

# *Southwestern Naturalist* – Instructions for Authors

October 2005

## GENERAL GUIDELINES

### LANGUAGE AND GENERAL GRAMMATICAL STYLE:

Use English throughout the manuscript, except for the Spanish resúmenes (abstract) required in all manuscripts, for literature available only in a language other than English, and for direct quotes in a language other than English.

Use active voice whenever possible and appropriate. If the subject of a sentence is doing the action, then the sentence is in active voice. If the subject of a sentence is the recipient of the action, then the sentence is in passive voice. In addition, use first-person whenever possible and appropriate because it generally is more accurate, more concise, and less likely to contain grammatical errors. For example,

*Preferred:* “We collected 26 specimens.” [first person, active voice]

*Correct:* “A total of 26 specimens was collected.” [passive voice]

*Incorrect:* “A total of 26 specimens were collected.” [passive voice]

The last sentence is grammatically incorrect because the subject of the sentence is “total” (a singular noun), not “specimens” (a plural noun that is part of a prepositional phrase). Grammar checkers in word processing software typically do not catch this error because they refer back to the last noun preceding the verb.

Use of active voice and first person also will help you to limit the use of nominalizations: verbs used as nouns by adding endings such as “-tion” or “-ment”. These are sometimes referred to as “smothered verbs”, and it is better to “activate” them. For example,

*Nominalization:* Collection of the samples occurred between 0900 and 1300 h.

*Preferred:* We collected samples between 0900 and 1300 h.

*Nominalization:* Measurements of tail lengths were taken for all specimens.

*Nominalization:* We took measurements of tail lengths of all specimens.

*Preferred:* We measured tail lengths of all specimens.

Keep words and phrases as close as possible to the words that they modify. Otherwise confusion can result. This often occurs with dangling participles: verbs that end in “-ing” that are used as adjectives. For example,

*Incorrect:* We documented reproductive behavior of the minnows using underwater cameras.

*Acceptable:* Using underwater cameras, we documented reproductive behavior of the minnows.

*Preferred:* We used underwater cameras to document reproductive behavior of the minnows.

As written, the first sentence suggests that the minnows use underwater cameras while reproducing (an activity worth documenting). This is because “minnows” is the closest noun to the participial phrase (“using underwater cameras”). In the second sentence, the participial phrase is closer to the word (“we”) that it modifies, which improves clarity. In the third sentence, the participial phrase was eliminated.

Lastly, as you write your manuscript, remember that the *Southwestern Naturalist* has a broad audience, and people outside your area of expertise and your study area are likely to read your manuscript if it is published. Accordingly, avoid the use of terms, jargon, and abbreviations not widely used across subdisciplines of natural history, and never do so without first defining them in your text as outlined elsewhere in these instructions.

**MARGINS:**

- Left and right margins: 3.0 cm (1.2 inches)
- Top and bottom margins: 2.5 cm (1.0 inch).
- Left-justify the entire manuscript; do not justify the right margin.
- Do not center headings.
- Do not number the manuscript lines.

**FONT:**

- Use 12-point font (Times New Roman or equivalent font preferred).
- Do not use **boldface** print anywhere in the text, tables, or figures.
- Do not use underlined text anywhere in the manuscript.
- Use *italics* font for:
  - 1) scientific names of species,
  - 2) statistical parameters (e.g.,  $n = 72$ ,  $P < 0.005$ ,  $F_{1,42} = 4.62$ ,  $2.5 \pm 1.1 SE$ ),
  - 3) section subheadings (e.g., “METHODS--*Study Area*--”),
  - 4) addresses of authors.
- If you know how to use the “all caps” feature in your word processing software, use it for the title. If not, the editor can format the title. Please do not use the “caps lock” key on the keyboard.
- If you know how to use the “small caps” feature in your word processing software, use it for the following places. If you cannot use “small caps” feature, please use lowercase letters; the editor can do the formatting.
  - 1) section headings (e.g., ABSTRACT, RESUMEN, METHODS; note that the first letter is capitalized).
  - 2) names of authors in the Literature Cited section (see examples below).
  - 3) headings for legends in tables (e.g., “TABLE 1--Summary of...”) and figures (e.g., “FIG. 1--Map of...”).

