

# NOTABLE PARASITOLOGISTS OF SOUTH AFRICA

## TAXONOMISTS AT ONDERSTEPOORT

Heloise Heyne

VHS

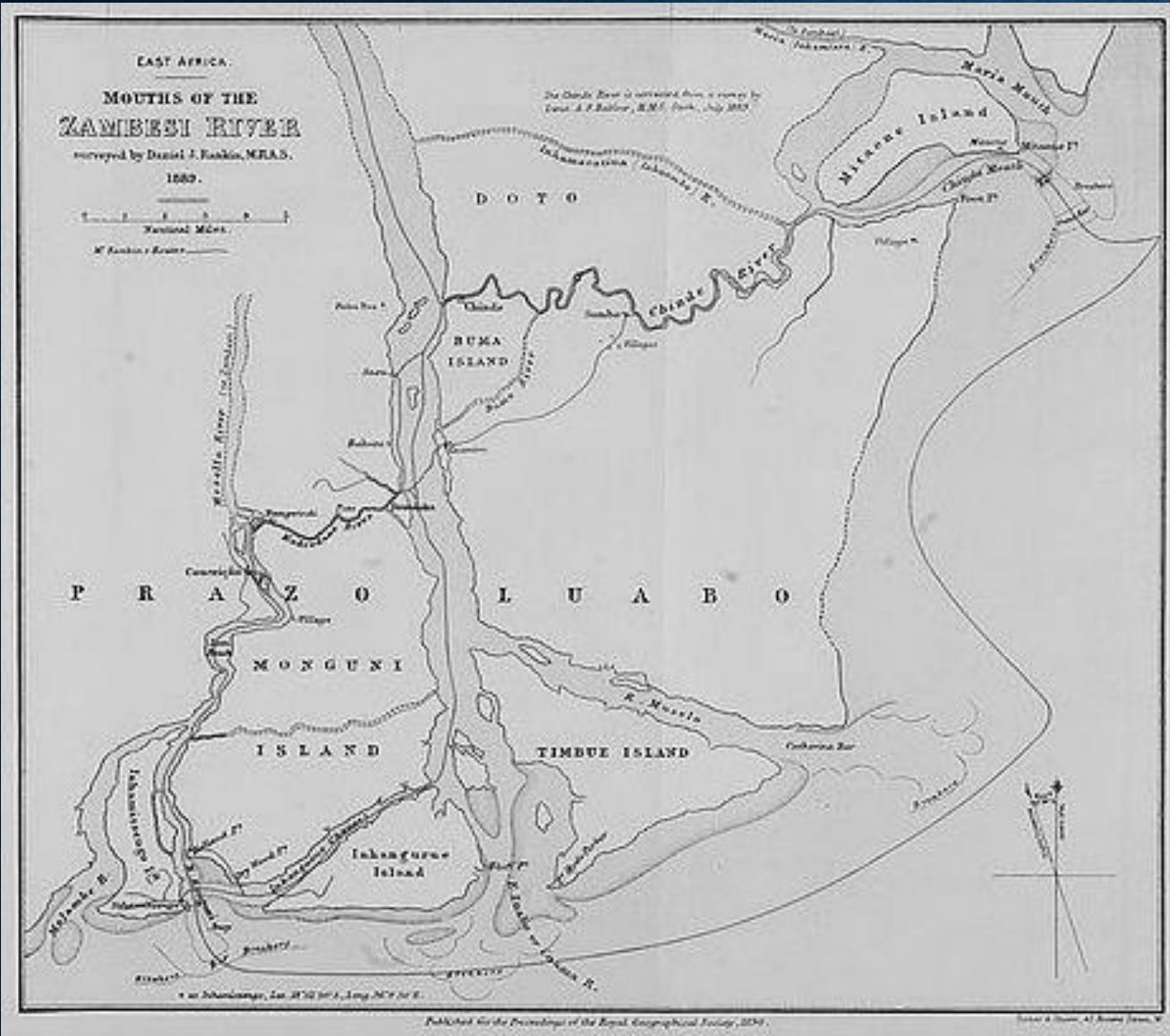


# INTRODUCTION

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.

# 1<sup>st</sup> Account of vector-borne disease?



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)



©Warren Photographic

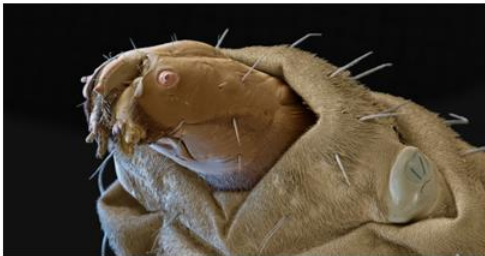
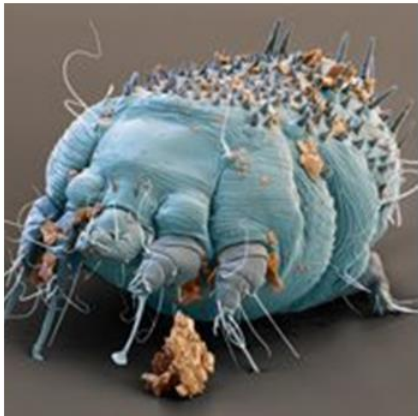


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## GERALD BEDFORD

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]

