

N.I.H.



record

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

June 18, 1956 - Vol. VIII, No. 11

PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

NEW APPOINTMENTS MADE IN NHI

Dr. William H. Stewart has been appointed to the newly established position of NHI Assistant Director, and Dr. R. C. Arnold, present Chief of the Technical Services Branch, NHI, succeeds Dr. Stewart as Chief of the Heart Disease Control Program, Bureau of State Services.

Dr. Bert R. Boone, Chief of the Laboratory of Technical Development, NHI, transferred to the Office of the Director, NHI, to serve as Special Projects Officer.

Dr. Robert L. Bowman of the Laboratory of Technical Development, NHI, has become Chief of the Laboratory, succeeding Dr. Boone.

All appointments became effective June 1.

PLANS FOR DBS BUILDING UNDER WAY

NIH has been granted authority to proceed with the construction of a new building for the Division of Biologics Standards. An appropriation in the amount of \$3,190,000 has been allowed for the new building, which will be located on the section of the Glenbrook golf course on Service Road West, behind Building 13 and south of Building 10.

Public Buildings Services is working on the plans for the building, which will consist of six stories. The modern, air-conditioned building will house the DBS operations and centralize its work.

As a result of the new building plans, the Maryland-National Capital Park and Planning Commission recently voted to drop plans for redesigning the golf course at Glenbrook.

LECTURESHIP SET UP BY DR. JOHN F. ANDERSON



Dr. John F. Anderson, former Director of the Hygienic Laboratory.

The University of Virginia recently announced the establishment of the John F. Anderson Memorial Lectures in Medicine, by a gift from Dr. Anderson, University alumnus and former Director of the Hygienic Laboratory, forerunner of NIH. Dr. James A. Shannon has been selected to give the first lecture in the new series next December.

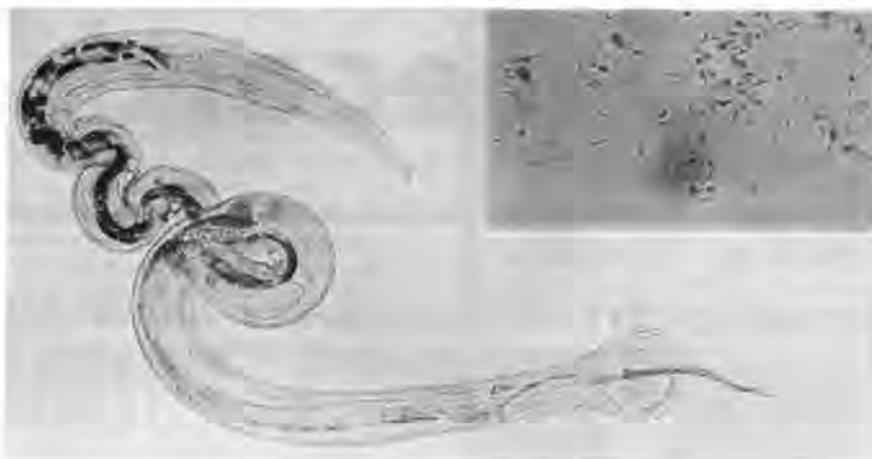
An 1895 graduate of the University's Medical School, Dr. Anderson entered the Public Health Service in 1898, and served as Director of the Hygienic Laboratory from 1909 to 1915. He retired from PHS to become Director of the Research and Biological Laboratory of E. R. Squibb & Sons. He later became a member of the Board of Directors and Vice President of the Squibb firm, both of which

positions he held until his retirement in 1946.

Known as "one of the great microbe hunters of the world, who tracked down typhus and spotted fever," Dr. Anderson is also distinguished for his studies of anaphylaxis and serum sickness, which were important contributions in the fields of allergy and immunity. Other important contributions include studies bearing upon the standardization of disinfectants and of antitoxins for diphtheria and tetanus, control of vaccinia virus, investigations of problems with reference to tubercle bacilli in market milk, tetanus in gelatin, and studies of the etiology and methods of spread of pellagra, measles, typhus, and poliomyelitis, and many other matters relating to public health.