**LINE SPACING:**

- Double-space the entire manuscript on paper copies.
- Single-space the entire manuscript on electronic copies of accepted manuscripts.

**SCIENTIFIC AND COMMON NAMES:**

- Scientific names (genus or species) of all organisms other than domesticated animals must be written in full at their first use and at the beginning of sentences. Abbreviations of the generic name (single letter followed by a period and the specific epithet: e.g., *E. cragini*) may be used after first use if they do not lead to confusion with other taxa.
- Use of “sp.” or “spp.” following a genus is not required.
- Authorities of scientific names should not be used unless there is a specific reason for doing so (for example, taxonomic confusion might result without the authorities).
- Common names may be used throughout the manuscript after each has been linked to a scientific name.

**PROPRIETARY NAMES:**

- Proprietary (brand) names of products should be followed (in parentheses) by the manufacturer, city, and state or country (if outside the USA) on their first use.

### **NUMBERS, MEASUREMENTS, AND TIME:**

- Use numerals, even for single-digit numbers, except at the beginning of a sentence (e.g., 7 Arkansas darters, 5-fold, 8 to 12 weeks). The exception is the numeral “1” when it is not associated with a unit of measure (e.g., 1 mL) or another number (e.g., 1 to 3 mL), because the numeral “1” (one) is similar to the lowercase “l” (L).
- Spell out ordinals (e.g., first axis, seventh month, third edition).
- Use commas in numerals with 4 or more digits (e.g., 4,700 and 10,350).
- Use the metric system. However, if original measurements were non-metric, do not convert them to metric if precision would be misrepresented.
- Dates are written in a sequence from smallest unit to largest unit, and a comma is not used to set off the year (e.g., 7 June 2002).
- Use 2400 time system (e.g., 0830 h = 8:30 a.m., 2300 h = 11:00 p.m.).
- Use abbreviations for light and dark when reporting photoperiod (e.g., 14L:10D).
- See the list below of abbreviations that do not be defined on first use.

### **PUNCTUATION:**

- Do not use hyphens as substitutes for “to” or “through” (e.g., use “8 to 12 weeks” or “March through June”), except for consecutive page numbers in the Literature Cited section. Hyphens can lead to confusion, especially when negative values are involved (e.g., use “-14 to 7” rather than “-14-7”).
- Limit the use of the slash (/) to connect words. Use a hyphen instead (e.g., “presence-absence” rather than “presence/absence”).
- Do not use hyphens to split words at the end of lines in manuscripts.
- Compound words used as adjectives are generally hyphenated when they precede the word they modify (e.g., “150-m transect” or “transect was 150 m”), unless they contain an adverb ending in -ly (e.g., “carefully preserved specimen”).
- En dashes (“double hyphens”) are used to separate headings, but no spaces or periods are placed on either side of the en dash (e.g., “RESULTS--We collected 121 taxa...” or “TABLE 1--Summary of...”). These will be converted automatically.
- Use a comma after each item in a series, including the word that precedes the “and” before the final item in the series (e.g., “...algae, aquatic invertebrates, and fishes.”).
- Avoid the use of quotes in text, unless you are quoting a passage from another publication. When including a quote, provide the page number in the citation (e.g., Wilson, 1997:203), with no spaces between the year, colon, and page number.

## USE OF SYMBOLS:

In addition to characters in non-English alphabets, many commonly used symbols are available in word processing software. Some examples of their preferred use in your manuscript are listed below.