## ONDERSTEPSOORT CONNECTION

1903 - 1910: *R. appendiculatus* vector of East Coast fever

Dipped animals with sodium arsenite

Recommended effective dipping programmes & dips

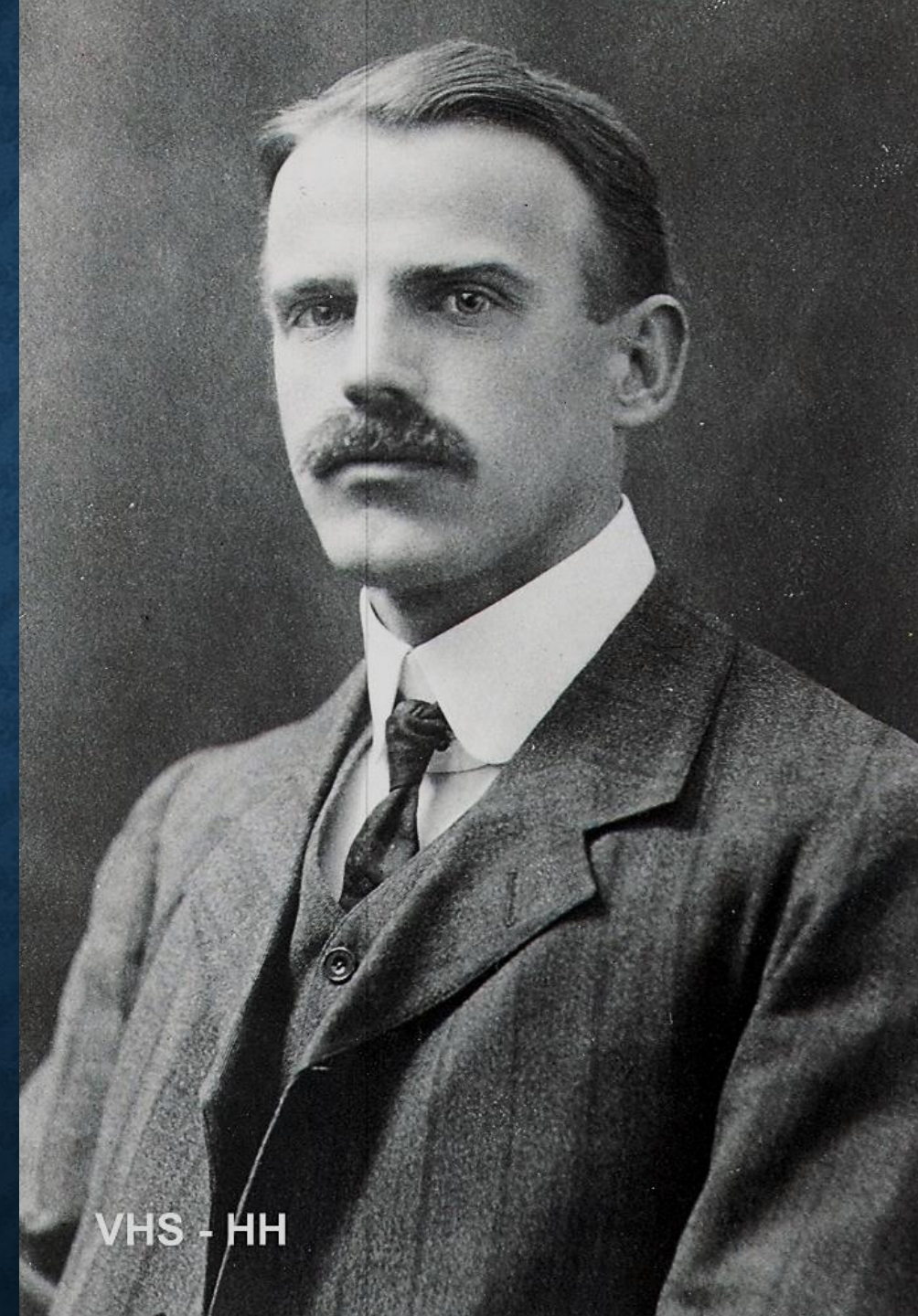
Studies on ticks gained him international status as tick expert

1911 – 1927: Chief of the Div. of Entom., Dep. Agric., Pretoria

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*



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# 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

1959 - 1969 - Professor of Parasitology, Fac. Vet. Sci., Pta.

