

AN ANALYSIS OF THE SUBSPECIFIC STATUS OF DOWITCHERS IN CALIFORNIA

WITH ONE ILLUSTRATION

By ROBERT T. ORR

Recently, in the course of checking and arranging the shore birds in the collection of the California Academy of Sciences, the problem of subspecific identity of Dowitchers (*Limnodromus griseus*) collected in California presented itself. Concurrent with this was the nomenclatural problem involved which offered several alternatives: accord with Rowan (Auk, vol. 49, 1932, pp. 14-35) and consider the long-billed, western form, *scolopaceus*, a full species and the small-billed, more easterly breeding form, *hendersoni*, a subspecies of *griseus*; follow Brodkorb (Proc. Biol. Soc. Wash., vol. 46, 1933, pp. 123-128) and call the western and eastern forms *fasciatus* and *griseus*, respectively, considering them conspecific; accept the classification employed in the 1931 A.O.U. Check-list and by Peters (Check-list of Birds of the World, vol. 2, 1934, pp. 272-273) and refer to the western race as *scolopaceus* and the eastern race as *griseus*. In as much as the problem was rather involved and required considerable time and thought to arrive at any satisfactory conclusion, it seemed advisable to place such results and the facts upon which they were based on record.

In the series of 207 dowitchers from California in the Academy collection, supplemented by several pertinent specimens in the collection of James Moffitt, it was quite obvious and to be expected that two races or forms were represented. Two characters were found to be of outstanding value in segregating specimens into the groups involved. These were length of culmen and barring as against spotting on the sides of the chest in summer-plumaged birds. Certain other characters, although not so marked, proved of some value in this regard. To summarize, the characters of the two groups may be given as follows: the long-billed group, herein referred to as *scolopaceus*, is distinguished from the eastern form, designated as *griseus*, by greater length of bill (68 to 78 mm. for females and 52 to 66 mm. for males of *scolopaceus* as compared with 58 to 67 mm. for females and 52 to 61 mm. for males of *griseus*), relatively shorter wing, presence of bars rather than spots on the sides of the breast in summer plumage, more restricted buffy edging to the feathers of the back and the tertials, and by a greater degree of buffy coloration on the bars of the central rectrices. Immatures of *scolopaceus* are readily distinguishable by their grayer heads and by the narrower buffy edging to the feathers of the back and the tertials.

A striking amount of variation in degree of ventral spotting is exhibited by the series of small-billed specimens in which bars are absent on the breast and which are here referred to as *griseus*. Certain skins in adult summer plumage are entirely devoid of spots on the throat, breast and belly, although the spots are present to a limited extent on the sides. Others are heavily spotted over almost the entire ventral surface. No appreciable difference could be noted in the cinnamonic coloration of the ventral parts in comparable specimens of *scolopaceus* and *griseus* in summer plumage. There is, however, a marked change in this ventral coloration within both groups as the season progresses. With fading and wear a decided yellowish cast soon replaces the pinkish-cinnamon, resulting in a much more buffy color. In summer plumage, *griseus*, on the average, shows a greater amount of white on the posterior ventral surface than does *scolopaceus*.

It has generally been accepted as fact that the short-billed, eastern or inland form is more common on the Atlantic coast and in the mid-western states during the periods of migration than the long-billed western race which excels in numbers on the Pacific

coast. Critical examination of California-taken specimens in the Academy collection and comparison with breeding specimens from Alaska certainly failed to reveal a preponderance of the long-billed race in this state. The inland breeding form was found to exceed the western race by a ratio of approximately 5 to 1. When each specimen, including immatures, had been carefully identified on the basis of the known subspecific characters of the races, there were found to be 36 belonging to the form *scolopaceus* and 171 to *griseus*.