- Use the symbol for degrees ( $^{\circ}$ ), not a superscript “o”.
- Use the symbol for plus-or-minus ( $\pm$ ), not an underlined plus ( $\underline{+}$ ).
- Use the “micro” symbol ( $\mu$ ), not a lowercase “u” for metric units (e.g.,  $\mu\text{L}$ ).
- Use the “less than or equal to” and “greater than or equal to” symbols ( $\leq$  and  $\geq$ ), not underlined symbols for “less than” and “greater than” ( $\underline{\leq}$  and  $\underline{\geq}$ ).
- Use the lowercase Greek chi ( $\chi$ ) for chi-square ( $\chi^2$ ).
- You may use the mathematical symbol “x” for dimensions in equipment, a matrix, etc. (e.g., 12 mm  $\times$  2 m). You also may use a lowercase “x”, and it will be converted.
- Use spaces around all operators for equations and statistical expressions (e.g., type  $n = 72$ ,  $P < 0.005$ , not  $n=72$ ,  $P<0.005$ ). No spaces are used between the mathematical symbol and the number if no statistical parameter precedes the number (e.g., temperatures  $>30^{\circ}\text{C}$ ).
- Use the symbol once for a range of measurements (e.g., 69 to 83%; 14 to  $17^{\circ}\text{C}$ ;  $27.3 \pm 2.4$  mm).
- Do not put spaces between characters in locality abbreviations or temperatures ( $37^{\circ}40'\text{N}$ , not  $37^{\circ} 40' \text{N}$ ;  $23^{\circ}\text{C}$ , not  $23^{\circ} \text{C}$ ).

## ABBREVIATIONS:

- Abbreviations, as a general rule, should be avoided as a courtesy to the readers who are not familiar with the study area or subdiscipline.
- Abbreviations for long names may be used if defined on first use and used at least 5 times in the text [e.g., Quivira National Wildlife Refuge (Quivira NWR)]. In these cases, spell out the specific adjective within the name in the text (e.g., Quivira National Wildlife Refuge = Quivira NWR, not QNWR; Big Bend National Park = Big Bend NP, not BBNP).
- Units of metric measure, time, and percentages (%) are abbreviated only when they follow a number (e.g., “37 g” or “weighed to the nearest gram”) or they are used in the header column or header row in a table [e.g., “Total length (mm)”].
- Listed on the next page are some acceptable abbreviations for units of measure (partial list), statistical parameters (partial list), and other uses. These do not need to be defined on their first use. Because the symbol for mean ( $\bar{x}$ ) is not currently available in Microsoft Word (except through the equation editor), spell out the word “mean” to avoid errors when your Word document is converted to the publishing software.

## ABBREVIATIONS:

The following abbreviations may be used without definition in manuscripts. Additional units of measure and widely used statistical symbols also may be used.

$\mu\text{m}$ = micrometer	ppm = parts per million	s = second
mm = millimeter	ppt = parts per thousand	min = minute
cm = centimeter	$\mu\text{mhos}$ = micromhos	h = hour
m = meter	$\mu\text{S}$ = microSiemens	d = day
km = kilometer	% = percent	mo = month
ha = hectare		y = year
mg = milligram	$\chi^2$ = chi-square	
g = gram	$df$ = degrees of freedom	
kg = kilogram	$n$ = number in sample	
mL = milliliter	$P$ = probability	
L = liter	$SD$ = standard deviation	US\$ = US dollars
$^{\circ}\text{C}$ = degrees Celsius	$SE$ = standard error	Mex\$ = Mexican pesos

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pers. comm.	= personal communication
pers. observ.	= personal observation
N, S, E, W	= when used for localities (e.g., 40°12'36"N or T12S, R40W)
Fig.	= Figure ("Table" is not abbreviated)
USA	= United States of America (but do not U. S.)

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ca.	= <i>circa</i> – about, approximately
cf.	= <i>confer</i> – compare (not equivalent to “see”, as in “see Jones, 1984”)
e.g.,	= <i>exempli gratia</i> – for example
et al.	= <i>et alii</i> – and others
i.e.,	= <i>id est</i> – that is
in	= <i>in litteris</i> – in correspondence; used for unpublished “gray” literature (e.g., “P. F.
litt.	Jones, 1984, in litt.)