Parasite Growth Studies

No. 164 in a Series



Sexually mature adult worm of *Nippostrongylus muris* cultivated *in vitro*. Sperm cells produced by worm are shown in inset (top right).

For the first time on record, a helminth (worm) parasite of a vertebrate has been successfully raised *in vitro* from the egg to the adult stage by scientists in the Laboratory of Tropical Diseases, NIAID. Since helminths are the cause of many diseases of man and animals in this country and in other areas of the world, this study may mean a significant step forward in the ultimate control of parasitic diseases.

Because of the difficulty of maintaining these organisms *in vitro*, physiologic and metabolic studies have been difficult, and many problems of basic biology of such parasites have been impossible to approach experimentally.

A research team composed of Dr. Paul P. Weinstein and Dr. Myrna F. Jones, NIAID, have been conducting these studies, using *Nippostrongylus muris*, a nematode parasite of the rat.

The adult worms normally live in the small intestine of the rat and deposit eggs which are discharged in the feces. Larvae hatch, feed on living bacteria, and undergo two molts during a free-living cycle in the soil. The infective larvae then penetrate the skin of the rat and migrate to the lungs, where a third molt occurs. The organisms then migrate up the trachea and down the digestive tract to the small intestine where they grow, differentiate, and molt a fourth time to form the adult male and female worms. It is this complete cycle of growth which has

been duplicated *in vitro*, demonstrating the possibility that helminth parasites can be cultivated from the egg to the adult stage under germ-free conditions.

The studies indicate that, in culture, the free-living larvae, although developing on living bacteria, would not develop on dead bacteria. However, they did grow to the infective stage on fresh, sterile homogenates (e.g., chick embryo extract).

Both the particulates and the soluble components of the tissue homogenate are important to the growth of the parasite. Development did not occur in filtrates of homogenates or in the supernatant obtained from high-speed centrifugation. When particulates were added back to the supernatant, the growth-promoting properties were restored. Dialysis eliminated the ability of the homogenate to support growth, but it was found that the addition of a mixture of water-soluble vitamins to the dialyzed extract would restore a major part of the growth-promoting activity.

(See Series, Page 4)

N. I. H. RECORD

Published by
Scientific Reports Branch
National Institutes of Health
Room 111, Building 1
Bethesda 14, Maryland

OLiver 6-4000

Ext. 2125

Publication Preview

The following manuscripts were received by the SRB Editorial Section between May 14 and June 5.

Agranoff, B. W. A chemical method for determination of inositol in metabolic studies.

Algire, G. H. A summary of studies of host-graft interaction in homotransplantation in mice.

Axelrod, J. A possible mechanism of the phenomena of tolerance to narcotic drugs.

Barter, F. C., et al. The regulation of aldosterone secretion in man: The role of fluid volume.

Binion, J. T., et al. The effect of sympathomimetic drugs on the circulatory depression of experimental acute cardiac tamponad.

Biometrics Branch Staff, NIMH. Patients in mental institutions, 1952 - Part III. Private hospitals for the mentally ill and general hospitals with psychiatric facilities.

Bornschein, H., et al. The effect of rate of rise of photic stimuli on the human electroretinogram.

Brace, K. C., et al. Life span of the duck and chicken erythrocyte as determined with C¹⁴.

Brecher, G., et al. Evaluation of an electronic red cell counter.

Brodie, B. B., et al. A concept for a role of serotonin and norepinephrine as chemical mediators in the brain.

Burns, J. J. The metabolism of L-ascorbic acid.

Burton, R. M. The analeptic action of lysergic acid diethylamide (LSD) on reserpine-sedated mice.

