Common Mistakes in Scientific Writing

Proposal Writing for Graduate Students
FISH 521

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When citing a common name of a species, the Latinized scientific name must follow parenthetically the first time it appears, but should thereafter not be repeated. When a common name is used in a title, the scientific name should always be indicated, and then repeated the first time it is used in the narrative.

Parenthetical words or phrases must always be closed with a comma: a common mistake is the failure to close off compound place-names; for example, "the species ranges from Seattle, Washington to Los Angeles, California but has never been found elsewhere." Washington and California must be followed by a comma to read ". . . from Seattle, Washington, to Los Angeles, California, but . . . ."

Always void awkward sounding possessives; for example, "to mitigate people's impacts," should be modified to read "to mitigate human impact"; "the University of Washington's Friday Harbor Laboratories" should read "the University of Washington Friday Harbor Laboratories" (UW becomes an adjective that modifies laboratories).

Periods and commas *always* go inside quotation marks; colons and semicolons *always* fall outside quotation marks.

Proper use of a hyphen (-), en-dash (–), and em-dash (—): hyphens are reserved for compound words (e.g., gene-flow, long-term sustainability, food-web model, well-studied species), the en-dash is used for ranges (e.g., the species has 45−47 caudal vertebrae; the information can be found on pp. 23−45), the em-dash is used to punctuate whenever a comma or semicolon isn't strong enough to set off the phrase; for example, "the work will be performed at the University of Washington—where all the proper facilities are readily available—rather than at home in my garage. But note that the em-dash is rather informal and rarely used in scientific writing.

Always be as concise as possible; for example, instead of "dams have proven to be challenging obstacles," say "dams are challenging obstacles"; instead of "predation can account for a majority of population mortality," say "predation can account for most mortality."

A species is singular not plural; therefore, don't say "Sockeye salmon (*Oncorhynchus nerka*) are an important component of the ecosystem; instead say "The sockeye salmon (*Oncorhynchus nerka*) is an important component . . . ."

Adverbs ("ly" words) never take hyphens: "empirically-based model" should read "empirically based model."

Always avoid underlining to offset subheading or items in the text; underlining is an editorial device meant to indicate italics and should be reserved for that purpose.

Avoid the passive whenever possible, i.e., "methods to effectively control invasive organisms" is more concise and sounds much better than "methods for effectively controlling invasive organisms."

Always use metric units: inches, feet, yards, miles, gallons, pounds etc., are unacceptable in scientific writing.

"Any" and "either" are singular: "any invasive organisms" and "either species are in danger" are wrong; "any invasive organism" and "either species is in danger" is correct.

"Data" is plural: "data was collected" is wrong; "data were collected" is correct.

Always try to sound as positive as you possibly can; don't say "we hope" or "we anticipate" that this work will save the world; instead say "This work will save the world." "This project may provide a possible way to solve the problem" lacks conviction; remove "may" and "possible" to read "This project will provide a way to solve the problem."

Always avoid using "in order to": "Surveys were conducted in order to estimate population numbers" should read "Surveys were conducted to estimate population numbers."

When talking about several individuals, distinguish between 'fish' (several fish) and "fishes" (several species of fish).

Capitalization of place-names: "lake" is properly capitalized in "Chignik Lake" because it's part of the name, but lower case in "Black and Chignik lakes."

Avoid split infinitives, i.e., don't place an adverb between "to" and the infinitive that follows: "to diligently explore" should read "to explore diligently."

"Amongst" and "upon" are archaic; avoid them if you can.

Values and units always require a space in between: "45cm, 12kg, and 56km" should be "45 cm, 12 kg, and 56 km."

Use only military style dates, without a comma: "10 January 2005," not "January 10, 2005" or "10 January, 2005."

Never use "i.e." or "e.g." unless in connection with a phrase enclosed within parentheses.

Single-digit numbers are always spelled out when used as adjectives, but numerals are always used when associated with units of measure: six specimens, but 6 cm. The only exception is when a number starts a sentence: "Six cm is the proper length."

Double-digit numbers are always indicated by numerals unless they start a sentence: "They collected 17 specimens" but "Seventeen specimens were collected."

Generic names are always spelled out when they start a sentence: "*Oncorhynchus nerka* is often studied by UW graduate students" is correct; "*O. nerka* is often studied by UW graduate students" is unacceptable.

When using Latinized taxonomic nomenclature, never italicize the names of families, orders, classes, etc.; italics are reserved only for the names of species, i.e., binomials.

The use of an apostrophe to separate the "s" from the year when making reference to a decade is old-

fashioned: don't say 1870's and 1990's; say simply 1870s and 1990s.

The "al" in the Latin "et al." is an abbreviation for et alii and therefore must always be followed by a period: "Geezer et al, 1987" is wrong; "Geezer et al., 1987" is correct. Being Latin, *et al.* is italicized in most scientific journals. However, in a proposal the format is up to you as long as you are consistent.

In applying names to various oceans, the following examples are not proper place-names and therefore incorrect: "northeastern Pacific," "northeast Pacific," "northwestern Atlantic," etc. The correct place-names for these oceans (and therefore deserving of capitalization) are "Eastern North Pacific" and "Western North Atlantic."