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## **ORGANIZATION OF MANUSCRIPTS** (see the example at the end of these guidelines)

With regard to the following guidelines, the difference between **NOTES** and **FEATURE ARTICLES** is that **NOTES** do not include section headings (e.g., **METHODS**, **RESULTS**, etc.).

**Double-space all lines on paper copy.**

### **Corresponding Author Information**

This person will work with the editors on revisions and receive galley proofs. Once a manuscript has been scheduled for publication, the timeline requires prompt replies by the corresponding author. Failure of the corresponding author to meet deadlines could delay publication of the manuscript. This author typically receives communications from others after publication of the manuscript.

**TITLE** (see the example at the end of these guidelines)

- Type the title flush left.
- Use the “all caps” feature of the word processing software on all words in the title or leave the words in standard uppercase and lowercase letters, and the editor will format them.
- Do not begin titles with articles (a, an, the). **>Skip 1 line.<**

**AUTHORS** (see the example at the end of these guidelines)

- Type names of authors flush left in capital and small capital letters (e.g., JOSÉ L. ORTEGA) or leave the names in lowercase letters, and the editor will format them.
- Place an asterisk (\*) after the name of the corresponding author (and after the comma if there are 3 or more authors). **>Skip 1 line.<**
- Type the addresses of authors in italics and flush left.
- Do not abbreviate anything in the address, except “P.O.” or “A.P.” and the 2-letter abbreviation(s) for states or provinces in the USA and Canada.
- If there is more than one address, indicate in parentheses the appropriate author(s) by initials (without periods) at the end of each address.
- At the end of the address section, type “\**Correspondent:*” in italics, followed by the email address of the corresponding author. **>Skip 1 line.<**

**ABSTRACT AND RESUMEN** (see the example at the end of these guidelines)

- Each should be <300 words.
- Use the paragraph format feature of the software or use the tab (not the space bar) to indent 1.2 cm (= 0.5 inch) and type “ABSTRACT” followed by a double hyphen (--) and the text of the English abstract. Do not put spaces between the hyphens and the words. **>Skip 1 line.<**
- Repeat the process above for the “RESUMEN” (Spanish abstract). **>Skip 1 line.<**
- Sentences in the English abstract and the Spanish resumen should match as closely as possible; do not omit, add, or alter any sentences in one and not the other.
- Do not use computerized translation software to produce the resumen; the software is not accurate. Find a person fluent in both languages (e.g., language teacher) to help you.
- Do not include citations or statistical results in the abstract or resumen.

**MANUSCRIPT TEXT** (Headings are used in feature articles only.)

- Use the paragraph format feature of the software or use the tab (not the space bar) to indent the first line of all paragraphs (including those with headings) 1.2 cm (= 0.5 inch).
- Do not use a heading for the introduction.
- Primary headings (METHODS, RESULTS, DISCUSSION) are typed in capital and small capital letters and followed by a double hyphen (--). Do not put spaces between the hyphens and the words.
- Secondary headings are typed in uppercase and lowercase letters, italicized, and followed by a double hyphen (--). Do not put spaces between the dash and the words.

For example:

METHODS--*Study Area*--We randomly chose collection sites...

*Data Collection and Analysis*--We obtained data using the method described by...

**ACKNOWLEDGMENTS**

- Do not use a heading for the acknowledgements.
- Use the paragraph format feature of the software or use the tab (not the space bar) to indent the first line of the paragraph 1.2 cm (= 0.5 inch).
- Include initials of first and middle names and full last names of people (do not spell out first names).
- Do not use other abbreviations, unless they are defined somewhere in text.

