

AD

MISCELLANEOUS PUBLICATION 12

RECOVERY OF
SPECIFIC MICROORGANISMS
FROM URINE AND FECES
OF INFECTED ANIMALS

Richard H. Kruse

Arnold G. Wedum

NOVEMBER 1965

CLEARINGHOUSE	
FOR FEDERAL GOVERNMENT	
TECHNICAL	
Hardcopy	
3 2.00	0.50 50 05

Code 1

UNITED STATES ARMY
BIOLOGICAL LABORATORIES
FORT DETRICK

U.S. ARMY BIOLOGICAL LABORATORIES
Fort Detrick, Frederick, Maryland

MISCELLANEOUS PUBLICATION 12

RECOVERY OF SPECIFIC MICROORGANISMS
FROM URINE AND FECES OF INFECTED ANIMALS

Richard H. Kruse

Arnold G. Wedum

Industrial Health and Safety Division
DIRECTORATE OF INDUSTRIAL HEALTH AND SAFETY

Project 1C622401A072

November 1965

In conducting the research reported here, the investigators adhered to "Principles of Laboratory Animal Care" as established by the National Society for Medical Research.

ACKNOWLEDGMENTS

The authors express their appreciation to the following persons whose assistance made the survey possible: at the Fort Detrick Technical Library, Mrs. Cathryn Eaves for locating journals and translations, and Sp7 Charles Ostertag for translating many Russian articles; at the National Library of Medicine, Mr. Joseph Forrest, Mr. Alvin J. Barnes, and Mrs. Marjory H. Wright for locating innumerable "hard to find" journals, and Mr. Stephan Kim for translating many pertinent Japanese articles; and at the Department of Agriculture Library, Miss Ellen Mayeaus, Miss Wilma Francis, and Miss Gene Kubal for their helpful service.

ABSTRACT

Prevention of occupationally acquired laboratory infection among experimenters and animal caretakers is easier when it is known if the microorganisms under study are excreted in the urine and/or feces of the experimental animal. Appropriate precautionary procedures can then be established.

This preliminary report lists 351 references to 56 diseases; human laboratory infections of 43 of the diseases have occurred. The table shows whether the etiologic agent has been recovered, or could not be recovered, from the urine and/or feces of man and various domestic and laboratory animals.

RECOVERY OF SPECIFIC MICROORGANISMS FROM URINE AND FECES OF INFECTED ANIMALS

Microbiological safety measures to reduce occupational infection of laboratory personnel have been receiving increased attention.^{1,2,3} A major problem lies in deciding what is important in laboratory design,⁴ equipment, and precautionary technique.⁵ Inevitably there are inconsistencies. An important reason for such inconsistencies is that the precipitating act, source, or means of infection of personnel is unknown in 80 to 84% of laboratory acquired illness.

Animals inoculated with microorganisms pathogenic for man present an ill-defined hazard to the experimenter and account for part of these unexplained illnesses. In a survey at the U.S. Army Biological Laboratories,⁵ 12% of the animal caretakers had been infected compared with 21% of the scientific personnel. A survey² of 2,262 laboratory infections showed 221 infections among animal caretakers, janitors, etc. Only a few of these infections can be accounted for by bites, scratches, or accidents during inoculation.

In investigations employing infectious biological materials, any information is valuable when it provides a basis for making a best estimate of the hazards of a specific operation, so that appropriate safeguards can be taken. One basis for making an estimate depends upon knowing whether an infected animal will transmit its disease to a normal cagemate. Some of this information has been summarized⁵ and is very useful in deciding whether special equipment is justified, particularly when animals are infected by an aerosol.⁶

Another basis for making an informed estimate depends upon knowing whether the inoculated microorganism, or a somewhat similar one, is excreted in urine or feces. This knowledge is important in determining if the animal facilities are adequate in the case of research on those epidemic diseases of domestic animals for which a veterinary permit from the Department of Agriculture is required. For protection of the experimenter it has special significance among the hemorrhagic arboviruses. In some cases, fecal or urinary excretion of the microorganism may require special caging practices, and special treatment such as steaming or autoclaving animal cages before the animal bedding is removed during cage cleaning.

The present report is the result of a literature survey. Each number in the table in the Appendix identifies a literature citation in the list that follows the table. Results after oral inoculation have been omitted. No critical evaluation has been made of each reference. It is anticipated that anyone interested in a specific disease will make his own evaluation of the reported presence or absence of the microorganism. It is hoped

that active experimenters, in diseases for which no report is listed, will make sufficient examinations incidental to the primary purpose of their experiments so that missing information for significant diseases and animals will be available eventually. We are informed this would be most helpful also in the expanding field of cancer-leukemia virology, as a guide in developing realistic precautions. The authors would appreciate being sent appropriate comments, references, and reprints, inasmuch as the U.S. Army Biological Laboratories intends to issue periodic revisions of the Appendix unless some other agency wishes to do this.

LITERATURE CITED

1. Chatigny, M.A. 1961. Protection against infection in the microbiology laboratory, devices and procedures, p. 131-192. In Wayne W. Umbreit (ed.) Advances in applied microbiology, Vol. 3. Academic Press, New York.
2. Sulkin, S.E.; Long, E.R.; Pike, R.M.; Sigel, M.M.; Smith, C.E.; Wedum, A.G. 1963. Laboratory infections and accidents, p. 89-104. In Albert H. Harris and Marion B. Coleman (ed.) Diagnostic procedures and reagents. 4th ed. Amer. Public Health Ass., Inc., New York.
3. Albrecht, J. 1965. Laboratoriumsinfektionen. *Arztl. Lab.* 11:135-142.
4. Wedum, A.G.; Phillips, G.B. 1964. Criteria for design of a microbiological research laboratory. *J. Amer. Soc. Heat. Refrig. Air Cond. (ASHRAE)* 6:46-52.
5. Wedum, A.G. 1964. Laboratory safety in research with infectious aerosols. *Public Health Rep.* 79:619-633.
6. Jemski, J.V.; Phillips, G.B. 1965. Aerosol challenge of animals, p. 273-341. In W.I. Gay (ed.) Methods of animal experimentation, Vol. I. Academic Press, New York.

APPENDIX

This appendix consists of a table, the related literature citations, and an author index to those citations.

TABLE 1. RECOVERY OF SPECIFIC MICROORGANISMS
FROM URINE AND FECES OF INFECTED ANIMALS

Etiologic Agent or Disease	Animal	Urine		Feces	
		Recovered	Not Recovered	Recovered	Not Recovered
Adenovirus	Cattle			302 ^a /,309	
	Chicken			310	
	Dog	309		309	
	Man	248,284,309		280,285,309	
	Monkey			309	
	Mouse	309			309
	Swine			312	
African Swine Fever ^b /	Swine	333		333	
Anthrax	Cat			146	
	Cattle			206,316	
	Chicken			146	
	Crow			319	
	Dog			146,320	
	Fox			318	
	Guinea Pig	11,205		11,205	
	Horse			316	
	Jackal			321	
	Man	233,234		233,234,244	
	Monkey			10	
	Mouse	205		205	
	Rat			146	
	Sheep			322	
	Swine			322	
	Vulture			317	
Avian Lymphomatosis	Chicken			297,298	
Botulinum Toxin ^b /	Guinea Pig	220			
	Man	219,257			
	Rabbit	247			

a. See Literature Cited page 15.

b. No laboratory infections are known to the authors.

c. No data found by the authors.

Etiologic Agent or Disease	Animal	Urine		Feces	
		Recovered	Not Recovered	Recovered	Not Recovered
Brucellosis	Cattle	97,186		97,186	
	Chicken			7	
	Dog	24,59,76	147	24	
	Guinea Pig	76,164		164	
	Horse	42,97	189	97,150,189	
	Man	78,96,97, 133,150	95	96,97,150	95
	Rabbit	164			
	Rat	150,188,200			188
	Sheep	34,35,60,97		60,97	23
	Swine	59,77,79		198	
Coccidioidomycosis	Dog	241		241	109
	Man	84,131,211			
	Monkey				250
Coxsackie A	Cattle			287	
	Man			258,260,267, 268,283	
	Monkey			259	
Coxsackie B	Cattle			287	
	Man	261,262,263		258,260,267, 268,283	
Cryptococcosis ^{b/}	Dog	184			184
	Man		249		249
Dengue	Man		148,327		
Eastern Equine Encephalitis	Chicken			114	
	Crow			182	
	Horse		111		
	Mouse		170	170	
	Pheasant			337	336
	Rabbit			197	
ECHO Virus	Chimpanzee			265	
	Dog			264	
	Man			258,266,267, 268,283	
EDIM Virus ^{b/}	Mouse	307		307	

Etiologic Agent or Disease	Animal	Urine		Feces	
		Recovered	Not Recovered	Recovered	Not Recovered
EMC Virus ^{b/}	Man			323,341	
	Mouse	179,323		323	
	Rat		178		178
Foot-and-Mouth	Cattle	313,324,325, 315 341,351		325,341	313,315
	Chicken			345	
	Guinea Pig		315		315
	Man			311,338	
	Swine	300	315	300	315
Glanders	Donkey			85	
	Guinea Pig	124			124
	Hamster	124			124
	Horse			85	
	Man			85	
Histoplasmosis	Bat			196	
	Dog	176	177,187	163,176	187
	Man	215		204,215,216	
Infectious Hepatitis	Dog	304			304
	Man	295,308	293,294	274,289,293, 294,295,296	
Japanese B Encephalitis	Man	201,232	133	232	133
Junin	Guinea Pig	195			195
	Man	269			
Leptospirosis	Cat	190,221			
	Cattle	8,9,25,40, 74,115			
	Dog	26,39,43, 53,74,214		53	
	Guinea Pig	38,52,115, 154		52	
	Hamster	5			
	Horse	43,151,155, 157			
	Man	30,51,52,74, 110,156		52	

Etiologic Agent or Disease	Animal	Urine		Feces	
		Recovered	Not Recovered	Recovered	Not Recovered
Leptospirosis	Mouse	6,43,74,101, 152,153			
	Rat	27,31,36, 37,43,74			
	Sheep	43,74			
	Swine	8,43,74			
Louping Ill ^{c/}					
Lymphocytic Choriomeningitis	Man	68,272,323			
	Monkey	342			
	Mouse	288,323, 341,343		323,341,343	
Machupo	Guinea Pig	286			
	Hamster	193		286	
	Man	194	228		228
	Mouse			286	
	Rabbit	286			
	Vesper Mice	193			
Meliodiosis ^{b/}	Guinea Pig	124,198			124
	Hamster	124			124
	Man	133,166		133	
	Rabbit	198			
	Rat	33		133	
	Sheep	13	125		
	Swine	39			
Monkey B Virus	Monkey		323		323
Mouse Hepatitis ^{b/}	Mouse			335	
Mumps	Man	274,282,290, 291			
Mycoplasma ^{b/}	Man	56,58,62		57,62,102	
Newcastle	Cat			253	
	Chicken			167,168,169, 253	
	Dog	250		253	
	Man	253,281			

Etiologic Agent or Disease	Animal	Urine		Feces	
		Recovered	Not Recovered	Recovered	Not Recovered
Plague	Man	129,133,210		129,133,246	
	Rat	133		133	
Poliomyelitis	Chimpanzee			2,19,54,55, 66	
	Man	93		1,14,15,16, 17,18	
	Monkey			41,54,91,92, 94	
Psittacosis	Cattle			144	
	Chicken			61,113,165	
	Dog				143
	Man			68	
	Monkey		71		71
	Parakeet			339	
	Parrot			326,350	
Q Fever	Cat	63	121		
	Cattle	117,119,120, 236,237	22,47,64	119,236	22,47,64
	Chicken			118,255	
	Dog		121		
	Guinea Pig	21,83,112		21	
	Horse		121		
	Man	46,48,122, 222	100,116,149		149
	Mouse	192	21	21	
	Rat	242			
	Sheep	49,236	12,20,121	12,20,45, 49,236	65,72
Rhinovirus ^{b/}	Man				275,276,279
Rift Valley Fever	Cattle		81,104,340		104
	Goat		340		
	Man		81,103,133, 340		
	Mouse		73,340		
	Sheep		81,103		80,340
Rinderpest ^{b/}	Cattle	142,301,303 334		142,301,303	
Rocky Mountain Spotted Fever	Man			328	

Etiologic Agent or Disease	Animal	Urine		Feces	
		Recovered	Not Recovered	Recovered	Not Recovered
Rubella ^{b/}	Man	271,273,292			
Russian Hemorrhagic Fever	Man	107,158,203			
	Monkey			161	
	Mouse	107,108,159, 160,161,162		108,161,162	
	Rat	107,108,270		108,270	
Russian Spring-Summer Encephalitis	Horse		209		
	Man	208,256	105,106		105
	Mouse	4,69		69	
	Rat	207			
St. Louis Encephalitis	Horse		28		28,67
	Man		28,99		28,229, 230,231
Sarcoma SV-40 Virus ^{b/}	Baboon	277			
	Monkey	277		278	
Smallpox	Man		132		
	Monkey			254	
Teschen ^{b/}	Swine		299	299,305,306, 314	
Tsutsugamushi	Man		29,344		
	Mouse		130		
	Rat		130		
Tuberculosis	Cat	238		238	
	Cattle	140,142		134,139,140 142	
	Chicken			140,142,171, 240	
	Dog	119,223,224, 238		199,238	
	Guinea Pig	136,172		135,136,137, 172	
	Man	98,138,141, 174,191,243		138,213,245	
	Monkey	172		225	
	Mouse	172		172,212	
	Rabbit	3,172,181		172,226	
	Rat			217	

Etiologic Agent or Disease	Animal	Urine		Feces	
		Recovered	Not Recovered	Recovered	Not Recovered
Tularemia	Cattle	251		251	
	Guinea Pig			348	
	Man	173			175
	Mouse	235,347		202,235	
	Rabbit	346			
	Sheep	251		251	
	Water Buffalo	349			
Typhus (Endemic)	Cat	128			
	Guinea Pig	126,127,217	192		
	Man		70		
	Mouse		192		
	Rat	50,126,127, 329	227,330		227,330
Typhus (Epidemic)	Guinea Pig		192		
	Man		218		218
	Mouse		192		
Vaccinia	Man	248,252			
Venezuelan Equine Encephalitis	Guinea Pig		145		
	Horse	44	145		44
	Man		13		13
	Monkey ^{c/}				
	Mouse	32	33	32,33	
	Rabbit		145		
Vesicular Stomatitis ^{c/}					
Western Equine Encephalitis	Chicken			75,114	
	Guinea Pig		180,185		180,185
	Horse		28,82		28
	Man		28,99		28
	Monkey				82,185
	Pigeon				183
Yellow Fever	Guinea Pig		87		87
	Man		86,89,90, 331,332		86,89
	Monkey		86,89,90		87,89
	Mouse		87,88		87

a. See Literature Cited page 15.

b. No laboratory infections are known to the authors.

c. No data found by the authors.

