

OBITUARY

ROBERT CHARLES WALLIS

1921–1989



Robert C. Wallis

Robert Charles Wallis passed away in New Haven, Connecticut, September 6, 1989. Dr. Wallis was born October 30, 1921, in West Burlington, Iowa. He attended Ohio University in Athens where he acquired a Bachelor of Science degree in 1948, majoring in zoology, with minors in mathematics, physics and chemistry. Remaining in Athens, he obtained his M.Sc. in 1950 with a major in zoology-parasitology and a minor in bacteriology. From Athens, Wallis went on to the School of Hygiene and Public Health of the Johns Hopkins University where he studied medical entomology under Professor Lloyd E. Rozeboom. He received his Doctor of Science degree in June 1953, based on a doctoral thesis entitled "A Study of Oviposition Activity of Mosquitoes." It was in Baltimore that the writer, on study leave at Hopkins, first met Bob Wallis in April 1953, and it was in October of

that year when Bob married Grace Eileen McLaughlin.

Wallis' professional career began in 1953 when he joined the Connecticut Agricultural Experiment Station in New Haven as assistant entomologist, a tour of duty which lasted 10 years. During this period, Bob was associated with the publication of some 29 papers dealing with a variety of entomological subjects: gypsy moths and polyhedrosis (6 papers), eastern equine encephalomyelitis epidemics and ecology (10 papers), flies, etc. (3 papers) and general mosquito studies such as egg formation, diapause, larvicides as well as artificial feeding techniques including developing the chicken egg chorio-allantoic membrane feeder (9 papers).

In 1963, Wallis joined the Department of Epidemiology and Public Health, as an associate professor, in the Yale University School of Medicine where he was chief of the section of medical entomology. In 1978 he achieved the rank of professor. Some 38 publications resulted from collaboration with colleagues and graduate students during Wallis' Yale period. Subjects covered in these papers included: poliomyelitis vaccine strains exposed to blowflies and cockroaches; arbovirus investigations with various agents (EEE, Highlands J, California encephalitis, orbiviruses, etc.); Lyme disease investigations; insect tissue culture studies with *Culex salinarius* and *Musca domestica*; chicken egg-shell membranes for feeding triatomids; colonization of *Culiseta melanura*, *Cx. salinarius* and *Wyeomyia smithii*; mosquito biology, distribution, etc.

During his tenure at Yale, Bob was a member of the Department Policy Committee and the Committee on Admissions and Degrees, the latter as chairman from 1967. The last decade of his life saw Wallis devoting most of his time to administrative duties and to a lesser degree, teaching and advising students; little or no research was undertaken at this time. Over the years, Bob supervised the research of some 21 graduate students. A list of these candidates, their degrees and dissertation titles follows. Non-salaried appointments were numerous. Wallis served as a mosquito control advisor to several communities in the New Haven area and to the Northeast Mosquito Control Association. He was a consultant to the Connecticut State

Department of Health; an editorial board member of the Connecticut Entomological Society; a Special Study Panel member, Allergy and Infectious Diseases of the NIH; and consultant to the U.S. Army Biological Laboratories, Fort Detrick, MD. He was a member of 12 professional societies.

As for his military commitments, Bob served in the AUS from August 13, 1942, to January 12, 1946. He was an Army glider pilot and chief telephone and telegraph specialist, serving in the Philippine Islands where he was awarded Bronze Star and Purple Heart medals.

Bob Wallis was a gentle, kindly man, quiet and unassuming. He worked patiently with students both in the laboratory and the field. While his research interests covered a wide spectrum of subjects, he will probably best be remembered for his investigations dealing with the epidemiology of eastern equine encephalomyelitis in the northeastern United States and the laboratory colonization of its vector, *Culiseta melanura*.

Dr. Wallis was predeceased by his wife Grace Eileen in 1980. He leaves two sons, Thomas F. Wallis III and Robert C. Wallis Jr., both of North Haven, CT; a sister, Mae Ann Senior of Maple Shade, NJ; and a brother, Thomas F. Wallis of Dallas, TX.