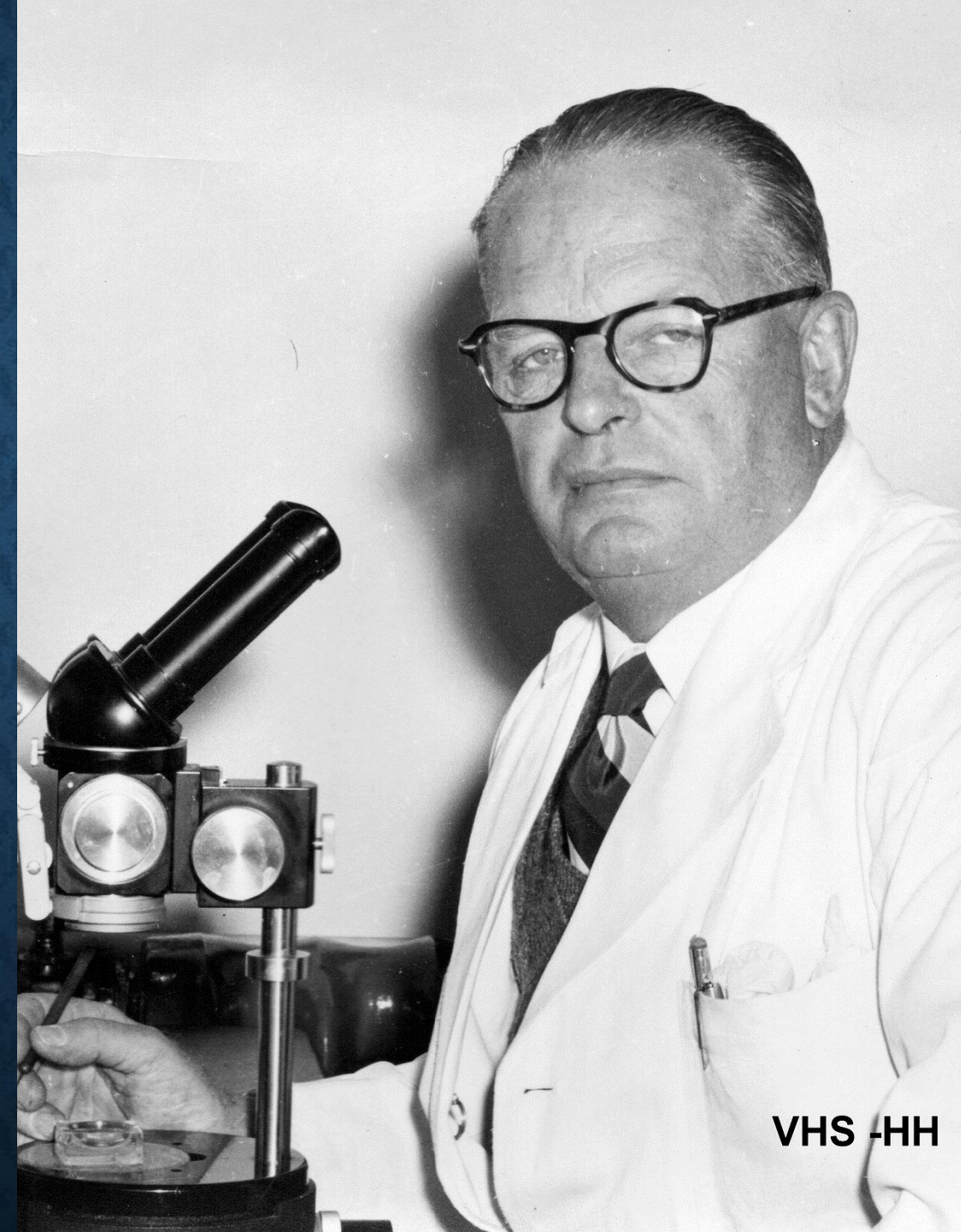
1960 - 1963 - Dean, Faculty of Veterinary Science

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



VHS -HH



# 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*

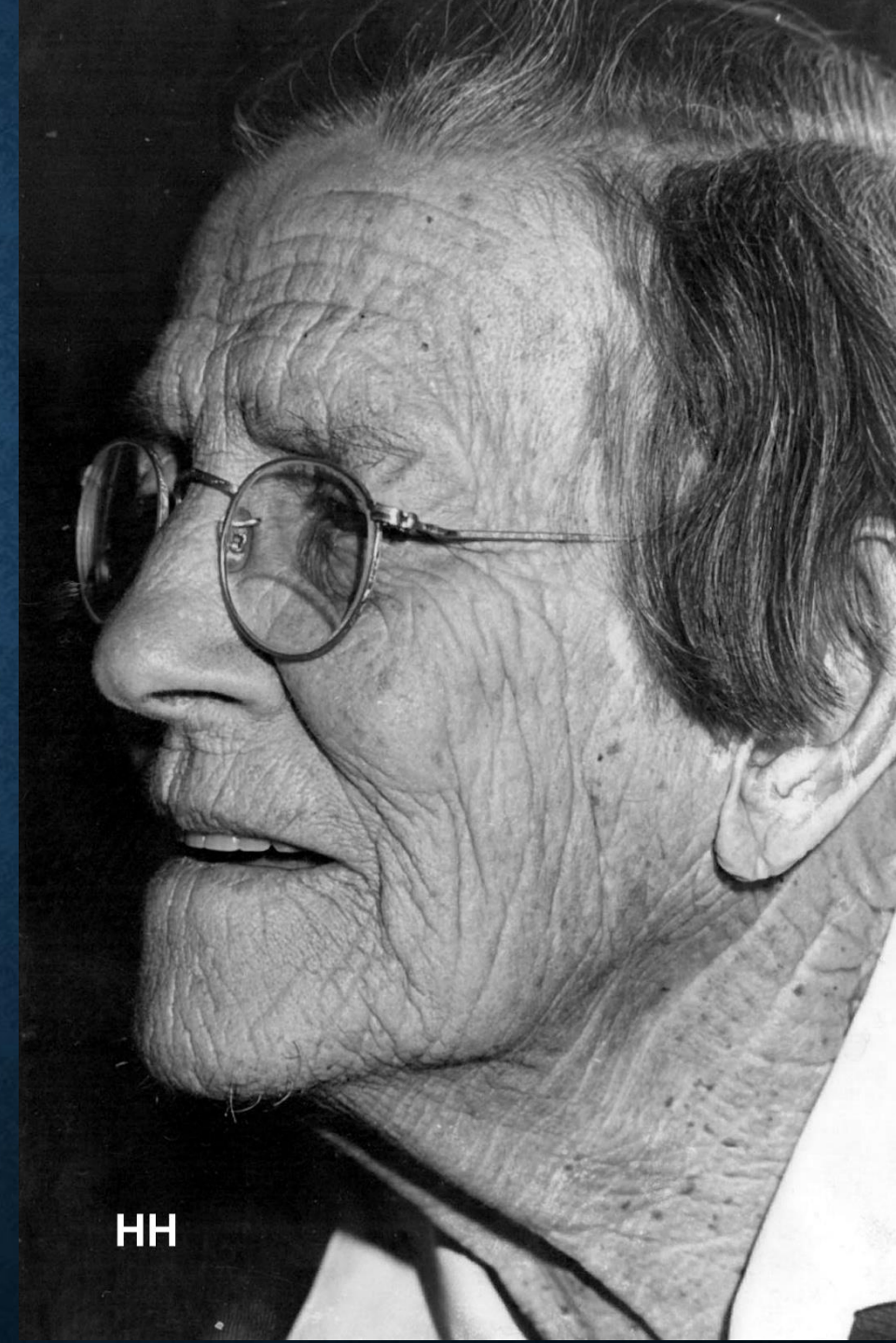
1967: Officially retired, resuming studies on helminths at the OVI  
as an emeritus faculty member until 1983.

