

THE BREEDING GOLDEN PLOVER OF ALASKA

BY BOARDMAN CONOVER

IN identifying a male Golden Plover taken with two half-grown young on the Bering Sea coast of Alaska, it was discovered that these specimens were typical of the American rather than the Asiatic race. As this is completely at variance with the breeding ranges of the two forms as given by the latest authorities, an investigation was undertaken to ascertain as far as possible the true facts as to the nesting grounds of the two races found in this territory. Since the number of Alaskan specimens in the Chicago Natural History Museum was insufficient, others were borrowed from leading museums. For the loan of this material I am indebted to H. W. Brandt of Cleveland; the California Academy of Sciences, San Francisco; the Chicago Academy of Sciences; the Colorado Museum of Natural History, Denver; the Museum of Comparative Zoölogy, Cambridge; the Fish and Wildlife Service and the United States National Museum, Washington; and the Museum of Vertebrate Zoology, Berkeley.

Only one specimen (from Collinson Point) was available from the Arctic coast east of the vicinity of Barrow and only four from the interior of Alaska. This territory, however, has always been assumed to be the breeding ground of the American form and this is borne out by the examination of the limited material available. It is true that Dixon (1938, p. 66) has identified the breeding birds of McKinley National Park as *fulva*, but an examination of two spring adults collected by him leaves little doubt that he was mistaken. These specimens are in full breeding dress, so identification can be made only by size, but both are large birds; the wing of the male measures 185 mm. and that of the female 187. Two others taken in the interior, a male and female from Rampart House and Fairbanks, have wing lengths of 179 and 187 mm., respectively.

From the vicinity of Barrow (Chipp River, Meade River) south along the northwest and west coasts of Alaska to the Alaska Peninsula, one hundred and sixty-nine adults, one hundred and twenty-one immature and twenty-two downy examples of Golden Plover were examined. The picture these specimens draw of the ranges in Alaska of the two forms *Pluvialis dominica dominica* and *Pluvialis dominica fulva* is probably better shown in the form of a table than by any other means. Attention should be called to the fact that under the heading *Downy* in this table is included all juveniles of such an age that there could be no doubt as to their having been hatched at the locality where they were collected.

	<i>P. d. dominica</i>			<i>P. d. fulva</i>	
	Adult	Immature	Downy	Adult	Immature Downy
North of Bering Strait					
Collinson Point	1				
Barrow and vicinity	67	8	14	5	
Wainwright and vicinity	11	38	1	3	2
Cape Lisburne	2				
Tigara, Point Hope		3			
Cape Blossom, Kotzebue Sound	4				
Kotzebue Sound				1	
South of Bering Strait					
Wales				14	
Port Clarence	2				1
Kruzgamepa					2
Teller, Port Townsend				1	
St. Lawrence Island				1	4
Nome	2	2		23	19
Port Safety					2
Golovin Bay	1				
St. Michael	6	1		9	22
Askinuk Mts., Igiak Bay	1		2	1	
Hooper Bay	1			5	
Nelson Island	1				2
Nunivak Island	4	1	2	7	8
Bethel				3	
Nushagak				1	

It will be noted immediately that there is a rather sharp difference in the relative numbers of each race found north and south of Bering Strait. North of that point the American form predominates, with the Asiatic appearing only as a straggler. From Wales south, however, the opposite prevails, but with this difference, that the typical race *dominica* instead of being simply a straggler constitutes about twenty-five per cent of the adults.

The capture of the above plover (except those shown as downies) at the different localities listed is of course no proof of their having nested or been hatched there. Some undoubtedly were still on migration or perhaps wanderers after the breeding season. Many of the specimens, however, show proof of actual breeding activities at different localities, either from data recorded on their labels or because of their age. Such evidence of the actual breeding of each race is given below.

Pluvialis dominica dominica

BARROW AND VICINITY.—Twelve downies, from at least four different broods, taken between July 23 and August 1; two two-thirds-

grown young collected August 7; twenty-four adults marked as having been taken with sets of eggs (in many cases there may have been duplication, with the inclusion of both parents) between the dates of June 14 and July 4; one adult taken with young July 23.

WAINWRIGHT.—A two-thirds-grown young collected August 7.

TIGARA, POINT HOPE.—An immature taken August 19 fully fledged but still slightly downy about bill. It may have been hatched elsewhere.

ASKINUK RANGE, IGIAC BAY (BETWEEN CAPE ROMANZOF AND POINT DALL, BERING SEA).—Two half-grown young and the male parent taken July 16. All three show the pale brownish gray breast coloration of typical *dominica* and the adult has a wing measurement of 181 mm.

