Fish Imagery and Symbolism in the Art of Mesopotamia

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To the ancient Mesopotamians, who established remarkable civilizations and whose significant accomplishments continue to influence our lives today.

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PREFACE

I have always been captivated by the ancient civilizations of Mesopotamia. This interest began over thirty years ago and has grown over time, particularly in relation to the artistic works of the Ancient Mesopotamians. Among their remarkable achievements, the depiction of fish has drawn my attention, likely due to my background in fish taxonomy. The ichthyological descriptions provided by Coad et al. (2000)—specifically their analysis of fish imagery in Islamic artwork painted in Persia around 1400—sparked the idea of offering an ichthyological perspective on the fish depicted in Ancient Mesopotamian art. Over the past two decades, I have searched through hundreds of books housed in libraries across Auckland and Wellington, seeking images of fish in the artworks of ancient Mesopotamia. Additionally, I explored the internet for more publications and images of artifacts showcasing fish held in leading museums around the world.

In undertaking this extensive project, I formulated specific questions to guide my exploration and to help uncover and describe the fish images found in the artworks of Ancient Mesopotamia. My questions were: How scientifically accurate were the Ancient Mesopotamian artists in their representations of fish thousands of years ago? Did they pay attention to the ichthyological characteristics of each species they depicted?

The answers to these questions emerged as I completed my research, organized the images chronologically, and archived my findings. I discovered that to create fish images akin to those produced by the Ancient Mesopotamians, one must possess both artistic skills to render the fish accurately and naturalist knowledge—specifically ichthyological expertise—to capture the features of each species. While one can develop artistic abilities through instinct, becoming a naturalist or ichthyologist requires formal study and learning. Given that formal ichthyological education was non-existent in ancient times, it is remarkable that Mesopotamian artists managed to incorporate precise ichthyological features into their representations. Their keen observations enabled them to convey to us, thousands of years later, their ability to identify fish species and depict their morphological traits without formal training in ichthyology. This extraordinary talent for capturing the intricate details of fish contributes to

our understanding of the ingenuity of the Ancient Mesopotamians, which is also evident in other fields such as medicine, mathematics, and astronomy.

In this book, I present a novel attempt to identify various fish species illustrated in the artworks of Ancient Mesopotamia. Without the accurate observations made by the Ancient Mesopotamian artists in depicting these species, completing this book would not have been feasible.

This book is organized into four chapters, along with a preface, introduction, and index. The first chapter focuses on the fundamental ichthyological terms used throughout the text. Defining these terms is crucial, as both ichthyologists and non-ichthyologists will read this book; the latter group will benefit from understanding these definitions. The second chapter addresses the fish families referenced in this work, providing brief descriptions of key freshwater and marine species to help non-ichthyologists grasp essential taxonomic information about these families. In the third chapter, I describe fish images found on artistic artifacts such as cylinder seals, clay tablets, terracotta jars, plates, and wall reliefs from an ichthyological perspective. This examination aims to identify the fish species depicted and to evaluate the artistic achievements of the Ancient Mesopotamians. The description encompasses works from the prehistoric period (5500–4800 B.C.) through to the Neo-Babylonian Period (625–539 B.C.), based on the availability of fish imagery during these times. The fourth chapter highlights the significance of fish in the lives of Ancient Mesopotamians, exploring its role as a symbol of fertility, its economic importance in ancient cities, its value as a nutritious food source, and its associations with symbolism and religion.

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INTRODUCTION

Mesopotamia is recognized as the birthplace of various civilizations, including Sumer, Babylonia, and Assyria, which thrived for over three millennia from around 3500 to 500 B.C.E. (Bertman, 2005). The people of these civilizations were responsible for many inventions and scientific advancements that remain relevant today. The Sumerians developed the 60-minute hour, which still governs our daily lives. The Babylonians constructed the legendary Tower of Babel and the Hanging Gardens of Babylon, regarded as one of the Seven Wonders of the Ancient World. The Assyrians were known for their relentless military campaigns, leaving a significant mark on history.

