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Papers Presented at the 1951 Meeting

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Papers Presented at the 1951 Meeting

BOTANY

1. *The Seventh International Botanical Congress in Stockholm, Sweden.* (15 min.) G. W. MARTIN, Iowa City.
2. *Vegetational changes in ungrazed grassland at the Iowa Lakeside Laboratory, 1935-1950.* (10 min.) SYLVIA RUDMAN and RICHARD W. POHL, Ames.
3. *The flora of Iowa county.* (10 min.) NATHAN W. EASTERLY, Iowa City.
4. *The flora of Cedar county, Iowa.* (15 min.) MARCUS J. FAY, Iowa City.
5. *The herbarium of the State University of Iowa.* (15 min.) ROBERT F. THORNE, Iowa City.
6. *Unialgal cultures of Haematococcus lacustris (Girod.) Rostaf.* (10 min.) ROBERT L. HULBARY, Iowa City.
7. *Studies on fungal membranes.* (10 min.) LAURENCE KAPLAN, Iowa City.
8. *Fungi of two forest soils of Johnson county.* (12 min.) WILLARD A. TABER, Iowa City.
9. *The numbers of fungi* (10 min.) G. W. MARTIN, Iowa City.
10. *Sprays for control of sycamore anthracnose.* (10 min.) PAUL H. SCHULTZ, Ames.
11. *Screening chemotherapeutants for control of oak wilt.* (10 min.) PAUL F. HOFFMAN, Ames.
12. *Iowa Ascomycetes I. Xylariaceae.* (10 min.) JOSEPH C. GILMAN and LOIS H. TIFFANY, Ames.
13. *The relationship of TEPP and photoperiod to the flowering and fruiting of tomatoes.* (By title). WAYNE C. HALL, College Station, Texas.
14. *Nitrate adsorbed on pumice as a nitrogen source for plant growth.* (By title). WAYNE J. McILRATH, College Station, Texas.
15. *Nutrition and aeration in relation to the growth of Cannabis sativa.* (12 min.), JOHN R. WEBBER, Iowa City.
16. *Androgenesis in maize.* (15 min.) S. S. CHASE, Ames.
17. *Initiation and development of the inflorescence of red clover.* (10 min.) WARREN E. PICKLUM, Ames.
18. *Floral initiation in perennial grasses.* (10 min.) JOHN E. SASS, Ames.
19. *Floral development in birdsfoot trefoil, Lotus corniculatus L.* (10 min.) HAROLD W. HANSEN, Northfield, Minnesota.
20. *The simplest leaf organization found in surveys of several hundred species of dicotyledons.* (12 min.) ROBERT B. WYLIE, Iowa City.
21. *Some morphological problems in vegetative reproduction.* (10 min.) E. E. NAYLOR, Fayette.
22. *A Study of Chaetomium in Cellulose Decay.* (10 min.) WENDALL M. FARROW, Iowa City.
23. *Identification of seeds of Bromus secalinus L. and Bromus commutatus Schrad.* (10 min.) DUANE ISELY, Ames.
24. *Astraeus and Geastrum.* (10 min.) MARION D. ERVIN, Iowa City. (Introduced by G. W. MARTIN, Iowa City).

