are similar in appearance to white-throated birds. That is, they are class A or B in Figure 2 of Taylor (this issue). About one-third are smudgy, i.e. class D.

The factors maintaining this polymorphism need further study. The 'dark' phenotype has presumably evolved since the Little Shag arrived in New Zealand because the Australian subspecies *P. m. melanoleucos* is pied. The large difference in allele ratios in different parts of New Zealand (Table 5) suggests that one or more selective forces are constantly in operation. One obvious suggestion is that these are climatic. The dark morphs may be at an advantage in areas of lower temperature because the greater amounts of solar heat absorbed by an all-dark bird would reduce the amount of energy expended on the maintenance of body temperature.

Perhaps morph frequencies are altered locally by the occasional arrival of Little Shags from Australia, but large numbers would probably be needed to have a significant effect. Such immigrants would have to be more common in the north than in the south if invasion plays a part in maintaining the cline.

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SHORT NOTE

Homing ability of the House Sparrow

The House Sparrow *(Passer domesticus)* is a social species that is throughout New Zealand. Sparrows are highly sedentary birds, 92% of recoveries of banded sparrows in Great Britain being within 2 km of their banding site (Summers-Smith 1963). In Illinois the longest movement of 89 sparrows recaptured from 1785 banded was 3.2 km (Will 1973). In New Zealand, 97% of 2237 recoveries of individual banded sparrows were at their banding site. Twelve birds were recovered within 15 km, 35 birds from 15-30 km, 15 birds from 30-100 km and six birds further than 100 km from their banding site. The recoveries include one bird at 236 km and one at 317 km. We report here movements of House Sparrows of up to 5.7 km in returning to their original capture site after escaping from an aviary.

House Sparrows were captured in mist nets and cage traps during a study of their annual reproductive cycle. They were caught at a grain store in Lower Hutt and at Belmont, Petone and Wainuiomata. The birds were individually marked with bands and held in three large aviaries at the DSIR Taita Research Station.

On 19 August 1985 the aviaries were vandalised and all 58 sparrows (39 males, 19 females) were released. Over the next few days up to 15 of the birds were seen in and around the aviaries. Three of these were recaptured beside the aviaries 10 days after their release and two more the next day. One male had been in captivity for 38 days and the other two males and two females had been in captivity for 70 days.

Each month for the next 11 months we trapped sparrows at the grain store. Six of the 20 released birds we had originally captured at the grain store were recaptured there. Three were recaptured at the next trapping (24 days after release), and three more were caught at different times up to 186 days after release. These birds (30% of those released) had travelled 5.7 km as the sparrow flies. We do not know how quickly the birds returned to the grain store. Moreover, only some of the birds were captured each month, and so more birds may have returned than were recaptured.

Two of the eight sparrows originally captured at Belmont were subsequently caught at the same site by a cat. One bird was caught 72 days after release and the other 130 days after release. Both these birds had been in captivity for 21 days and had travelled 4.7 km. No birds were recaptured during further trapping at Petone and Wainuiomata (8.6 km and 10.5 km from release site).

Clearly, House Sparrows have strong homing ability. Furthermore, four of the five birds recaptured at the aviary had been in captivity for longer than those recaptured elsewhere (70 days as against 21-50 days). The homing inclination of House Sparrows may thus decline with the time in captivity.

We thank the Manager of Sharpes Grain and Seeds Ltd for permission to capture sparrows, and the Banding Office, NZ Wildlife Service, for providing records of the recoveries of sparrows in New Zealand.

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