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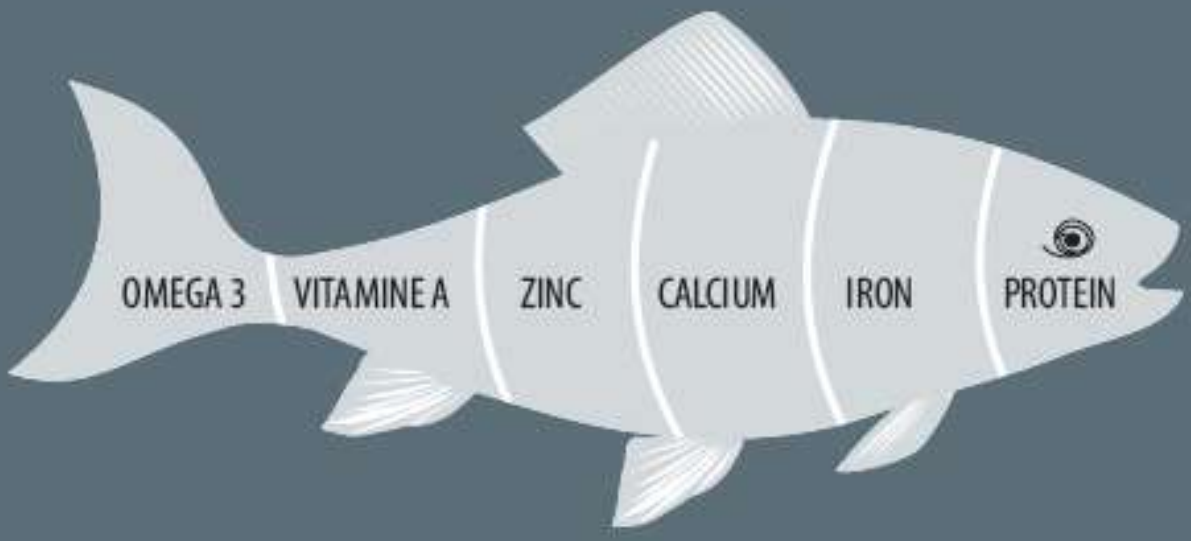
Ministry of Jal Shakti, Department of Water Resources,
River Development & Ganga Rejuvenation,
Government of India

FISH NUTRIENT ATLAS OF RIVER GANGA



FISH NUTRIENT ATLAS OF RIVER GANGA

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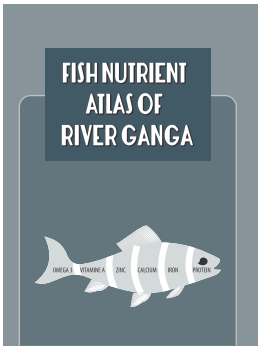

Fish Nutrient Atlas of River Ganga

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Dr M. L. Jat
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FOREWORD

The Ganga River, a lifeline to millions, flows not only as a symbol of spiritual reverence but also as a cradle of biodiversity and nutrition. From its origin at the Gangotri Glacier in the Western Himalayas to its vast delta in the Bay of Bengal, the river supports a rich and diverse array of aquatic life. Among its many contributions, the nutritional richness offered by its fish fauna plays a vital role in ensuring food and nutritional security for the communities residing along its banks.

In this context, the book entitled ***"Fish Nutrient Atlas of the River Ganga"***, is a timely, significant and valuable contribution. It documents profiles of 75 selected fish species from the Ganga River, highlighting their proximate compositions, amino acid content, fatty acid profiles, and mineral richness. These comprehensive nutritional underscores immense value of indigenous freshwater fish as a source of high-quality animal protein, essential micronutrients, and bioavailable fatty acids. .

The document will serve not only as a reference tool for nutritionists, policymakers, researchers, and fishery managers but also provide a scientific basis for strengthening sustainable inland fisheries, dietary planning, and conservation priorities. At a time when native species are under increasing pressure from environmental stressors, habitat degradation, and invasive species, recognizing their nutritional potential adds a compelling dimension to their conservation.

I congratulate the authors and the entire team at ICAR-Central Inland Fisheries Research Institute for their meticulous and visionary effort. This publication will undoubtedly prove to be an indispensable resource in the intersecting fields of fisheries, nutrition, and riverine ecosystem management, contributing meaningfully to the goals of sustainable development, health, and biodiversity conservation in the Ganga River basin.

(M. L. Jat)

Dated the 4 July 2025
New Delhi

PREFACE

Dr. B.K. Das
Director
ICAR- Central Inland Fisheries Research Institute
Barrackpore, Kolkata-700120

Fish have long held an essential place in the diets and cultures of communities worldwide, particularly in regions where freshwater and coastal ecosystems provide not only sustenance but also livelihoods. In the Indian subcontinent and beyond, fish represent more than a source of protein as they are carriers of essential nutrients, contributors to food security, and vital components of sustainable diets. Yet, in the growing global interest in health-conscious food choices, discussions around nutrition often remain confined to a handful of well-known species. In contrast, the full potential of aquatic biodiversity remains underexplored and underappreciated.

This book, **"Fish Nutrient Atlas of River Ganga"**, emerges from a recognition of this gap and the need for a more inclusive, data-driven understanding of fish as functional foods. It brings together meticulously curated information on the nutrient composition of 75 diverse fish species, spanning freshwater, estuarine, and marine environments. These include not only commercially valuable species but also small indigenous fish (SIFs) that often escape the attention of the mainstream food sector despite their remarkable nutritional richness. Each species profile presented in this document follows a standardised format, encompassing proximate composition, amino acid profiles, fatty acid content (including critical components like EPA and DHA), and essential minerals. The goal is to make nutrient data accessible, comparable, and practically useful across various sectors, including academic research, dietetics, public health programming, and aquaculture planning.

Date: 26th November, 2025
Place: Barrackpore

(B.K. Das)
Director, ICAR-CIFRI

ACKNOWLEDGEMENT

The authors sincerely acknowledge the Ministry of Jal Shakti for providing financial support through the National Mission for Clean Ganga (NMCG), Department of Water Resources, River Development and Ganga Rejuvenation, Government of India, under the Namami Gange programme for the project titled *"Fish Stock Enhancement Including Hilsa and Livelihood Improvement for Sustainable Fisheries and Conservation in River Ganga",* implemented at ICAR-Central Inland Fisheries Research Institute (ICAR-CIFRI), Barrackpore, Kolkata. The NMCG project team at Barrackpore is gratefully acknowledged for their support during fish collection, along with Shri Anjon Kumar Talukder for his technical assistance and various staff members for their on-field support. The authors also extend their appreciation to the personnel of Biochemistry Laboratory, ICAR-CIFRI, namely Mr. Subhamoy Dutta, Ms. Prita Paul, Ms. Mitali Maity, and Mr. Suman Maity, for carrying out the nutrient profiling work. Special thanks are due to the fishermen whose active participation was instrumental to the success of the project.

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Dr. Basanta Kumar Das, Director of ICAR-Central Inland Fisheries Research Institute (CIFRI), Barrackpore, is a distinguished fisheries scientist born on March 20, 1966, in Balasore, Odisha. He holds B.F.Sc., M.F.Sc., and Ph.D. degrees from Orissa University of Agriculture and Technology and completed post-doctoral research at the FRS Marine Lab, UK. Starting his career at ICAR-NAARM, he served at ICAR-CIFA for over two decades, specializing in aquaculture, fish health, molecular immunology, and inland fisheries. Dr. Das has led numerous national and international collaborations like FAO, WorldFish, NACA, GIZ, SAARC, and multiple universities globally and currently presides over key professional fisheries forums. With over 355 publications and more than 12,800 citations (h-index: 50), he has guided 60+ research scholars and facilitated 25+ MoUs. His numerous accolades include the Rafi Ahmed Kidwai Award (2020), Dr. M.S. Swaminathan Award (2011), and several honors from ICAR, state bodies, and professional organizations. He is a Fellow of the International Society for Environmental Protection and served on the Executive Council of the Indian Science Congress Association (2020-2021).

Dr. Satabdi Ganguly

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Dr. Satabdi Ganguly is currently serving as a Project Scientist at ICAR-Central Inland Fisheries Research Institute (ICAR-CIFRI), Barrackpore, under a National Mission for Clean Ganga (NMCG) funded project on fish conservation in the Ganga river basin. With research expertise in nutritional biochemistry and molecular biology, she earned her B.Sc., M.Sc., and Ph.D. from Calcutta University, completing her doctoral work at ICAR-CIFRI under the guidance of Dr. B.P. Mohanty. Her thesis focused on the nutritional profiling of Indian shad, *Tenualosa ilisha*. Dr. Ganguly has received several awards, including the GYAN Scholarship (2018), Best Scholar of the Year (ICAR-CIFRI, 2019), and multiple Best

Poster Awards at national forums. She was also honored with the Padma Shri Dr. S. Ayyappan Gold Medal Award in 2024. With 14 years of research experience, she has published over 25 international papers, authored two books (one edited), eight book chapters, and has over 1300 citations (h-index: 14).

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Poonam Majumder is currently working as a Research Scholar under the National Mission for Clean Ganga at ICAR - Central Inland Fisheries Research Institute (CIFRI), Barrackpore, Kolkata. She completed her B.F.Sc from the Central Agricultural University, Agartala and M.F.Sc in Fisheries Resource Management at ICAR - Central Institute of Fisheries Education (CIFE), Mumbai. She qualified the ICAR-National Eligibility Test (NET) in 2023. Her primary research interests include molecular biology and reproductive biology of fishes. She has attended several national and international seminars, conferences and workshops. She has authored many national and international research publications, review paper, several posters and leaflets. Currently, she is involved in fish biodiversity assessment and promoting sustainable fisheries management in the River Ganga.

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Dr. Pranaya Kumar Parida, Ph.D. in Fisheries Resource Management, has over 20 years of experience in fisheries research, teaching, and extension. His expertise includes fish stock assessment, ECOPATH modelling, GIS, and aquaculture. Beginning his career as a Fishery Extension Officer in Odisha (2004), he later worked on a UNDP project with AFPRO and served as State Livelihood Specialist under the World Bank-supported NRLM. Before joining ICAR in 2015, he taught at GADVASU, Ludhiana. Dr. Parida has made notable contributions to inland fisheries, especially in the Chilika Lagoon, and pursued postdoctoral research on nano-biosensors in Australia as an Endeavour Fellow. He has received several fellowships and awards, including from ICAR, the Netherlands, and the Zoological Society of India. With over 50 international publications, 3 books, 3 design patents, and editorial and expert roles with IUCN and CRFM, he continues to play a key role in advancing sustainable fisheries.

CONTENTS

List of Abbreviations

Amino acids	
ARG	Arginine
VAL	Valine
HIS	Histidine
ILE	Isoleucine
LEU	Leucine
LYS	Lysine
MET	Methionine
PHE	Phenylalanine
THR	Threonine
CYS	Cysteine
GLU	Glutamic acid or as Glutamate
GLY	Glycine
PRO	Proline
TYR	Tyrosine
ALA	Alanine
ASP	Aspartic acid
SER	Serine
Essential minerals	
Na	Sodium
K	Potassium
Ca	Calcium
Mg	Magnesium
Mn	Manganese
Se	Selenium
SFAs	
Saturated Fatty Acids	
C16:0	Palmitic acid (hexadecanoic acid)
C18:0	Stearic acid (octadecanoic acid)
MUFAs	
Monounsaturated Fatty Acids	
C16:1	Palmitoleic acid (cis hexadecenoic acid)
C18:1	Oleic acid (9 octadecenoic acid)
PUFAs	
Polyunsaturated Fatty Acids	
C18:2	Linoleic acid (9,12 octadecadienoic acid)
C18:3	Linolenic acid (octadecatrienoic acid)
C20:4	Arachidonic acid
C20:5	Eicosapentaenoic acid (EPA)
C22:6	Docosahexaenoic acid (DHA)

INTRODUCTION

The Ganga River system supports a rich biodiversity, including a wide variety of fish species that serve as a vital source of food and nutrition. Fish and other aquatic organisms play a crucial role in global food and nutritional security, providing a rich source of high-quality proteins, essential fatty acids, amino acids, vitamins, and minerals. Among the many available food sources, fish stand out not only for their nutritional value but also for their high bioavailability and digestibility, which significantly contribute to meeting the dietary needs of populations worldwide, especially in developing countries. As awareness of health-conscious eating habits grows, so does the interest in understanding the detailed nutritional profiles of fish species, beyond just protein content, to include the full spectrum of nutrients, such as amino acids, ω-3 fatty acids, and micro-minerals essential for human health. Despite the increasing global consumption of fish, there remains a lack of comprehensive data that captures the nutrient composition of multiple fish species in a standardised and comparative manner. Most available information is either fragmented across studies or limited to a few commercially important species. Moreover, regional diversity in aquatic ecosystems, fishing practices, and post-harvest handling all contribute to nutritional variability among fish species. Hence, a consolidated and methodically curated reference of nutrient profiles of various fish species becomes indispensable, not only for nutritionists and researchers, but also for policymakers, aquaculture developers, and the wider public.

This book aims to fill that knowledge gap by presenting the nutrient profiling of 75 different fish species. The profiling includes an in-depth analysis of proximate composition (moisture, protein, fat and ash), amino acid content (both essential and non-essential), fatty acid composition (especially saturated, monounsaturated, and polyunsaturated fatty acids including EPA and DHA), and key mineral elements (such as calcium, phosphorus, iron, zinc, selenium, and potassium). Together, these components offer a comprehensive picture of the nutritional richness and functional food potential of these aquatic species. The species selected for this study represent a wide range of freshwater, estuarine, and marine environments, showcasing the diversity of the ichthyofaunal resources in regions such as the Indian subcontinent. Many of these species are either commercially exploited or form part of small-scale, artisanal fisheries that are essential for rural livelihoods and food access in local communities. In addition to commonly consumed market fish, several small indigenous fish (SIFs) are also included, the species that are often underappreciated in

commercial circles but are of immense nutritional and cultural importance in many traditional diets. Recent research has demonstrated that these SIFs can be nutrient-dense, especially in terms of micronutrients and bioavailable minerals. Each chapter or entry in this book focuses on a single species and presents its nutrient composition data in a uniform format, enabling easy comparison across species. The data is supplemented with brief descriptions of the fish's habitat, distribution and vernacular names. This structured approach makes the book a practical tool for food technologists, dietitians, and researchers alike. Significantly, the book also contributes to the ongoing discourse on sustainable and diversified diets. By highlighting nutrient-rich but lesser-known species, it encourages a move away from the overdependence on a few commercial species and promotes biodiversity in consumption. This aligns with global initiatives such as the United Nations' Sustainable Development Goals (SDGs), particularly those related to Zero Hunger (SDG 2), Good Health and Well-being (SDG 3), and Life Below Water (SDG 14). In the context of climate change and growing pressures on global food systems, enhancing the role of nutritionally rich and environmentally sustainable fish species becomes not only relevant but essential. In addition, the data compiled in this book may support food fortification strategies, school feeding programs, maternal and child nutrition planning, and public health interventions in areas where hidden hunger or malnutrition is prevalent. It also provides a reference point for further biochemical, ecological, or aquacultural studies focusing on fish as a sustainable superfood. In sum, this book is a step toward building a bridge between fisheries science and nutritional science. By assembling and organizing nutrient composition data for a diverse set of 75 fish species, it lays the groundwork for informed decisions, whether in dietary planning, fishery management, or policy formulation. The hope is that readers from multiple disciplines will find value in the information presented, and that this resource may help inform healthier food choices, sustainable fisheries, and improved nutrition outcomes globally.

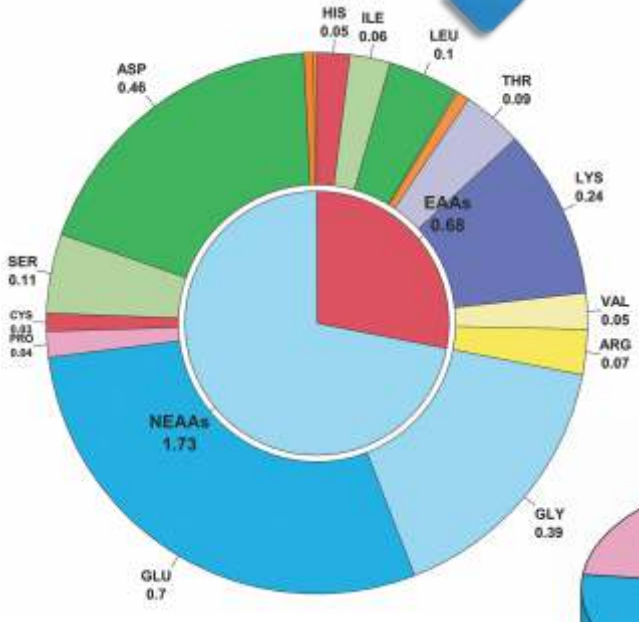
Acanthopagrus datnia (Hamilton, 1822)

Systematic Classification

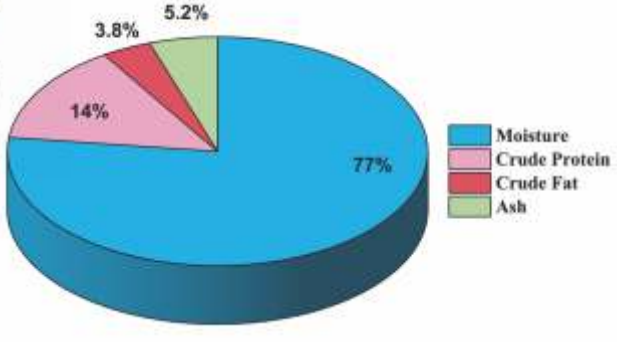
Class: Actinopterygii
Order: Perciformes
Family: Sparidae
Genus: *Acanthopagrus*
Species: *Acanthopagrus datnia*
Common English Name: Bengal yellowfin seabream
Vernacular Name: Karkutla (Marathi), Karappu- mattavan (Tamil)

Habitat: Freshwater and Marine
Distribution: Eastern Indian Ocean: east coast of India and Sri Lanka east to Myanmar

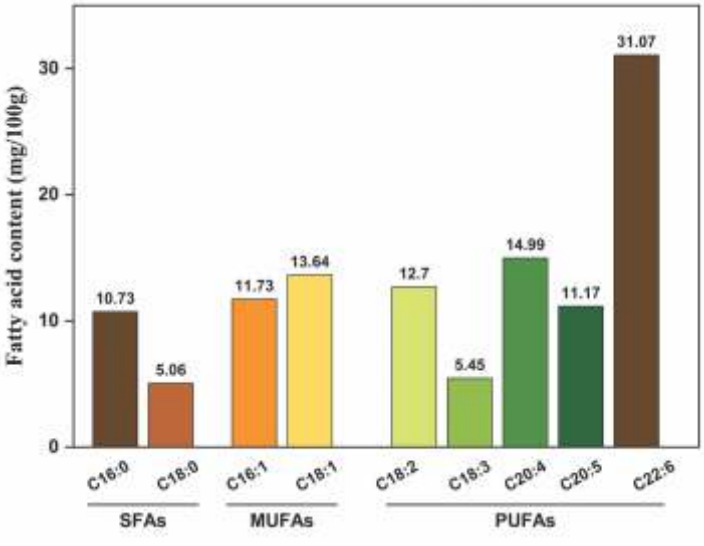
Amino acid content (g/100g)



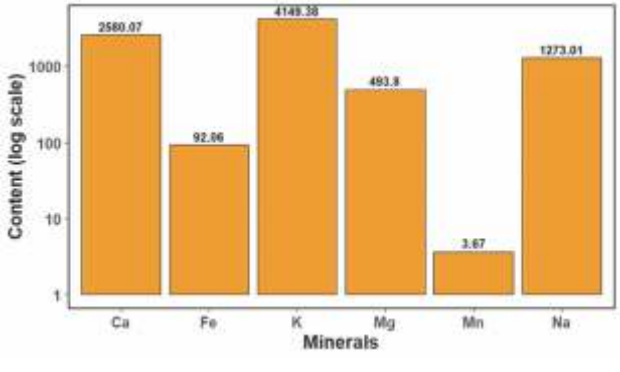
Proximate composition



Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Acanthopagrus datnia (Bengal yellowfin seabream) contains 14% crude protein, offering a moderate yet valuable source of high-quality protein necessary for muscle maintenance, enzyme function, and tissue repair. It includes lysine, an essential amino acid, at 0.24 g/100g, which aids in calcium absorption, immune support, and hormone production. Glutamic acid, a non-essential amino acid present at 0.7 g/100g, plays a central role in cellular energy metabolism and neurotransmission. The fish is also notably rich in potassium, with a content of 4149.38 mg/kg, which is crucial for maintaining electrolyte balance, nerve function, and healthy blood pressure. Additionally, it boasts high levels of beneficial ω-3 fatty acids having EPA at 11.17 mg/100g and DHA at 31.07 mg/100 g. These fatty acids are known to promote heart health, reduce inflammation, and support brain and visual development.