Chang, Y. T. Chemotherapy of murine leprosy. V. The effects of various combinations of 4,4'-diaminodiphenyl sulfone, etc.

Deasy, L. C. Psychiatric patients as nursing personnel see them.

Dorn, H. F. The measurement of morbidity.

Duhl, L. J. The organization and development of research in mental retardation.

Everts, E. V. A review of the neurophysiological effects of LSD and other psychotomimetic agents.

Faulkner, R. R., et al. The phagocytosis of Bartonella muris organisms by lymph node macrophages and neutrophils with transfer of the infection into mice.

Fitzwater, J. Improved operating room apparatus.

Fry, D. L., et al. An evaluation of modern hydraulic physiological pressure measuring systems.

Fullmer, H. M., et al. The staining of collagen with elastic tissue stains.

Garbus, J., et al. Studies of the physiology and biochemistry of the aging nervous system. Some aspects of the epidemiology of cancer of the lung.

Glennier, G. G. The simultaneous demonstration of bile, hemosiderin, and lipofuscin pigment in tissue sections.

Goldin, A., et al. Modification of treatment schedules in the management of advanced mouse leukemia with amethopterin.

Goodkind, M. J., et al. Failure of large doses of desoxycorticosterone acetate to block mercurial natriuresis in adrenalectomized dogs with thoracic inferior vena cava constriction and ascites.

Goodman, G., et al. Physiological studies with flicker electroretinography.

Hender, R. W. Studies on the nature of the amino acid incorporation process of hen oviduct tissue.

Hilberg, A. W., et al. Wound seeding as a cause of failure in surgical therapy of cancer.

Holland, M. G., et al. A study of the innervation of the chamber angle.

Irwin, R. L., et al. Effect of calcium on the duration of apnea induced by succinylcholine.

Isbell, H. Abuse of barbiturates.

Isbell, H. The search for a nonaddicting analgesic.

Isbell, H., et al. Studies on lysergic acid diethylamide (LSD-25) I. Effects in former morphine addicts and development of tolerance during chronic intoxication.

Iser, G., et al. Clinical studies in flicker electroretinography.

Jackson, E. L. The preparation of spermidine and monoacetyl-spermidine.

Jackoby, W. B. The inability of phenylalanine to serve as a precursor of indole in neurospora.

Jones, E. Food service and dietetics.

Jones, J. C. A portable adult mosquito feeding unit.

Kies, Marian, et al. Antidiuresis following the intravenous administration of lysergic acid diethylamide (LSD-25) in hydrated human subjects.

Keitel, H. G. The concentration in plasma of potassium and calcium during testosterone medication.

Leder, I. G. Hog kidney gluconokinase.

McCann, H. G., et al. The effect of fluoride ingestion on the composition and solubility of mineralized tissues of the rat.

Millichap, J. G. Quantitative assessment of motor function in cerebral palsy: evaluation of zoxazolamine (flexin), a new muscular relaxant drug.

Morgan, W. L., Jr., et al. The circulatory depression induced by high levels of positive pressure breathing counteracted by metaminal (Aramine).

Mustacchi, P. The occurrence of cancer of the thyroid among residents of San Francisco and Alameda Counties.

Mustacchi, P., et al. Some observations on the incidence of cancer of the thyroid in the United States.

O'Connor, G. R. Anti-toxoplasma precipitins in aqueous humor.

Patchett, A. A., et al. Studies on hydroxyproline.

Piez, K. A., et al. C¹⁴ isotope effect on the ion exchange chromatography of amino acids.

Piez, K. A., et al. The separation and determination of cyclic imino acids.

Pradhan, S. N., et al. Effect of various drugs on the tumor-necrotizing activity of several chemical agents in mice.

Ralston, B., et al. Thalamic control of certain normal and abnormal cortical rhythms.

Reid, J. C., et al. The metabolism of L-histidine-C¹⁴ in the normal and hepatoma-bearing rat. II.

