

Short Communication

**Common carp (*Cyprinus carpio carpio*) as a host for the fish leech  
*Limnotrachelobdella sinensis* (Hirudinida: Piscicolidae) in Japan**

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**Abstract.** Forty-four and one *Limnotrachelobdella sinensis* (Blanchard, 1896) were found attached to the inner surface of the opercle of two common carp (*Cyprinus carpio carpio*) from, respectively, the Ai and Furu rivers, tributaries of the Yodo River, in Osaka Prefecture, central Japan. These findings are the first records of *L. sinensis* from *C. carpio carpio* in Japan.

**Key words:** *Limnotrachelobdella sinensis*, Piscicolidae, leech, fish parasite, common carp, *Cyprinus carpio carpio*, heavy infestation

*Limnotrachelobdella sinensis* (Blanchard, 1896) is a piscicolid leech infesting cyprinid fishes (Cypriniformes) in Far East Asia (Epshtein, 1987; Yang, 1996; Nagasawa *et al.*, 2008). This species was described originally as *Trachelobdella sinensis* by Blanchard (1896) based on specimens from China but was later transferred to the genus *Limnotrachelobdella* Epshtein, 1968 (see Sawyer, 1986). It has been reported from Russia, Korea, and Japan as well as China (see Nagasawa *et al.*, 2009 for the literature). Known host species of *L. sinensis* are common carp (*Cyprinus carpio carpio* Linnaeus), Amur carp (*Cyprinus carpio haematopterus* Martens), Prussian carp (*Carassius gibelio* (Bloch)), and several crucian carps (*Carassius cuvieri* Temminck & Schlegel, *C. auratus* Temminck & Schlegel, *C. auratus langsdorffii* Temminck & Schlegel).

In Japan, *Cyprinus carpio carpio* is one of the most important fishes for inland fisheries and aquaculture, and only an unidentified species of leech has been reported by Uéno (1943) from this fish species. This note provides the first record of *L. sinensis* from *C. carpio carpio* in Japan.

As many as 44 *L. sinensis* were found infesting a common carp (36.0 cm standard length [SL]) captured on 1 February 2011 in the Ai River at To-kaichi (34° 50' N, 135° 34' E) in Ibaraki City, Osaka Prefecture, central Japan. Also, one *L. sinensis* was found on another specimen (38.5 cm SL) of common carp caught on 23 January 2011 in the Furu River at Taimahigashi-machi (34° 47' N, 135° 37' E) in Neyagawa City of the same prefecture. Both rivers are tributaries of the Yodo River system. The infested fish were transported alive to the laboratory, where leeches were collected from the fish and

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fixed in an unrelaxed state in 10% formalin. Voucher specimens are deposited in the Annelida collection at the National Museum of Nature and Science, Tokyo (NSMT-An 414). The scientific and common names of fishes follow Froese & Pauly (2011), except for *C. auratus* (Park *et al.*, 2010).

Leeches were attached by the caudal sucker to the inner surface of the opercle of the two *C. carpio carpio* hosts (Fig. 1). The total length of the parasite specimens from the Ai River varied widely, measuring 14.8–38.5 (mean 26.3, N=44) mm, indicating that infestation of this single *C. carpio carpio* specimen by *L. sinensis* occurred over a lengthy period (cf. Nagasawa & Tanaka, 2009). When both fish were examined, their gills were red-colored, but many hemorrhages were found on the body surface near the base of the pectoral fins (Fig. 1). The hemorrhages appear to have been caused by the blood sucking activities of *L. sinensis*. As for the number of leeches recorded from a single fish, up to 62 individuals were found on *Carassius auratus langsdorfii* collected in the Yodo River (Ogawa *et al.*, 2007).



Fig. 1. *Limnotrachelobdella sinensis* (Blanchard, 1896) infesting the inner surface of the right opercle of a common carp (*Cyprinus carpio carpio* Linnaeus) collected in the Ai River, Osaka Prefecture, central Japan. Note hemorrhages on the fish's body surface near the base of the pectoral fin. Scale bar: 3 cm.

In Japan, only *Carassius cuvieri* and *C. auratus langsdorfii* were hitherto known to harbor *L. sinensis* (Ogawa *et al.*, 2007; Nagasawa & Tanaka, 2009), and therefore *Cyprinus carpio carpio* is the third fish host species for this leech. In this country, *L. sinensis* so far has been reported only from the Yodo River system. The possibility that this species was introduced from abroad has been discussed by Nagasawa & Tanaka (2009).

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