ABSTRACT NOTICE

Please read all the instructions before typing your abstract. Abstracts that do not conform to the required format will be returned to you for revision. If the revised abstract is not received before the abstract deadline, it will not be published in the *Virginia Journal of Science*

All abstracts should be submitted electronically to the appropriate SECTION OFFICER. It is preferable to send the abstract as an e-mail attached file. Please do not paste the abstract into the body of an e-mail message. It is preferred that the file be in Microsoft Word or WordPerfect. The section officer will verify that the format is correct and that the paper was presented during the Annual Meeting.

REQUIRED FORMAT

1) Set the margins to 1 inch left and right**,** 1 inch top and 7.25 inches bottom. **NOTE!** Older versions of Microsoft Word (*.doc) have a default of 1.25" for the left and right margins. Reset this from the File menu, Page Setup. Newer versions (*.docx) can be set from the "Page Layout" tab.

2) The file must be in **10 point** Times New Roman or CG Times or very similar.

3) Single space throughout, leaving no space at the top or left. (Full justification is preferred for best appearance.). The entire abstract should be one single paragraph.

4) Start with the title, Capitalize the entire title (**do not bold**). Place a period after the title and enter 2 spaces. **Do not** press the return to start a new line. Start typing the authors' names.

5) Type in the AUTHOR'S NAME(S), first name, initial, last name. If there are two authors, separate names with "&". In the case of more than two authors, separate the names with a comma, separate the last two with "&"; end with a comma and one space. If more than two authors, underline the presenting author's name. **Do not** press the return to start a new line.

7) Institution(s) follow the author names directly for one and two authors. In case of more than two authors with different institutions, place all author names together first, followed by all institutions in the same order; if necessary, key author to institution by a superscript number. Place a period after the institutions are listed and enter 2 spaces. **Do not** press the return to start a new line. See example below.

8) Immediately after the institutions, start the text of the abstract. **DO NOT** start text on a new line. **Do not** indent first line. Use one paragraph for entire text. **Do not** put any reference citations in the abstract. Put all taxonomic names in *italics.*

9) If a grant source *must* be acknowledged, place at end of text without a new paragraph.

EXAMPLES

EXAMPLE - SINGLE AUTHOR

HABITAT PREFERENCE OF THE SPOTI'ED TURTLE *(CLEA/IMYS GUTTATA)*INNORTHEASTERN ILLINOIS,

USING THE WALLER-DUNCAN MULTIPLE COMPARISONS PROCEDURE. Thomas P. Wilson, Dept. of Biol., George Mason Univ., Fairfax VA. 220304444. A long term ecological study of the spotted turtle, *C. guttata*, began in 1992 and extended into 1994, additional data were collected in 1997 to 1998. Radio-telemetry and hand capture techniques were employed to collect data on habitat usage and site fidelity. Eight adults were radio tracked in 1992-1994. Spotted turtles often shifted habitats daily, as well as, seasonally. Johnson's habitat preference index indicated that the most preferred habitats were wet dolomite prairie and graminoid fen for the home range area(s) and study site, respectively. Least preferred habitats were dry mesic dolomite prairie and successional-cultural for the home range area(s) and study site, respectively. The Waller-Duncan multiple comparisons procedure was used to test for significant differences in habitat preference (alpha=0.05). A significant difference was determined between the cattail marsh and wet mesic dolomite prairie for home range data. Successional-cultural habitat was shown to be significantly different from the following habitats: mesic dolomite prairie, wet mesic dolomite prairie, cattail marsh, sedge meadow, and gramminoid fen. It appears that open low stature habitats (i.e., wet & mesic dolomite prairie) in juxtaposition with closed high stature habitats (i.e., cattail marsh, sedge meadow, & graminoid fen) are the preferred habitat for this turtle in Illinois.

EXAMPLE - TWO AUTHORS, SAME INSTITUTION

EVOLUTIONARY RELATIONSHIPS IN *ORYZA* INFERRED FROM THE PROLAMIN (SEED STORAGE PROTEIN) GENE. Irene M. Boyle & Khidir W. Hilu, Dept. of Biol., Va. Polytechnic Inst. & State Univ., Blacksburg VA 24061. *Oryza* encompasses two cultivated and approximately 20 wild species. Rice is a socioeconomically important crop; it feeds more people worldwide than any other crop and is second only to wheat in terms of worldwide crop production. Seventeen of *Oryza* species are delineated into the diploid genomes A, B, C, E, F, and the polyploids BBCC and CCDD while five species contain unidentified (?) genomes. Cultivated *O. sativa* and *O. glaberrima* contain the AA genome. Sequences of the gene encoding the 10 kDa prolamin were used in a cladistic study to examine the phylogeny of *Oryza* with *Phyllostachys aurea* as an outgroup. *Oryza meyeriana* (?)(Philippines), *O. granulata* (?)(Laos), *O. australiensis* (EE)(Australia), and *O. brachyantha* (FF)(Cameroon), all geographically diverse species, represent the most basal lineages. Species containing a CC genome (CC, BBCC, CCDD) plus *O. punctata* (BB) form a lineage. Within the latter lineage, *O. minuta* (BBCC) forms a clade with *O. rhizomatis* (CC) possibly arising through concerted evolution. A strongly supported clade emerged containing *O. punctata* (BB) and species of the South American-endemic CCDD genome. Species relationships were not resolved within the AA genome. (Supported by: Sigma Xi Grant-in-Aid of Research, The Virginia Academy of Science, and the Graduate Research Development Project [GRDP], Va. Polytechnic Inst. & State Univ.).

