INTRODUCTION

It has now been established in a number of cases that each member of a breeding pair of birds behaves not only sexually towards its partner, but also shows tendencies to attack and flee from it (see Tinbergen, 1952; Hinde 1952, 1953 and refs cited; also Tinbergen, 1953; Morris, 1954; Moynihan, in press). In the courtship behaviour of the male Chaffinch (*Fringilla coelebs*) aggression is suppressed to a considerable extent, and the bird is principally under the influence of conflicting tendencies to flee from and behave sexually towards the mate. Courtship displays are given when these two tendencies are in approximate balance, and are most marked when the conflict is most intense (Hinde, l.c.; Marler, in press).

The courtship of the Greenfinch (*Chloris chloris*) differs in many respects from that of the Chaffinch: in particular aggression plays a much greater part in the display. Although, as with the Chaffinch, the male is subordinate to the female in the prenesting and nesting seasons for most of the time, and the main conflict immediately before copulation is between tendencies to approach and flee from her, at other times aggressive components predominate in his display. An analysis of certain aspects of the Greenfinch’s courtship is given in this paper.

MATERIALS AND METHODS

This paper is concerned solely with the behaviour of captive birds. Each pair was confined in a 6’ cube aviary similar to that described and illustrated...
in the previous paper. Observations were made over three seasons on a total of thirteen pairs of birds. (These pairs were made up from eighteen different individuals since some birds were used in more than one season). The birds were watched from a hide—the amount of observation on each pair varying from half an hour a week to two hours or more a day throughout the greater part of the breeding season.

The study of captive birds has many advantages over field observations in the analysis of courtship, but there are some disadvantages which must be acknowledged. First, it is extremely difficult to observe flight displays. These are known to be important in the Greenfinch (Witherby et al., 1943) but are mentioned only briefly in this account. Second, members of a pair confined in an aviary become habituated to each other's presence and show less tendency to flee from each other than do wild birds. This was convincingly demonstrated by a comparison of the behaviour of wild and captive Chaffinches. After a successful copulation a wild Chaffinch male almost invariably flees suddenly and rapidly from the female and gives the “Sweeet” call. This call is normally evoked by a flying predator and is indicative of a strongly aroused tendency to flee (Marler, in press.). Such behaviour is by no means so common with captive birds which have lived together for some months, but is almost invariably shown by captive males after copulation with an unfamiliar stuffed dummy of a female in the soliciting posture (Hinde, in MS.).

Further, aggressive displays are often less prominent in captive birds: since the capability for aggression of every individual is established, and each attacks or avoids others accordingly, conflict is reduced to a minimum. However, although aggressive displays may be less marked, actual attacks or chases between the members of the pair may be rather more common than in nature: such a tendency could be due to the absence of other rivals, the enforced proximity of the mate, the concentration of the food supply in one dish, or an incompatibility of temperament between birds which were paired up at random with no opportunity to “choose” their mate.

Although observations of captive birds must therefore be treated with caution, it is unlikely that their behaviour is in any way fundamentally different from that of wild ones. The generally close agreement between the observations of captive Chaffinches made by the present writer and those of wild individuals made by Marler (in press.) confirms this view.

AGGRESSIVE BEHAVIOUR

Four behaviour patterns used in aggressive behaviour must be mentioned briefly. All are very similar to the comparable patterns shown by the Chaffinch.