

CURRICULUM VITAE

NAME: Mitchell Bush, D.V.M., Dip. A.C.Z.M.

EDUCATION: University of California, Davis, B.S. - 1963
University of California, Davis, D.V.M. - 1965 (Highest Honors)
Angell Memorial Animal Hospital, Boston, Mass Internship - 1965 - 1966

POSITIONS HELD:

Clinical Veterinarian, Angell Memorial Animal Hospital, Boston, MA - 1966 - 1967

Johns Hopkins Medical School, Baltimore, Maryland:

Instructor, Department of Surgery and Department of Animal Medicine - 1967 - 1969
Assistant Professor, Department of Comparative Medicine - 1969 - Present
Assistant Professor, Department of Radiology - 1971 - 1973 and 1975 - 1993

Veterinarian, Baltimore Zoo - 1967 - 1972

National Zoological Park, Smithsonian Institution:

Veterinarian, Office of Animal Health, Washington, DC 1972 - 1975
Head, Office of Animal Health, National Zoological Park 1975 - 1979
Interim Curator, Hoofstock and Giant Pandas 1979 - 1980
Chief, Department of Animal Health, National Zoological Park - 1979 - 1988
Assistant Director for Animal Health, National Zoological Park - 1979 - 1988
Senior Research Veterinarian and Clinical Consultant 1988 - 1994
Chief of Veterinary Services - Conservation and Research Center, Smithsonian Institution, Front Royal, Virginia 1994 – 2007
Senior Veterinarian Emeritus – Center for Species Survival, Smithsonian Conservation Biology Institute, National Zoological Park 2007 – Ongoing
Veterinary Specialist Zoological Parks Organization, Thailand 2007 – 2009
Adelaide Zoo – March 2011 veterinarian June 2011- June 2012 Head of Veterinary Department

Other Appointments:

Vanderbilt University, Nashville, TN, Visiting Assistant Professor of Radiology 1976 - 1994

Visiting Scientist - Kruger National Park, South Africa

Anesthesia in Free- Ranging; Giraffe, Rhinoceros, Impala, Nyala, Greater Kudu, Hartebeest, Roan Antelope, Eland and Gemsbok, Hippo
Reproductive Studies in: Elephants, Giraffe, Gnu, Buffalo, Impala, Greater Kudu, Lion, and Leopard
Diagnosis of Bovine TB in Buffalo, Elephant and Rhinoceros
Vaccine Trials for Bovine TB in Buffalo
Tetracycline pharmacokinetics in Elephants

Clinical and immunological evaluation of Lions, Cheetah, and Leopards with Feline immunodeficiency Virus

International Field Studies in the Following Locations: Panama, Brazil, South Africa, Namibia, Tanzania, Kenya, Malawi, India, and Australia.

NOAHS (New Opportunities in Animal Health Science)

Co-Director

Awards

Emil P. Dolensek Award 1994

Alumni Achievement Award 2003 from the School of Veterinary Medicine, University of California, Davis California

CONSULTANT:

-Ringling Bros. and Barnum & Bailey Combined Shows, Inc. 1969 - 1995

-Baltimore Zoo, Baltimore, MD 1972 - 1982: Consultant: Medical and Surgical Problems

-Largo Wildlife Preserve, Largo, MD 1974 - 1977: Consultant: Medicine and Management

-Salisbury Zoo, Salisbury, MD 1976 -1985: Consultant: Medicine and Surgery

-National Wildlife Federation, Vienna, VA 1976 - 1997: Consultant Orthopedic Problems in Wild Raptors

-Lion Country Safari, Doswell, VA 1973 - 1982: Consultant Medicine and Surgery

-George Washington University, School of Medicine, Animal Research Facility, Washington, DC 1977 - 1985

-London Zoo, London, England 1980 Consultant: Medical Problems in Giant Panda

-Philadelphia Zoological Garden, Philadelphia, PA - December 1980 Consultant: Clinical Evaluation of Medical Problem Relating to Deaths of Three Polar Bears

-Rio Grande Zoological Park, Albuquerque, NM 1979 Consultant: Evaluation of Past & Present - Medical Programs; Anesthesia Techniques for Large Felids & Great Apes

-American Animal Hospital Association 1979 -1985: Avian Referral Service for Problems in Medicine and Surgery

-Cayman Island Turtle Farm, Cayman Islands, and West Indies June 1980 Consultant: Anesthetic Techniques in Sea Turtles; Laparoscopy in Sea Turtles

-Merck, Sharp & Dohme, Philadelphia, PA August 1979:

Consultant Medical and Nutritional Problems in a Marmoset Colony

-CBSG (Captive Breeding Specialist Group) Veterinary Advisor 1997 - Present.