LITERATURE CITED

1. Sabin, A.B.; Ward, R. 1941. Poliomyelitis in a laboratory worker exposed to the virus. *Science* 94:113-114.
2. Howe, H.A.; Bodian, D. 1944. Poliomyelitis by accidental contagion in the chimpanzee. *J. Exp. Med.* 80:383-390.
3. Long, E.R. 1951. The hazard of acquiring tuberculosis in the laboratory. *Amer. J. Public Health* 41:782-787.
4. Jervis, G.A.; Higgins, G.H. 1953. Russian spring-summer encephalitis; Clinico-pathologic report of a case in the human. *J. Neuropathol. Exp. Neurol.* 12:1-10.
5. Lewis, C.; Gray, J.E. 1961. Experimental Leptospira pomona infection in the mongolian gerbil (Meriones unguiculatus). *J. Infect. Dis.* 109:194-204.
6. Wolff, J.W.; Bohlander, H.; Ruys, A.C. 1949. Researches on leptospirosis ballum: The detection of urinary carriers in laboratory mice. *Antonie van Leeuwenhoek* 15:1-13.
7. Felsenfeld, O.; Young, V.M.; Loeffler, E.; Ishihara, S.J.; Schroeder, W.F. 1951. A study of the nature of brucellosis in chickens. *Amer. J. Vet. Res.* 12:48-54.
8. Baker, J. 1955. Leptospirosis of farm animals. *Anim. Health Inst. Proc.* 15:94-99.
9. Taylor, R.E. 1954. Infectious abortion other than brucellosis. *Auburn Vet.* 10:117-124.
10. Phillips, G.B.; Jemski, J.V.; Brant, H.G. 1956. Cross infection among animals challenged with Bacillus anthracis. *J. Infect. Dis.* 99:222-226.
11. Stein, C.D. 1947. Some observations on the tenacity of Bacillus anthracis. *Vet. Med.* 42:13-22.
12. Abinanti, F.R.; Welsh, H.H.; Lennette, E.H.; Brunetti, O. 1953. Q fever studies: XVI. Some aspects of the experimental infection induced in sheep by the intratracheal route of inoculation. *Amer. J. Hyg.* 57:170-184.
13. Shubladze, A.K.; Gaidmovich, S.Ya.; Gavriloo, V.I. 1959. A virological study of laboratory infections with Venezuelan equine encephalomyelitis. *Vop. Virusol.* 4:305-310.

14. Horstmann, D.M.; Opton, E.M.; Klemperer, R.; Llado, B.; Vignec, A.J. 1964. Viremia in infants vaccinated with oral poliovirus vaccine (Sabin). Amer. J. Hyg. 79:47-63.
15. Riordan, J.R.; Ledinko, N.; Melnick, J.L. 1952. Multiplication of poliomyelitis viruses in tissue cultures of monkey testes: II. Direct isolation and typing of strains from human stools and spinal cords in roller tubes. Amer. J. Hyg. 55:339-346.
16. Fieldsteel, A.H.; Chin, T.D.Y. 1962. An epidemiologic and immunologic study of poliomyelitis on an Indian reservation. Amer. J. Hyg. 76:1-14.
17. Fures, .; Armstrong, R.E.; Yarosh, W.; Nagler, F.P. 1964. Genetic markers of poliovirus strains isolated from paralytic patients prior to and after Sabin vaccination programs: I. Studies on type 1 strains. Amer. J. Hyg. 80:45-54.
18. Woods, W.A.; Robbins, F.C.; Weiss, R.A.; Cashel, J.; Kirschstein, R.L. 1964. Characteristics of Sabin type 1 poliovirus after gastrointestinal passage in newborn infants: II. Antigenicity and elution from $Al(OH)_3$ gel. Amer. J. Hyg. 79:236-244.
19. Bodian, D. 1953. Experimental studies on passive immunization against poliomyelitis: III. Passive-active immunization and pathogenesis after feeding in chimpanzees. Amer. J. Hyg. 58:81-100.
20. Winn, J.F.; Abinanti, F.R.; Lennette, E.H.; Welsh, H.H. 1961. Q fever studies: XXII. Inoculation of sheep by the intestinal route. Amer. J. Hyg. 73:105-113.
21. Sidwell, R.W.; Thorpe, B.D.; Gebhardt, L.P. 1964. Studies of latent Q fever infections: I. Effects of whole body X-irradiation upon latently infected quinea pigs, white mice, and deer mice. Amer. J. Hyg. 79:113-124.
22. Parker, R.R.; Bell, E.J.; Lackman, D.B. 1948. Experimental studies of Q fever in cattle: I. Observations on four heifers and two milk cows. Amer. J. Hyg. 48:191-206.
23. Renoux, G. 1957. Brucellosis in goats and sheep. Advances Vet. Sci. 3:241-273.
24. Morse, E.V.; Kowalczyk, T.; Beach, B.A. 1951. The bacteriologic aspect of experimental brucellosis in dogs following oral exposure: I. Effects of feeding aborted fetuses and placentas to adult dogs. Amer. J. Vet. Res. 12:219-223.
25. Reinhard, K.R. 1951. A clinical pathological study of experimental leptospirosis of calves. Amer. J. Vet. Res. 12:282-291.

26. Newman, J.P. 1950. Studies of canine leptospirosis: I. Evaluation of laboratory diagnostic procedures; II. Serologic determination of the incidence of latent infection in the Lansing, Michigan area. *Amer. J. Vet. Res.* 11:405-411.
27. Sawers, W.C. 1938. Some aspects of the leptospirosis problem in Australia. *Med. J. Australia* 1:1089-1097.
28. Hammon, W.McD.; Reeves, W.C.; Gray, M. 1943. Mosquito vectors and inapparent animal reservoirs of St. Louis and western equine encephalitis viruses. *Amer. J. Public Health* 33:201-207.
29. Cooper, W.C.; Lien, J.C.; Hsu, S.H.; Chen, W.F. 1964. Scrub typhus in the Pescadores Islands: An epidemiologic and clinical study. *Amer. J. Trop. Med. Hyg.* 13:833-838.
30. Pertzalan, A.; Pruzanski, W. 1963. Leptospira canicola infection: Report of 81 cases and review of the literature. *Amer. J. Trop. Med. Hyg.* 12:75-81.
31. Gale, N.B. 1963. Leptospire isolated in the Panama Canal Zone. *Amer. J. Trop. Med. Hyg.* 12:895.
32. Tasker, J.B.; Miesse, M.L.; Berge, T.O. 1962. Studies on the virus of Venezuelan equine encephalomyelitis: III. Distribution in tissues of experimentally infected mice. *Amer. J. Trop. Med. Hyg.* 11:844-850.
33. Olitsky, P.K.; Casals, J. 1959. Arthropod-borne group A virus infections of man, p. 286-304. In T.M. Rivers and F.L. Horsfall, Jr. (ed.) *Viral and rickettsial infections of man*. 3rd ed. J.B. Lippincott Co., Philadelphia, Pennsylvania.
34. Taylor, R.M.; Lisbonne, M.; Vidal, L.F.; Hazemann, R.H. 1938. Quelques notes epidemiologiques sur l'infection des chevres et des brebis par Br. melitensis. *Rev. Med. Vet. (Toulouse)* 90:188-205.
35. Versilova, P.A. 1937. The excretion of brucella in milk, urine, and vaginal secretion under conditions of natural and experimental infection of sheep, p. 95-105. In *Brucellosis in sheep* (in Russian). Viem Publ. Dep., Moscow.
36. Noguchi, H. 1918. Morphological characteristics and nomenclature of Leptospira (Spirochaeta) icterohaemorrhagiae (Inada and Ido). *J. Exp. Med.* 27:575-592.
37. Ido, Y.; Hoki, R.; Ito, H.; Wani, H. 1917. The rat as a carrier of Spirochaeta icterohaemorrhagiae, the causative agent of Weil's disease (*Spirochaetosis icterohaemorrhagica*). *J. Exp. Med.* 26:341-353.
38. Noguchi, H. 1917. Spirochaeta icterohaemorrhagiae in American wild rats and its relation to the Japanese and European strains. First paper. *J. Exp. Med.* 25:755-763.

39. Brunner, K.T.; Meyer, K.F. 1950. Effect of aureomycin on Leptospira canicola and Leptospira icterohaemorrhagiae in vitro and experimental carrier studies. Amer. J. Vet. Res. 11:89-90.
40. Baker, J.A.; Little, R.B. 1948. Leptospirosis in cattle. J. Exp. Med. 88:295-308.
41. Faber, H.K.; Silverberg, R.J.; Dong, L. 1948. Poliomyelitis in the cynomolgus monkey: IV. Further observations on exposures confined to the stomach and intestines, with notes on the fecal excretion of virus. J. Exp. Med. 88:65-72.
42. World Health Organization. 1964. Joint FAO/WHO expert committee on brucellosis. Fourth Report. WHO Tech. Rep. Ser. 289.
43. World Health Organization. 1959. Joint WHO/FAO expert committee on zoonoses. Second Report. WHO Tech. Rep. Ser. 169.
44. Kissling, R.E.; Chamberlain, R.W.; Nelson, D.B.; Stamm, D.D. 1956. Venezuelan equine encephalomyelitis in horses. Amer. J. Hyg. 63:274-287.
45. Welsh, H.H.; Lennette, E.H.; Abinanti, F.R.; Winn, J.F. 1958. Air-borne transmission of Q fever: The role of parturition in the generation of infective aerosols. Ann. N.Y. Acad. Sci. 70:528-540.
46. Derrick, E.H. 1937. "Q" fever, a new fever entity: Clinical features, diagnosis, and laboratory investigation. Med. J. Australia 2:281-299.
47. Huebner, R.J.; Jellison, W.L.; Beck, M.D.; Parker, R.R.; Shepard, C.C. 1948. Q fever studies in southern California: I. Recovery of Rickettsia burneti from raw milk. Public Health Rep. 63:214-222.
48. Campinopetros, J. 1948. Q fever (Balkan gripe). Abstr. 4th Int. Congr. Trop. Med. Malaria. Washington, D.C. p. 33-34.
49. Lennette, E.H.; Clark, W.H. 1951. Observations on the epidemiology of Q fever in northern California. J. Amer. Med. Ass. 145:306-309.
50. World Health Organization. 1950. Joint OIHP/WHO study group on African rickettsioses. Report on the first session. WHO Tech. Rep. Ser. 23.
51. Misao, T.; Hiroyoshi, S.; Katsuta, K.; Nishihara, Y.; Kobayashi, Y.; Kuwashima, K.; Aso, M. 1956. Canicola fever in Japan. Amer. J. Hyg. 63:294-307.
52. Inada, R.; Ido, Y.; Hoki, R.; Kaneko, R.; Ito, H. 1916. The etiology, mode of infection, and specific therapy of Weil's disease (Epirochaetosis icterohaemorrhagica). J. Exp. Med. 23:377-402.

