How to Write an Abstract

The abstract is the reader's first encounter with a paper, and is the chief means by which scientists decide which research reports to read. The abstract should provide a brief summary of the findings of the paper, and should be a stand-alone document that can be understood without reading the paper.

A properly written abstract consists of the *Title* of the study, Authors, and the *body* of the abstract. An abstract is typically 175-230 words.

Your weekly abstract of the lab should be your own independent work (i.e., not the work of your group) and should conform to the following format.

1. Title

The title of your abstract should be the same as the title of your scientific paper.

2. Authors List the names of your group with yours first.

3. Body of the Abstract

The abstract is a summary of your study. It tells the reader WHAT you did, WHY you did it, HOW you did it, WHAT you found, and WHAT it means. The abstract should briefly state the purpose of the research (introduction), how the problem was studied (methods), the principal findings (results), and what the findings mean (discussion and conclusion). It is important to be **descriptive** but **concise**--say only what is essential, using no more words than necessary to convey meaning.

Example Using the Worksheet

The *Abstract Worksheet* that follows may be used to help you prepare the first draft of your abstract. The sequence of sentences in the *Abstract Worksheet* is ordered in a logical fashion, beginning with an **introduction** and proceeding to your **hypothesis**, **methods**, **results**, **discussion**, and **conclusion**.

Think of the most important items that crystallize each part of your project. Leave out unimportant details. As a first draft (using the *Abstract Worksheet*), write one or two sentences that *summarize* each section. For your final draft, make sure the abstract flows logically and write it as a single paragraph. Give it to a friend to read. Ask them to tell you what they think you actually did and what you found. **Revise** as necessary.

1) Project Title: Current status of both Golden Swallow subspecies and how this relates to aerial

insectivore declines across North America

2) Authors: C. Justin Proctor; Cornell University, Ithaca, New York USA. E-mail: cjp252@cornell.edu

3) Body of the abstract broken into components

A) Introduction

The food habits of larval butterflies of two related species from a zone of overlap near Oil City, PA were examined.

B) Hypothesis

The theory of competitive exclusion predicts that food habits of closely related species should not overlap significantly where species occur together.

C) Methods

Transects in five different habitats were used to determine food and habitat preferences in wild populations. Two species of captive caterpillars were offered various food in the laboratory; weight changes of foods and caterpillars were determined daily.

D) Results

Food habits in overlapping habitats were significantly different between the two species. Food habits in non-overlapping habitats were not significantly different. There were no differences in food preferences or growth rates on different foods in laboratory maintained populations.

E) Discussion

These species are able to coexist because they are not competing for the same, and limiting, food resources in the same area.

F) Conclusion

These results support the theory of competitive exclusion because the two species did not use the same food resources from similar habitats.

FINISHED ABSTRACT

Current status of both Golden Swallow subspecies and how this relates to aerial insectivore declines across North America

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The Golden Swallow (*Tachycineta euchrysea*) is an aerial insectivore and obligate secondary cavity-nester known exclusively to the Caribbean islands of Jamaica and Hispaniola. The Hispaniolan subspecies (*T. e. sclateri*) was considered common in the early 1900s, but since becoming an increasingly rare resident of the highlands of Haiti and the Dominican Republic. The subspecies is currently categorized as Vulnerable by the International Union for Conservation of Nature. Researchers have been studying the life history and breeding biology of the Hispaniolan subspecies since 2012, and conservation efforts are currently underway. The nominate Jamaican Golden Swallow race (*T. e. euchrysea*) was always considered uncommon, locally distributed, and endemic to Jamaica. The subspecies has not been unequivocally observed since the late 1980s, and recent exhaustive searches have concluded that the bird is extinct. There is a growing consensus in the ornithological and conservation worlds that aerial insectivores as a collective guild are on the decline. How the Golden Swallow fits into that decline as well as what the loss of the Jamaican Golden Swallow can teach us about other Jamaican aerial insectivores will be discussed here.

Abstract Worksheet

Use one or two concise sentences to summarize the most important aspects of your project for each section listed below.

Project Title

Introduction (What is this project about? Why is this project interesting or important?)

Hypothesis (What did you think you would find? Why?)

Methods (Briefly explain your procedure.)

Results (What did you find when you performed your experiment?)

Discussion (Are your results consistent with your initial hypothesis? Why or why not?)

Conclusion (What is *your* interpretation of what these results mean? Why should anyone become excited about or interested in your findings?)

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