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Description of a New Subspecies of the White-fronted Goose *Anser albifrons*

JEAN DELACOUR¹ AND S. DILLON RIPLEY²

ABSTRACT

Anser albifrons elgasi is described as a new subspecies of the White-fronted Goose from winter specimens in central California. It presumably

breeds in the taiga of inland Alaska. The new form is compared with North American *A. a. gambeli* and *A. a. frontalis*.

INTRODUCTION

The White-fronted Goose is a Holarctic species represented in Eurasia by the typical form *Anser albifrons albifrons* Scopoli, 1769 (type locality, northern Italy?), which breeds in open tundra along the Arctic Ocean from west of the White Sea probably to the Kolyma River in Siberia. *Anser albifrons frontalis* Baird, 1858 (type locality, Fort Thorn, New Mexico), is a slightly larger and browner bird, and nests from eastern Siberia, probably west to the Kolyma (excluding the eastern part of the Tchuktchi Peninsula), east to St. Lawrence Island, and the Alaskan arctic shore from the Bering Sea probably as far as the MacKenzie and Perry river deltas, in open tundra. A well-marked form, slightly darker than *frontalis*, with a distinctive orange-yellow bill in adults especially, *A. a. flavirostris* Dalgety and Scott, 1948 (type locality, North Slob, Wexford, Ireland), breeds in the alpine open marshy plateau country of west Greenland.

In addition to these tundra birds larger, darker forms are found in North America. Observations

on the breeding grounds are scanty or lacking, but in one case there are indications that breeding is in bushy country with willow clumps behind the open tundra. This habitat preference is marked on the wintering grounds of these populations. It parallels the habitat of a small, closely allied species of Europe, *Anser erythropus* Linné, 1758 (type locality, north Sweden), the Lesser Whitefront, which although geographically sympatric with *albifrons*, occurring in Eurasia from Norway to eastern Siberia, is ecologically separated by its preference for nesting sites on high ground in taiga, and patches of scrub amidst the tundra.

That populations of Palearctic geese are adapted to taiga or tundra zones is well documented in the case of the subspecies of the Bean Goose, *Anser fabalis*, but has not been as noted or well marked in field studies of geese in the Nearctic. Thus the larger, darker forms of the White-fronted Goose in North America have not been clearly defined either in ecotypic or in cor-

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responding taxonomic terms. However, it seems time to attempt to elucidate these differences in the following terms:

1. East of the main mountain ranges of western North America there is a largish, dark population of whitefront long known as *Anser albifrons gambeli* Hartlaub, 1852 (Texas and southern United States). According to Dr. Nagamichi Kuroda (1929), this name applies to birds with decidedly longer bill and tarsus and a darker head than typical North American *frontalis*. At the Berlin Museum Kuroda carefully measured three specimens that were supposedly collected by Hartlaub but found them indistinguishable from *frontalis*, and he thus suspected that they were not Hartlaub's birds. However, Dr. Erwin Stresemann, in Kuroda's presence, designated one of these alleged cotypes as a neotype (Zool. Mus. Berlin 17430) (Kuroda, *op. cit.*, p. 173). The locality is Alvarado, Texas, January, 1828, "juv. = ♀?" and the measurements were given as: wing 404 mm., tarsus 66.5 mm., exposed culmen 52.5 mm. In the case of Hartlaub's (1852) original description the tarsus measurement of 68.8 mm. is not so different from Kuroda's three measurements of the alleged cotype series (66.5, 67.5, and 77.5 mm.) more than 75 years later as to imply that these are not the same birds. What has, we believe, confused Kuroda and all subsequent authors is that there are really three, not two, populations involved. The slightly larger, slightly darker birds from east of the Rocky Mountains and affiliated mountain chains have been described as *gambeli*. They migrate from coastal Texas and Louisiana and northern Mexico north to the Arctic where small groups of breeding birds have been found in the Crow Flats marshes of the MacKenzie Basin area of the Canadian Northwest Territory, isolated from the open tundra to the north and west by the Richardson Mountains. This is taiga zone with thick willow scrub to the water's edge ecologically isolated from the open tundra. Here R. Elgas and J. Kiracofe found breeding *gambeli* in July, 1964 (personal commun.) during a field trip sponsored by the World Wildlife Fund (U. S. Appeal) and the International Council for Bird Preservation. In other areas of the MacKenzie delta

proper there are similar scrub patches, and additional breeding groups of these geese may eventually be discovered. In contrast, to the east in the Anderson and Kugalik river areas of open tundra nothing but the smaller, paler *Anser a. frontalis* were seen. These are also shown, from banding returns, to migrate to the Gulf of Mexico coastal states. Downy young of the two types were also recognizable, smoky brownish colored in *gambeli*, more yellowish, especially around the head, in *frontalis*.

2. We are convinced that west of the main mountain ranges there is a distinct, larger, darker whitefront population that is separable from the form described above and properly known as *gambeli*. This form, colloquially called the Tule Goose, is separable and has been confused in museum collections and systematic accounts with *gambeli*, as recently as the general revision of the waterfowl by Delacour (1954). This form may be described as:

Anser albifrons elgasi, new subspecies

Type. Adult male, National Museum of Natural History 481341, collected at Sacramento, California, December 20, 1967, by S. R. Wilbur of the United States Fish and Wildlife Service.

