

## RESEARCH COMMUNICATION

# NON-SPECIFIC ESTERASE ISOENZYMES OF ADULT SCHISTOSOMES FROM THE HIPPOPOTAMUS (*HIPPOPOTAMUS AMPHIBIUS*)

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### ABSTRACT

FRIPP, P. J., 1981. Non-specific esterase isoenzymes of adult schistosomes from the hippopotamus (*Hippopotamus amphibius*). *Onderstepoort Journal of Veterinary Research*, 48, 257 (1981).

Extracts of adult schistosomes collected from *Hippopotamus amphibius* in the Kruger National Park gave alpha naphthyl acetate isoenzyme patterns after polyacrylamide gel electrophoresis that did not correspond with those of either *Schistosoma mansoni* or *S. rodhaini*.

### Résumé

ISOENZYMES ESTERASES NON-SPECIFIQUES DE SCHISTOSOMES ADULTES DE L'HIPPOPOTAME (*HIPPOPOTAMUS AMPHIBIUS*)

Des extraits de schistosomes adultes récoltés sur l'*Hippopotamus amphibius* au Parc National Kruger ont donné des modèles d'isoenzymes alpha naphthyl acetate après électrophorèse de polyacrylamide gélosée, qui ne correspondaient pas à ceux du *Schistosoma mansoni* ni de *S. rodhaini*.

Twelve adult schistosomes, collected by Mr P. Visser [Bilharzia Field Research Unit (MRC), Nelspruit] from the mesenteric vessels of *Hippopotamus amphibius* during a culling programme in the Kruger National Park, Eastern Transvaal, were washed in saline, rinsed in ice-cold water, drained and stored at  $-18^{\circ}\text{C}$ .

The flukes were separated into male and female groups and each group was ground separately in an all-glass microhomogenizer in 2% Triton X-100. The homogenates were frozen and thawed twice and left for 4 h at  $4^{\circ}\text{C}$ . They were then centrifuged for 30 min at 6 000 g, the supernatant applied to a 7,5% polyacrylamide flat bed gel and the electrophoretic procedure, with minor modifications, carried out as previously described (Frupp & McSheehy, 1969). Extracts of adults of both sexes of *Schistosoma mansoni* and *S. rodhaini* were similarly prepared and their isoenzyme patterns compared with those of the hippopotamus flukes.

The extract of the female flukes, which was derived from only 3 individuals, was too weak to produce bands other than the 2 major bands which corresponded to acetylcholinesterases and which were common to all the extracts. However, there was a

faster band detectable in the extract from the hippopotamus male flukes which did not correspond with those of either *S. mansoni* or *S. rodhaini*. Moreover, 2 of the 3 characteristic minor bands obtained from *S. mansoni* males were absent.

It would therefore seem that these flukes, which were obtained from *H. amphibius* and which utilize *Biomphalaria pfeifferi* as intermediate host (Pitchford & Visser, 1981), belong to a species that is neither *S. mansoni* nor *S. rodhaini*.

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### REFERENCES

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