GRADUATE STUDENTS OF ROBERT C. WALLIS

Master of Public Health

1. 1965—Monte N. Frazier. "The Ecology and Epidemiology of Blue Tongue Disease."
2. 1965—Donald H. Krushak. "A Comparison of the Ecology of Eastern Encephalitis in Massachusetts, Connecticut and New Jersey."
3. 1966—Robert C. Lowrie, Jr. "Mechanisms in the Interepidemic Survival of Arboviruses."
4. 1966—Donald D. Payne. "The Ecology and Epidemiology of African Horsesickness."
5. 1967—Edsel M. Fussell. "The Epidemiology and Control of Bancroftian and Malayan Filariasis."
6. 1967—Joseph F. Kukla. "A Review of Containment Principles for the Safe Handling of Infected Arthropods."
7. 1967—Joseph A. Mangiafico. "Survival of Western Equine Encephalitis Virus in Triatominae."
8. 1970—John J. Howard. "Experiments on the Modes of Transmission of Microsporidian Parasites in Blackfly Larvae."
9. 1970—Scott W. Lite. "Experimental Culturing of Insect Cells from Four Species of Diptera."
10. 1972—Andrew J. Main, Jr. "Isolations of New Arboviruses from *Ixodes (Ceratoixodes) uriae* White, 1852 Collected in Eastern Canada."
11. 1974—Kirby O. Kloter. "Some Aspects of the Epizootiology of Dog Heartworm, *Dirofilaria immitis* (Leidy) in New Haven County, Connecticut."
12. 1975—John M. Maloney III. "The Response of *Culiseta melanura* (Coq.) to Photoperiod and Temperature in the Laboratory."
13. 1976—Paul H. Etkind. "The Allergenic Capability of the Gypsy Moth *Lymantria dispar* L."
14. 1977—Susan E. Brown. "Studies on the Nuclear Polyhedrosis Virus of the Gypsy Moth (*Lymantria dispar*, Linnaeus)."
15. 1977—Kevin L. Palmer. "Babesiosis in a Small Rodent Population in Connecticut."
16. 1979—Paul A. Kowalski. "A Preliminary Study of a Synergist to Activate Methoprene Activity on *Aedes triseriatus* Larvae."

Doctor of Public Health

17. 1966—John Frempong-Boadu. "A Study of Behavior of Blackfly Larvae (Diptera: Simuliidae) in Insecticide Screening Tests for Potential Blackfly Larvicides."
18. 1973—John J. Howard. "Infection and Transmission of Eastern Equine Encephalomyelitis Virus (EEE) with Colonized *Culiseta melanura* (Coquillett)."
19. 1976—Andrew J. Main, Jr. "Seabirds and *Ixodes uriae* as Reservoirs of Mosquito- and Tick-Borne Viruses in the Witless Bay Seabird Sanctuary, Newfoundland, Canada."

Doctor of Philosophy

20. 1977—Curtis G. Hayes. "Involvement of *Culiseta melanura* (Coquillett) in the Ecology of Western Equine Encephalomyelitis Virus (A Laboratory Evaluation)."

Doctor of Medicine

21. 1977—Pauline A. Thomas. "Stressor Effects of High Relative Humidity and a High Moisture Diet on Appearance of Disease from Nuclear Polyhedrosis Virus in Larvae of *Porthetria dispar* (L.)." [R. C. Wallis as coadvisor with R. M. Taylor and R. W. McCollum]
22. 1962—Anthony T. Bourke. "Transmission Studies on the North American Sero-Group A Arthropod-Borne Viruses" (Highlands J virus mechanically transmitted 5 times by direct contact among infant chicks; failure with EEE and WEE viruses.) Thesis presented to the Regius Professor of Physic, the University of Dublin, in candidature for the Degree of Doctor of Medicine.

BIBLIOGRAPHY OF ROBERT C. WALLIS

1. Wallis, R. C. 1953. A technique for micromanipulation of mosquitoes. *Mosq. News* 13:15-16.
2. Wallis, R. C. and A. Spielman. 1953. Laboratory rearing of *Culex salinarius* (Diptera, Culicidae). *Proc. Entomol. Soc. Wash.* 55:140-142.
3. Wallis, R. C. 1954. Notes on the biology of *Culiseta melanura* (Coquillett). *Mosq. News* 14:33-34.
4. Wallis, R. C. 1954. A study of oviposition activity of mosquitoes. *Am. J. Hyg.* 60:135-168.
5. Wallis, R. C. 1954. Observations on oviposition of two *Aedes* mosquitoes. *Ann. Entomol. Soc. Am.* 47:393-396.
6. Wallis, R. C. 1954. The effect of population density and of NaCl concentration in test series in

