

BULLETIN
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The four-hundred-and-seventy-fifth Meeting of the Club was held at the Rembrandt Hotel, Thurloe Place, S.W.7, on Wednesday, 17 March, 1948, with dinner at 6.30 P.M.

Chairman : Dr. J. M. HARRISON.

Members present : F. J. F. BARRINGTON ; Mrs. G. M. CHADWYCK-HEALEY ; C. T. DALGETY ; J. FISHER ; W. E. GLEGG (*Hon. Secretary*) ; Miss C. E. GODMAN ; Miss E. M. GODMAN (*Vice-Chairman*) ; Capt. C. H. B. GRANT (*Editor*) ; Dr. J. G. HARRISON ; R. E. HEATH ; Miss E. P. LEACH (*Hon. Treasurer*) ; C. W. MACKWORTH-PRAED ; J. H. MCNEILE ; G. M. MATHEWS ; E. M. NICHOLSON ; Lt.-Col. W. A. PAYN ; H. J. R. PEASE ; A. A. PRESTWICH ; R. A. W. REYNOLDS ; Miss G. M. RHODES ; Lord HUGH RUSSELL ; PETER SCOTT ; Lt.-Commr. C. P. STAPLES ; Dr. A. LANDBOROUGH THOMSON ; C. N. WALTER ; A. WILLIAMS ; C. DE WORMS.

Guests :—Capt. R. A. JACKSON ; Miss C. JOHNSTON, D. MACPHIE, R. C. WITTING.

Members, 28 ; Guests, 4 ; Total, 32.

A new Race of the Whitefronted Goose.

Mr. C. T. DALGETY and Mr. PETER SCOTT made the following remarks and exhibited the type and other specimens :—

Tonight we propose to show that two races of the Whitefronted Goose winter regularly in the British Isles, one coming from breeding grounds in Arctic Russia, the other from breeding grounds in North West Greenland ; and, surprisingly enough, these races are distinguishable not only

in the hand, but in the field. It seems remarkable that such a distinction in so large a bird as the Whitefronted Goose has not been recognized earlier, and that this new race has not already been given a name. This omission may be partly due to the confusion which has existed about the races of the Whitefronted Goose, which inhabit North America. In order to make this clear a brief historical survey is necessary.

The common Whitefronted Goose, *Anser albifrons albifrons*, was described by Scopoli in 1769 with a specimen taken presumably in northern Italy. (It was described incidentally as *Branla albifrons*.) In 1852 Hartlaub described a larger race from three specimens, two taken in Texas and one in "the south of North America". The Texas birds were immature and the third bird is said to have been "almost adult". He named this race *Anser albifrons gambelli* after a young ornithologist, William Gambel (1819-1849), who was a protégé of Nuttall, and was one of the first ornithologists to visit California.

For many years it was assumed that all Whitefronted Geese in America belonged to the race *A. a. gambelli*. More recently, however, it was discovered that two races of Whitefronted Geese inhabited North America. The most common, with a wide distribution in the western half of the North American Continent, proved to be apparently indistinguishable from the typical *A. a. albifrons* of Europe and Asia. A much less numerous race was recognized by the duck and goose hunters of California, and given the name Tule Goose (pronounced Tooly) from its winter habitat amongst willows and reeds, the latter being known locally as "tules". This bird, which was considerably larger than the typical form, appeared to have a very restricted winter range confined to a few special marshes in the valley of the Sacramento in California. Its breeding range was at that time quite unknown. Swarth and Bryant in an admirable paper (University of California, Zoology, October 1917, vol. 17, no. 11, pp. 209, 222) came finally to the conclusion that the Tule Goose of California was synonymous with *A. a. gambelli* of Hartlaub. A detailed description of the Tule Goose will be given later, but it may be of interest to record that the nest of the Tule Goose is reported to have been found on a lake near the Perry River in the Canadian Arctic about half-way between Baffin Land and the McKenzie Delta on 26 July, 1941. Some doubt still surrounds this record.

Kortright (1942), referring to the finder, a Hudson Bay Company's Post Manager named Angus Gavin, who had discovered the breeding grounds of the Ross's Goose for the first time, says, "Gavin estimated that he saw about 300 pairs of these geese (Tule Geese) in the vicinity. He also found a nesting colony of the smaller Whitefronted Goose about

6 miles away from the nesting Tule Geese, and states that the two varieties of Whitefronts kept strictly apart. A specimen of the large Tule Goose and the smaller Whitefronted Goose were shot. From the marked difference in the estimated weights of the two birds, Gavin, a most reliable observer, feels confident that he has probably found the nesting grounds of the Tule Goose".