Rheingold, H. L. The modification of social responsiveness in institutional babies.

Sargent, L. J. Carbinolamines derived from N-acetyl-9-w bromoacetyl-9,10-dihydroacridine. Rearrangement of the halomethylketone.

Schade, A. L. Bound iron and unsaturated iron-binding capacity of plasma.

Schmid, R. Glukuronsaure-kanjugiertes bilirubin, das "direkt-reagierende" bilirubin im serum, horn, und galle.

Schrecker, A. W. Resolutions with α -methylbenzylamine. I. Preparation and rearrangement of (-)- α -methylhydrocinnamic acid.

Seeger, G. H. Administration of training programs by the National Institute of Neurological Diseases and Blindness.

Shack, J., et al. The electrophoresis of the deoxyribose nucleic acids of a transplantable lymphoma and a calf thymus.

Shanes, A. M. The distinction between effects on metabolic transport and passive transfer of ions.

Shimkin, M. B. End-results in cancer: introductory remarks.

Shimkin, M. B. Mortality from leukemia and the lymphomas in the United States.

Silverstone, F. A., et al. Age differences in the intravenous glucose tolerance tests and the response to insulin.

Stengle, J. M., et al. Diurnal-nocturnal variations of certain blood constituents in normal human subjects plasma iron, siderophilin, bilirubin, copper, total serum protein, and albumin, haemoglobin and haematocrit.

Stokes, J., III, et al. Rheumatic heart disease in the Framingham study.

Vivian, D. L. Phenazine syntheses. IX. 1-halogenophenazines.

von Brand, T. Beziehungen zwischen Stoffwechsel und taxonomischer einteilung der saeugetier-trypanosomen.

von Sallmann, L., et al. Some mechanisms of centrally induced eye pressure responses.

Weisburger, E. K., et al. Synthesis of N-(8-hydroxy-2-fluorenyl) acetamide.

Windle, W. F. Introduction to conference on the biology of neuroglia.

Wynngaarden, J. B. 2,6-diaminopurine as substrate and inhibitor of xanthine oxidase.

NIH Spotlight



John E. Edwards

One of NIH's most frequent travelers is capable, soft-spoken John E. Edwards, of the DRG Operations Branch. In his job as a field auditor, Jack estimates that he spends as much as 70 percent of his time traveling to medical schools, universities, hospitals, laboratories, and research foundations in every corner of the U. S.

At each institution he audits the financial records kept by the business office on funds granted by NIH for research, training, career investigations, and construction of research facilities. He also makes field audits of certain grants awarded to various institutions by the Office of Vocational Rehabilitation, and the PHS Divisions of Nursing and Nursing Resources, Hospital Facilities, and Sanitary Engineering Services. In addition to reviewing the financial records of the grantees, he gives them any fiscal assistance they may need, sometimes suggesting modification of accounting procedures.

Jack came to NIH shortly after the establishment of DRG, and for a while served as the Division's only field auditor. There are now nine full-time staff members in the Field Audits Section. A veteran Government employee, Jack began his Federal service in 1921 at the Post Office Department. Before coming to NIH, he was an auditor and audit-reviewer for the public assistance and unemployment compensation programs of the Social Security Administration.



R & W NOTES

Members of the Camera Club journeyed to Seneca, Maryland, for a field trip on June 17. Camera fans are invited to join the club at any time during the year and are entitled to use the darkroom facilities in Building T-6 at no cost. Membership is \$3 per year to R & W members.

The first inspection of the NIH Gardens will be made on June 23, and a second inspection will be held August 11. Prizes will be awarded on the basis of the two inspections.

The R & W Cinema Series is offering a bonus picture on June 28 at 8:15 p.m. in the CC Auditorium. "Arsenic and Old Lace" has been selected for the showing, but in the event this film cannot be procured, an equally well-known film will be shown.

