A PRELIMINARY ANALYSIS OF THE DECRESCENDO CALL IN FEMALE MALLARDS (ANAS PLATYRHYNCHOS L.)

by

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(With 1 Figure)

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INTRODUCTION

Intraspecific communication is an essential part of every animal society and vocalizations seem to have evolved solely for communication. Thus, vocalizations are examples of displays which MOYNIHAN (1955) defines as "Those peculiarly standardized and often exaggerated performances, including all vocalizations and many movements and postures, which have become specialized and modified as social signals or releasers". Waterfowl utilize a wide variety of visual and vocal displays and descriptive studies of many visual displays are available for several species (e.g. LORENZ, 1951; WEIDMANN, 1956; McKINNEY, 1965a, b; JOHNSGARD, 1965). A few of these visual displays have been analyzed quantitatively (JOHNSGARD, 1960; McKINNEY 1961, 1965c; DANE & VAN DER KLOOT, 1964). Detailed studies of the vocal displays of waterfowl, however, are conspicuously absent.

Females of most species of Anas give a decrescendo call (JOHNSGARD, 1965) which is well suited for experimental analysis of its signal functions: it is species typical and heard in many behavioral contexts, yet can be elicited from captive birds under laboratory conditions. In the Mallard (Anas platyrhynchos) this call is most often given in the fall and winter and typically consists of six quacks of decreasing pitch and intensity with an emphasis on the first or second syllable (LORENZ, 1951; WEIDMANN, 1956). According to WEIDMANN (1956) unpaired ducks will give the call when conspecifics fly overhead, whereas mated females will call when their mate has flown away. McKINNEY (1969) notes that if members of a pair become separated in the winter flocks, the drake responds to the female's decrescendo.

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call with slow rähb calls (Lorenz, 1951). A similar situation was described by Weidmann (1956), who observed that males alighting singly would give slow rähbs until a female landed near them.

As a preliminary stage in the analysis of the function and control of the decrescendo call, we looked at some of the eliciting stimuli for the decrescendo from mated females. Specifically, the following study was designed to determine: whether females would call when separated from their mates, the relationship between decrescendo calls and separation from non-mated males, and responses of auditorially isolated females.

**MATERIALS AND METHODS**

**EXPERIMENT I**

**Absence of mates vs presence of mates.**

Three adult males and five adult females (from a local game farm) were placed in a 16' x 20' outdoor enclosure in early November. The birds had access to an adjoining unheated shed. Food and water (for drinking but not bathing) were available *ad lib*. Four of the females appeared to be paired to the males (two pairs and one trio see Lebret, 1961) by late November when the experiment was begun. The calls of the females were recorded on a tape recorder concealed in the adjoining shed. A clock turned the recorder on for 1½ hours at approximately 15 minutes before sunset in the evening and again just at sunrise the following morning (1630-1800 and 0700-0830 respectively). The evening and morning sessions were selected because preliminary observations indicated that these were times of peak activity. The males and females were kept together for four days then the males were removed on every other day for nine additional days. The males were removed 30 minutes before onset of the evening recording session and placed in an adjacent pen where they were visually isolated from the females. The males were moved back in with the females after the end of the morning recording session.

**EXPERIMENT II**

**Absence of mates vs absence of familiar, non-mated males.**

The birds from the first experiment were placed in a flock of 20 Mallards. The flock was observed for four weeks and two mated pairs and a trio were selected for the indoor experiments. Only one of the males and one of the females (not a mated pair) had been used in Experiment I. Three other