



## Protozoa in the digestive tract of wild herbivores in South Africa. I: Warthogs (*Phacochoerus aethiopicus*)

DIRK G. BOOYSE<sup>1</sup>, ELIZABETH A. BOOMKER<sup>1</sup> & BURK A. DEHORITY<sup>2,3</sup>

<sup>1</sup>Department of Anatomy and Physiology, University of Pretoria, Private Bag X04, Onderstepoort 0110 South Africa.

E-mail: dbooyse@op.up.ac.za

<sup>2</sup>Department of Animal Sciences, Ohio Agricultural Research and Development Center, The Ohio State University, Wooster, OH 44691. E-mail: dehority.1@osu.edu

<sup>3</sup>Corresponding author

### Abstract

Seventeen warthogs were harvested from their natural habitat during the winter hunting seasons of May to July 2001 and May to June 2002. Samples (200ml each) were collected and weighed from the stomach, cecum and colon of each animal for protozoal counts. *Telamodinium onyx* was the only protozoa present in seven animals and the predominant species in all others. *Megadinium aethiopicum* was observed in eight animals, while *Teratodinium sphaeredon* was present in two warthogs. Several different species of protozoa were seen in a few animals, two of which belong to the family Ophryoscolecidae and are considered to be normal inhabitants in the rumen (*Diplodinium dentatum* and *Ophryoscolex purkynjei*).

**Key words:** Warthog, *Phacochoerus aethiopicus*, protozoa, grazer, hind-gut fermentation

### Introduction

The warthog (*Phacochoerus aethiopicus*) is a grazer and a hindgut fermentor. Only two reports could be found in the literature where the gastrointestinal protozoa of warthogs were mentioned. The first was that of Latteur and Dufey (1967) who established a new sub-family, Telamodiniidae, in the family Spirodinidae, which contained three new genera with a single species in each genus (*Telamodinium onyx*, *Teratodinium sphaeredon* and *Megadinium aethiopicum*). The second report was by Van Hoven (cited by Grain, 1990), who only mentioned that ciliate protozoa in the subfamily Telamodiniidae occurred in warthogs. To the best of our knowledge, no previous studies have included photos of protozoa in the family Telamodiniidae or reported on their quantitative occurrence.

This report is the first in a series on protozoa in the digestive tract of South African wild herbivores. Additional animals to be studied include the impala, kudu, elephant and nayla antelope.

### Materials and methods

Samples were collected during the winter hunting seasons of 2001 and 2002 near the town of Ellisras (39°44' 40.31" S, 27°44' 45.77" E) in the north-western part of the Limpopo province (Former Northern Transvaal) in South Africa. The farm is about 300 km north of Pretoria. Seventeen animals were sampled: four adult males (AM) (warthogs no. 3, 5, 8, 11), nine adult females (AF) (warthogs no. 1, 2, 6, 9, 10, 12, 13, 14 and 17), two juvenile females (JF) (warthogs no. 4 and 15) and two juvenile males (JM) (warthogs no. 7 and 16).

Samples were obtained from the animals within 40 min after death. The whole intestinal tract was removed and the different sections were separated by tying a string between each section to prevent leakage.