# INSTRUCTIONS FOR CONTRIBUTORS

# Eligibility

Indiana Academy of Science members in good standing are eligible to submit papers for publication in the *Proceedings*. When a paper is signed by more than one author, at least one must be a member of the Academy. Preferably, eligibility should be established before submitting the paper, as such papers are given priority. In any case, all authors must be certified by the treasurer for payment of dues and old reprint bills at the time of the deadline (see below). Invited papers may be considered for publication regardless of the membership status of the author.

All papers submitted for publication in full will be reviewed by qualified reviewers, selected by the Publication Committee. Papers read by **title only** at the Fall Meeting may also be considered for publication. Among papers of primarily regional interest, e.g., in certain aspects of botany, zoology, geology, geography, and anthropology, those dealing with Indiana material will be accorded preference. The selection of papers for the *Proceedings* is the responsibility of the Publication Committee.

#### Abstracts

Two copies of an abstract should be submitted to the Divisional Chairman at the time the title of a paper is submitted for the Fall program. All abstracts will be published in the *Proceedings*, either separately or with papers that are published in full. The original copy of the abstract should be marked "for the editor." The carbon copy of the abstract should be marked "for the divisional chairman" and may include information about time, projection facilities needed, etc. The abstract should be prepared according to the form used in the Proceedings (see any current copy of the *Proceedings*). The abstract should be complete and clear in itself not over 5% of the length of the paper. Normally abstracts should not exceed 200 words in length. Abstracts are not reprinted (except for those which are included at the head of a paper published in full).

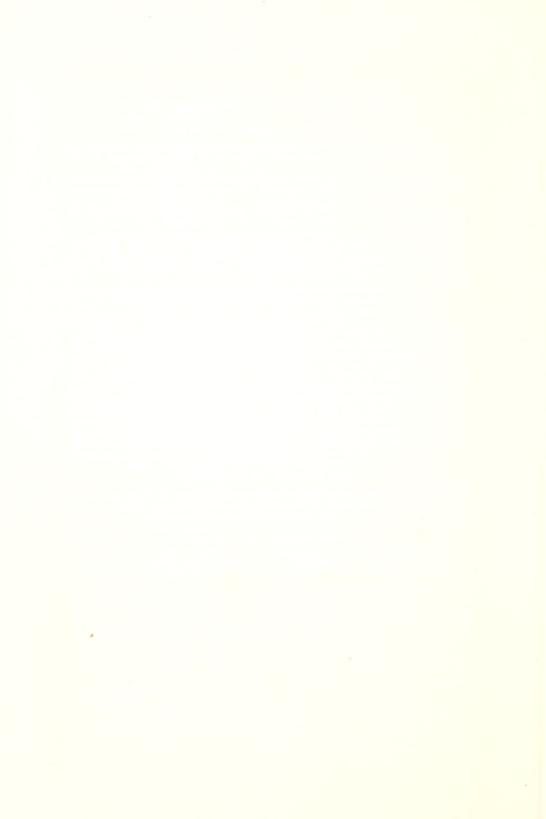
### Deadline at the Editorial Office

When sent via the Divisional Chairman as prescribed, or directly, all material to be considered for publication in the *Proceedings* must reach the editor within 20 days following the Fall Meeting.

# Preparation of Manuscripts

- A. Refer to current copy of the Procedings for the accepted style of abstracts and papers, and follow this, especially in literature citations, hendings and footnotes.
- B. Type on 11 x 8½-inch bond paper with a new ribbon, leaving some margin. Double space everything, including title, author's name and institution, footnotes, quotations, legends and literature list. Manuscripts should be submitted in duplicate. The original will become the printer's copy; if it must be retyped, it will be sent back to the author for this.
- C. Footnotes should be kept to an absolute minimum. Necessary footsteps should be numbered consecutively throughout; asterisks are not used. Footnotes should be referred to in the text as superscripts, without narentheses.
- D. Literature citations should not occur in footnotes, but should be in an alphabetized list at the end of the paper, headed Literature Cited. This list should contain only literature citations, no footnotes, quotations, parenthetical remarks, etc. The highly abbreviated form used by the chemists has not been adopted for the Proceedings. Follow this model:

- Doe, J. B. and R. C. Roe. 1949. New light from old radioactive carbon. Jour. Am. Biological Soc. 34:273-305.
- References cited should be numbered consecutively (in the alphabetized list) and should be referred to in the text by number in parentheses on the line of type and before the period if at the end of a sentence.
- E. Only initial letters or the words for special emphasis in the text should be capitalized. **Do not** capitalize words in title or subheadings.
- F. Do not underline anything except scientific names, anywhere, and titles of books when they appear in the text only, not in literature list.
- G. All literature listed and all tables and illustrations used should be referred to in the text.
- H. Tables, which are costly to print, should be reduced to a minimum. Avoid small tables scattered through the text. Each table should be typed on a separate letter-size sheet and placed at the end of the paper. Outsize tables cannot be accepted.
- I. Photographs should be printed on glossy paper and have good contrast. It is best to mount them trimmed to fit tightly together at the edges in groups, on stiff cardboard with rubber cement. Proportion the group for a full page of the *Proceedings*, or use the full width of the paper (4½") and any part of the page's height. Do not mix line drawings and photographs in the same group. Legends should be on a separate letter-size sheet, numbered to correspond and placed at end of paper.
- J. The originals for line drawings need be no more than twice the size desired for the printed figure. They should be proportioned and arranged to fit the page size of the *Proceedings*. The lettering should be carefully done and of suitable size to allow for necessary reduction. Do not submit printed maps when the necessary reduction will efface the narrower lines or render some of the lettering hardly legible; such maps should be redrawn and lettered in adequate siz eletters, omitting unnecessary details. The use of a carbon ink on a heavy white paper or other suitable surface reproduces well. The typewritten label does not reproduce well.
- K. Major professors are urged to **review** all papers by their graduate students, for both form and content, before they are sent in for publication. Of those based on university theses, manuscripts carrying the approval by the professor will be given preference over those without such approval. New authors, especially, are reminded that a scientific paper should summarize the work, not recapitulate it. It must be much more concise than a university thesis, avoiding all extraneous material, especially long tables and lists of little interest except to the author.
- L. Reprints of papers are paid for by authors, at cost. Directions for ordering reprints accompany the galley proof and the orders are placed at the time the author returns the corrected galley proof to the editor. The order form supplied by the editor must be completed and returned. If you have any special institutional form regarding payment for the reprints, these should be sent directly to the treasurer of the Indiana Academy of Science at the time the reprints are paid for. Abstracts are not reprinted.
- M. The editor needs, at the time he mails out galley, current addresses for all authors and coauthors of all abstracts and papers. Many former graduate students lose the opportunity to order reprints when there are faulty forwarding addresses. It is suggested taht the student's pemanent home address be written on the reverse side of the abstract copy marked "for the editor."



# INDEX

Abscission of bean leaf, 146 Academic origins of geneticists, 370 Aedes infirmatus D&K, new Indiana record, 257 Alexander, R. W., Jr., 88 Algae, sewage ponds, 139 Allee Woods, Collembola, 231 Allen, Frederick John, memorial, 32 Allen, P. R., 210 Aminoglutethimide, effects on serum electrolytes, 468 Antibiotics, Thiadiketopiperazine, 111 Antibody plaque technique, 109 Antibody studies, 163 Appalachia, culture of, 97 Araneae of Indiana, an annotated list, 266 Archaeology of Eastern Siouan Tutelo, Armington, John H., memorial, 32 Arnett, P. M., 231 Artificial sweeteners, rodents' preference for, 457 Atomic lifetimes, measurement of, 389 Awasthi, Y., 189

Bacillus subtilis growth and sporulation, 111 Bacteria in farm ponds, 417 Ball State University science department, 381 Barber, S. A., 418 Barski, G., 165 Barton, T. F., 342 Bats, incidence of rabies in, 447 Beech-maple climax, Collembola present in, 231 Beesley, L. & A., 118 Beetles (Hydrophilidae), 260 Big Walnut Creek Reservoir, resolution, 13 Blakely, R. L., 73 Blanc, T. V., 389 Blood, Gc system, 164 Bochrath, R., 109 Bone growth, prehistoric Indians, 83 Boneham, R. F., 329 Boyko, W. L., 447 Brahmi, Z., 109 Brannon, D. R., 111 Brett, W. J., 445 Bryophyta, 396 Burgess, R. D., 387 Burns, J. M., 445 Burton, Everett Tyler, memorial, 33 Butler, J. W., 165 By-laws, revision, 14