This evidence of the proximity of the breeding grounds of *A. a. albifrons* and *A. a. gambelli*, together with the presence of both in different habitats in the same districts in California in winter, may well indicate that the latter will ultimately prove to be a different species.

The finding of the breeding grounds of the Tule Goose in the Perry River district links up with the localities of two of the three supposed Tule Geese in the British Museum. Of these three, one comes from Texas, and the other two from the North-West Territories of Canada. Each of these arctic specimens is connected with a famous geographical exploration. One was collected by Dr. John Rae on his "Expedition to the shores of the Arctic Sea", being killed on 1 June, 1847, at Repulse Bay. This expedition, which was sent by the Hudson's Bay Company, spent the winter of 1846-47 at Fort Hope, which is in Repulse Bay on the south side of the isthmus of Melville Peninsula (to the north of Hudson's Bay and just inside the Arctic Circle). The other was collected by Captain Back in 1834 on his "Northern Land Expedition", which travelled the full length of the Back River, then known as the Great Fish River. Back left Sussex Lake, the source of the river, on 28 June, was on the estuary and coast from 29 July to 21 August, and returned to Sussex Lake on 17 September. He started from a point south-east of Perry River, passed to the south of it, and reached the coast midway between it and Repulse Bay. The exact date and locality of this specimen is not known. From these three specimens it would appear that the breeding ground of the Tule Goose is within the 500 miles of Arctic Canada lying between Longitudes 85° and 105°.

In 1938 Scott visited the haunts of the Tule Goose at Butte Creek in Colusa County, California, but was unlucky in that he could not find any of the large race that day.

In 1934 Dalgety, while on the west coast of Greenland, secured two specimens and one nest of the Whitefronted Goose. The significance of the bill colouring was not then known to him, and so he was not keeping a special look out for it. Unfortunately these two specimens did not show him the true bill colouring because one had the head almost destroyed by a large bore rifle bullet, while the other was not critically examined until some time after death.

At that time (June 1934), Dalgety was told by Governor Rosendhal at Godhavn, Disco, that young wild geese were sometimes brought in and fattened until October, when they were killed to be eaten at Christmas. As these geese were said to have yellow legs they were almost certainly Whitefronted Geese.

Dalgety was not likely to be returning past Godhavn in the autumn, so communicated this information to the late David Haig Thomas, who was expected to pass through Godhavn in August of the same year, and again in the autumn of 1935 after wintering as a member of the Oxford University Ellesmere Land Expedition. As a result, in September 1935, he brought back two live young Whitefronted Geese which Governor Rosendhal had obtained for him.

When he first saw these birds Scott noticed that the bills were orange-yellow, and that the plumage was rather dark. He was at first inclined to dismiss these characters as possibly some individual family variation (since the birds were brother and sister) or possibly some nutritional deficiency due to the fact that they had been brought to England as goslings by sea, and had therefore obtained very little green food.

In 1937 Haig Thomas made arrangements for eight more live geese to be sent back from Greenland. Every bird was similar to the original two. Four of them were sent to Scott to join the collection at his Lighthouse on the Wash. It was not until they were seen in company with the other Whitefronted Geese—some twenty typical *A. a. albifrons* taken in Hungary and in Norfolk—that the full significance of the striking difference first impressed us. The orange-yellow bill and the dark plumage contrasted most noticeably with the pink bill and pale plumage of the typical form.

It chanced that in the same year Scott was visiting America and was informed that the Whitefronted Goose is a very uncommon bird on the Atlantic Coast of that continent. Furthermore, it seemed that the Whitefront, or Speckle-Belly as the American duck hunter calls it, of the middle and western States was indistinguishable from the typical form. Where, then, did the Greenland birds winter? It was at this stage that we chanced upon a description of the Whitefronted Goose by Payne Gallwey in his "Letters to Young Shooters", 1896. "The bill *all one shade, orange yellow* except the tip, which *white*" (italics his). We had always wondered about this apparent error from so careful an observer, but now, remembering that he had done most of his wildfowling in Ireland, the possibility occurred to us that this might be the winter quarters of the yellow-billed Greenland bird. Further research showed that Gould also described the bill as orange yellow when referring to a pair of geese sent to him by Lord Emmiskillen from the county of Fermanagh.

