NOTABLE PARASITOGISTS OF SOUTH AFRICA

TAXONOMISTS AT ONDERSTEPOORT

Heloise Heyne

VHS
Veterinary parasitologists in South Africa have played a crucial role in elucidating the causes and transmission of many major animal diseases, and in establishing life cycles and control measures that were appropriate to manage these serious conditions in economically effective ways.

South Africa had many diseases that baffled early investigators and diligent, persistent investigation was necessary to find the links to a wide variety of internal and external parasites.
1569
Father Montclaro’s travel story
Zambezi Estuary
Horses from India, possible poisoned
Theiler ascribed symptoms to AHS
SIR DAVID BRUCE

Scottish pathologist & microbiologist

*Trypanosoma brucei* sp. (1984)
GERALD BEDFORD
1891 – 1938

British Entomologist (British Museum of Natural History)
1912 – 1938: Onderstepoort Bacteriological Laboratory
   Investigated insect-borne disease of livestock
   Investigated mosquito species – vector of AHS
   Investigated life cycle of Psoroptes ovis
Leading taxonomist SA ectoparasites
1932: Published the most comprehensive list of ectoparasites of SA mammals, birds & reptiles
1936: Published supplement to list
1912 – 1938: Described 4 Ixodid tick species, 2 Argasid species and the enigmatic Nuttaliellia namaqua
Founding member of the South African Biological Society
CHARLES LOUNSBURY
1872 - 1955

American-born Entomologist
1895: Cape Colony work on insect pests
1898 – 1901: Studied life cycles of *A. hebraeum* (heartwater) & *H. elliptica* (biliary) [SA canine babesiosis]

ONDERSTEEPORt CONNECTION
1903 - 1910: *R. appendiculatus* vector of East Coast fever
  - Dipped animals with sodium arsenite
  - Recommended effective dipping programmes & dips
Studies on ticks gained him international status as tick expert

1916: Founding member of the South African Biological Society
1915: Awarded SA Gold Medal (SA Ass. Advancement of Science)
A tick species was named after him: *Rhipicephalus lounsburi*
RENÉ DU TOIT
1904 - 1988

Veterinarian & Entomologist
1929 - Entomology Section, OVI
1930 – 1931 – Combatting sheep scab, Armoedsvlakte, Vryburg
Studied at University of Minnesota (1936 – 1937)
1939 – 1954 – Research in controlling tsetse breeding
   (applying BHC to breeding sites & later
   large-scale aerial spraying of DDT)
Nagana was brought practically under control
Received DVSc degree for research on control of tsetse flies
Research on vectors and viruses of bluetongue and AHS
1944 – Bluetongue & AHS transmitted by Culicoides sp.
1941 – Described Rhipicephalus glabroscutatus
1959 – 1969 – Assistant Director, OVI
1960 – 1963 – Dean, Faculty of Veterinary Science
1951 – Served on Panel of Experts, WHO on parasitic diseases
1945 – President of SA Biological Association
Received various prizes and awards for research
2008 – Leading Mind, University of Pretoria, posthumously
GERTRUD THEILER
1897 - 1996

Zoologist – Acarology & Helminthology

1918 - BSc, SA College, Cape Town
1922 - DSc, University of Neuchâtel, Switzerland

Postgraduate work in parasitology:

Schools of Trop. Medicine in Liverpool and London

Wrote article strongylids and other nematode parasites
of SA equines (highly regarded & frequently referred to)

1924 - 1939 – Biology teacher; Senior Lecturer & Professor in
Zoology & Physiology, Huguenot College, Wellington;
Lecturer in Zoology, Rhodes University

1940: Researcher, Entomology Section, OVI

Next 25 years: Studied African ticks (became world renowned)

Described 3 new species (1 Argasid & 2 Ixodid species)
& provided additional descriptions for 13 tick species

1962: ‘Ticks of Vertebrates of the Afrotropical Region

1967: Officially retired, resuming studies on helminths at the OVI
as an emeritus faculty member until 1983.

Received several awards:

i. a. – 1960: Senior Captain Scott Medal (SA Biological Society)
1975: Elsdon-Dew Medal (PARSA)

The argasid tick, Argas theilerae & the ixodid tick, Rhip. gertrudae and
The Gertrud Theiler Tick Museum, OVI (2005), housing the
SA Nat. Tick Coll. were named in her honour
Born in Kenya
Acarologist: One of the foremost tick taxonomists of African ticks, specifically the *Rhipicephalus* species

1948: & 1959: BSc Honours & MSc degrees, Liverpool University
1983: DSc degree, published works by Uni. Witwatersrand, Johannesburg
1966: Voluntarily retired as Principal Scientific Officer
1966: Senior Professional Officer, OVI
1990: Retired as Specialist Scientist, kept on working in an honorary position until 1998

Sole, senior or co-author of 53 scientific publications & 5 books (illustrating many tick descriptions herself)

Awarded 3 of the most prestigious awards in the field of biological sciences in South Africa:

1988: Elsdon-Dew Medal (PARSA)
1998: Agric. Sci. & Tech. Woman of the Year Award
1998: Theiler Memorial Trust Award for exceptional services rendered to Veterinary Science in Africa

Two tick species named after her: *Argas walkerae* and *Rhip. walkerae*
LEWIS GOUGH

Zoologist, educated in Switzerland
1906: Tvl. Mus., Pta., curator of lower vertebrates & invertebrates
   Studied SA intestinal helminths, found 50 sp.: Cestoda, Trematoda &
   Nematoda (mammals, reptiles & birds)
   Conducted breeding experiments with bladder worms,
   (tapeworm sp. ex sheep & jackal)
1908 - 1912: Zoologist at OP Vet. Bact. Lab. & continued research on internal
   parasites: tapeworms of sheep & wild antelope
   Described of Stilesia centripunctata, a tapeworm of sheep
   Experiments with mosquitoes to determine vector of AHS
1908: Founding member of the Transvaal Biological Society
1911: Left South Africa for Egypt (Head of the Entom. Sect., Agricultural Dept.
1923: Awarded the Order of the Nile (Third Class) by the King of Egypt
   Apparently returned to South Africa
1937: Founding member of the Entomological Society of South Africa
FRANCESCO VEGLIA
1881 - ?