EXAMPLE - MORE THAN TWO AUTHORS IN THE SAME INSTITUTION

SYNTHESIS AND CHARACTERIZATION OF THE COMPLEXES FORMED BY THE N(4-METHOXYPHENYL)PHTHALAMATE LIGAND WITH THE Co(II), Cu(II), and Zn(II) IONS. S. A. Williams, K. Esperdy, D.L. Polo & L. M. Vallarino, Department of Chemistry, Virginia Commonwealth University, Richmond VA 23284-2006. This work is part of an ongoing project that investigates the coordinating ability of the amic acid sites of polyimides through a study of the metal complexes of representative monomeric amic acid models. The N(4-$^{m}{}_{m}e_{e}$thoxyphenyl)phthalam$_{\text{tal acetates to yield com}}$ic acid (HANPPA), synthesized $_{\text{pounds of the general formula M(ANPPA)}}$fromp-anisidine $_{2\cdot(\text{solvent})}$and phthalic anhydride, was reacted with the$_{\text{n, where the solvent is water, methanol,}}$ or a combination of both. The complexes of Co(II), Ni(II) and Zn(II) had identical IR spectra and solubility patterns; on the basis of the d-d electronic spectra of the Co(II) and Ni(II) species, and of the ^{1}H NMR spectrum of the Zn(II) species, these complexes are assigned an octahedral coordination geometry with the ANPPA^{-} anions acting as bidentate chelating ligands *via* the carboxylate and amide groups. The less soluble Cu(II) complex, which had a somewhat different IR spectrum, was, instead, assigned a dimeric or polymeric structure with bridging carboxylates. This was a group project of the students in the CHEM 406L class of 1999.

EXAMPLE - TWO AUTHORS FROM DIFFERENT INSTITUTIONS

COMPARISON OF LARVAL MYOMERE COUNTS AMONG *NOCOMIS* SPECIES IN VIRGINIA. T. D. Zorman, Univ. of Richmond VA 23173 & E. G. Maurakis, Science Museum of VA, 2500 W. Broad St., Richmond VA 23220 and Univ. of Richmond, VA 23173. Larval myomere counts of *Nocomis platyrhynchus* were made using a dissecting light microscope equipped with polarizing filters, and then compared to those of the three other species of *Nocomis* (*Nocomis leptocephalus, Nocomis micropogon,* and *Nocomis raneyi*)found in Virginia. Average preanal myomere counts

for *N. platyrhynchus* (26.9) were significantly different from those of the other three species *(N. raneyi*=28.7; *N. micropogon*=26.0; and *N. leptocephalus=25.9).* This is especially important as larvae of *N. leptocephalus,* the only other species of *Nocomis* syntopic with *N. platyrhynchus* in the upper New River drainage, can now be distinguished from those of *N. platyrhynchus.* Larvae of *N. raneyi* also can be distinguished from those of other species of *Nocomis* in Virginia based on preanal myomere counts. However, larvae of *N. platyrhynchus* and *N. raneyi* cannot be distinguished from each other based on total myomeres (42.0 versus 41.7). This study was funded in part by Univ. of Richmond, Science Museum of Va., and Va. Academy of Science.

EXAMPLE - MORE THAN TWO AUTHORS FROM DIFFERENT INSTITUTIONS

DEVELOPMENT OF NOVEL 5-HTID SEROTONERGIC AGENTS. T. Prisinzano[1] , H. Law[1], M. Dukat[1], D. K. H. Lee[2] & R. A. Glennon[1], [1]Department of Medicinal Chemistry, Virginia Commonwealth University, Richmond VA 23298 and [2]Allelix Biopharmaceuticals, Toronto, Canada. Development of the serotonin (5-HT) receptor agonist sumatriptan has proven to be a significant advance in the treatment of acutemigraine. It is generally accepted that its clinical efficacy is mediated through its action at either h5-HT_{1B} or h5-HT_{1D} receptors for which it shows no selectivity. Despite its clinical effectiveness, sumatriptan has a potential for coronaryartery constriction and is contraindicated in patients with heart disorders. This is thought to result from its affinity for h5-HT_{1B} receptors. Compounds selective for h5-HT_{1D} receptors might represent a new generation of migraine therapy. We have used a 2-benzylimidazoline template to develop novel h5-HT_{1D} selective agents and have now identified several imidazolines, imidazoles, and related derivatives with enhanced affinity. ALX-1452, for example, binds at h5-HT_{1D} receptors with high affinity (Ki 35 nM) and greater than 125-fold selectivity over h5-HT_{1B} receptors.