Callis, R., 387 Campbell, W. F., 110 Carlson, K., 109 Cell membrane composition, 161 Cell mobility, 165 Centaurium pulchellum, 414 Cephalosporium genetics, 112 Cerebral cortex, neuron structure, 161 Chara, fossils, 406 Cheetham R., 183 Chi square, statistical approximations, 482 Chiroptera, incidence of rabies in, 447 Chiroptera, the Hoary Bat, 497 Chlorophyll variation in corn, 118 City planning and web pattern, 342 Cleveland, J. H., 315 Cline, J. C., 112 Coal balls, 120 Coal mine reclamation costs, 355 Cobra venom action on virus, 110 Coffin, S., 71 Coincidence techniques in measurement of atomic lifetimes, 389 Collembola in beech-maple forest, 231 Communication, scientist to non-scientist, 65 Community development, systems approach, 104 Computers in education, 200 Cook, A. G., 200 Cooper, R. H., 381, 466 Copeland, R. F., 200 Corn diseases in Indiana, 117 Corn, response to phosphorus and potassium fertilization, 435 Correlation coefficients, statistical approximations, 482 Craig, E., 387 Craig, M. L., 72 Crane, F. L., 189 Crankshaw, W. B., 201, 204, 241 Craske, Al G., Jr., 201 Crop plants on fragipan soils, 429 Crushed stone, transportation costs, 348 Curren, T., 71 Curtis, K. K., 118 Cuticle variability in plants, 115 Cyanamide complex of iron, 199 D\* absolute value, 387

Daily, F. K., 32, 406

Danemar, A. G., 389

shortcuts, 482

Data analysis, life sciences, statistical

Dendropanax in the Eocene, 115

506 Index

Desiccation, response to, in salamanders, 472

Desmognathus ochrophaeus carolinensis, water loss physiology in, 472

Devonian rocks, 333

Dickson Mounds, Fulton County, Illinois, 73

Dilcher, D. L., 115

Dillon, L. I., 363

Dinkel, R. M., 201, 355

Dolph, G. E., 115

Donahue, S., 161

Downey, R. J., 113

Doyle, J. R., 200

Drosophila periodicity and rhythm, 445

Earth mound, 417
Earth science teaching in Indiana, 329
Eclipse, solar, 387
Education, the non-science major, 65
Elaphe obsoleta, 446
Electrolytes, potassium and sodium, 468
Enamine synthesis and properties, 200
Endoplasmic reticulum, 183
Escherichia coli, mutant, 109
Esten, Mable Henniger, memorial, 34
Esterline, A., 256

Fertilizer experiments with corn, 435
Fixation, glutaraldehyde, 167
Food habits, of Rana catesbeiana, 491
Forest analysis, 245
Forest ecology, 201, 204
Forests, old-growth, 210
Forest succession, 203
Fort Ancient, archaeological population, 93
Fossils, charophytes, 406
Fragipan soils and suitable crops, 429
French, R. R., 348
Fulk, F. D., 491

Galileo's telescopes, air thermometer, and astrolab, 378 Gammon, J. R., 203 Garter snake, 445 Genetics Society of America, academic origins of members, 370 Gentianaceae, 414 Geologic reports for land-use planning studies, 49 Geomorphology of Indiana, 317 Gerber D., 183 Gerwig, J. L., 201 Geyer, R. E., Jr., 446 Girton, R. E., 116 Glenn, E. J., 72 Glutaraldehyde, reactions with cytomembranes, 167

Golgi apparatus, 162, 183 Gordon, R. E., 65 Gorman, M., 111 Greene County, Indiana, 355 Gruenholz, A. W., 446 Guard, A. T., 117 Guernsey, L., 355 Gunther, W. C., 457 Gypsum resources in U.S., 315