-Bearizona Wildlife Park, Williams Arizona – Veterinary and Management Advisor 2016

- Present

MEMBER:

American Veterinary Medical Association

American Association of Zoo Veterinarians

- Academy Member
- Member, Infectious Disease Committee
- Member, International Committee
- Member, ISIS Committee
- Chairman, Research Committee - 1978-79
- Vice President - 1983-84
- President - 1984-85
- Chairman, Ethics Committee - 1986
- Dr. Emil P. Dolensek Award - 1994 - For Exceptional Contributions to the Conservation, Care and Understanding of Zoo and Free-Ranging Wildlife

American College of Zoological Medicine

- Charter Diplomat 1983
- Emeritus Status 2008

Veterinary Orthopedic Society

Captive Breeding Specialist Group

- Veterinary Consultant
- Felid Taxon Advisory Group

International Society of Veterinary Perinatology--Board of Directors

Species Survival Plan (SSP) of American Association of Zoological Parks and Aquariums AAZPA

- Cheetah
- Golden Lion Tamarin
- Manned Wolf
- Tree Kangaroo
- Red Panda
- Lions (African and Indian)

TEACHING ACTIVITIES:

Post Graduate Clinical Internship in Zoological Medicine (1974 to Present) 17 Alumni.
Supervise the training of graduate veterinarian in clinical aspect of zoological medicine.
Training period 15 months-2 years.

Predoctoral training of veterinary students (externs and preceptors) 1972 to 2007.

Postdoctoral Training in reproductive Physiology Assist in supervising the training of graduate veterinarians in reproductive physiology of zoo species. Program started in 1980.

International Training in Basic Zoological Medicine and Zoo Biology in The following

Countries: Namibia, India, Malaysia, Thailand, Russia, Burma, Tanzania, and Papua New Guinea

Training course in wildlife anesthesia and Safety - at Front Royal Virginia
National Parks Services - October 1992
U.S. Fish and Wildlife Service - May 1997

Licensed to Practice - California, Massachusetts, Maryland, South Australia

PUBLICATIONS:

1.Squire, R.A.; Montali, R.J. and **Bush, M**: Pathogenic aspects of equine infectious anemia. J. Amer. Vet. Assoc. 155 (2):355-358. 1969.

2.Squire, R.A. and **Bush, M**: Malignant lymphoma in dogs. Current Vet Therapy, 4th ed., Robert W. Kirk (ed.), W.B. Saunders Co., Philadelphia, PA, pp. 271-276, 1971.

3.**Bush, M**; Moore, J. and Neeley, L.M.: Sedation for transportation of a Lowland Gorilla. J. Amer. Vet. Med. Assoc.159(5):546-548, 1971.

4.**Bush, M** and Moore, J.: Some observations on behavioral changes in a Lowland Gorilla. J. Zoo Anim. Med. 2(4): 22-23, 1971.

5.Squire, R.A. and **Bush, M**: Comments on treatment of leukemia in the cat. J. Amer. Vet. Med. Assoc. 158(6):1134-1136, 1971.

6.Zinkl, J.G.; **Bush, M**; Cornelius, C.E. and Freedland, R.A.: Comparative studies on plasma and tissue sorbitol, glutamic, lactic and hydroxybutyric dehydrogenase and transaminase activities in the dog. Res. Vet. Sci. 12:211-214, 1971.

7.Squire, R.A. and **Bush, M**: Therapy of canine and feline lymphosarcoma. Proceedings: 1st International Symposium on Comp. Leuk. Res., Radova, Italy, pp. 189-197, 1971.

8.**Bush, M**, Lemkin, R. and Moore, J.A.: Prolapsed uterus in a pygmy hippopotamus. J. Amer. Vet. Med. Assoc. 161(6): 651, 1972.

9.**Bush, M** and Gray, C.W.: Sterilization of projectile syringe. J. Amer. Vet. Med. Assoc. 16(6):672-673, 1972.