53. McIntyre, W.I.M.; Seiler, H.E. 1953. Epidemiology of canicola fever. J. Hyg. 51:330-339.
54. Howe, H.A.; Bodian, D.; Morgan, I.M. 1950. Subclinical poliomyelitis in the chimpanzee and its relation to alimentary reinfection. Amer. J. Hyg. 51:85-108.
55. Howe, H.A.; Bodian, D. 1944. The efficiency of intranasal inoculation as a means of recovering poliomyelitis virus from stools. Amer. J. Hyg. 40:224-226.
56. Shepard, M.C. 1960. Recovery, propagation, and characteristics of T-strain PPLO isolated from human cases of nongonococcal urethritis. Ann. N.Y. Acad. Sci. 79:397-402.
57. Berg, R.L.; Daggett, W.; Madden, J.; Dienes, L. 1960. The origin of PPLO found in rectal cultures. Ann. N.Y. Acad. Sci. 79:635-641.
58. Kuzell, W.C.; Mankle, E.A. 1960. Cultivation of pleuropneumonia-like organisms in Reiter's disease, including one instance of laboratory cross infection. Ann. N.Y. Acad. Sci. 79:650-657.
59. Thomsen, A. 1934. Brucella infection in swine: Studies from an epizootic in Denmark 1929-1932. Acta Pathol. Microbiol. Scand. Suppl. 21:1-253.
60. World Health Organization. 1951. Joint FAO/WHO expert panel on brucellosis. Report on the first session. WHO Tech. Rep. Ser. 37.
61. Benedict, A.A.; McFarland, C. 1958. Newer methods for detection of avian ornithosis. Ann. N.Y. Acad. Sci. 70:501-515.
62. Klieneberger-Nobel, E. 1960. Pathogenicity and immunity of organisms of the pleuropneumonia group. Ann. N.Y. Acad. Sci. 79:615-625.
63. Gillespie, J.H.; Baker, J.A. 1952. Experimental Q fever in cats. Amer. J. Vet. Res. 13:91-94.
64. Huebner, R.J.; Luoto, L.; Turner, H. 1950. Cited by R.J. Huebner, In Rickettsialpox and Q fever. Bacteriol. Rev. 14:245-248.
65. Lennette, E.H. 1950. Cited by E.H. Lennette, In Newer knowledge of the older rickettsial diseases. Bacteriol. Rev. 14:249-258.
66. Melnick, J.L. 1950. The poliomyelitis, encephalomyocarditis, and Coxsackie groups of viruses. Bacteriol. Rev. 14:233-244.
67. Cox, H.R.; Philip, C.B.; Kilpatrick, J.W. 1941. Susceptibility of horses to St. Louis encephalitis virus. Public Health Rep. 56:1391-1392.

68. Milzer, A. 1950. Routine laboratory diagnosis of virus and rickettsial diseases. Results of an eighteen month study. J. Amer. Med. Ass. 143:219-224.
69. Pogodina, V.V. 1960. Experimental study of the pathogenesis of tick-borne encephalitis on alimentary infection: II. Study of pathways of excretion of virus from white mice. Vop. Virusol. 5:279-285.
70. Van den Ende, M.; Harries, E.H.R.; Stuart-Harris, C.H.; Steigman, A.J. 1943. Laboratory infection with murine typhus. Lancet 1:328-332.
71. Kuborina, L.N.; Terskikh, I.I. 1960. Experimental ornithosis in monkeys. Vop. Virusol. 5:71-80.
72. Stoker, M.G.P.; Brown, R.D.; Kett, F.J.L.; Collins, P.C.; Marmion, B.P. 1955. Q fever in Britain: Isolation of Rickettsia burneti from placenta and wool of sheep in an endemic area. J. Hyg. 53:313-321.
73. Mims, C.A. 1956. Rift Valley fever in mice: I. General features of the infection. Brit. J. Exp. Pathol. 37:99-109.
74. Babudieri, B. 1958. Animal reservoirs of leptospires. Ann. N.Y. Acad. Sci. 70:393-413.
75. Bourke, A.T.C. 1964. Contact transmission of the highlands J strain of western equine encephalomyelitis in chicks. Amer. J. Trop. Med. Hyg. 13:482-487.
76. Feldman, W.H.; Bollman, J.L.; Olson, C., Jr. 1935. Experimental brucellosis in dogs. J. Infect. Dis. 56:321-332.
77. Goode, E.R.; Manthei, C.A.; Black, G.E.; Amerault, T.E. 1952. Brucella suis infection in suckling and weanling pigs: II. J. Amer. Vet. Med. Ass. 121:456-464.
78. Hardy, A.V.; Hudson, M.G.; Jordan, C.F. 1929. The skin as a portal of entry in Br. melitensis infections. J. Infect. Dis. 45:271-282.
79. Meyer, K.F.; Eddie, B. 1941. Laboratory infections due to brucella. J. Infect. Dis. 68:24-32.
80. Easterday, B.C.; Murphy, L.C.; Bennett, D.G. 1962. Experimental Rift Valley fever in lambs and sheep. Amer. J. Vet. Res. 23:1231-1240.
81. Daubney, R.; Hudson, J.R.; Garnham, P.C. 1931. Enzootic hepatitis or Rift Valley fever: An undescribed virus disease of sheep, cattle, and man from east Africa. J. Pathol. Bacteriol. 34:545-579.
82. Meyer, K.F. 1932. A summary of recent studies on equine encephalomyelitis. Ann. Intern. Med. 6:645-654.

83. Parker, R.R.; Steinhaus, E.A. 1943. American and Australian Q fevers: Persistence of the infectious agents in guinea pig tissues after defervescence. Public Health Rep. 58:523-527.
84. Goldman, M.J.; Movitt, E. 1948. Disseminated coccidioidomycosis: Isolation of positive organism from the urine. Calif. Med. 69:456-458.
85. Brunn, W. 1919. Ueber die Ursachen und die Haufigkeit des Vorkommens des Rotzes beim Menschen, sowie uber die Massregeln zur Verkutung der Rotzubeitragungen. Vierteljahrsschrift Gerichtl. Med. Offentliches Sanit. 58:134-161.
86. Taylor, R.M. 1951. Epidemiology, p. 427-538. In G.K. Strode (ed.) Yellow fever. McGraw-Hill Book Co. Inc., New York.
87. Theiler, M. 1951. The virus, p. 39-136. In G.K. Strode (ed.) Yellow fever. McGraw-Hill Book Co. Inc., New York.
88. Theiler, M. 1930. Studies on the action of yellow fever virus in mice. Ann. Trop. Med. 24:249-272.
89. Findlay, G.M.; MacCallum, F.O. 1939. The transmission of yellow fever virus to monkeys by mouth. J. Pathol. Bacteriol. 49:53-61.
90. Stokes, A.; Bauer, J.H.; Hudson, N.P. 1928. Experimental transmission of yellow fever to laboratory animals. Amer. J. Trop. Med. 8:103-164.
91. Kramer, S.D.; Hoskwith, E.; Grossman, L.H. 1939. Detection of the virus of poliomyelitis in the nose and throat and gastrointestinal tract of human beings and monkeys. J. Exp. Med. 69:49-67.
92. Flexner, S.; Clark, P.F.; Dochez, A.R. 1912. Experimental poliomyelitis in monkeys: XIII. Survival of the poliomyelitic virus in the stomach and intestine. J. Amer. Med. Ass. 59:273.
93. Toomey, J.A. 1932. Demonstration of a toxic factor in the stools and urine of poliomyelitis patients. J. Prev. Med. 6:379-386.
94. Clark, P.F.; Roberts, D.J.; Preston, W.S., Jr. 1932. Passage of poliomyelitis virus through the intestinal tract. J. Prev. Med. 6:47-58.
95. Zia, S.H.; Wang, F.L. 1949. Brucellosis in North China: A clinical, etiological, and epidemiological study. Amer. J. Trop. Med. 29: 925-936.

96. Amoss, H.L.; Poston, M.A. 1929. Undulant (Malta) fever: Isolation of the brucella organism from the stools. J. Amer. Med. Ass. 93: 170-171.
97. Taylor, R.M.; Lisbonne, M.; Vidal, L.F.; Hazemann, R.H. 1938. Investigations on undulant fever in France. League of Nations Bull. Health Organ. 7:503-545.
98. Charnock, D.A. 1948. Chemotherapy for renal infections. Calif. Med. 69:445-448.
99. Kokernot, R.H.; Shinefield, H.R.; Longshore, W.A. 1953. The 1952 outbreak of encephalitis in California: Differential diagnosis. Calif. Med. 79:73-77.
100. Lennette, E.H. 1948. Q fever in California. Calif. Med. 69:91-95.
101. Stoenner, H.G.; Maclean, D. 1958. Leptospirosis (Ballum) contracted from swiss albino mice. Amer. Med. Ass. Arch. Intern. Med. 191:606-610.
102. Nicol, C.S.; Edward, D.G. 1953. Role of organisms of the pleuro-pneumonia group in human genital infections. Brit. J. Venerol. Dis. 29:141-150.
103. Findlay, G.M. 1932. Rift Valley fever or enzootic hepatitis. Trans. Roy. Soc. Trop. Med. Hyg. 25:229-265.
104. Mundel, B.; Gear, J. 1951. Rift Valley fever: I. The occurrence of human cases in Johannesburg. S. Afr. Med. J. 25:797-800.
105. Haymaker, W.; Sather, G.E.; Hammon, W.McD. 1955. Accidental Russian spring-summer viral encephalitis. Arch. Neurol. Psychiat. 73:609-630.
106. Vesenjak-Zmijanac, J.; Bedjanic, M.; Rus, S.; Kmet, J. 1955. Virus meningo-encephalitis in Slovenia: 3. Isolation of the causative agent. Bull. WHO 12:513-520.
107. Smorodintsev, A.A.; Chudakov, V.G.; Churilov, A.V. 1959. Haemorrhagic nephroso-nephritis. Pergamon Press, New York. 124 p.
108. Kulagin, S.M.; Fedorova, N.I.; Ketiladze, E.S. 1962. Laboratory outbreak of hemorrhagic fever with a renal syndrome; clinico-epidemiological characteristics. Zh. Mikrobiol. Epidemiol. i Immunobiol. 33:10:121-126.
109. Smith, H. 1948. Coccidioidomycosis in animals with report of a new case in a dog. Amer. J. Pathol. 24:223-233.

110. Arean, V.M. 1962. The pathologic anatomy and pathogenesis of fatal leptospirosis (Weil's disease). *Amer. J. Pathol.* 40:393-423.
111. Tenbroeck, C.; Hurst, E.W.; Traub, E. 1935. Epidemiology of equine encephalomyelitis in the eastern United States. *J. Exp. Med.* 62:677-685.
112. Smadel, J.E. 1951. The hazard of acquiring virus and rickettsial diseases in the laboratory. *Amer. J. Public Health* 41:788-795.
113. Karrer, H.; Meyer, K.F.; Eddie, B. 1950. The complement fixation inhibition test and its application to the diagnosis of ornithosis in chickens and in ducks: II. Confirmation of the specificity and epidemiological application of the test. *J. Infect. Dis.* 87:24-36.
114. Chamberlain, R.W.; Sikes, R.K.; Kissling, R.E. 1954. Use of chicks in eastern and western equine encephalitis studies. *J. Immunol.* 73:106-114.
115. White, F.H.; Ristic, M. 1959. Detection of Leptospira pomona in guinea pig and bovine urine with fluorescein-labeled antibody. *J. Infect. Dis.* 105:118-123.
116. Siegert, R.; Simrock, W.; Stroder, U. 1950. Über einen epidemischen Ausbruch von Q-Fieber in einem Krankenhaus. *Z. Tropenmed. Parasitol.* 2:1-40.
117. Burgdorfer, W.; Geigy, R.; Gsell, O.; Wiesmann, E. 1951. Parasitologische und klinische Beobachtungen an Q-Fieber-Fällen in der Schweiz. *Schweiz. Med. Wochensh.* 81:162-166.
118. Syrucek, L.; Raska, K. 1956. Q fever in domestic and wild birds. *Bull. WHO* 15:329-337.
119. Bell, E.J.; Parker, R.R.; Stoenner, H.G. 1949. Q fever: Experimental Q fever in cattle. *Amer. J. Public Health* 39:478-484.
120. Wiesmann, E. 1952. Die Q-fever-Forschung in der Schweiz in den Jahren 1947-1951. *Z. Tropenmed. Parasitol.* 3:297-301.
121. Caminopetros, J. 1948. Le lait, source de contamination de l'homme et des animaux dans la transmission de la fièvre du Queensland observée en Grèce. *Bull. Acad. Nat. Med. (Paris)* 132:468-471.
122. Derrick, E.H. 1953. The epidemiology of "Q" fever: A review. *Med. J. Australia* 1:245-253.
123. Cottew, G.S. 1950. Melioidosis in sheep in Queensland: A description of the causal organism. *Australian J. Exp. Biol. Med. Sci.* 28:677-683.