- laboratory experiments with ovipositing *Aedes aegypti*. Mosq. News 14:200-204.
7. Wallis, R. C. 1955. A study of the oviposition activity of three species of *Anopheles* in the laboratory. Am. J. Trop. Med. Hyg. 4:557-563.
 8. Wallis, R. C. 1956 (1958). Oviposition activity of mosquitoes in the laboratory (Diptera: Culicidae). Proc. 10th Int. Congr. Entomol. 3:797-798.
 9. Lang, C. A. and R. C. Wallis. 1956. An artificial feeding procedure for *Aedes aegypti* using sucrose as a stimulant. Am. J. Trop. Med. Hyg. 5:915-920.
 10. Wallis, R. C. and C. A. Lang. 1956. Egg formation in blood-fed *Aedes aegypti*. Mosq. News 16:283-286.
 11. Wallis, R. C. 1957. Insects, birds and man. Frontiers Plant Sci. 9(2):5-6.
 12. Wallis, R. C. 1957. Incidence of polyhedrosis of gypsy-moth larvae and the influence of relative humidity. J. Econ. Entomol. 50:580-583.
 13. Wallis, R. C. 1957. Host feeding of *Culiseta morsitans*. Proc. Entomol. Soc. Wash. 59:199-200.
 14. Wallis, R. C. and R. J. DeBishop. 1957. Death-stress oviposition by *Aedes canadensis*. J. Econ. Entomol. 50:112.
 15. Jungherr, E. L. and R. C. Wallis. 1958. Investigation of eastern equine encephalomyelitis. I. General aspects. Am. J. Hyg. 67:1-3.
 16. Satriano, S. F., R. E. Luginbuhl, R. C. Wallis, E. L. Jungherr and L. A. Williamson. 1958. Investigation of eastern equine encephalomyelitis. IV. Susceptibility and transmission studies with virus of pheasant origin. Am. J. Hyg. 67:21-34.
 17. Wallis, R. C. et al. 1958. Investigation of eastern equine encephalomyelitis. V. Entomologic and ecologic field studies. Am. J. Hyg. 67:35-45.
 18. Wallis, R. C., R. M. Taylor, R. W. McCollum and J. T. Riordan. 1958. Study of hibernating mosquitoes in eastern equine encephalomyelitis epidemic areas in Connecticut. Mosq. News 18:1-4.
 19. Wallis, R. C. 1958. Ecology and caterpillars. Frontiers Plant Sci. 10(2):6.
 20. Wallis, R. C. 1959. Factors affecting larval migration of the gypsy moth. Entomol. News 70:235-240.
 21. Wallis, R. C. 1959. Polyhedral bodies from diseased pupae of *Anisota senatoria*. J. Econ. Entomol. 52:460.
 22. Wallis, R. C. 1959. *Culiseta melanura* (Coquillett) and eastern equine encephalitis in Connecticut. Mosq. News 19:157-158.
 23. Wallis, R. C. 1959. Diapause and fat body formation by *Culex restuans* (Diptera, Culicidae). Proc. Entomol. Soc. Wash. 61:219-222.
 24. Wallis, R. C. 1960. Mosquitoes in Connecticut. Conn. Agr. Exp. Sta., New Haven, Bull. 632:1-30.
 25. Wallis, R. C. 1960. Mosquitoes and encephalitis in Connecticut. Conn. Arborist 14(1):2-4.
 26. Wallis, R. C. 1960. More mosquitoes this summer? Frontiers Plant Sci. 12(2):4-5.
 27. Wallis, R. C., R. M. Taylor and J. R. Henderson. 1960. Isolation of eastern equine encephalomyelitis virus from *Aedes vexans* in Connecticut. Proc. Exp. Biol. Med. 103:442-444.
