Ogmocotyle ailuri (Price, 1954) (Digenea: Notocotylidae) Found in the Japanese Monkey, Macaca fuscata

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ABSTRACT. Several dozens of small trematodes were found in the small intestine of a Japanese monkey, Macaca fuscata, that was captured in Sendai City, Miyagi Prefecture, Japan. The trematode was identified as Ogmocotyle ailuri. This is the first case of a Japanese monkey infected with Ogmocotyle trematodes, and a new host record for O. ailuri.

KEY WORDS: Japanese monkey, Macaca fuscata, new host record, Ogmocotyle ailuri, trematode.


In December 2010, 4 Japanese monkeys, Macaca fuscata, were captured in Sendai City, Miyagi Prefecture, Japan, by wildlife control authorities. During a postmortem examination, the intestinal contents were collected, washed repeatedly by a simple sedimentation method and inspected for parasites by a stereomicroscope. Several dozens of small trematodes were observed in the contents recovered from the small intestine of an approximately 15-year-old male monkey. Unfortunately, most of the trematodes were accidentally lost during the examination. A number of the remaining parasites were fixed in 70% ethanol, stained with alum carmine and mounted in balsam (Fig. 1A). These specimens were deposited in a collection at the Meguro Parasitological Museum (MPM Coll. No. 20808).

The morphology of the 4 specimens was observed. The results were as follows, with all measurements are in micrometers (mean in parentheses): body elongate, 1862–2106 (1978)×747–824 (796); body surface unarmed; oral sucker 110–129 (122)×137–148 (143); pharynx absent; ceca terminating near the posterior end of the body; ventral sucker absent; genital pore submedian, near equator; cirrus sac large, C-shaped, transverse, 1115–1308 (1212)×166–211 (183); testes symmetrically arranged, near the posterior end of the body, 228–293 (271)×104–159 (122); ovary lobed, intertesticularal 62–92 (80)×154–239 (199); vitelline glands follicular, forming oblique rows along the anterior margin of the testes; uterus extended from the level of the cirrus sac to the testes and laterally to both sides of the body; and eggs, 21–25 (23)×12–16 (14), with one long filament at each pole (Fig. 1B).

The trematodes were considered to belong to the genus Ogmocotyle based on the absence of a pharynx and a ventral sucker, the position of the genital pore, the position and shape of the cirrus sac and the presence of a filament at each pole of the eggs [2].


Fig. 1. Ogmocotyle ailuri from a Japanese monkey. (A) Ventral view of an adult, (B) an egg.
Taiwanese monkeys, _Macaca cyclops_, which were shipped to Japan as laboratory animals. Asakawa et al. [1] described an _Ogmocotyle_ sp. from the small intestine of the large Japanese field mouse, _Apodemus speciosus_, and the small Japanese field mouse, _A. argenteus_, but their detailed morphological data were not reported.

Members of the genus _Ogmocotyle_ have also been described in primates: _O. indica_ from the rhesus monkey, _Macaca mulatta_, in China [3], _O. macacae_ from _Macaca rhesus_ in Vietnam [8], and _O. fujianensis_ from _M. mulatta_ in a zoo in China [13]. Düwel [4] noted that eggs with filaments detected in the feces of _M. mulatta_ from China were most probably caused by the genus _Ogmocotyle_.

With reference to the previously mentioned species, Sey and Graber [12] regarded _O. sikae_, _O. capricorni_ and _O. macacae_ as being synonymous with _O. pygargi_, _O. indica_ and _O. ailuri_, respectively. Furthermore, it is doubtful whether _O. fujianensis_ belongs to _Ogmocotyle_ because eggs of this species have no filament, contrary to the criterion for this genus [2].

According to the identification key by Sey and Graber [12], the present trematodes differ from _O. africanaum_, _O. pygargi_ and _O. indica_ by in that they have a horizontal and arcuate cirrus pouch. They differ from _O. africanaum_ in terms of arch formation by vitelline follicles, from _O. ratti_ in terms of their longer body lengths (more than 1 mm) and from _O. fujianensis_ in terms of the presence of a filament at each pole of the egg. In 1992, _O. tangi_ from the Reeves’s muntjac, _Muntiacus reevesi_, and sheep, _Ovis aries_, was newly described. However, this species differed morphologically from the present trematode in terms of the presence of shoulders on the body and the cirrus pouch and the genital pore being positioned further from the median transverse line of the body [6]. Therefore, the trematode described in this study is considered to be identical to _O. ailuri_. This species was originally described based on specimens from the lesser panda, _Ailurus fulgens_, at a zoo in the United States [9, 10]. Although Price [10] and Yoshimura _et al._ [15] reported that a few eggs had 2 shorter filaments at the opercular pole, none were observed in the present study. This is the first case of a Japanese monkey infected with _Ogmocotyle_ trematodes and a new host record for _O. ailuri_.

In Japan, Taiwanese monkeys are an introduced species, and feral populations originating from escaped individuals have been found on the Shimokita Peninsula (Aomori Prefecture) and Kii Peninsula (Wakayama Prefecture) [5]. Feral individuals of introduced rhesus monkeys have also been observed on the Boussou Peninsula (Chiba Prefecture) [5]. However, there has been no report of habitats for these introduced species around Sendai, Miyagi Prefecture. It is highly possible that _O. ailuri_ may parasitize indigenous Japanese monkeys that have not been infected by the introduced Taiwanese and rhesus monkeys to date; however, a further epidemiological survey of introduced or zoo animals in neighboring areas is required.

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REFERENCES