10.**Bush, M**; Pieroni, D.R.; Goodman, D.G.; White, R.I.; Thomas, V. and James, A.E.: Tetralogy of Fallot in cat. J. Amer. Vet. Med. Assoc. 161(12):1679-1686, 1972.

11.Strecker, E.P.; **Bush, M** and James, A.E: Cerebrospinal fluid imaging as a method

to evaluate communicating hydrocephalus in a dog. Amer. J. Vet. Res. 34(1):101-104, 1973.

12. James, A.E.; Strecker, E.P. and **Bush, M**: A catheter technique for the production of communicating hydrocephalus. Radiology. 106(2):437-439, 1973.

13. Zook, B.C.; Sauer, R.M.; **Bush, M** and Gray, C.W.: Lead poisoning in zoo-dwelling primates. Amer. J. Phys. Anthropol. 38(2):415-424, 1973.

14. **Bush, M**; Montali, R. and James, A.E.: Alveolar cell carcinoma in a cat. J. Amer. Vet. Med. Assoc. 162(7):573-574, 1973.

15. **Bush, M**; Montali, R.J.; Gray, C.W. and Neeley, L.M.: Caesarean section in a Bongo antelope. J. Amer. Vet. Med. Assoc. 163(6):552-553, 1973.

16. **Bush, M**; Montali, R.J.; James, A.E.: Subcapsular hematomas associated with renal lymphoma in a cat: Radiographic study. J. Amer. Vet. Radiol. Soc. XIV:27-31, 1973.

17. **Bush, M**; Heller, R.M. and James, A.E.: Atlanto-axial subluxation in a dog. J. Amer. Vet. Med. Assoc. 163(5):473-474, 1973.

18. James, A.E.; Strecker, E.P.; **Bush, M** and Merz, T.: Use of silastic to produce communicating hydrocephalus. Invest. Radiol. 8(2):105-110, 1973.

19. Squire, R.A.; **Bush, M**; Melby, E.C.; Neeley, L.M. and Yarborough, B.: Clinical and pathologic study of canine lymphoma: Clinical staging, cell classification and therapy. J. Natl. Cancer Inst. 51(2):565-574, 1973.

20. Strecker, E.P.; Konigsmark, B.; **Bush, M** and James, A.E.: Cerebrospinal fluid flow alterations in the dog with chemical meningitis. Invest. Radiol. 8(1):33-42, 1973.

21. **Bush, M**; Montali, R.J.; Neeley, L.M.; Gray, C.W. and James, A.E.: Pyometra with peritonitis in a lioness (Panthera leo). J. Zoo Anim. Med. 5(1):21-23, 1974.

22. Elliott, R.; Smith, E. and **Bush, M**: Preliminary report on hematology of birds of prey. J. Zoo Anim. Med. 5(2):11-16, 1974.

23. James, A.E.; Sperber, E.; Strecker, E.P.; Bigel, C.; Novak, G. and **Bush, M**: Use of serial cisternograms to document dynamic changes in the development of communicating hydrocephalus: A clinical and experimental study. Acta Neurol. Scandinav. 50:153-170, 1974.

24. Montali, R.J.; **Bush, M**; Sauer, R.M.; Gray, C.W. and Xanten, W.A.: Spinal ataxia in Zebras: Comparison with the wobbler syndrome of horses. Vet. Pathol. 11:68-78, 1974.

25. **Bush, M** and Weeks, S.: Sexing ratites. Internat. Zoo Yrbk. 14:141, 1971.