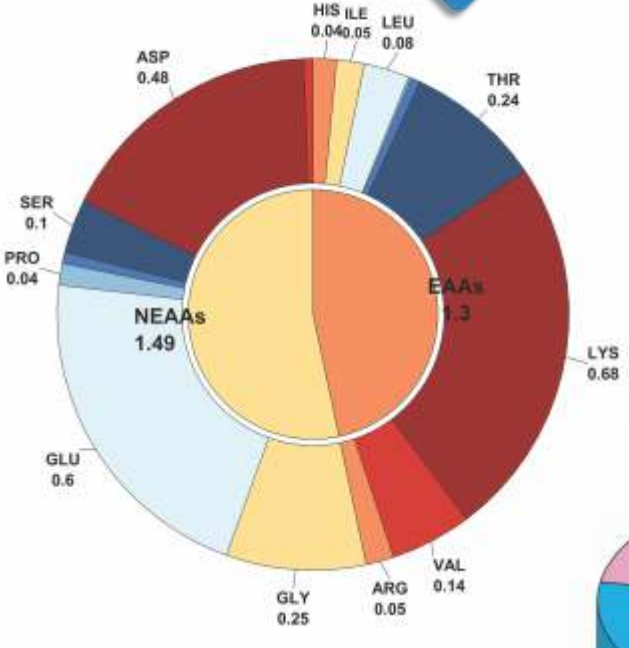
Ailia coila (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Siluriformes
Family: Ailiidae
Genus: *Ailia*
Species: *Ailia coila*
Common English Name: Gangetic ailia
Vernacular Name: Kajuli (Bengali, Assamese)

Habitat: Freshwater and Brackishwater
Distribution: India, Bangladesh, Pakistan, and Nepal.

Amino acid content (g/100g)



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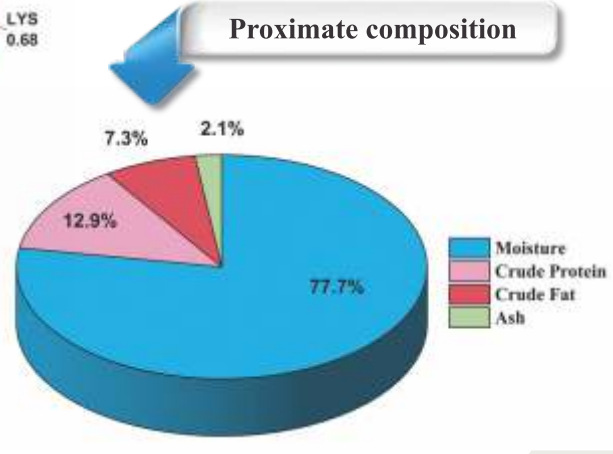
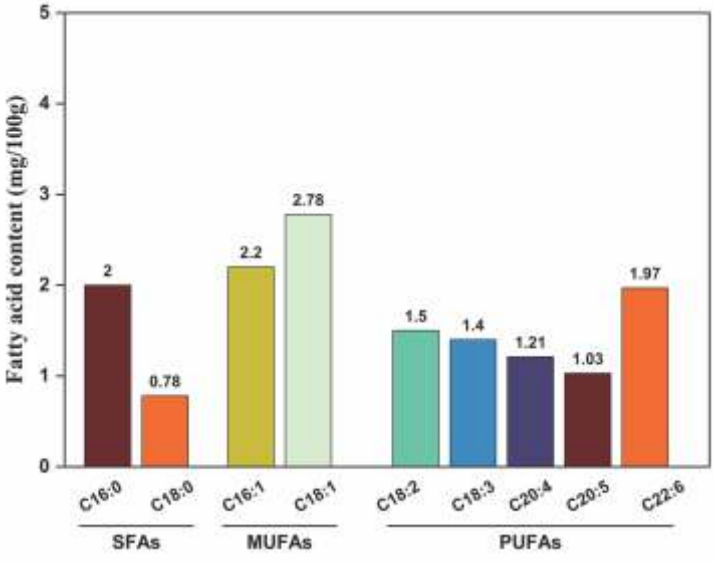
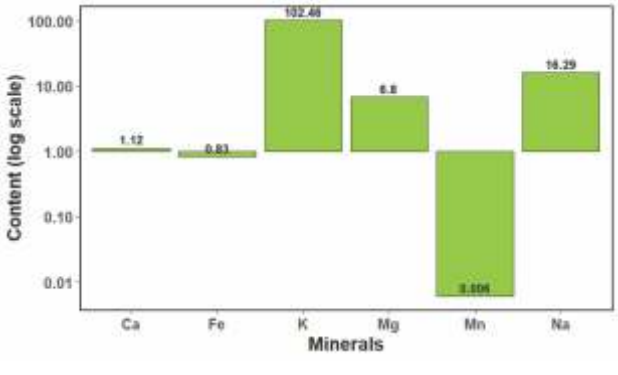


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Ailia coila (Gangetic ailia) contains 7.3% crude fat, indicating a moderate fat content that provides a good source of energy. Lysine, the primary essential amino acid at 0.68 g/100g, plays a crucial role in protein synthesis and supports immune function, while glutamate, the main non-essential amino acid at 0.6 g/100g, is important for brain health and metabolism. Potassium, found at 102.46 mg/kg, helps regulate blood pressure and maintain proper muscle and nerve function. The presence of ω-3 fatty acids, with EPA at 1.03 mg and DHA at 1.97 mg/100g, contributes to cardiovascular health, reduces inflammation, and supports brain development and cognitive function.

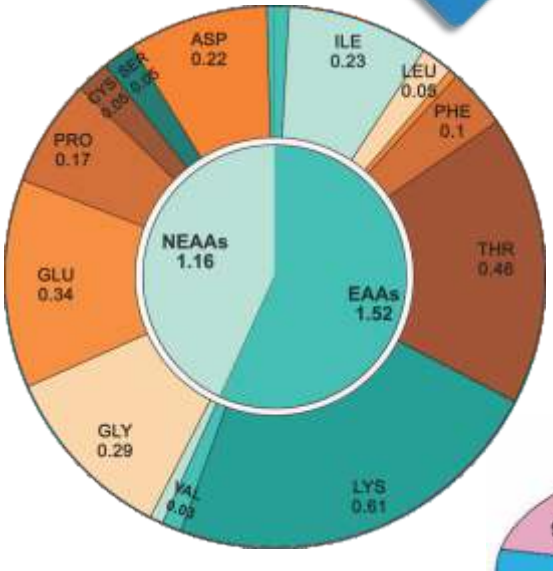
Amblypharyngodon mola (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Danionidae
Genus: *Amblypharyngodon*
Species: *Amblypharyngodon mola*
Common English Name: Mola carplet
Vernacular Name: Mourala (Bengali), Moa (Assamese), Enapu (Kannada)

Habitat: Freshwater
Distribution: India, Bangladesh, Pakistan and Myanmar

Amino acid content (g/100g)



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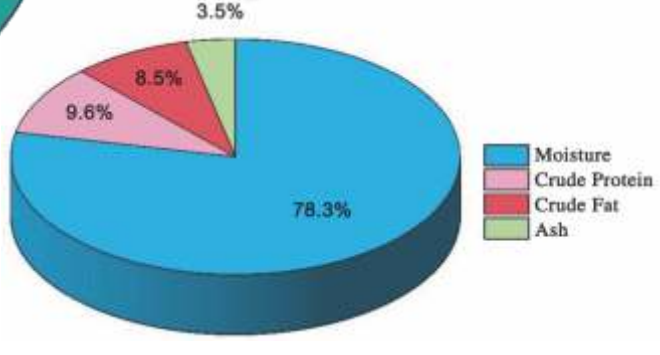
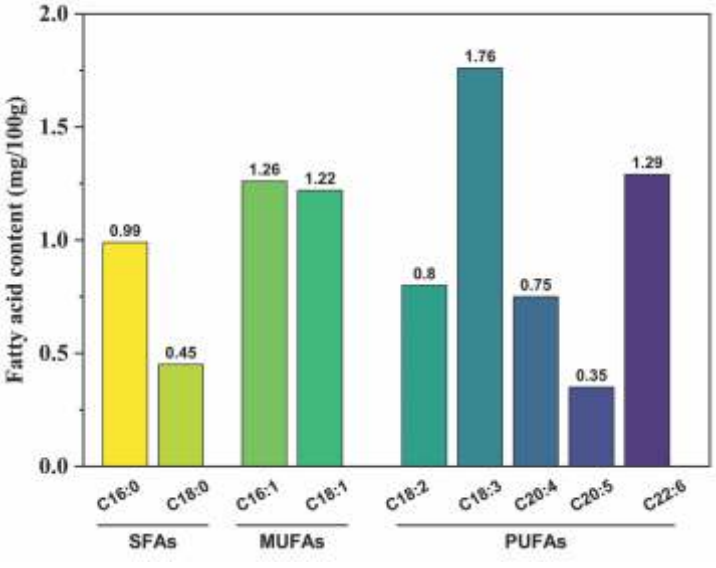
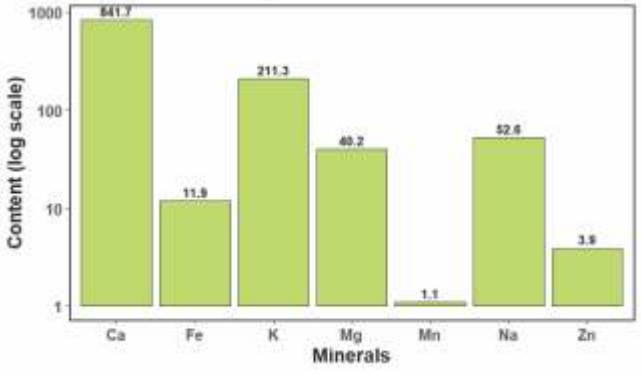


Fatty acid content (mg/100 g)



Mineral context (mg/kg)



Nutritional significance

Amblypharyngodon mola (Mola carplet) contains 8.5% crude fat, indicating a moderate lipid content that serves as an energy source and aids in the absorption of fat-soluble vitamins. Lysine, the essential amino acid present at 0.61 g/100g, plays a crucial role in protein synthesis, immune response, and calcium metabolism. Glutamic acid, a non-essential amino acid found at 0.34 g/100g, supports cellular metabolism and functions as a neurotransmitter in the central nervous system. The fish also includes ω-3 fatty acids, with EPA at 0.35 mg/100g and DHA at 1.29 mg/100g. Though modest in amount, these fatty acids contribute to cardiovascular health, reduce inflammation, and support cognitive and visual development.

Anodontostoma chacunda (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Clupeiformes

Family: Dorosomatidae

Genus: *Anodontostoma*

Species: *Anodontostoma chacunda*

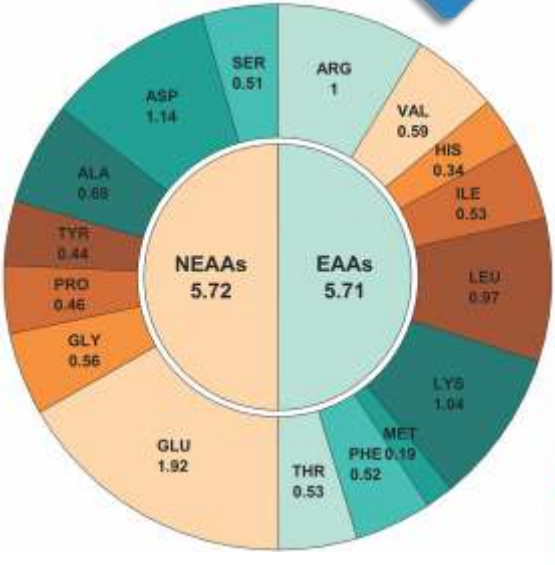
Common English Name: Chacunda gizzard shad

Vernacular Name: Chancunda (Bengali), Balango (Oriya, Telugu) and Kome (Telugu, Oriya)

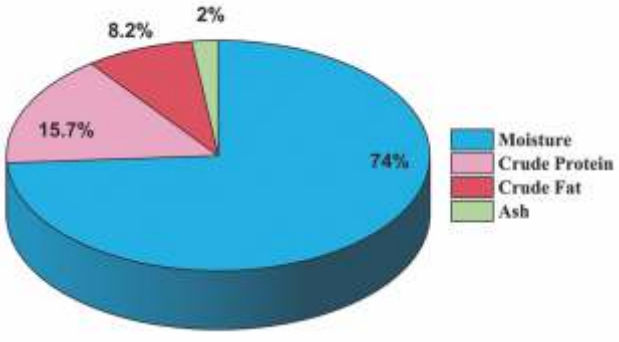
Habitat: Marine, Freshwater and Brackishwater

Distribution: Indo-West Pacific: Persian Gulf to coasts of India and Andaman Sea, to Gulf of Thailand, Indonesia, Vietnam, and Philippines and south to northern Australia

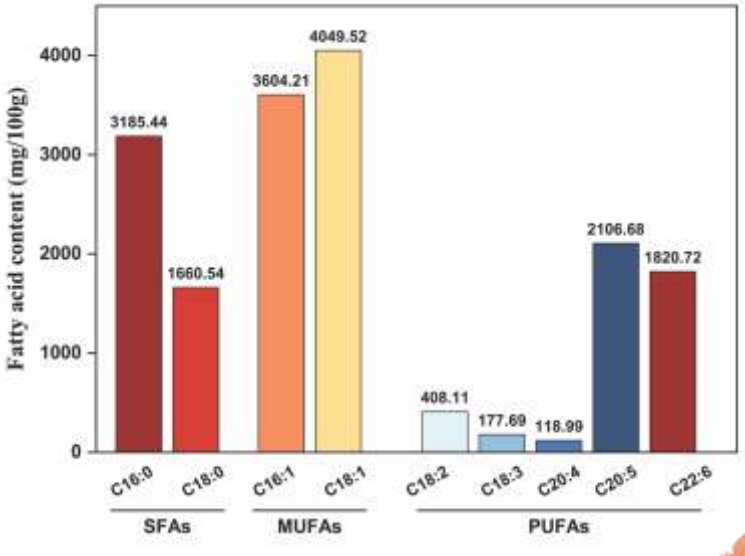
Amino acid content (g/100g)



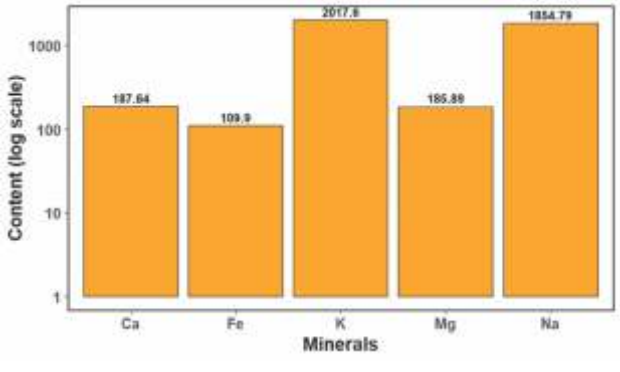
Proximate composition



Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Anodontostoma chacunda (Chacunda gizzard shad) is a nutritionally rich fish species known for its high-quality protein and essential nutrients. It contains 15.5% crude protein, making it a valuable source of dietary protein. Among essential amino acids, lysine is prominent at 1.04 g/100g, vital for tissue repair and immune function. Glutamate, the dominant non-essential amino acid at 1.92 g/100g, contributes to flavour and metabolic processes. Hilsa is also rich in potassium (2017.6 mg/kg), supporting cardiovascular and muscular health. Notably, it is an exceptional source of ω-3 fatty acids, with high levels of EPA (2106.68 mg/100g) and DHA (1820.72 mg/100g), which are important for brain function, heart health, and reducing inflammation.

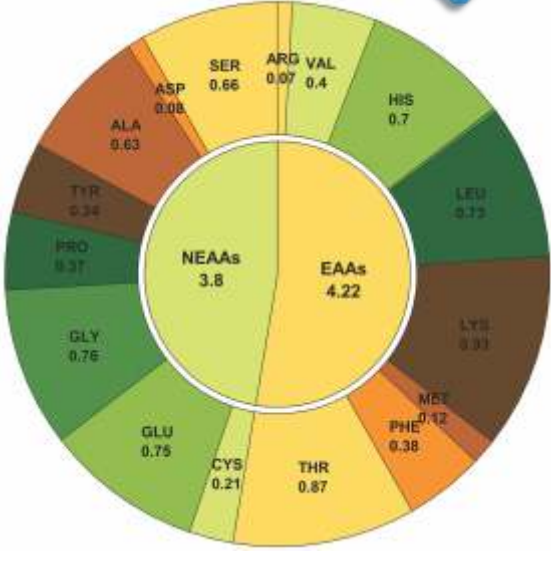
Apocryptes bato (Hamilton, 1822)

Systematic Classification

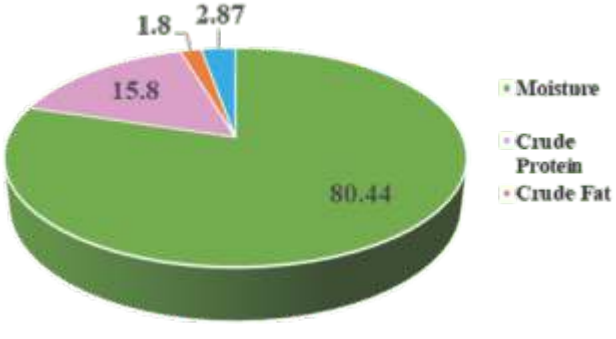
Class: Actinopterygii
Order: Gobiiformes
Family: Oxudercidae
Genus: *Apocryptes*
Species: *Apocryptes bato*
Common English Name: Cheeng
Vernacular Name: Chewa bele (Bengali)

Habitat: Marine and Brackishwater
Distribution: Indian Ocean: India, Bangladesh and Myanmar.