The civilizations that emerged in Mesopotamia shared several fundamental aspects of nature and life. They coexisted with the twin rivers that shaped their land and utilized its resources. They worshipped a pantheon of gods and goddesses, built cities and temples, and created empires that influenced daily life for farmers, merchants, and artisans. Their texts and literature, inscribed on clay tablets that dried under the scorching sun of Mesopotamia, have survived through the ages, preserving the stories of these remarkable ancient peoples.

Today's Iraq encompasses the region once known as Mesopotamia, a land scarred by conflict yet home to people who strive to lead lives reminiscent of their ancestors from thousands of years ago. Beneath the sands of Iraq lie buried cities and remnants of a once-glorious civilization.

Art and artistic expression were paramount in Ancient Mesopotamia, and their achievements in this domain were as significant as those in science or medicine. Ancient Mesopotamia produced a rich variety of artistic objects, including wall reliefs, decorative tiles, bronze door bands, cylinder seals, stelae, inscribed tablets, painted pottery, and statuary. Evidence suggests that multiple classes of skilled labourers, such as engravers, masons, and scribes, were involved in creating these works (Crawford, 2014).

The waters that wash the shores of Mesopotamia—seas, rivers, and lakes—teem with diverse fish species (Van Buren, 1948). Fish played a vital role in the economy of Ancient Mesopotamia and served as a key commodity.

As a result, fish were integrated into various aspects of life, appearing in decorative motifs on painted pottery, engraved on cylinder seals, or carved into small figurines made from bone, shell, or colored stones, often showcasing detailed observations of nature.

One important function of fish in Ancient Mesopotamian life was as a food source and a protein staple. Many tribes residing in the lower reaches of the Euphrates River relied heavily on fish for sustenance. They consumed fish fresh, salted, smoked, or sun-dried, and sometimes ground them into pulp to bake into bread or cakes (Maspero, 1896). The barbel and carp, which often grew to substantial sizes, were preferred by both the Arabs and their predecessors, the Chaldeans, over eels and catfish.

Fish were also significant offerings in religious practices. Fishermen employed by large temples were tasked with delivering specific quantities of fish, which could be fresh, roasted, or dried, depending on the temple's requirements. The volume of fish supplied to temples was considerable, providing for daily meals of priests, temple staff, and sacrificial rituals during special occasions (Van Buren, 1948).

Fish held symbolic meanings in various practices in Mesopotamia. In the well-known Lamashtu tablet, two priests wearing fish masks stand beside a sick person's bed, warding off the threats posed by Lamashtu and her associated demons. One representation linked to Ea, the god of magic and protector of humanity, is the goatfish (Hooke, 1961). In ceremonial scenes depicted on cylinder seals, fish are often accompanied by rhombus or lozenge shapes, which archaeologists frequently interpret as symbolizing the female vulva. This connection highlights the fertility attributes associated with the fish symbol.

As we have observed, fish played a crucial role in the lives of Ancient Mesopotamians, resulting in their depiction in various artistic works. Archaeologists and scholars have described these artworks in detail, cataloguing each illustration. However, when it comes to representations of fish, they often merely note the presence of a fish without specifying the species. Ancient Mesopotamian artists were meticulous in their observations, accurately depicting the ichthyological features present in various fish species in their sculptures and drawings.

In this book, the author aims to explore the fish species depicted in Ancient Mesopotamian artworks spanning from the prehistoric era to several centuries before the birth of Christ. This marks the first time these artistic

works have undergone ichthyological analysis, shedding light on the skill and knowledge of ancient artists. Throughout the chapters, the author seeks to answer whether Ancient Mesopotamian artists were aware of the fish species they illustrated on clay tablets or wall reliefs. The forthcoming sections will reveal the answer to this intriguing question.