26. **Bush, M**; Neeley, L.M. and Gray, C.W.: Repair of a non-union radius and ulna fracture in a Timber Wolf (Canis lupus). Zool. Garten N.F., Jena. 45(1):78-80, 1975.
27. **Bush, M**; Sauer, R.M.; Gray, C.W.; Montali, R.J. and James, A.E.: Hypertrophic pulmonary osteoarthropathy in a lioness (Panthera leo). J. Amer. Vet. Radiol. Soc. 15(2):84-90, 1974.
28. **Bush, M**; Heller, R.M.; Gray, C.W. and James, A.E.: Radiological practice in exotic animals. Applied Radiol. 3(5):23-27, 1974.
29. Gray, C.W.; **Bush, M** and Beck, C.C.: Clinical experience using CI-744 in chemical restraint and anesthesia of exotic specimens. J. Zoo Anim. Med. 5(4):12-21, 1974.
30. **Bush, M**; Heller, R.M.; Gray, C.W.; Oh, K.S. and James, A.E.: Peritoneography and herniography in nonhuman primates. J. Amer. Vet. Radiol. Soc. 15(2):77-83, 1974.
31. James, A.E.; Flor, W.J.; **Bush, M**; Merz, T. and Rish, B.L.: An experimental model for chronic communicating hydrocephalus. J. Neurosurg. 41:32-37, 1974.
32. **Bush, M**: Reptilian medicine. Proceedings: American Association of Zoo Veterinarians. pp. 68-78, 1974.
33. **Bush, M**: Avian orthopedics. Proceedings: American Association of Zoo Veterinarians. pp. 111-113, 1974.
34. James, A.E.; **Bush, M**; Hutchins, G.; Burns, B.; Heller, R.M. and Gray, C.W.: Avian respiration: A radiological study in vivo and in vitro correlation. Proceedings: American Association of Zoo Veterinarians. pp. 210-220, 1975.
35. James, A.E.; Heller, R.M.; **Bush, M**; Gray, C.W. and Oh, K.S.: Positive contrast Peritoneography and herniography in primate animals. J. Med. Primatol. 4:114-119, 1975.
36. James, A.E.; Rao, G.U.; Gray, C.W.; Heller, R.M. and **Bush, M**: Magnification in veterinary radiology. J. Amer. Vet. Radiol. Soc. XVI(2):52-64, 1975.
37. **Bush, M** and Gray, C.W.: Dental prophylaxis in carnivores. Internat. Zoo Yrbk. XV, p. 223, 1975.
38. James, A.E.; Strecker, E.P.; Miller, F.J. and **Bush, M**: An experimental study of ^{99m}Tc pertechnetate abdominal scans in jejunal intussusception: Preliminary results. J. Surg. Res. 19:71-76, 1975.
39. Gray, C.W. and **Bush, M**: Capture and restraint methods. Regional Proceedings: American Association of Zoological Parks and Aquariums, Salisbury, MD, pp. 293-300,

1975.

40. Montali, R.J.; Smith, E.; Davenport, M. and **Bush, M**: Dermatophiliasis in Australian Bearded Lizards. J. Amer. Vet. Med. Assoc. 167(7):553-555, 1975.

41. **Bush, M** and Teeple, E.: Barbiturate toxicity in Lions. J. Zoo Anim. Med. 6(3):25, 1975.

42. James, A.E.; Burns, B.; Flor, W.F.; Strecker, E.P.; Merz, T.; **Bush, M** and Price, D.L.: Pathophysiology of chronic communicating hydrocephalus in dogs (Canis familiaris): Experimental studies. J. Neurol. Sci. 24:151-178, 1975.

43. **Bush, M** and James, A.E.: Some considerations of practice of orthopedics in exotic animals. J. Amer. Anim. Hosp. Assoc. 11(5):587-594, 1975.

44. James, A.E.; Sanders, R.C.; Osterman, F.A.; Novak, G.R. and **Bush, M**: Abdominal ultrasound in animals. In: Seminars in Roentgenology, B. Felson (ed.). X(4):323-328, 1975.

45. Osterman, F.A.; James, A.E.; Heshiki, A.; Ryan, M.J.; Novak, G.; Rao, G.U.V. and **Bush, M**: Preliminary study of the use of xeroradiography in veterinary radiology. J. Amer. Vet. Radiol. Soc. 16(5):143-150, 1975.

46. Brownstein, D.; Montali, R.J.; **Bush, M** and James, A.E.: Nasal carcinoma in a captive Eld's deer. J. Amer. Vet. Med. Assoc. 167(7):569-571, 1975.

47. Ensley, P.K.; Montali, R.J.; Smith, E. and **Bush, M**: Avian tuberculosis at the National Zoological Park. Proceedings: American Association of Zoological Veterinarians, 1975.

48. Montali, R.J. and **Bush, M**: Avian fracture repair, radiographic and histopathologic correlation. Proceedings: American Association of Zoo Veterinarians, pp. 170-153, 1975.