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



HH



# JANE WALKER

1925 – 2009

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

1949: Principal Res. Off., East Afr. Vet. Res. Org, Mugaga, Kenya

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

2000: Book - *The Brown Ticks of the World* published

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:

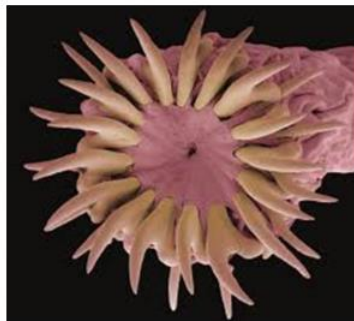
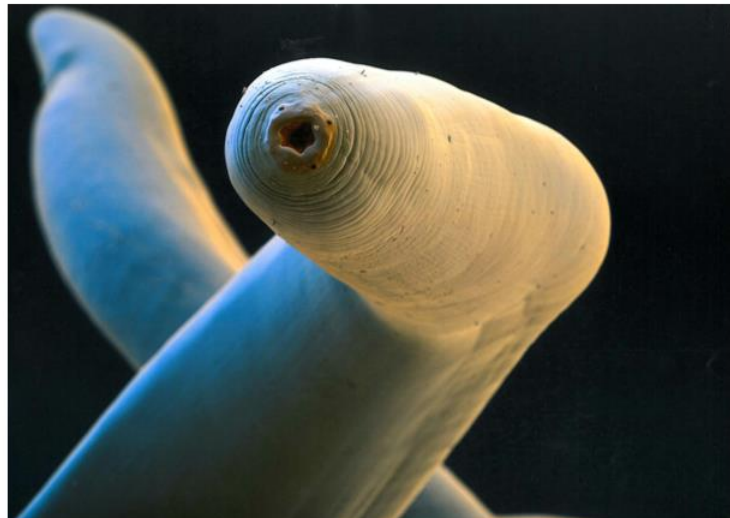
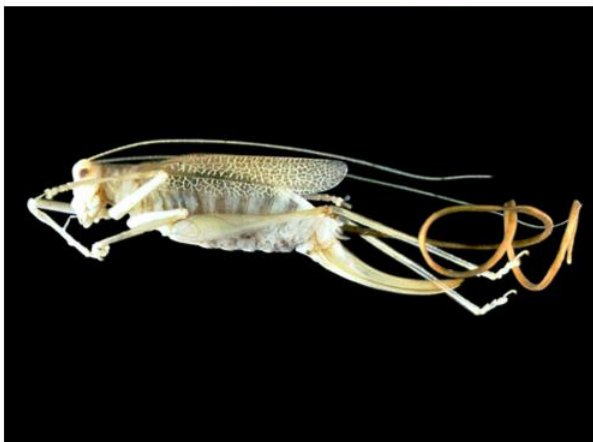
1988: Elsdon-Dew Medal (PARSA)

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*

# HELMINTHOLOGY



# 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



*Zoological Laboratory.*

## FRANCESCO VEGLIA

1881 - ?

Italian veterinarian & 1<sup>st</sup> 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.)