 28. Wallis, R. C. 1961. The effect of phenylthiourea and 4-chlororesorcinol on *Aedes aegypti* larvae. Mosq. News 21:187-189.
 29. Wallis, R. C. 1962. Common Connecticut flies. Conn. Agr. Exp. Sta., New Haven, Bull. 650:1-23.
 30. Wallis, R. C. 1962. Overwintering activity of the blowfly, *Phormia regina*. Entomol. News 73:1-5.
 31. Wallis, R. C. 1962. Green devils in your back yard. Frontiers Plant Sci. 14(2):6-7.
 32. Wallis, R. C. 1962. Chicken egg chorio-allantoic membrane for mosquito feeding. Mosq. News 22:305-306.
 33. Wallis, R. C. 1962. Environmental factors and epidemics of polyhedrosis in gypsy moth larvae. Proc. 11th Int. Congr. Entomol. 2:827-829.
 34. Wallis, R. C. 1962. Overwintering *Culiseta melanura* larvae (Diptera: Culicidae). Proc. Entomol. Soc. Wash. 64:119-122.
 35. Henderson, J. R., N. Karabatsos, A. T. C. Bourke, R. C. Wallis and R. M. Taylor. 1962. A survey for arthropod-borne viruses in south-central Florida. Am. J. Trop. Med. Hyg. 11:800-810.
 36. Jaynes, H. A., L. Parente and R. C. Wallis. 1962. Potential encephalitis vectors in Hamden, Connecticut. Mosq. News 22:357-360.
 37. Doane, C. C. and R. C. Wallis. 1964. Enhancement of the action of *Bacillus thuringiensis* var. *thuringiensis* Berliner on *Porthetria dispar* (Linnaeus) in laboratory tests. J. Insect Pathol. 6:423-429.
 38. Wallis, R. C. 1965. Recent advances in research on the eastern encephalitis virus. Yale J. Biol. Med. 37:413-421.
 39. Davé, K. H. and R. C. Wallis. 1965. Survival of type 1 and type 3 polio vaccine virus in blowflies (*Phaenicia sericata*) at 40°C. Proc. Soc. Exp. Biol. Med. 119:121-124.
 40. Davé, K. H. and R. C. Wallis. 1965. Preliminary communication on the survival, the sites harboring virus and genetic stability of poliovirus in cockroaches. Proc. Soc. Exp. Biol. Med. 119:124-126.
 41. Henderson, J. R., H. H. Shah and R. C. Wallis. 1965. Antigenic variants of arboviruses. I. The host as a determinant in the evolution of strain variants. Virol. 26:326-332.
 42. Wallis, R. C. and J. Frempong-Boadu. 1967. Colonization of *Wyeomyia smithii* (Coquillett) from Connecticut. Mosq. News 27:9-11.
 43. Wallis, R. C. and L. Whitman. 1967. *Culiseta melanura* (Coquillett) breeding in artificial containers. J. Med. Entomol. 4:273-274.
 44. Wallis, R. C. et al. 1967. Pesticide manual "Safe use of pesticides." Am. Pub. Hlth. Assoc. Publication, New York, pp. xiii + 1-92.
 45. Whitman, L., R. C. Wallis, and E. A. Leventhal. 1968. Isolation of a California-group arbovirus from *Aedes abserratus* (Felt and Young) in Simsbury, Connecticut. Am. J. Trop. Med. Hyg. 17:449-450.
 46. Mangiafico, J. A., L. Whitman and R. C. Wallis. 1968. Survival of western equine encephalitis virus in Triatominae. J. Med. Entomol. 5:469-473.
 47. Wallis, R. C. and L. Whitman. 1968. Oviposition of *Culiseta morsitans* (Theobald) and comments on the life cycle of the American form. Mosq. News 28:198-200.