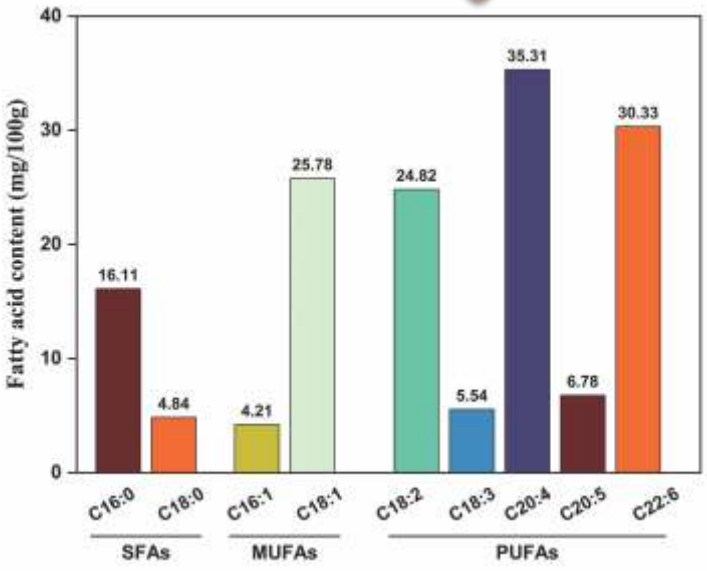
Amino acid content (g/100g)



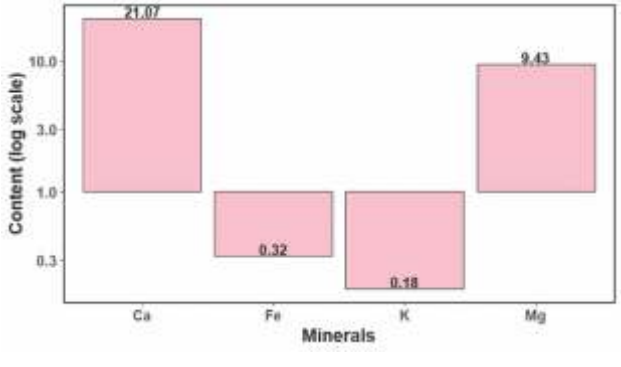
Proximate composition



Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Apocryptes bato (Cheeng) stands out as a rich nutritional resource, boasting 15.8% crude protein, which is vital for muscle development and cellular repair. It offers a balanced amino acid profile, with essential amino acids (EAAs) totalling 4.22 g/100g- lysine (0.93 g/100g) being the most prominent- and non-essential amino acids (NEAAs) at 3.8 g/100g, notably glycine (0.76 g/100g) and glutamate (0.75 g/100g). Its fatty acid profile is equally impressive, particularly with high levels of DHA (30.33 mg/100g), EPA (6.78 mg/100g), and arachidonic acid (35.31 mg/100g), which contribute to cardiovascular and neural health. Additionally, the fish is a significant source of minerals, particularly calcium (21.07 mg/kg) and magnesium (9.43 mg/kg), underscoring its value in supporting bone and metabolic health.

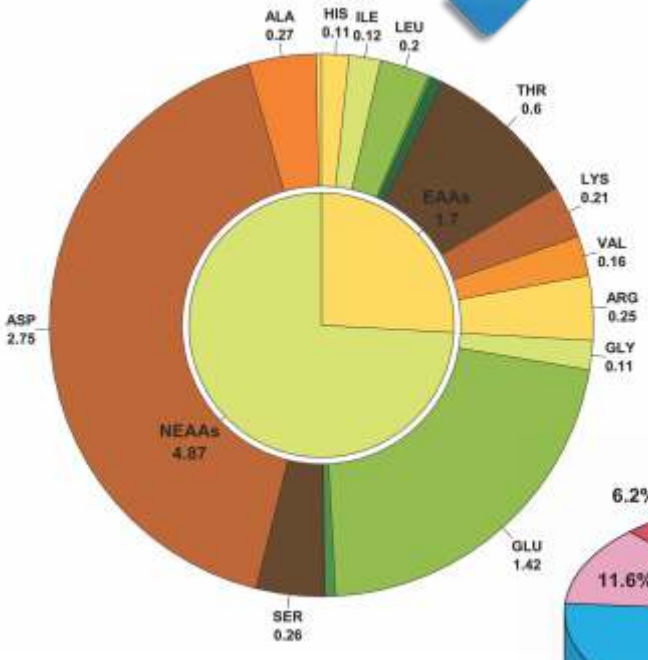
Arius arius (Hamilton, 1822)

Systematic Classification

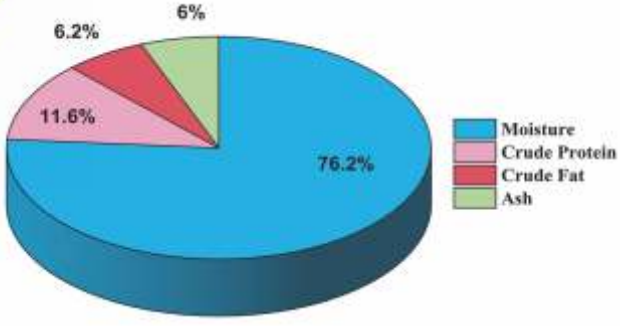
Class: Actinopterygii
Order: Siluriformes
Family: Ariidae
Genus: *Arius*
Species: *Arius arius*
Common English Name: Threadfin sea catfish
Local name: Gagora (Bengali), Jella (Telugu)

Habitat: Brackishwater and Marine
Distribution: India, Bangladesh and Myanmar, Singapore and South China Sea

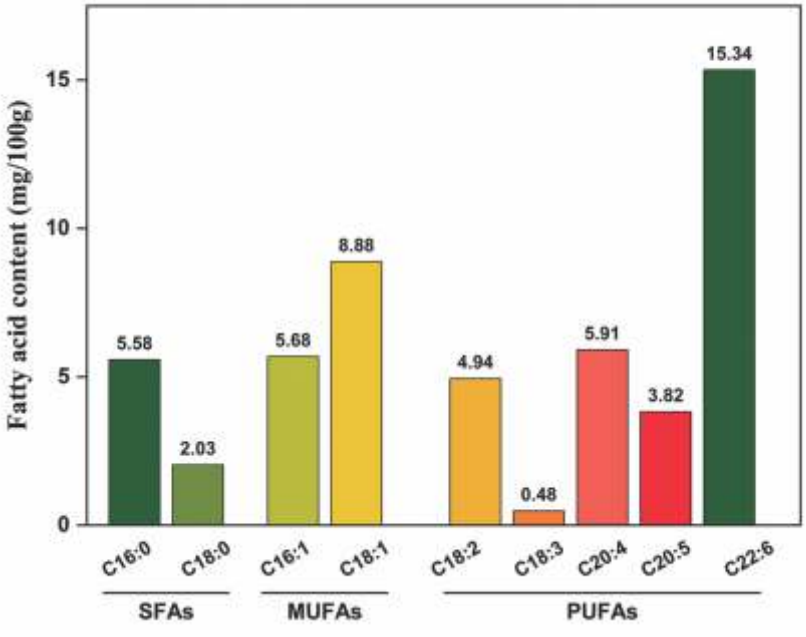
Amino acid content (g/100g)



Proximate composition



Fatty acid content (mg/100 g)



Nutritional significance

Arius arius (Threadfin sea catfish) contains 6.2% crude fat, indicating a moderate fat content that contributes to energy supply and aids in the absorption of fat-soluble vitamins. Threonine, an essential amino acid present at 0.6 g/100g, plays a key role in protein synthesis, immune function, and maintaining the integrity of the gastrointestinal tract. Aspartic acid, a non-essential amino acid found at 2.75 g/100g, supports energy production and is involved in the synthesis of other amino acids. The fish is also rich in ω-3 fatty acids, with EPA at 3.82 mg/100g and DHA at 15.34 mg/100g. These essential fats are well known for their benefits in reducing inflammation, promoting heart health, and supporting brain and visual development.

Barilius barila (Hamilton, 1822)

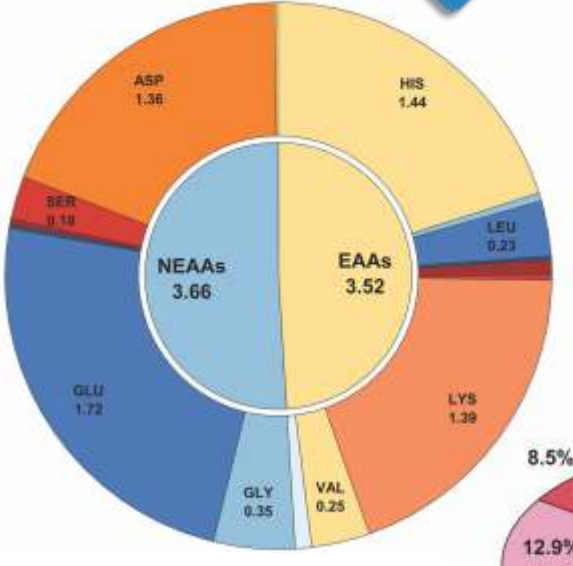
Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Danionidae
Genus: *Barilius*
Species: *Barilius barila*

Common English Name: Barred Baril
Local name: Boroli/ Barali (Bengali), Korang (Assamese), Chalake (Kannada)

Habitat: Freshwater
Distribution: Asia: India, Nepal, Bangladesh and Myanmar.

Amino acid content (g/100g)



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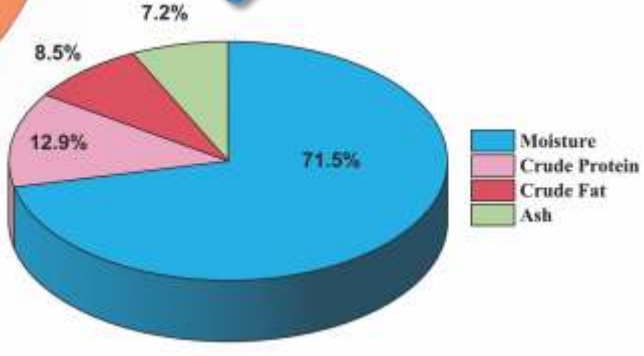
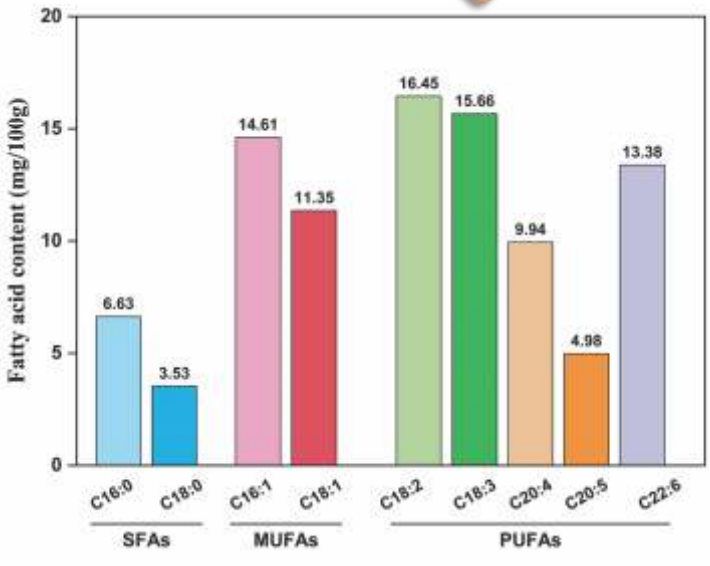
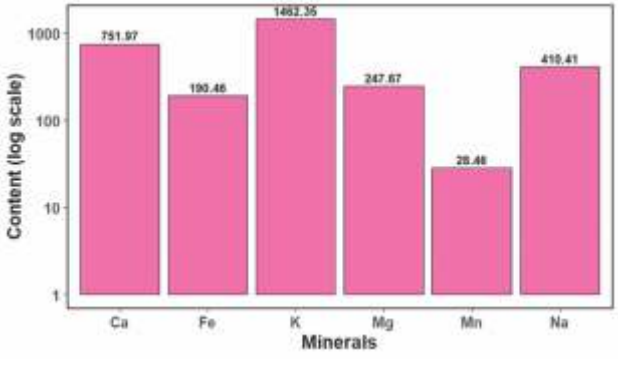


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Barilius barila (Barred Baril) contains 8.5% crude fat, indicating a good source of dietary energy and essential fatty acids that support hormone production and vitamin absorption. It is rich in histidine, an essential amino acid, at 1.44 g/100g. Histidine plays a crucial role in tissue repair, immune response, and the production of histamine, which is vital for digestion and immune function. Glutamic acid, a non-essential amino acid present at 1.72 g/100g, supports cellular metabolism and acts as a neurotransmitter important for brain function. It also provides a significant amount of potassium at 1462.35 mg/kg, which is essential for maintaining fluid balance, regulating blood pressure, and supporting muscle and nerve activity. Additionally, it contains notable levels of ω-3 fatty acids, EPA at 4.98 mg/100g and DHA at 13.38 mg/100g. These fatty acids contribute to cardiovascular health, reduce inflammation, and support cognitive and visual development.

Butis butis (Hamilton, 1822)

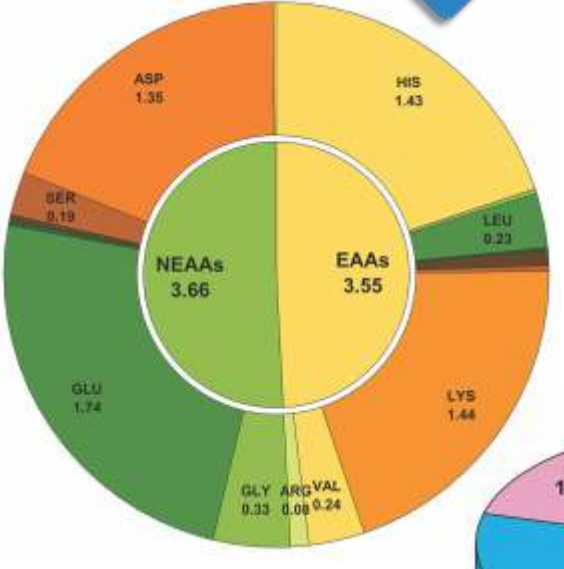
Systematic Classification

Class: Actinopterygii
Order: Gobiiformes
Family: Butidae
Genus: *Butis*
Species: *Butis butis*
Common English Name: Duckbill sleeper
Local name: kuli

Habitat: Freshwater, Brackishwater and Marine

Distribution: India, Bangladesh, Philippines, Indonesia, Thailand, Vietnam, Cambodia, Papua New Guinea, Australia and Solomon Island

Amino acid content (g/100g)



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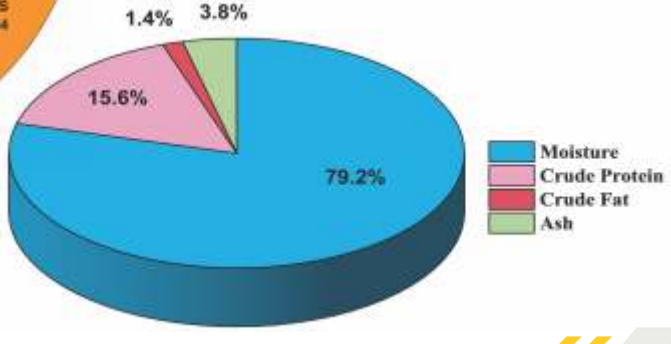
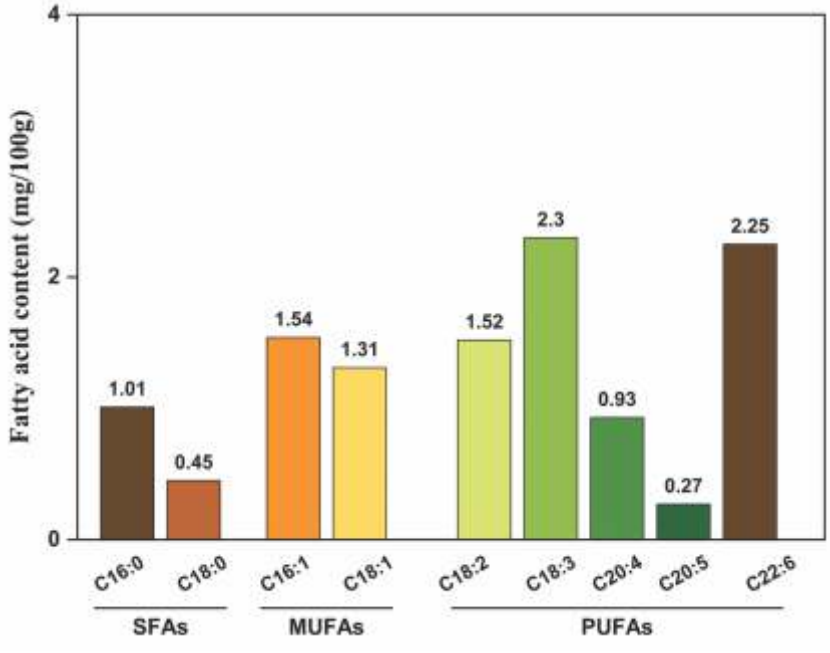


Fatty acid content (mg/100 g)



Nutritional significance

Butis butis (Duckbill sleeper) contains 15.6% crude protein, indicating a good-quality protein source essential for muscle maintenance, tissue repair, and enzyme activity. It is enriched with lysine, an essential amino acid, at 1.44 g/100g, which is vital for protein synthesis, calcium absorption, and immune system support. The non-essential amino acid glutamic acid, present at 1.74 g/100g, contributes to cellular metabolism and acts as a neurotransmitter in the brain. Although the levels of ω-3 fatty acids are moderate, EPA at 0.27 mg/100g and DHA at 2.25 mg/100g, they still contribute to heart and brain health.