This called for an immediate expedition to Ireland to put this theory to the test. Early in 1939 Scott spent a week trying to outwit a party of Whitefronted Geese on Lough Foyle in Northern Ireland. The light was very bad each day and the birds were very elusive until the last night of our visit, when at midnight, from our gunning punt, we were lucky enough to shoot three of a flock which flew over. Two of the birds were killed, but the third was only wing-tipped and was kept alive. By the light of a torch we peered excitedly at the bills and tried to determine whether they were pink or orange. This proved impossible, and the matter was not finally settled until dawn began to break. It was then quite evident that we had three birds of a similar race to those sent by Haig Thomas from Greenland. The live bird joined the collection at the lighthouse where, upon comparison, it was perfectly clear that it was the same as the four from Greenland.

All the available evidence, therefore, pointed to the fact that a distinguishable race of Whitefronted Goose bred on the West side of the Greenland Ice Cap, and wintered mainly in Ireland. (It would be misleading to speak of West Greenland in this connection, as the breeding area lies partly within the Governmental district of North Greenland.) Since that time careful study has been made of the Whitefronted Geese in Ireland, and in nearly all cases they have proved to belong to the yellow-billed race. The only exceptions were a small number recorded during the winter of 1946-47, when an unusually large influx of *A. a. albifrons* occurred in England, and when they were subsequently scattered by the severe weather. One of the birds shot near Dublin at this time was kept alive and is now in the Dublin Zoo. The reason for this was that Mr. Fred Fox, who shot it, recognized at once that this was something different from the usual Irish Whitefront, having paler plumage, and a noticeably smaller and pink bill. Conversely, in the winter of 1937, a Greenland Whitefront was shot in Westmorland by Mr. W. M. Bratby. He was conversant with the typical Whitefront and immediately recognized this as being something different. In fact he first mistook it for a Bean Goose, *Anser arvensis* Brehm, owing to its dark plumage and yellow bill; being a juvenile it had a dark nail and no black on the breast. The yellow-billed race has been recorded from the west of Scotland, Westmorland, Wales and Gloucestershire; in England, however, the records are of single birds or small numbers. It is also probable that those few Whitefronted Geese which winter on the Atlantic coast of North America belong to this race.

Two minor complications, among many, should here be recorded. In 1902 Coburn, in 'Zoologist', 1902, pp. 337, 351, assigned a number of Whitefronted Geese collected in western Ireland to *A. gambelli*. From

a series of Irish birds he picked a certain number which he regarded as the American form, whilst others were assigned to the typical form. It appears likely, however, that he was making his selection from a series of the hitherto undescribed race. He had not apparently noticed the difference in the colour of the soft parts, but was guided by the larger measurements which, as will be shown later, are sometimes a character of the yellow-billed form.

The second complication was that the Greenland birds were again erroneously assigned to *A. a. gambelli* by Schiøler in 'Danmarks Fugle', 1923. Schiøler was aware of the distinction in the plumage and also in the measurements of the Whitefronted Goose breeding in Greenland, but again ascribed it to the American race. And here an interesting error crept in. The illustrations for this monumental Danish work were most exquisitely painted by Mr. T. Larsen. They were made, however, largely from skins, in the case of the Greenland birds, from which the colour of the soft parts can, of course, only be guessed. Mr. Larsen therefore painted the bills of the Greenland Whitefronts in the colour which he knew to be that of the typical Whitefronted Goose—that is to say, pale pink. The main point, however, is that Schiøler had accepted a definite distinction between the Greenland breeding Whitefront and the typical Whitefront of Europe. He had accepted it on the basis of measurement and plumage colour without using, or apparently discovering, the important distinction in the colour of the bill.

It is interesting to observe how the failure to recognize the Greenland race, together with the misuse of the name *A. a. gambelli*, has led to a great deal of misunderstanding and even asperity between ornithologists. There is scarcely a book on palæarctic ornithology which does not in some way allude to either white-fronted geese with yellow bills or to *A. a. gambelli* in a manner which can now be considered to be mistaken.

The next problem was to find a suitable type-specimen for the description of the new race. This could not be undertaken for various reasons until the end of the war. The significance of the bill colour and the rapid fading of this colour within a few minutes of death made the problem a very difficult one. No skins in collections or museums could be regarded as satisfactory for this reason. A pair of live birds taken in Greenland had been sent from Copenhagen to the London Zoo, and a second pair was sent to the collection of the Severn Wildfowl Trust in Gloucestershire. In both cases these birds were typical of the Greenland race, but it was not thought altogether satisfactory to use them as type-specimens in view of the difficulty of taking measurements from a living bird.

