(Short paper)
An Odd Cyprinid Fish *Mylopharyngodon piceus* (Black Carp or Ao-uo) Firstly Recorded in Open Hokkaido Waters.

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Abstract　A gravid female black carp *Mylopharyngodon piceus* was captured in the Ishikari River, Hokkaido, Japan. The present paper is the first record on black carp in open Hokkaido waters.

Key words : black carp, ao-uo, *Mylopharyngodon piceus*, first record, introduced fish.

On 8 July 1999 an odd and large cyprinid fish was captured in the lower reaches of the Ishikari River, Hokkaido, Japan (Fig. 1). Capture gear was a set net for smelts and other small fishes. The captured fish is shown in Fig. 2. The morphological data of the fish are shown in Table 1. Counts and measurements followed Masuda et al. (1984), all the fin rays were regarded as soft fin rays.

According to the morphological description in previous studies (Nakamura, 1963, 1969; Berg, 1964; Miyadi et al., 1976; Masuda et al., 1984), the fish was identified as black carp (ao-uo in Japanese) *Mylopharyngodon piceus* (Richardson, 1846), by having the following characters; mouth terminal, no barbells on upper jaw, snout some-

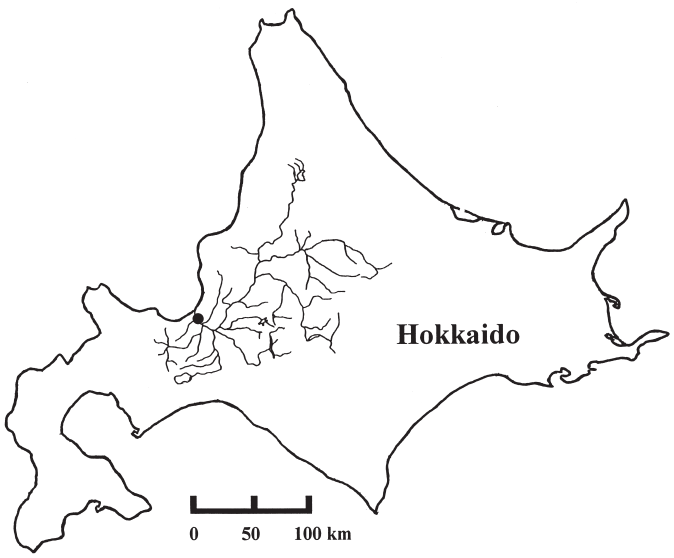

Fig. 1　Map showing the locality of capture and the Ishikari River basin including the branches. Black circle indicates the locality of the capture.

Table 1　Morphological data on captured black carp. Counts and measurements followed Masuda et al. (1984), all the fin rays were regarded as soft fin rays.

Measurements			Counts			Sex	Age
Total length (cm)	Standard length (cm)	Weight (kg)	Pectoral fin rays	Pelvic fin rays	Lateral line scales		
95.0	86.0	11.8	17	9	45	female	over 11^{+}

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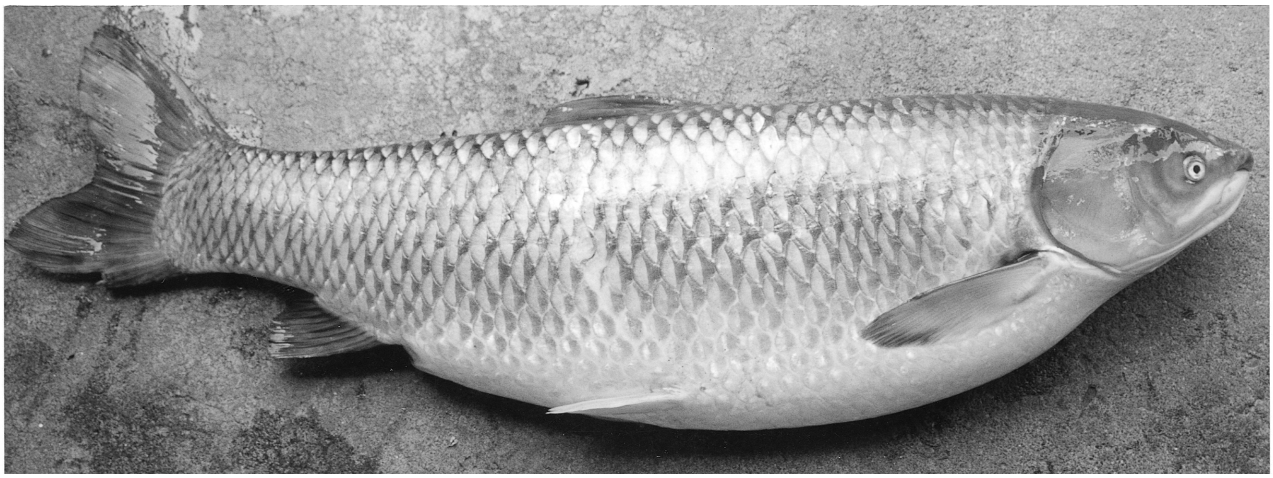

Fig. 2 Captured black carp, *Mylopharyngodon piceus*. 86.0 cm in SL. Considering the injury of the specimen, showing right side.

what pointed, lateral line complete, 17 pectoral rays, 9 pelvic rays and 45 lateral line scales. From the examination by touch to the abdomen, the fish was considered to be gravid female. The age was estimated at over 11^{+} by the examination of the scales, although it was impossible to be absolutely precise. Previously in open Japanese waters, black carp were recorded only in Honshu Island, this paper is the first record in Hokkaido Island.

Prior to the original description of the Richardson (1846), the black carp had already been cultured widely in East Asia, as a member of the Chinese carps so-called "four domestics" (grass carp *Ctenopharyngodon idella*, bighead carp *Hypophthalmichthys nobilis*, silver carp *Hypophthalmichthys molitlix*, and black carp). Of the four domestics, black carp had the widest range, both in terms of temperature tolerance and geographic distribution, the occurrence expanded approximately from 22°N to 51°N in latitude. Unlike grass carp, introductions of black carp were often unintentional, particularly seeming to be the results of "contaminant" in grass carp fry (Niko et al., 2005). The introduction of black carp to Japan and the establishment of self-sustaining population in the Tone River were also seemed to be the typical cases of the above-mentioned (Nakamura, 1969).

To establish a self-sustaining population, black carp is considered to require the large river, such as that in continent. The Tone River, however, is believed to be the smallest river in which black carp successfully reproduces naturally. The Ishikari River, in which firstly recorded the present black carp, is the one of the largest rivers in Japan along with the Tone River (Fig. 1). When solely considering the river size, the Ishikari River may have sufficient size for the reproduction of black carp.

The present record provides important information as follows; namely that the first, black carp may survive over 10 years and mature in the environment of Hokkaido; the second, the potential to establish the self-sustaining population in Hokkaido is suggested.

Preceding the paper, the information about this record had already mentioned briefly in the database web-site of the Hokkaido Government concerning the introduced species, Hokkaido Blue List (Hokkaido Government, 2004, http://bluelist.hokkaido-ies.go.jp/, available January 2007).

We gratefully acknowledge Mr. Tsutomu Oka, the president of Oka Suisan, Ishikari, Hokkaido, who firstly found out and distinguished the odd fish. The fish was preserved as the stuffed specimen in his own restaurant.

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和文摘要

北海道で初記録されたアオウオについて

内藤　一明・粟倉　輝彦

北海道石狩川下流域で１個体のアオウオ（*Mylopharyngodon piceus*）が採捕された。本個体は雌で成熟していた。北海道の自然水域でアオウオが採捕されたのは今回が初記録である。

* No direct citation.