NUNIVAK ISLAND.—Two half-grown young with the coloration of the under parts as in the American race, taken July 17. Of three adults taken on the same day by the same collector, C. G. Harrold, two males, by coloration and measurements, are typical *dominica*; the third, a female, by the same criteria, is *fulva*. Mr. Harrold, in his field notes, does not state whether any of these adults was the parent of the young, but at a later date, August 6, writes that he has noted that in nearly all cases the male is more concerned over the approach of an enemy than is the female. This same fact was noted by myself when collecting the two young and the adult male mentioned as having been taken at Igiac Bay.

Swarth (1934, p. 27), in a paper on the birds collected by Harrold on Nunivak Island, has identified all the above specimens as *fulva*. The two adult males referred to, however, besides having large wings measuring 181 and 184 mm., are far enough into the postnuptial molt to show that the coloration of the under parts would be the pale dusky brown color typical of the American race. The two half-grown young, also, have breasts of this color and not the yellow of *fulva*. In no way do any of these specimens or the adult male and two half-grown young from the Askinuk range on Igiac Bay indicate that they are hybrids, intermediates or aberrant specimens of the Asiatic race.

Pluvialis dominica fulva

WALES.—One adult male marked as having been taken with a set of eggs on July 3; wing 161 mm.

ANVIL MOUNTAIN, NOME.—A male, wing 165 mm., taken with a set of four eggs on June 21.

ST. MICHAEL'S.—Two juveniles, one taken August 14 (very yellow below) still downy on the throat and the back of the neck and with

the primaries not fully grown; the other taken August 15 with down at the base of the bill and with the outermost primary still showing a little of the sheath at the base.

ASKINUK MOUNTAINS, IGIK BAY, BERING SEA (BETWEEN CAPE ROMANZOF AND POINT DALL).—A male with wing of 166 mm. collected with set of eggs, June 27.

BETHEL.—A male, wing 169 mm., collected with set of eggs, June 12.

NELSON ISLAND.—Two downy young taken July 9 and 24. The younger is newly hatched and an unmistakable downy of *fulva*. The other, with primaries about half an inch in length, has the down worn and faded, but appears to belong to the Asiatic race.

From the above it seems that the American race, *Pluvialis dominica dominica*, nests in suitable localities throughout the whole of the Alaskan mainland north of the Alaska Peninsula, including the Bering Sea coast and the closely adjacent islands, reaching the two latter regions probably by way of the interior river valleys. The Asiatic form, *Pluvialis dominica fulva*, on the other hand, appears to breed only along the actual coast of Bering Sea (again including the closely adjacent islands) where it evidently is the predominating race. Proof of the actual overlapping of the breeding grounds of the two forms is also given by these specimens, which brings up the question of just how closely they really are related.

I have been unable to discover any breeding records of Golden Plover from any of the other islands in Bering Sea except Nunivak and Nelson, but it would be surprising if the Asiatic race did not breed on St. Lawrence Island also.

As the characters distinguishing the two races do not seem to be too well known and are given only in very brief fashion by Ridgway, a more detailed account is presented here. These have been worked out not only from the Alaskan specimens, but also from a good series from Asia, Hawaii, the United States and Canada.

BREEDING PLUMAGE.—In this dress the only distinctive character seems to be one of size. Extremes of wing measurements of a series of adults from different localities are as follows:

	<i>Males</i>	<i>Females</i>
East coast North America	173-184 mm.	177-183
Interior North America	171-192	174-195
Hawaii	162-177	160-176
Asia	154-175	165-169

While the above measurements show some overlapping, it was found that, in general, the wings of *fulva* ran 172 mm. or less in the males

and 176 mm. or less in the females. Using these wing lengths (flat) as a maximum for the Asiatic race, it is believed that the error in identification would run less than ten per cent. Four out of forty adults from North America exclusive of Alaska have wing lengths under these measurements, while four out of forty-five adults and winter birds from Hawaii and Asia have longer wings. However, an adult male of *fulva* from Alaska does have a wing measurement of 183 mm. This bird was taken late enough in the season so that it could be identified by the coloration of the new winter plumage appearing on its chest.

Adults taken after the first part of July often have enough of the new winter plumage on the under parts to make identification possible by coloration alone. The first new feathers appear on the sides of the face, throat and upper chest. In *fulva* these are quite yellowish and contrast strongly with the black feathers of the breeding plumage, while in typical *dominica* they are pale brownish gray and much less noticeable.

IMMATURE PLUMAGE.—Compared with the Asiatic form, the American race has the upper parts much less yellowish, and this color usually has a lemon rather than a golden tone. However, specimens of typical *dominica* taken in Alaska, when the plumage is fresh and quite unworn, are yellower as a rule than those taken farther south in the United States. For this reason the northern birds may be misidentified as *fulva* if reliance is placed on the coloration of the dorsal surface alone.