Meanwhile Dr. Finn Salomonsen of the Zoological Museum, Copenhagen, had undertaken some extensive ringing of the geese on the breeding grounds in Greenland, and already during the winter of 1946-47 a number of recoveries of these ringed birds were recorded. Nine were returned from Ireland, one from Wales, and one from eastern Canada. Further ringing was undertaken in the following year, and during the past winter an even larger number of recoveries has been made. Rewards were therefore offered for the immediate delivery of freshly killed specimens bearing rings. This was successful and a number of ringed birds are now available to science in the form of skins. Dalgety visited Ireland in 1947 and was fortunate enough to secure a ringed immature a few minutes after it had been killed. This bird has been selected, together with an adult shot by him at the same time, and the adult will be the type specimen of the new race as both specimens conform as nearly as possible to the requirements which we had set ourselves,—a bird whose skin is satisfactorily preserved, whose bill colours were recorded within a few minutes of death, and whose breeding ground and wintering ground were known and linked by the aluminium ring.

Such is the history leading up to the final recognition of the race which is now for the first time, fully described and compared with allied forms.

We propose:—

ANSER ALBIFRONS FLAVIROSTRIS, new race.

The Greenland Whitefronted Goose.

Greenland name.—Nerdlernak.

Synonymy.—*A. a. albifrons* (Scopoli). Winge, Grønlands Fugle, 1898, p. 116.

A. a. gambelli (Hartlaub). Schiøler, Danmarks Fugle, 1923, p. 444.

Description.—*A. a. flavirostris* can be distinguished from both *A. a. gambelli* and *A. a. albifrons*. This Greenland race does not have the yellow orbital ring of *A. a. gambelli*, nor the heavy pink bill, nor is it so large. It is evidently, therefore, quite distinct from *A. a. gambelli*. In comparison with *A. a. albifrons*, whether from Europe, Asia or America, the following differences are apparent:—

Plumage colour of *A. a. flavirostris* is darker; light tips of mantle feathers are narrower; white tips of tail-feathers are shorter; bill colour is quite different. Even in the field, the darker plumage and yellow bill of the Greenland race are conspicuous features for comparison with the lighter plumage and pink bill of *A. a. albifrons*. In a good light the two races are unmistakable when seen in flocks, though some individual

birds can be puzzling. In the hand it is almost impossible to confuse them.

The general character of the upper plumage, as a whole, of *A. a. flavirostris* is dark "nigger brown" with little or no "rufous" or "russet" pigment. That of *A. a. albifrons* is "ash brown" tinged with "rufous". This difference is most noticeable on the hind neck and upper mantle, *A. a. flavirostris* having these parts the colour of plain chocolate, while in *A. a. albifrons* they are the colour of milk chocolate. Also the pale tips of the mantle feathers of *A. a. albifrons* give a markedly striped appearance which is not nearly so evident in *A. a. flavirostris*.

There seems to be a tendency in *A. a. flavirostris* for the belly to be more heavily marked with black bars than in the nominate race. The spotted appearance of the breast and belly of some immature White-fronted Geese appears to be more common and more distinct in *A. a. flavirostris* than in *A. a. albifrons*.

The following are the descriptions of the colours of the various parts, matched as nearly as possible with Ridgeways Colour Standards, 1912 :—

A. a. flavirostris.

A. a. albifrons.

Bill of Adult.

The pearl-pink ground colour is present, but largely concealed by the yellow or orange. This pink is nearest to I La France Pink or I Shrimp pink, but is more delicate fleshy or pearly colour. The yellow or orange which varies from III Cadmium orange, Orange or Cadmium yellow, is present as a brilliant colour on middle of culmen and the whole length of the sides of (tomia) upper mandible and rami of lower mandible. On forward quarter of upper mandible the orange-yellow shades into the pink. Completely surrounding nostrils is an area of orange yellow. This and the orange yellow of tomia shade with the pink. The soft skin between the rami of lower mandible is III Cadmium yellow.

