# CHARACTERISTICS AND STATUS OF THE SOLITARY SANDPIPER IN UTAH

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When Woodbury, Cottam, and Sugden (1949) compiled their check-list of the birds of Utah, only two specimens of the Solitary Sandpiper (*Tringa solitaria*) were known from the state and both were assigned to the race *T. s. cinnamomea*. One (UUMZ 5075), collected on July 9, 1937, two miles southwest of Poncho House, San Juan County, was reported by Woodbury and Russell (1945:48). The other was reported by Twomey (1942:392) and was taken at the Ashley Creek marshes, two miles south of Jensen in Uintah County. This latter has not been examined by us.

Behle and Selander (1952:26–27) reported two additional specimens from Ibapah, Tooele County (UUMZ 10719), and Farmington Bay, Davis County (UUMZ 10984). They also studied the specimen (UUMZ 5075) reported by Woodbury and Russell (*loc. cit.*), as well as a specimen (UUMZ 4142) from Navajo County, Arizona (Woodbury and Russell, *loc. cit.*). All of these were referred to the race *T. s. solitaria*. Since Twomey (*loc. cit.*) had reported that the Ashley Creek birds remained as residents and were paired and doubtless nested, even though the nests were not located, Behle and Selander felt that they too should be referred to *T. s. solitaria*.

Hellmayr and Conover (1948:119–121) give the breeding range of *T. s. cinnamomea* as northern Canada from the tree limit south to about 60° north latitude and from the Bering Sea to the west coast of Hudson Bay. They record the race *T. s. solitaria* as breeding from northern British Columbia, Alberta, Ontario, central Saskatchewan, central Manitoba, and Labrador south to about latitude 50°N. According to them, *T. c. solitaria* migrates primarily east of the Mississippi River while *T. s. cinnamomea* migrates principally west of the Mississippi River. Both subspecies winter in South America.

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The collection of six additional Solitary Sandpipers by us from Skull Valley in Tooele County in August and September of 1954 brings the total number of known specimens for the state to ten. A study of these re-opened the question of the status of the two races in Utah and led to a re-evaluation of the previously reported specimens. Table 1 summarizes the characteristics of these ten specimens. Only one of these six specimens conforms to *T. s. solitaria* in every character. Its identity has been corroborated at the United States National Museum by G. M. Bond. The spots on the dorsum of all of the remaining five birds are buffy in coloration, while the background color is an olive-brown. Conover (1944:543) states that the buffy dorsal spots are the most distinctive feature of immature birds of *T. s. cinnamomea*. According to him, they are a very constant character at least through September and wherever found serve to identify the individual as *T. s. cinnamomea*. He likewise considers an olive-brown background color between these spots as being typical of immature birds of that race. The wings of four of the five specimens all fall within the range of measurements for *T. s. cinnamomea*, as given by Conover. The wings of the fifth specimen (sex unknown) fall only one-tenth of a millimeter short of the range of male *T. s. cinnamomea*, but fall well within the range of either male or female *T. s. solitaria*. Since it is typical of *T. s. cinnamomea* in most other respects it is referred to that race.

The inner web of the outermost primary of three of the six specimens shows degrees of spotting or white vermiculations from faintly mottled to plainly marked. Taverner (1940:215) considers the presence of these vermiculations as definite evi-

dence that a specimen carrying them is of the race *T. s. cinnamomea,* while Conover (*loc. cit.*) considers the presence of vermiculations as almost conclusive evidence that an immature bird exhibiting this character is of the race *T. s. cinnamomea.* Conversely, the presence of immaculate outer primaries, according to them, does not necessarily indicate that the specimen is *T. s. solitaria.* Of the two remaining specimens, both of which have immaculate outer primaries, one is typical of *T. s. cinnamomea* in all other respects. Consequently it is referred to that race. The other, which seems to be somewhat intermediate between the two races, more closely approaches *T. s. cinnamomea.*

Thus, of the six specimens recently collected, one is definitely referable to *T. s. solitaria* and three to *T. s. cinnamomea.* The two remaining specimens show one or more characters that appear to be intermediate between the two races, but they are referred to *T. s. cinnamomea* because they have a greater number of characters of *T. s. cinnamomea.*

We feel that three of the specimens previously reported from the state are of the race *T. s. cinnamomea.* The fourth (UUMZ 10984), which has dark upper parts heavily spotted with considerable amounts of white and some buff, appears to be somewhat intermediate, but probably is also referable to *T. s. cinnamomea* on the basis of wing length and the faint white mottling on the outer primary (see table 1). Although Behle and Selander (1952:26) reported specimen UUMZ 10719 as having immaculate primaries, the outermost primaries appear to us to be slightly mottled with white (table 1).

Part of the confusion of the identity of the previously reported specimens arises from the fact that at least two of them were presumed to be breeding birds. However, it is doubtful that the species breeds in the state. Behle and Selander (*op. cit.*) considered the Ibapah specimen (UUMZ 10719), which was collected by Porter on July 15, 1950, to be a breeding bird because it had enlarged testes (12 mm.). However, Porter's field notes state that the testes of this bird measured only 2 mm. in length, which eliminates the likelihood of its breeding at Ibapah. This confusion as to the size of the testes unfortunately resulted from the way in which the data were written on the tag.