In regard to the specific distinction made by Rowan for the eastern and western dowitchers, it can be seen from the diagrams (fig. 18) that complete intergradation occurs with respect to bill length within each sex, although a much greater degree of dis-

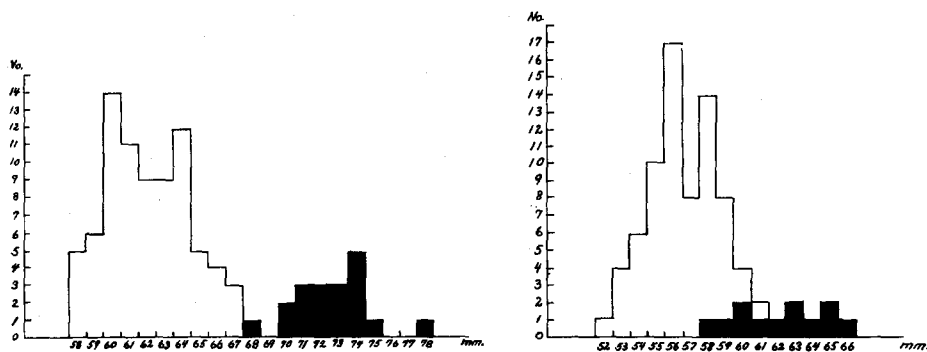


Fig. 18. Diagrams showing variation in length of culmen in dowitchers. Left, 97 females. Right, 81 males. All are California-taken specimens at least one year old. The white blocks represent the race *L. g. griseus*, the solid blocks, *scolopaceus*.

tinction occurs between the females of the two forms than between the males. The presence of bars on the sides of the breast in *scolopaceus* and their replacement by spots in the case of *griseus* may be taken as a fairly reliable subspecific character in summer-plumaged birds. Certain short-billed birds of the *griseus* type, however, show a slight tendency toward barring on the sides of the breast. Likewise, certain specimens representing *scolopaceus* show a definite reduction in these bars and a replacement in part by spots. This latter condition is well illustrated by a bird that presumably was breeding when taken on June 4, on the Yukon Delta, Alaska.

Regarding the validity of *hendersoni*, named by Rowan, there is considerable question. If it is a valid race, it unquestionably is close to *griseus*, differing from it in minor average characters. It would seem best, however, to consider it a synonym of *griseus*, as did Brodkorb, until such time as breeding birds are found within the supposed summer range postulated by Rowan for the eastern form.

No justification can be seen for Brodkorb's (*loc. cit.*) recent action in synonymizing *scolopaceus* and replacing it by the name *fasciatus*. Judging from that author's description, it is apparent that he has interpreted Say's description (*in* Long, Exped. Rocky Mts., I, 1823, p. 170) of *Limosa scolopacea* as applying to a spring bird assuming summer plumage. From Say's account, nevertheless, it would seem clear that his description is of a bird still in full winter plumage. Judging from a number of specimens of both races examined in such early spring plumage, his account would be equally applicable to either race. The bill length, however, indicates that Say was probably referring to a female of the western form. He gives $2\frac{3}{4}$ inches as the length of bill which is ap-

proximately 70 millimeters. This is far above the average for *griseus* and exceeds by 3 millimeters the extremes of any specimens of this race that I have measured. It is, furthermore, well within the range of variation in bill length for *scolopaceus*. It would seem most satisfactory, therefore, to accept Say's account as applying to the western form and consider *fasciatus* as a synonym.

No apparent difference was found to exist with respect to times of migration between the races *griseus* and *scolopaceus* in California. In the spring both races have been taken as early as March 9, and late northbound migrants of both have been taken in June (*griseus* on June 2, at Pt. Reyes, Marin County, no. 18743 in the Academy collection; *scolopaceus* on June 11, at Los Baños, Merced County, no. 933 in the collection of James Moffitt). Early southbound examples of *griseus* and *scolopaceus* have been taken on July 3 and 4, respectively. Late southbound migrants have been taken in October (*griseus*, October 29, and *scolopaceus*, October 12, both in Merced County). Small numbers of both races winter in California, principally in the southern part of the state. The most northerly winter-taken specimen examined is an example of *scolopaceus*, no. 669 in the collection of James Moffitt, taken on December 17, 1927, one mile west of Pierce, Suisun Marsh, Solano County, California.

In conclusion it may be said that both the Eastern Dowitcher (*Limnodromus griseus griseus*) and the Long-billed Dowitcher (*Limnodromus griseus scolopaceus*) occur in California in migration, but the former is very much more abundant than the latter. Based upon study skins in the Academy collection, *griseus* outnumbers *scolopaceus* in California by about 5 to 1. The characters segregating the two races are quite trenchant, although intergradation is evidenced by certain specimens. No differences in times of migration between the two races are apparent in California and limited numbers of both forms winter here, principally in the southern part of the state.

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