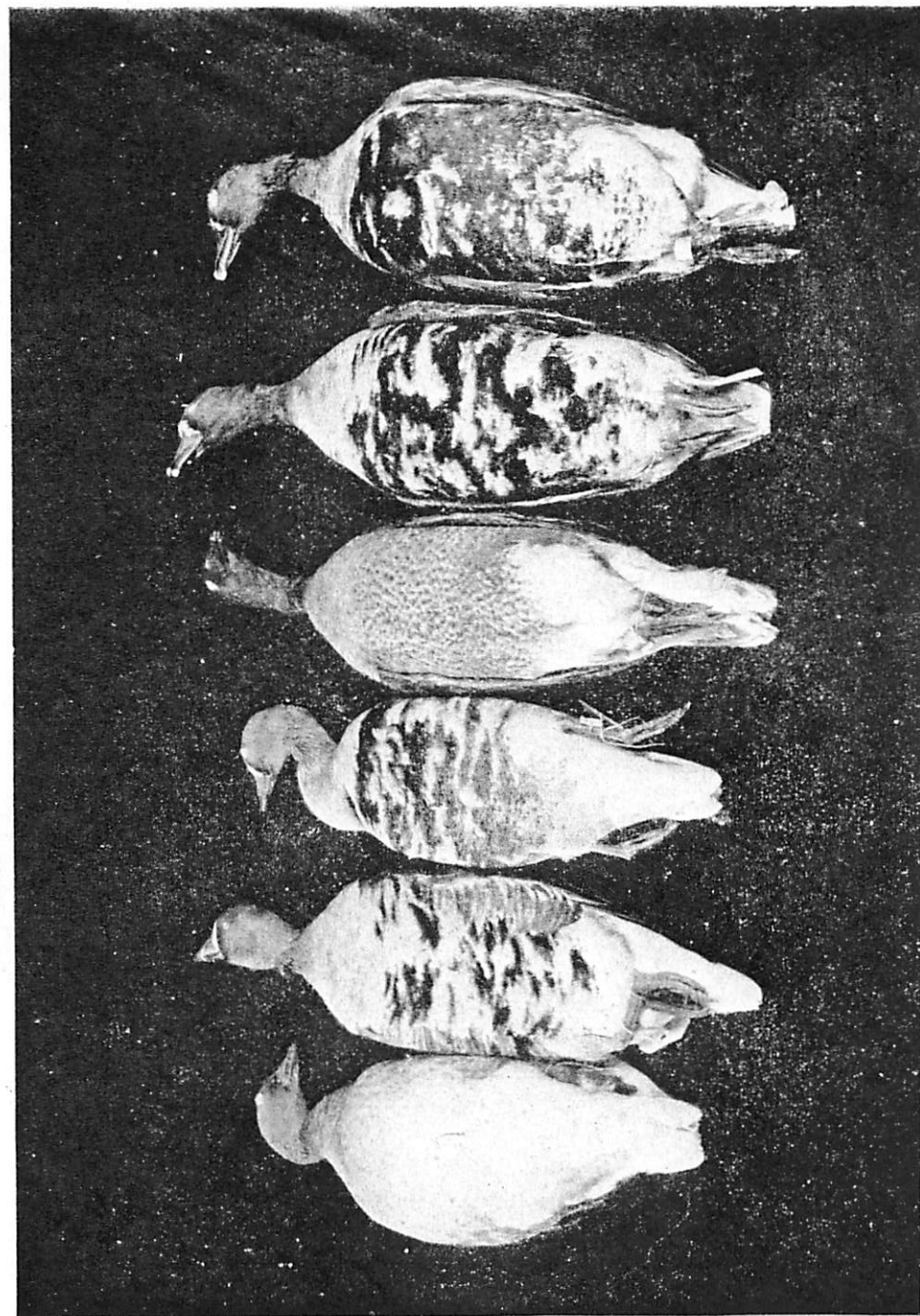
The whole bill is normally pearl-pink except on small area of middle of culmen and under middle half of rami of lower mandible which may be a clear III Cadmium yellow to III Orange but is usually only tinted yellow.

Bill of Juvenile.