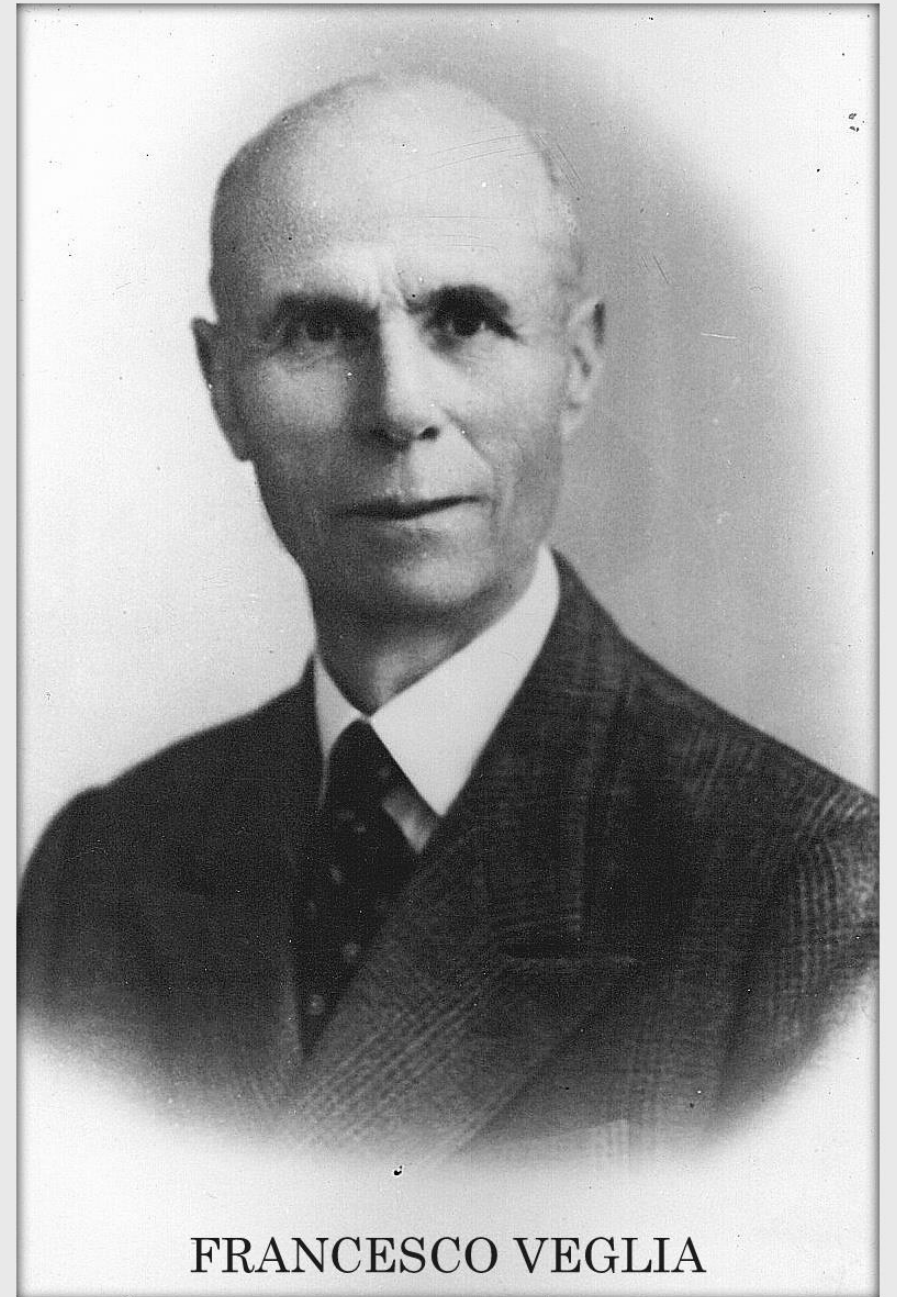
Best known for ground-breaking investigations into the anatomy and  
development of wire worm (*Haemonchus contortus*) in sheep

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)



FRANCESCO VEGLIA

VHS - HH



# 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

1926: BVSc, Transvaal. Uni. College. (Uni. Pretoria)

1928: Head of Parasitology, Section, OVI

1929: Prof. & later Head of the Dep. Parasitology, Fac. Vet. Science., OP

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

1953: DSc (honoris causa) degrees (Uni. Pta.) & 1970: Uni. Free State

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**

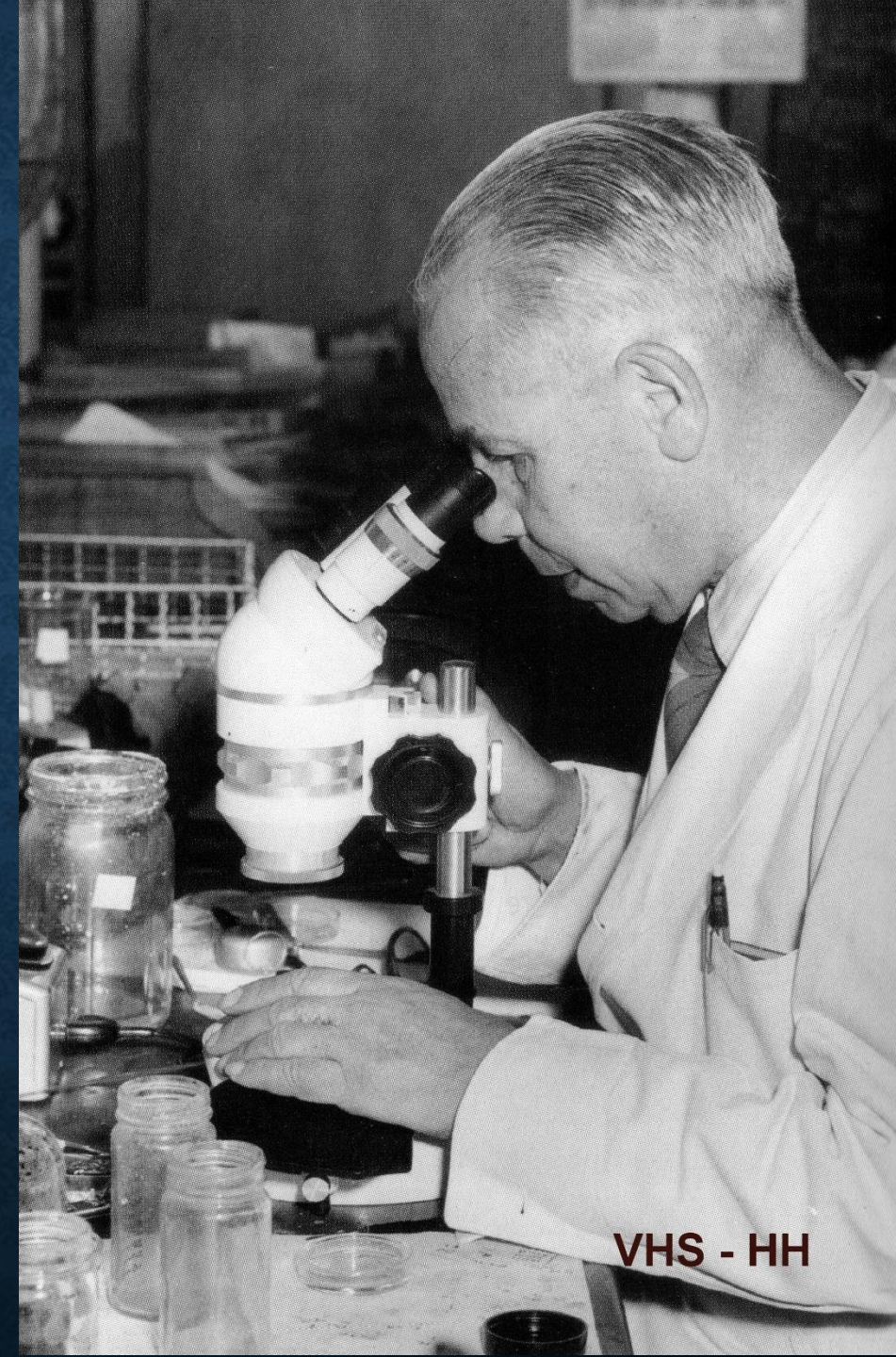
**1942: Founding member of the Fac. of Sci. & Tech. (SA Academy for Sci. & Arts)**

