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On *Acanthocephalus bufonis* (Shipley) a common parasite of Malayan amphibians

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INTRODUCTION

Although *Acanthocephalus bufonis* is a very common parasite in Malayan amphibians it has so far gone unrecorded. Described in 1903 by Shipley from Thailand it has subsequently been reported from Hong Kong (Southwell and Macfie, 1925), Indo-China (Joyeux and Baer, 1935), China (Van Cleave, 1937) and the Celebes (Yamaguti, 1953). In the present paper it is redescribed from abundant material collected in Malaya. It has been recorded from both bufonid and ranid hosts previously.

HOST LIST

In Malaya it has been found in a wide variety of hosts collected from many localities. These are listed below.

Host[1]	Locality
Rana cancrivora ...	... Kuala Lumpur, Selangor; Thomson Road, Singapore.
Rana chalconta ...	... 24th mile Gombak Road, Pahang.
Rana erythraea ...	... Ampang, Selangor.
Rana macrodon ...	... Templer Park, Selangor; 24th mile Gombak Road and Genting Simpah, Pahang; Singapore.
Rana tigrina rugulosa ...	... Selayang, Selangor.
Bufo asper	... Genting Simpah, Pahang; Kuala Lumpur, Selangor.
Bufo melanostictus ...	... Botanic Gardens, Penang; Kuala Lumpur, Selangor; Singapore.
Kaloula pulcra ...	... Kuala Lumpur, Selangor.

The distribution in hosts and localities is almost certainly very wide.

Acanthocephalus bufonis occurs in very large numbers in *Bufo melanostictus*. Sometimes the whole intestine is chocked with them. In the other hosts the infection rate is much lower. The widespread nature of this acanthocephalan is probably due to its having a large number of intermediate host species.

1. The naming of hosts is according to Smith (1930).

In addition to Malayan material, specimens were collected by one of the authors (C.H.F.) from Colombo, Ceylon and Calcutta, India. It appears that *Acanthocephalus bufonis* is widespread from India to China and extends southwards to the Celebes. Golvan (1959) however gives its distribution as the Far East.

DESCRIPTION

The size of the mature individuals is very variable. They measure about 5–20[2] long and 1–2 in breadth. The proboscis (fig. 1b) is subcylindrical, measuring 0.39–0.49 × 0.20–0.37 in the male and 0.44–0.56 × 0.28–0.41 in the female. The proboscis hooks (fig. 1c) are arranged in 19–20 longitudinal rows of 5–6 each. The hooks measure 0.068–0.14 in length. The neck is 0.14–0.16 long. The proboscis receptacle measures 0.46–0.58 × 0.21–0.34 in the male and 0.48–0.74 × 0.24–0.38 in the female. The elliptical ganglion is situated near the posterior end of the receptacle. The lemnisci are 0.67–1.28 × 0.086–0.26. The trunk measures 6.5–9.0 × 0.93–1.29 in the male and 11.0–19.0 × 1.09–2.00 in the female. The testes are oval, 0.56–0.84 × 0.36–0.61 and lie tandem in the middle third of the body trunk. The cement glands are long and slender and extend to the posterior end of the testis. The uterus, vaginal sphincter, and vaginal bulb measure 0.67–0.79, 0.056–0.064 and 0.031–0.037 respectively. In the living condition the outer and inner shells of the egg and the embryos measure 0.082–0.089 × 0.026–0.029, 0.062–0.069 × 0.021–0.023 and 0.054–0.056 × 0.018–0.020 respectively.

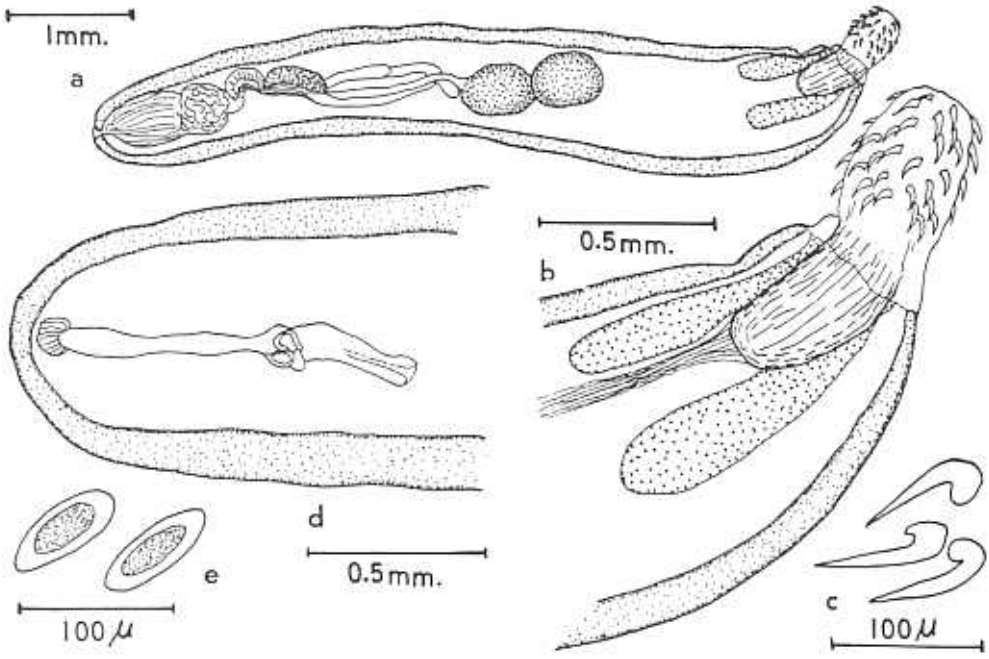

Figure 1. *Acanthocephalus bufonis* (Shipley). a male, b proboscis and anterior portion, c proboscis hooks, d posterior portion of female, e developing eggs from faeces of *Bufo melanosticus*.

[2] All measurements are in millimetre.

DISCUSSION

Acanthocephalus bufonis has been recorded from *Bufo melanostictus* and *B. penangensis* from Patani, Thailand (Shipley, 1903), *Rana nigromaculata* and *R. formosus* in China (Van Cleave, 1937), and Rana tigrina and *Bufo asper* in Celebes (Yamaguti, 1953). The Malayan material shows slight differences to the previous descriptions of the species in egg size and in the diameter of the vaginal sphincter and vaginal bulb.

SUMMARY

Acanthocephalus bufonis is recorded for the first time in Malaya from eight species of amphibian hosts. It is described briefly with notes on distribution.

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