INORGANIC AND PHYSICAL CHEMISTRY

1. *Halogen Bridge Bonds: The Structure of Beryllium Chloride.* PAUL H. LEWIS and R. E. RUNDLE, Ames.
2. *Ionization Contents and Heats of Ionization for Phenolic Groups of Proteins.* CHARLES TANFORD and G. L. ROBERTS, JR., Iowa City.
3. *Ruthenium-Thiourea Complexes.* RUTH POWERS YAFFE and A. F. VOIGT, Ames.
4. *Spectrophotometric Determination of Silicon in the Presence of Zirconium, Beryllium and Aluminum.* ANTON B. CARLSON and CHARLES V. BANKS, Ames.
5. *The Structure of Nickel Dimethylglyoxime.* EDWARD GODYEKI and R. E. RUNDLE, Ames.
6. *Quantitative Analysis of Organic Nitrogen by Flame Spectroscopy.* MINORU HONMA and ALEXANDER I. POPOV, Iowa City.
7. *Spectrophotometric Study of Tetrabutylammonium Tribromide.* WILLIAM F. ZELEZNY, ALEXANDER I. POPOV, ROBERT J. SMITH and ROBERT E. BUCKLES, Iowa City.
8. *Spectrophotometric Study of the Tetramethylammonium Polyiodides.* JAMES P. YUK, ALEXANDER I. POPOV and ROBERT E. BUCKLES, Iowa City.
9. *The Structure of Tetramethylammonium Pentaiodide and the Nature of Polyiodide Ions.* RALPH J. HACH and R. E. RUNDLE, Ames
10. *Definition of Bond Energy.* GEORGE GLOCKLER, Iowa City.
11. *Contributions to the Chemistry of the vic-Dioximes. I. Infrared Spectrophotometric Study of the Nature of the Hydrogen Bond in 1, 2-Bis (vic-dioximo-*N,N'*) nickel II Compounds.* ROGER C. VOTER and CHARLES V. BANKS, Ames.
12. *Polarographic Study of the Reaction of Copper with Serum Albumin.* CHARLES TANFORD and JACK EPSTEIN, Iowa City.
13. *Spectrophotometric Determination of Aluminum and Iron in Calcium Metal.* WILBUR SPRAIN and CHARLES V. BANKS, Ames.
14. *The Influence of the Grain Size of a Gold Alloy; Part One—on Certain Physical Properties of the Alloy; Part Two—On the Age Hardening Characteristics of the Alloy.* L. W. GLEEKMAN (Newark, Delaware), G. E. EVANS (Syracuse, New York) and C. S. GROVE, JR. (Oak Ridge, Tenn.).
15. *Electron Emission from a Carbon Surface.* A. E. WALZ and GEORGE GLOCKLER, Iowa City.

ORGANIC AND BIOLOGICAL CHEMISTRY

1. *A System of Shorthand for Writing Structural Formulae in Organic Chemistry.* MARTIN L. GRANT, Cedar Falls.
2. *An Investigation of Hydride Ion Exchange in Catalytic Cracking.* JOSEPH D. DANFORTH, Grinnell.
3. *The Activity of Cracking Catalysts Impregnated with Lithium Hydroxide.* PAUL STRIGHT and JOSEPH D. DANFORTH, Grinnell.
4. *Catalytic Reduction of Flavanone.* MERVIN F. BROWNE and R. L. SHRINER, Iowa City.
5. *The Clemmensen Reduction of Acylloins and α -Diketones.* WALTER T. SMITH, JR. and HARRY JOLLIFF, Iowa City.

6. *The Regeneration of Certain Simple Ketones from their 2,4-Dinitrophenylhydrazones.* L. B. WICK and W. R. MATOUSH, Cedar Rapids.
7. *Pyrolysis of some Sodium Salts of α -Hydroxy Acids with Sodium Hydroxide.* WM. I. HARBER, DAVID A. GRIFFITHS, and FRANCIS A. NAYDER, Chicago.
8. *Chemical Constitution and Absorption Spectra of Some Derivatives of Phthalic Anhydride.* CALVIN HANNA and W. T. SMITH, JR., Iowa City.
9. *The Preparation of Iodophenoxyacetic Acids.* STANLEY WAWZONEK and S. C. WANG, Iowa City.
10. *The Isomeric Azlactones of α -Benzamidocinnamic Acid.* ROBERT E. BUCKLES, ROBERT FILLER, and LEE HILFMAN, Iowa City.
11. *The Reversible Reaction of Pyridine with Ethyl Acrylate in Aqueous Solution.* GEORGE S. HAMMOND and EDGAR E. STINSON, Ames.
12. *Absorption Spectra of Aromatic Nitro Compounds in Concentrated Sulfuric Acid and their Relationship to Aromatic Nitrates.* FRANK J. MODIC and GEORGE S. HAMMOND, Ames.
13. *A Cyano Compound Related to Acetylcholine.* CALVIN HANNA, Iowa City.
14. *Bacterial Utilization of Amino Acid Derivatives.* KENNETH F. ITSCHNER and SIDNEY W. FOX, Ames.
15. *The Effect of pH on the Combination of Metals with Proteins.* CHARLES TANFORD, Iowa City.
16. *Some Factors which Influence the Formation of the Amylose-Iodine Complex as Shown by Potentiometric Titration.* EUGENE PASCHALL and JOSEPH F. FOSTER, Ames.
17. *The Trans Glucosidase of Aspergillus oryzae.* JOHN H. PAZUR and DEXTER FRENCH, Ames.
18. *The Primer Specificity of Potato Phosphorylase.* GENE WILD and DEXTER FRENCH, Ames.
19. *Vitamin B₁₂ Content of Kidneys as Determined by the Frost and Register Procedures.* EDMUND WEI CHENG and BYRON H. THOMAS, Ames.
20. *Observations Relative to the Importance of Pantothenic Acid During Reproduction.* GLADYS EVERSON and NANCY EBERSOLE, Ames.