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CHAPTER 1

EXTERNAL FEATURES OF FISHES

Fish identification primarily relies on external features, a method known as the morphological technique. This traditional approach involves examining various physical traits of the fish's body. These morphological characteristics are essential in distinguishing closely related species. Compared to other methods, morphological identification is significantly more affordable.

In contrast, genetic identification, which requires DNA analysis, involves specific conditions that must be met for successful testing. These conditions are often difficult to achieve, making genetic analysis impractical in many cases. Furthermore, genetic techniques are expensive and frequently unavailable when financial resources for identification are limited.

In this chapter, I will provide a straightforward explanation of fish morphological traits, designed to help readers unfamiliar with ichthyological terminology. This will aid in understanding the characteristics used to identify fish depicted in ancient Mesopotamian art, as discussed in chapter 3 of this book.

To assist in describing the fundamental morphological features of fish, two figures (Figures 1.1 and 1.2) have been provided to accompany the descriptions of these characteristics.

The most recognizable features of a fish are its fins. There are two types: unpaired fins, such as the dorsal, anal, and caudal fins, and paired fins, like the pectoral and pelvic fins (Figures 1.1 and 1.2). Some fins have spines and soft rays. The dorsal fin may consist of a single section, as seen in members of the Cyprinidae family (Figure 1.1), or it may be divided into two parts—an anterior spinous section and a posterior section made of soft rays, as found in the Mugilidae family.

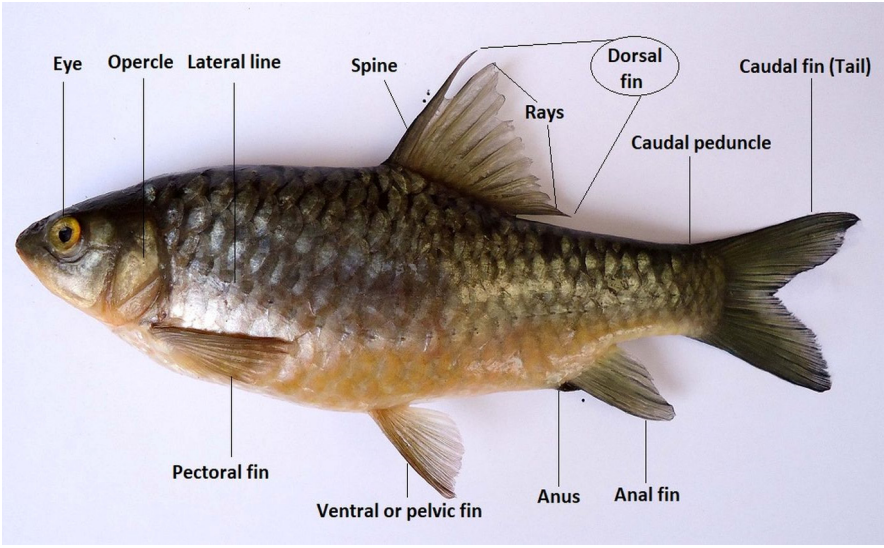

Figure 1.1. *Carasobarbus luteus*, Family Cyprinidae show the main morphological features. (Courtesy of Hamid Esmaeili).

The structure of spines and rays differs significantly. Spines are typically rigid, pointed, and smooth, while rays are soft, flexible, branched at the tips, and segmented. The placement of pelvic fins on the ventral side of the fish varies between bony fish families and reflects their evolutionary development. In less advanced families, such as Cyprinidae, the pelvic fins are in the middle of the ventral surface (Figure 1.1). In more advanced families like Mugilidae, the pelvic fins are positioned closer to the pectoral fins.

The spines and rays are connected by a transparent or coloured membrane known as the fin web, which helps hold them in place and allows the fins to function as a cohesive unit.

