Notornis, 2005, Vol. 52: 163-165
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SHORT NOTE

Evidence for 'hakawai' aerial displaying by Snares Island snipe (*Coenocorypha aucklandica huegeli*)

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The hakawai was a legendary bird of the Muttonbird (Titi) Islands around Stewart Island. Unseen, and considered by many to be invisible, its eerie call was heard only at night, and was greatly feared by many muttonbirders (Miskelly 1987). The hakawai was last heard on Taukihepa (Big South Cape Island) in the early 1960s, about the time that ship rats (*Rattus rattus*) invaded the island. Miskelly (1987) presented evidence that the hakawai was a nocturnal aerial display of the extinct Stewart Island snipe (*Coenocorypha aucklandica iredalei*), and that part of the display was caused by vibration of the tail feathers as the bird dived at speed, homologous with the drumming or bleating displays of *Gallinago* snipes (Tuck 1972; Sutton 1981). This vibrational stress caused characteristic damage to rectrices (shafts snapped near the tips, creating a v-shaped tip to rectrices) that has been observed in the field and on museum specimens of four *Coenocorypha* snipe taxa (illustrated in Miskelly 1987).

Until 1998, the only evidence for hakawai aerial displaying by Auckland Island snipe (*C. a. aucklandica*) was the characteristic tail feather wear on four or five museum specimens (Miskelly 1987). However, the aerial display was heard by Alan Tennyson on Enderby and Ewing Islands in June 1998 (Tennyson 1999), and on Adams Island in June 2001 and January 2005 (G. Elliott, K. Walker pers. comm.), thus confirming that the tail feather wear was an accurate predictor of the occurrence of the display.

The strongest argument against the hakawai = snipe aerial display hypothesis was that hakawai had never been heard on Snares Islands, and I had not noticed any of the characteristic tail feather wear during 670 handlings of adult Snares Island snipe (*C. a. huegeli*), which is the most intensively studied *Coenocorypha* snipe (e.g. Miskelly 1990a, 1999a, b). Miskelly (1990b) presented evidence that Snares Island snipe had higher wing loadings and reduced flying ability compared to Chatham Island snipe (*C. pusilla*), and argued that Snares Island snipe had progressed further towards flightlessness than other *Coenocorypha* snipe, apparently losing the hakawai aerial display in the process. However, I here present evidence that Snares Island snipe have retained the hakawai display as part of their behavioural repertoire.

During 10-16 April 2005 I participated in a transfer of 30 Snares Island snipe from North East Island to Putauhinu Island, a 141 ha muttonbird island off the south-west coast of Stewart Island. The translocation was undertaken towards the end of the snipe breeding season. A few birds were still caring for dependent young (and one female captured on 12 April laid an egg in an aviary by the following day), but most adults were in post-breeding (pre-basic) moult. While handling 18 adult male snipe during 11-13 April (of which four were caring for chicks), I found two of the "post-breeding" males had the broken tail feather tips characteristic of hakawai aerial displaying. The first was caught on the tip of Station Point on 12 April; it was in active tail moult (the central two pairs of rectrices were missing), but rectrices 3 - 5 on both sides of the tail were snapped (Fig. 1a). *Coenocorypha* snipes have seven pairs of rectrices; the central two pairs are soft and resemble upper tail coverts (which are of similar length to the rectrices), pairs 3 and 4 are more rigid, but of typical broad, symmetrical shape, while pair 5 is narrower, and pairs 6 - 7 are pin-like feathers homologous with the very narrow outer tail feathers of *Gallinago* snipes (Tuck 1972; Sutton 1981). Rectrices 3 - 5 are the feathers that most often exhibit 'hakawai' feather wear in other *Coenocorypha* snipes (author pers. obs.).

The second bird exhibiting 'hakawai' feather wear was a male caught on Ho Ho Point on 13 April. This bird had completed its post-breeding moult, and had new tail feathers. As in the previous bird, rectrices 3 - 5 on both sides were snapped (Fig. 1b). Both birds were included in the 14 males transferred to Putauhinu Island on 16 April, where the implications of the tail feather wear were discussed with the muttonbirders present at the release.