49. James, A.E.; **Bush, M**; Osterman, F.A.; Heller, R.M. and Novak, G.R.: Radiologic imaging of human diseases in exotic animals. J. Amer. Med. Assoc. 235(2):184-188, 1976.

50. **Bush, M**; Seal, U.S.; Smith, E.; Lewis, M.D. and Bush, L.M.: Neonatal anemia and growth in Sable Antelope (Hippotragus niger). Proceedings: XVIII International Symposium on Diseases of Zoo Animals, Innsbruck, Austria, pp. 361-379, 1979.

51. Ensley, P.K. and **Bush, M**: Case report: Rectal mucosal prolapse in an Indian Rhinoceros (Rhinoceros unicornis). J. Zoo Anim. Med. 7(2):22-25, 1976.

52. James, A.E.; Hutchins, G.; **Bush, M**; Natarajan, T.K. and Burns, B.: How birds

breathe: Correlation of radiographic with anatomical and pathological studies. Amer. Vet. Radiol. Soc. XVII(2):77-86, 1976.

53. James, A.E.; Osterman, F.O.; **Bush, M**; Sheehan, T.; Novak, G.; Wight, D. and Sanders, R.C.: The use of compound B-Mode ultrasound in abdominal disease of animals. J. Amer. Vet. Radiol. Soc. XVII(3):106-112, 1976.

54. **Bush, M**; Heese, D.W.; Gray, C.W. and James, A.E.: Surgical repair of tusk injury (pulpectomy) in an adult, male Forest Elephant (Loxodonta cyclotis). J. Amer. Dental Assoc. 93:371-375, 1976.

55. **Bush, M**; James, A.E.; Montali, R.J. and Stitik, F.P.: Pulmonary alveolar microlithiasis in a Binturong (Arctictis binturong): A case report. J. Amer. Vet. Radiol. Soc. XVII(4):157-160, 1976.

56. Smeller, J. and **Bush, M**: A physiological study of immobilized Cheetahs (Acinonyx jubatus). J. Zoo Anim. Med. 7(3):5-7, 1976.

57. **Bush, M** and James, A.E.: A new casting system for use in exotic animals. Vet. Med./Sm. Anim. Clin. 71:1288-1295, 1976.

58. Heller, R.M.; **Bush, M**; Strandberg, J.; James, A.E. and Smith, E.: Inflammatory disease of the temporal bone of the Brush Tail Rat (Octodontomys gliroides): A radiologic-clinical-pathologic correlation. J. Amer. Vet. Radiol. Soc. XVII(4):161-164, 1976.

59. Smeller, J.; **Bush, M** and Seal, U.S.: Observations on immobilization of Pere David's Deer. J. Amer. Vet. Med. Assoc. 169(9):890-893, 1976.

60. **Bush, M**; Ensley, P.K.; Mehren, K. and Rapley, W.: Immobilization of Giraffes with xylazine and etorphine hydrochloride. J. Amer. Vet. Med. Assoc. 169(9):884-885, 1976.

61. Montali, R.J.; **Bush, M** and Greenwell, G.S.: An epornitic of duck viral enteritis in a zoological park. J. Amer. Vet. Med. Assoc. 169(9):954-958, 1976.

62. Montali, R.J.; **Bush, M**; Thoen, C.O. and Smith, E.: Tuberculosis in captive exotic birds. J. Amer. Vet. Med. Assoc. 169(9):920-927, 1976.

63. **Bush, M** and Koch, S.A.: Surgical correlation of a bilateral lens luxation in an African Lion. J. Amer. Vet. Med. Assoc. 169(9):987-988, 1976.

64. **Bush, M**; Montali, R.J.; Brownstein, D.; James, A.E. and Appel, M.J.: Vaccine-induced canine distemper in a Lesser Panda. J. Amer. Vet. Med. Assoc. 169(9):959-960, 1976.

65. **Bush, M**; Montali, R.J.; Novak, G.R. and James, A.E.: The healing of avian

fractures: A histological xeroradiographic study. J. Amer. Anim. Hosp. Assoc. 12(6):768-773, 1976.

66. **Bush, M**; Hughes, J.L.; Ensley, P.K. and James, A.E.: Fracture repair in exotics using internal fixation. J. Amer. Anim. Hosp. Assoc. 12(6):746-753, 1976.

