SHORT COMMUNICATION

INCIDENTAL POST-MORTEM FINDING OF THE
BUFFALO LEECH IN THE LUNGS OF AN
ESTUARINE CROCODILE

SUMMARY: The buffalo leech, Hirudinaria manillensis, was recovered from the
lungs of an estuarine crocodile, Crocodylus porosus, which died at Zoo Negara
from causes unrelated to its presence.

Keywords: Hirudinaria manillensis, lungs, Crocodylus porosus

INTRODUCTION

Leeches are soft-bodied, generally dorso-ventrally compressed, annelids that are well
adapted for a predatory or sanguivorous mode of life. They are hermaphroditic and vary
in size from a few mm to several cm in length. Leeches are mainly found in the tropics
and subtropics and because of their avid blood-feeding habits, many species constitute a
veritable scourge to man and animals. Terrestrial species such as Haemadipsa zeylanica
and Haemadipsa picta, both of which are known from Peninsular Malaysia, are vicious
blood-feeders. Many aquatic leeches, including species of Dinobdella and Limnatis, have
been reported to occur in the nose, throat and vagina of horses, cattle, buffaloes and the
nasopharynx of man (Sharma and Fernando, 1961; Hii et al., 1978; Kadarsan, 1984).

In this report, the buffalo leech, Hirudinaria manillensis, a species that mainly attacks
buffaloes, is reported from the lungs of an estuarine crocodile, Crocodylus porosus.

MATERIALS AND METHODS

An estuarine crocodile, C. porosus which had no previous report of adverse health, was
found dead in the crocodile-enclosure at Zoo Negara. Gross physical examination showed
that the carcass was in good condition.

During postmortem examination, a large live leech was seen partly extruding from the
left nostril. The rest of the leech was in the larynx. The trachea had a few petechiae and
the bronchus was clear. On incision of the bronchioles of the left lobe, a large dead leech
was found in the alveoli. There was no pathological lesions noted in the other systems.
Cause of death was not attributed to the presence of the leeches but to pollution of the
pool by oil.

RESULTS AND DISCUSSION

Both the leeches were similar. Unfortunately, the live leech was discarded. Although
the dead leech had lost most of the body coloration, a broken line of dark pattern was
present in the lateral aspect. The leech was about 12 cm. in length and about 1.7 cm. in
breath at its widest point. Using the descriptions in Harding and Moore (1927) and Keegan
et al., (1968), the leech was identified as H. manillensis (Lesson, 1842) Whitman, 1886
(Fig. 1). Four species of Hirudinaria are known: H. granulosa, H. javanica, H. manillensis
and H. viridis (Harding and Moore, 1927). H. manillensis is the only species reported from
Pen. Malaysia (Harrison, 1953; Sharma and Fernando, 1961). The following features will
differentiate H. manillensis from the other three species: absence of vaginal stalk; vaginal
FIG. 1: Dorsal aspect of the buffalo leech, *Hirudinaria manillensis*, from the lungs of the estuarine crocodile, *Crocodilus porosus*

caecum and common oviduct opening directly into the bursa; male and female genital pores separated by five annuli; width of caudal sucker distinctly less than that of the body.

*H. manillensis* live in water and are abundant in swamps and rice-fields frequented by buffaloes. Their bite is severe and workers in rice fields have been bitten often (Tweedie and Harrison, 1977). Although the main victim of *H. manillensis* is the water buffalo, it has been seen attached to frogs, snakes and turtles (Harding and Moore, 1927). Boynton (1913) has shown that rinderpest may be transmitted to cattle by *H. manillensis*.

ACKNOWLEDGEMENTS

The authors wish to thank the staff of Zoo Negara, Ulu Kelang, and the Department of Parasitology, Medical Faculty, University Kebangsaan Malaysia, for their help and cooperation. They also thank Prof. Rokuro Kano, Tokyo Medical and Dental University for a photocopy of the article by Keegan et al.

JOHN JEFFERY¹, VELLAYAN, S.², PAKEER OOTHUMAN¹,
BAHARUDIN OMAR¹, MOHD ZAHEDI¹, KRISHNASAMY, M.³ and INDER SINGH³

¹ Department of Parasitology and Medical Entomology
Faculty of Medicine
Universiti Kebangsaan Malaysia
P.O. Box 12418, 50778 Kuala Lumpur, Malaysia.

² Zoo Negara Malaysia
Ulu Kelang
68000 Ampang, Selangor, Malaysia.

³ Division of Medical Ecology
Institute for Medical Research
Kuala Lumpur, Malaysia.
REFERENCES


RINGKASAN

PENEMUAN INSIDENTAL LINTAH KERBAU DALAM PARU-PARU

Penemuan insidental lintah kerbau, Hirudinaria manillensis, di dalam paru-paru buaya, Crocoddilus porosus, semasa pemeriksaan post-mortem dibincangkan.