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Prevalence of pentastomids in *Mabuya striata* (Scincidae) from Dar es Salaam, Tanzania

K.N. Hirji

Department of Zoology, University of Dar es Salaam, P.O. Box 35064, Dar es Salaam, Tanzania

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The occurrence of pentastomid parasites in the respiratory system of vertebrates has been extensively reviewed by Self (1969). Pentastomids occur widely in Africa as parasites of reptiles and mammals including humans (Self, Hoops & Williams 1974).

In order to determine the prevalence of pentastomids in the skink *Mabuya striata* from Dar es Salaam, skinks from three sites namely, the main campus of the University of Dar es Salaam (established 1964), Pugu School (established 1948) and Mbezi Housing Estate (established 1977) were examined during the months of November and December 1978. Captured *M. striata* were chloroformed and their thoracic and abdominal cavities were opened and the animals immersed in Bouin's fluid for 24 h and finally transferred to 70% alcohol. The lungs and trachea were opened and examined with a stereoscopic microscope. Some pentastomids were removed and processed for histological examination and identification. They were identified by Riley (*pers. comm.*) as *Raillietiella hemidactyli*. However, *R. hemidactyli*, *R. gehyrae* and *R. hebitihamata* form a natural group according to Self (1969), and the name *R. gehyrae* is recommended for both. Table 1 summarizes the results of the investigation. From the table, it seems that *M. striata* from old human habitations have parasites whilst those from a new residential area are free from parasites. The significance, if any, of this observation is not yet clear.

R. gehyrae, which ranged from 3 – 10 mm in body length, were either found freely in the pulmonary passages or loosely attached by their anterior chitinous hooks to the inner lining of these passages. The number of *R. gehyrae* recovered from individual *M. striata* ranged from two to 25. In one individual, 15 parasites were collected from one lung. In some animals, the parasites were found in one lung only.

Histological examination of *R. gehyrae* showed the presence of blood in their digestive tracts. A careful study of the lungs, however, showed that even in the cases of heavy infection, there was no visible damage to the lung tissue. Self and Kuntz (1967) observed that pentastomids are capable of living in the tissues of their hosts with little or no damage to the latter.

Table 1 Prevalence of *R. gehyrae* in *M. striata* from Dar es Salaam

	Pugu School	University campus	Mbezi Estate
No. of *M. striata* examined	36	68	18
No. of *M. striata* infected	13	17	–
No. of *M. striata* infected	36	25	–

Adult female *R. gehyrae* contained numerous eggs with developing embryos. Some of the eggs were also seen in the trachea and alveolar sacs of the lungs. Microscopic examination of the gut contents of each infected *M. striata* showed that no eggs of *R. gehyrae* were being passed in the faeces. According to Fain (1961), some species of *Raillietiella* complete their life cycles in one host. It is possible that *R. gehyrae* completes its life cycle in the lungs of *M. striata*. However, it is also likely that the developing eggs of *R. gehyrae* escape through the mouth of *M. striata* and complete their life cycle in intermediate hosts. Lavoipierre and Lavoipierre (1966) have shown that the cockroach *Periplaneta americana* can act as an intermediate host for species of *Raillietiella*. Since the gut contents of *M. striata* show that the animals feed mainly on grasshoppers and cockroaches, the possibility of these insects acting as intermediate hosts for *R. gehyrae* and other species of *Raillietiella* needs to be investigated.

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