67. James, A.E.; Brayton, J.B.; Novak, G.; Wight, D.; Sheehan, T.K.; **Bush, M** and Sanders, R.C.: The use of diagnostic ultrasound in evaluation of the abdomen in primates with emphasis on the Rhesus Monkey (Macaca mulatta). J. Med. Primatol. 5:160-175, 1976.

68. Freedman, M.T.; **Bush, M**; Novak, G.R.; Heller, R.M. and James, A.E.: Nutritional and metabolic bone disease in a zoological population: A review of radiologic findings. Skeletal Radiol. 1:87-96, 1976.

69. Hodgen, G.D.; Turner, C.K.; Smith, E.E. and **Bush, M**: Pregnancy diagnosis in the Orangutan (Pongo pygmaeus) using the subhuman primate pregnancy test kit. Lab. Anim. Sci. 27(1):99-101, 1977.

70. **Bush, M** and Roberts, M.: Distemper in captive Red Pandas (Ailurus fulgens). Internat. Zoo Yrbk. 17:194-196, 1977.

71. **Bush, M**: External fixation of avian fractures. J. Amer. Vet. Med. Assoc. 171(9):943-946, 1977.

72. **Bush, M**; Custer, R.; Smeller, J.M. and Bush, L.M.: Physiologic measures of nonhuman primates during physical restraint and chemical immobilization. J. Amer. Vet. Med. Assoc. 171(9):866-869, 1977.

73. Custer, R.; Kramer, L.; Kennedy, S. and **Bush, M**: Hematologic effects of xylazine when used for restraint of Bactrian Camels. J. Amer. Vet. Med. Assoc. 171(9):899-901, 1977.

74. Hoopes, J.; Montali, R.J.; Ensley, P.K.; **Bush, M** and Koch, S.A.: Allergic conjunctivitis in a juvenile Black Spider Monkey. J. Amer. Vet. Med. Assoc. 171(9):870-871, 1977.

75. Kennedy, S.; Crisler, J.P.; Smith, E.E. and **Bush, M**: Lead poisoning in Sandhill Cranes. J. Amer. Vet. Med. Assoc. 171(9):955-958, 1977.

76. Baskin, G.B.; Montali, R.J.; **Bush, M**; Quan, T.J. and Smith, E.E.: Yersiniosis in captive exotic mammals. J. Amer. Vet. Med. Assoc. 171(9):908-912, 1977.

77. Brownstein, D.G.; Strandberg, J.D.; Montali, R.J.; **Bush, M** and Fortner, J.: Cryptosporidium in snakes with hypertrophic gastritis. Vet. Pathol. 14:606-617, 1977.

78. Kennedy, S.; Montali, R.J.; Smith, E.E. and **Bush, M**: An outbreak of systemic mycosis with Basidia corymbifera in a Reindeer herd. Proceedings: American Association of Zoo Veterinarians, 1976. pp. 40-44, 1977.
79. **Bush, M**: Giraffe restraint and immobilization. Proceedings: American Association of Zoo Veterinarians, 1976. Pp. 151-154.
80. **Bush, M**; Smeller, J.M.; Crack, P. and Solomon, H.M.: Preliminary study of antibiotics in snakes. Proceedings: American Association of Zoo Veterinarians, 1976. Pp. 50-54.
81. Smeller, J.M.; **Bush, M** and Custer, R.: The immobilization of marsupials. J. Zoo Anim. Med. 8(3):16-20, 1977.
82. Novak, G.R.; James, A.E. and **Bush, M**: Rhinorrhea, ventricular radiopharmaceutical stasis and communicating hydrocephalus: Evaluation by serial cisternography. Investigative Radiol. 12(1):101-105, 1977.
83. **Bush, M** and Montali, R.J.: Principles of zoological animal medicine. Vet. Scope XXI(1):9-24, Upjohn Co., Agricultural Div., Kalamazoo, MI., 1977.
- 83 a. Bovee, K.C. and **M. Bush**. 1978. Cystinuria in the maned wolf. Nutritional Pathology. 11: 121-125.
84. James, A.E.; Montali, R.J.; Novak, G.R. and **Bush, M**: The use of xeroradiographic imaging to evaluate fracture repair in avian species. Skel. Radiol. 2(3):161-168, 1978.
85. **Bush, M** and Smeller, J.: Blood collection and injection techniques in snakes. Vet. Med./Sm. Anim. Clinic. 73(2): 211-214, 1978.
86. **Bush, M**; Custer, R.; Smeller, J.; Bush, L.M.; Seal, U.S. and Barton, R.: The acid-base status of Lions, (*Panthera leo*), immobilized with four drug combinations. J. Wildl. Dis. 14:102-109, 1978.
87. Smeller, J.M.; **Bush, M** and Seal, U.S.: Blood volume measurements in Gopher Snakes, using autologous ⁵¹Cr-labeled red blood cells. Amer. J. Vet. Res. 39(2):355-356, 1978.
88. **Bush, M**; Smeller, J.M.; Charache, P. and Arthur, R.: Biological half-life of gentamicin in Gopher Snakes. Amer. J. Vet. Res. 39(1):171-173, 1978.
89. Custer, R.W.; **Bush, M**; Smeller, J.M. and Smith, E.E.: Clinical experience with dissociative anesthetics in Lesser Pandas (*Ailurus fulgens*): Hematology and blood chemistry values. J. Zoo Anim. Med. 9(1):22-28, 1978.
90. **Bush, M**; Custer, R.W.; Smeller, J.M.; Charache, P. and Arthur, R.: Preliminary

