COURTSHIP BEHAVIOUR IN THE
LESSER BLACK-BACKED GULL, LARIUS FUSCUS

by

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(With 7 Figures)
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INTRODUCTION

The recent, very detailed work on gull behaviour (e.g. Tinbergen, 1959, 1963) has covered most of the pre-laying period in these birds — agonistic behaviour, nest-building and the start of incubation. It has also covered pair-formation, but apart from this, the rest of courtship has been less well studied. During the summers of 1962-5 I worked in the large, mixed colony of Herring Gulls and Lesser Blackbacks, Larus argentatus and L. fuscus on Walney Island, in north-west England, mainly on this courtship behaviour.

The forms of the various movements involved in the courtships of these two gulls are well known (Goethe, 1937; Tinbergen, 1953) but their integration is not. I paid particular attention to the sequential relations of one courtship pattern to another, and to the timing of each pattern within the breeding cycle as a whole. These are, of course, important simply from the point of view of description, but they can also throw a good deal of light on the functions of the different courtship patterns. For instance, I shall show that both courtship feeding and copulation reach their maximum frequencies just before laying—that is, at the time of maximum ovary growth—and I shall use this coincidence as the basis for arguing functional links between courtship and gonad development. I am well aware of the limitations of this method — I have described a coincidence, rather than experimentally demonstrated a functional link. Nonetheless, I hope to show that this approach can be very helpful.

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Methods.

I watched colour-ringed pairs of Lesser Blackbacks, noted the day-to-day changes in the frequency with which they performed the various courtship patterns, and plotted these frequencies with reference to the subsequently observed day of laying. (For other applications of this technique, see Hinde (1958) and Fabricius & Jansson (1963)) In the various figures which illustrate this, the time-scale has Day 0 as the day on which the first egg was laid; any day preceded by "—" came before this, and by "+" came after it. The frequencies for a given day are the averages of all the records I have for birds on that day; they are expressed as the frequencies per pair per hour's observation. Overall, the numbers of pairs varied between 15 (figs 1 and 2) and 33 (figs 3 and 4).

However, I sometimes used a different system, relying on mass observations of Lesser Blackbacks in the colony, which I dated by the calendar instead (Tables 1, 2 and 7). It is easy to make a rough conversion from this time-scale into the other if one remembers that the peak dates for starting clutches (i.e. the Days 0 of most pairs) fall between May 5th-14th.

DESCRIPTIONS AND FUNCTIONS OF THE COURTSHIP PATTERNS

The descriptions which follow are of Lesser Blackback behaviour, though they apply equally well to Herring Gulls — the courtships of the two appear to be identical. I shall not describe the individual and apparently ritualised components of these behaviour patterns; for further details of Head Tossing, Facing Away, the Long, Landing and Mew Calls and their postures, the Upright postures, and Choking, see Tinbergen (1953, 1959).

1. PAIR-FORMATION AND THE GREETING 1) CEREMONY

Most of the Lesser Blackbacks are migratory; they start to return to the