

THE BAR-TAILED GODWIT AND ITS RACES.<sup>1</sup>

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IN studying the zoogeographic relationship between the Chukchi Peninsula and Alaska I attempted to determine the exact limits of distribution of certain birds regularly breeding there. As a partial result of these studies is given the following revision of the races of the Bar-tailed Godwit which may not be without interest to ornithologists both of the Old World and the New.

The greater part of the material upon which this paper is based is to be found in the Zoological Institute of the Academy of Sciences of the USSR. A smaller portion was borrowed from the Moscow Zoological Museum and from Darwin's Museum. For the use of this material I tender my thanks to all of the institutions concerned. I have also had before me some specimens from the Arctic Institute. The total number of skins examined amounts to over two hundred and twenty.

Two races of *Limosa lapponica* have hitherto been recognized; one from the western part of the Palaearctic and another, larger race, with a more spotted rump, from eastern Siberia and western Alaska. A careful study of the above series of skins leads me to the conclusion that there exist at least three geographical races, one of which is undescribed. Its description and comparison with the already known forms is herewith presented.

1. ***Limosa lapponica lapponica*** (Linnaeus).

General color of the lower back and rump pure white, or with a few brown lanceolate shaft streaks which are concentrated along the middle line of the rump and disappear toward the sides. The under wing-coverts are pure white or with shaft streaks or sometimes small spots. At first glance the white color seems to prevail. The transverse brown bars on the axillaries are narrower than the white bars, and are intermingled checker-wise. The feathers of the rump, under wing-coverts and axillaries are less spotted in the males (sometimes with none) than in the females. Compared with the other two races this one differs in having the wing and bill shorter but I find no appreciable difference in the length of the tarsus.

It breeds in the tundra zone and in the so-called forest-tundra zone of Europe and northwestern Siberia from Kola Peninsula to the Khatangse River. Taimyr birds show tendencies toward the next subspecies but notwithstanding this the axillaries always have narrower brown, not white, bars.

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<sup>1</sup> Contribution from the Arctic Institute of the USSR, Leningrad.

2. ***Limosa lapponica menzbieri*** new subspecies.

Type. Male adult, Ruskaye Ustye (Russian Mouth) in the Indigirsa delta, June 9, 1930 collected by N. Michel.

Co-type. Female, adult, with the same data; both on the collection of the Zoological Institute, Leningrad.

Type locality. Indigirsa Mouth.

Lower back and rump more closely and proportionately spotted, showing traces of transverse bars. Separate feathers with angular or arrow-shaped brown spots, increasing towards the base but always retaining the central white patch. Under wing-coverts spotted approximately as in *baueri*. The axillaries are barred angularly with brown and white in nearly equal proportion, i. e. the brown transverse bars equal in width to the white ones or the latter slightly narrower. Therefore the general tone of coloring of the under wing seems to be darker than in *lapponica* and whiter than in *baueri*.

In measurements this race is distinctly larger than *lapponica* and nearly as large as *baueri*.

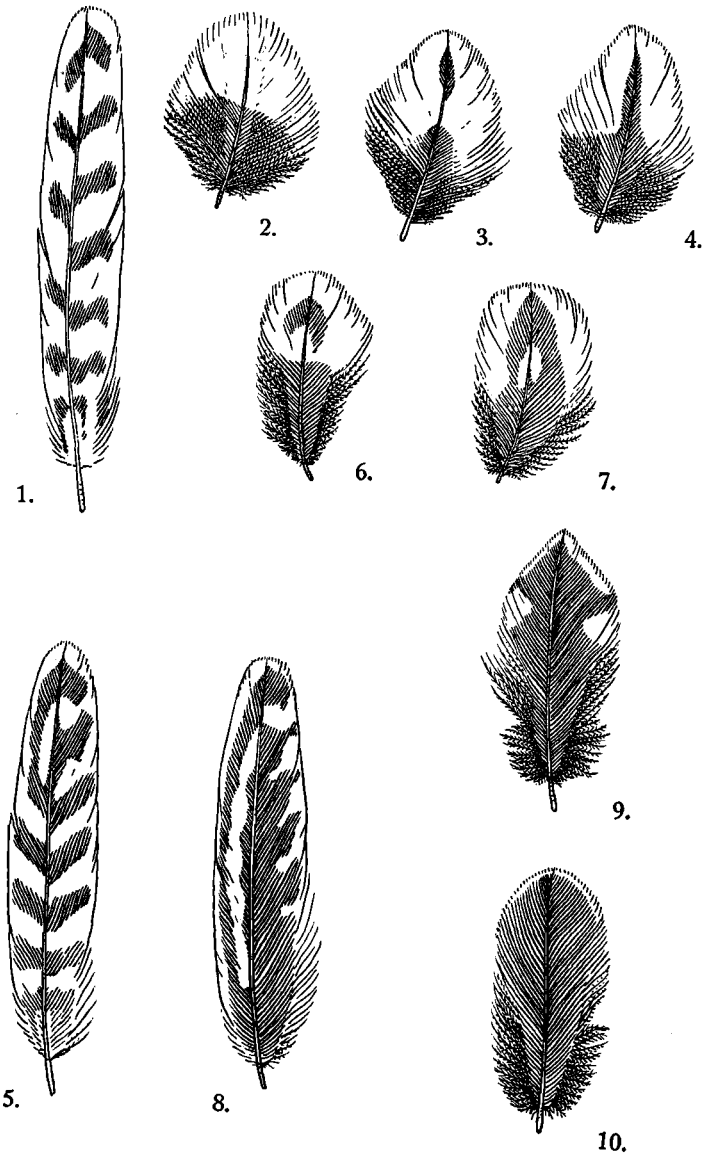
In some respects this race occupies an intermediate position between the other two but it should not be classed with those intermediate specimens which usually exist on the boundary between two geographic races. Certain extremes of individual variation are represented by birds from a definite and large territory, consequently they permit us to correlate definite characteristics with a particular geographical region. We may add that intergrades independently exist as well between *menzbieri* and *lapponica* as between *menzbieri* and *baueri*.