124. Miller, W.R.; Pannell, L.; Cravitz, L.; Tanner, W.A.; Ingalls, M.S. 1948. Studies on certain biological characteristics of Malleomyces mallei and Malleomyces pseudomallei: I. Morphology, cultivation, viability, and isolation from contaminated specimens. J. Bacteriol. 55:115-126.
125. Cottew, G.S.; Sutherland, A.K.; Meehan, J.F. 1952. Melioidosis in sheep in Queensland; description of an outbreak. Australian Vet. J. 28:113-123.
126. Marcandies, A.; Pirot, R. 1934. Recherches sur la presence du virus du typhus murin (Souche toulonnaise) dans l'urine des rats et des cobayes. Arch. Inst. Pasteur (Tunis) 23:304-325.
127. Nicolle, C.; Giroud, P.; Sparrow, H. 1934. Presence exceptionnelle du virus typhique murin dans les urines des rats infectés experimentalement par ce virus. Arch. Inst. Pasteur (Tunis) 23:1-14.
128. LeChuiton, F.; Berge, C.; Pennaneach, J. 1935. Transmission experimentale au chat du typhus murin (Souche toulonnaise). Premieres considerations sur cette transmission. Presence du virus dans l'urine. Bull. Soc. Pathol. Exot. 28:685-688.
129. Pollitzer, R. 1954. Plague. WHO Monogr. Ser. 22:1-198.
130. Fox, J.P. 1948. The long persistence of Rickettsia orientalis in the blood and tissues of infected animals. J. Immunol. 59:109-114.
131. Weyrauch, H.M.; Norman, F.W.; Bassett, J.E. 1950. Coccidioidomycosis of the genital tract. Calif. Med. 72:465-468.
132. Dixon, C.W. 1962. Smallpox. J. & A. Churchill Ltd., London. 512 p.
133. Manson-Bahr, P.H. 1960. Manson's tropical diseases. 15th ed. Cassell & Co. Ltd., London. 1177 p.
134. Williams, R.S.; Hoy, W.A. 1930. The viability of B. tuberculosis (Bovinus) on pasture land, in stored feces, and in liquid measure: I. The viability of B. tuberculosis on pasture land. J. Hyg. 30: 413-419.
135. Perla, D. 1927. Experimental epidemiology of tuberculosis. J. Exp. Med. 45:209-226.
136. Perla, D. 1927. Experimental epidemiology of tuberculosis: The elimination of tubercle bacilli in the feces, bile, and urine of infected guinea pigs. J. Exp. Med. 45:1025-1035.

137. Lurie, M.B. 1930. Experimental epidemiology of tuberculosis: The effect of eliminating exposure to enteric infection on the incidence and course of tuberculosis acquired by normal guinea pigs confined with tubercular cage mates. J. Exp. Med. 51:753-768.
138. Shrewsbury, J.F.D.; Barson, J. 1937. The cultivation of Mycobacterium tuberculosis from human sputa. Brit. Med. J. 2:1154.
139. Williams, R.S.; Hoy, W.A. 1927. Tubercle bacilli in the feces of apparently healthy cows. J. Hyg. 27:37-39.
140. Feldman, W.H. 1963. Tuberculosis, p. 5-81. In T.G. Hull (ed.) Diseases transmitted from animals to man. 5th ed. Charles C. Thomas, Springfield, Ill.
141. Munro, W.T. 1939. Epidemiological aspects of pulmonary tuberculosis due to bovine type tubercle bacilli. Edinburgh Med. J. 46:165-179.
142. Hagan, W.A.; Bruner, D.W. 1961. The infectious diseases of domestic animals; with special reference to etiology, diagnosis, and biologic therapy. Bailliere, Tindall and Cox, London. 1033 p.
143. Groulade, P.; Roger, F.; Dartois, N. 1954. Contribution a l'etude d'un syndrome infectieux du chien repon dant serologiquement a une souche de Rickettsia psittaci. Rev. Pathol. Gen. Comp. 54:1426-1434.
144. Baker, J.A. 1958. Infections in mammals caused by members of the psittacosis group of viruses, p. 24-31. In F.R. Beaudette (ed.) Progress in psittacosis research and control. Rutgers University Press, New Brunswick, N.J.
145. Remlinger, R.; Bailly, J. 1936. Siege du virus dans l'encephalo-myelinite Argentine des equides (Maladie experimentale). Compt. Rend. Soc. Biol. 121:429-431.
146. Stein, C.D. 1963. Anthrax, p. 82-125. In T.G. Hull (ed.) Diseases transmitted from animals to man. 5th ed. Charles C. Thomas, Springfield, Ill.
147. Morse, E.V.; Erling, H.G.; Beach, B.A. 1951. Bacteriological aspects of experimental brucellosis in dogs following oral exposure: II. Effects of feeding brucella-infected milk to young dogs. Amer. J. Vet. Res. 12:324-325.
148. Simmons, J.S.; St. John, J.H.; Reynolds, F.H.K. 1931. Experimental studies of dengue: Cultivation experiments with the virus of dengue. Philippine J. Sci. 44:83-94.

149. Chudnoff, J.S.; Bower, A.G. 1950. Chronic relapsing Q fever: Treatment with streptomycin, aureomycin, and chloramphenicol. Calif. Med. 73:260-266.
150. Dalrymple-Champneys, W. 1960. Brucella infection and undulant fever in man. Oxford University Press, London. 196 p.
151. Lubashenko, S.; Novikova, L.S. 1947. Symptoms, diagnosis, specific prophylaxis and therapy of equine leptospirosis. Veterinariya 24:7-11.
152. Kathe, J. 1950. Die Epidemiologie der Leptospirenerkrankungen. Zent. Bakt. Bakteriologie. Parasitenk. Abt. I. Orig. 155:199-226.
153. Bohl, E.H.; Ferguson, L.C. 1952. Leptospirosis in domestic animals. J. Amer. Vet. Med. Ass. 121:421-428.
154. Costa, S.; Troisier, J. 1917. Virulence des centres nerveux dans la spirochetose icterohemorragique experimentale du cobaye. Compt. Rend. Soc. Biol. 80:196-197.
155. Yager, R.H. 1953. Leptospirosis in the United States today: Symposium on the leptospiroses. Med. Serv. Publ. No. 1. U.S. Government Printing Office, Washington, D.C.
156. Johnson, D.W. 1950. The Australian leptospirosis. Med. J. Australia 2:724-731.
157. Alston, J.M.; Brown, J.C.; Doughty, C.J.A. 1958. Leptospirosis in man and animals. E. & S. Livingstone Ltd., Edinburgh. 367 p.
158. Levkovich, E.N.; Drobyshevskaya, A.I.; Chervyakov, M.P.; Neustroyev, V. 1941. Virological characteristics of individual outbreaks of tick-borne spring-summer encephalitis. Byul. Eksperim. Biol. i Med. 27:11:197.
159. Zil'ber, L.A. 1946. Far eastern tick-borne spring-summer (spring) encephalitis. Amer. Rev. Soviet Med. (Spec. Suppl.) p. 6-80.
160. Shubladze, A.K. 1939. Pathogenic spring-summer encephalitis. Arkh. Biol. Nauk. 56:83-96.
161. Pogodina, V.V. 1962. The course of alimentary infection and development of immunity in tick-borne encephalitis, p. 275-282. In E.H. Libikova (ed.) Biology of viruses of the tick-borne encephalitis complex. Proceedings of a symposium held at Smolenice, October 11-14, 1960. Czech. Acad. Sci., Praha.

162. Albrecht, P. 1962. Pathogenesis of experimental infection with tick-borne encephalitis virus, p. 247-259. In E.H. Libikova (ed.) Biology of viruses of the tick-borne encephalitis complex. Proceedings of a symposium held at Smolenice, October 11-14, 1960. Czech. Acad. Sci., Praha.
163. Robinson, V.B.; McVickar, D.L. 1952. Pathology of spontaneous canine histoplasmosis: A study of twenty-one cases. Amer. J. Vet. Res. 13:214-219.
164. Eyre, J.W. 1905. Observations on the virulence of Micrococcus melitensis for the guinea pig. Rep. Mediter. Fever Comm. I:21-45.
165. Barwell, C.F. 1955. The transmission of viruses from animal to man other than by arthropods, p. 59-63. In C. Horton-Smith (ed.) Biological aspects of the transmission of disease. Oliver and Boyd, London.
166. Stanton, A.T.; Fletcher, W. 1932. Melioidosis: Studies from the Institute for Medical Research Federated Maly States. No. 21, p. 1-60. John Bale, Sons and Danielsson Ltd., London.
167. Schmidt, U.; Bindrich, H. 1957. Concerning the question of excretion and reproduction of the Newcastle disease virus after infection of immune hens. Acta Virol. 1:180-187.
168. Asplin, F.D. 1952. Immunization against Newcastel disease with a virus of low virulence (Strain F) and observations on sub-clinical infection in partially resistant fowls. Vet. Rec. 64:245-249.
169. Dinter, Z.; Bakos, K. 1953. Uber die Ausscheidung des Virus der Newcastle-Krankheit nach der Testinfektion immuner Huhner. Arch. Exp. Veterinaarmed. 7:514-519.
170. Traub, E.; Kesting, F. 1956. Ueber die Ausscheidung des E.E.E.-Virus und das gelegentliche Vorkommen von Kontaktinfektionen bestimmter Art bei Mäusen. Zentralbl. Bakteriол. Parasitenk. Abt. I. Orig. 166:462-475.
171. Berensci, G.; Szabo, J. 1964. Uber ein spezielles. Problem der Epidemiologie der Tuberkulose. Huhner als Ausscheider von Mykobakterien? Zentralbl. Bakteriол. Parasitenk. Abt. I. Orig. 192:477-481.
172. Francis, J. 1958. Tuberculosis in animals and man: A study in comparative pathology. Cassell and Company Ltd., London. 357 p.
173. Mayants, A.I. 1946. Tularemia of the urinary bladder. Amer. Rev. Soviet Med. 3:360-361.

174. Saxholm, R. 1956. Cultivation of M. tuberculosis from urine and gastric lavage by the pancreatin-quaternary ammonium compound method. Amer. Rev. Tuberc. 74:616-621.
175. Hunt, J.S. 1947. Pleuropulmonary tularemia: Observations on 12 cases treated with streptomycin. Ann. Intern. Med. 26:263-276.
176. Prior, J.A.; Cole, C.R. 1951. Studies on the communicability of histoplasmosis. Amer. Rev. Tuberc. 63:538-546.
177. DeMonbreun, W.A. 1939. The dog as a natural host for Histoplasma capsulatum; report of a case of histoplasmosis in this animal. Amer. J. Trop. Med. 19:565-587.
178. Kilham, L.; Mason, P.; Davies, J.N.P. 1955. Pathogenesis of fatal encephalomyocarditis (EMC) virus infections in albino rats. Proc. Soc. Exp. Biol. Med. 90:383-387.
179. Vanella, J.M.; Kissling, R.E.; Chamberlain, R.W. 1955. Transmission studies with encephalomyocarditis virus. J. Infect. Dis. 98:98-102.
180. Howitt, B.F. 1934. Certain properties of the virus of equine encephalomyelitis. J. Infect. Dis. 55:138-149.
181. Lurie, M.B. 1944. Experimental epidemiology of tuberculosis: Hereditary resistance to attack by tuberculosis and to the ensuing disease and the effect on the concentration of tubercle bacilli upon these two phases of resistance. J. Exp. Med. 79:573-589.
182. Karstad, L.; Spalatin, J.; Hanson, R.P. 1959. Experimental infections of wild birds with the viruses of eastern equine encephalitis, Newcastle disease, and vesicular stomatitis. J. Infect. Dis. 105:188-195.
183. Winn, J.F.; Palmer, D.F. 1961. Recovery of western equine encephalomyelitis virus from crop washings of experimentally infected pigeons. Amer. J. Vet. Res. 22:139-141.
184. Lutsky, I.; Brodish, J. 1964. Experimental canine cryptococcus. J. Infect. Dis. 114:273-276.
185. Howitt, B.F. 1932. Equine encephalomyelitis. J. Infect. Dis. 51:493-510.
186. Cameron, H.S. 1932. The viability of Brucella abortus. Cornell Vet. 22:212-224.
187. Birge, R.F.; Riser, W.H. 1945. Canine histoplasmosis: Report of two cases. N. Amer. Vet. 26:281-287.

188. Bosworth, T.J. 1937. The susceptibility of the wild rat to infection with Brucella abortus: A preliminary note. J. Comp. Pathol. 50: 345-349.
189. Karison, A.G.; Boyd, W.L. 1940. Brucellosis in horses: A study of five cases without clinical symptoms. J. Amer. Vet. Med. Ass. 97: 576-580.
190. Weissflog, H. 1952. Untersuchungen uber das Vorkommen von Leptospirose bei Katzen im Gebiet der Hansestadt Hamburg. Berlin. Muench. Tieraerztl. Wochenschr. 65:124-126.
191. Vaishnav, V.P.; Jhala, C.I. 1963. Urinary tract infection: Bacteriological and laboratory methods of diagnosis. Indian J. Pathol. Bacteriol. 6:186-200.
192. Ozbil, M. 1955. Ein Beitrag zur Frage der Rickettsienausscheidung mit dem Urin. Z. Tropenmed. Parasitol. 6:453-459.
193. Johnson, K.M. 1965. Epidemiology of Machupo virus infection: III. Significance of virological observations in man and animals. Amer. J. Trop. Med. Hyg. 14:816-818.
194. Gorelick, A.N. 1964. Report from Dr. Arthur N. Gorelick. Arthropod-borne Virus Inform. Exch. 10:150-152.
195. DeGuerrero, L.B.; Boxaca, M.C.; Parodi, A.S. 1965. Fiebre hemorragica experimental en cobayos (Virus Junin). Contagio y eliminacion de virus. Rev. Asoc. Med. Argent. 79:271-274.
196. Klite, P.D. 1965. Isolation of Histoplasma capsulatum from bats of El Salvador. Amer. J. Trop. Med. Hyg. 14:787-788.
197. Yuill, Thomas. 1964. Viral and parasitic infections of a population of snowshoe hares in Alberta. Doctoral thesis. University of Wisconsin, Madison.
198. Henning, M.W. 1956. Animal diseases in South Africa; being an account of the infectious diseases of domestic animals. 3rd ed. Central News Agency Ltd., S. Afr. 1239 p.
199. Moltzen-Nielsen, H.; Plum, N. 1943. Tuberkulose hos hunden. Maanedsskr. Dyrlaeger. 54:201-213.
200. Schaetz, F.; Buss, W. 1951. Ist eine Ubertragung der Brucellose (Abortus Bang) auf Rinder durch Ratten moglich? Monatsh. Prakt. Tierheilk. 3:136-141.
201. Shubladze, A.K. 1940. Experimental material on the etiology of the autumnal form of encephalitis: Report I. Zh. Mikrobiol. Epidemiol. i Immunobiol. 12:8:29-35.