GEOLOGY

1. *The application of geophysics to geological problems.* A. R. KASSANDER, Ames.
2. *Radioactive survey of a portion of the Pennsylvanian of Iowa.* L. A. THOMAS, A. R. KASSANDER and R. M. STEWART, Ames.
3. *Geophysical well-logging equipment of the Iowa Geological Survey and its operation.* WILLIAM E. HALE, Iowa City.
4. *Ground water fluctuations in Iowa.* H. GARLAND HERSHEY, Iowa City.
5. *Early Mississippian ammonoids from Missouri and Iowa.* CHARLES COLLISON, Iowa City.
6. *A comparison of American and African Tertiary nautiloids.* A. K. MILLER, Iowa City.
7. *Ontogenetic development in some late Paleozoic porpitiid corals.* RUSSELL M. JEFFORDS, Iowa City.
8. *Some foraminifera from the Skull Creek and Mowry shales of eastern Wyoming.* HERBERT SKOLNICK, Iowa City.

9. *The Campbell micro-fossil washer.* CARLYLE B. CAMPBELL, Knoxville.
10. *The nature of the Mississippian-Pennsylvanian contact in the Rocky Mountain States.* ALLEN C. TESTER, Iowa City.
11. *Some erosion features of the Niobrara chalk.* GEORGE M. ROBERTSON, Grinnell.
12. *Use of the morphology of buried soils in the Pleistocene of Iowa.* W. H. SCHOLTES and R. V. RUHE, Ames.
13. *Recent eskers in the Wind River Mountains of Wyoming.* MARK F. MEIER, Iowa City.
14. *Correlation of surface members with subsurface units of the Wapsipinicon formation in Benton County, Iowa.* RUTH WEHNER SCREVEN, Iowa City.
15. *Structure in the Des Moines series at Redfield, Iowa.* CHARLES S. GWYNNE, Ames.
16. *Montmorillonite a factor in the breakdown of concrete aggregate.* FRED H. DORHEIM, Cedar Rapids.
17. *Undergraduate courses and the geology major:*
 - Desirable courses in related fields for the geology major.* A. C. TROWBRIDGE, Iowa City.
 - Geological mineralogy.* CHALMAR ROY, Ames.
 - The function of a course on sedimentation in a college curriculum.* ALLEN C. TESTER, Iowa City.

MATHEMATICS

and the Iowa Section of the Mathematical Association of America

1. *The Simpson quartic of a triangle.* C. E. VAN HORN, Waverly.
2. *Normal Matrices and the Characteristic.* R. J. LAMBERT, Ames.
3. *Linear Transformations onto a Banach space.* H. D. BLOCK, Ames.
4. *The structure of Mathematics.* F. ROBERTSON, Ames.
5. *Application of Volterra transforms to some hypergeometric series.* A. M. WEDEL, Ames.
6. *Determinant-free proof of a rank theorem.* B. VINOGRAD, Ames.
7. *The transcendence of e.* MARIAN E. DANIELLS, Ames.
8. *Matric Rules* (invited address). M. F. SMILEY, Iowa City.
9. *The slide rule made meaningful.* G. I. KEPPERS, Cedar Falls.
10. *On the Application of stochastic methods in Mathematical Biology.* A. T. REID, Chicago.
11. *Notes on relation between the properties of separation and connection.* BARBARA B. BLAIR, Iowa City.
12. *Analogies in Elasticity.* D. L. HOLL, Ames.
13. *Remarks in method in teaching definite integrals in a first course in Calculus.* E. W. CHITTENDEN, Iowa City.
14. *A class of functional equations.* C. E. LANGENHOP, H. D. BLOCK, Ames.
15. *Extremals of velocity and distance in central force motion.* H. D. BLOCK, Ames.
16. *Theorem on the zeroes of a polynomial.* W. J. STONER, Ames.

