

**From Carl Schlichting's syllabus for Bio 244W- good general advice on writing style, citations, etc.**

**B. Scientific writing advice**

**1. Special formatting rules apply to scientific names**

Scientific binomials and trinomials, and genus names used alone are always italicized (or underlined). The genus should be capitalized; the species and subspecies start in lower case.

e.g. *Homo sapiens*

*Homo sapiens sapiens*

Salamanders of the genus *Batrachoseps* are the most beautiful of all salamanders. The first time the scientific name of a species is mentioned, it should be spelled out in full. After that, the genus name is usually abbreviated (e.g. *H. sapiens*).

Higher taxonomic categories (e.g. families and phyla) are capitalized but not italicized.  
e.g. Chordata, Insecta, Pongidae, Plethodontidae, Scincidae

Many taxonomic category names are also used informally (with different endings), in which case they are not capitalized.

e.g. Not everyone is as fond of plethodontid salamanders as the author is.

Common names should generally be capitalized (e.g. Turkey Vulture).

**2. Writing in a scientific style.**

a. In general, discuss ideas, not "papers" or "articles".

b. Do not talk about the "assignment".

c. Avoid a book report style.

d. Write for a "professional" audience, i.e., your fellow students in EEB

244.

For example, do **NOT** begin with a long-winded introduction:

Dr. Elizabeth Jockusch and Dr. Ima Nobody of the University of Connecticut published the following paper in the Journal of Evolutionary Biology: "The role of smell in bird evolution."

Appropriate would be: Jockusch and Nobody (2001) investigated how birds use their sense of smell.

**1. State the authors' findings in past tense**

Example: Jockusch and Nobody (2001) **reported** a general increase in researcher preferences for smelly birds.

**4. Avoid excessive quotation:** In general, you should paraphrase what the authors say, not quote it, in scientific writing. Quoting is appropriate only when the original phrasing is particularly memorable. Unlike in some fields, where support for a claim comes from citing statements made by authorities, in science, the primary support comes from presentation of the authors' data, not of their words. Remember that you still must use citations to give credit for the ideas, even when you are explaining them in your own words.

**5. Avoid "touchy-feely" writing** that relies on personal experience or feelings. Your papers should not contain the phrase "I feel that X". The important question is

what you think and what you can support. (In many cases, "I feel that X" can be appropriately replaced by "I think that X" in scientific writing).

#### 6. Miscellaneous

a. **The word “data” is the plural of “datum”.** Therefore, it is correct to say that “the data show...” not “the data shows...”.

b. **“hypothesis”** is singular, “hypotheses” is plural

c. *et al.* is Latin for “and others”, it is an abbreviation of *et alia*

### VI. General rules for citing sources in scientific writing

A. Another reminder about plagiarism:

**It is not enough to rework the original source by substituting or omitting some words and phrases.**

Here is an example of **unacceptable** paraphrasing:

*The original:*

(from Connell, J. H. 1961) The influence of interspecific competition and other factors on the distribution of the barnacle *Chthamalus stellatus*. Ecology 42: 710-723.) : "Interspecific competition between *Balanus* and *Chthamalus* was, on the other hand, a most important cause of death of *Chthamalus*. This is shown both by the direct observations of the process of crowding at each census and by the differences between the survival curves of *Chthamalus* with and without *Balanus*....In addition, the evidence is strong that the observed competition with *Balanus* was the principal factor determining the local distribution of *Chthamalus*. *Chthamalus* thrived at lower levels when it was not growing in contact with *Balanus* ."

*The unacceptable summary:*

"Competition between the two barnacle species was, nonetheless, an important source of mortality for *Chthamalus*. This was indicated both by the observations of crowding and by the contrasts between the survivorship schedules of *Chthamalus* with and without *Balanus*. Furthermore, there is strong evidence that competition with *Balanus* was the most important factor determining the local distribution of *Chthamalus*. *Chthamalus* prospered at lower levels when they were not touching *Balanus*."

**This is not original writing:** it is too close to the source in the organization of the paragraph, in sentence structure, and in choice of words and phrases. Writing of this kind will result in a substantially lower grade.

#### B. When to cite:

All ideas and facts that are obtained from other sources must be properly cited, unless they qualify as common knowledge. (If in doubt about whether something is common knowledge, provide a citation).

#### C. How to cite:

If the author's name is used as part of the sentence, the citation should be in the form "Holsinger (1995) argues that X" If the author's name is not used in the sentence, then

the citation should be in the form "(Holsinger, 1995; Jockusch and Simon, 1997; Caira *et al.*, 1998)".

If there are one or two authors, list their names in the citation. If there are more than two authors, list the first author followed by *et al.* rather than listing all of the authors in citations. In the literature cited section, all authors must be listed.

#### **D. Where to cite:**

The citation should be placed at the end of the sentence if it applies to the entire sentence (before the punctuation) or immediately following the information it applies to. If several sentences in a row contain information from the same source, the source may be cited at the end of the last sentence.

#### **E. Format for citations**

##### 1. Articles

Aarssen, L. W., and M. J. Clauss. 1992. Genotypic variation in fecundity allocation in *Arabidopsis thaliana*. *Journal of Ecology* 80: 109-114.

Parker, T. H. 2003. Genetic benefits of mate choice separated from differential maternal investment in red junglefowl (*Gallus gallus*). *Evolution* 57: 2157-2165.

##### 2. Books

Dobzhansky, T. 1937. *Genetics and the Origin of Species*. Columbia Univ. Press, New York, N.Y.

Schlichting, C. D., and M. Pigliucci. 1998. *Phenotypic Evolution: A Reaction Norm Perspective*. Sinauer Associates, Sunderland, MA.

##### 3. Chapters from edited books

Lewontin, R. C. 1980. Theoretical population genetics in the evolutionary synthesis. Pp. 58-68 in E. Mayr and W. B. Provine, eds. *The evolutionary synthesis. Perspectives on the unification of biology*. Harvard University Press, Cambridge, MA.