

## SHORT NOTE

### Observation of displaying behaviour between two immature southern black-backed gulls (*Larus dominicanus*)

MARK SEABROOK-DAVISON

Ecology & Conservation Group, Institute of Natural and Mathematical Sciences, Massey University, Private Bag 102904, Albany, New Zealand

On 18 Dec 2012, at Lake Pupuke Takapuna, Auckland (36°46'48"S, 174°45'58"E), I observed 2 immature black-backed gulls (*Larus dominicanus*) engaged in a prolonged series of behavioural sequences. I present this observation as it raises questions as to why 2 immature birds would display to each other. The unusual nature of these displays are described here and I present some possible explanations for the function of these displays.

One bird was a first year juvenile with brown mottled colouration and the other was a second year juvenile with transitional black and white colouration but without the bright yellow bill (Higgins & Davies 1996, Heather & Robertson 2005). The second year bird landed next to the first year bird and immediately lowered its head and uttered a low guttural cooing call. After circling the first year bird a number of times with its head lowered, the second year bird picked up a piece of tree bark and walked away but glanced back at the first year bird and emitted a low muffled call. The first year bird reciprocated by picking up a piece of grass and followed the second year bird (Fig. 1). Both birds then continued displaying by circling each other. While the second year bird continued to lower its head and vocalise, the first year bird kept its head upright and did not vocalise. The birds performed this initial part of the display sequence for ~10 minutes.

The second part of the display involved both birds pulling grass from the ground. Holding grass in their bills, they circled each other closely (Fig. 2). As with the first part of the sequence, the second year bird kept its head lowered while the first year bird kept its head raised. Both birds continued to pull tufts of grass, progressively carrying larger amounts of plant matter in their bills. The grass pulling and circling stage lasted for ~25 minutes.

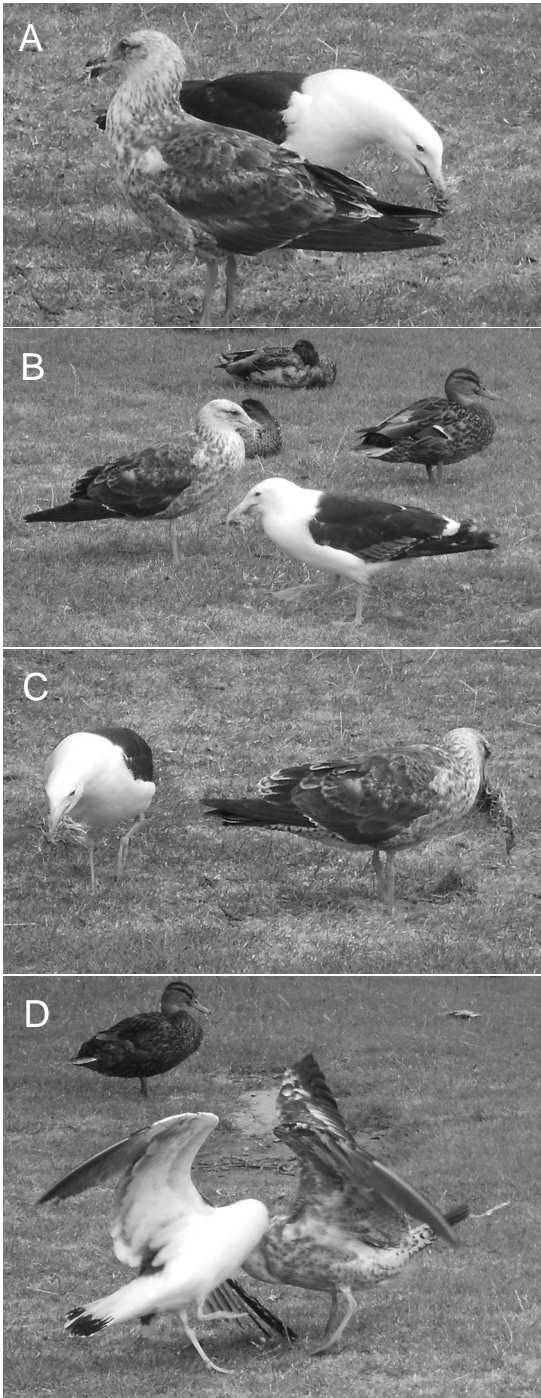
In the third part of the display, the birds moved apart and continued to pull grass from the ground. They appeared to pack as much plant matter into their bills as possible (Fig. 3). With full bills, the birds moved closer together and continued circling. This third stage of the sequence lasted 15 minutes.

The final part of the display saw a change in behaviour, with both dropping the plant matter and attacking each other. Both rose up on their legs with wings spread and struck each other's head and neck with their bills (Fig. 4). The fight lasted a number of seconds with the second year bird flying off and the first year bird remaining. After 5 minutes, the first year bird moved closer to a number of other black-backed gulls and the second year bird did not return after a further 20 minutes.

It is unclear what this display represented. Both birds were immature and it was not possible to discern the sex of either bird. During the entire sequence, the more mature bird appeared to take the lead. Tinbergen (1960) described grass pulling in gulls as a threat display to conspecifics over territorial disputes. He describes herring (*L. argentatus*) and other large gulls

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Correspondence: mark.seabrook-davison@  
aucklandcouncil.govt.nz



**Fig. 1.** A. Initial display sequence with birds picking up plant matter and presenting to each other. B. Grass pulling by both birds and circling display in close proximity to each other. C. Both birds packing their bills with grass and plant matter. D. Both birds fighting at end of display sequence.

pecking the ground and tossing foliage with flicks of their head. He also suggests that this behaviour is analogous to fight behaviour when gulls tug the feathers of rivals. Heather and Robertson (2005) record that some black-backed gulls start displaying breeding behaviour at 2 years but that most start breeding at 4 years. The display described here differs from Tinbergen (1960) as the 2 birds carried plant matter for prolonged periods and did not toss it with flicks of their heads. The 2 birds also reciprocated each other's actions in carrying grass.

As the 2 birds I observed were immature, it was not possible to ascertain whether it represented courtship or aggressive territorial behaviour. Understanding this behaviour is complicated by the 2 birds displaying aspects of both aggressive and courtship behaviour. To avoid confrontation, gulls usually face away from each other as a form of appeasement. Tinbergen (1960) identified "facing away" as 1 of 7 types of posturing common in the Laridae. The 2 birds I observed appeared to include only 5 of the postures described by Tinbergen (1960).

A tentative explanation for my observation is that the 2 birds were displaying behaviour they observed as part of social experience (Albert *et al.* 2009). Across a number of taxa, social experience contributes to the development of social behaviour (Kruijt 1971; Huntingford & Turner 1987; Groothuis 1993). However, further observations of the type of behaviour described here in adult gulls and the behaviour described by Tinbergen (1960) will be needed to interpret the function of this display.

#### ACKNOWLEDGEMENTS

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