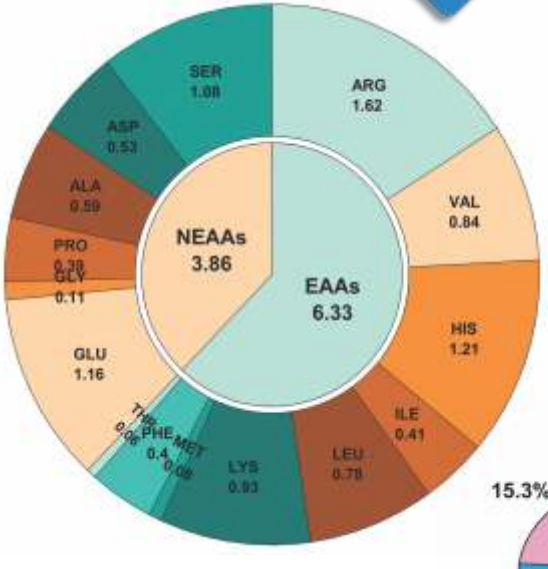
Cabdio morar (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Danionidae
Genus: *Cabdio*
Species: *Cabdio morar*
Common English Name: Morari
Vernacular Name: Morari/Pioly (Bengali), Olahalale (Kannada)

Habitat: Freshwater
Distribution: Asia: India, Iran, Afghanistan, Pakistan, India, Nepal, Bangladesh, Myanmar and Thailand

Amino acid content (g/100g)



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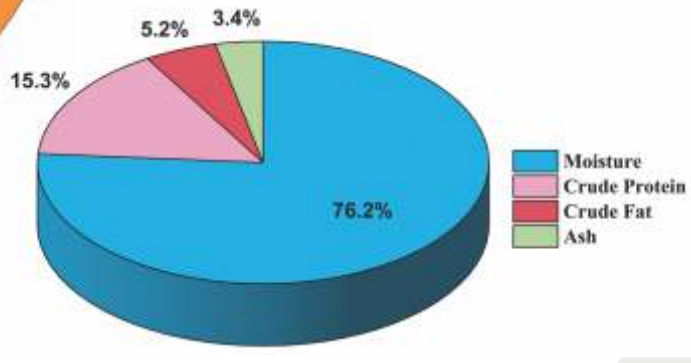
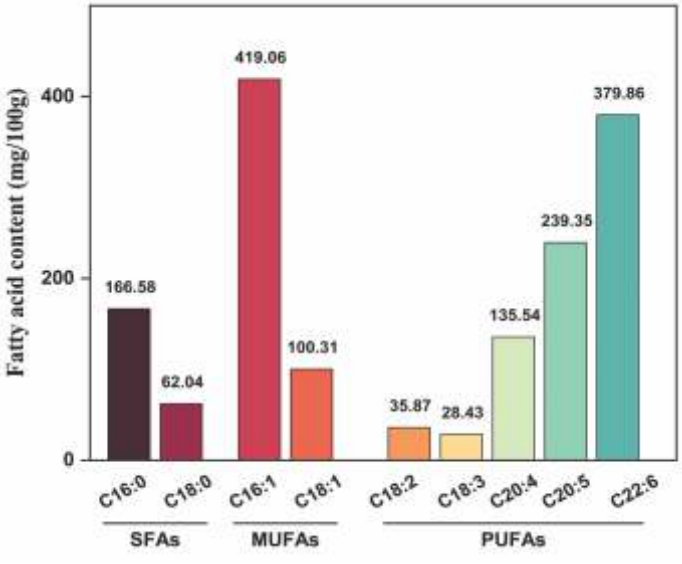
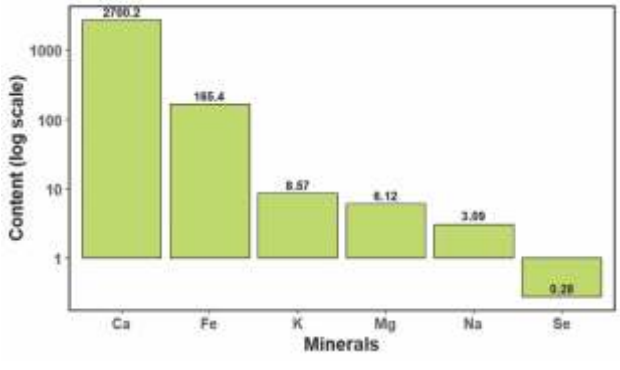


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Cabdio morar (Morari) is a nutritious source of high-quality protein, with a crude protein content of 15.3%. It is rich in the essential amino acid arginine (1.62 g/100g), which supports immune response, hormone production, and healing processes. The non-essential amino acid glutamate (1.16 g/100 g) is also present in a significant quantity, contributing to energy metabolism and taste. Calcium is 2700.2 mg/kg, playing a vital role in bone development and maintenance. Additionally, the species provides substantial amounts of the ω-3 fatty acids, EPA (239.35 mg/100g) and DHA (379.66 mg/100g), which are essential for cardiovascular health and brain function.

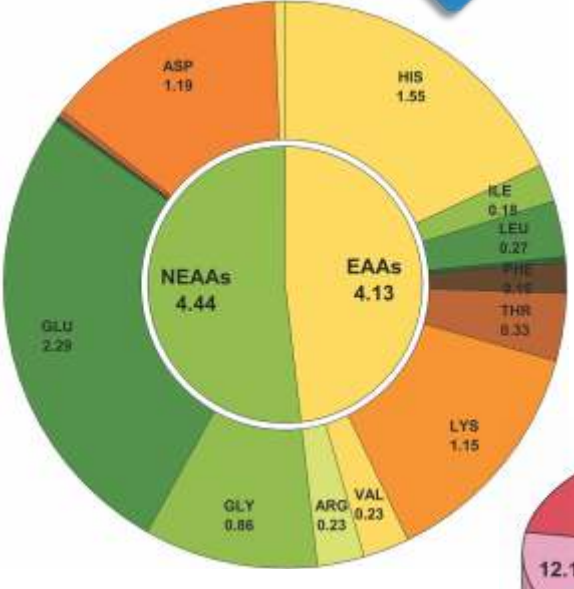
Chagunius chagunio (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: *Chagunius*
Species: *Chagunius chagunio*
Common English Name: Chaguni
Local name: Lal puti (Bengali), Keintah puthi (Assamese)

Habitat: Freshwater
Distribution: India, Bangladesh and Nepal

Amino acid content (g/100g)



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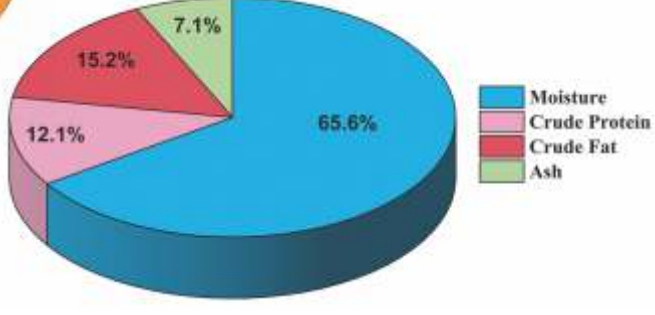
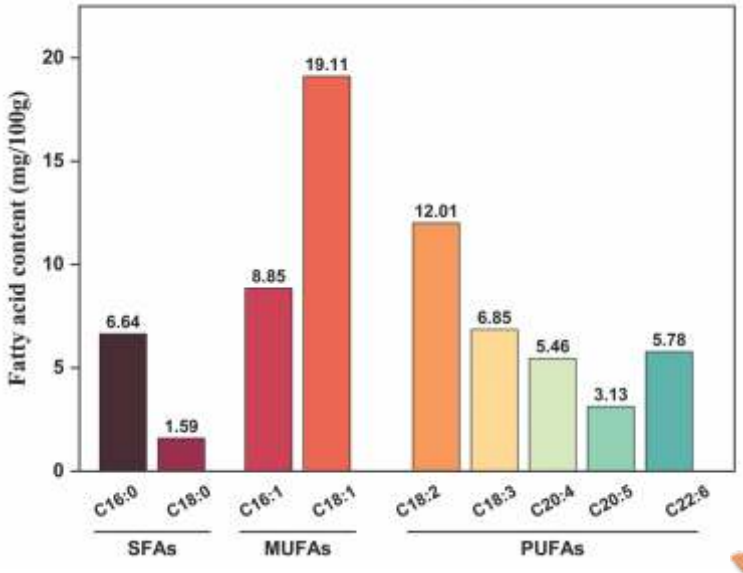
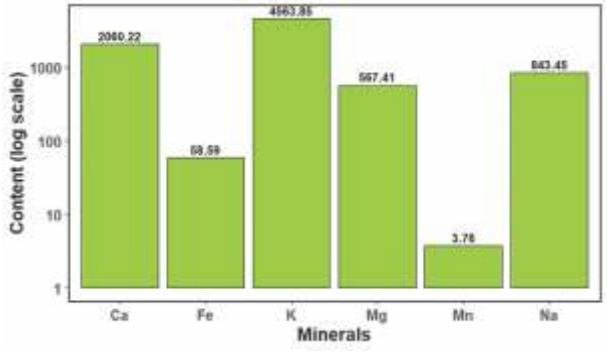


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Chagunius chagunio (Chaguni) contains 15.2% crude fat, offering a rich energy source and facilitating the absorption of fat-soluble vitamins. It is particularly high in histidine, an essential amino acid (1.55 g/100g), which plays a critical role in tissue growth, immune response, and the production of haemoglobin. A non-essential amino acid, Glutamic acid, present at 2.29 g/100g, supports brain function and cellular metabolism. The mineral profile includes a high potassium content of 4563.85 mg/kg, which is essential for regulating fluid balance, nerve signals, and muscle contractions. Additionally, the fish contains valuable ω-3 fatty acids, with EPA at 3.13 mg/100g and DHA at 5.78 mg/100g, which are known for their benefits to cardiovascular health, inflammation control, and cognitive function. This nutrient-rich composition makes the fish a highly beneficial addition to a balanced and health-supportive diet.

Chanda nama Hamilton, 1822

Systematic Classification

Class: Actinopterygii

Order: Perciformes

Family: Ambassidae

Genus: *Chanda*

Species: *Chanda nama*

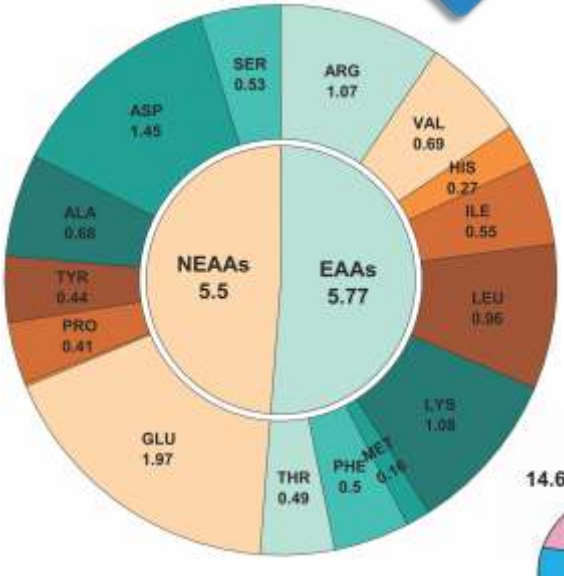
Common English Name: Elongate glass-perchlet

Vernacular Name: Kachki/ Chanda (Bengali), Bachanike Meenu (Kannada), Kachki (Marathi) and Kakkachee (Tamil)

Habitat: Freshwater and Brackishwater

Distribution: India, Nepal, Bangladesh, Pakistan and Myanmar.

Amino acid content (g/100g)



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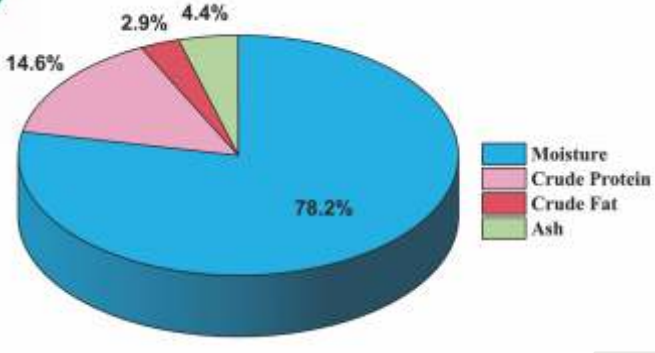
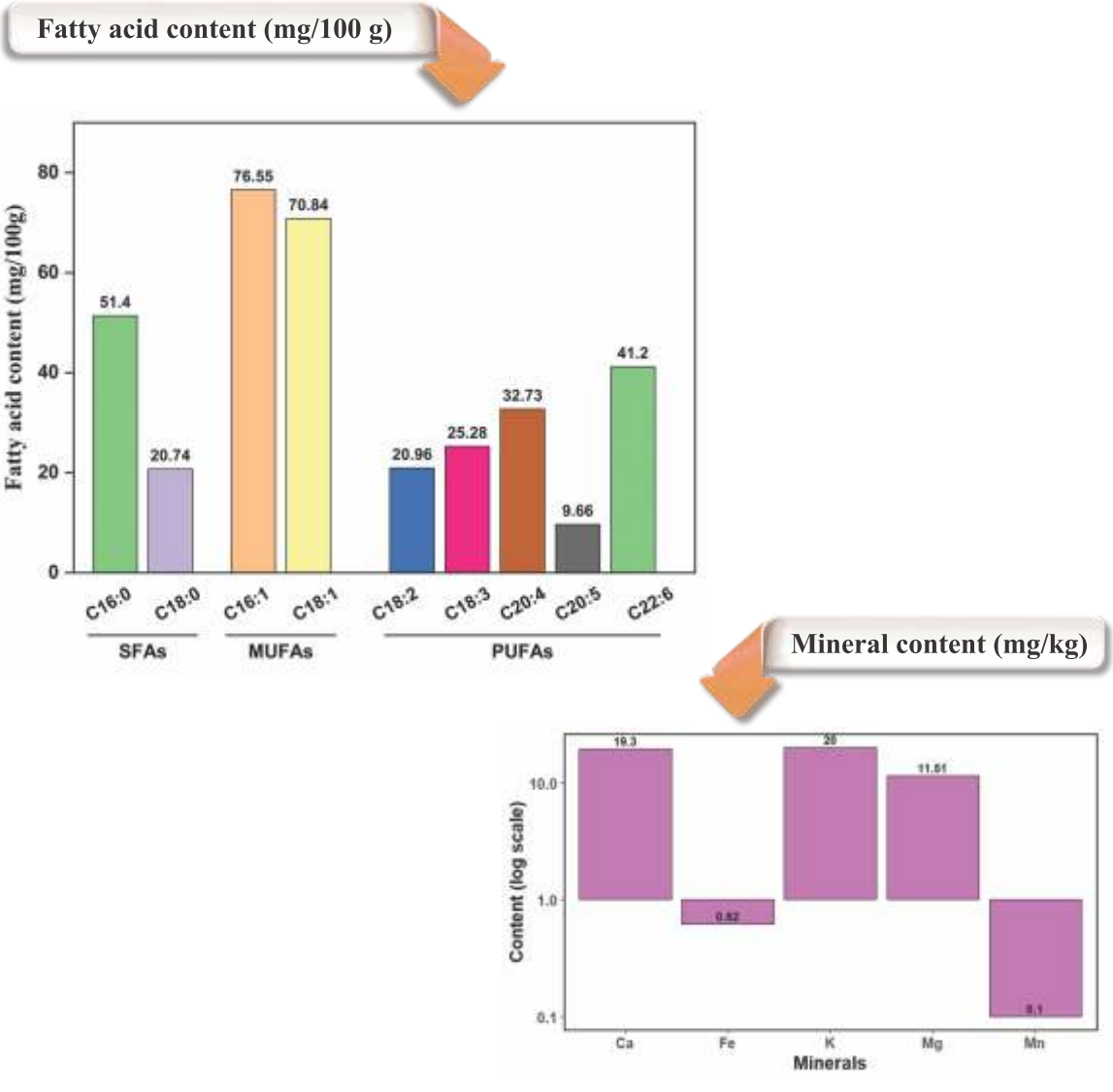




Nutritional significance

Chanda nama (Elongate glass-perchlet) contains a moderate crude protein content of 14.6%, making it a useful dietary protein source. It is rich in the essential amino acid lysine (1.08 g/100g), which plays a key role in muscle development and calcium absorption. The non-essential amino acid glutamate (1.97 g/100g) is present in good quantity, contributing to metabolism and flavour enhancement. Its mineral profile reveals the presence of potassium (20 mg/kg), which is essential for nerve and muscle function. Although its ω-3 fatty acid levels are relatively low, it provides EPA (9.66 mg/100g) and DHA (41.2 mg/100g), which is beneficial for heart and brain health.

Chanda ranga (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Anabantiformes

Family: Ambassidae

Genus: *Chanda*

Species: *Chanda ranga*

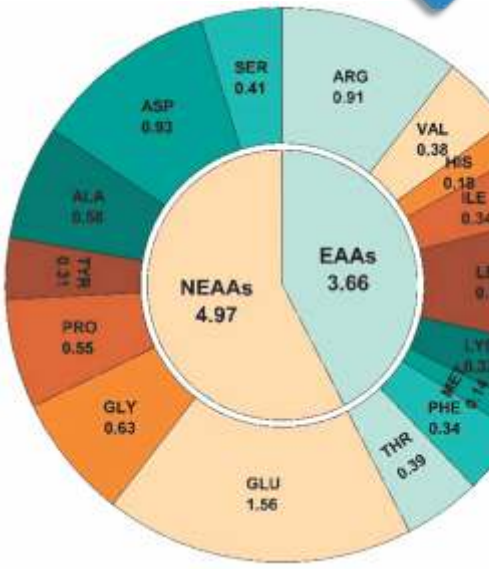
Common English Name: Indian glassy fish

Vernacular Name: Lal chanda (Bengali), Chendari (Marathi), Lal-chandee (Oriya), Chitti-kangi (Punjabi), Kaka-semmel/ Kannadimeen

Habitat: Freshwater and Brackishwater

Distribution: India, Bangladesh, Myanmar, Thailand, Malaysia, Pakistan, and Nepal

Amino acid content (g/100g)



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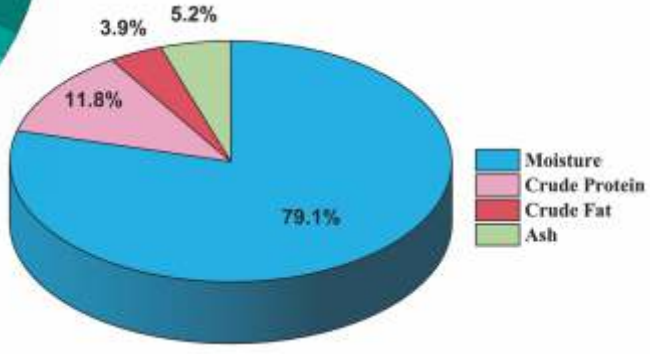
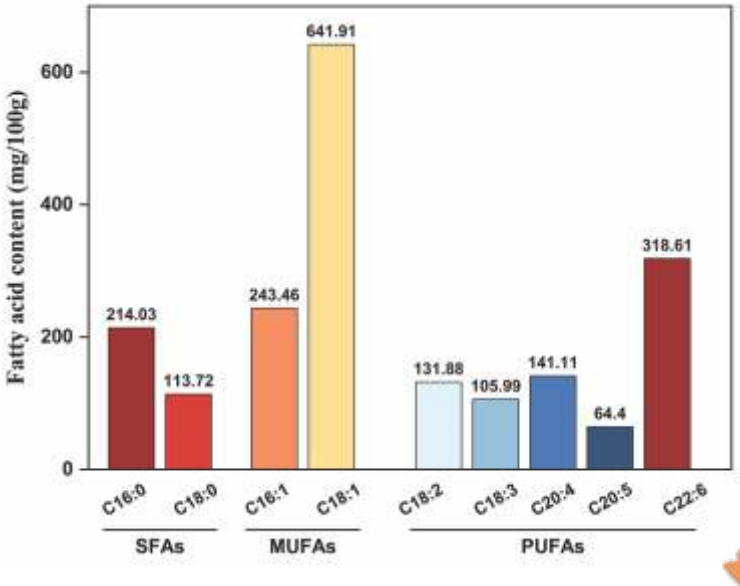
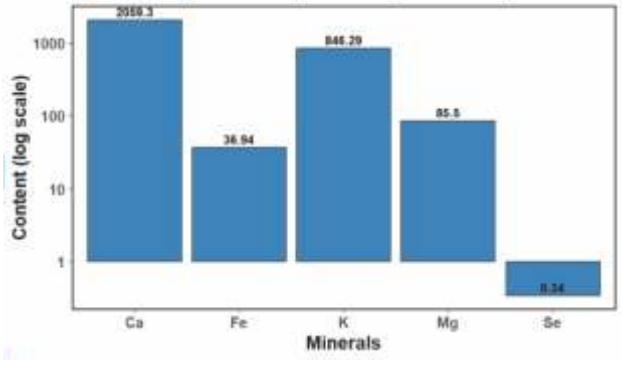


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Chanda ranga (Indian glassy fish) presents a well-balanced nutritional composition, with a crude protein content of 11.8%, making it a modest but valuable protein source. It contains a good level of the essential amino acid arginine (0.91 g/100g), vital for immune function, cell division, and wound healing. The non-essential amino acid glutamate (1.56 g/100g) supports metabolism and contributes to the fish's rich flavour profile. It is also notable for its high calcium content (2059.3 mg/kg), which plays a crucial role in bone health and neuromuscular function. Additionally, the fish offers beneficial amounts of ω-3 fatty acids-EPA (64.4 mg/100g) and DHA (318.61 mg/100g), both of which are essential for maintaining cardiovascular and cognitive health.