**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)**



**VHS - HH**

# Richard Reinecke

## 1924 - 1993

Veterinarian, Helminthologist

1946: BVSc.; 1959: DVSc & 1978: MMedVet (Parasitology), UP

1980: DSc (Zoology) Potchefstroom Uni.

1947: Private veterinary practice

1953: Researcher, OVI & later Section Head: Helminthology Sect.

1961: Senior Lecturer in the Dep. of Parasitology, Fac. Vet. Sci.

1968 until retirement in 1986: Head of the Dep. Paras., Fac. Vet. Sci.

Main research: occurrence and distribution of internal parasites,  
especially nematodes of South Africa.

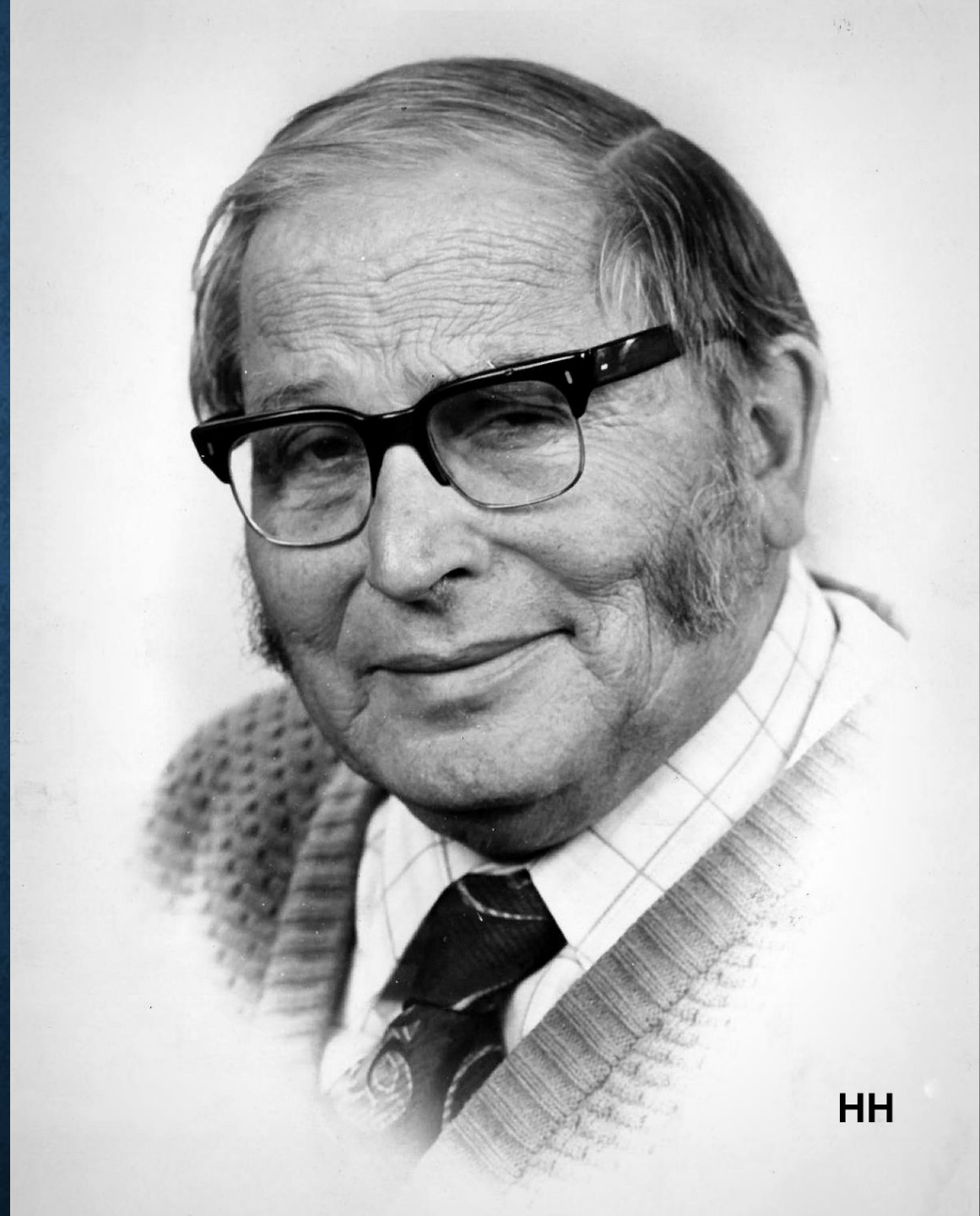
1966 – 1972: Developed methods to diagnose infestations & a  
variety of anthelmintic tests, including a standardized  
nonparametric larval anthelmintic test (Penzhorn &

