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 longsdorfii 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 Takaichi (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 langsdorfi collected in the Yodo River (Ogawa et al., 2007).

In Japan, only Carassius cuvieri and C. auratus langsdorfi 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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References


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