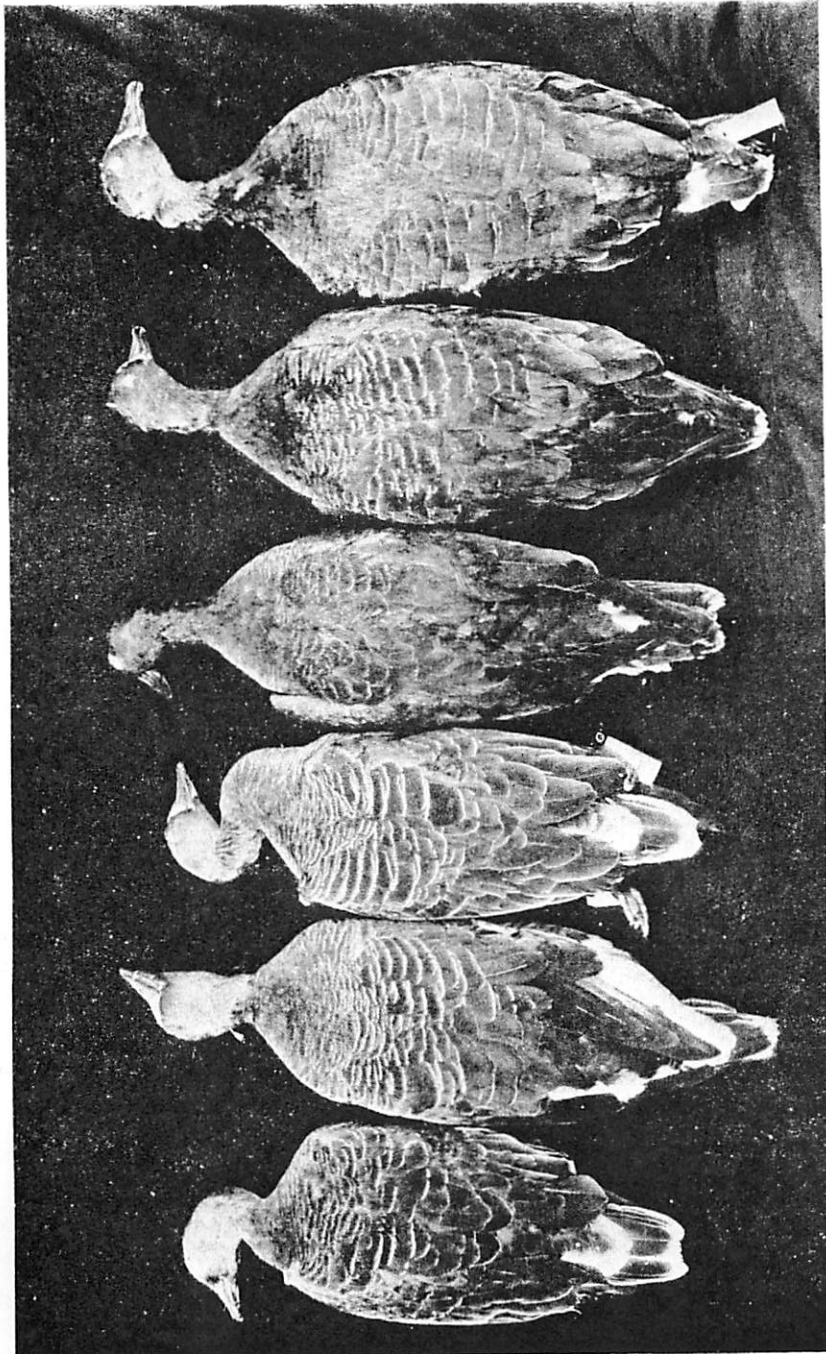
Entirely III Cadmium yellow to Orange. Pearl pink to dull yellowish.

Nail of Bill.

In both races the nail in the juvenile gosling is dark horn or black, in the adult white. During immaturity there is a slow transition through the varying shades of greyish horn from black to white.



1 Immature. 2 Adult. 3 Adult. 4 Immature. 5 Adult. 6 Adult.



Adult.

Adult.

Immature.

Adult.

Adult.

Immature.

A. a. flavirostris.

A. a. albifrons.

Fect.

II Orange chrome to III Cadmium orange or III Orange. III Orange to III Cadmium yellow.

Base of Neck.

XLVI Fuscous Black. XV Prouts Brown, XXIX Snuff Brown.

Mantle.

XLVI Fuscous Black tipped with XV Prouts Brown to XXIX Bister. XL Clove Brown tipped XV Prouts Brown or inner tip XV Mummy Brown to XL Clove Brown with outer tip XL Tilleal Buff or XLVI Light Drab or Drab Grey. Mantle feathers with pale tips of 2 mm. Mantle feathers with pale tips of 4 mm.

Side of Head.

XLVI Fuscous Black. XL Wood Brown, XLVI Drab.

Rump.

LIII Blackish Slate, LI Blackish Mouse Grey. XL Clove Brown, XLVI Fuscous Black.

Breast.

Background shade slightly sooty. White.

Tail.

Second feather from centre white tip, 6-9 mm. White tip, 13-17 mm. (exceptions amongst juveniles).

In size the Greenland bird perhaps averages slightly larger than the nominate race. Its bill is definitely longer, though measurements overlap, being one-tenth as long again. The length of culmen of *A. a. flavirostris* also overlaps with that of *A. a. gambelli*.

The length of tarsus of both the nominate and Greenland races are similar and do, exceptionally, overlap with that of *A. a. gambelli*. In fact the culmen gives the only measurement of comparative value.

Distribution.—Breeding west coast of Greenland. In winter to western parts of British Isles and Atlantic Coast of North America.

Type.—In collection of C. T. Dalgety. Adult male collected at North Slob, Wexford, Eire, on 26 November, 1947, by C. T. Dalgety. Field Book No. D 17.