202. Khatenever, L.M. 1943. Certain characteristics of epidemiological, clinical, and laboratory diagnosis of typhoid forms of tularemia. *Klin. Med. (USSR)* 21:28-35.
203. Germer, W.D. 1955. Die hamorrhagischen Fieber. Besonderer Berucksichtigung des in Korea auftretenden hamorrhagischen Fiebers. *Deut. Med. Wochensch.* 80:1717-1721.
204. Kiseleva, M.L. 1957. The clinical aspects, diagnosis, and epidemiology of histoplasmosis. *Sovet. Med. (USSR)* 21:89-94.
205. Shlyakhov, E.N. 1955. Anthrax. *Sanit. Epidemiol. Sta. Medgiz, Moscow* 3:261-270.
206. Zaporozhchenko, A.Ya. 1959. Epidemiology of rarely encountered clinical forms of anthrax. *Vrachebnoe Delo* 11:1205-1206.
207. Freyman, R. 1957. The virus encephalitides in the Soviet Union and in central Europe. *Rep. Osteuropa-Inst. Univ. Berlin No. 28 Med. Ser.* 11:1-102.
208. Smorodintsev, A.A. 1942. Advances of the Soviet microbiologists in the study of the virus of encephalitis and of the grippe. *Zh. Mikrobiol. Epidemiol. i Immunobiol.* 14:12:61-69.
209. Andzhanaridze, O.G.; Zubova, Z.F.; Moskvicheva, N.V.; Nikitin, V.D. 1954. The excretion of tick encephalitis virus by the kidneys of the immunized horse. *Zh. Mikrobiol. Epidemiol. i Immunobiol.* 25:10:58-59.
210. Tumanskiy, V.M. 1958. Microbiology of plague. *Medgiz, Moscow.* 268 p.
211. Zakharov, V.V. 1962. Clinical aspects and medical treatment of coccidioidomycosis. *Vestn. Dermatol. i Venerol.* 36:74-77.
212. Kirchheimer, W.F.; Hess, A.R.; Williston, E.H.; Youmans, G.P. 1950. Isolation of tubercle bacilli from feces and gastric contents of intravenously infected mice. *Amer. Rev. Tuberc.* 62:481-483.
213. Hudson, E.H. 1957. Respiratory tuberculosis: Clinical diagnosis and medical treatment, p. 321-462. *In* F.R.G. Heaf (ed.) *Symposium of tuberculosis.* Cassell and Company Ltd., London.
214. Mailloux, M.; Kolochine-Erber, B. 1961. Les Leptospiroses dans les anciens territoires de l'Union Francaise. *Z. Tropenmed. Parasitol.* 12:307-325.
215. Christie, A. 1964. Histoplasmosis, p. 206-216. *In* F.H. Top (ed.) *Communicable and infectious diseases: Diagnosis, prevention, treatment.* 5th ed. C.V. Mosby Co., St. Louis, Mo.

216. Shull, H.J. 1953. Human histoplasmosis: A disease with protein manifestations often with digestive system involvement. *Gastroenterology* 25:582-595.
217. Polyakov, A.A. 1954. USSR work on transmission of veterinary infectious disease by rats. *Veterinariya* 31:8:44-46.
218. Wisseman, C.L., Jr. 1964. Rickettsial diseases, p. 798-821. In F.H. Top (ed.) *Communicable and infectious diseases: Diagnosis, prevention, treatment*. 5th ed. C.V. Mosby Co., St. Louis, Mo.
219. Friedman, S.M.; Lorber, B.B. 1937. Bacteriological investigation of fluids and excrement of botulism patients. In Shteynberg, Botulism, Gosmedizdat Publ. House, UkSSR, 1937. Cited by K.I. Matveev. 1949. The pathogenesis of botulism. Publ. House Acad. Med. Sci. USSR, Moscow. 271 p.
220. Minervin, S.M.; Kotlyarevskaya, Ye.N. 1937. The significance of nonspecific sensitization in the pathogenesis of botulism. *Ann. Mechnikovskogo IN-TA* 4:1:93. Cited by K.I. Matveev. 1949. The pathogenesis of botulism. Publ. House Acad. Med. Sci. USSR, Moscow. 271 p.
221. Fessler, J.F.; Morter, R.L. 1964. Experimental feline leptospirosis. *Cornell Vet.* 54:176-190.
222. Moeschlin, S.; Koszewski, B.J. 1950. Komplikationen des Q-fever. *Schweiz. Med. Wochensch.* 80:929-931.
223. Robin, V.; Brion, A.; Cosson, Y. 1934. Sur l'elimination du B. de Koch par l'urine chez le chien tuberculeux. *Bull. Acad. Vet. France* 7:51-55.
224. Hjarre, A.; Herlitz, C.W. 1935. Die eventuelle Uberfuhrung der Tuberkulose Swischen Hund resp. Katze und Mensch. *Acta Paediat.* 17: 141-149.
225. Riordan, J.T. 1943. Rectal tuberculosis in monkeys from the use of contaminated thermometers. *J. Infect. Dis.* 73:93-94.
226. Medlar, E.M.; Sasano, K.T. 1944. Ingestion tuberculosis in normal and in vaccinated rabbits. *Amer. Rev. Tuberc.* 49:78-93.
227. Worth, C.B.; Rickard, E.R. 1951. Transmission of murine typhus in roof rats in the absence of ectoparasites. *Amer. J. Trop. Med.* 31: 301-305.

228. Johnson, K.M. 1965. Hemorrhagic fevers in the Americas: Epidemiology of Machupo virus infections. Cited by R.G. Douglas, Jr., N.W. Wiebenga, and R.B. Couch. Bolivian hemorrhagic fever probably transmitted by personal contact. Amer. J. Epidemiol. 82:85-91.
229. Quick, D.T.; Thompson, J.M.; Bond, J.O. 1965. The 1962 epidemic of St. Louis encephalitis in Florida: IV. Clinical features of cases occurring in the Tampa Bay area. Amer. J. Epidemiol. 81:415-427.
230. Bond, J.O.; Quick, D.T.; White, J.J.; Oard, H.C. 1965. The 1962 epidemic of St. Louis encephalitis in Florida: I. Epidemiologic observations. Amer. J. Epidemiol. 81:392-404.
231. Shinner, J.J. 1963. St. Louis encephalomyelitis. Arch. Pathol. 75: 309-322.
232. Mitamura, T.; Kitaoka, M.; Watanabe, Z. 1939. Studies on the toxic substances secreted from the patients of Japanese encephalitis; mouth saliva, urine, feces. Tokyo Iji Shinshi 3143:1880-1883.
233. Nikiforov, V.N. 1960. The cutaneous form of anthrax and bacteriemia. Zh. Mikrobiol. Epidemiol. i Immunobiol. 31:8:122-128.
234. Nikiforov, V.N. 1960. Duration of discharge of Bacillus anthracis in skin anthrax treated by various methods. Zh. Mikrobiol. Epidemiol. i Immunobiol. 31:9:118-124.
235. Pomanskaia, L.A. 1958. The multiple-passage technique in the study of tularemia. Zh. Mikrobiol. Epidemiol. i Immunobiol. 29:8:7-11.
236. Kulagin, S.M.; Fedora, N.I.; Belavskii, E.B.; Anashkina, L.Ia.; Markarian, A.G. 1958. An outbreak of Q fever in the Yaroslavl oblast. Zh. Mikrobiol. Epidemiol. i Immunobiol. 29:2:44-51.
237. Blinov, P.N. 1958. The distribution of Rickettsia burneti in nature. Zh. Mikrobiol. Epidemiol. i Immunobiol. 29:8:85-88.
238. Thomsett, L.R. 1964. Diseases transmitted to man by dogs and cats. Can. J. Comp. Med. 28:66-72.
239. Retnasabapathy, A. 1959. Melioidosis in pigs. J. Malay. Vet. Med. Ass. 2:121-124.
240. Schalk, A.F.; Roderick, L.M.; Foust, H.L.; Harshfield, G.S. 1935. Avian tuberculosis: Collected studies. N. Dak. Agr. Exp. Sta. Tech. Bull. No. 279, p. 1-46.
241. Maddy, K.T. 1962. The diagnosis of coccidioïdomycosis, p. 396-408. Proc. 66th Annu. Meeting U.S. Livestock Sanit. Ass.

242. Syrucek, L.; Sobeslavsky, O. 1956. Experimental infection in rats (Rattus norvegicus) with C. burneti. *Cesk. Epidemiol. Mikrobiol. Immunol.* 5:251-254.
243. Lattimer, J.K.; Wechsler, H.; Reilly, R.J.; Segawa, A.; Dushinski, L.M. 1965. Current developments in genitourinary tuberculosis. *Trans. 24th Res. Conf. Pulmonary Dis.*, p. 29-30.
244. Nilolaev, N.N. 1928. Concerning the enteric form of anthrax. *Vrachebnoe Gazeta* 32:2:99-104.
245. Nussel, K. 1923. Ueber Tuberkelbazillenbefund im Stuhl. *Muench. Med. Wochensch.* 70:357-358.
246. Federov, V.N.; Rogozin, I.I.; Fenyuls, B.K. 1955. Prophylaxis of plague. 2nd ed. Medgiz, Moscow. 228 p.
247. Hildebrand, G.J.; Lamanna, C.; Heckly, R.J. 1961. Distribution and particle size of type A botulism toxin in body fluids of intravenously injected rabbits. *Proc. Soc. Exp. Biol. Med.* 107:284-289.
248. Gresser, I.; Kibrick, S. 1961. Isolation of vaccinia virus and type 1 adenovirus from urine. *New Engl. J. Med.* 265:743-744.
249. Michaux, J.L.; Vandepitte, J.; Hennebert, P.N.; Sonnet, J. 1963. Aspects cliniques et therapeutiques de la cryptococcose chez le Bantou. A propos de trois cas traites par l'amphotericine B. *Ann. Soc. Belge Med. Trop.* 43:751-775.
250. Kruse, R.H.; Green, T.D.; Leeder, W.D. 1965. Infection of control monkeys with Coccidioides immitis by caging with inoculated monkeys. To be presented at the 2nd Symposium on Coccidioidomycosis. Phoenix, Arizona, 10 December 1965.
251. Thorpe, B.D.; Sidwell, R.W.; Johnson, D.E.; Smart, K.L.; Parker, D.D. 1965. Tularemia in the wildlife and livestock of the great salt lake desert region, 1951 through 1964. *Amer. J. Trop. Med. Hyg.* 14:622-637.
252. Wollnitz, E. 1938. Beitrag zur Frage der Vaccinia generalisata und Nachweis des Virus im Urin. *Arch. Dermatol. Syph.* 177:186-209.
253. Lancaster, J.E. 1963. Newcastle disease: Modes of spread. *Vet. Bull.* 33:221-226, 279-285.
254. Janssen, R.J.; Marshall, R.G.; Gerone, P.J.; Cheville, N.E. 1962. The effects of 6-mercaptopurine on variola infections in rhesus monkeys: I. The influence of the drug on the resistance and immunological response of the infected host. *J. Infect. Dis.* 111:155-162.

255. Syrucek, L.; Raska, K.; Sobeslavsky, O. 1963. The importance of birds on epidemiology of Q fever. Proc. 7th Int. Cong. Trop. Med. Malaria 3:271-272.
256. Smorodintsev, A.A. 1940. The spring-summer tickborne encephalitis. Arch. Ges. Virusforsch. 1:468-480.
257. Minervin, S.M. 1957. The results of many years observations in the study of botulism. Zh. Mikrobiol. Epidemiol. i Immunobiol. 28:10:30-35.
258. Melnick, J.L.; Wenner, H.A.; Rosen, L. 1964. The enteroviruses, p. 194-242. In E.H. Lennette and N.J. Schmidt (ed.) Diagnostic procedures for viral and rickettsial diseases. 3rd ed. Amer. Public Health Ass., Inc., New York.
259. Melnick, J.L. 1951. Poliomyelitis and poliomyelitislike viruses of man and animals. Ann. Rev. Microbiol. 5:309-332.
260. Johnsson, T. 1955. Simultaneous recovery of two or more immunological types of Coxsackie virus from the same patient. Arch. Ges. Virusforsch. 6:242-249.
261. Utz, J.P.; Shelekov, A.I. 1958. Coxsackie B virus infection: Presence of virus in blood, urine, and cerebrospinal fluid. J. Amer. Med. Ass. 168:264-267.
262. Howitt, B.F. 1950. Recovery of the Coxsackie group of viruses from human sources. Proc. Soc. Exp. Biol. 73:443-448.
263. Utz, J.P. 1960. Animal kidney infection by viruses isolated from human urine. J. Clin. Invest. 39:1037.
264. Pindak, M.A.; Clapper, W.E. 1964. Isolation of enteric cytopathogenic human orphan virus type 6 from dogs. Amer. J. Vet. Res. 25:52-54.
265. Itoh, Heihachi; Melnick, J.L. 1957. The infection of chimpanzees with ECHO viruses. J. Exp. Med. 106:677-688.
266. Moore, M.L.; Hooser, L.E.; Davis, E.V.; Siem, R.A. 1964. Sudden unexpected death in infancy: Isolations of ECHO type 7 virus. Proc. Soc. Exp. Biol. Med. 116:231-234.
267. Voros, S.; Pump, K.; Kelemen, G.; Polgar, F. 1964. Virus excretion and bacteriological studies in sporadic infantile enteritis. Acta Paediat. Acad. Sci. Hung. 5:113-120.
268. Fox, J.P. 1964. Epidemiological aspects of Coxsackie and ECHO virus infection in tropical areas. Amer. J. Public Health 54:1134-1142.