Italian veterinarian & 1st official helminthologist at Onderstepoort Bact. Lab.
1911 – 1926: Government veterinary research officer at Onderstepoort
World War I: Served in the Italian army
1917: Returned to Onderstepoort
Research on economically important endo-parasites
(nodular worms in sheep & nematode sp.)
Best known for ground-breaking investigations into the anatomy and development of wire worm (Haemonchus contortus) in sheep
Developed the first effective anthelmintic against wire worms – ‘Onderstepoort Wireworm Remedy’, used for many years
1916: Founding member of the South African Biological Society
1927: Returned to Italy at the end of May (University of Turin)
HERMAN MÖNNIG
1897 – 1987

South African-born Parasitologist
1919: Awarded a Victoria Bursary, University of Amsterdam
    studied zoology & parasitology trematodes)
1920: Doctorate in Zoology (Histology of Trematodes), Zürich
1922: Research Officer, Parasitology Section, OVI
1928: Head of Parasitology, Section, OVI
Research in parasitology and chemotherapy for parasitic diseases
Described 46 new helminths (domestic & wild animals and birds
1934: Textbook Veterinary Helminthology and Entomology, illustrated by the author
1945: Resigned from his posts at the Institute & Faculty
Founded the commercial company, Agricura Laboratory Ltd.,
    Produced more than 70 pharmaceutical remedies for the control of
    parasitic infestations & related diseases of livestock and
    agricultural pests for local and & foreign use
1945: Senior Captain Scott Medal of the South African Biological Society
1947): Havenga Prize (SA Academy of Science & Arts)
1971: M.T. Steyn Prize - SA Academy for Science and Arts
    Fellowship of the American Association for the Advancement of Science
2008: Leading Mind, University of Pretoria (posthumously)
REINHOLD ORTLEPP  
1894 - 1964

Helminthologist: Taxonomy & life cycles of Cestoda, Nematoda and Trematoda
BA degree with distinction, Uni. Cape of Good Hope, Victoria Bursary
1917: MSc degree (Zoology), Uni. Cape Town
1918 -1919: Lecturer in Zoology at the SA School of Mines & Technology
1920: Acting professor of Zoology at Rhodes University College
1921: Researcher, Institute for Agricultural Parasitology, London
   Studied helminths from SA mammals, reptiles &
   amphibians ex London Zoo
   Discovered & described 9 new species
Honorary Helminthologist to the Zoological Society of London
1928: PhD, Zoology (Helminthology), Uni. London
1928: Returned to South Africa, farming in Natal
1930: Research Officer, Helminthology, OVI
      During the next 3 decades he discovered and described
      100 new helminth species
Authored 70 scientific publications during his career
1936: DSc degree, University of London
      1954: Retired & worked on the internal parasites of wildlife
1942: Founding member of the Fac. of Sci. & Tech. (SA Academy for Sci. & Arts)
1948: Havenga Prize for biology (SA Academy for Science & Arts)
1943: President (Sect. D) of SA Assoc. for the Advancement of Science
1940: President of South African Biological Society
1962: Senior Captain Scott Medal (SA Biological Society)
Richard Reinecke
1924 - 1993

Veterinarian, Helminthologist
1947: Private veterinary practice
1953: Researcher, OVI & later Section Head: Helminthology Sect.
Main research: occurrence and distribution of internal parasites, especially nematodes of South Africa.
1966 – 1972: Developed methods to diagnose infestations & a variety of anthelmintic tests, including a standardized nonparametric larval anthelmintic test (Penzhorn & Author or co-author of more than 90 scientific publications, including the textbook, *Veterinary Helminthology* (1983)
1991: Elsdon-Dew medal in 1991 (PARSA)
1975 – 1978: President of PARS
2008: Honoured as one of the 100 Researchers of UP, Leading Minds,
ANNA VERSTER
1931 – 1994

Zoologist, Helminthologist
1951: BSc (Honours, Zoology & 1955: MSC (Zoology), Uni. OFS
1964: PhD (Zoology), UNISA
1952: Research Assistant, Dept. Phycology, Uni. OFS
1956: Assistant Professional Officer, Helminthology Sect, OVI
1963: Senior Professional Officer, Helminthology Sect, OVI
1968 – 1980: Chief Professional Officer, Helminthology Sect, OVI
1980 – 1984: Deputy Director, OVI (personal salary scale)
1985: Senior Lecturer, Fac. Vet. Sci., Onderstepoort
Promoted to full Professor (Parasitology) until early retirement in 1994
Main research interest was Cestoda
Author & co-author of about 40 scientific publications & one textbook Teaching Veterinary Parasitology
1965: Review of Echinococcus with descriptions of one new species & one new subspecies
1969: Taxonomic review of Taenia, with descriptions of one new species & one new subspecies
1980s: Senior Captain Scott Medal (SA Biological Society)
1992: Elsdon-Dew Medal (PARSA)
Two parasites (one from ostriches & one from a black rhinoceros) were named in her honour
Nowhere is it more true that “prevention is better than cure” than in the case of Parasitic Diseases.

Rudolf Leuckar (1886):

The Parasites of Man, and the Diseases which Proceed from Them.

THANK YOU