The true breeding range of this subspecies extends at least from the Lena River east to the western portion of the Anadyr region. It is found on Lyakhovski Island and migrants were shot on the shores of Anadyr Bay, on the Commander Islands, Kamchatka, on the shores of the Okhotsk Sea, Shantar Islands, Sakhalin and in Ussuri-land. An immature specimen with all the characteristics of this subspecies was secured on the Taimyr Peninsula.

In choosing a designation for this well marked new form of Godwit I wish to perpetuate in nomenclature the name of my dead teacher, Professor M. A. Menzbier of Moscow.

3. ***Limosa lapponica baueri*** Naumann.

Upper portion of the lower back almost uniformly dark colored, individual feathers are pale brown, fringed with white. The short tail coverts are spotted with white at their tips on both webs (as figured in our illustration) but never with a central white patch. Under side of wings very dark. The axillaries possess very broad brown bars which sometimes have a tendency



Axillaries and Breast Feathers.

1-4. *L. l. lapponica.* 5-7. *L. l. manzbieri.* 8-10. *L. l. baueri.*

to acquire a longitudinal direction or to form a knotty pattern. Females have more white on the axillaries than males, at least the specimens examined so indicate.

In measurements this race is nearly identical with the preceding.

This bird belongs to the coasts of Bering Sea and adjacent regions. Specimens have been obtained in the eastern portion of the Anadyr region but it remains unknown whether it breeds there or is only a migrant. It certainly does breed in the eastern part of the Chukchi Peninsula. The great number of specimens on migration on Bering Island lead one to suppose that it breeds on the Commander Islands. In the Museum of the Academy of Sciences in Leningrad the American Bar-tailed Godwit is represented by a number of specimens collected by E. H. Woznessensky in the former Russian possessions in Alaska during the years 1843 and 1844: Norton Sound, July 9, 1843, female; St. Paul Island (Pribilofs), without detailed data in 1844, three males and three females; Atka Island (Aleutians) female; Sitka male; and Wrangell (Southeast Alaska) female. Migrant specimens have been procured as already mentioned on Bering Island, Kamchatka, Sakhalin, in Japan and Ussuri-land, and wintering specimens in Australia.

With regard to the ecology of this race according to our knowledge of its breeding range it may be surmised that *Limosa lapponica baueri* in its habits and peculiarities of habitat differs strongly from the allied forms *L. l. lapponica* and *L. l. menzbieri* being mainly a maritime bird.

The races of the Bar-tailed Godwit according to our analysis of the material at hand now stand as follows, listing them from west to east:

1. *Limosa lapponica lapponica* (Linn.) Bar-tailed Godwit.  
Breeds from the Atlantic to the Khatanga River.
2. *Limosa lapponica menzbieri* Portenko. Menzbier's Godwit.  
Breeds from the Lena River to the Anadyr region.
3. *Limosa lapponica baueri* Naumann. Pacific Godwit.  
Breeds on the coasts of Bering Sea.

## MEASUREMENTS: MALES.

		<i>Culmen</i>		<i>Wing</i>
<i>L. l. lapponica</i>	29 spec.	76.7 mm. (68.0-84.3)	31 spec.	205.8 (197.2-218.2)
<i>L. l. menzbieri</i>	8 spec.	83.7 mm. (79.9-86.4)	8 spec.	213.9 (209.1-223.0)
<i>L. l. baueri</i>	16 spec.	80.7 mm. (70.3-89.3)	16 spec.	215.8 (205.5-230.4)

## MEASUREMENTS: FEMALES.

<i>L. l. lapponica</i>	33 spec.	97.2 mm. (88.8-110.4)	34 spec.	216.5 (208.9-231.7)
<i>L. l. menzbieri</i>	9 spec.	105.8 mm. (95.3-110.0)	11 spec.	225.4 (218.0-239.0)
<i>L. l. baueri</i>	17 spec.	107.0 mm. (88.3-118.8)	17 spec.	233.2 (223.5-249.3)