INSTRUCTIONS FOR CONTRIBUTORS

Eligibility

Papers

Indiana Academy of Science members in good standing are eligible to submit papers for publication in the Proceedings. When a paper is signed by two or several authors, all must be members in good standing. 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). Papers reaching the editor after the deadline are ineligible. All papers must be accompanied by an abstract in the form specified below, marked "for the editor."

Abstracts

If the Divisional Chairman puts a paper on his program for the Fall Meeting, the abstract will be printed in the Proceedings regardless of the author's membership status, unless the full paper is published.

Time and Procedure for Submitting Abstracts: One typed original of each abstract, marked "for the editor" may be submitted to the Divisional Chairman before the meeting or the author may mail it direct to the editor. This should be ready for publication with a minimum of editing, i.e., in the standard abstract form (see a Proceedings abstract) and double spaced; it should not include directions to the chairman regarding time, lantern, etc. The latter information may be added to a copy marked "for the Divisional Chairman" and sent to him. The editor cannot accept carbon copies of abstracts or papers. The length of an abstract should not exceed 200 words. Items A, B, C, E, F, and O apply generally to abstracts as well as papers.

Deadline at Editorial Office

Whether sent via the Divisional Chairman as prescribed, or directly, all material for the Proceedings must reach the editor within 20 days following the Fall Meeting.

Preparation of Manuscripts

- A. Refer to current copy of the Proceedings for the accepted style of abstracts and papers, and follow this, especially in literature citations, headings, and footnotes.
- B. Type on 11 x 8½ inch bond paper with a new ribbon, leaving ample margins. Double-space everything, including title, author's name and institutions, footnotes, quotations, legends and literature list. 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 footnotes should be numbered consecutively throughout; asterisks are not used. Acknowledgments may be placed only in the introduction or in a footnote. If your abstract must cite literature, use a footnote.
- D. LITERATURE CITATIONS in a paper should not occur in footnotes, but in an alphabetized list at the end of the paper, headed "Literature Cited." The highly abbreviated form used by chemists has not been adopted for the Proceedings. Follow this model: 7. Dog. J. B., and R. C. Rog. 1949. New light from old radioactive carbon
 - 7. Doe, J. B., and R. C. Roe. 1949. New light from old radioactive carbon Jour. Am. Biological Soc. 34:273-305.
- E. Only initial letters of the words in titles, headings, and table headings should be capitalized.

- F. Do not underline anything except scientific names, in headings or elsewhere.
- G. All literature listed, and all tables and illustrations should be referred to in the text.
- H. Tables, which are very expensive 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.
- I. New authors, especially, are reminded that a scientific paper should summarize the work, not recapitulate it. It must be very much more concise than a university thesis, avoiding all unnecessary material, especially long tables and lists of little interest except to the author.
- J. 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 upon university theses, manuscripts carrying a pencilled O. K. and signature by the professor will be given preference over those without such indication of review.
- K. 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 page (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, numgered to correspond.
- L. The originals for line drawings need be no more than twice the diameter desired for the printed figure. The lettering should be very carefully done, and of suitable size to allow for the 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 size letters, omitting unnecessary details. It is suggested that the total of illustrations and tables not exceed 20 per cent of the length of the whole paper.
- M. The summary should be complete and clear in itself, and not over 4 percent of the length of the paper. For very short papers no summary is necessary.
- N. Reprints of papers are paid for by authors, at cost. They are ordered at the time the author returns the corrected galley proof to the editor. Abstracts are not reprinted.
- O. The editor needs, at the time he mails out galley in March, current addresses for all coauthors of all abstracts and papers. Many former graduate students lose the opportunity to order reprints when mail addressed to them is returned for lack of forwarding addresses. It is suggested that the student's permanent home address be written on the reverse side of that abstract copy marked "for the editor."

Selection of Papers

Every year a few more papers are submitted than can be published with the available funds. Therefore, not all papers received can be included in the Proceedings. Manuscripts prepared concisely, in the style recommended above, will receive first consideration. Authors should not expect to publish very long papers in the Proceedings. 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 Editorial Committee.

INDEX

Accelerater, intersecting beam, with storage ring, 299.

Acetylenic alcohols, determination of esters of, 91.

Acidity of trichloroacetic acid, 86.

Alpha-conidendrin, bacterial dissimilation of, 55.

Alpha particles, scattering of 19-Mev, by Ni, Al, A and Cu, 297.