PHYSICS

Invited Papers

1. *Upper atmosphere research with rockets.* JAMES A. VAN ALLEN, Iowa City.
2. *Cosmic ray research at high altitudes.* MELVIN B. BOTTLIEB, Iowa City.
3. *Materials technology for electron tubes.* W. H. KOHL, Cedar Rapids.

Contributed Papers

1. *New high temperature microwave spectroscope.* R. A. ELLIS and D. A. GILBERT, Iowa City.
2. *Internal conversion in Na²².* M L. MOON, Iowa City.
3. *Nuclear excitation of Silver by X-rays.* E. WOLICKI, Iowa City.
4. *Geiger counter experiments for seniors.* E. B. NELSON, Iowa City.
5. *Application of a corona triode to statitron high voltage control.* PHILIP MALMBERG, Iowa City.
6. *The influence of small amounts of sulphur hexafluoride on the high potential obtainable in the Iowa Van de Graaff generator.* WILLIAM E. NICKELL, Iowa City.
7. *The Bohr picture of hydrogen modified.* JOHN A. ELDRIDGE, Iowa City.
8. *Effect of composition on elasticity of beta-brass.* D. O. THOMPSON and R. A. ARTMAN, Iowa City.
9. *Internal friction of beta-brass.* R. A. ARTMAN, Iowa City.
10. *Some Observations on Centers of Gravity.* GRANT O. GALE, Grinnell.
11. *Hall Effect and Electrical Conductivity of Sodium Wolfram Bronze.* DANIEL B. BARKER, Ames.
12. *Luminescence of Evaporated Thin Films.* KEITH W. OLSON, Ames.
13. *The Ionization Defect for Fission Fragments.* LLOYD O. HERWIG, Ames.
14. *Thin Organic Films.* DAVID W. CURTIS, Ames.
15. *Short Lived Synchrotron Induced Radioactivities.* FORREST Q. BOLEY, Ames.

PSYCHOLOGY

1. *Making Accident Statistics More Meaningful.* PEARL W. McMURRY, Des Moines and A. R. LAUER, Ames.
2. *The Scotometer—A dark-tunnel Apparatus for Studying Night Vision of Drivers.* HAROLD I. STADLER, DONALD A. HOPPE and A. R. LAUER, Ames.
3. *Comparison of Form and Color Fields.* MYRLIN J. RICHARDS, Ames.
4. *An Analysis of Reading Improvement.* LEWIS R. VAVRA, Ames.
5. *An Apparatus for Measuring Reaction Time Under Conditions of Preoccupation.* RICHARD E. FREY, Ames.
6. *The Role of Albedo in Color Discrimination of Spider Monkeys.* ROBERT Q. EASTER and DARYL G. NICHOLS, Ames.
7. *Significance of Superior Performance on the O'Connor Block Test.* R. N. KJERLAND, Ames.
8. *The Effect of Reflectorized Color and Pattern on Perception and Judgment of Relative Motion at Night.* D. A. HOPPE and A. R. LAUER, Ames.
9. *Periodicities in Motor Performance Under Induced Muscular Tension.* DOUGLAS S. ELLIS, Ames.

10. *Work Decrements in the Performance of a Pursuit Task Arising from Relatively short periods of Massed Practice.* ABRAM M. BARCH, Iowa City.
11. *Some Social Correlates of Intellectual Changes.* DALE H. ORTMEYER, Ames.
12. *Statements of Cynicism Rated by College Students.* MARTIN F. FRITZ, Ames.
13. *Rate of learning as a Function of Goal-setting Techniques.* G. C. HELMSTADTER and D. E. ELLIS, Ames.
14. *Some Measured Personality Traits of Accident-Prone Industrial Workers.* RALPH S. HARPER, Ames.
15. *Some Components of Mechanical Comprehension.* GILBERT S. MILLER, Ames.
16. *Some Techniques for Determining the Relative Magnitude of Speed and Power Components of a Test.* G. C. HELMSTADTER and DALE ORTMEYER, Ames.
17. *Relationship of Kuder Preference Record to Differential College Adjustment.* ETHEL CROMWELL SHERMAN, Ames.