The hakawai was of great significance to the muttonbirders. During planning for translocation of snipe to Putauhinu following the eradication of kiore (*Rattus exulans*), interest was expressed by muttonbirders in having a form of snipe introduced that performed the hakawai display. However, due to geographical proximity, habitat use, and the morphological similarity between Snares Island snipe and Stewart Island snipe (Worthy *et al.* 2002), as well as the conservation needs of Snares Island

Received 3 May 2005; accepted 20 May 2005
Editor M. Williams

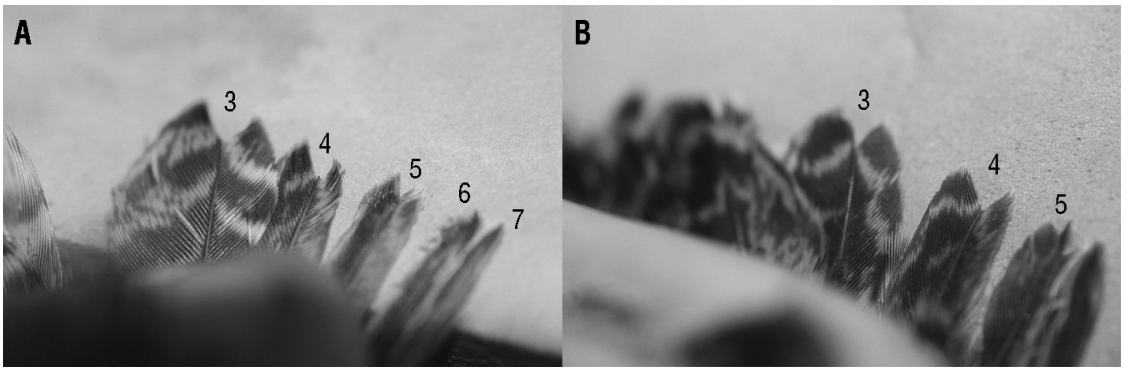

Figure 1. Tail feather wear indicative of 'hakawai' aerial displaying by Snares Island snipe. Note snapped shafts near tips of rectrices, creating a v-notch. Numbers show retrices numbered outwards from the central pair of rectrices. A= male captured on Station Point on 12 April 2005; B= male captured behind Ho Ho Point on 13 April 2005. Photos: Rosalind Cole, Department of Conservation.

snipe, it was decided that the Snares Island snipe was the most appropriate taxon to replace the extinct Stewart Island snipe (Roberts & Miskelly 2003). The translocation of these two males means that there is now the potential for the hakawai once again to be heard on the southern Muttonbird Islands.

Why hasn't the hakawai been detected on the Snares Islands previously, given the huge amount of nocturnal fieldwork undertaken by petrel researchers (e.g. Warham *et al*. 1977 & 1982; Tennyson in Miskelly *et al*. 2001, and the Otago University Titi Research Team 1996-2005), and myself studying snipe during 1982-87? Perhaps it is a display performed at the end of the breeding season, with evidence of its occurrence shed during the pre-breeding (pre-alternate) moult. Most of the 16 University of Canterbury research teams between 1961 and 1987 were present on the island between November and February, or March at the latest (the main exception was the 13-month stay by Don & Carol Horning in 1971-73; Horning & Horning 1974). The Titi Research Team did a lot of night work late in the sooty shearwater (*Puffinus griseus*) breeding season in some seasons, e.g. P. Scofield (pers. comm.) was in the field virtually every night from mid April to mid May in 1999, 2000 and 2001. As he did not hear the hakawai, it is likely to be performed rarely during this period.

The second 'hakawai' snipe handled had completed its post-breeding moult, yet had feather wear on its new rectrices, and so it is likely to have been displaying in the weeks immediately before capture. If Snares Island snipe perform the hakawai display in April-May, this would match reports from some muttonbirders that the (Stewart Island) hakawai was only heard during the muttonbird season (April-May; Miskelly 1987). It is possible that it is simply too dangerous for snipe to perform aerial displays over Snares Islands (and Muttonbird Islands) earlier in the season due to the legendary swarms of incoming sooty shearwaters flying over the islands at night (Warham & Wilson 1982); the number of shearwaters flying overhead at dusk is greatly diminished by April (author pers. obs.).

