecies, *S. c. calvus* (Linnaeus) of Luzon and Cantanduanes, *S. c. mindorensis* Gilliard of Mindoro, and *S. c. melanonotus* Ogilvie-Grant of eastern Mindanao. He also called attention to a variably intermediate population of which he had examined specimens from Basilan and the Zamboanga peninsula of western Mindanao. Gilliard also mentioned the possibility of the distinctness of the population of the Sulu Archipelago; this will be discussed later in the present paper.

Rand (Fieldiana:Zoology, 31, 1951:571-596) studied the specimens (29) available in the Chicago Natural History Museum and concluded that Gilliard had subdivided the species to an unnecessary extent. Rand recognized only *calvus* and *melanonotus,* the former including the silvery-backed birds from Luzon, Mindoro and the Sulu islands, the latter including black-backed birds from Samar, Leyte, Mindanao, Negros and Basilan.

The writer conducted an independent investigation of this species subsequent to the appearance of Gilliard's paper, but prior to that of Rand. He did, however, have the benefit of a short summary of Rand's findings in a personal letter. The present study was based on the series of over 50 *Sarcops calvus* in the United States National Museum, those in the American Museum of Natural History (representing most of the specimens studied by Gilliard), and a small series in the collection of Cornell University. Also available were measurements of five specimens in the collection of the Minnesota Museum of Natural History.

It is unfortunate that neither Gilliard nor Rand attempted to accumulate all of the available specimens of *Sarcops* in order to have larger series to study. A number of uncertainties apparent in their respective papers would have been solved had they done so. Chief among these unsolved problems was the status of *Sarcops lowii* Sharpe, described from a single specimen from Sibutu, southernmost island of the Sulu Archipelago. Gilliard had no specimens available from Sibutu. He quoted a description of the unique type and postulated that additional material from Sibutu would confirm the validity of *lowii* as a subspecies different from that inhabiting the rest of the Sulus. Gilliard believed the birds of the central Sulus to represent an undescribed race, separable from *calvus* by reduction of gray tipping of the black under tail coverts. He withheld a formal description of this supposed race pending examination of Sibutu material.

There are several immature specimens and an adult female of *Sarcops calvus* from Sibutu in the United States National Museum. These are in no way separable from a good series from the remainder of the Sulus. It becomes apparent that the type of *S. lowii,* described as having the whole of the underparts gray with only a line of blackish feathers down the middle of the belly, was an extreme variant of the Sulu population. The question then arises as to the propriety of recognizing a Sulu race, as advocated by Gilliard. Rand referred Sulu birds to *calvus,* considering the under tail covert variation described by Gilliard to be "slight indeed." Rand by-passed the question of Sharpe's *S. lowii,* the status of which he considered doubtful.

Comparison of a series of fourteen adult Sulu specimens in the National Museum

with seven Luzon *calvus* indicated immediately that Gilliard's character of color variation of the under tail coverts could not be used to separate the two groups. Individual variation in this character defied any attempt at geographical segregation. The Sulu series was immediately separable, however, from silver-backed Coletos from anywhere else in the Philippines. In such birds from Luzon and Mindoro, the silver-gray color of the back is never uniform. It is lightest and brightest on the rump and nape, and darkest in the interscapular area, indicating an approach to the black dorsum of *melanonotus*. In the Sulu birds, on the other hand, the silver-gray of the dorsum is uniformly light and bright, showing no indication of interalar darkening. In addition, the underparts of Sulu birds are less intensely black than those of birds from Luzon and Mindoro. There is also a tendency for the light gray of the flanks of Sulu birds to be more extensive toward the midventral line; it will be noted that the type of *lowii* apparently represents an extreme manifestation of this tendency. None of these color characters appears to be due to seasonal wear or age of specimens.

Sulu birds average larger than *calvus* of Luzon, being similar to Mindoro birds in size. Wing (flat) measurements of ten Sulu males ranged from 129 to 141 mm., and tail measurements from 113 to 123 mm. Four Luzon *calvus* males measured, wing, 127, 128, 129, 133; tail, 112, 113, 113, 115. Gilliard's measurements parallel these closely. Wings of his five Sulu males ranged from 129 to 136 mm., and tails from 113 to 120 mm., while the ranges for 25 Luzon *calvus* males were: wing, 123.5 to 135 mm., tail, 105 to 117 mm.

It is therefore the belief of the writer that the Sulu Archipelago population of *Sarcops calvus* merits nomenclatorial recognition on the basis of the characters described above. Since the name *Sarcops lowii* Sharpe was based on an individual from this population, it must be used for the subspecies, even though the type was an abnormally colored bird. The Sulu subspecies thus becomes *Sarcops calvus lowii* Sharpe.

In his description of *S. c. mindorensis*, Gilliard stated that "males and females are apparently similar in coloration and size." During the course of the present investigation, no indication of sexual dimorphism in color was found. It soon became apparent, however, that females averaged smaller than males, but that there was much variation from population to population in the magnitude of this size dimorphism. It was especially well marked in specimens of *S. c. melanonotus* from eastern Mindanao. Comparative measurements are as follows: wing of females, 120.5, 123, 125, 126, 126.5, 129, 129; males, 127, 131, 134, 135; tail of females, 98, 99.5, 100, 104, 107; males, 114, 115, 115.5.

It is therefore apparent that Rand's remarks on size variation cannot be interpreted solely with the use of the measurements he presented, since he made no segregation by sex. Gilliard, fortunately, used only males in his table of measurements. I cannot agree with Rand that Gilliard's separation of *mindorensis* as larger than *calvus* is invalid merely because Rand's Negros specimens, which pertain to the black-backed division of the species, were intermediate in size between silver-backd *calvus* and *mindorensis*. It is possible that segregation by sex of Rand's measurements would weaken his arguments relative to the amount of individual size variation. Measurements available to the writer indicate that Gilliard was justified in separating *mindorensis* on the basis of size; however, as Rand pointed out, the character of white streaking on the throat emphasized by Gilliard for *mindorensis* is seasonal rather than subspecific in nature.

The situation among the black-backed populations of *Sarcops calvus* is by no means as well defined as that among the silver-backed birds. As indicated by Rand, there is a definite tendency toward a decrease in intensity of dorsal pigmentation from east to west in the central Philippines. Birds from Leyte and Samar were the darkest of those

examined, and birds from Tablas and Basilan the lightest. There is a great variation in size among these birds. The smallest are from eastern Mindanao; these represent topotypical *melanonotus* (type locality, Davao). Some specimens from certain of the central islands (Leyte, Samar, Tablas) are substantially larger than any eastern Mindanao birds seen. However, overlap is such that it has not proved feasible to draw any line of division between black-backed populations of *Sarcops calvus*, and it seems best to follow Rand's course of considering them all as a highly variable subspecies, *S. c. melanonotus* Ogilvie-Grant.

In summary, then, it is recommended that the following races of *Sarcops calvus* be recognized:

*Sarcops calvus calvus* (Linnaeus). Luzon, Cantanduanes. Silver-backed with darker middorsal area. Smaller.

*Sarcops calvus mindorensis* Gilliard. Mindoro. Silver-backed with darker middorsal area. Larger.

*Sarcops calvus lowii* Sharpe. Sulu Archipelago. Uniformly silver-backed. Larger. Less intensely black beneath.

*Sarcops calvus melanonotus* Ogilvie-Grant. Specimens examined from Mindanao, Basilan, Leyte, Samar, Romblon, Guimaras, Panay, Tablas, Masbate, and Ticao. Also recorded from Negros by Rand. Black-backed.

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