

## CURRICULUM VITAE

### A. BIODATA

Name: Warui Nderitu Charles, B.V.M., Ph.D.  
Date of Birth: July 16, 1956  
Nationality: Kenyan  
Marital Status: Married  
Employment Status: Senior Lecturer, Department of  
Veterinary Anatomy, University of Nairobi

### B. EDUCATIONAL BACKGROUND

<u>Period</u>	<u>Certificate</u> <u>Obtained</u>	<u>School/College</u> <u>Attended</u>
1963 - 1969	C.P.E.	Othaya Primary School
1970 - 1973	E.A.C.E.	Chinga Secondary School
1974 - 1975	E.A.A.C.E.	Mangu High School
1976 - 1980	B.V.M.	University of Nairobi, Kenya.
1983 - 1985	Ph.D. Anatomy	University of Liverpool, U.K.

### C. PROFESSIONAL AND OTHER EXPERIENCE

1980, July - 1982, Private practitioner, clinical work on small and large animals  
1983, Jan - 1985, Ph.D student, University of Liverpool.  
1980, July - 1986: Tutorial Fellow, Department of Veterinary Anatomy, Nairobi.  
1986, March - 1990: Lecturer, Department of Veterinary Anatomy, Nairobi.  
1990 March to date: Senior Lecturer, Department of Veterinary Anatomy, Nairobi.

## **D. ADMINISTRATIVE AND RELATED ACTIVITIES**

1981 - 1982: Departmental Representative on the Faculty Committee on the establishment of a second University in Kenya.

1987 - 1994: Departmental Representative on the Faculty Postgraduate Studies Committee.

1989, Jan- Oct: Acting Chairman, Dept Vet. Anatomy.

1990 to date: Departmental Representative on the Faculty Editorial Committee.

1991 -1993: Departmental Representative on the Faculty Committee on Regulations and Syllabus for the restructured 5 year degree of Bachelor of Veterinary Medicine (B.V.M.) program [B.V.M. 8-4-5 program].

1993, July - Nov: Acting Chairman - Department of Veterinary Anatomy.

1993 to date: Chairman, Departmental Income Generating Committee.

## **E. SUPERVISION OF POSTGRADUATE STUDENTS AND EXAMINATION OF THESIS**

### ***I. Thesis Projects Completed Under My Supervision***

1. Makori, N. (1993). The foetal membranes, placenta, and gonadiogenital organs of the female root rat Tachyoryctes Splendens (Ruppell): A morphometric study. M.Sc thesis, University of Nairobi.
2. Kamunde, C. N. (1994). Qualitative and quantitative structural characteristics of the teleostean kidney. M.Sc thesis, University of Nairobi.
3. Macheru, P. W. (1995). Observations on the qualitative and quantitative structural characteristics of reptilian kidneys. M.Sc. thesis, University of Nairobi.

### ***II. Thesis Projects Continuing Under My Supervision***

1. Macharia, R. G. The effects of decamethonium bromide on the development of the musculoskeletal system and the neuro-muscular junctions in the chick embryo. A project funded by DAAD for Ph.D in Anatomy.
2. Makanya, A.N. Morphometry of the neonatal lung. Ph.D project in anatomy

### **III. Other Thesis Examined**

1. Okong'o E. (1989). Analysis of the antigens of *Leishmania donovani* and an assessment of their potential use in immunodiagnosis, M.Sc. thesis, University of Nairobi.
2. Kuria, C. N. (1995). Hormonal profiles and the reproductive tract morphology of the Brown Bush Baby (*Galago garnettii*) during induced and non-induced oestrous cycles. M.Sc. thesis, University of Nairobi.
3. Kiama, S. G. (1995). Morphology and morphometry of the avian pecten in diurnal and nocturnal birds: A comparative study. M.Sc. thesis, University of Nairobi.

## **F. RESEARCH INTERESTS AND COLLABORATIVE PROJECTS**

### **I. On-going Scientific and Technological Research Work**

1. UNESCO-funded project on avocado oil extraction and seedcake processing. The project involves:
  - (i) Designing and supervising the construction of pilot plant equipment for fermentation extraction of avocado oil and processing avocado pulp into a "seedcake". The pilot plant has a capacity of 0.5 tones of fruit a day.
  - (ii) Operating the pilot plant to produce avocado oil of internationally accepted standards.
  - (iii) Devising procedures for preserving avocado pulp as a raw material for fermentation extraction of avocado oil.

### **II. On-going Collaborative Research Work**

1. Skadhauge, E. et al.: Investigations on the structure and functions of the Ostrich (*Struthio camelus*) colon and cloaca.
2. Kamau, J. M. Z. and Warui, C. N.: Studies on the effects of experimentally induced besnoitiosis on testicular thermoregulation in the goat.
3. Warui, C. N. et al.: Structural-functional relationships in vertebrate kidneys and in avian hindguts

### **II. Other Research Work**

1. Self sponsored experiments on innovative methods for establishing and propagating a castor bean (*Ricinus communis*) plantation in the arid and semi-arid lands (ASAL) of Kenya.