Aerial displays by snipe on Rangatira (South East) Island in the Chatham Islands are most often heard on calm, dark nights (Miskelly 1987, 1990b; author pers. obs.), and the same apparently holds for Auckland Island snipe (Tennyson 1999; G. Elliott, K. Walker pers. comm.). Attempts to hear hakawai during two apparently suitable nights on Snares Islands in April 2005 were unsuccessful. It appears that the hakawai will retain some mystery for a while yet.

ACKNOWLEDGEMENTS

I thank my fellow snipe-catching team members Matt Charteris, Rosalind Cole, Phred Dobbins, Andrea Goodman and Malcolm Mackenzie for their assistance, good company, and their contributions to a successful transfer. Translocation of snipe was only possible due to the work that Putauhinu birders, particularly the Davis, Lee and Spencer whanau, and Southland Conservancy, Department of Conservation, have put into rat eradication and quarantine, and island restoration. I particularly thank Pete McClelland and Andy Roberts (both of Southland Conservancy, Department of Conservation), and Matt Charteris for the effort that they have put into snipe recovery planning, and planning, organising and funding of the Putauhinu snipe transfer. I also thank Phil Battley, Matt Charteris, Graeme Elliott, Paul Scofield and Kath Walker for information provided, and Matt Charteris, Pete McClelland and Paul Scofield for their comments on this manuscript.

LITERATURE CITED

Horning, D.S.; Horning, C.J. 1974. Bird records of the 1971-73 Snares Islands, New Zealand, expedition. *Notornis 21*: 13-24.

Miskelly, C.M. 1987. The identity of the hakawai. *Notornis 34*: 95-116.

Miskelly, C.M. 1990a. Breeding systems of New Zealand snipe *Coenocorypha aucklandica* and Chatham Island snipe *C. pusilla*; are they food limited? *Ibis 132*: 366-379.
Miskelly, C.M. 1990b. Aerial displaying and flying ability of Chatham Island snipe *Coenocorypha pusilla* and New Zealand snipe *C. aucklandica. Emu 90*: 28-32.
Miskelly, C.M. 1999a. Breeding ecology of Snares Island snipe (*Coenocorypha aucklandica huegeli*) and Chatham Island snipe (*C. pusilla*). *Notornis 46*: 207-221.
Miskelly, C.M. 1999b. Social constraints on access to mates in a high density population of New Zealand snipe (*Coenocorypha aucklandica*). *Notornis 46*: 223-239.
Miskelly, C.M.; Sagar, P.M.; Tennyson, A.J.D.; Scofield, R.P. 2001. Birds of the Snares Islands, New Zealand. *Notornis 48*: 1-40.
Roberts, A.; Miskelly, C. 2003. Recovery plan for the snipe species of New Zealand and the Chatham Islands (*Coenocorypha* spp.) tutukiwi. 2003-2015. Wellington, Department of Conservation.
Sutton, G.M. 1981. On aerial and ground displays of the world's snipes. *Wilson bulletin 93*: 457-477.
Tennyson, A.J.D. 1999. Confirmation of a nocturnal aerial display by Auckland Island snipe (*Coenocorypha aucklandica aucklandica*). *Notornis 46*: 241-242.
Tuck, L.M. 1972. *The snipes: a study of the genus* Capella. Canadian Wildlife Service Monograph no. 5, Ottawa.
Warham, J.; Keeley, B.R.; Wilson, G.J. 1977. Breeding of the mottled petrel. *Auk 94*: 1-17.
Warham J.; Wilson, G.J. 1982. The size of the sooty shearwater population on the Snares Islands, New Zealand. *Notornis 29*: 23-30.
Warham J.; Wilson, G.J.; Keeley, B.R. 1982. The annual cycle of the sooty shearwater *Puffinus griseus* at the Snares Islands, New Zealand. *Notornis 29*: 269-292.
Worthy, T.H.; Miskelly, C.M.; Ching, R.A. 2002. Taxonomy of North and South Island snipe (Aves: Scolopacidae: *Coenocorypha*), with analysis of a remarkable collection of snipe bones from Greymouth, New Zealand. *New Zealand journal of zoology 29*: 231-244.

Keywords aerial displaying; hakawai; New Zealand snipe; *Coenocorypha aucklandica*; Snares Islands