

Sample Paper in Scientific Format

The sample paper has been compressed into the left hand column on the pages below. In the right hand column we have included notes explaining how and why the paper is written as it is.

Color Preferences for Nesting Material in the Zebra Finch (*Poephila guttata*)

INTRODUCTION

The zebra finch (*Poephila guttata*) is a sexually dimorphic, social estrildid native to the grasslands of Australia. They are opportunistic, year-round breeders which nest in colonies of variable size. Zebra finches form permanent pair bonds and both sexes share the responsibilities of nest building, incubation and rearing of young (Walter, 1973). Morris (1954), however, reported that although both sexes pick up and nibble on fragments of material, males collect most of the nesting material.

Studies on the effects of colored plastic leg bands on pair formation show that male zebra finches spend more time sitting next to females wearing black or pink leg bands than females wearing light blue leg bands. The same studies indicate that females spend more time sitting next to males wearing red leg bands than males wearing light green bands. In both male and female, orange leg bands (which are similar to the

The title should describe the study. In other words, the title should give the reader a good idea of the purpose of the experiment.

Both the common and scientific names of the research organism must be included in the title.

The scientific name of the research organism must be stated the first time the organism is mentioned in any of the sections. Thereafter, within each section, either the common name or the abbreviated scientific name can be used.

The first paragraphs of the introduction provide background information from preliminary or other published studies. This is used to develop the hypothesis or purpose of the experiment and to provide the rationale or reason for conducting the experiment.

natural leg color) proved to be of intermediate preference (Burley, 1981 and 1982).

The purpose of this study was to test whether or not this preference for certain colors of leg bands generalizes to preference for certain colors of nesting material. It was hypothesized that zebra finches would collect more red or black material than light green, with collection of orange being intermediate.

METHODS

The zebra finches used in this study were in three colonies in the lab of Dr. J.R. Baylis at the University of Wisconsin, Madison. Each colony contained between thirty and forty individual birds of both sexes, a variety of ages and several plumage types. All animals wore colored leg bands for individual identification and all had been exposed to grass, green embroidery floss and white dog fur as nesting material previous to this study. The colonies were housed in separate rooms, each approximately 17 m³ and each contained eight artificial nest boxes. All behavioral observations were made from outside the colony rooms through one way mirrors.

This paragraph specifically states the purpose of the experiment. It also states the hypothesis the author developed based on background reading and observations.

The methods begin by indicating where the research organisms were obtained.

Specifics about the organisms are included, e.g. number of organisms, sexes, ages and morphology.

Previous exposure to colored nest material is described.

How organisms were housed including specific dimensions of cages, etc., and the physical conditions of light and temperature are also included.

Red, black, orange and light green DMC four ply cotton embroidery floss was cut into 2.5 cm pieces. During each trial, twenty five pieces of each color were separated and spread out over the floor of the colony. After the birds had been exposed to the material for a total of two hours, any remaining strands of floss on the floor were collected. The number of strands of each color were counted. It was assumed all other strands (not on the floor) had been used in nest construction. Data from the three colonies were pooled and a X^2 goodness-of-fit test was used to determine whether the number of strands of each color used in nest construction differed from an expected ratio of 1:1:1:1 (which would indicate no preference).

RESULTS

More green material was removed by the finches than red, more red than black and more black than orange. The ratio between material of different colors used in nest construction differed significantly from the expected 1:1:1:1 ($X^2 = 63.44$, $df=3$, $p<.005$). When colors were compared in pairs, the difference between values for green and red were not significantly different ($X^2 = .117$, $df=1$, $p>.5$). However, the values for black and

The types of test materials which were used are described in detail, as are the methods.

Description of methods includes assumptions made and the type of analysis which was to be performed on the data.

In the Results section, the author interprets the data for the reader in text form. The author does not expect the reader to interpret the results from a table of data., but provides his/her interpretation for the reader.

Although absent from this report, tables of the actual data and statistical data should be included at the end of the paper to support the text.

orange were significantly different ($X^2 = 36.38$, $df=1$, $p<.005$).

DISCUSSION

The results from these experiments suggest that zebra finches do in fact have color preferences with regard to nesting material.

Contrary to the predictions made by generalizing Burley's studies (1981, 1982), however, the zebra finches used in this study preferred green, red or black nesting material to orange. These results are similar to those of Collias and Collias (1981) who showed that weaver birds preferred green nesting material.

It is possible that zebra finches prefer green material to red, black and orange because green is more similar to the color of the grasses commonly used as nesting material in their natural environment. This interpretation, however, does not explain the preference for red and black materials over orange.

Alternatively, it is possible that the strong preference shown for green material may be a result of imprinting on the color of the nests they grew up in. It has been shown, for example, that parental plumage color has a strong effect on mate

The discussion provides an explanation of what the results mean relative to the original purpose and/or hypothesis stated in the introduction.

Results are compared to those from other studies. Plausible reasons/hypotheses are proposed to explain the results.

Limitations to the proposed hypotheses are also provided.

Alternative hypotheses are also provided and evidence from literature is given in support of the alternate hypothesis.

selection in male (but not female) zebra finches (Walter, 1973). All of the birds used in this study have been exposed to grass, green embroidery floss and white dog fur in nests. If (as suggested by Morris (1954)) males collect most of the nesting material, imprinting could have a strong effect on the numbers of colored strands collected in this study. This hypothesis could be tested by raising zebra finches in nests containing different colors of nesting materials and testing them in adulthood for preference in nest material color. When setting up this experiment, it was noted that zebra finches seem particularly apprehensive about new objects placed in the colony. It is also possible, therefore, that the preference for green nest material was simply due to its familiarity.

REFERENCES

Burley, N. 1981 Sex-ratio manipulation and selection for attractiveness. **Science** 211:721-722.

Burley, N. 1982 Influence of colour-banding on the conspecific preferences of zebra finches. **Anim. Behav.** 30:444-445.

Morris, D. 1954 The reproductive behaviour of the zebra finch (*Poephila guttata*), with special reference to pseudofemale behavior and displacement activities. **Behavior** 6:271-322.

Walter, M.J. 1973 Effects of parental coloration on the mate preference of offspring in the zebra finch, *Taeniopygia guttata castanotis* gould. **Behavior** 46:154-173.

Future studies are proposed to help further knowledge in the area.

All references cited in the body of the paper are listed alphabetically by last name of the first author. Only references cited in the body of the paper are listed here.

See **How Scientific Papers are Structured** for complete information on how to reference supporting literature both in the body of the paper and in the reference list.

Note: You are to use APA format for listing references, rather than the specific reference format show here.