Aluminum in the qualitative test for acetate, 98.

Amphibians and reptiles, distribution in Indiana and Illinois, 328.

Analysis by extraction and high frequency measurement, 81.

Analysis of Helianthus hybrids, 306.

Anomaly occurring on the Atlas, racial significance, 45.

Anthocyanin synthsis, 61.

Anthophilous insects of Indiana: I. A preliminary annotated list of the Apoidea, 125.

Anthropology division, 45.

Are we doing a job (soil science), 230. Areal differentiation of Indiana counties, 159.

Aromatic thiols, improved procedure for the preparation of, 79.

Auditory fatigue, 323.

Azotobacter, oxidation of acetate by extracts of, 56.

Bacteriology division, 55.

Barber, S. A., 242.

Beals, H. O., 63.

Bechert, C. H., 286.

Bechtel, A. R., memorial, 27.

Beekman, B. E., 341.

Behrens, O. K., 77.

Bellman, S., 95.

Berry, R. N., 325.

Billman, J. H., 78.

Birds and grasslands of western Mexico, 329.

Blassingham, E. J., 47.

Bleuler, E., 297.

Bloomington, Indiana, water supply problems of, 188.

Botanical forays to Florida, 318.

Botany division, 61.

Bowman, S. E., 252.

Breneman, W. R., 329.

Bretz, H. W., 55.

Brodie, H. J., 65.

Bromer, W. W., 77.

Bromination of carbostyrils, 80.

Brumbaugh, J. H., 300.

Bryan, W. L., memorial, 28.

Burkett, H., 78, 86.

Bushnell, T. M., 246.

Buss, A., 324.

Calumet region, manufacturing, 209.

Campaigne, E., 79.

Cancellaceae, wood anatomy of, 63.

Carterette, T. S., 326.

Celloidin for the study of leaf surfaces, 74.

Ceratopteris pteridoides, geographic distribution of, 62.

Chalkland agriculture, recent changes in, 157.

Chandler, L., 112.

Chemistry division, 77.

Chicago-Heights, Illinois, 209.

Christy, O. B., 18, 27.

Clark, J. A., 6, 9, 13, 19.

Clay minerals in some glacial lacustrine sediments, 179.

Cleland, R., 15.

Clevenger, S., 61.

Coats, Nellie, 9, 14.

Cole, R. O., 291.

Coleoptera, records of, 115.

Conservation of

Man in Indiana, 252.

Germplasm of domestic species, 256.

History of forest, in Indiana, 261.

Recreational and scenic resources,

History of water, in Indiana, 286.

History of soil, service, 291.

Cook, D. J., 80.

Coordination studies: dipyridylamine and 3,3'-iminobispropylamine, 95.

Correll, M., 297.

Cottingham, J. O., 305.

Counties, economic importance of Indiana's, 159.

Crowder, H., 63.

Crowell, S., 328.

Daily, F. K., 11, 18.

Daily, W. A., 6, 11, 19, 300.

Davis, J. J., 104. Deay, H. O., 108.

Decay, beta, of Tb161, 298.

Deiss, C., 18.

INDEX 349

DenUyl, D., 261. DeVol, C. E., 62. Diehl, F. P., 141. Dietary effects on the estrous cycle of the female California pocket gopher, 331. Dinoflagellate, Peridinium Volzii f. vancouverense (Wailes), 300. Dinsmoor, J. A., 324. Diplura and Protura in Indiana, 112. Dipole fields, novel orientations of, 297. Dippell, R. V., 60. Discrimination learning, sampling of common elements in, 326. Downie, N. M., 115, 324. Drives in raccoons, 325. Drummond, R. R., 167. Duncan, W. G., 230, 231. Dunkin, J., 74.

Edwards, P. D., 17.

Effects of deficiency and luxury feeding on corn hybrids, 231.

Egan, J. P., 323.

Entomology division, 100.

Equations, integral, for transition matrices in the static meson theory, 298. Esters of acetylenic alcohols, determi-

nation of, 91. Estrous cycle of California pocket gopher, dietary effect on, 331.

Eugymnanthea, the hybrid that lives in a clam, 328.

European corn borer, sex of moths taken at light traps, 108. Everly, R. T., 100.

Farm plannning in relation to soil conservation in Indiana, history of, 252. Farquharson, L., 318.

Figurine heads, Mexican, 53.

Film impression method for observation of minute features of wood anatomy, 63.

