

Individual quality and reproductive effort mirrored in white wing plumage in both sexes of south polar skuas

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Abstract

It is well established that female choice may lead to sexual selection on quality-revealing ornaments in males. However, in many species, both sexes display conspicuous characters, which may reflect individual quality and condition. We examined the correlations between measures of individual condition, reproductive performance and variation in size and whiteness of white wing patches in both sexes of the south polar skua (*Catharacta maccormicki*). Females with a whiter patch had a lower mean clutch size and higher survival, and males with whiter patches had higher immune responses against the injected immunogen tetanus. Birds with a larger white patch, on the other hand, had a higher mass loss, and females with large white patches laid larger eggs and had reduced survival probability. Thus, variation in 2 measured aspects of the wing patches in the south polar skua seems to mirror a gradient of reproductive investment strategies; from 1) reduced reproductive investment, better immune defense, and higher survival in birds with more intensely white wing patches to 2) high reproductive investment but survival costs in birds with larger patches.

Key words: diphtheria, female, immune function, male, ornament, sexual selection, tetanus.