Channa marulius (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Anabantiformes

Family: Channidae

Genus: *Channa*

Species: *Channa marulius*

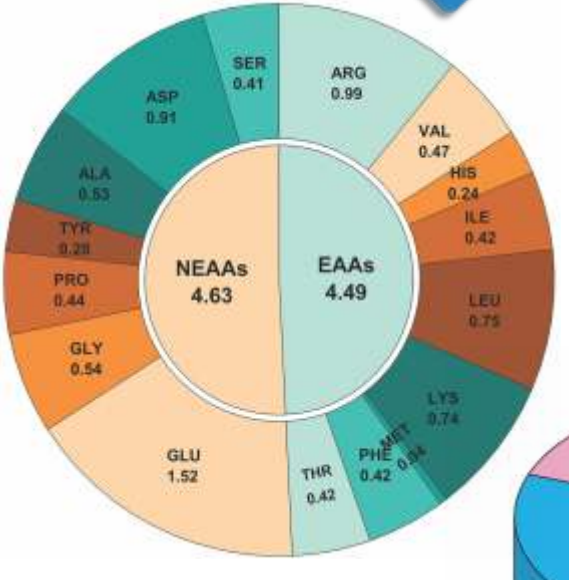
Common English Name: Great snakehead

Vernacular Name: Gajar/ Gajal (Bengali), Pumuri or Bohr (Hindi), Haal Sal (Assamese), Korammeenu (Andhra and Telangana) and Maral (Marathi)

Habitat: Freshwater

Distribution: South Asia: India, northern Sri Lanka, Pakistan, and western Myanmar.

Amino acid content (g/100g)



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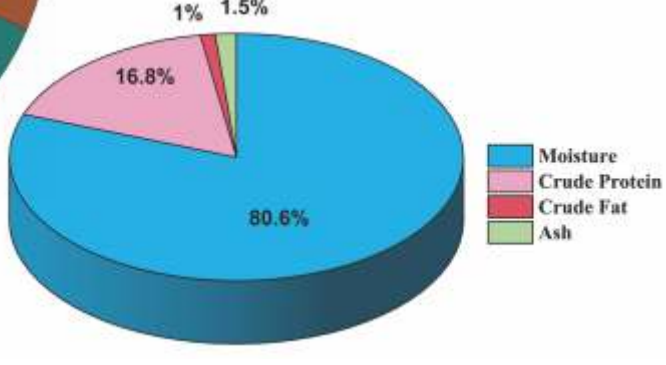
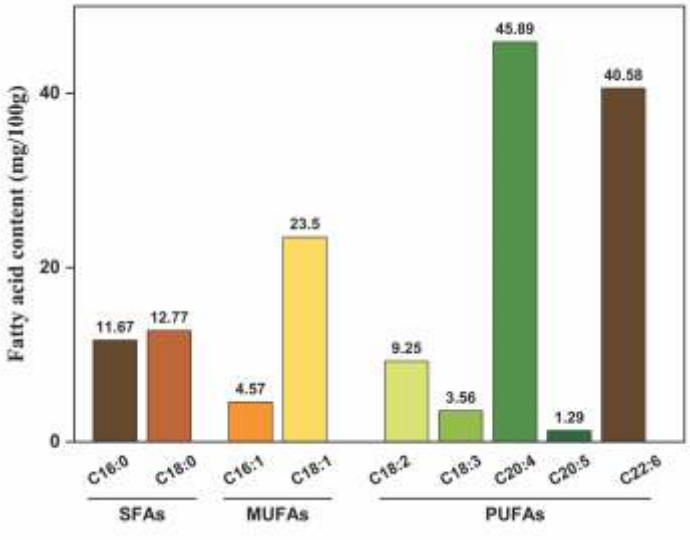
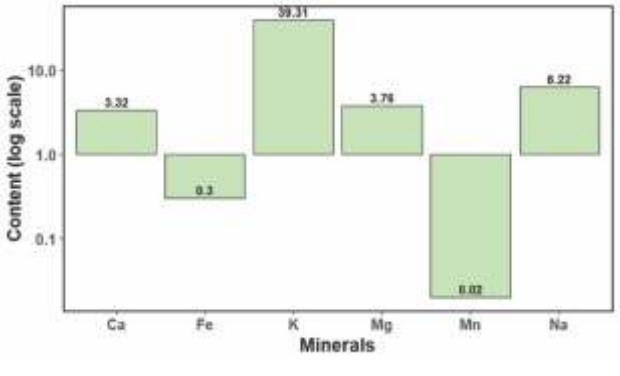


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Channa marulius (Great snakehead) is characterized by a substantial crude protein content of 16.8%, making it a valuable source of dietary protein. It contains the essential amino acid arginine (0.99 g/100g), important for cell division and immune function, and the non-essential amino acid glutamate (1.5 g/100g), which supports various metabolic processes. The mineral profile highlights calcium (2700.2 mg/kg) as the dominant element, essential for bone health and neuromuscular function. Although the levels of ω-3 fatty acids are relatively low, it provides EPA (1.29 mg/100g) and DHA (40.58 mg/100g), which contribute to cardiovascular and cognitive well-being.

Channa punctata (Bloch 1793)

Systematic Classification

Class: Actinopterygii

Order: Anabantiformes

Family: Channidae

Genus: *Channa*

Species: *Channa punctata*

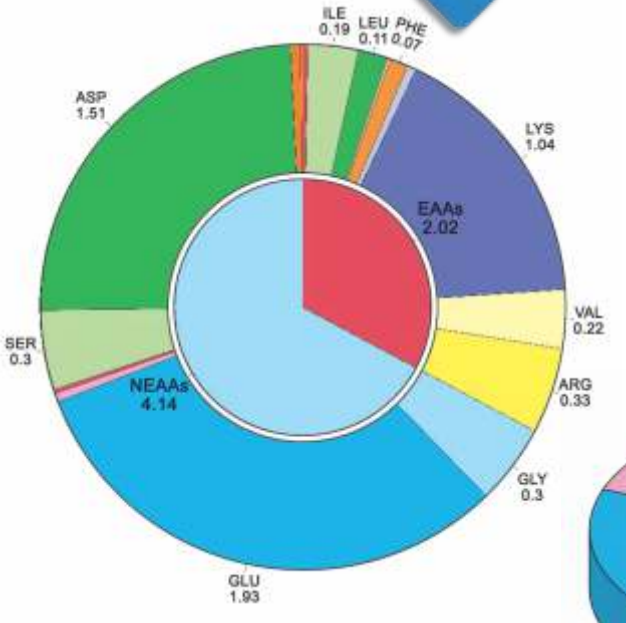
Common English Name: Spotted snakehead

Vernacular Name: Lata/ Lati/ Taki (Bengali, Assamese), Phool-dhok (Hindi), Belikorava (Kannada), Gorissa (Oriya), Korava (Tamil)

Habitat: Freshwater and Brackishwater

Distribution: India, Afghanistan, Pakistan, Sri Lanka, Bangladesh, Myanmar, Thailand, Malaysia and China

Amino acid content (g/100g)



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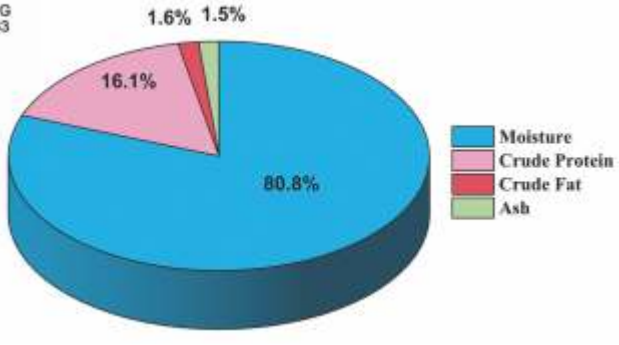
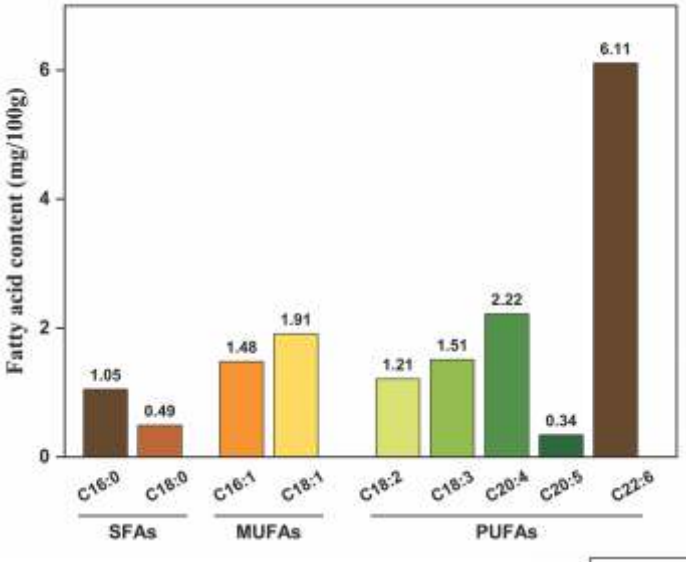
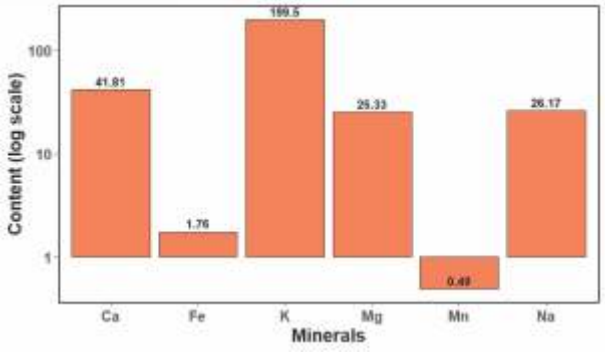


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

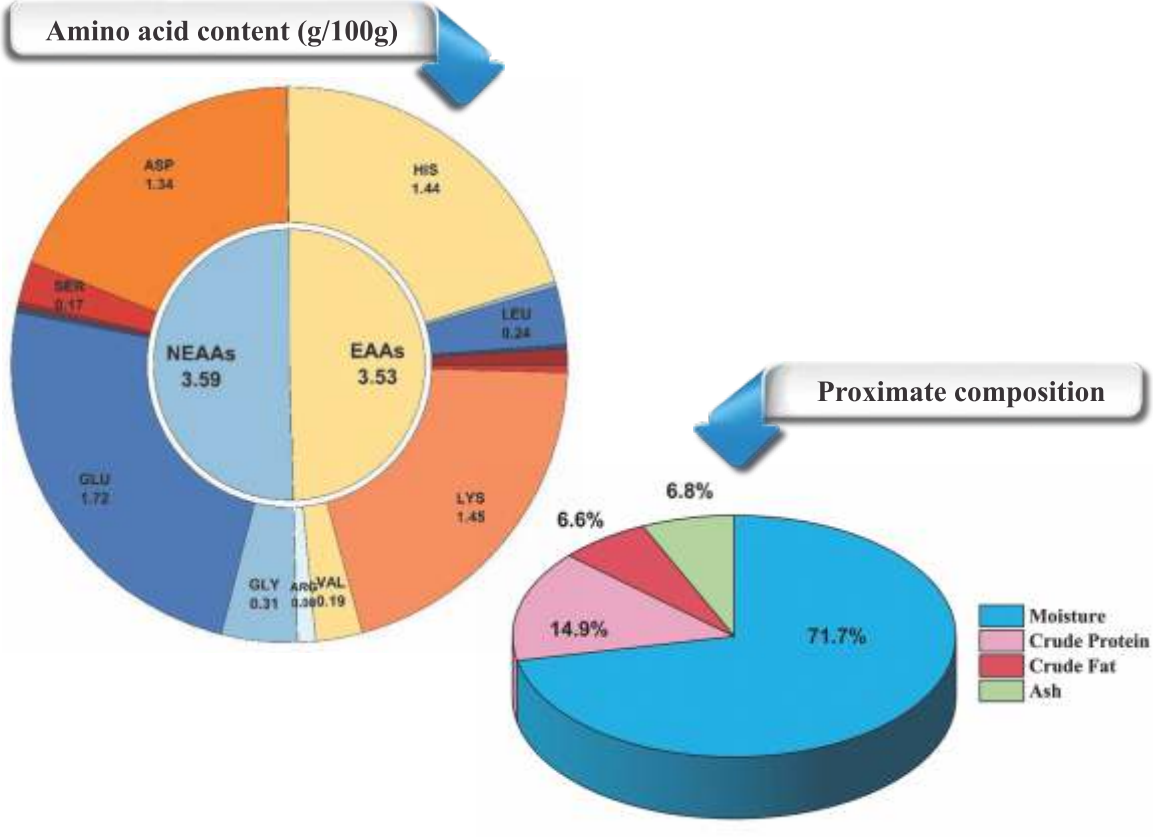
Channa punctata (Spotted snakehead) contains 16.1% crude protein, indicating a high-quality protein source that supports muscle development, tissue repair, and overall metabolic health. Lysine, the essential amino acid present at 1.04 g/100g, is crucial for growth, immune function, and calcium absorption. Glutamate, the dominant non-essential amino acid at 1.93 g/100g, plays a key role in neurotransmission and energy metabolism. Potassium is present at 199.5 mg/kg, contributing to heart health, fluid balance, and proper nerve and muscle function. The fish also includes ω-3 fatty acids, with EPA at 0.34 mg/100g and DHA at 6.11 mg/100g. While EPA is modest, the significant level of DHA provides notable benefits for brain development, cognitive performance, and cardiovascular health. Altogether, this nutrient composition makes this fish a valuable component of a balanced and health-supportive diet.

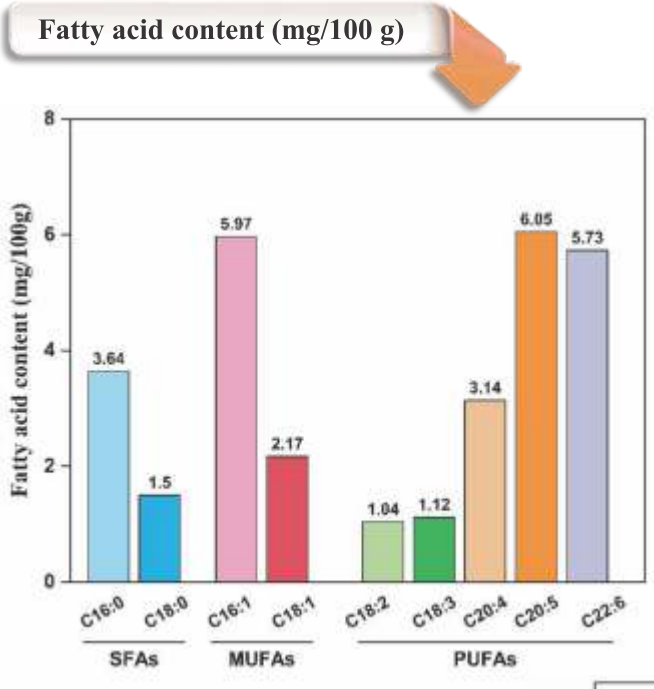
Chelon parsia (Hamilton, 1822)

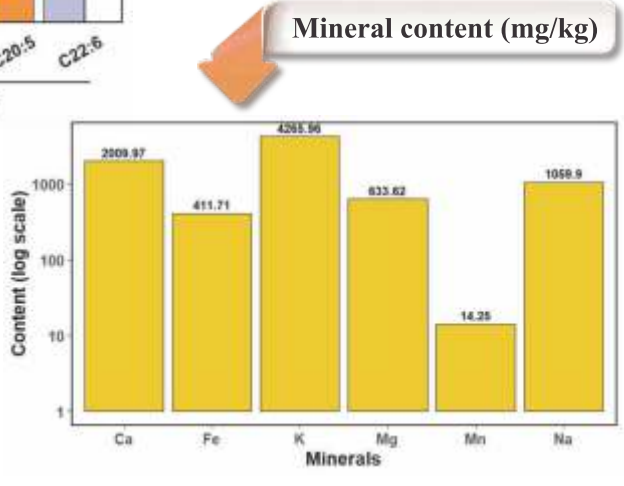
Systematic Classification

Class: Actinopterygii
Order: Mugiliformes
Family: Mugilidae
Genus: *Chelon*
Species: *Chelon parsia*
Common English Name: Goldspot mullet
Local name: Parshe (Bengali), Boi (Marathi), Kanbo (Malayalam)

Habitat: Freshwater, Brackishwater and Marine
Distribution: Indian Ocean: found along the coasts of India, Sri Lanka, Pakistan and Andaman Islands







Nutritional significance

Chelon parsia (Goldspot mullet) contains 6.6% crude fat, providing a healthy source of dietary energy and aiding in the absorption of fat-soluble vitamins. It is rich in lysine, an essential amino acid, at 1.45 g/100g, which plays a critical role in protein synthesis, calcium absorption, and immune support. Glutamic acid, a non-essential amino acid present at 1.72 g/100g, is essential for cellular metabolism and acts as a key neurotransmitter, supporting brain function. A high level of potassium highlights the mineral content at 4265.96 mg/kg, which is vital for maintaining fluid balance, nerve transmission, and muscle contraction. Additionally, the fish provides substantial amounts of ω-3 fatty acids namely EPA at 6.05 mg/100g and DHA at 5.73 mg/100g. These fatty acids are well known for supporting cardiovascular health, reducing inflammation, and enhancing cognitive and visual functions.