study of gentamicin in turtles. Proceedings: American Association of Zoo Veterinarians, 1977. pp. 71-78, 1977.

91. **Bush, M**; Wildt, D.E.; Kennedy, S. and Seager, S.W.J.: Laparoscopy in zoological medicine. J. Amer. Vet. Med. Assoc. 173(9):1081-1087, 1978.

92. **Bush, M** and Bovee, K.C.: Cystinuria in a maned wolf. J. Amer. Vet. Med. Assoc. 173(9):1159-1162, 1978.

93. **Bush, M** and Kennedy, S.: Ventriculostomy for removal of foreign bodies from Sarus Cranes. J. Amer. Vet. Med. Assoc. 173(9):1107-1110, 1978.

94. Hoopes, P.J.; McKay, D.W.; Daisley, G.W. Jr.; Kennedy, S. and **Bush, M**: Suppurative arthritis in an infant Orangutan. J. Amer. Vet. Med. Assoc. 173(9):1145-1147, 1978.

95. Kennedy, S.; Montali, R.J.; James, A.E. and **Bush, M**: Bone lesions in three Tree Kangaroos. J. Amer. Vet. Med. Assoc. 173(9):1094-1098, 1978.

96. Smeller, J.M.; Slickers, K. and **Bush, M**: Effect of feeding on plasma uric acid levels in snakes. Amer. J. Vet. Res. 39(9):1556-1557, 1978.

97. **Bush, M**; Montali, R.J.; Smith, E.E. and Peratino, W.S.: Clinical experience with tuberculosis in exotic birds. Proceedings: Mycobacterial Infections of Zoo Animals Symposium, 1976, published SI Press, pp. 199-204, 1978.

98. Smith, E.E. and **Bush, M**: Hematologic parameters on various species of strigiformes and falconiformes. J. Wildl. Dis. 14:447-450, 1978.

99. Kennedy, S. and **Bush, M**: Evaluation of tuberculin testing and lymphocyte transformation in Bactrian camels. Proceedings: Mycobacterial Infections of Zoo Animals Symposium, 1976, published SI Press, pp. 139-143, 1978.

100. Montali, R.J.; **Bush, M** and Smith, E.E.: Pathology of tuberculosis in captive exotic birds. Proceedings: Mycobacterial Infections of Zoo Animals Symposium, 1976, published SI press, pp. 209-215, 1978.

101. **Bush, M**; Kennedy, S.; Wildt, D.E. and Seager, S.W.J.: Sexing birds by laparoscopy. Internat. Zoo Yrbk. 18: 197-199, 1978.

102. Wildt, D.E.; **Bush, M**; Whitlock, B.S. and Seager, S.W.J.: Laparoscopy: A method for direct examination of internal organs in zoo veterinary medicine and research. Internat. Zoo Yrbk. 18:194-197, 1978.

103. Cutler, G.B., Jr.; Glenn, M.; **Bush, M**; Hodgen, G.D.; Graham, C.E. and Loriaux,

D.L.: Adrenarche: A survey of rodents, domestic animals, and primates. *Endocrinology*. 103(6):2112-2118, 1978.

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