Fischer, R. B., 81.

Fishes, Indiana history of, 275.

Flavonols of *Implatiens balsamina*, 61. Fletcher, R. I., 57.

Forces between strange particles and nucleons, 299.

Forest conservation, in Indiana, history of, 261.

Fukada, N., 298.

Fumigation chambers, circulation fans for, 141.

Fungi, higher, of Marion county, Indiana, VIII, 305.

Gailor, O., 297. Geology and geography division, 157. Gerjuoy, H., 324.
Gerking, S. D., 275.
Ghost states in field theory, 299.
Gibberellic acid, shoot elongation assay for, 62.
Girton, R. E., 6, 9, 12, 35.
Glucagon
Effect of crystalline, on blood sugar of fowl, 341.
Structure of, 77.
Gould, G. E., 147.
Gries, G. A., 62.
Grollig, F. X., 53.
Guard, A. T., 300, 306.
Gunther, W. C., 331.

Hagen, Jr., C. W., 61.

Hamilton, J. H., 298. Hart, J. F., 157, 195.

Hall, M. T., 321.

Heiser, C. B., 9, 15. Helianthus hybrids, 306. Herzog, G., 46. Heterocyclic compounds via, 1,1,1-trichloro-3-nitroprapanol, 79. Higgens, C. E., 62. History of Farm planning in relation to soil conservation in Indiana, 252. Richmond scientific association, 252. Forest conservation in Indiana, 261. Study of fishes in Indiana, 275. Water conservation in Indiana, 286. Soil conservation service, 291. History of science division, 252. Hoffer, G. N., 231.

Index, 348.
Indiana, road patterns of, 192.
Insects of Indiana in 1956, 104.
Instructions for contributors, 346.
Interests, vocational, for engineers, 324.
Introgression among three species of Viburuum, 300.

Jackson, R. C., 306. Johnson, Jr., J. I., 323. Johnson, W. H., 9, 10, 19, 330. Johnston, R. B., 50. Josten, J. J., 56.

Keyform, catene-drainage profile in pedological taxonomy, 246.
King, L. J., 252.
Kingsbury, T., 157.
Kinsey, A. C., memorial, 30.
Klages, M. G., 232.
Klein, A., 61.
Konetzka, W. A., 155.
Kosolsombat, S., 81.
Kovacs, J., 298.

350 Index

Murray, H. H., 179.

LaBarge, D. L., 326. Music and values in some Indian cul-Lake levels, maintaining, with well tures, 46. water, 157. Nelson, G., 79. Lal, A., 204. Nelson, O. E., 64. Neumann, G. K., 45. Langer, L. M., 298. Laubengayer, R. A., 6, 9, 12, 19. Newman, J. E., 231. Lefler, R., 16. Newton, R. G., 299. Leth, A., 95. Lichtenberg, D. B., 299. Oak wilt in southern Indiana, 63. Light traps, sex of European corn borer Ohlrogge, A. J., 230. taken at, 108. Osborn, S. W., 79. Limestone, measurement of fineness of Osborne, Jr., C. E., 91. Osmun, J. V., 141. agricultural, 242. McGuire, J. M., 62. Paramecium multinucleatum, purine McMichael, E. V., 45. and pyridin requirement for, 330. Macklin; J. M., 152. Parfitt, S. D., 78. Macronucleus structure of Paramecium Pedological taxonomy, catena-drainage aurelia by electron microscopy, 60. profile keyform as reference, 246. Penicillium, color change induced by Magnetic fields suggested by other prominence, 297. action of light, 63. Manufactural geography of Chicago-Petri dish cover, improved, 57. Heights, Illinois, 209. Pettay, L., 45. Markle, C. A., 301. Phillippe, M. M., 232. Markle, M. S., 318. Physical types of certain middle Mississippi and Southeastern groups, 50. Marshall, G. E., 103. Martin, E., 297. Physics division, 297. Martin, Jr., W. C., 300. Pigment production in flowers of Im-Masses, determination of, from disinpatiens balsamina, 61. tegration energies, 297. Pituitary gland, effect of sex steroids Mathers, F. C., 98. on gonadotrophic content, 329. Meibohm, A. W., 95. Plant dispersal, role of raindrops in, 65. Membrane potential, effect of inhibi-Plant taxonomy division, 300. tors, 330. Porter, C. L., 63. Memorials Postlethwait, S. N., 64, 74. Bechtel, A. R., 27. Population statistics bearing on a Fort Bryan, W. L., 28. Ancient-Shawnee Linkage, 45. Kinsey, A. C., 30. Population trends in Indiana villages Miller, S. J., 31. of 1,000-2,000 population in 1950, 204. Mull, B. R., 32. Presidential address, 35. Protura and Diplura in Indiana, 112. Tucker, W. M., 33. Meyer, A. H., 209. Psychology division, 323. Michaud, H. H., 15, 268. Michels, K. M., 325. Radioactivity, atmospheric, from Indi-Migration and population change in ana soils, 231. Indiana, 195. Recreational and scenic resources, 268. Red clover insects, control with new Miller, C. A., 330. Miller, J. D., 323. insecticides, 100. Miller, P. F., 209. Reduction in effect of prior exposure on Miller, S. J., memorial, 31. escape-from-shock training, 324. Mineralogy of Indiana soils, survey of, Relation patterns of QRS complex to 232. rote learning, 325. Minton, Jr., S. A., 328. Repaske, R., 56. Mitchell, A. C. G., 297. Richmond scientific association, history Mizelle, J., 6, 18. of, 252. Montgomery, B. E., 125, 152. Riddell, J. A., 62. Moore, H. B., 141. Riedhart, J. M., 63. Mull, B. R., memorial, 32. Roach exposure to chemically treated Murphy, I. A., 78. surfaces, 141. Murphy, R., 86. Robinson, R. L., 298.