## **G. INNOVATIONS, DISCOVERIES AND PATENTS**

- 1.1992: Discovered that fermentation of sweetened avocado pulp by yeast liberates avocado oil, probably due to the action of carbon dioxide in separating the emulsion.
2. 1992-1997: Developed a low cost technique for small scale avocado oil extraction based on the fermentation technology above : The technique is advertised on the UNISPAR-Africa Newsletter of April 1997, and on the internet.
3. 1994-1997: Completed construction of a pilot plant for fermentation extraction of avocado oil and processing of avocado seedcake. The plant was evaluated by UNESCO in July 1997, and is operated in association with Venus Industries. The plant is for evaluation of the technical and commercial feasibilities of the fermentation technology.

## **H. GRANTS, AWARDS AND HONOURS**

1. 1987: Dean's Committee grant to D. K. Mwangi and C. N. Warui for a project on observations on the embryonic kidney of the domestic fowl: A morphometric study.
2. 1993: Dean's Committee grant to J. M. Z. Kamau and C. N. Warui for studies on testicular thermoregulation in goats affected by besnoitiosis.
3. 1995: UNESCO grant for commercialization of the results of a project on avocado oil extraction and seedcake processing

## **I. MEMBERSHIP OF PROFESSIONAL SOCIETIES**

1. Member of the World Association of Veterinary Anatomists (WAVA).
2. Member of the Kenya Veterinary Association (KVA).
3. Registered Veterinary Practitioner in Kenya.
4. Member of the UNESCO-Sponsored International Centre for Engineering Education (USICEE).

## **J. CONFERENCES, MEETINGS AND WORKSHOPS**

### ***I. Conferences and Meetings Attended***

1. 1983 (Jan., 5-6) attended symposium on advanced topics in morphometry and stereology of the nervous system, Department of Human Anatomy, University of Liverpool.
2. 1984 (July, 18-20) attended [and read a paper] the summer meeting of the 1983/84 session of the Anatomical Society of Great Britain and Ireland at the AFRC Institute of Animal Physiology, Babraham Cambridge.
3. 1985 (August, 8-11) attended the XIIth WAVA general assembly at the Field Station of the Royal Veterinary College, University of London.
4. 1985 (August, 11-17) attended [and showed a poster] the XIIth International Anatomical Congress, at the Barbican Centre, London.
5. 1989 (Sept. 20-22) attended the first Faculty of Veterinary Medicine Annual Scientific Conference at Nairobi, Kenya.
6. 1990 (Sept. 19-21) attended the second Faculty of Veterinary Medicine Annual Scientific Conference at Nairobi, Kenya.
7. 1994 (Dec, 5-6) attended [and read a proposal] the Conference on University-Industry Science Partnership {UNISPAR - Africa} in Africa, organized by UNESCO at Arusha, Tanzania.
8. 1995 (Nov. 28 - Dec. 1) attended the National Conference on strengthening the relationship between the Universities and Industry sponsored by DAAD in Nairobi, Kenya.
9. 1996, (July 2-5) attended (and read a paper) the World Congress of Engineering educators and Industry leaders organized by UNESCO, UNIDO, UATI, WFEO at Paris, UNESCO Headquarters, France.

### **II. Organization of Conference**

1. 1989: Member of the Editorial and Organizing Committees of the First Faculty of Veterinary Medicine Annual Scientific Conference.
2. 1990: Vice-Chairman of the Organizing Committee of the Second Faculty of Veterinary Medicine, Annual Scientific Conference.

## **K. REPORTS/BOOKS**

1. Principals of Biology, vols. 1 and 2 by P.M. Muchiri - Provided editorial assistance and advise on drawing biological specimens and diagrams

2. 1995: Report on progress in commercialization of the results of the avocado oil extraction and seedcake project submitted to UNESCO-ROSTA, Nairobi.