It is in the coloration of the under sides where the greatest difference occurs. Typical *dominica* is pale dusky brown below, darkest on the lower foreneck and chest and sometimes with an indistinct yellowish wash on these parts and on the cheeks. *Fulva* on the other hand has the ground color much lighter about the belly and vent and is usually much yellower, with the strongest concentrations of this color on the chest, foreneck and cheeks. In other words, the American race has the general appearance of the under sides light brownish gray with the belly and vent practically as dark as the chest, while the Asiatic form has a lighter and generally much yellower appearance, with the belly in most cases distinctly whiter than the chest, but often with the feathers of the flanks tipped with dusky. Occasionally there is found an example of *fulva* approaching typical *dominica* in the coloration of the belly, but in these cases the specimen is much more profusely marked with *golden* yellow above.

Wing measurements in immatures seem to run somewhat smaller than in adults. Specimens of the American race usually measured

between 170 and 180 mm., and those of the Asiatic between 160 and 170.

WINTER PLUMAGE.—As pointed out by Alden Miller (1944, p. 130), in *fulva* the young of the year seem to have a more mottled belly than adults in winter plumage. However, examination of a series from Hawaii and Asia leads to the belief that this character does not hold good in birds taken later than about December. After that date, wear seems to remove the dusky tips of the belly feathers on the immatures, leaving them practically indistinguishable from the adults.

The few specimens of typical *dominica* available from its winter range are all unfortunately immatures taken not later than November. However, from the appearance of adults which are well into the fall molt, it seems that they differ from the birds of the year in the same way as *fulva*, *i. e.* in a whiter and less mottled belly.

DOWNY PLUMAGE.—Three specimens from Siberia are very different from a good series taken about Point Barrow and Churchill, Manitoba. The chicks of *fulva* differ as follows from those of *dominica*: (a) the upper parts are much more profusely spotted with yellow and are more golden (less greenish) in tone; (b) there is a very distinct yellow wash covering the broad white collar on the hindneck, the sides of the face, neck and chest, all of which is entirely lacking in chicks of *dominica*; (c) the two narrow white stripes down the sides of the back, usually very evident in the American race, are practically obsolete in the Asiatic form, probably being hidden under a yellow wash similar to that on the hindneck.

While the above distinctions hold good in the three Siberian downies examined, a newly hatched specimen from Nelson Island lacks much of the yellow wash on the chest although otherwise typical of *fulva*. A larger chick from the same locality, with somewhat faded down, shows no yellow on chest, sides of face, or back of neck, but has the upper parts golden rather than lemon in tone.

DOWNY SPECIMENS EXAMINED

Pluvialis dominica dominica.—17: ALASKA (Cape Simpson, 2; Barrow, 2; Chipp River, 8); MANITOBA (Churchill, 5).

Pluvialis dominica fulva.—5: SIBERIA (Kolyma Delta, 3); ALASKA (Nelson Island, 2).

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A NEW WREN FROM ARIZONA

BY HERBERT BRANDT

ARIZONA is an arid wonderland of plains, valleys and mountains. For the purposes of bird study, southeastern Arizona may be divided, chiefly by altitude and the climatic changes that this involves, into three major categories or life zones: the so-called 'Desert', comprising the Lower Austral Life Zone; the Foothills, or Upper Austral Life Zone; and the Highlands, that include the Transition and Canadian life zones.

During years previous to 1945 I had devoted four fruitful expeditions afield to investigating the breeding habits of the birds on the desert and in the foothills, and had touched the highlands just enough to whet my appetite for more experiences there. Meanwhile, Major Allan Brooks had painted for me several superb pictures of the sensationally beautiful birds of Apacheland, so I was anxious to finish the field work for my forthcoming book on Arizona bird life.

Due to the mystifying complexities of the floral and faunal life in this strange region of much avian research, I had long since learned that I should need considerable help if I were to make my report an acceptable contribution to the knowledge of Arizona birds. With this in view, I planned to make the 1945 Huachuca Highland Expedition an exceptionally notable one from the standpoint of helpful personnel.

In accordance therewith, I invited three of my ornithological friends to assist me in my mountaineering bird studies: Dr. Harry C. Oberholser, so well known and loved by the bird fraternity; Nelson K. Carpenter, outstanding California oölogist, who had spent several seasons afield in southern Arizona; and Lyndon L. Hargrave, for ten years Assistant Director of the Museum of Northern Arizona.

All three of these capable men kindly agreed to become members of an expedition into the Huachuca Mountains, and we enjoyed together, in that wonderful bird-classic highland, a most delightful and interesting sojourn.

Because of the ruggedness of the upended terrain, and the fact that