48. Wallis, R. C. and L. Whitman. 1968. Colonization of *Culex salinarius* in the laboratory. Mosq. News 28:366-368.
49. Wallis, R. C. and L. Whitman. 1968. Mosquitoes of the genus *Culiseta* in Connecticut (Diptera: Culicidae). Proc. Entomol. Soc. Wash. 70:187-188.
50. Wallis, R. C. and L. Whitman. 1969. Colonization of *Culiseta melanura* (Coquillett) in the laboratory. Mosq. News 29:255-258.
51. Wallis, R. C. 1969. Chicken egg-shell membranes for artificial feeding of triatomids. J. Parasitol. 55:222.
52. Lite, S. W. and R. C. Wallis. 1970. Growth of primary monolayer cell cultures from the mosquito, *Culex salinarius* (Diptera, Culicidae). Mosq. News 30:539-542.
53. Wallis, R. C. and S. W. Lite. 1970. Axenic rearing of *Culex salinarius*. Mosq. News 30:427-429.
54. Wallis, R. C. and Lite, S. W. 1970. Primary monolayer cell culture from the house fly, *Musca domestica*. Ann. Entomol. Soc. Am. 63:1788-1790.
55. Wallis, R. C. and L. Whitman. 1971. First report of *Aedes thibaulti* Dyar and Knab in Connecticut and New York. Mosq. News 31:111.
56. Wallis, R. C. and L. Whitman. 1971. New collection records of *Psorophora ciliata* (Fabricius), *Psorophora ferox* (Humboldt) and *Anopheles earlei* Vargas in Connecticut. J. Med. Entomol. 8:336-337.
57. Main, A. J., Jr. and R. C. Wallis. 1972. *Ceratomyllus lari* Holland in eastern Canada. Proc. Entomol. Soc. Wash. 74:343.
58. Main, A. J., Jr., W. G. Downs, R. E. Shope and R. C. Wallis. 1973. Great Island and Bauline: two new Kemerovo group orbiviruses from *Ixodes uriae* in eastern Canada. J. Med. Entomol. 10:229-235.
59. Howard, J. J. and R. C. Wallis. 1974. Infection and transmission of eastern equine encephalomyelitis virus with colonized *Culiseta melanura* (Coquillett). Am. J. Trop. Med. Hyg. 23:522-525.
60. Wallis, R. C., J. J. Howard, A. J. Main, Jr., C. Frazier and C. Hayes. 1974. An increase of *Culiseta melanura* coinciding with an epizootic of eastern equine encephalitis in Connecticut. Mosq. News 34:63-65.
61. Wallis, R. C. and A. J. Main, Jr. 1974. Eastern equine encephalitis in Connecticut, progress and problems. Mem. Conn. Entomol. Soc., New Haven, CT. pp. 117-144.
62. Main, A. J., Jr. and R. C. Wallis. 1974. Primary records of two vertebrate ectoparasites in New England (Acarina: Argasidae and Diptera: Miliichiidae). Proc. Entomol. Soc. Wash. 76:427.
63. Main, A. J., Jr., R. E. Shope, and R. C. Wallis. 1976. Cape Wrath: a new Kemerovo group orbivirus from *Ixodes uriae* (Acari: Ixodidae) in Scotland. J. Med. Entomol. 13:304-308.
64. Main, A. J., Jr., W. G. Downs, R. E. Shope and R. C. Wallis. 1976. Avalon and Clo Mor: two Sakhalin group viruses from the North Atlantic. J. Med. Entomol. 13:309-315.
65. Main, A. J., Jr., R. E. Shope and R. C. Wallis. 1976. Characterization of Whitney's *Clethrionomys gapperi* virus isolates from Massachusetts. J. Wildlife Dis. 12:154-164.
66. Main, A. J., Jr., W. G. Downs, R. E. Shope and R. C. Wallis. 1976. Avian arboviruses of the Witless Bay Seabird Sanctuary, Newfoundland, Canada. J. Wildlife Dis. 12:182-194.
67. Maloney, J. J. and R. C. Wallis. 1976. Response of colonized *Culiseta melanura* to photoperiod and temperature. Mosq. News 36:190-196.
68. Main, A. J., Jr., H. E. Sprance and R. C. Wallis. 1976. New distribution records for *Toxorhynchites* and *Orthopodomyia* in the northeastern United States. Mosq. News 36:197.
69. Wallis, R. C. and C. G. Hayes. 1976. Evaluation of the epidemic potential of western equine encephalitis virus in the northeastern United States. Yale J. Biol. Med. 49:439-445.
70. Hayes, C. G. and R. C. Wallis. 1977. Ecology of western equine encephalomyelitis in the eastern United States. In: Advances in virus research, 21:37-83, Academic Press, New York.
71. Weinman, D., R. C. Wallis, W. H. Cheong and S. Mahadevan. 1978. Triatomines as experimental vectors of trypanosomes of Asian simians. Am. J. Trop. Med. Hyg. 27:232-237.
72. Wallis, R. C., S. E. Brown, K. O. Kloter and A. J. Main, Jr. 1978. Erythema chronicum migrans and Lyme arthritis: field study of ticks. Am. J. Epidemiol. 108:322-327.
73. Main, A. J., Jr., A. L. Smith, R. C. Wallis and J. Elston. 1979. Arbovirus surveillance in Connecticut: I. Group A viruses. Mosq. News 39:544-551.
74. Main, A. J., Jr., S. E. Brown, R. C. Wallis and J. Elston. 1979. Arbovirus surveillance in Connecticut: II. California serogroup. Mosq. News 39:552-559.
75. Main, A. J., Jr., S. W. Hildreth, R. C. Wallis and J. Elston. 1979. Arbovirus surveillance in Connecticut: III. Flanders virus. Mosq. News 39:560-565.

Thomas H. G. Aitken
 Yale Arbovirus Research Unit
 Yale University School of Medicine
 P.O. Box 3333,
 New Haven, CT 06510