Habart, T., 72

Hall, J. D., 189

Hart. J. W., 257

Haslanger, Pearl C., memorial, 35 Heath, M. E., 429 Hecht, T. A., 200 Heiser, C., 119 Heloderma suspectum, tumor in, 466 Hemmer Woods, Gibson County, Indiana, 245 Herzog, L., 256 Hinsman, E. J., 161 Holler, F. J., 199 Holmes, R. E., 112 Hookeriaceae species in South America, 396 Hopp, W. B., 446 Hormones in chickens, 445 Houlihan, J. F., 387 Howard, D., 370 Huber, R. T., 256 Huelsman, B. R., 97 Hughes, L. E., 417 Hults, M., 387 Humbles, J., 413 Humeral septum, performation of, 73 Hunter, K. B., 72 Huygens' pendulum clock and planetarium, 378

Indiana Academy of Science, bylaws, changes, 14
Indiana fossil plants, 120
Indiana plant distribution records, 413
Indiana spiders, annotated list, 266
Indians, Shawnee, origin, 93
Ingraham, J. S., 109

Jackson, M. T., 210, 245 Japanese Weevil in Indiana, 255 Jersild, R. A., 161, 163 Joyner, R. D., 199 Judd, R. W., 120 Junior Academy of Science, 22

Kendall, S. H., 113 Kirkpatrick, R. D., 241 Kohnke, H., 418 Koltenbah, D. E., 388, 389 Kramer, D. C., 445 Kuc', J., 118 INDEX 507

Land use planning, 49 Landform properties, 317 Lasiurus cinereus, in Indiana, 497 Late Woodland American Indians, 83 Lawrence, R. M., 199 Leaf abcission, environmental regulation, 146 Leewenhoek's microscopes, 378 Lemke, P. A., 112 Lemna minor, the flowering of, 414 Lemnaceae, 414 Leukemia suppression by L-Asparaginase, 110 Levine, A. S., 109, 110 Lewis, L. A., 317 Lichen planus, 162 Lobelias of Indiana, 118 Logansport Sag, 333

Louraine, Frank E., memorial, 35 Mabe, J., 111 Mak, K. M., 161 Markle, C. A., 395 Markle, Millard S., memorial, 37 Marks, G. C., 414 Marmouze, R. J., 73 Maya Indians, 71 McGrew, L. A., 199 McKee, Roy, memorial, 36 McKelvey, P. T., 202 Melanoma in Heloderma suspectum, 466 Members (1968), 43 Membranifibrils, 189 Membranes, fibrils in mitochondria and chloroplasts, 189 Merritt, Neal R., memorial, 39 Mertens, T. R., 370 Meson scattering, 388 Michael, R. L., 71 Middle Mississippian American dians, 73 Middleton, A. E., 183 Miller, B., 417 Miller, W. A., 447 Mineral aggregates, transportation costs, 348 Minton, S. A., 113 Mitchell Plain deposits, 316 Moe, K., 16 Mollenhauer, H. H., 167 Molloy, B. B., 111 Montgomery, B. E., 256, 369 Morgan, F., 202 Morgan, P. C., 111

Morre', D. J., 146, 161, 167, 183

Mosquitoes, Indiana check list, 257

Mound (White Site) excavation, 71

Mucous velocities in trachea, 446

Morris, B. J., 71

Mumford, R. E., 497

Mosses, 396

Muon energy study, 387 Mycophenolic acid, 112

Neumann, G. K., 72, 88, 93 Neuron, fine structure, 161 New Castle Site, excavation, 71 Niederpruem, D. J., 163 Nisbet, J. J., 120 Nitrate reductase synthesis, 113 Nuclear resonance analysis, 388 Nuner, J. H., 113

Organonitrile complexes, 200 Orr, R. W., 333 Osmun, J. V., 256

Pace, R. E., 71 Paleobotany, 120 Palmer, C. M., 139 Parker, T. A., 266 Pennsylvanian flora, 120 Peri, B., 110 Petersen, B. H., 109 Petty, R. O., 203 Phaseolus resistance to anthracnose, 118 Phaseolus vulgaris, leaf abscission, Phenyl isocyanate reaction with water, Phosphatases, nucleotide, 183 Phthalocyaninogermanium compounds, 199 Pickard, B. L., 472 Pilot Black Snake growth, 446 Plant distribution records, 413 Plant species disappearing, 117 Plasma membrane, 183 Pleistocene drift in Indiana, 315 Plethodon glutinosus, water loss physiology in, 472 Plethodon jordani jordani, water loss physiology in, 472 Pollock, G. P., 468 Pollution effect on fish, 202 Pollution effect on organisms, 203 Pollution-tolerant algae, 139 Popeorn production in Indiana, 363 Powell, R. L., 316 Prairie soils, tillage techniques, 418 Pseudocneorhinus, bifasciatus, 255 Rabies in Indiana bats, 447 Rahe, J. E., 118