**LITERATURE CITED** (see examples on the next page)

- Format for literature citations is the name-year system.
- **In text, citations are in chronological order** (use alphabetical order those in the same year), and they are separated by a semicolon. For example: (Echelle and Echelle, 1976; Best, 1991; Choate et al., 1991*a*, 1991*b*; Williams et al., 1995). Note the italicized letters “*a*” and “*b*” for multiple entries by the same author citations during a single year.
- **In the Literature Cited section, arrange citations in alphabetical order.** For entries with multiple authors that have the same first author, alphabetize by the last name of the second author, then third author, and so on. Multiple entries for the same author(s) are listed chronologically – oldest to most recent – with lowercase, italicized letters following the year (e.g., 1991*a*, 1991*b*, etc.).
- “von”, “de”, etc. are alphabetized under the “Vs”, “Ds”, etc. Be sure these words are included with citations in the text (e.g., de Vega, 1930).
- In the Literature Cited section, the names of the authors are written with the first letters capitalized and all other letters (including the word “and”) in small capitals (e.g., CZARNECKI, D. B., D. W. BLINN, AND M. PENTON.). If you do not know how to use the small caps” feature of your word processing software, leave the names in lowercase letters, and the editor will format them. There is a space between each initial, a comma after the initials of the first author, and a comma and space before the word “and”. See other examples on the next page.
- Use a hanging paragraph indent of 1.2 cm (0.5 inch) for each citation.
- Do not abbreviate journal titles, agency or publisher names, or states (except for Washington, D.C. and México, D.F.). For books published in New York City, you may cite only New York without repeating the name of the state (e.g., John Wiley and Sons, New York).
- For journal citations, do not insert a space after the colon that precedes the page numbers (e.g., “Southwestern Naturalist 47:1-22” rather than “Southwestern Naturalist 47: 1-22”).
- For entire books, do not include the total number of pages. Include page numbers for a chapter in an edited book with different authors of each chapter (see example on next page).
- Theses and dissertations are cited as “Unpublished M.S. thesis, ...” or “Unpublished Ph.D. dissertation, ...”. list the name of the state if it is not included in the name of the university. Do not list the total number of pages.
- Computer software should only be listed in the Literature Cited if you are referring to the published manuals for the software. If you only used the computer software, you should cite it in text. For example, “We used ArcView, version 3.2a (Environmental Systems Research Institute, Redlands, California)...”.
- Do not cite administrative reports, unpublished abstracts (e.g., program from a meeting), unpublished data, or other sources not generally distributed among libraries (“gray literature”). You may use “pers. comm.”, “pers. observ.”, or “in litt.” in the text for this information, as necessary. See example on next page.
- **Carefully compare entries in the Literature Cited section with the citations in text.**

## LITERATURE CITED EXAMPLES

### Article in Journal:

- CHANGNON, S. A., JR. 1988a. Climatology of thunder events in the conterminous United States, part I: temporal aspects. *Journal of Climate* 1:389-398.
- CHANGNON, S. A., JR. 1988b. Climatology of thunder events in the conterminous United States, part II: spatial aspects. *Journal of Climate* 1:399-405.
- CZARNECKI, D. B., D. W. BLINN, AND M. PENTON. 1981. The diatom flora of the lower Chevelon Creek area of Arizona: an inland brackish water system. *Southwestern Naturalist* 26:311-317.
- PLATANIA, S. P., AND C. S. ALTENBACH. 1998. Reproductive strategies and egg types of seven Rio Grande basin cyprinids. *Copeia* 1998:559-569.

### Book:

- HUSTEDT, F. 1985. The pennate diatoms: a translation of *Die Kieselalgen, Band VII, Teil 2* (with supplement). N. G. Jensen, translator. Koeltz Scientific Books, Koenigstein, Germany.
- PFLIEGER, W. L. 1997. *The fishes of Missouri*, second edition. Missouri Department of Conservation, Jefferson City.
- ROUND, F. E., R. M. CRAWFORD, AND D. G. MANN. 1990. *The diatoms: biology and morphology of the genera*. Cambridge University Press, Cambridge, United Kingdom.
- THORP, J. H., AND A. P. COVICH, editors. 2001. *Ecology and classification of North American freshwater invertebrates*, second edition. Academic Press, New York.