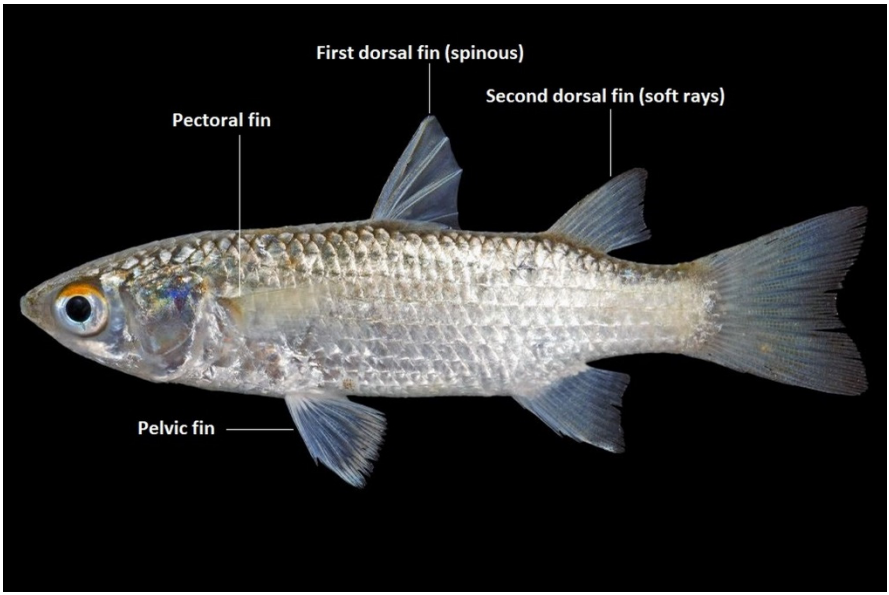

Figure 1.2. *Planiliza abu*, Family Mugilidae showing dorsal fin with two parts (Courtesy of Dinh D. Tran, Wikipedia FiMSeA / http://ffish.asia. - http://fishesofaustralia. net.au/home/species/4418

The anal fin can vary in length, consisting of either a few spines and rays or, in the case of species like eels, extending continuously along the body, merging with the caudal (tail) and dorsal fins. The caudal fin itself comes in various shapes, with the most common being forked. In this form, the upper and lower lobes may be equal in length, or one may be longer than the other.

Another prominent feature of the fish is its eye. The size of the eye can range from large to small, and it may be either exposed or covered by a form of lid. These features can differ not only between species in different families but also between species within the same family. The eye's position relative to the mouth also varies. It may be located above, at, or below the level of the mouth.

The opercle, a bony plate that covers the fish's gills, is typically smooth but can have spines along its posterior and ventral edges in some species. The size and shape of the opercle can also differ across species.

Fish bodies are generally covered in scales, though some species lack them entirely. Scales vary in shape, size, and arrangement across different species

and even different parts of the same fish. These variations are important in distinguishing closely related species. Some scales are very small and difficult to see, as they may be embedded in the fish's skin.

In most fish species, the scales located along the midline of the body form what is known as the lateral line (Figure 1.1). These scales differ from the others on the fish's body because they contain a canal with two openings. The scales in the lateral line typically overlap, causing the canals of each scale to align with those of adjacent scales. This alignment creates a continuous canal that runs from the anterior to the posterior end of the fish. The structure of the canal can vary between species; in some, the canal branches, while in others it remains simple. The lateral line canal functions to transmit sound waves generated by water movement. These sound waves are received by the lateral line scales, then transmitted to the inner ear, where they are processed and sent to the brain, prompting a response.

CHAPTER 2

CURRENT FISH SPECIES DIVERSITY IN MESOPOTAMIA

Introduction

At the present time, Ancient Mesopotamia covers mainly four countries vis., Iraq, Iran, Turkey, and Syria. In these countries, the rivers Euphrates and Tigris are originated (Turkey) and run through (Iraq and Syria) or tributaries feeding in these two rivers (Iran).

The above mentioned countries are rich in freshwater fish fauna and many species are endemic to some of these countries. The freshwater fish species play an important role in the life of the people of these countries through their usage as food or as a commercial commodity.