Ross, M. H., 299.

INDEX 351

Rural level-of-living indexes in Indiana counties, a comparative study, 167.

Sawfly, Neodiprion sertifer, 101.

Scarseth, G. D., 230.

Schall, L. A., 231.

Schockel, B. H., 159.

Schuder, D. L., 101.

Seidlitz, L., 297.

Separator for sampling the soil fauna, 152.

Shiveley, J. M., 230.

Sinn, L. G., 77.

Smith, A., 326.

Smith, J. M., 179.

Smith, P. W., 328.

Smith, W. G., 298.

Soil conservation and related events, chronological history of, 291.

Soil science (affiliate of geology and geographical division), 230.

Sonneborn, T. M., 60.

Sorter, P., 80.

Speech communication, operating characteristic in, 323.

Starkey, O. P., 192.

Staub, A., 77.

Stearns, F., 63.

Stephenson, W. K., 330.

Stove, J., 55.

Strawberry virus and insect vectors, 103.

Talvenheimo, G., 232.

Taylor, J. G., 108.

Temperature effect on survival of mixtures of *Escherichia coli* substrains, 55.

Temperature-fertilizers interactions with corn, 230.

Tendam, D. J., 297.

Termite rearing method, 141.

Thackray, R. I., 325.

Three types of training, probability of positional response of, 326.

Tinkle, W. J., 256.

p-Toluenesulfonylhydrazide and its decomposition products, 78.

Tucker, W. M., memorial, 33.

Turpin site, notes on the ceramic material from, 45.

Vacuum trajectory compared with actual trajectory, 297.

Variations

In Helianthus angustifolius, 300.

In genus Hudsonia, 321.

Virus disease for control of the European pine sawfly, *Neodiption sertifer* (Geoff.), 101.

Visher, S. S., 188, 254.

Visual activity in raccoons, 323.

Wallace, F. N., 15.

Water conservation in Indiana, history of, 286.

Water supply problems of Bloomington, Indiana, 188.

Wayne county, vascular plants of, II, 301.

Weather records, use of punch cards, 231.

Webster, J. D., 329, 337.

Welch, W., 9, 14.

Welcher, F. J., 6, 9, 19.

Wells, H. B, 18.

Western Great Lakes region, the "New England Indians" in. 47.

Wheat grains, influence of age and maturation temperature of, on plant development, 62.

White, J. L., 232.

Wilson, T. K., 63.

Wilting in the corn plant caused by failure of metaxylem development, 64.

Wireworm populations as influenced by soil types, 147.

Wood pewee, new race from Mexico, 337.

Woodlands in Monroe county, Indiana, 170.

Words, scaling of, to describe personality, 324.

Yarion, D., 86.

Youse, H. R., 9, 15, 18.

Yuncker, T. G., 13.

Yunghans, R. S., 80.

Zakrzewska, B., 170.

Zeller, F. J., 329.

Zoology division, 328.