### Chapter in Book:

- MATTHEWS, W. J. 1987. Physicochemical tolerance and selectivity of stream fishes as related to their geographic ranges and local distributions. In: W. J. Matthews and D. C. Heins, editors. *Community and evolutionary ecology of North American stream fishes*. University of Oklahoma Press, Norman. Pages 111-120.

### Thesis and Dissertation:

- EISENHOUR, D. J. 1997. Systematics, variation, and speciation of the *Macrhybopsis aestivalis* complex (Cypriniformes: Cyprinidae) west of the Mississippi River. Unpublished Ph.D. dissertation, Southern Illinois University, Carbondale.
- TOMELLERI, J. R. 1984. Dynamics of the woody vegetation along the Arkansas River in western Kansas, 1870-1983. Unpublished M.S. thesis, Fort Hays State University, Hays, Kansas.

### Government Publication:

- BOESCH, D. F., D. LEVIN, D. NUMMENDAL, AND K. BOWLES. 1983. Subsidence in coastal Louisiana: causes, rates, and effects on wetlands. FWS/OBS-83/26, United States Fish and Wildlife Service, Washington, D.C.
- UNITED STATES GEOLOGICAL SURVEY. 1970. *The national atlas of the United States of America*. United States Geological Survey, Washington, D.C.

### Website:

- UNITED STATES GEOLOGICAL SURVEY. 2005. Water Watch – current water resource conditions. <http://water.usgs.gov/waterwatch/> (Accessed January 2005).

### Unpublished (“Gray”) Literature:

Should be cited in text but not in the Literature Cited section.

On first use, use the following format:

(P. F. Jones et al., 1987, unpubl. report, The Nature Conservancy, Austin, Texas)

On subsequent use, use the following format:

(P. F. Jones et al., 1987, in litt.)

## TABLES

- There should be approximately 3 double-spaced manuscript pages per figure or table.
- Table legends should be double-spaced on paper copies and written to stand alone.
  - Be sure to spell out names of genera and other abbreviations, even if they have been used in the text.
  - Be sure to include relevant locations, dates, etc. that were included in the text.
- Place each legend at the top of its table.
- The format for the table legend is:

TABLE 1--Activity of...

- The first line is indented 1.2 cm (= 0.5 inch).
- There is no period after the number
- There are no spaces before or after the double hyphen.
- Use horizontal lines to separate the table header row from the data.
- Do not use lines to separate rows or columns of data in tables.
- Do not use shading, **bold font**, or underlined words in tables (use *italics font* as appropriate).

## FIGURES

- There should be approximately 3 double-spaced manuscript pages per figure or table.
- Paper copies of figures must have the name of the author and figure number written on the back.
- Colored illustrations are acceptable, but all costs must be borne by the author(s); these charges are in addition to regular page charges. Currently, the cost is about US\$1,000 per color image or set of color images printed on the same sheet.
- Limit the use of shading on figures, especially histograms and similar figures. High contrast is best for publication and will reproduce better in photocopies.
- Figures must be no larger than 215 × 280 mm and must be able to withstand reduction to 1 or 2 columns; line thickness and size of symbols must be chosen carefully. Check a reduction of your figure to be certain that lines and text are readable after reduction.
- Figures with multiple parts (e.g., 1a, b, c – use lowercase letters) must all be placed on a single sheet measuring no larger than 215 × 280 mm. Please stack figures with multiple parts for printing within one column width, when possible.
- All figure legends must be placed on a single, separate page.
- Legends should be double-spaced and written to stand alone.
  - Be sure to spell out names of genera and other abbreviations, even if they have been used in the text.
  - Be sure to include relevant locations, dates, etc. that were included in the text.
- The format for the legend is:

FIG. 1--Frequency of...