Concerning the Uinta Basin birds, Twomey (1942:392) reports that A. C. Lloyd, while at Ashley Creek marshes, saw four or five of these sandpipers almost every day in 1934 and 1935. Twomey states that at least two pairs remained as residents in 1937. He also indicates that, although no nest was found, they were paired and no doubt nested. Twomey (*op. cit.*) does not state whether the one bird he collected at the Ashley Creek marshes was a breeding bird or a migrant, as he gives no indication of the date it was collected nor the condition of its gonads. In their check-list of the birds of Utah, Woodbury, Cottam, and Sugden (1949:13) record only the race *T. s. cinnamomea* and list it as a casual summer resident breeding in Uintah and Kane counties, perhaps elsewhere, and a sparse migrant throughout the state. Behle and Selander (*loc. cit.*) found the two Kane County specimens to be Spotted Sandpipers (*Actitis macularia*) in winter plumage. These two specimens are probably the same birds referred to by Woodbury and Russell (1945:48) as breeding at 8500 feet on Cedar Mountain, Iron County, 100 miles northwest of the Navajo Mountain.

Thus, it appears that the Solitary Sandpiper probably does not breed in Utah in either Tooele (Ibapah) or Kane counties. It seems unlikely that they should breed this far south of their usual breeding range in Canada (about 50° north latitude, Conover, 1944:538), in spite of the fact that Twomey (1942:392) reported seeing these birds in Uintah County in the summer and believed that they probably nested. It appears more likely that the birds reported by Twomey were either stragglers or late spring or early summer migrants. Records from Utah (table 1) indicate that the Solitary Sandpiper, like many other species of sandpipers, is an early summer migrant. This is substantiated by Bent (1929:11–15) who reports records in July in many areas throughout the coun-

try. In addition, as the name implies, these sandpipers are usually found singly, in pairs, or in small flocks of three or four, which could very well give the impression that they were mated and nesting. Another factor against the likelihood of this species nesting in Utah is that all of the specimens studied by us that were collected in the state in the course of the nesting season seem to be representatives of the more northern subspecies, *T. s. cinnamomea,* whereas if they had been breeding birds, they probably would have belonged to the southern race *T. s. solitaria*. Until a nest of this species is actually found in Utah it seems preferable to consider this species as a migrant and an occasional summer straggler rather than a nesting species. The latest known date for Utah during fall migration for this species is an observation made by the authors on September 22, 1954, at Orr's Ranch, Skull Valley, Tooele County.

Table 1

Summary of Characteristics of Solitary Sandpipers from Utah in terms of Diagnostic Characters of races given by Conover (1944)

| UUMZ No. | 4142 | 10719 | 10984 | 13747 | 5075 | 13746 | 13844 | 13845 | 13846 | 13748 |
|---|---|---|---|---|---|---|---|---|---|---|
| Sex | ♂ | ♂ | ♂ | ♂ | ♀ ? | ♀ | ♀ ? | ♀ | ..... | ♀ ? |
| Wing length | 135.6 | 130.0 | 132.9 | 129.0 | 142.6 | 137.5 | 129.3 | 137.6 | 127.9 | 119.6 |
| sol. | | x | | x | | | x | | x | x |
| cinn. | x | x | x | x | x | x | x | x | | |
| Outer primary | | | | | | | | | | |
| sol. | | | | 4 | | | | 4 | | 4 |
| cinn. | 2 | 2 | 3 | | 1 | 2 | 1 | | 3 | |
| Dorsal color and spotting | | | | | | | | | | |
| sol. | | | x | | | | | | | x |
| cinn. | x | x | | x | x | x | x | x | x | |
| Loral and supraloral | | | | | | | | | | |
| sol. | | | | x | | x | x | | x | x |
| cinn. | x | x | x | | x | | | x | x | |
| Cheek and throat | | | | | | | | | | |
| sol. | | | | x | | x | x | x | | x |
| cinn. | x | x | x | x | x | x | x | x | x | |
| Weight in grams | .... | .... | .... | 49.3 | .... | 62.1 | 47.3 | 59.3 | 53.2 | 41.3 |
| Date collected | July 14–37 | July 15–50 | June 10–50 | Aug. 12–54 | July 9–37 | Aug. 9–54 | Aug. 31–54 | Sept. 13–54 | Aug. 17–54 | Aug. 12–54 |
| Determination | cinn. | cinn. | cinn. ±sol. | cinn. ±sol. | cinn. | cinn. | cinn. | cinn. | cinn. | sol. |

x indicates character present normal for race shown; 1, inner web of outer primary plainly mottled with white vermiculations; 2, inner web slightly mottled; 3, inner web faintly mottled; 4, immaculate outer primary.

In summary, the race *T. s. solitaria* of the Solitary Sandpiper is known in the fall from only one specimen collected in Skull Valley, Tooele County, on August 12, 1954. The race *T. s. cinnamomea* is known in the spring from only one specimen collected on May 10, 1950 (Behle and Selander, 1952:27) and in the summer and fall from as early as July 9 until September 13 (see table 1).

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