Rabies in Indiana bats, 447
Rahe, J. E., 118
Raitano, A. C., 110
Ramaley, R. F., 111
Rana catesbeiana, food habits, 491
Reclamation practices, strip coal mine, 355
Reptile serum profiles, 113

Reservoir limnological studies, 202

508 Index

Reuszer, H. W., 417 Tague, N. A., 72 Reynolds, A. E., 472 Tamar, H., 446 Richardson, J., 71 Teaching earth science in Indiana, 329 Robbins, L. M., 93 Thallium chloride, 199 Robling, S. C., 199 Thannophis sirtalis, 445 Rodents' preference for artificial Thermal discharge, in river, 201 Thomas, G. P., 388 sweeteners, 457 Rosene, G. L., 164 Thomas, R. J., 165 Rothwell, F., 201 Tiefel, C. F., 315 Tillage techniques, 418 Tolypella, fossils compared to modern. Salovesh, M., 71 405Schizophyllum commune, nucleus, 163 Tomak, C. H., 72 Schmedtje, J. F., 163 Transportation costs, mineral aggre-Schneider, A. F., 315 gates in Indiana, 348 Schuder, D. L., 255 Trees, site preference, 201 Schultz, D. J., 200 Tropisternus collaris and supspecies, Science and Society Committee regenetics, 260 ports, 13, 16 Tumor cells, mitotic activity, 164 Science apparatus originals; Florence, Tutelo Indian tribe of North Carolina, Leyden, Glasgow, and Cambridge, 88 Science at Ball State University, 381 Ullstrup, A. J., 117 Science history; astronomy and Urban development and planning, 342 physics, 378 Urban geology, research programs, 49 Secondary education, earth science, 329 Urban structure analysis, 104 Selenium effect on respiration, 116 Sewage stabilization ponds, algae, 139 Shawnee Indians, 93 Van Nuys Site, excavation, 71 Siverly, R. E., 256 Versailles State Park, Indiana, 210 Smalley, S. F., 164 Smith, C. E., Jr., 202 Wagner, M., 110 Smith, D. E., 118 Wagner, M. W., 457 Smith, J. A., 241 Walker, P. L., 83 Smith, J. M., 417 Soil moisture, forest, 204 Wallace, Frank N., memorial, 40 Watanabe, I., 161 Soils, fertilizer response of corn, 435 Wayne, W. J., 49 Soils (fragipan) and suitable plants, 429 Web pattern in urban development, 342 Southern mountaineers, migration of, Weiss, M. S., 104 97 Welch, W. H., 396 Spectroscopy, atomic, in the measure-Welsh-Dunlap Site, excavation, 71 ment of atomic lifetimes, 389 Wendt, H. W., 482 Spiders of Indiana, 266 Whitaker, J. O. Jr., 447, 491 Sprague, N. G., 378 Whitehead, J. M., 72 Stark, W. M., 111 Whitten, J. B., Jr., 161 Statistical approximations, Chi Square, Wildlife management, 241 correlation coefficients, 482 Williams, R. H., 112 Stiles, J. W. 189 Woodcock singing ground descriptions, Stivers, R. K., 435 Storhoff, B. N., 200 Wynne, D. D., 73 Stovall, W. E., 164 Stover, R. L., 199 Stratigraphy, Devonian rocks, 333 Young, F. N., 260 Streptococcus faecalis immunity in rat, Yunghans, W., 161 110 Strip coal mine reclamation, 355 Zea mays L. response to fertilization, Strip mine areas, temperature and moisture, 201 435 Sweeney, M. J., 112 Zeck, C. A., 115 Sweeteners, toxic and non-toxic, as Zeman, W., 161

Zimmack, H. L., 256

preferred by rodents, 457