- The first line is indented 1.2 cm (= 0.5 inch).
- There is no period after the number
- There are no spaces before or after the double hyphen.

### COMMON CHANGES MARKED ON MANUSCRIPTS:

- The most common recommendation for manuscripts under review is that they be shortened. Be as concise as possible without sacrificing clarity.
- The words “might” and “can” are not synonymous with “may”.
  - Use “can” in reference to a documented ability.
  - Use “might” in reference to an undocumented possibility.
  - Use “may” to indicate permission.
- Do not use “since” or “as” as synonyms for “because”. For example,
  - Use:* “We omitted 1998 from our analysis, because there were insufficient data from that year.”
  - Do not use:* “We omitted 1998 from our analysis, since there were insufficient data from that year.”
  - Do not use:* “We omitted 1998 from our analysis, as there were insufficient data from that year.”
- Do not use “hanging hyphens”. For example,
  - Do not use:* “inter- and intra-specific competition”.
  - Use:* “interspecific and intraspecific competition”.
- Avoid unnecessary use of the word “different” in phrases such as “5 different species”. Obviously the 5 species were different; you cannot have “5 same species”.
- Compass directions north, south, east, west, and their combinations should not be used as adjectives. The adjectival forms preferred are northern, southern, etc. (e.g., use “northwestern Kansas” rather than “northwest Kansas”).
- Do not use vague words such as “very”, “quite”, “rather”, etc. If some indication of scale is necessary, use words or phrases that are as specific as possible.
- Do not use “and/or”. For example,
  - Do not use:* “March and/or April”.
  - Use:* “March, April, or both”.
- Do not use possessive nouns unless it is a proper name. For example,
  - Do not use:* “bird’s diet”.
  - Use:* “diet of the bird”.
- Use the phrase “human-made” rather than “man-made”.
- Use “elevation” for the height above sea level of earth-bound features; use “altitude” for airborne objects.

## **EXAMPLE MANUSCRIPT FORMAT**

DIATOMS (BACILLARIOPHYTA) FROM SALINE MARSHES IN KANSAS

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ABSTRACT--We collected 121 diatoms (Bacillariophyta) from 2 salt marshes and a saline stream...

RESUMEN--Colectamos 121 diatomas (Bacillariophyta) de 2 pantanos salinos y de un arroyo salino...

Few studies have been published on the diatom floras of saline environments in Kansas or adjacent states (Blinn, 1993)...

Although work has been conducted in saline lakes, less is known about the diatom communities of saline marshes and associated streams...

METHODS--*Study Area*--Our study area is underlain by Paleozoic halite deposits...

*Sample Collection and Preparation*--We collected diatom samples at intervals of 4 to 8 weeks from September 1996 through June 1997...

In the lab, we suspended each diatom sample in water and placed 1 drop on a glass slide. We heated the slides slowly...

RESULTS--We identified 118 species, varieties, and forms representing 44 genera (Table 2). We also identified...

DISCUSSION--Results of this study (121 taxa) and the study by Czarnecki et al. (1981; 186 taxa) suggest diatom communities of saline marshes and associated streams...

We thank D. Bradley and J. Farber for assistance with collections of samples...

#### LITERATURE CITED

- BLINN, D. W. 1993. Diatom community structure along physicochemical gradients in saline lakes. *Ecology* 74:1246-1263.
- CZARNECKI, D. B., D. W. BLINN, AND J. N. GRIM. 1980. Aspect of valve morphology in *Plagiotropis arizonica*, a diatom with imperforate siliceous covering. *Transactions of the American Microscopical Society* 99:445-447.
- CZARNECKI, D. B., D. W. BLINN, AND M. PENTON. 1981. The diatom flora of the lower Chevelon Creek area of Arizona: an inland brackish water system. *Southwestern Naturalist* 26:311-317.
- CZARNECKI, D. B., AND D. C. REINKE. 1978. Diatoms new to Kansas. *Technical Publications of the State Biological Survey of Kansas* 10:20-31.