Regarding the richness in number of species, Turkey may be the richest country followed by Iran then Iraq and Syria. With the importance of the freshwater fish species, several studies were performed to identify the freshwater fish group and archive it in publications that are usually published every now and then to update the present status of the fish species composition of each country (Esmaeili et al., 2018: 3; ÇiÇek et al., 2020: 2). The updated list of freshwater fishes of both Iraq and Syria is not available, and more research are needed to feature the species composition before any final checklist can be published (Coad, 2010).

Turkey has 384 freshwater fish species belonging to 34 families, while there are 297 species belonging to 30 families in Iran (Esmaeili et al., 2018: 3; ÇiÇek et al., 2020: 2). Iraq and Syria have far a smaller number of freshwater species and since there is not much research on this group of fishes in those two countries no exact statistical information was available.

Among the freshwater fish families, the carp family Cyprinidae is the largest and contains 188 and 176 in Turkey and Iran. So far, the number of species belonging to this family reported from Iraq is 37 (Coad, 2010: 274), but this number is still debated as there are more species expected to be discovered living in the Euphrates-Tigris River system in Iraq.

In the present chapter, a short description of a selected species belonging to the specious species will be given so those readers who have no previous knowledge about fishes in general will be aware about the ichthyological information and distribution of the freshwater fish species found in the present time Mesopotamia. The images of these species were found depicted in the artistic works of the Ancient Mesopotamia and knowing information about this group of fishes will assist the reader in understanding the life of these species.

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Currently, Ancient Mesopotamia encompasses four main countries: Iraq, Iran, Turkey, and Syria. In these regions, the Euphrates and Tigris rivers originate in Turkey and flow through Iraq and Syria, while Iran contributes tributaries that feed into these rivers.

These countries boast a rich diversity of freshwater fish fauna, with many species' endemic to specific regions. Freshwater fish play a crucial role in the livelihoods of the people, serving as a vital food source and commercial commodity. In terms of species richness, Turkey is likely the most diverse, followed by Iran, Iraq, and Syria.

In this chapter, we will provide a brief overview of selected species within the freshwater fish fauna of Mesopotamia. This information will help readers unfamiliar with fish biology understand the ichthyological diversity and distribution of freshwater fish in the region. Additionally, images of these species have been depicted in the artistic works of Ancient Mesopotamia, enhancing the reader's comprehension of their ecological significance.

Species accounts

A. Freshwater species

Family Cyprinidae

Scientific name: *Leuciscus vorax* (Heckel, 1843)

Figure 2.1. *Leuciscus vorax* (Heckel, 1843) (Courtesy of Abass Al-Faisal, FishBase, http://www.fishbase.se/photos/ThumbnailsSummary.php?Genus=Leuciscus&Species=vorax#

Common name: Tigris asp, Shilik

Distribution: Asia: Tigris-Euphrates basin (Coad, 1996: 13). Also recorded from the Orontes River (Bogutskaya, 1997: 94).

Ichthyological data: Maximum reported length: 102 cm TL mal; maximum recorded weight: 10.0 kg; maximum known age: 24 years (FWRC, 2013).

Scientific name: *Luciobarbus esocinus* Heckel, 1843

Common name: Mangar, Biz (see Figure 3. 36)

Distribution: Asia, Iraq (Euphrates River)

Ichthyological data: Maximum reported length: 230 cm TL male (Stone, 2007: 316); maximum recorded weight: 140.0 kg (Robins et al., 1991: 243).

Scientific name: *Arabibarbus grypus* (Heckel, 1843)

Common name: Shabout (see Figure 3.96)

Distribution: Asia: Tigris-Euphrates basin in Iraq and Syria, rivers of southern Iran and possibly Orontes River (Borkenhagen, 2014: 97).

Ichthyological data: Maximum reported length: 150 cm TL male; maximum recorded weight: 30.0 kg; maximum known age: 17 years (FWRC, 2013).