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 PARSA

2008: Honoured as one of the 100 Researchers of UP, Leading Minds,







HH

## 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

1953 – 1955: Research Assistant, Dept. Zoology, 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*

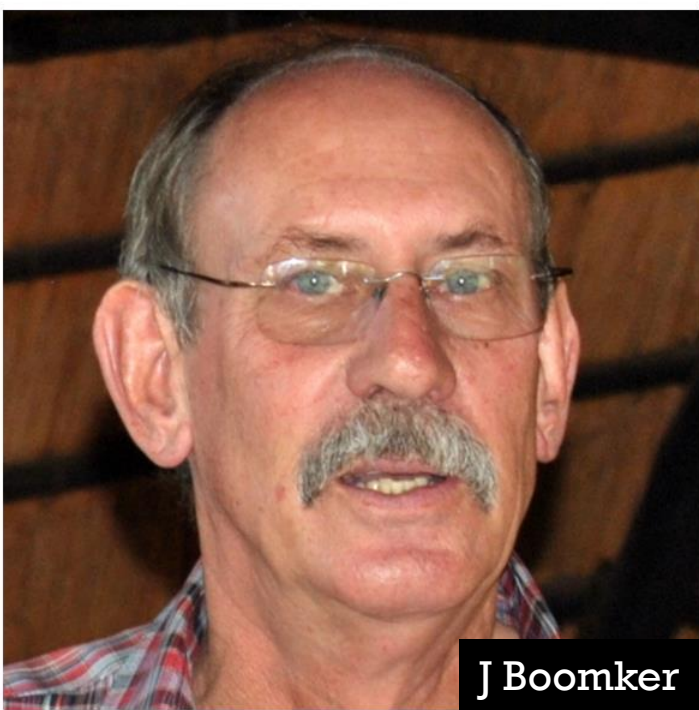
1965: Review of *Echinococcus* with descriptions of  
one new species & one new subspecies

1969: Taxonomic review of *Taenia*, with descriptions of  
one new species & one new subspecies

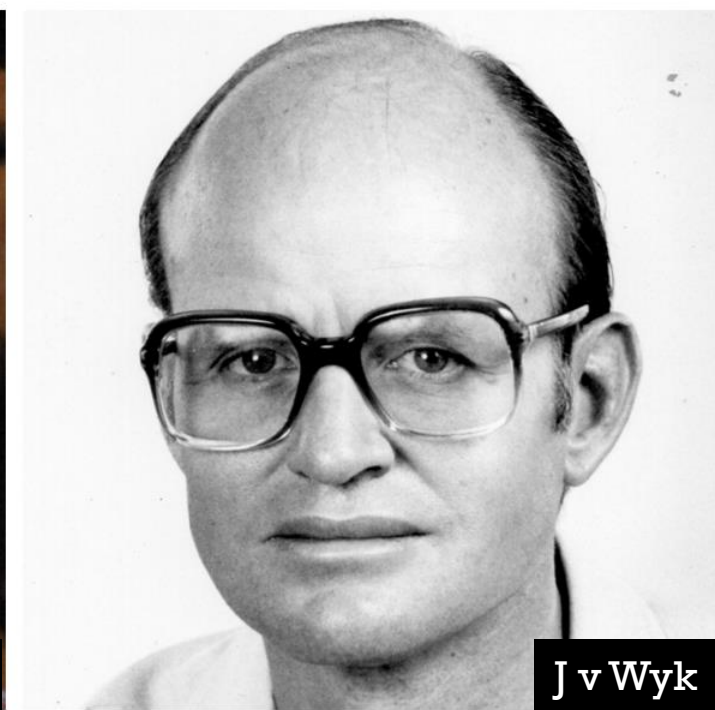
1980s: Senior Captain Scott Medal (SA Biological Society)

1992: Elsdon-Dew Medal (PARSA)

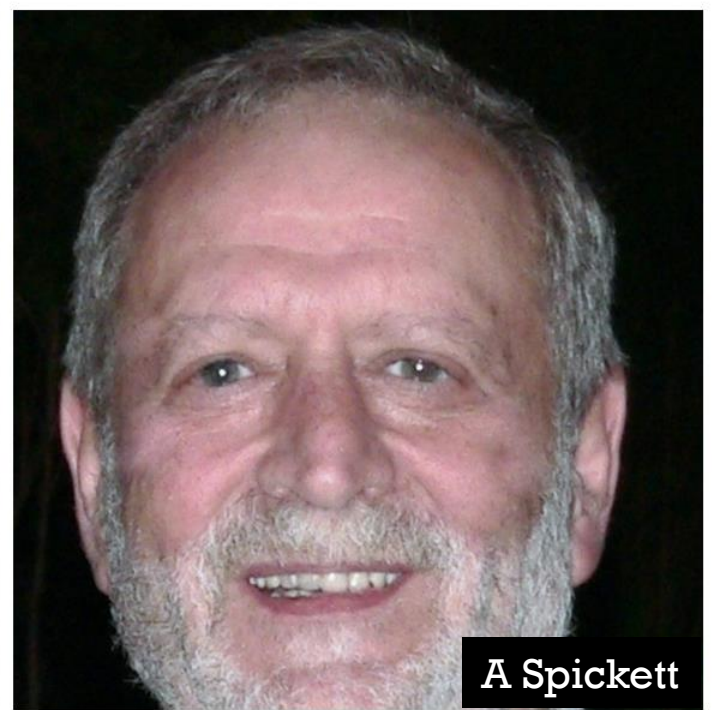
Two parasites (one from ostriches & one from a black rhinoceros)  
were named in her honour