Cirrhinus mrigala (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Cypriniformes

Family: Cyprinidae

Genus: *Cirrhinus*

Species: *Cirrhinus mrigala*

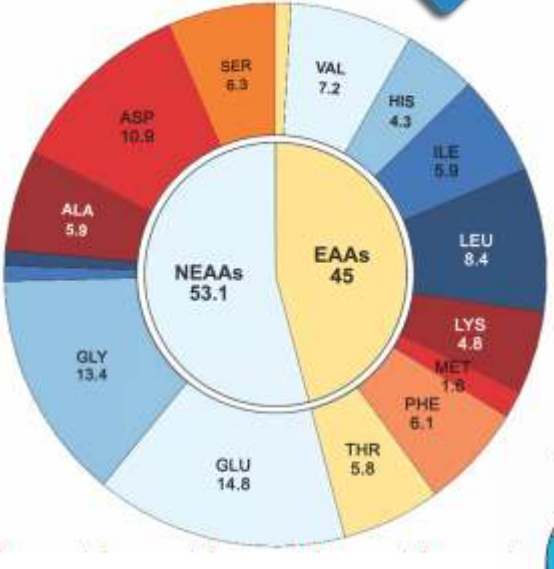
Common English Name: Mrigal

Vernacular Name: Mrigal (Bengali), Mariga (Assamese), Mirgali (Oriya), Nain (Hindi), Mirga (Marathi), Dodda-arja (Kannada)

Habitat: Freshwater

Distribution: India, Nepal, Bangladesh, Pakistan and Myanmar

Amino acid content (g/100g)



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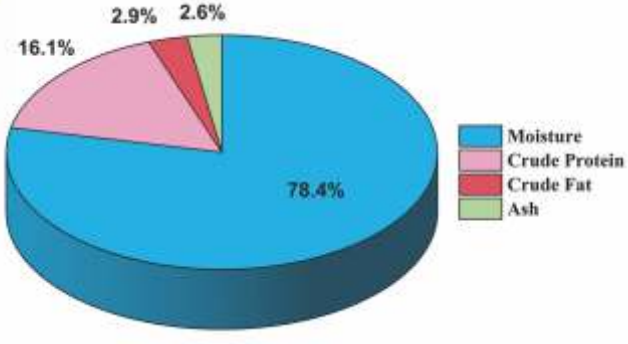
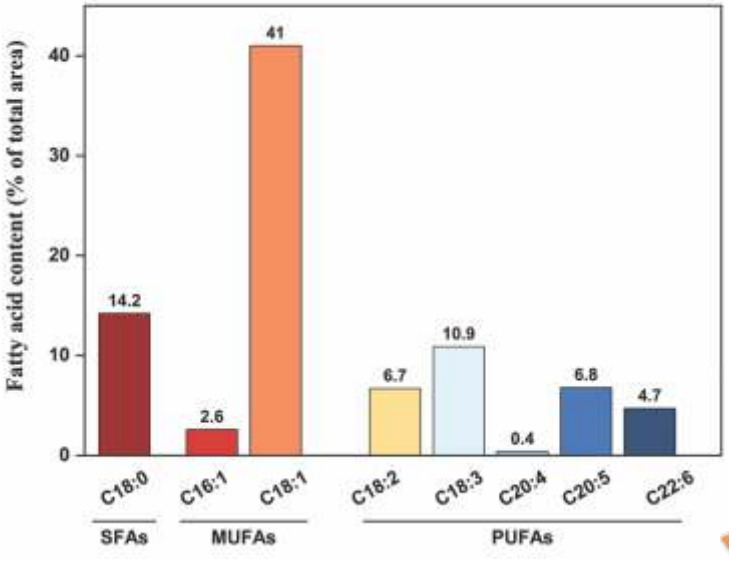
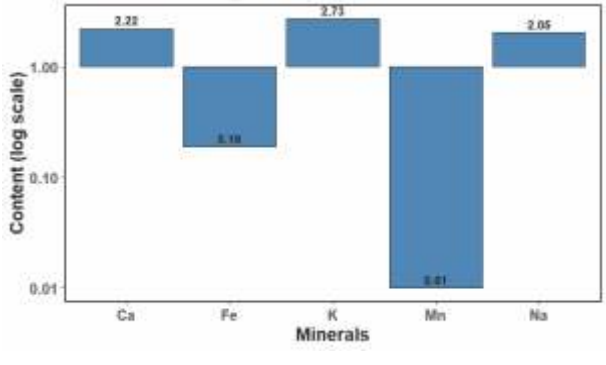


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Cirrhinus mrigala (Mrigal) exhibits considerable nutritional value, with a crude protein content of 16.1%, making it a good source of high-quality protein. It is particularly rich in the essential amino acid leucine (8.4 g/100g protein), which plays a critical role in muscle protein synthesis and metabolic regulation. The fish also provides a significant amount of the non-essential amino acid glutamic acid (14.8 g/100g protein), important for gut health and neurotransmission. Although the potassium content is relatively low (2.73 mg/kg), Mrigal compensates with its beneficial fatty acid profile, especially EPA (6.8%) and DHA (4.7%) of the total fatty acid area, which contribute to cardiovascular and cognitive health. These combined nutrients enhance the overall health benefits of consuming Mrigal, reinforcing its status as a highly valued fish in the diet.

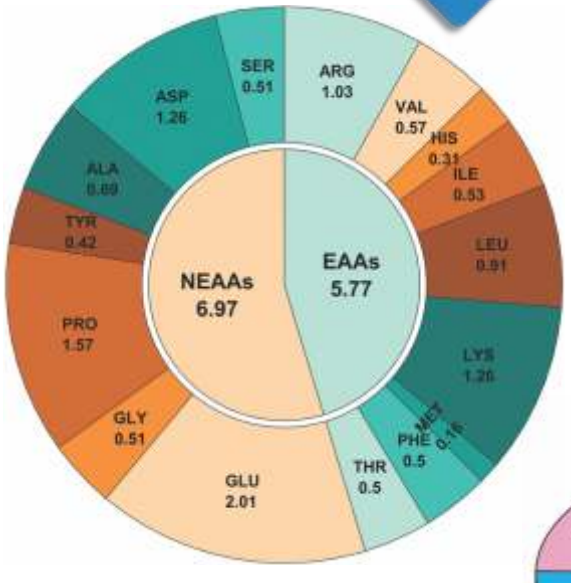
Cirrhinus reba (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: *Cirrhinus*
Species: *Cirrhinus reba*
Common English Name: Reba carp
Vernacular Name: Rewah/Raichang (Bengali), Rashim/Lachim/Lassem (Assamese)

Habitat: Freshwater
Distribution: India, Nepal, Bangladesh, Pakistan and Myanmar

Amino acid content (g/100g)



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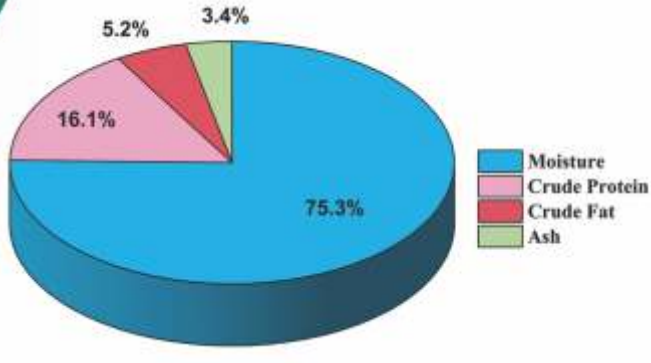
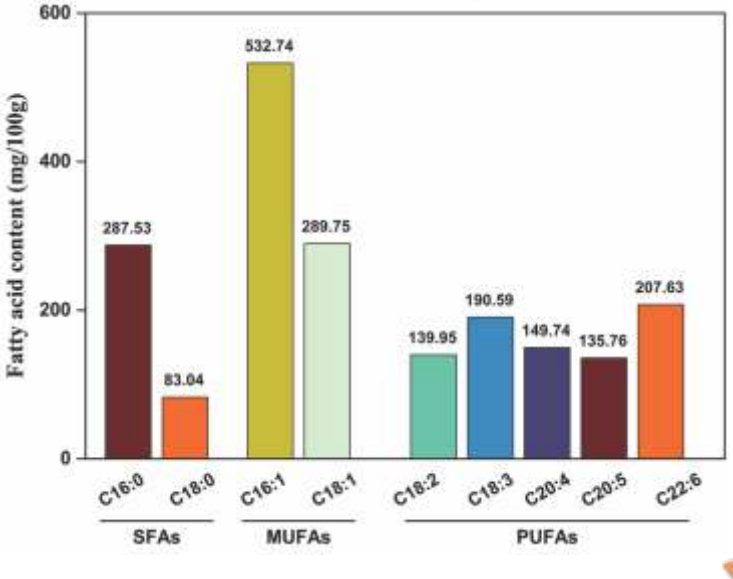
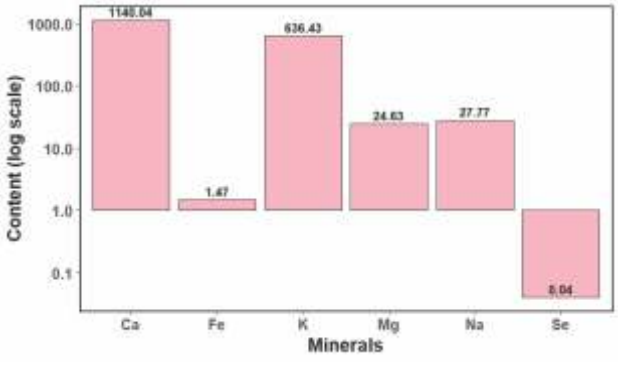


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Cirrhinus reba (Reba carp) presents a strong nutritional profile, making it a valuable dietary component. It contains 16.1% crude protein, supporting muscle growth and repair. The essential amino acid lysine is present at a high concentration of 1.26 g/100g, aiding in calcium absorption and immune function. Glutamate, a non-essential amino acid, is abundant at 2.01 g/100g, which supports energy metabolism and contributes to the umami taste. Mineral-wise, it offers 1140.04 mg/kg of calcium, promoting bone strength. Additionally, its ω-3 fatty acid profile is substantial, with EPA at 135.76 mg/100g and DHA at 207.63 mg/100g, which are beneficial for heart, brain, and anti-inflammatory health benefits. This makes the species an excellent choice for nutrition-focused diets.

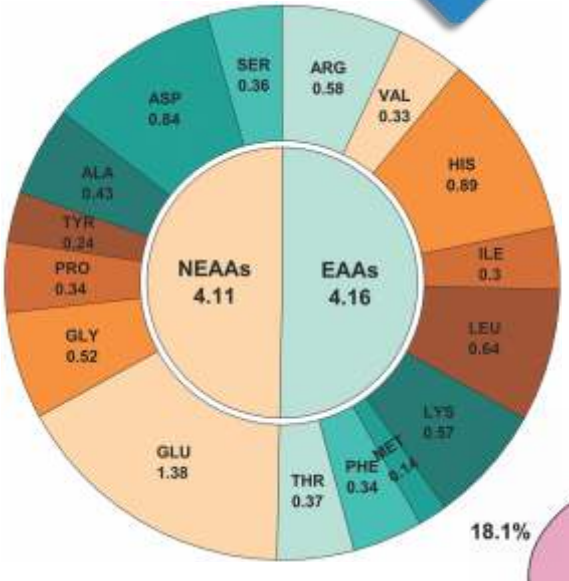
Clupisoma garua (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Siluriformes
Family: Ailiidae
Genus: *Clupisoma*
Species: *Clupisoma garua*
Common English Name: Garua bachcha
Vernacular Name: Gaurcha (Bengali), Neria (Assamese)

Habitat: Freshwater and Brackishwater
Distribution: India, Pakistan, Bangladesh and Nepal

Amino acid content (g/100g)



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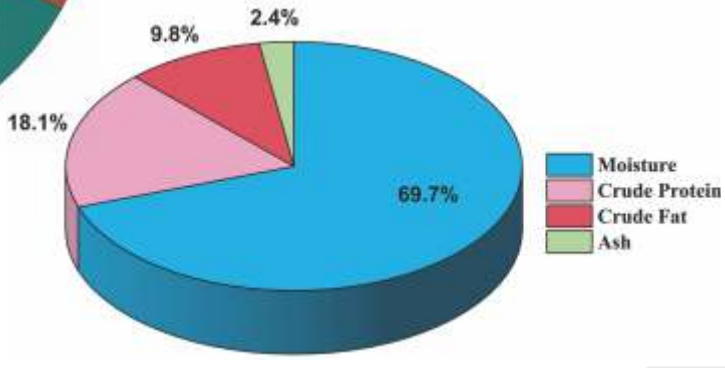
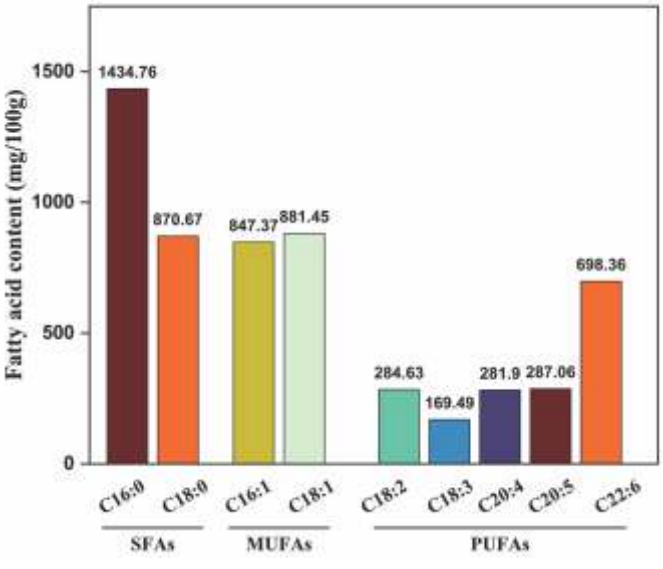
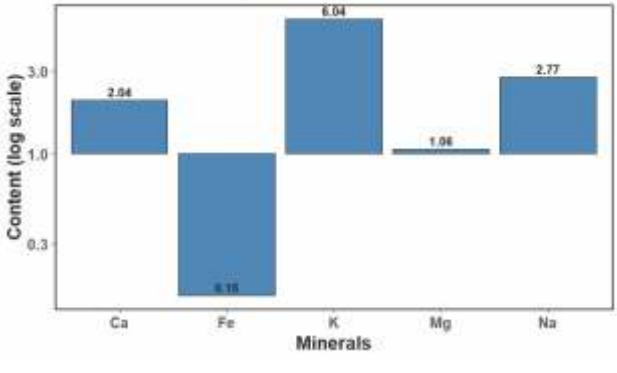


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Clupisoma garua (Garua bachcha) is a nutritionally rich fish species with a notable crude protein content of 18.1%, making it a valuable source of dietary protein. Among its amino acid profile, histidine (0.89 g/100g) is the dominant essential amino acid, which supports growth and tissue repair. In contrast, glutamate (1.38 g/100g muscle) is the principal non-essential amino acid, important for metabolism and flavour. Although its potassium content is relatively low (6.04 mg/kg), it is a good source of health-beneficial ω-3 fatty acids, including EPA (287.06 mg/100g) and DHA (698.36 mg/100g), which are crucial for heart and brain health.

Coilia dussumieri Valenciennes, 1848

Systematic Classification

Class: Actinopterygii

Order: Clupeiformes

Family: Engraulidae

Genus: *Coilia*

Species: *Coilia dussumieri*

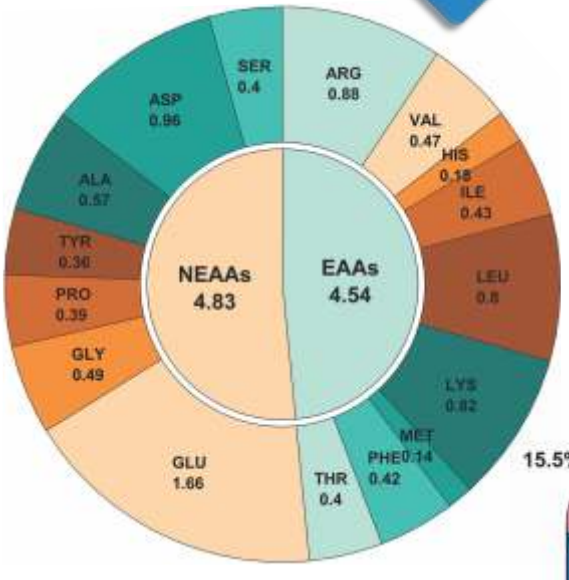
Common English Name: Goldspotted grenadier anchovy

Vernacular Name: Boiragi/ Rulim mach (Bengali), Mandeli (Gujarati and Marathi) and Oorialli (Oriya)

Habitat: Marine, Freshwater and Brackishwater

Distribution: Indian Ocean: India from Bombay to Calcutta, probably also Myanmar, Thailand and Malaysia. Western Central Pacific: Thailand to Java

Amino acid content (g/100g)



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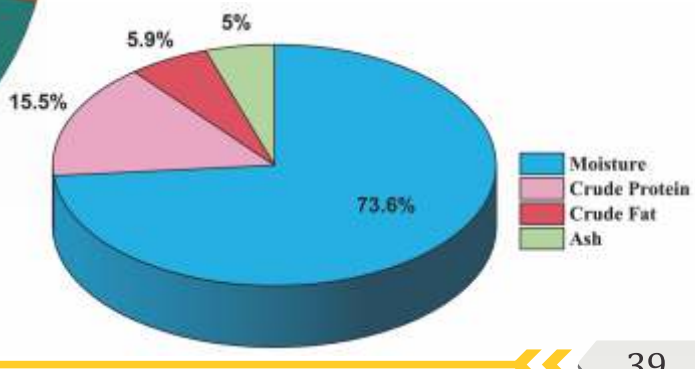
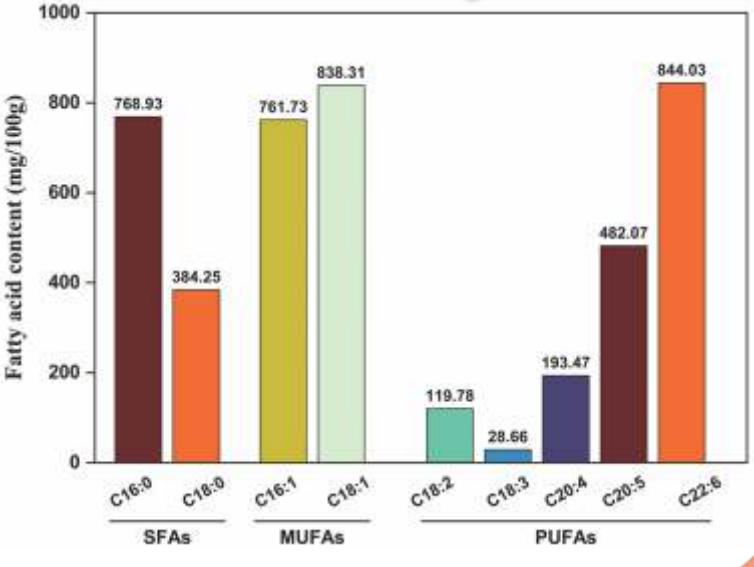
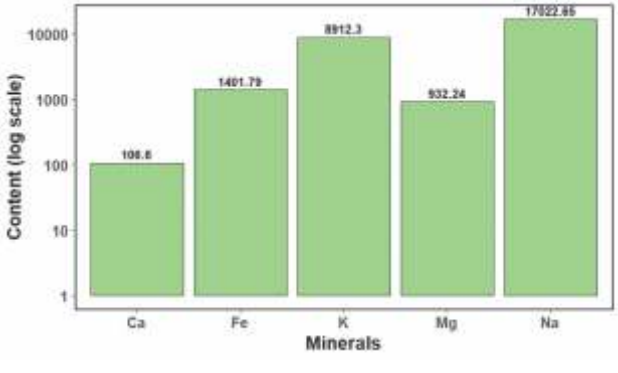


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Coilia dussumieri (Goldspotted grenadier anchovy) is a nutritionally valuable fish species, characterized by a high crude protein content of 15.5%. Arginine is the most abundant essential amino acid (0.88 g/100g), contributing to immune function and hormone regulation, while glutamate (1.66 g/100g) stands out among non-essential amino acids, aiding in cellular metabolism and flavour enhancement. This species is exceptionally rich in sodium (17022.65 mg/kg), which plays a key role in fluid balance and nerve function. Additionally, it is a good source of ω-3 fatty acids, particularly EPA (482.07 mg/100g) and DHA (844.03 mg/100g), essential for cardiovascular health and cognitive function.