Scientific name: *Carasobarbus luteus* (Heckel, 1843)

Figure 2.2. *Carasobarbus luteus* (Heckel, 1843) (Courtesy of Hamid Esmaeili).

Common name: Yellow barbell, Himri

Distribution: Asia: Tigris River; Kor River; Gulf and Hormuz basins; Iraq and Syria (Szypula et al., 2001: 9).

Ichthyological data: Maximum reported length: 35.0 cm TL male (Szypula et al., 2001: 9).

Scientific name: *Luciobarbus pectoralis* (Heckel, 1843)

Common name: Heckel's Orontes barbell, Nebbash, Sheikh san, Ajzan (see Figure 3.44).

Distribution: Asia: Asi Nehri/Orontes and some eastern Mediterranean watersheds, Euphrates River, Iraq.

Ichthyological data: Maximum reported length: 22.9 cm SL male (Turan et al., 2008: 1824)

Scientific name: *Mesopotamichthys sharpeyi* (Günther, 1874)

Common name: Binni (see Figure 3. 22)

Distribution: Asia: endemic to the Tigris-Euphrates basin.

Ichthyological data: Maximum reported length: 42.7 cm TL mal; (Nasir et al., 1989: 7); common length: 3.6 cm TL male; (Hanel et al., 1993: 57); maximum recorded weight: 800.00 g (Nasir et al., 1989: 7).

Scientific name: *Luciobarbus xanthopterus* Heckel, 1843

Common name: Yellowfin barbell, Qattan (see Figure 3.126)

Distribution: Asia: endemic to the Tigris-Euphrates basin.

Ichthyological data: Maximum recorded length: 150 cm TL male.

Scientific name: *Cyprinus carpio* Linnaeus, 1758

Common name: Common carp (see Figure 3. 30)

Distribution: An introduced species found in many countries. Wild stocks are only present naturally in rivers draining to the Black, Caspian and Aral Sea (Kottelat and Freyhof, 2007: 646).

Ichthyological data: maximum recorded length: 120 cm TL male (Murdy et al., 1997: 324); common length: 31.0 cm TL male (Chugunova, 1959); maximum reported weight: 40.1 kg (Machacek, 2007); maximum known age: 38 years (Murdy et al., 1997: 324)

Family: Xenocyprididae

Scientific name: *Ctenopharyngodon idella* (Valenciennes, 1844)

Figure 2.3. *Ctenopharyngodon idella* (Valenciennes, 1844) (Courtesy of Hamid Osmani)

Common name: Grass carp

Distribution: Asia: Eastern China and Russia (Shireman and Smith, 1983: 135) in eastern Siberia, Amur River system (Berg, 1964, 496). Widely transported around the world (Skelton, 1993).

Ichthyological data: Maximum reported length: 150 cm TL male (Billard, 1997, 192p); common length: 10.7 cm SL male (Nichols, 1943: 322); maximum known weight: 45.0 kg (Skelton, 1993); maximum recorded age: 21 years (Billard, 1997, 192p).

Family: Siluridae

Scientific name: *Silurus triostegus* Heckel, 1843

Figure 2.4. *Silurus triostegus* Heckel, 1843 (Curtesy of Laith Jawad)

Common name: Asian catfish, Djurry

Distribution: in the Euphrates-Tigris Rivers systems.

Ichthyological data: maximum reported length: 99.0 cm SL male (Oymak et al., 2001: 25); 99.0 cm SL (female); common length: 22.0 cm SL male (Kobayakawa, 1989: 36); maximum known weight: 8.5 kg (Oymak et al., 2001: 25); maximum recorded age: 11 years (Oymak et al., 2001: 25).

Family: Mastacembelidae

Scientific name: *Mastacembelus mastacembelus* (Banks and Solander, 1794)

Common name: Euphrates spiny eel (see Figure 3.127).

Distribution: Euphrates and Tigris Rivers basin.