Co-Type.—In collection of C. T. Dalgety. Juvenile male. Same place and date as type. Shot by Capt. A. Barclay. Field Book No. D 22. Bearing ring of Zoological Museum Copenhagen, No. 270810. Ringed Sarqaq, Jakobshavn District, Greenland (70° 6' N., 52° 8' W.) in July 1947.

Measurements of Type (taken in the flesh).—Total length 29½; wing-span 61 inches. Wing 445; tarsus 73; culmen 50; height of upper mandible 26; greatest length of bill 56.5; visible depth of lower mandible 7; breadth at base of bill 25 mm. Weight 6 lb. 4 oz. (a very well-conditioned bird).

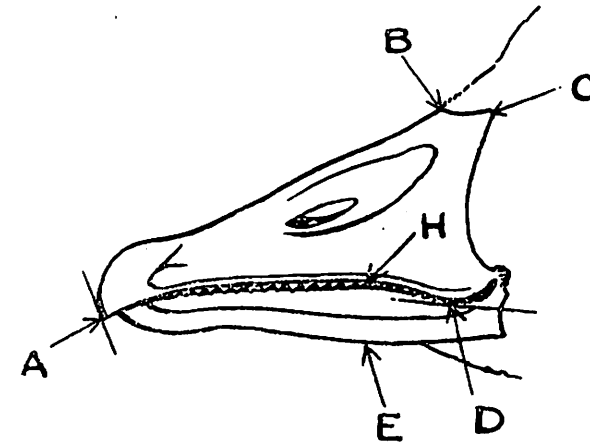
Table of Measurements etc.

Race and Country.	Quantity of Material.	Culmen.	Tarsus.	Length.	Weight (lb. oz.).
<i>A. a. gambelli</i> . America.	10 Swarth and Bryant.	} .. 53-62	} .. 77-84	} 745-854	} Min. 5.5
	3 B.M.				
	3 Moffit		
<i>A. a. flavirostris</i> . Greenland and western British Isles.	23 C. T. D.	} ..	} ..	} 660-750	} Max. 6.4 Av. 5.7 Min. 4.12
	17 B.M.				
	15 Coburn	45-57	63-76		
<i>A. a. albifrons</i> . America.	20 Swarth and Bryant	} ..	} ..	} 685-736	} Max. 5.8
	8 B.M.				
	2 Moffit		
<i>A. a. albifrons</i> . Europe and Asia (Britain included). W. Europe	18 B.M.	} ..	} ..	} ..	} ..
	E. Asia				
	8 B.M.				
	E. Med.	} 40-53	} 62-74	} 635-760	} ..
	11 B.M.				
	6 C. T. D.	..	1 of 77	..	Max. 6.3
W. Europe	} 1 of 56	} 51-81	} ..	} Max. 6.8 Min. 4.0	
31 Alpheraky Eurasia.					
21 Popham. W. Europe	Av. 5.8	

Measurements of Co-type (taken in the flesh).—Total length 28½; wing-span 57 inches. Wing 395; culmen 53; tarsus 76.5; height of upper mandible 26; greatest length of bill 60; visible depth of lower

mandible 7; breadth at base of bill 26 mm. Weight 6 lb. (a very well-conditioned bird).

Text-figure 1.



Bill measurements.

- A B.—Culmen.
- C D.—Height upper mandible.
- A C.—Greatest length.
- H E.—Visible depth, lower mandible (this includes teeth of upper mandible.)

Summary.

The Tule Goose, *A. a. gambelli*, differs from *A. a. albifrons* in being: (1) of larger size (it is in fact as large as a Greylag). (2) Having larger beak, both in length and depth. (3) Having orbital ring of bright yellow colour (one of the diagnostic characters of the Lesser Whitefronted Goose, *Anser erythropus*). (4) Having darker and browner plumage.