Measurements. Wing 467 mm., tarsus 80 mm., culmen 56.5 mm.

Diagnosis. Differing from *A. a. gambeli* Hartlaub by greater size and slightly darker color. Crown dark brown, more blackish; lower neck, upper breast brownish on front and sides; back dull black; blackish tone on upper surface of rectrices and inner webs of secondaries. Bill longer and thicker; legs and neck longer; eyelids conspicuously yellow.

Differing from *A. a. frontalis* to an increasingly greater degree by larger size and darker color. Most literature comparisons point out quite distinctly the differences between *elgasi* and *frontalis* describing them as differences alleged to be between *gambeli* and *frontalis*. In reality, however, three separate populations are included. (See tables 1 and 2 and fig. 1).

Etymology. Named in honor of Robert Elgas who has for some time conducted an active survey of these geese and endeavored to find their nesting grounds.

TABLE 1
Measurements in Millimeters (with Mean) of *Anser albifrons*

	Number	Wing	Tarsus	Culmen
<i>elgasi</i>	6 ♂	442-467 (454)	79-85 (82)	56.5-61.5 (59.4)
	2 ♀	416, 440	73, 80	55, 58
<i>gambeli</i>	2 ♂	436, 442	78, 79	55, 56
<i>frontalis</i>	6 ♂	386-436 (422)	69-78 (73)	52-57 (54)
	9 ♀	393-418 (404)	67-74 (70)	40 (1), 47-53 (50.1)

Range. The breeding range of *elgasi* is not known, but as stated above is assumed to be in the taiga zone just south of the tundra in Alaska. The mountains along the northern Alaska-Canada boundary separate *elgasi* from the other taiga race, *gambeli*. The winter range of *elgasi* encompasses probably not more than 10,000 acres in a few scattered sites in the Sacramento region of central California. The areas in question are the northern part of the Willows-Sacramento Refuge, north of the Norman-Princeton Road and east of Logan Creek; the Delavan Refuge and the Butte Sink area; and less regularly the Napra and Suisun marshes and near Merced. In winter *Anser albifrons elgasi* prefers small ponds or impoundments with a heavy growth of reeds, cattails, and emergent millet, often near clumps of willows,

seldom if ever visiting ricefields as does *frontalis*. There are records of migrants of the race from southern Oregon and coastal Alaska.

From table 2 it can be seen that the two taiga populations, *elgasi* and *gambeli*, have distinctive habits and tend to flock by themselves. Elgas (*in litt.*) noted the pronounced slower wing beats of the largest form, and the black back as a distinguishing mark when the birds rise away from the viewer. In life *gambeli* appears virtually indistinguishable in size from *frontalis* except for slightly longer, stouter legs, and darker tone, especially around the head and cheeks. The difference in habits between *frontalis* and both *gambeli* and *elgasi* on the one hand and the marked difference in size and color between *gambeli* and *elgasi* on the other indicate that three populations of

TABLE 2
Synopsis of Variation in Color and Behavior in *Anser albifrons*

	<i>elgasi</i>	<i>gambeli</i>	<i>frontalis</i>
Head	Very dark brown, crown blackish	Dark brown	Grayish brown
Neck	Longest, brownish yellow tint on lower neck and upper breast on front sides	Dark brown without yellowish tint. Neck size about as in <i>frontalis</i>	Warm grayish brown
Back	Black	Dark fuscous brown	Dark brown
Upper surface of the rectrices and inner webs of secondaries	Blackish, especially in fresh plumage	Dark fuscous brown	Dark brown
Appearance in life	Long-legged, coarse-billed, long-necked	Chunky, dark-tinted, with moderately long legs	Chunkier, more brownish, definitely shorter-legged
Calls	Deep and harsh	Intermediate, a short strong call	Melodious; a "laughing" call
Flocking	Flocks apart, family groups 3 to 12	Small isolated family groups	Large, massive flocks on wintering ground



FIG. 1. Contrast in life is quite apparent between typical American White-fronted Goose (*frontalis*) at left and large Tule Goose (*elgasi*), at right. Note blackish crown, thicker, darker, longer neck, longer legs, and darker appearance of mantle in bird at right (USNM 481995). This bird has since died and is preserved in the National Museum of Natural History.

tundra or taiga inhabiting White-fronted Geese are found in America, and that because of confusion in the literature, the two taiga populations, occupying separate ranges, had been placed in a composite category.

The numerical size of the MacKenzie area taiga population, *gambeli*, is unknown. Elgas and Kiracofe (1964, *in litt.*) found a very slim, isolated group of birds on the Old Crow Flats. No significant sight observation of the numbers of

these darker birds in winter in Texas coastal areas is known to us.

The Tule Goose population, *elgasi*, is estimated at about 1500 birds in the Sacramento area as defined above (under Range). At least 100 to 150 birds are shot each year, amounting to perhaps 10 percent of the population. It is our hope that further study and eventual protection may be undertaken for this small identifiable population.

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