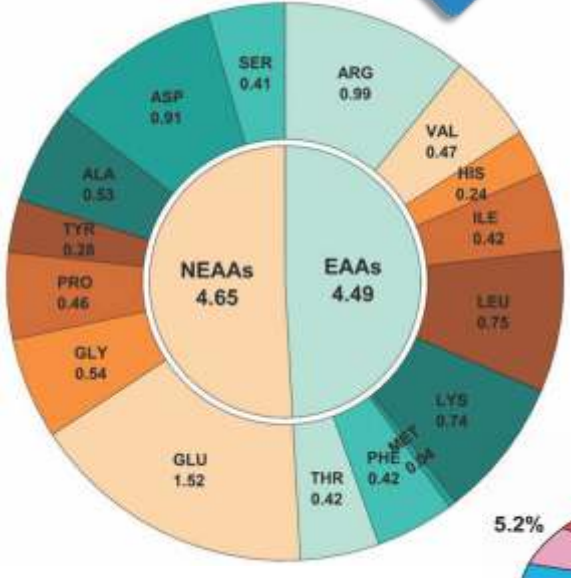
Corica soborna Hamilton, 1822

Systematic Classification

Class: Actinopterygii
Order: Clupeiformes
Family: Ehiravidae
Genus: *Corica*
Species: *Corica soborna*
Common English Name: Ganges river sprat
Vernacular Name: Kachki/Soborno-khorica (Bengali), Cutwaal-alise/ Godhae (Oriya)

Habitat: Freshwater and Brackishwater
Distribution: India, Bangladesh, Malaysia, Brunei and Indonesia

Amino acid content (g/100g)



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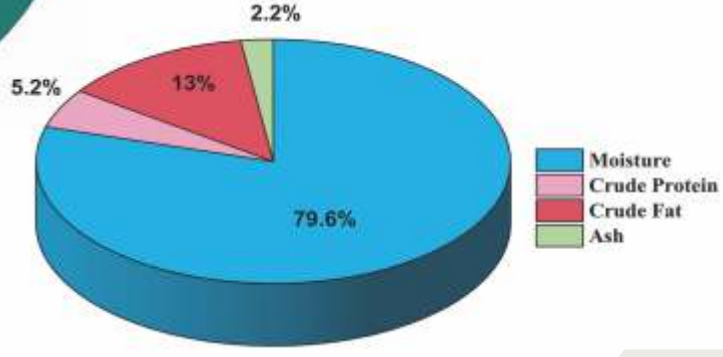
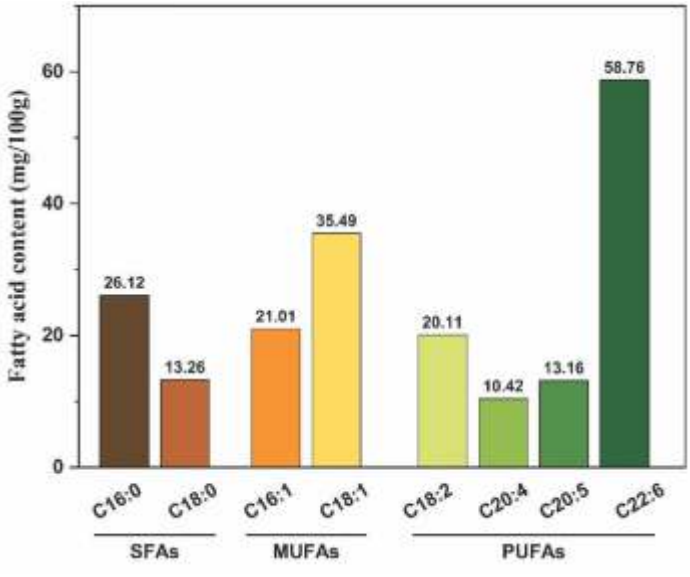
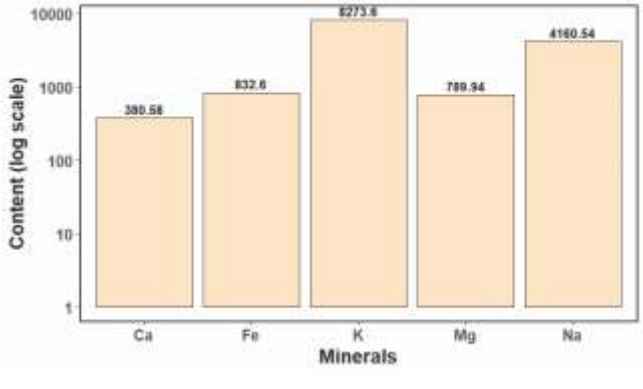


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Corica soborna (Ganges river sprat) is notably rich in crude fat, containing 13%, making it a significant source of dietary energy. It provides a good amount of the essential amino acid arginine (0.99 g/100g), which is vital for immune function and tissue repair. The non-essential amino acid glutamate (1.52 g/100g) enhances both metabolic processes and flavour. Its mineral content is highlighted by a high concentration of potassium (8273.6 mg/kg), essential for muscle function, nerve signalling, and fluid balance. Additionally, it offers a beneficial level of the ω-3 fatty acid EPA (58.76 mg/100g), known for its cardiovascular and anti-inflammatory benefits.

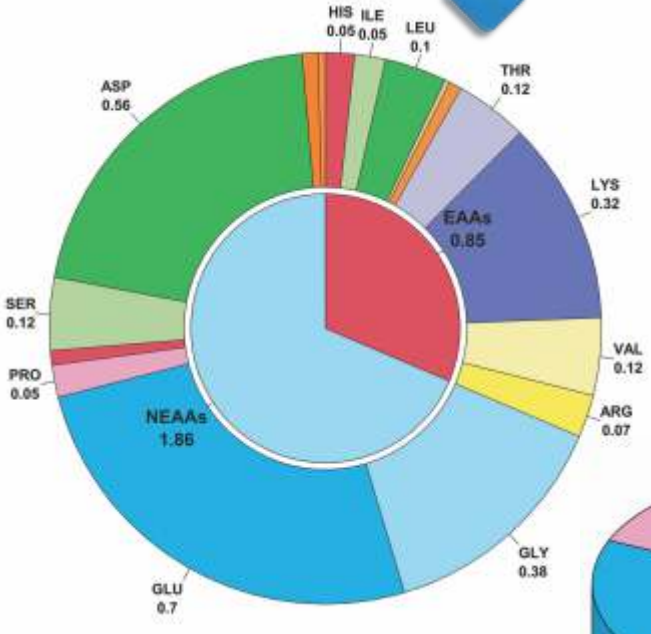
Cynoglossus arel (Bloch & Schneider, 1801)

Systematic Classification

Class: Actinopterygii
Order: Pleuronectiformes
Family: Cynoglossidae
Genus: *Cynoglossus*
Species: *Cynoglossus arel*
Common English Name: Largescale tonguesole
Vernacular Name: Kukur jeeb (Bengali), Lep (Marathi)

Habitat: Freshwater and brakishwater
Distribution: Indo-West Pacific: Persian Gulf to Sri Lanka and Indonesia, north to southern Japan.

Amino acid content (g/100g)



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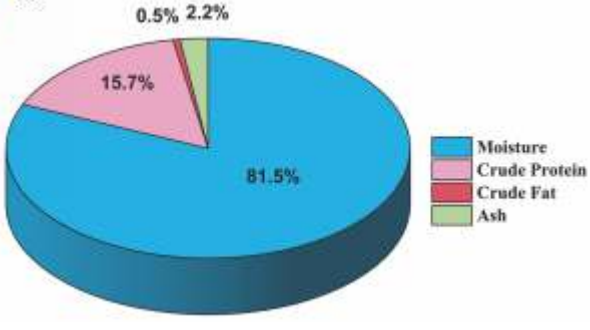
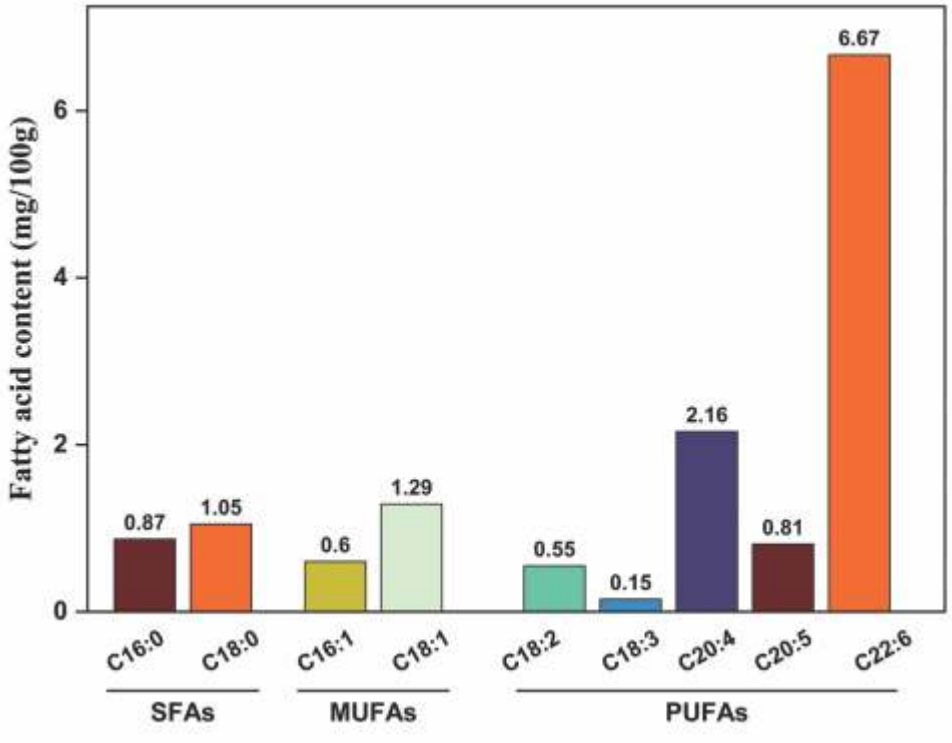


Fatty acid content (mg/100 g)



Nutritional significance

Cynoglossus arel (Largescale tonguesole) contains 15.7% crude protein, indicating a good-quality protein source essential for muscle repair, tissue development, and enzymatic functions. It includes lysine, an essential amino acid, at 0.32 g/100g, which supports immune health, calcium absorption, and collagen synthesis. Glutamic acid, a non-essential amino acid present at 0.7 g/100g, plays a vital role in cellular metabolism and acts as a neurotransmitter, aiding brain function. The fish also offers beneficial ω-3 fatty acids, with EPA at 0.81 mg/100g and DHA at 6.67 mg/100g. These contribute to cardiovascular health, reduce inflammation, and support cognitive and visual development.

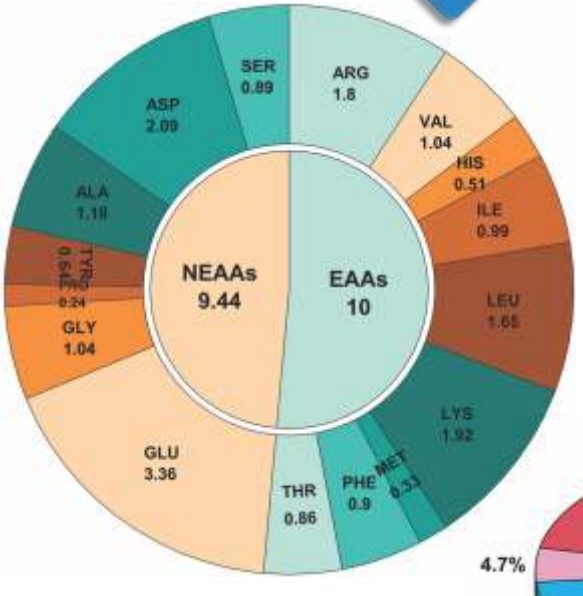
Cynoglossus cynoglossus (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Pleuronectiformes
Family: Cynoglossidae
Genus: Cynoglossus
Species: *Cynoglossus cynoglossus*
Common English Name: Bengal tongue sole
Vernacular Name: Kukur jeeb (Bengali)

Habitat: Marine, Freshwater and Brackishwater
Distribution: India (West Bengal), Malay Archipelago to Philippines, and westward to Myanmar, Bangladesh and Pakistan

Amino acid content (g/100g)



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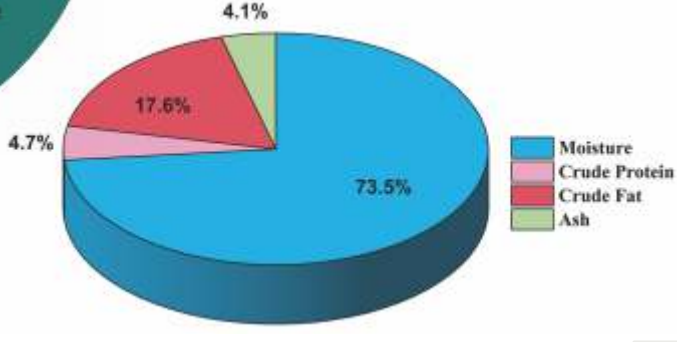
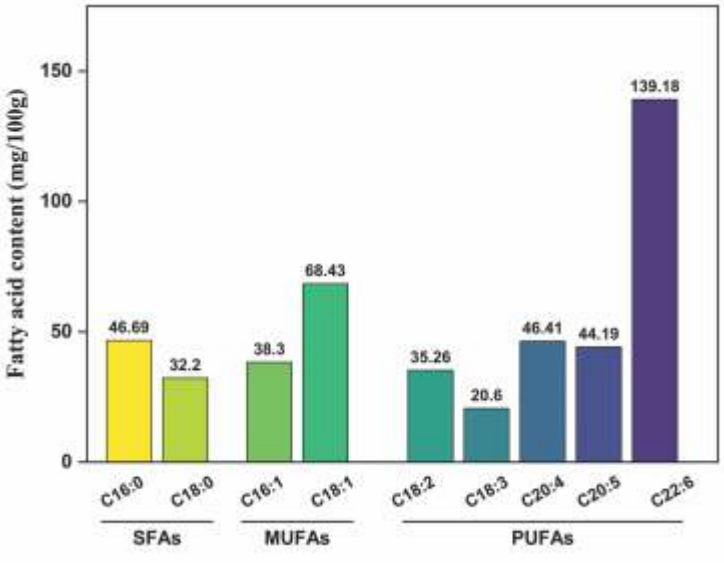
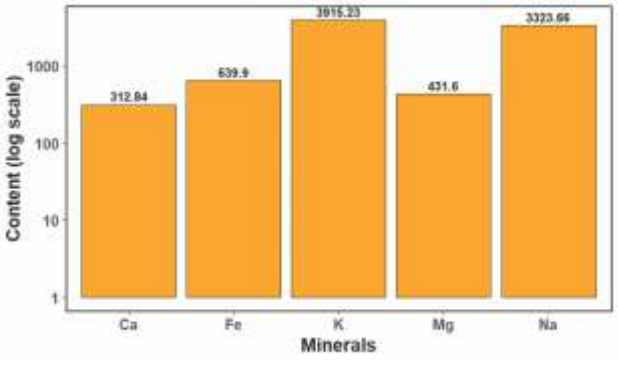


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Cynoglossus cynoglossus (Bengal tongue sole) is a moderately nutrient-rich fish species, notable for specific amino acids and minerals. It contains 17.6 % crude fat, with lysine being the most abundant essential amino acid at 1.92 g/100g, which plays a crucial role in growth and immune function. Among non-essential amino acids, glutamate is the most dominant, at 3.36 g/100g, contributing to metabolic activity and palatability. The species is a good source of potassium (3915.23 mg/kg), important for nerve and muscle function. While its ω-3 fatty acid content provides valuable amounts of EPA (44.19 mg/100g) and DHA (139.18 mg/100g), supporting cardiovascular and brain health.

Eleotris fusca (Forster, 1801)

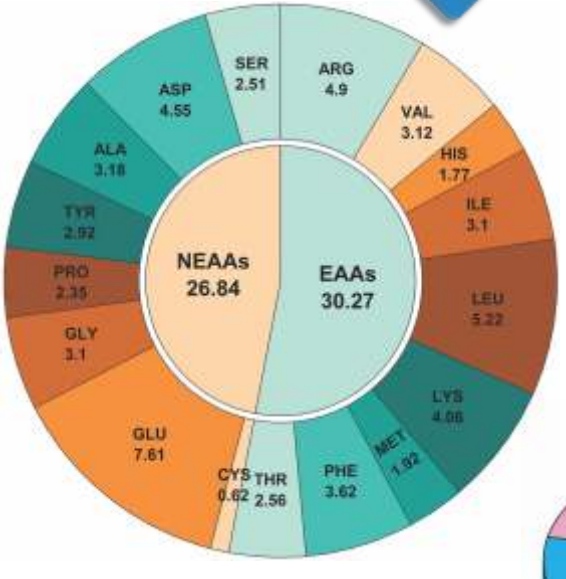
Systematic Classification

Class: Actinopterygii
Order: Gobiiformes
Family: Eleotridae
Genus: *Eleotris*
Species: *Eleotris fusca*
Common English Name: Dusky sleeper
Vernacular Name: Bhut bele (Bengali)

Habitat: Freshwater and Brackishwater

Distribution: Indo-West Pacific: throughout the Indo-Pacific, from east African coasts to Philippines, Melanesia and Polynesia

Amino acid content (g/100g)



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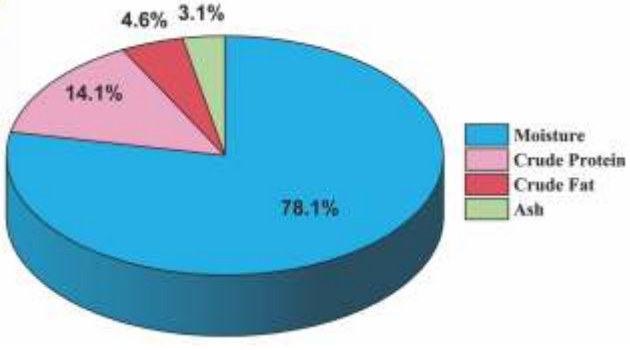
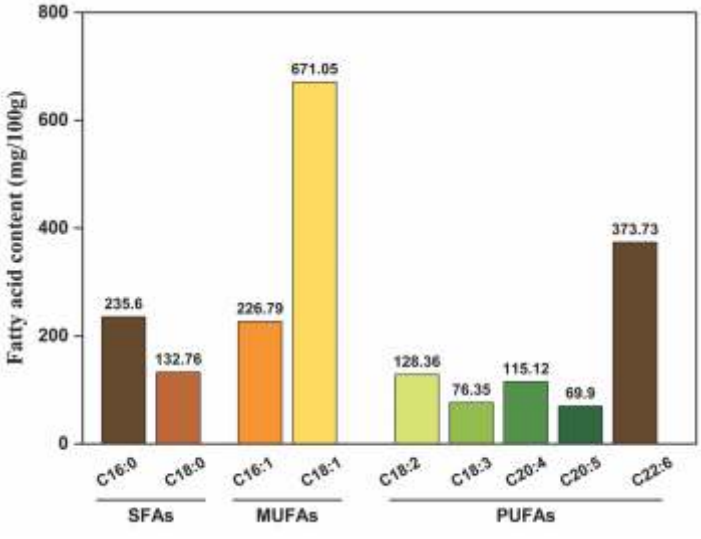
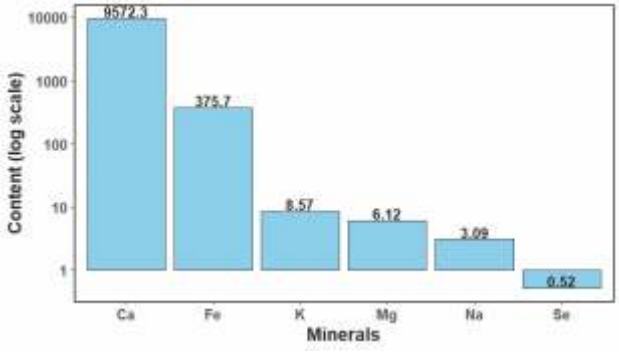


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Eleotris fusca (Dusky sleeper) is a nutritionally valuable fish species, offering a balanced profile of essential nutrients. It contains 14.1% crude protein, supporting muscle growth and overall metabolic functions. Among essential amino acids, leucine is particularly abundant (5.22 g/100g), playing a key role in protein synthesis and muscle metabolism. The most prevalent non-essential amino acid is glutamate (7.61 g/100g), which enhances flavour and contributes to neurotransmission. This species is also an excellent source of calcium (9572.3 mg/kg), essential for maintaining bone health and physiological functions. In terms of beneficial fatty acids, *Eleotris fusca* is rich in EPA (69.9 mg/100g) and DHA (373.73 mg/100g), both of which are crucial for cardiovascular health, anti-inflammatory action, and neural development.