269. Boxaca, M.C.; Parodi, A.S.; Rugiero, H.; Blay, R. 1963. Fievre hemorrhagique experimentale chez le cobaye par le virus Junin. *Compt. Rend. Soc. Biol.* 157:1817.
270. Yankovsky, A.K.; Povalishina, T.P.; Vlasov, A.S.; Kozhushko, M.I.; Sadovskaya, E.V. 1963. Evidence on the natural foci of hemorrhagic fever with a renal syndrome in the Moscow region. *Zh. Mikrobiol. Epidemiol. i Immunobiol.* 40:12:46-51.
271. Gresser, I.; Katz, S.L. 1960. Isolation of measles virus from urine. *New Engl. J. Med.* 263:452-454.
272. Lepine, P.; Sautter, V. 1938. Contamination de laboratoire avec le virus de la choriomeningite lymphocytaire. *Ann. Inst. Pasteur* 61:519-526.
273. Weller, T.H.; Neva, F.A. 1962. Propagation in tissue culture of cytopathic agents from patients with rubella-like illness. *Proc. Soc. Exp. Biol. Med.* 111:215-225.
274. Krugman, S.; Ward, R. 1958. Infectious diseases of children. C.V. Mosby Co., St. Louis, Missouri. 340 p.
275. Bynoe, M.L.; Hobson, D.; Horner, J.; Kipps, A.; Schild, G.C.; Tyrrell, D.A.J. 1961. Inoculation of human volunteers with a strain of virus isolated from a common cold. *Lancet* 1:1194-1196.
276. Taylor-Robinson, D.; Tyrrell, D.A.J. 1962. Serotypes of viruses (Rhinoviruses) isolated from common colds. *Lancet* 1:452-454.
277. Ashkenazi, A.; Melnick, J.L. 1962. Induced latent infection of monkeys with vacuolating SV-40 papova virus: Virus in kidneys and urine. *Proc. Soc. Exp. Biol. Med.* 111:367-372.
278. Meyer, H.M., Jr.; Hopps, H.E.; Rogers, N.G.; Brooks, B.E.; Bernheim, B.C.; Jones, W.P.; Nisalak, A.; Douglas, R.D. 1962. Studies on simian virus 40. *J. Immunol.* 88:796-806.
279. Taylor-Robinson, D. 1963. Laboratory and volunteer studies on some viruses isolated from common colds (Rhinoviruses). *Amer. Rev. Respirat. Dis.* 88:262-268.
280. Couch, R.B.; Chanock, R.M.; Cate, T.R.; Lang, D.J.; Knight, V.; Huebner, R.J. 1963. Immunization with types 4 and 7 adenovirus by selective infection of the intestinal tract. *Amer. Rev. Respirat. Dis.* 88:394-403.
281. Quinn, R.W.; Hanson, R.P.; Brown, J.W.; Brandly, C.A. 1952. Newcastle disease virus in man: Results of studies in five cases. *J. Lab. Clin. Med.* 40:736-743.

282. Utz, J.P.; Kasel, J.A.; Cramblett, H.G.; Szwed, C.F.; Parrott, R.H. 1957. Clinical and laboratory studies of mumps: I. Laboratory diagnosis by tissue-culture technics. New Engl. J. Med. 257:497-502.
283. Lerner, A.M.; Klein, J.O.; Cherry, J.D.; Finland, M. 1963. New viral exanthems. New Engl. J. Med. 269:678-685, 736-740.
284. Gutekunst, R.R.; Heggie, A.D. 1961. Viremia and viruria in adenovirus infections: Detection in patients with rubella and rubelliform illness. New Engl. J. Med. 264:374-378.
285. Huebner, R.J.; Rowe, W.P.; Ward, T.C.; Parrott, R.H.; Bell, J.A. 1954. Adenoidal-pharyngeal-conjunctival agents: Newly recognized group of common viruses of respiratory system. New Engl. J. Med. 251:1077-1086.
286. Johnson, Karl M. 1965. Letter to Dr. A.C. Wedum, U.S. Army Biological Laboratories, Frederick, Maryland, from Dr. Karl M. Johnson, Middle America Research Unit, Canal Zone, dated 30 August 1965.
287. Christov, St.; Karadjov, I.; Pavlov, N.; Andreev, I. 1965. Investigation of enteroviruses isolated from calves with gastroenteric disease. Bull. Off. Int. Epiz. 63:449-468.
288. Traub, E. 1939. Epidemiology of lymphocytic choriomeningitis in a mouse stock observed for four years. J. Exp. Med. 69:801-817.
289. Paul, J.R. 1957. Epidemiology of infectious hepatitis, p. 183-190. In F.W. Hartman, G.A. LoGrippe, J.G. Mateer, and J. Barrow (ed.) Hepatitis frontiers. Little, Brown and Company, Boston, Mass.
290. Utz, J.P.; Szwed, C.F.; Kasel, J.A. 1958. Clinical and laboratory studies of mumps: II. Detection and duration of excretion of virus in urine. Proc. Soc. Exp. Biol. Med. 99:259-261.
291. Utz, J.P.; Szwed, C.F. 1962. Clinical and laboratory studies of mumps: III. Comparison of methods for detection of viruria. Proc. Soc. Exp. Biol. Med. 110:841-844.
292. Schiff, G.M.; Sever, J.L.; Huebner, R.J. 1963. Clinical and laboratory findings of experimental infection with rubella virus. Clin. Res. Proc. 11:296.
293. Neefe, J.R.; Stokes, J. 1945. An epidemic of infectious hepatitis apparently due to a water-borne agent: Epidemiologic observations and transmission experiments in human volunteers. J. Amer. Med. Ass. 128:1063-1075.
294. Havens, W.P., Jr. 1946. Period of infectivity of patients with experimentally induced infectious hepatitis. J. Exp. Med. 83:251-258.

295. Findlay, G.M.; Willcox, R.R. 1945. Transmission of infective hepatitis by faeces and urine. *Lancet* 1:212.
296. Ward, R.; Krugman, S.; Giles, J.P.; Jacobs, A.M.; Bodansky, O. 1958. Infectious hepatitis: Studies of its natural history and prevention. *New Engl. J. Med.* 258:407-416.
297. Burmester, B.R.; Gentry, R.F. 1954. The presence of the virus causing visceral lymphomatosis in the secretions and excretions of chickens. *Poultry Sci.* 33:836-842.
298. Burmester, B.R. 1956. The shedding of the virus of visceral lymphomatosis in the saliva and feces of individual normal and lymphomatous chickens. *Poultry Sci.* 35:1089-1099.
299. Alexander, T.J.L. 1962. Viral encephalomyelitis of swine in Ontario: Experimental and natural transmission. *Amer. J. Vet. Res.* 23:756-762.
300. Meier, F. 1959. Untersuchungen über die Zeit des Verbleibs von infektiösem Maul-und-Klauenseuche-Virus in den Organen und seine Ausscheidung bei infizierten Schweinen. *Monatsh. Tierheilk.* 11:109-123.
301. Hornby, H.E. 1926. Studies in rinderpest immunity: II. Methods of infection. *Vet. J.* 82:348-355.
302. Bartha, A.; Aldasy, P. 1964. Isolation of adenovirus strains from calves with virus diarrhea. *Acta Vet. Hung.* 14:239-245.
303. Liess, B.; Plowright, W. 1964. Studies on the pathogenesis of rinderpest in experimental cattle: I. Correlation of clinical signs, viraemia, and virus excretion by various routes. *J. Hyg.* 62:81-100.
304. Poppensiek, G.C.; Baker, J.A. 1951. Persistence of virus in urine as factor in spread of infectious hepatitis in dogs. *Proc. Soc. Exp. Biol. Med.* 77:279-281.
305. Hecke, F. 1964. Das Verhalten hoher Kulturpassagen des Teschenvirus Konratice im Tierkörper nach oraler Verabreichung: II. Die parenteral verlaufende Infektion. *Zentralbl. Bakteriol. Parasitenk. Abt. I. Orig.* 192:169-182.
306. Zoletto, R.; Dovadola, E. 1964. Teschen disease in Italy: III. Isolation of a virus of Teschen disease and other enteric viruses from healthy swine. *Veterinaria Ital.* 15:10-15.
307. Kraft, L.M. 1958. Observations on the control and natural history of epidemic diarrhea of infant mice (EDIM). *Yale J. Biol. Med.* 31:121-137.

308. Verlinde, J.D.; Boer, H.D. 1948. Animal experiments on infectious hepatitis. Arch. Ges. Virusforsch. 4:1-23.
309. Pereira, H.G.; Huebner, R.J.; Ginsburg, H.S.; Van Der Veen, J. 1963. A short description of the adenovirus group. Virology 20: 613-620.
310. Kohn, A. 1962. Galus adeno-like virus in chickens: Studies on infection, excretion, and immunity. Amer. J. Vet. Res. 94:562-567.
311. Kling, C.; Huss, R.; Olin, G. 1939. Presence der virus de la lievre aphteuse dans le contenu intestinal d'un humain vivant dans un milieu infecte. Compt. Rend. Soc. Biol. 131:478-480.
312. Haig, D.A.; Clarke, M.C.; Pareira, M.S. 1964. Isolation of an adenovirus from a pig. J. Comp. Pathol. 74:81-84.
313. Schneider, B.; Bengelsdorff, H.J. 1963. Untersuchungen uber Ausscheidung und Passierung eines MKS-Impfvirusstammes im Rahmen von Rinderversuchen. Zentralbl. Veterinaermed. Ser. B 10:80-90.
314. Gard, S. 1951. Studies on the virus of encephalomyelitis enzootic suis (Teschen disease): Excretion of virus after oral infection. Arch. Ges. Virusforsch. 4:249-255.
315. Bielang, O. 1923. Die Infektiositat von Kot und Harn bei maul-und klauenseuchekranken Meerschweinchen, Schweinen und Rindern. Thesis, Veterinary College of Berlin.
316. Oppermann, __. 1946. Cited by F. Hutyra, J. Marek, and R. Manninger. In J.R. Greig, J.R. Mohler, and A. Eichhorn (ed.) Special pathology and therapeutics of the diseases of domestic animals, Vol. I. 5th ed. Alexander Eger Inc., Chicago, Ill. 962 p.
317. Marchous, __.; Salembini, __. 1946. Cited by F. Hutyra, J. Marek, and R. Manninger. In J.R. Greig, J.R. Mohler, and A. Eichhorn (ed.) Special pathology and therapeutics of the diseases of domestic animals, Vol. I. 5th ed. Alexander Eger Inc., Chicago, Ill. 962 p.
318. Mollet, __. 1946. Cited by F. Hutyra, J. Marek, and R. Manninger. In J.R. Greig, J.R. Mohler, and A. Eichhorn (ed.) Special pathology and therapeutics of the diseases of domestic animals, Vol. I. 5th ed. Alexander Eger Inc., Chicago, Ill. 962 p.
319. Mollet, __.; Kirschfeld, __.; Dalrymple, __. 1946. Cited by F. Hutyra, J. Marek, and R. Manninger. In J.R. Greig, J.R. Mohler, and A. Eichhorn (ed.) Special pathology and therapeutics of the diseases of domestic animals, Vol. I. 5th ed. Alexander Eger Inc., Chicago, Ill. 962 p.

320. Arnous, __.; Brusasco, __.; Morris, __.; Sani, __. 1946. Cited by F. Hutyra, J. Marek, and R. Manninger. In J.R. Greig, J.R. Mohler, and A. Eichhorn (ed.) Special pathology and therapeutics of the diseases of domestic animals, Vol. I. 5th ed. Alexander Eger Inc., Chicago, Ill. 962 p.
321. Bequet, __. 1946. Cited by F. Hutyra, J. Marek, and R. Manninger. In J.R. Greig, J.R. Mohler, and A. Eichhorn (ed.) Special pathology and therapeutics of the diseases of domestic animals, Vol. I. 5th ed. Alexander Eger Inc., Chicago, Ill. 962 p.
322. Ciuca, __.; Fenea, __. 1946. Cited by F. Hutyra, J. Marek, and R. Manninger. In J.R. Greig, J.R. Mohler, and A. Eichhorn (ed.) Special pathology and therapeutics of the diseases of domestic animals, Vol. I. 5th ed. Alexander Eger Inc., Chicago, Ill. 962 p.
323. Andrews, C. 1964. Virus of vertebrates. Bailliere, Tindall and Cox, London. 401 p.
324. Waldman, O.; Trautwein, K.; Pyl, G. 1931. Die Persistenz des Maul-und Klauenseuchevirus im Korper durchgeseuchter Tierer und Ausscheidung. Zentralbl. Bakteriell. Parasitenk. Abt. I. Orig. 121:19-32.
325. Vallee, H.; Caire, H. 1922. Sur la contagioste de la lievre aphteuse. Compt. Rend. 175:292-294.
326. Hutyra, F.; Marek, J.; Manninger, R. 1946. Special pathology and therapeutics of the diseases of domestic animals, Vol. I. 5th ed. Alexander Eger Inc., Chicago, Ill. 962 p.
327. Khouri, J. 8 Quelques observations parasitologiques et biochimiques concernant l'urine dans le fievre dengue. Bull. Soc. Pathol. Exot. 21:92-94.
328. Harrell, G.T. 1949. Rocky mountain spotted fever. Medicine 28: 333-370.
329. Bell, E.J.; Philip, C.B. 1952. The human rickettsioses. Ann. Rev. Microbiol. 6:91-118.
330. Pomales-Lebron, A. 1948. Studies on murine typhus in Puerto Rico. Puerto Rico J. Public Health Trop. Med. 23:393-407.
331. Sellards, A.W.; Mathis, C. 1928. Experiences de transmission du virus amaril au Macacus rhesus. Conference Africaine de la Fievre Jaune, Dakar. p. 229-240.