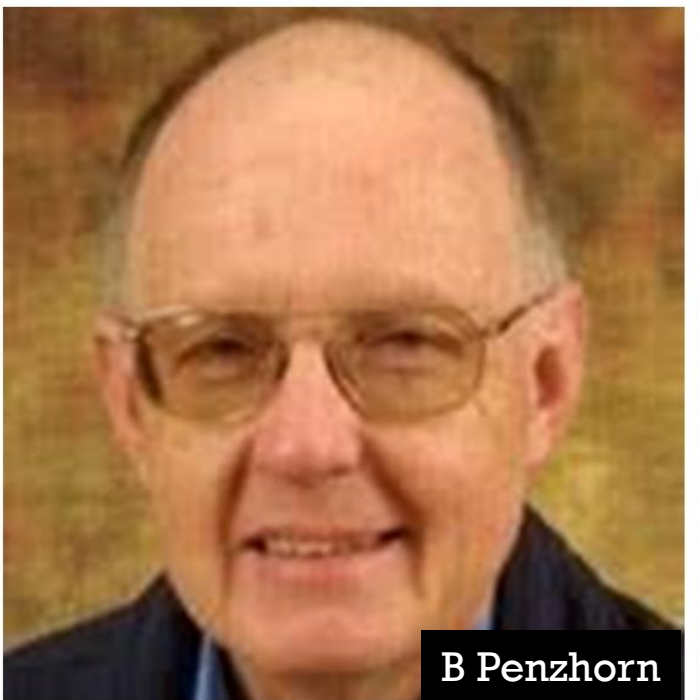
J Boomker



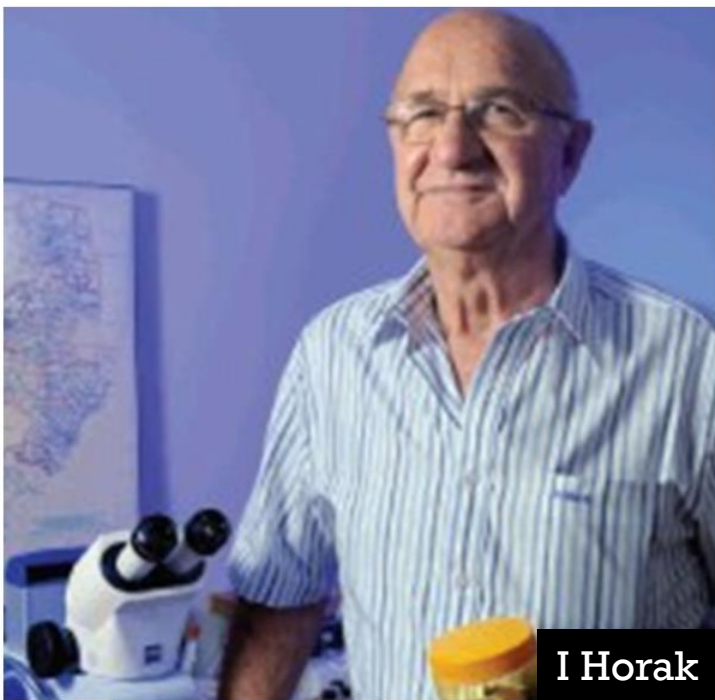
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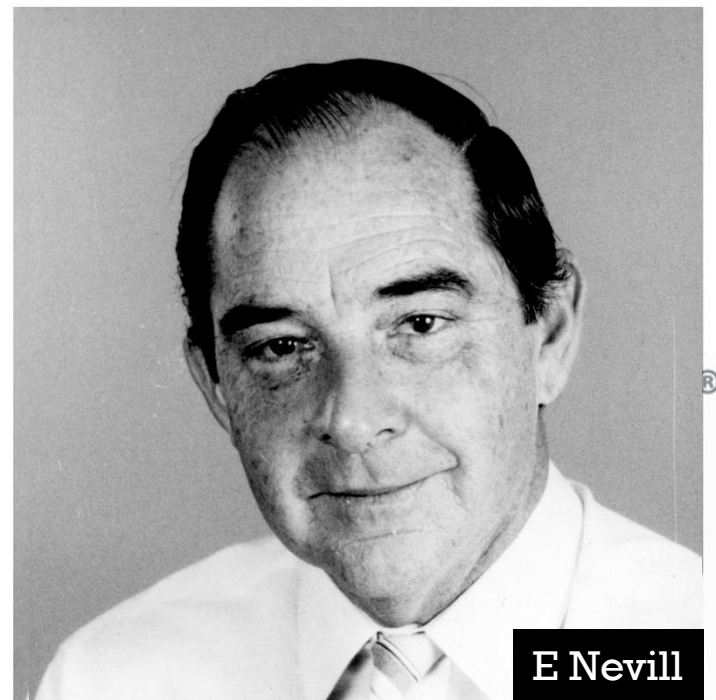
A Spickett



B Penzhorn



I Horak



E Nevill



**K Junker**



**G Venter**



**K Labuschagne**



**B Mans**



**D Bakkes**

Nowhere is it more true that  
“prevention is better than cure”  
than in the case of Parasitic Diseases.

Rudolf Leuckart (1886):

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

THANK YOU