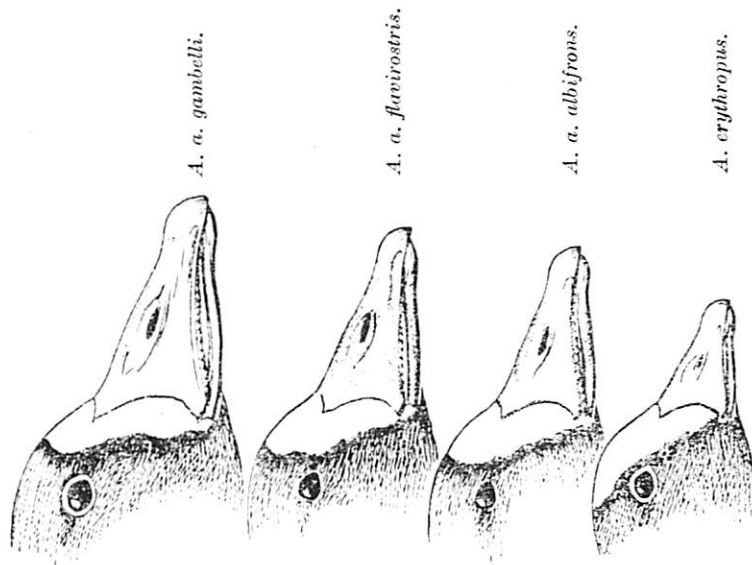
Swarth and Bryant conclude that Hartlaub's type *A. a. gambelli* is the American Tule Goose, the measurements given by Hartlaub being possible for the Tule Goose, but not possible for the common American Whitefronted Goose. They maintain that the race *A. a. gambelli* can be distinguished from *A. a. albifrons* even in the field by larger size, longer neck, and bright orange-yellow orbital ring.

The American *A. a. albifrons* cannot be distinguished, so far as is known, from European or Asiatic *A. a. albifrons*, either by measurement, plumage, bill colour or weight.

Comparison.—*A. a. flavirostris* is smaller than *A. a. gambelli*, and has the bill of different colour and form. *A. a. flavirostris* is distinguishable from *A. a. albifrons* by its darker plumage, bill coloured predominantly

yellow, and narrower white tip to tail. Also the light edges to the mantle feathers are narrower, there is a general absence of rufous or russet on the neck and upper mantle and the bill is longer. There is a tendency for the black belly markings to be heavier and the ground-colour of the belly to be slightly more sooty. Immature *A. a. flavirostris* more often have the belly spotted with dark grey.

Text-figure 2.



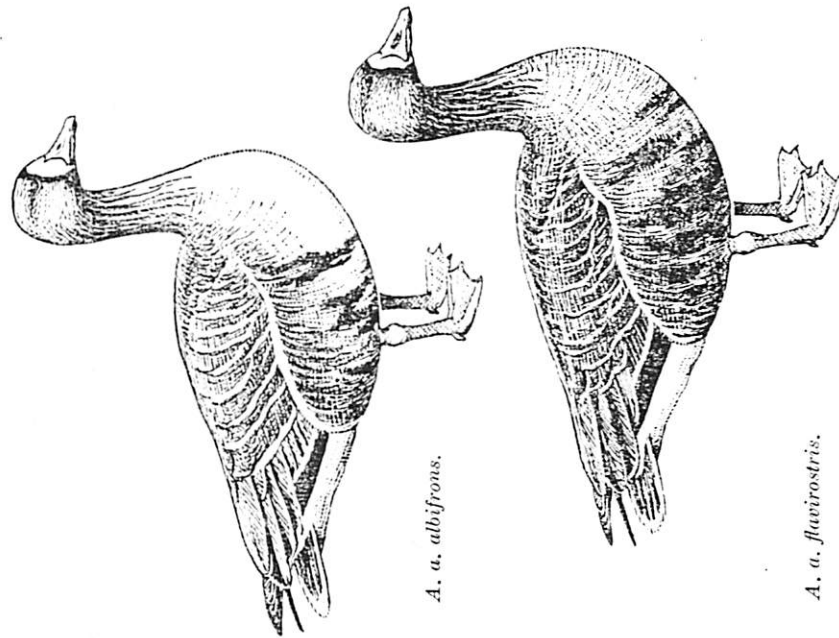
Bills are pink except shaded parts which are yellow. Nails whitish.

Distribution.—*A. a. flavirostris* appears to be confined to breeding grounds in western Greenland, and winters in the western parts of the British Isles, especially Ireland and western Scotland.

We do not know to what extent it winters on the Atlantic Coast of America, but, in view of the ringed specimen shot on the St. Lawrence River, Quebec, it is possible that such few whitefronts as winter there belong to this race.

In conclusion we should like to take this opportunity of thanking all those who have helped us in the preparation of this paper. We would particularly mention Dr. Finn Salomonson of the Zoological Museum of Copenhagen University who has been most generous with his information regarding the ringed geese. We will not anticipate his publication

Text-figure 3.



of the details of the 1947-48 ringed birds from Greenland, which he expects to publish in July.

It is especially regretted that David Haig Thomas, who played so large a part in the early stages of this research, and who had so great a love for Greenland and her natives, did not live to see its culmination. He was killed in Normandy on D Day, after dropping as a commando parachutist.