332. Mathis, C.; Cazanove, F.; Bacque, M. 1927. Inoculation de sang et d'urine de jaunes a des cobayes. Bull. Soc. Pathol. Exot. 20:1025-1038.
333. DeTray, D.E. 1963. African swine fever. Advances Vet. Sci. 8: 299-333.
334. Nicolle, M.; Adil-Bey, __. 1899. Etudes sur la peste bovine: Premier memoire. Ann. Inst. Pasteur 13:319-336.
335. Rowe, W.P.; Hartley, J.W.; Capps, W.I. 1963. Mouse hepatitis virus as a highly contagious, prevalent, enteric infection of mice. Proc. Soc. Exp. Biol. Med. 112:161-165.
336. Holden, P. 1955. Transmission of eastern equine encephalomyelitis in ring-necked pheasants. Proc. Soc. Exp. Biol. Med. 88:607-610.
337. Satriano, S.F.; Luginbuhl, R.E.; Wallis, R.C.; Jungherr, E.L.; Williamson, L.A. 1958. Investigation of eastern equine encephalomyelitis: IV. Susceptibility and transmission studies with the virus of pheasant origin. Amer. J. Hyg. 67:21-34.
338. Ratner, S.I.; Korolev, G.P.; Gubin, G.N.; Komolova, R.P. 1956. A case of lingering foot-and-mouth disease in man. Klin. Med. (Moskva) 34:7:70-77.
339. Meyer, K.F. 1957. The natural history of plague and psittacosis. Public Health Rep. 72:705-719.
340. Easterday, E.C. 1961. Experimental Rift Valley fever. Doctoral thesis. University of Wisconsin, Madison.
341. Warren, J. 1959. Infections of minor importance, p. 896-924. In T.M. Rivers and F.L. Horsfall, Jr. (ed.) Viral and rickettsial infections of man. 3rd ed. J.B. Lippincott Company, Philadelphia, Pennsylvania.
342. Armstrong, C.; Lillie, R.D. 1934. Experimental lymphocytic choriomeningitis of monkeys and mice produced by a virus encountered in studies of the 1933 St. Louis encephalitis epidemic. Public Health Rep. 49:1019-1027.
343. Haas, V.N. 1941. Studies on the natural history of the virus of lymphocytic choriomeningitis in mice. Public Health Rep. 56:285-292.
344. Kawamura, R. 1926. Studies on tsutsugamushi disease. Spokesman Printing Co., Cincinnati, Ohio. 229 p.

345. Minett, F.C. 1927. Second progress report on the foot-and-mouth disease research committee, p. 18, 34, 50. His Majesty's Stationery Office, London.
346. Francis, E.; Lake, G.C. 1921. Experimental transmission of tularemia in rabbits by the rabbit louse, Haemodipsus ventricosus (Denny). Public Health Rep. 36:1747-1753.
347. Francis, E.; Lake, G.C. 1922. Transmission of tularemia by the mouse louse Polyplax serratus (Brum.). Public Health Rep. 37: 96-101.
348. Parker, R.R.; Steinhaus, E.A.; Kohls, G.M.; Jellison, W.L. 1951. Pasteurella tularensis and tularemia in beavers and muskrats in the northwestern United States. N.I.H. Bull. 193. 61 p.
349. Kamil, S.; Bilal, S. 1938. Reserches experimentales sur l'etiologie de la tularemie in turguie. Ann. Parasitol. 16:530-542.
350. Rivers, T.M.; Berry, G.P.; Sprunt, D.H. 1931. Psittacosis: I. Experimentally induced infections in parrots. J. Exp. Med. 54: 91-103.
351. Cottral, G.E.; Gailiunas, P.; Cox, B.F. 1963. Foot-and-mouth disease transmitted in bull semen. J. Amer. Vet. Med. Ass. 143:784.

AUTHOR INDEX

A

Abinanti, F.R. 12*, 20, 45
 Adil-Bey, ____ 334
 Albrecht, P. 162*
 Aldasy, P. 302
 Alexander, T.J.L. 299*
 Alston, J.M. 157*
 Amerault, T.E. 77
 Amoss, H.L. 96*
 Anashkina, L.Ia. 236
 Andreev, I. 287
 Andrews, C. 323*
 Andzhanaridze, O.G. 209*
 Arean, V.M. 110*
 Armstrong, C. 342*
 Armstrong, R.E. 17
 Arnous, ____ 320*
 Ashkenazi, A. 277*
 Aso, M. 51
 Asplin, F.D. 168*

B

Babudieri, B. 74*
 Bacque, M. 332
 Bailly, J. 145
 Baker, J. 8*
 Baker, J.A. 40*, 63, 144*, 304
 Bakos, K. 169
 Barson, J. 138
 Bartha, A. 302*
 Barwell, C.F. 165*
 Bassett, J.B. 131
 Bauer, J.H. 90
 Beach, B.A. 24, 147
 Beck, M.D. 47
 Bedjanic, M. 106
 Belavskii, E.B. 236
 Bell, E.J. 22, 119*, 329*
 Bell, J.A. 285
 Benedict, A.A. 61*
 Bengelsdorff, H.J. 313
 Bennett, D.G. 80
 Bequet, ____ 321*
 Berensci, G. 171*
 Berg, R.L. 57*
 Berge, C. 128
 Berge, T.O. 32
 Bernheim, B.C. 278
 Berry, G.P. 350
 Bielang, O. 315*
 Bilal, S. 349
 Bindrich, H. 167
 Birrer, R.F. 187*

Blake, G.E. 77
 Blay, R. 269
 Blinov, P.N. 237*
 Bodansky, O. 296
 Bodian, D. 2, 19*, 54, 55
 Boer, H.D. 308
 Bohl, E.H. 153*
 Bohlander, H. 6
 Bollman, J.L. 76
 Bond, J.O. 229, 230*
 Bosworth, T.J. 188*
 Bourke, A.T.C. 75*
 Bower, A.G. 149
 Boxaca, M.C. 195, 269*
 Boyd, W.L. 189
 Brandly, C.A. 281
 Brant, H.G. 10
 Brion, A. 223
 Brodish, J. 184
 Brooks, B.E. 278
 Brown, J.C. 157
 Brown, J.W. 281
 Brown, R.D. 72
 Bruner, D.W. 142
 Brunetti, O. 12
 Brunn, W. 85*
 Brunner, K.T. 39*
 Brusasco, ____ 320
 Burgdorfer, W. 117*
 Burmester, B.R. 297*, 298*
 Buss, W. 200
 Bynoe, M.L. 275*

C

Caire, H. 325
 Cameron, H.S. 186*
 Campinopetros, J. 48*, 121*
 Capps, W.I. 335
 Casals, J. 33
 Cashel, J. 18
 Cate, T.R. 280
 Cazanove, F. 332
 Chamberlain, R.W. 44, 114*, 179
 Chanock, R.M. 280
 Charnock, D.A. 98*
 Chen, W.F. 29
 Cherry, J.D. 283
 Chervyakov, M.P. 158
 Cheville, N.E. 254
 Chin, T.D.Y. 16
 Christie, A. 215*
 Christov, St. 287*
 Chudakov, V.G. 107
 Chudakov, J.S. 149*

Ciuca, ____.	322*
Clapper, W.E.	264*
Clark, P.F.	92, 94*
Clark, W.H.	49
Clarke, M.C.	312
Cole, C.R.	176
Collins, P.C.	72
Cooper, W.C.	29*
Cosson, Y.	223
Costa, S.	154*
Cottew, G.S.	123*, 125*
Cottral, G.E.	351*
Couch, R.B.	280*
Cox, B.F.	351
Cox, H.R.	67*
Cramblett, H.G.	282
Cravitz, L.	124

D

Daggett, W.	57
Dalrymple, ____.	319
Dalrymple-Champneys, W.	150*
Dartois, N.	143
Daubney, R.	81*
Davies, J.N.P.	178
Davis, E.V.	266
DeGuerrero, L.B.	195*
DeMonbreun, W.A.	177*
Derrick, E.H.	46*, 122*
DeTray, D.E.	333*
Dienes, L.	57
Dinter, Z.	169*
Dixon, C.W.	132*
Dochez, A.R.	92
Dong, L.	41
Doughty, C.J.A.	157
Douglas, R.D.	278
Dovadola, E.	306
Drobyshevskaya, A.I.	158
Dushinski, L.M.	243

E

Easterday, B.C.	80*, 340*
Eddie, B.	79, 113
Edward, D.G.	102
Erling, H.G.	147
Eyre, J.W.	164*

F

Faber, H.K.	41*
Federov, V.N.	246*
Fedorova, N.I.	108, 236
Feldman, W.H.	76*, 140*
Felsenfeld, O.	7*
Fenea, ____.	322
Fenyuls, B.K.	246
Ferguson, L.C.	153
Fessler, J.F.	221*
Fieldsteel, A.H.	16*
Findlay, G.M.	89*, 103*, 295*
Finland, M.	283
Fletcher, W.	166
Flexner, S.	92*
Fox, J.P.	130*
Francis, E.	345*, 347*
Francis, J.	172*
Freyman, R.	207*
Friedman, S.M.	219*
Foust, H.L.	240
Fox, J.P.	268*
Furesz, J.	17*

G

Gaidmovich, S.Ya.	13
Gailiunas, P.	351
Gale, N.B.	31*
Gard, S.	314*
Garnham, P.C.	81
Gavriloo, V.I.	13
Gear, J.	104
Gebhardt, L.P.	21
Geigy, R.	117
Gentry, R.F.	297
Germer, W.D.	203*
Gerone, P.J.	254
Giles, J.P.	296
Gillespie, J.H.	63*
Ginsburg, H.S.	309
Giroud, P.	127
Goldman, M.J.	84*
Goode, E.R.	77*
Gorelick, A.N.	194
Gray, J.E.	5
Gray, M.	28
Green, T.D.	250
Gresser, I.	248*, 271*
Grossman, L.H.	91
Groulade, P.	143*
Gsell, O.	117
Gubin, G.N.	338
Gutekunst, R.R.	284*

H

Haas, V.N.	343*
Hagan, W.A.	142*
Haig, D.A.	312*
Hammon, W.McD.	28*, 105
Hanson, R.P.	182, 281
Hardy, A.V.	78*
Harrell, G.T.	328*
Harries, E.H.R.	70
Harshfield, G.S.	240
Hartley, J.W.	335
Havens, W.P., Jr.	294*
Haymaker, W.	105*
Hazemann, R.H.	34, 97
Hecke, F.	305*
Heckly, R.J.	247
Heggie, A.D.	284
Hennebert, P.N.	249
Henning, M.W.	198*
Herlitz, C.W.	224
Hess, A.R.	212
Higgins, G.H.	4
Hildebrand, G.J.	247
Hiroyoshi, S.	51
Hjarre, A.	224*
Hobson, D.	275
Hoki, R.	37, 52
Holden, P.	336*
Hooser, L.E.	266
Hopps, H.E.	278
Hornby, H.E.	301*
Horner, J.	275
Horstmann, D.M.	14*
Hoskwith, B.	91
Howe, H.A.	2*, 54*, 55*
Howitt, B.F.	180*, 185*, 262*
Hoy, W.A.	134, 139
Hsu, S.H.	29
Hudson, E.H.	213*
Hudson, J.R.	81
Hudson, M.G.	78
Hudson, N.P.	90
Huebner, R.J.	47*, 64*, 280, 285*, 292, 309
	175*
Hunt, J.S.	111
Hurst, E.W.	311
Huss, R.	326*
Hutyra, F.	

