

# Axillary feathers colour patterns as indicators of the breeding origin of Bar-tailed Godwits

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Bar-tailed Godwits *Limosa lapponica* show clinal variation in the amount of the brown of the axillary feathers. The populations in Scandinavia and northern Russia have white axillaries, narrowly barred brown. Those of east-Siberia and Alaska have brown axillaries, narrowly barred white (Prater *et al.* 1977). There is a gradual transition from the northern European type to that of east Asia and Alaska. One of the problems of our re-

search on the breeding success of Bar-tailed Godwits using the Waddensea as a stop-over place during spring migration has been to establish as exactly as possible their breeding grounds.

For this purpose we use the amount of brown-barring of the axillaries, in combination with the measurement of wing, bill and tarsus, which differ geographically (Prater *et al.* 1977).

A scale for the amount of brown-barring of one axillary is presented here (see Table 1 and Figure 1). We have good evidence that birds with axillaries of scales 3, 4 or higher breed east of the Urals. A more detailed description of this geographical variation will be given elsewhere (Nieboer *et al.* in prep.).

The amount of brown-barring as an indication for geo-

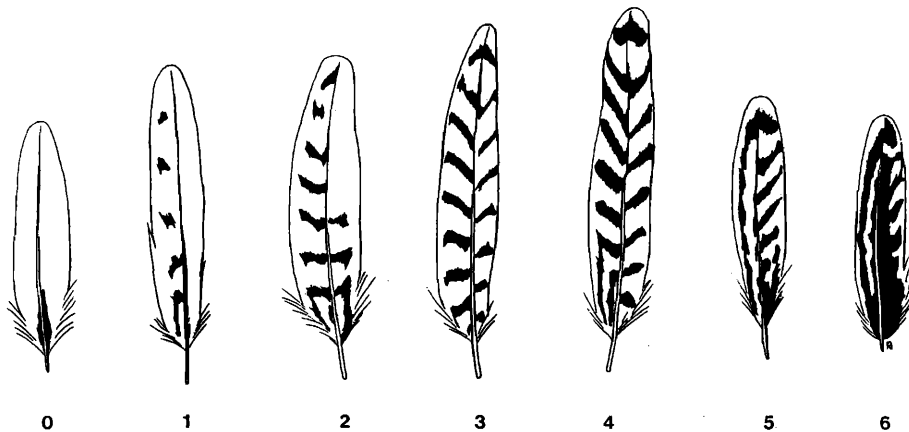
**Table 1.** Scale of the brown-barring in the axillaries of Bar-tailed Godwits.

0	Feather totally white, occasionally some brown at the base.
1	Brown spots or bars only on one side of the shaft.
2	Brown bars on one side, and at most to the half of the other side.
3	Brown-barred both sides; the white parts clearly wider than the brown bars.
4	As class 3, but the width of the brown bars is as large or larger than that of the white parts.
5	As class 4, but the brown bars of one side fused into longitudinal bands.
6	Bars of both sides fused into wide longitudinal bands.

graphical origin can be applied the best to males in adult plumage. We believe that if this character could be recorded by participants of WSG International Wader Migration Projects, and by other groups or individuals wader trapping in the wintering areas, it may help to localise the breeding grounds of the Bar-tailed Godwits that occur in the Western Palearctic and Africa outside the breeding season.

## References

- Prater, A.J., Marchant, J.M. & Vuorinen, J.H. 1977. *Guide to the identification and aging of Holarctic Waders*. BTO, Tring.  
Partenko, L. 1936. The Bar-tailed Godwit and its races. *Auk* 53: 194-197.



**Figure 1.** Axillary feathers of Bar-tailed Godwits, showing the classes of brown-barring. Type 6 is after Partenko (1936).

