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HYPOPHTHALMICHTHYS MOLITRIX (CYPRINIFORMES : CYPRINIDAE) OTHER EXOTIC CYPRINID IN THE RIO DE LA PLATA

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ABSTRACT.– The exotic silver carp *Hypophthalmichthys molitrix* is recorded for the first time from the Río de la Plata in Argentina. This species would have escaped from some fish farm close to the Plata basin during the large floodings in 1997.

KEY–WORDS.– Río de la plata, Cyprinidae, *Hypophthalmichthys molitrix*, exotic fish

RESUME.– La carpe argentée exotique *Hypophthalmichthys molitrix* est citée pour la première fois pour le Río de la Plata en Argentine. Cette espèce s'est vraisemblablement échappée d'un centre d'élevage situé dans les environ du bassin de la Plata au cours d'importantes inondations survenues en 1997.

MOTS–CLES.– Río de la plata, Cyprinidae, *Hypophthalmichthys molitrix*, poisson exotique

The family Cyprinidae with about 2010 species is one of the larger families of freshwaters fishes (NELSON, 1994). The largest species of this family can reach 3 m (*Catlocarpio siamensis* from Thailand) and the smallest does not surpass 12 mm (*Danionella translucida*, from Burma). Most species inhabit freshwater environments, and a few of them can be found in blackish water. Cyprinids are distributed in North America, Africa and Eurasia.

Several species such as *Cyprinus carpio*, *Hypophthalmichthys molitrix*, *Brachydanio rerio* and *Carasius auratus* are used as food resources or aquarium fishes. For these reasons, they were introduced in regions of South America, Australia, and New Zeland.

Up to now, *C. carpio*, *C. auratus*, and *Ctenopharyngodon idellus* were introduced in freshwater environments of Argentina (RINGUELET *et al.*, 1967; COLAUTTI, 1997). *Carasius auratus* and *C. carpio* were introduced as ornamental fishes. *Carasius auratus* is known since the end of the last century, while the first record of *C. carpio* comes from the begining of the century and today it is widespread in many basins. *Ctenopharyngodon idellus* was introduced in 1970 for control aquatic scrubs without success.

The silver carp, *Hypophthalmichthys molitrix* (Fig. 1), is native species in the basins of the rivers Yangtze, West, Kwangsi and Kwangtung, in south central China, and the Amur river, in southeast Russia.

Hypophthalmichthys molitrix had been successfully introduced in many countries not only as food resource with an increased production of polyculture, but also to improve the quality of the water, because it diminishes the probabilities of an algal bloom in the artificial pools. The species has a high grow and reproduction rates; in captivity, the carp duplicates its weight two days each, during the first ten days. Five years old specimens may reach 6.40 kg. ALIKUNHI and PARAMESWARAN (1963) cited specimens with about 20 kg, the known highest weight.

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Hypophthalmichthys molitrix is a plankton feeder, having changes in its diet during ontogeny. The specimens from 7 to 9 mm total length, feed on rotifers and nauplii of copepods. When fishes grow, the diet includes copepods, cladocerans and phytoplankton. The adults primarily feed on phytoplankton and secondarily on zooplankton (flagellates, dinoflagellates, mixophytes and bacillariophytes). Some morphological adaptations for this type of feeding are present in the intestine and the gills of the species. The intestine is 15 times longer than the body length and the gill is modified into a complex spongy structure, with fusion of the external gill rakers. Also there is an epibranchial organ (HOWES, 1981; JHINGRAN & PULLIN, 1988).

In China, *H. molitrix* breeds in rapid waters, between April and July; and natural spawning has not been observed in ponds. In captivity, the reproduction is possible when rapid waters are produced in the tanks (pers. obs. NGR). The spawning includes a very high number of eggs, that reaches about 1 million/kg (WU & CUNG, 1964).

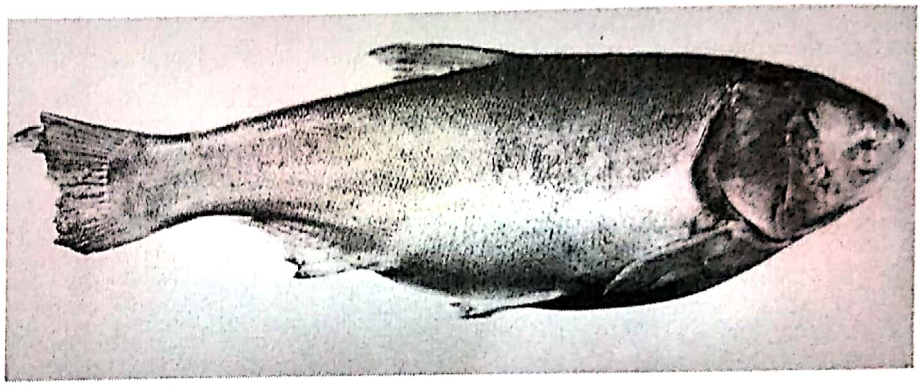

Fig. 1. *Hypophthalmichthys molitrix* (MLP 9383), 490 mm SL, Argentina, Río de la Plata, Punta Lara

During March 1998, fishermen working with a large beach seine in the Río de la Plata, Punta Lara (34° 58'S – 57° 54' W), caught one specimen of *H. molitrix*, 490 mm SL and 1.65 kg weight. Measurements in millimeters are listed below : Head length 139; body depth 160; eye diameter 19.2; snout length 42. Dorsal fin ii, 8; anal fin iii, 12; pectoral fin i, 17; ventral fin i, 7; lateral line scales 112.

There are no official records of *H. molitrix* in farms in Argentina, although other carps are breeding in captivity. In the states of the southern Brazil (Paraná, Santa Catarina and Rio Grande do Sul), the species is reproduced in farms (pers. obs. NGR). Fish farms are usually close to water courses, fact that surely favours the escape of specimens during large floodings. The abundant rainfall of 1997, that covered wide areas in the Paraná and Uruguay basins probably allowed the presence of *H. molitrix* in the Río de la Plata. Future studies will indicate if this species finds propitious conditions for its establishment in the Río de la Plata.

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