Ichthyological data: maximum recorded length: 46.4 cm TL male (Birecikligil and Çiçek, 2011: 27); maximum reported weight: 232.45 g (Birecikligil and Çiçek, 2011: 27)

Family: Mugilidae

Scientific name: *Planiliza abu* (Heckel, 1843)

Common name: Abu mullet (see Figure 3.2)

Distribution: Euphrates and Tigris basin and Pakistan (Ünlü et al., 2000: 24).

Ichthyological data: maximum recorded length: 20.0 cm TL male; common length: 17.0 cm TL male (Thomson, 1984).

B. Marine species entering freshwater system

Family: Sphyraenidae

Scientific name: *Sphyraena barracuda* (Edwards, 1771)

Common name: Great barracuda (see Figure 3.10)

Distribution: Indo-Pacific. Reported from the Western Atlantic.

Ichthyological data: maximum recorded length: 200 cm TL male (Robins and Ray, 1986: 354); common length: 140 cm TL male (De Sylva, 1981); maximum reported weight: 50.0 kg (De Sylva, 1990).

Family: Clupeidae

Scientific name: *Tenualosa ilisha* (Hamilton, 1822)

Common name: Hilsa shad (see Figure 3. 57)

Distribution: Indian Ocean. Reported from the Gulf of Tonkin, Viet Nam (Nguyen et al., 1994). Reported in Tigris River basin and from rivers of southern Iran (Coad, 1995: 29).

Ichthyological data: maximum recorded length: 60.0 cm SL male (Whitehead, 1985: 1-303); common length: 36.0 cm SL male (Talwar and Jhingran, 1991: 541); common length: 42 cm TL (female); maximum reported weight: 680.00 g (Talwar and Jhingran, 1991: 541); maximum known age: 5 years (Al-Baz and Grove, 1995: 8).

Family: Sparidae

Scientific name: *Argyrops spinifer* (Forsskål, 1775)

Common name: King soldier bream (see Figure 3. 81)

Distribution: Indo-West Pacific extending eastward to the Indo-Malayan archipelago and northern Australia.

Ichthyological data: maximum recorded length: 70.0 cm TL male (Fischer et al. 1990: 424); common length: 30.0 cm TL male (Bauchot and Smith 1984, 1-6)

Family: Ariidae

Scientific name: *Netuma thalassina* (Rüppell, 1837)

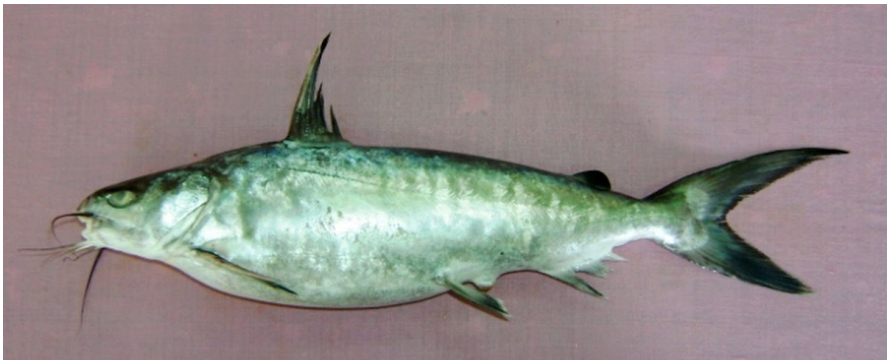

Figure 2.5. *Netuma thalassina* (Rüppell, 1837) (Courtesy of Hamid Osmani)

Common name: Giant catfish

Distribution: Indo-West Pacific. Also reported from Australia, Polynesia, and Japan and rarely in the Mekong delta (Rainboth, 1996: 265).

Ichthyological data: maximum recorded length: 185 cm TL male (Sommer et al. 1996: 376); common length: 70.0 cm TL male (Frimodt, 1995: 215); maximum reported weight: 1.0 kg (Bykov, 1983).

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