A golf tournament has been scheduled for the two-week period from July 23 to August 5 and is open to all R & W members who pay the entry fee of 75 cents. Any employee who is interested in participating may do so by joining R & W at the regular membership fee of \$1 for the year plus the entry fee. The tournament will be held at Glenbrook Country Club. More than \$200 in prizes are being offered.

The first series of golf lessons was completed on June 15 with approximately 68 R & W members participating. The second series of lessons will begin on June 26 and will include the remaining persons who signed up for the golf courses.

Born in England, he came to this country as a child and received his education in Canadian and New England schools. During his years in Washington, he has taken undergraduate work at the George Washington University, and business administration and accounting courses at American and Benjamin Franklin Universities.

Jack and his wife share an enthusiasm for travel and plan each vacation to include new points of interest in this country. His other favorite pastimes include color photography, and gardening at his Falls Church home.

Hamsters Score Again With "Health's A-Poppin'"



Grouped onstage is the entire cast of the sixth edition of the ever-popular "Life at NIH" series. The production was staged in the Clinical Center Auditorium on May 24, 25, and 26.

GUARD OF THE MONTH

John E. Carter has been named Guard of the Month for the month of May. He was nominated for this honor because he has demonstrated unusual ability in carrying out assignments and because his attendance and leave record is outstanding.

Mr. Carter joined the NIH Guard Force in September 1953. He was born in Gettysburg, Pennsylvania. During World War II he served in the U. S. Army.

Dorothy Wright Probey Dies Suddenly May 23

Mrs. Dorothy Wright Probey, nurse in the Employee Health Service, died suddenly of a heart attack on May 23. Mrs. Probey, a Senior Assistant Nurse Officer, had served in the Health Unit since 1949. A native of Alberta, Canada, she received her training in public health nursing at the University of Southern California.

Mrs. Probey was the widow of Dr. John T. Wright, who served as a member of the PHS Commissioned Corps at NIH until his death in 1949. Last February she was married to Mr. Thomas F. Probey of the Division of Biologics Standards. She is also survived by four children: Walter Thomas, Mary Chloe, Dorothy Elizabeth, and Alice Jean Wright.

SERIES Cont'd

Although the free-living cycle of the worm could be reproduced in embryo extract alone, growth comparable to the parasitic cycle in the rat would not proceed beyond the "lung stage" in such a medium.

However, male and female adult worms have recently been obtained in a complex mixture composed of embryo extract, sodium caseinate, yeast or liver extract, and serum. Small numbers of worms have been obtained, the males possessing sperm, and the females forming eggs, but fertilization apparently has not yet taken place.

Dr. Weinstein has previously reported the cultivation of the free-living stages of the two human hookworms, *Ancylostoma duodenale* and *Necator americanus*, and the dog hookworm, *A. caninum*.

Also working on these studies are Richard Cleveland and Thomas Hallack, Jr.

The Personnel Branch's Employee Relations Section has a wide selection of vacation folders available to employees. They may be obtained in Building 1, Room 21.

LOST AND FOUND



The following articles have been found on the NIH reservation and may be seen in the Guard Office, Room 1A-06, Building 10.

Earrings	Hotel key
Automatic Pencil	Man's raincoat
Baseball glove	Lady's scarf
Bracelet	Key case
Assorted gloves	Pearl necklace
Fountain pen	Sunglasses
Locket and chain	Tie clip
Leather notebook	Umbrella
Penknife	Woman's sweater

DBS Scientist Wins Henry L. Moses Prize

Dr. Samuel Baron, virologist in the DBS Laboratory of Viral Products, has been awarded the Henry L. Moses Prize for his paper entitled "Evidence for Genetic Interaction Between Noninfectious and Infectious Influenza A Viruses." The award was made on June 6 at the Montefiore Hospital alumni dinner in New York City.

Dr. Baron's work, which was done at the School of Public Health, University of Michigan, shows that viruses killed by ultraviolet light retain the ability to undergo genetic recombination with live virus.