## **L. THESIS, PUBLICATIONS AND PAPER PRESENTATIONS**

1. Alexander, R. McN., Maloiy, G.M.O., Ker, R.F., Jayes, A.S. and Warui, C.N. (1982). The role of tendon elasticity in the locomotion of the camel (Camelus dromedarius). J. Zoology 198: 293-313
2. Skadhauge, E., Warui, C.N., Kamau, J.M.Z. and Maloiy, G.M.O. (1984). Function of the lower intestine and osmoregulation in the Ostrich: Preliminary anatomical and physiological observations. Quart J. Exp. Physiol. 69: 809 - 818.
3. Warui, C.N. (1984). A stereological comparison of the perfused and immersed avian kidneys. J. Anat. 139: 729-730
4. Warui, C.N. (1985). Stereological observations on the kidneys of 16 avian species. Proceedings of the XIIth International Anatomical Congress: London 764 A.
5. Warui, C.N. (1985). Quantitative observations on the structural characteristics of the avian kidney. Ph.D. Thesis, University of Liverpool (England).
6. Warui, C.N., and King, A.S. (1985). Stereological observations on the kidney of the domestic fowl. J. Anat. 142: 129-139.
7. Maloiy, G.M.O., Warui, C.N. and Clemens, E.T. (1987). Comparative gastrointestinal morphology of the Kori bustard and secretary bird. Zoo Biology 6. 243-251.
8. Maina, J.N., Maloiy, G.M.O., Warui C.N., Njogu, E. K. and Kokwaro, E.D. (1989). A Scanning electron microscope study of the reptilian lung: The savanna monito lizard (Varanus exanthematicus) and the pancake tortoise Malacochersus tornieri. Anatomical Record 224: 514-524.
9. Warui, C.N., (1989). Light Microscopical morphometry of the kidneys of fourteen avian species. J. Ant..142: 19 - 31.
10. Makori, N., Oduor-Okello, D., Warui, C.N., and Otiang'a-Owiti, G. (1992). An ultrastructural and morphometric study of the late term placenta of the root-rat (Trachyoryctes splendens (Ruppel)). Proceedings of the 2<sup>nd</sup> International Conference on advances in Reproductive Research in Man and Animals, National Museums of Kenya, Nairobi, Kenya.
11. Skadhauge, E., Prys-Jones, R.P., Swart, D. and Warui, C.N. (1995). Colonic SCFA and electrolyte absorption and nasal gland development, in relation to NaCl intake in the Ostrich (Struthio camelus). Pflug. Arch., Eur. J. Physiol. 430 suppl. 4:R73.

12. Skadhauge, E., Dawson, T.J., Prys-Jones, R. and Warui, C.N. (1996). The role of the kidney and Gut in osmoregulation. In :Deeming, D.C. (ed). Improving our understanding of ratites in a farming environment, part IV, pp. 115 - 122, Oxford Print Centre, Oxfordshire, U.K. OX1 35B.
13. Warui, C.N. (1996). Commercialization of research work on the avocado oil extraction and avocado seedcake UNISPAR project. Proceedings of the World Congress of Engineering Educators and Industry leaders, UNESCO, July 1996.
14. Kamau, G.N., Kithinji, Z. ,Morris, G.F., and Warui, C.N. (1998). Extraction and spectroscopic study of avocado oil. International J. of Biochem, Physics, Vol. 6 and 7, Nos 1 and 2: 36 - 43
15. Nanguri, D.L., Warui, C.N. and Kamau, G.N. (1998). Spectroscopic studies and physico-chemical properties of Unsaponifiable matter of avocado oil Proceedings of the 1<sup>st</sup> Pan-African conference of the federation of African Societies of Biochemistry and Molecular Biology (FASBMB) 145-150.
16. Warui, C.N. and Skadhauge, E. (1998). Morphological and functional anatomy of the cloaca and terminal colon of the African Ostrich: Proceedings of the 2<sup>nd</sup> International ratile congress, Oudtshoorn South Africa 21 - 25 Sept. pp:88-90
17. Warui, C.N., Macharia, R.G., Mwangi, D.K., Macheru, P.W. and Moilo, J. (1998). Observations on the morphology of the cloacal region of the African ostrich (*Struthio camelus maasaicus*). The Kenya Veterinary Journal, Vol. 23, No. 3 pp 71-74.
18. Macharia, R.G., Warui, C.N. and Macheru, P.W. (1998). Comparisons between fibre types cross-section areas and volume densities in the pectoralis muscle of the fruit bat and similar sized species of flying birds. The Kenya Veterinary Journal, Vol; 23 No. 3 pp 87-90.
19. Moilo, J., Mwangi, D.K., and Warui, C.N., (1998). Electrophysiological responses of female *Anopheles gambiae sensu stricto* (Diptera:Culcidae) to pyrethroid pesticides and host related semiochemicals. The Kenya Veterinary Journal, Vol 23, No. 3 pp 107-110.
20. Macharia, R.G., Warui, C.N. and Kisia, S.M. (1998). The effects of Decamethonium bromide induced paralysis on the skeletal development in the chick embryo. The Kenya Veterinary Journal, Vol 23, No.3 pp. 82-85.
21. Warui, C.N. (1999). Recent advances in avocado oil extraction biotechnology. Proceedings of the first Biotechnology Workshop, Department of Chemistry, 7-11 June 1999.
22. Mwangi, D.K., and Warui, C.N. (2000). Stereological analysis on the cerebellum of 24 day old rat pups with propylthiouracil induced hypothyroidism. East African Medical Journal Vol. 77, No. 4 (in Press).

23. Makanya, A.N., Tim, S.J., Warui, C.N. and Mwangi, D.K. (2000). Morphological and Morphometry in the epuletted wahlberg's fruit bat (Epomorphus wahlberi, Sundevall, 1864). *Acta Biologica Hungarica* (in press).
24. Makanya, A.N., Sparrow, M.P., Warui, C.N., Mwangi, D.K. and Burri, P.H. (2000). Morphological analysis of the postnatally developing Mursurpial lung: The Quokka Wallaby. *Anatomical Record* (in press).
25. Skadhauge, E. and Dawson, A. (1999). Chapter 3, Physiology: In: Deeming, D.C. (ed.). *The Ostrich: Biology, Production and Health*. CAB International, London. Pp 51-80. *Contributed original illustrations on the cloaca and salt gland of ostrich.*