SCIENCE TEACHING

1. *A five-year program of preparation for Science teaching.* WILLARD D. UNSICKER, Iowa City.
2. *A camp experience provides natural resources education for teachers (a report on the first Iowa Teachers Conservation Camp).* GILBERT W. MOUSER, Cedar Falls.

ZOOLOGY

1. *The status of the racoon in Iowa for the past twenty years as revealed by fur reports.* GLEN C. ANDERSON, Marion.
2. *Sketches of little known Iowa ornithologists.* JAMES HODGES, Davenport.
3. *Resume of bird migration in the Upper Mississippi Valley.* JAMES HODGES, Davenport.
4. *A study of the bird population of Credit Island.* JAMES HODGES, Davenport.
5. *The bird journals of Bustis H. Wilson.* JAMES HODGES, Davenport. (By title).
6. *Ornithological miscellanea.* JAMES HODGES, Davenport. (By title).
7. *The immature stages of American Pachygronthinae (Lygaeidae: Hermiters).* JAMES A. SLATER, Ames.
8. *The individuality of ducklings and chicks as expressed in the course of infection with Plasmodium lophurae.* ELERY R. BECKER, Ames.
9. *The effect of various metabolic inhibitors on the resting potential of frog muscle.* JOAB K. ARONSON, Fayette.
10. *A preliminary report on the distribution of bottom organisms in Lake Okoboji, Iowa.* JOHN E. BARDACH, JOHN MORRILL and FRANK GAMBONY, Cedar Falls.
11. *A progress report on daily movements of yellow perch in Lake Okoboji, Iowa.* DOUGLAS C. BROWN and WALTER ROSEN, Iowa City.
12. *Notes on the age and growth of Spirit Lake walleyes.* EARL T. ROSE, Spirit Lake.
13. *Analysis of the 1948, 1949 and 1950 waterfowl kill samples in Iowa.* JAMES G. SIEH, Okoboji.

14. *An unusual fossil fish in the Niobrara Chalk of Western Kansas.* GEORGE M. ROBERTSON, Grinnell.
15. *An unusually large population of fish in a gravel pit lake.* KENNETH D. CARLANDER, Ames.
16. *Hydra in an Iowa nursery Lake.* TOM MOEN, Okoboji.
17. *Factors influencing the extent of pulmonary hemorrhage following explosive decompression.* H. H. KEASLING and CALVIN HANNA, Iowa City.
18. *A study of the effect of penicillin and dihydrostreptomycin on protozoa with special reference to the problems of bacteria-free culture and speciation in Euglena.* CAROL MAY GOODWIN, Des Moines.
19. *More mixed colonies in ants.* R. L. KING, Iowa City, and R. M. SALLEE, Macomb, Illinois.
20. *An extreme case of thermal stratification and its effect on fish distribution.* GEORGE SPRUGEL, JR., Ames.
21. *A search for the natural vectors of acian malaria in Iowa, with notes on other mosquito parasites.* JEAN LAFFOON, Ames.
22. *Developmental abnormalities in Drosophila melanogaster induced by ultraviolet radiation.* E. V. ENZMANN, Des Moines.
23. *A lead destroying ant from Panama.* E. V. ENZMANN, Des Moines.
24. *Cytological observations of the egg of the carp.* GEORGE MENDOZA, Grinnell.
25. *The early embryology of the viviparous teleost, Neotoca bilineata.* MARY BORDERS and GEORGE MENDOZA, Grinnell.
26. *A 65-somite embryo of the garter snake, Thamnophis radix.* FRANCES NAKAMURA and GEORGE MENDOZA, Grinnell.
27. *Studies on Loricata Cilophora II. Folliculina boltoni Kent.* JOHN M. HAMILTON, Parkville, Missouri.
28. *On the chemotherapeutic action of 3-nitro 4-hydroxyphenyl arsonic acid against the coccidium Eimeria tenella in chickens.* NEAL F. MOREHOUSE and F. MCKAY, Charles City.
29. *Pheasant Production in Winnebago County.* EDWARD L. KOZICKY, Ames.

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