I

Ido, Y.	37*, 52
Inada, R.	52*
Ingalls, M.S.	124
Ishihara, S.J.	7
Ito, H.	37, 52
Itoh, Heihachi	265*

J

Jacobs, A.M.	296
Janssen, R.J.	254*
Jellison, W.L.	47, 348
Jemski, J.V.	10
Jervis, G.A.	4*
Jhala, C.I.	191
Johnson, D.E.	251
Johnson, D.W.	156*
Johnson, K.M.	193*, 228*, 286*
Johnsson, T.	260*
Jones, W.P.	278
Jordan, C.F.	78
Jungherr, E.L.	337

K

Kamil, S.	349*
Kaneko, R.	52
Karadjov, I.	287
Karlson, A.G.	189*
Karrer, H.	113*
Karstad, L.	182*
Kasel, J.A.	282, 290
Kathe, J.	152*
Katsuta, K.	51
Katz, S.L.	271
Kawamura, R.	344*
Kelemen, G.	267
Kesting, F.	170
Ketiladze, E.S.	108
Kett, F.J.L.	72
Khatenever, L.M.	202*
Khoury, J.	327*
Kibrick, S.	248
Kilham, L.	178*
Kilpatrick, J.W.	67
Kipps, A.	275
Kirchheimer, W.F.	212*
Kirschfeld, —	319
Kirschstein, R.L.	18
Kiseleva, M.L.	204*
Kissling, R.E.	44*, 114, 179
Kitaoka, M.	232

Alein, J.O.	283
Klemperer, R.	14
Klieneberger-Nobel, E.	62*
Kling, C.	311*
Klite, P.D.	196*
Kmet, J.	106
Knight, V.	280
Kobayashi, Y.	51
Kohls, G.M.	348
Kohn, A.	310*
Kokernot, R.H.	99*
Kolochine-Erber, B.	214
Komolova, R.P.	338
Korolev, G.P.	338
Koszewski, B.J.	222
Kotlyarevskaya, Ye.N.	220
Kowalczyk, T.	24
Kozhushko, M.I.	270
Kraft, L.M.	307*
Kramer, S.D.	91*
Krugman, S.	274*, 296
Kruse, R.H.	250*
Kuborina, L.N.	71*
Kulagin, S.M.	108*, 236*
Kuwashima, K.	51
Kuzell, W.C.	58*

L

Lackman, D.B.	22
Lake, G.C.	346, 347
Lamanna, C.	247
Lancaster, J.E.	253*
Lang, D.J.	280
Lattimer, J.K.	243*
LeChuiton, F.	128*
Ledinko, N.	15
Leeder, W.D.	250
Lennette, E.H.	12, 20, 45, 49*, 65*, 100*
Lepine, P.	272*
Lerner, A.M.	283*
Levkovich, E.N.	158*
Lewis, C.	5*
Lien, J.C.	29
Liess, B.	303*
Lillie, R.D.	342
Lisbonne, M.	34, 97
Little, R.B.	40
Llado, B.	14
Loeffler, E.	7
Long, E.R.	3*
Longshore, W.A.	99
Lorber, B.B.	219
Lubashenko, S.	151*
Luginbuhl, R.E.	337
Luoto, L.	64
Lurie, M.B.	137*, 181*
Lutsky, I.	184*

M

MacCallum, F.O.	89
Maclean, D.	101
Madden, J.	57
Maddy, K.T.	241*
Mailloux, M.	214*
Mankle, E.A.	58
Manninger, R.	326
Manson-Bahr, P.H.	133*
Manthei, C.A.	77
Marcandies, A.	126*
Marchoux, —.	317*
Marek, J.	326
Markarian, A.G.	236
Marmion, B.P.	72
Marshall, R.G.	254
Mason, P.	178
Mathis, C.	331, 332*
Mayants, A.I.	173*
McFarland, C.	61
McIntyre, W.I.M.	53*
McVickar, D.L.	163
Medlar, E.M.	226*
Meehan, J.F.	125
Meier, F.	300*
Melnick, J.L.	15, 66*, 258*, 259*, 265, 277
Meyer, H.M., Jr.	278*
Meyer, K.F.	39, 79*, 82*, 113, 339*
Michaux, J.L.	249
Miesse, M.L.	22
Miller, W.R.	124*
Milzer, A.	68*
Mims, C.A.	73*
Minervin, S.M.	220*, 257*
Minett, F.C.	345*
Misao, T.	51*
Mitamura, T.	232*
Moeschlin, S.	222*
Mollet, —.	318*, 319*
Moltzen-Nielsen, H.	199*
Moore, M.L.	266*
Morgan, I.M.	54
Morris, —.	320
Morse, E.V.	24*, 147*
Morter, R.L.	221
Moskvicheva, N.V.	209
Movitt, E.	84
Mundel, B.	104*
Munro, W.T.	141*
Murphy, L.C.	80

N

Nagler, F.P.	17
Neefe, J.R.	293*
Nelson, D.B.	44
Neustroyev, V.	158
Neva, F.A.	273
Newman, J.P.	26*
Nicol, C.S.	102*
Nicolle, C.	127*
Nicolle, M.	334*
Nikiforov, V.N.	233*, 234*
Nikitin, V.E.	209
Nilolaev, N.N.	244*
Nisalak, A.	278
Nishihara, Y.	51
Noguchi, H.	36*, 38*
Norman, F.W.	131
Novikova, L.S.	151
Nussel, K.	245*

O

Oard, H.C.	230
Olin, G.	311
Olitsky, P.K.	33*
Oppermann, —	316*
Opton, E.M.	14
Olson, C., Jr.	76
Ozbil, M.	192*

P

Palmer, D.F.	183
Pannell, L.	124
Pareira, M.S.	312
Parker, D.D.	251
Parker, R.R.	22*, 47, 83*, 119, 348*
Parodi, A.S.	195, 269
Parrott, R.H.	282, 285
Paul, J.R.	289*
Pavlov, N.	287
Pennaneach, J.	128
Pereira, H.G.	309*
Perla, D.	135*, 136*
Pertzelan, A.	30*
Philip, C.B.	67, 329
Phillips, G.B.	10*
Pindak, M.A.	264*
Pirot, R.	126
Plowright, W.	303
Plum, N.	199

Pogodina, V.V.	69*, 161*
Polgar, F.	267
Pollitzer, R.	129*
Polyakov, A.A.	217*
Pomales-Lebron, A.	330*
Pomanskaia, L.A.	235*
Poppensiek, G.C.	304*
Poston, M.A.	96
Povalishina, T.P.	270
Preston, W.S., Jr.	94
Prior, J.A.	176*
Pruzanski, W.	30
Pump, K.	267
Pyl, G.	324

Q

Quick, D.T.	229*, 230
Quinn, R.W.	281*

R

Raska, K.	118, 255
Ratner, S.I.	338*
Reeves, W.C.	28
Reilly, R.J.	243
Reinhard, K.R.	25*
Remlinger, R.	145*
Renoux, G.	23*
Retnasabapathy, A.	239*
Reynolds, F.H.K.	148
Rickard, E.R.	227
Riordan, J.T.	15*, 225*
Riser, W.H.	187
Ristic, M.	115
Rivers, T.M.	350*
Robbins, F.C.	18
Roberts, D.J.	94
Robin, V.	223*
Robinson, V.B.	163*
Roderick, L.M.	240
Roe, F.	143
Roe, N.G.	278
Rogozin, I.I.	246
Rosen, L.	258
Rowe, W.P.	285, 335*
Rugiero, H.	269
Rus, S.	106
Ruys, A.C.	6

S

Sabin, A.B.	1*
Sadovskaya, E.V.	270
Salembini, _.	317
Sani, _.	320
Sasano, K.T.	226
Sather, G.E.	105
Satriano, S.F.	337*
Sautter, V.	272
Sawers, W.C.	27*
Saxholm, R.	174*
Schaetz, F.	200*
Schalk, A.F.	240*
Schiff, G.M.	292*
Schild, G.C.	275
Schmidt, U.	167*
Schneider, B.	313*
Schroeder, W.F.	7
Segawa, A.	243
Seiler, H.E.	53
Sellards, A.W.	331*
Sever, J.L.	292
Shelekov, A.I.	261
Shepard, C.C.	47
Shepard, M.C.	56*
Shinefield, H.R.	99
Shinner, J.J.	231*
Shlyakhov, E.N.	205
Shrewsbury, J.F.D.	138*
Shubladze, A.K.	13*, 160*, 201*
Shull, H.J.	216*
Sidwell, R.W.	21*, 251
Siegert, R.	116*
Siem, R.A.	266
Sikes, R.K.	114
Silverberg, R.J.	41
Simmons, J.S.	148*
Simrock, W.	116
Smadel, J.E.	112*
Smart, K.L.	251
Smith, H.	109*
Smorodintsev, A.A.	107*, 208*, 256*
Sobeslavsky, O.	242, 255
Sonnet, J.	249
Spalatin, J.	182
Sparrow, H.	127
Sprunt, D.H.	350
Stamm, D.D.	44
Stanton, A.T.	166*
Steigman, A.J.	70
Stein, C.D.	11*, 146*
Steinhaus, E.A.	83, 348
St. John, J.H.	148
Stoenner, H.G.	101*, 119
Stoker, M.G.P.	72*
Stokes, A.	90*
Stokes, J.	293

Stroder, U.	116
Stuart-Harris, C.H.	70
Sutherland, A.K.	125
Syrucsek, L.	118*, 242*, 255*
Szabo, J.	171
Szwed, C.F.	282, 290, 291

T

Tanner, W.A.	124
Tasker, J.B.	32*
Taylor, R.E.	9*
Taylor, R.M.	34*, 86*, 97*
Taylor-Robinson, D.	276*, 279*
Tenbroeck, C.	111*
Terskikh, I.I.	71
Theiler, M.	87*, 88*
Thompson, J.M.	229
Thomsen, A.	59*
Thomsett, L.R.	238*
Thorpe, B.D.	21, 251*
Toomey, J.A.	93*
Traub, E.	111, 170*, 288*
Trautwein, K.	324
Troisier, J.	154
Tumanskiy, V.M.	210*
Turner, H.	64
Tyrrell, D.A.J.	275, 276

U

Utz, J.P.	261*, 263*, 282*, 290*, 291*
-----------	---------------------------------

V

Vaishnav, V.P.	191*
Vallee, H.	325*
Van den Ende, M.	70*
Van Der Veen, J.	309
Vandepitte, J.	249
Vanella, J.M.	179*
Verlinde, J.D.	308*
Versilova, P.A.	35*
Vesenjak-Zmijanac, J.	106*
Vidal, L.F.	34, 97
Vignec, A.J.	14
Vlasov, A.S.	270
Voros, S.	267*

W

Waldman, O.	324*
Wallis, R.C.	337
Wang, F.L.	95
Wani, H.	37
Ward, R.	1, 274, 296*
Ward, T.G.	285
Warren, J.	341*
Watanabe, Z.	232
Wechsler, H.	243
Weiss, R.A.	18
Weissflog, H.	190*
Weller, T.H.	273*
Welsh, H.H.	12, 20, 45*
Wenner, H.A.	258
Weyrauch, H.M.	131*
White, F.H.	115*
White, J.J.	230
Wiesmann, E.	117, 120*
Willcox, R.R.	295
Williams, R.S.	134*, 139*
Williamson, L.A.	337
Williston, E.H.	212
Winn, J.F.	20*, 45, 183*
Wisseman, C.L., Jr.	218*
Wolff, J.W.	6*
Wollnitz, E.	252*
Woods, W.A.	18*
World Health Organization	42*, 43*, 50*, 60*
Worth, C.B.	227*

Y

Yager, R.H.	155*
Yankovsky, A.K.	270*
Yarosh, W.	17
Youmans, G.P.	212
Young, V.M.	7
Yuill, Thomas	197*

Z

Zakharov, V.V.	211*
Zaporozhchenko, A.Ya.	206*
Zia, S.H.	95*
Zil'ber, L.A.	159*
Zoletto, R.	306*
Zubova, Z.F.	209

Unclassified

Security Classification

DOCUMENT CONTROL DATA - R&D		
(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)		
1 ORIGINATING ACTIVITY (Corporate author)		2a REPORT SECURITY CLASSIFICATION
U.S. Army Biological Laboratories Fort Detrick, Frederick, Maryland 21701		Unclassified
		2b GROUP
3 REPORT TITLE		
RECOVERY OF SPECIFIC MICROORGANISMS FROM URINE AND FECES OF INFECTED ANIMALS		
4 DESCRIPTIVE NOTES (Type of report and inclusive dates)		
5 AUTHOR(S) (Last name, first name, initial)		
Kruse, Richard H. Wedum, Arnold G.		
6. REPORT DATE	7a TOTAL NO OF PAGES	7b NO OF REFS
November 1965	53	357
8a. CONTRACT OR GRANT NO	9a ORIGINATOR'S REPORT NUMBER(S)	
b. PROJECT NO C622401A072	Miscellaneous Publication 12	
c.	9b OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	
d.		
10 AVAILABILITY/LIMITATION NOTICES		
This publication has been cleared for release to the general public. Non-DOD agencies may purchase this publication from Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia, 22151.		
11 SUPPLEMENTARY NOTES		12 SPONSORING MILITARY ACTIVITY
		U.S. Army Biological Laboratories Fort Detrick, Frederick, Maryland 21701
13 ABSTRACT		
Prevention of occupationally acquired laboratory infection among experimenters and animal caretakers is easier when it is known if the microorganisms under study are excreted in the urine and/or feces of the experimental animal. Appropriate precautionary procedures can then be established. This preliminary report lists 351 references to 56 diseases; human laboratory infections of 43 of the diseases have occurred. The table shows whether the etiologic agent has been recovered, or could not be recovered, from the urine and/or feces of man and various domestic and laboratory animals.		

DD FORM 1473

Unclassified

Security Classification