In punctuating a list of references, commas (more often than not) are used to separate the author from the date and semicolons are used to separate citations; for example, Parsley, 1956; Sage, 1967; Rosemary, 1999; and Thyme, 2004. Some journals drop the commas between the author and date and replace the semicolons with commas; for example, Parsley 1956, Sage 1967, Rosemary 1999, and Thyme 2004. Rarely the commas are dropped and semicolons retained: "Parsley 1956; Sage 1967; Rosemary 1999; and Thyme 2004. Whatever the style you decide to use (if not dictated by the journal or other circumstance), be consistent throughout your writing.

Always arrange a string of citations chronologically, never alphabetically: Parsley, 1956; Sage, 1967; Rosemary, 1999; and Thyme, 2004; not Parsley, 1956; Rosemary, 1999; Sage, 1967; and Thyme, 2004.

When there are two or more citations in the string bearing the same date, arrange them alphabetically: Simpson (1998), Bernard (2000), Frank (2000), Zappa (2000), Rogers (2001), and Jones (2003) is correct; Simpson (1998), Frank (2000), Zappa (2000), Bernard (2000), Rogers (2001), and Jones (2003) is wrong.

When citing multiple papers by the same author published in the same year, say this: Fernando, 1990a, b, c; not this: Fernando, 1990a; Fernando, 1990b; Fernando, 1990c.

It's "Puget Sound," not "Puget's Sound" or "the Puget Sound."

Footnotes are very rarely used in scientific writing; avoid them whenever you can.

When citing personal communications, *always* include the affiliation and the date; for example, "T.W. Pietsch, University of Washington, pers. comm.., 25 August 2003".

When a sentence terminates with an abbreviation, no need to add two periods (e.g., "fishes eat mysids, copepods, amphipods, etc." not "fishes eat mysids, copepods, amphipods, etc.."

When more than one page, *always* put page numbers on everything you write.

More on hyphens and dashes: "late May-early June" is woefully incorrect—the hyphen is indicating incorrectly that "May-early" is a compound word; instead, an en-dash is required: "late May–early June."

When citing figures, "figure" is spelled out when it appears in the open narrative (e.g., Figure 1 shows a cat chasing a dog"), but always abbreviated when enclosed within parenthesis: "the cat chased the dog (see Fig. 1)"; the "f" is always capitalized when reference is made to an illustration therein, but lower-case when reference is made to an illustration in some other cited reference.

Always cite the page number when direct quotes are used. Here's an example: The male fish is "merely an appendage of the female, and entirely dependent on her for nutrition, . . . so perfect and complete is the union of husband and wife that one may almost be sure that their genital glands ripen simultaneously, and it is perhaps not too fanciful to think that the female may possibly be able to control the seminal discharge of the male and to ensure that it takes place at the right time for fertilization of her eggs" (Regan, 1925: 396-397).

Family and ordinal names are proper nouns and therefore always capitalized (e.g., family Gadidae and order Gadiformes); but lower case when used informally (e.g., "we like to eat gadids and gadiforms"; never say "I like to eat Gadids," "Gadiforms," or "gadiformes").

Always give authors credit, not their publications: never say the results were summarized *in* Cuvier and Valenciennes (1831); rather say the results were summarized *by* Cuvier and Valenciennes (1831).

It's "chondrichthyans" (derived from Chondrichthys), not "chondrichthians."

You can't say, for example, "marine mammals eat a variety of species (including herrings, salmonids, gadids, and various invertebrates)"; herrings, salmonids, gadids, and various invertebrates are not species.

Now days "fishermen" is unacceptable; use "fishers."

"Where" versus "in which": never say things like "Linnaeus (1735), in the first edition of his *Systema naturae*, proposed a classification where fish and mammals were combined within a single large taxon" or "biologists have created management plans where fishing is restricted to a single week out of the year." "Classifications" and "plans" are not places, but things—replace "where" with "in which."

When using headings and subheadings, try to follow this hierarchy (unless the journal or circumstances dictate otherwise): (1) center on the page, with space above and below; (2) set flush left, with space above and below; (3) set at the beginning of a paragraph separated from the text by a colon or a dot-dash (.—). Don't underline or set subheadings in italics.

Never use "myself" to avoid using the word "me." Examples like "The data were collected by my students and myself" or "The committee consists of Fred, Sally, Mortimer, and myself" sound awful and are just plain wrong (yet you hear them everyday). Use "myself" only when you have used "I" earlier in the same sentence: "I am not particularly good at proposal writing myself" or "I wrote the grant on the pretense of providing support for students, but I kept all the money for myself."

Since and because: some insist that the word "since" must always be reserved for reference to time, but since the 14th century it has also meant "seeing that" or "because."

The difference between "that" and "which" can often seem rather subtle: "that" is the defining or restrictive pronoun; "which" is the non-defining or nonrestrictive pronoun. Examples: "the species **that** has not been observed in the last 100 years is most likely extinct" (tells which one); "the species, **which** has not been observed in the last 100 years, is most likely extinct" (adds information about the only species in question). Note that "which" takes a comma, while "that" does not.

When constructing a parenthetical "see this" phrase, always introduce the subject first: "(for a detailed analysis, see Lord and Taylor, 2005)"; never say "(see Lord and Taylor, 2005, for a detailed analysis)."

English teachers have enforced the notion that “and” and “but” should be used only to join elements within a sentence, not to join one sentence with another. Not so. It’s been common practice to begin sentences with them since at least as far back as the tenth century” (Patricia O’Conner, *Woe Is I*, 1996, page 184). You can find examples every day in the *New York Times*.