Eleutheronema tetradactylum (Shaw, 1804)

Systematic Classification

Class: Actinopterygii

Order: Gobiiformes

Family: Polynemidae

Genus: *Eleutheronema*

Species: *Eleutheronema tetradactylum*

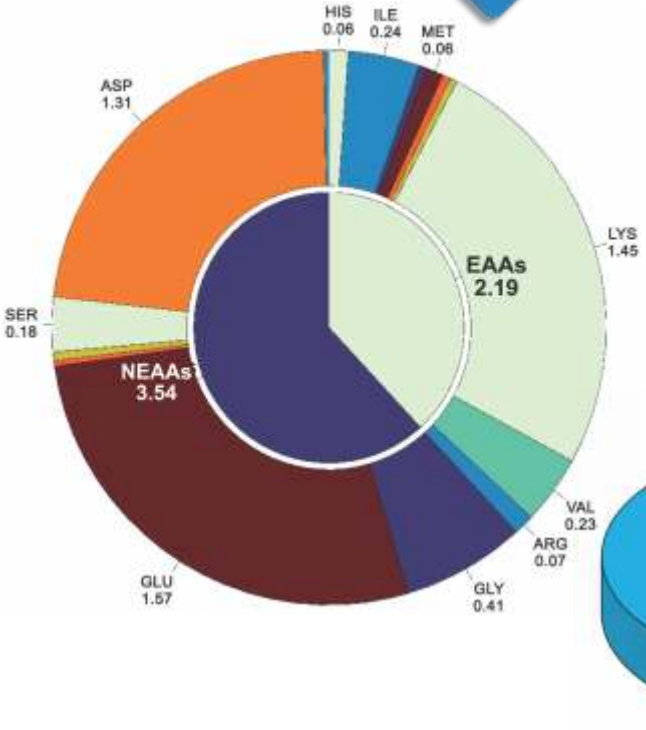
Common English Name: Fourfinger threadfin

Local name: Guchhia (Bengali), Ramsi (Kannada), Rawas (Gujrati), Sahal (Oriya) Boddumaga (Telugu)

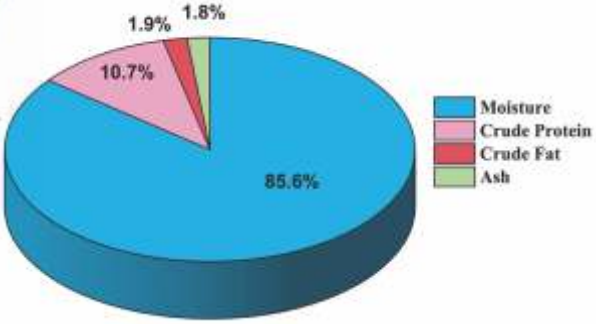
Habitat: Freshwater, Brackishwater and Marine

Distribution: India, Sri Lanka, Australia, Pakistan, and New Guinea, China

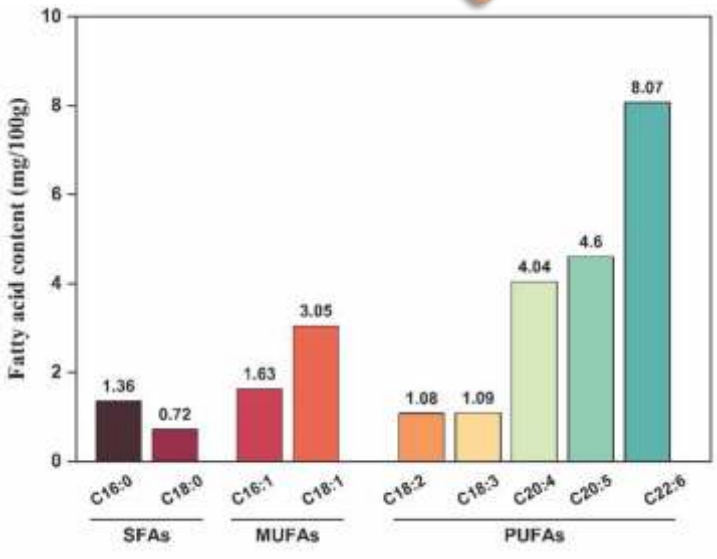
Amino acid content (g/100g)



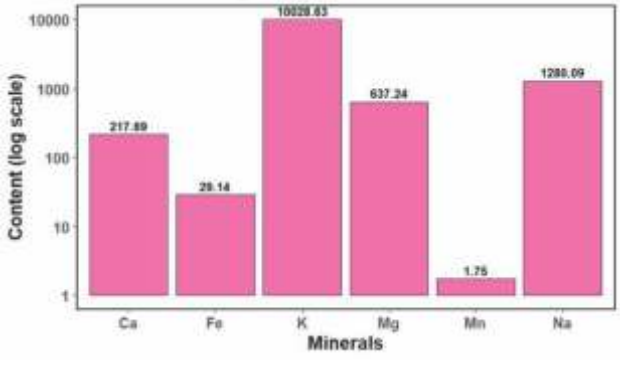
Proximate composition



Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Eleutheronema tetradactylum (Fourfinger threadfin) contains 10.7% crude protein, providing a moderate source of dietary protein essential for body maintenance and repair. It is rich in lysine, an essential amino acid, at 1.45 g/100g, which plays a key role in muscle growth, calcium absorption, and hormone production. The non-essential amino acid glutamic acid is present at 1.57 g/100g, supporting brain function and cellular metabolism. A standout feature of this fish is its exceptionally high potassium content, recorded at 10,028.63 mg/kg, which is crucial for maintaining electrolyte balance, regulating blood pressure, and supporting nerve and muscle function. The fish also contains beneficial ω-3 fatty acids, including EPA (4.6 mg/100g) and DHA (8.07 mg/100g), which contribute to cardiovascular health, reduce inflammation, and support brain and eye development.

Escualosa thoracata (Valenciennes, 1847)

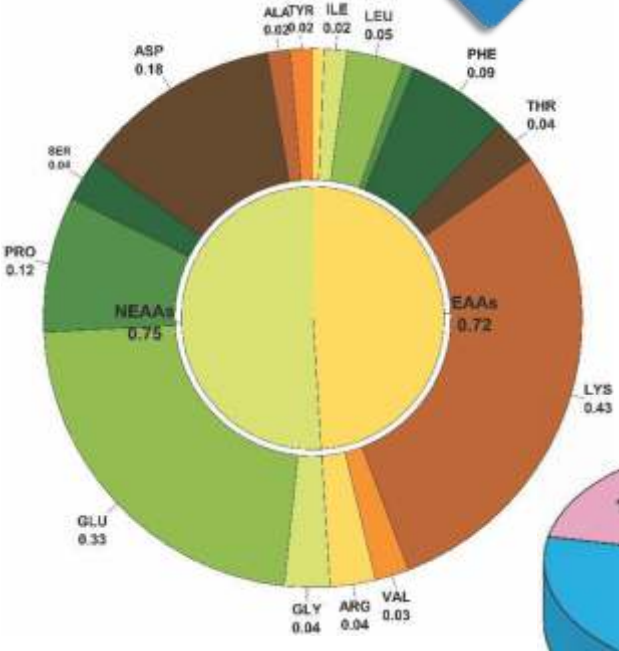
Systematic Classification

Class: Actinopterygii
Order: Clupeiformes
Family: Dorosomatidae
Genus: *Escualosa*
Species: *Escualosa thoracata*
Common English Name: White sardine
Local name: Chandana/ Pansa/ Chapila (Bengali), Kavallu (Telugu), Bhijee (Marathi)

Habitat: Freshwater, Brackishwater and Marine

Distribution: Indo-West Pacific: northern Indian Ocean to Thailand, Indonesia (Java Sea), the Philippines, Papua New Guinea and Australia

Amino acid content (g/100g)



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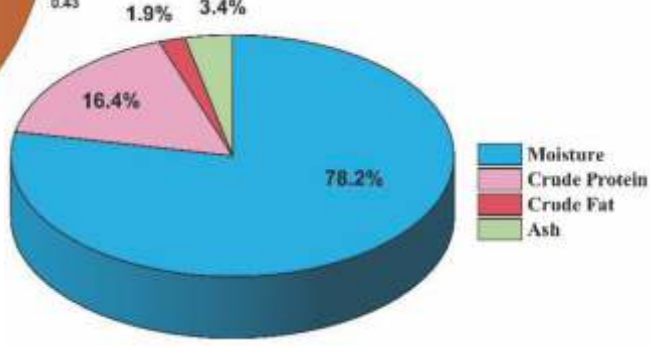
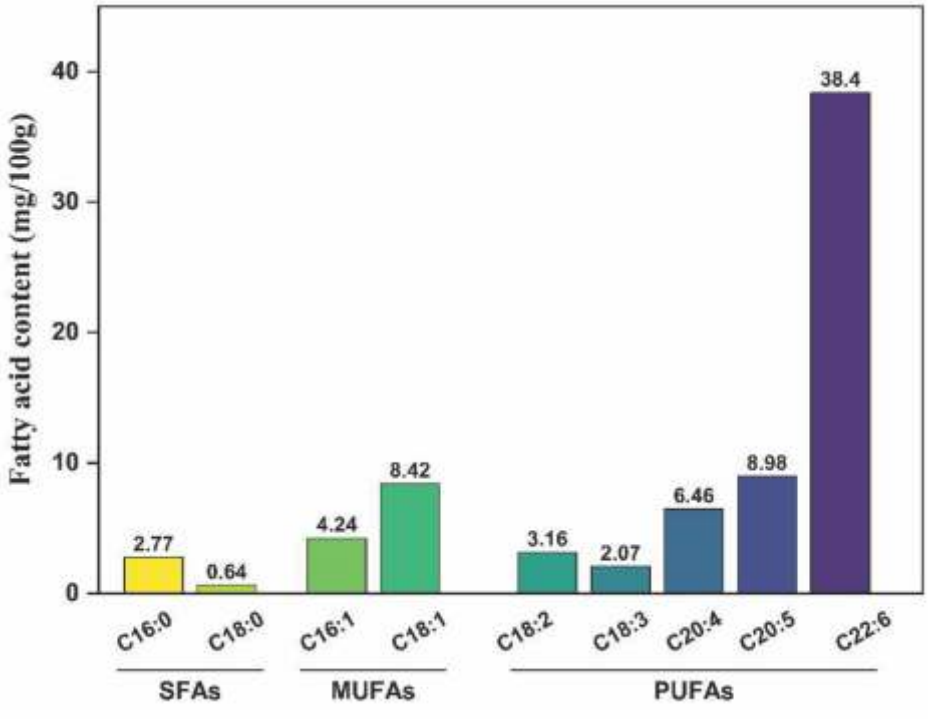


Fatty acid content (mg/100 g)



Nutritional significance

Escualosa thoracata (White sardine) contains 16.4% crude protein, indicating a strong source of high-quality protein essential for growth, tissue repair, and maintaining metabolic functions. It provides lysine, an essential amino acid, at 0.43 g/100g, which is vital for immune response, calcium absorption, and the formation of enzymes and hormones. Glutamic acid, a non-essential amino acid found at 0.33 g/100g, supports cognitive function and plays a central role in cellular metabolism and neurotransmission. Notably, the fish is exceptionally rich in ω-3 fatty acids, with EPA at 8.981 mg/100g and DHA at 38.4 mg/100g. These long-chain polyunsaturated fatty acids are well-known for their roles in promoting heart health, reducing systemic inflammation, and enhancing brain and visual development.

Eutropiichthys vacha (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Siluriformes

Family: Schilbeidae

Genus: *Eutropiichthys*

Species: *Eutropiichthys vacha*

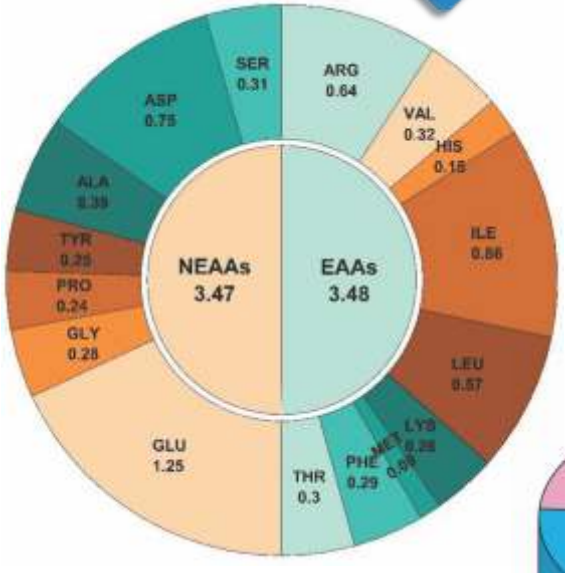
Common English Name: Batchwa vacha

Vernacular Name: Kangon/ Bacha/ Bhacha (Bengali), Bachwa (Bihar. & M.P.), Halathi (Kannada), Batchua (Oriya), Tunti (Assamese)

Habitat: Freshwater and Brackishwater

Distribution: India, Bangladesh, Nepal, Myanmar, Pakistan and Thailand

Amino acid content (g/100g)



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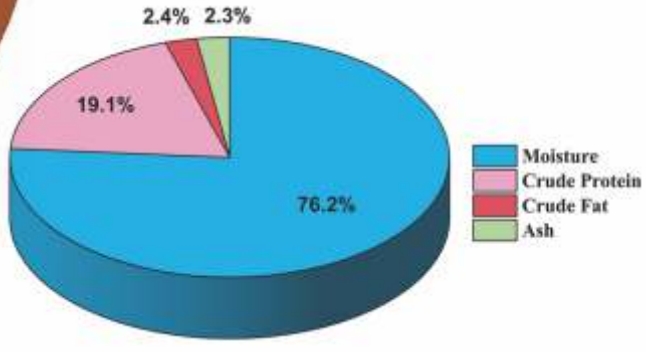
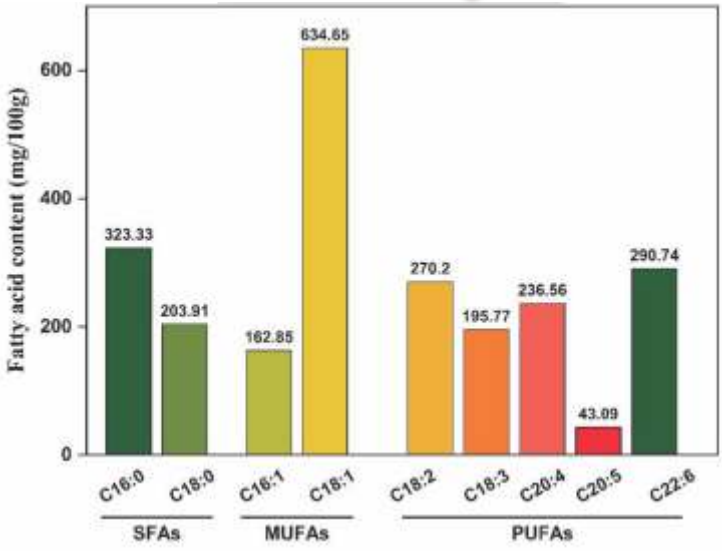
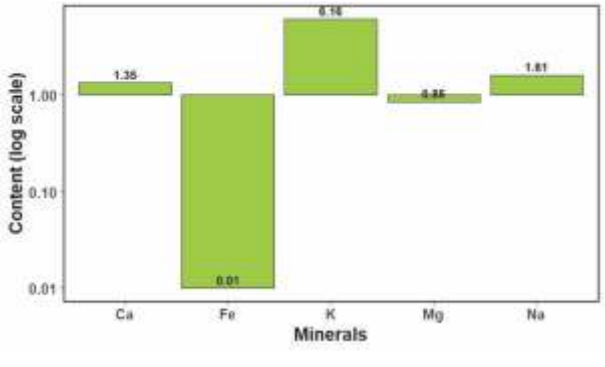


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Eutropiichthys vacha (Batchwa vacha) stands out for its high crude protein content of 19.1%, indicating excellent potential as a dietary protein source. It contains the essential amino acid isoleucine at 0.86 g/100g, which supports muscle metabolism and immune function. The non-essential amino acid glutamate is present at 1.25 g/100g, contributing to flavor and energy metabolism. Its potassium level is 6.16 mg/kg, important for nerve and muscle function. The fatty acid profile includes EPA at 43.09 mg/100g and a high DHA content of 290.74 mg/100g, highlighting strong cardiovascular and cognitive health benefits. This species is nutritionally dense and well-suited for health-focused diets.

Gagata cenia (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Siluriformes

Family: Sisoridae

Genus: *Gagata*

Species: *Gagata cenia*

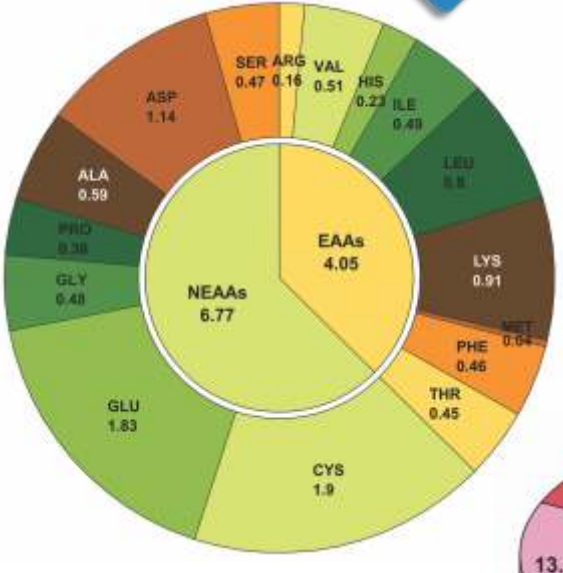
Common English Name: Indian gagata

Vernacular Name: Ganga tengra/ Jungla (Bengali), Ngarang/ Keyakatta (Assam), Tinkatiya/ Baghi (Bihar and Uttar Pradesh) and Musri (Orissa)

Habitat: Freshwater

Distribution: India, Bangladesh, Myanmar, Nepal and Pakistan

Amino acid content (g/100g)



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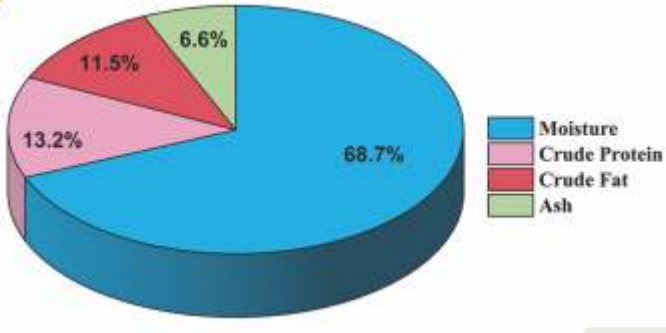
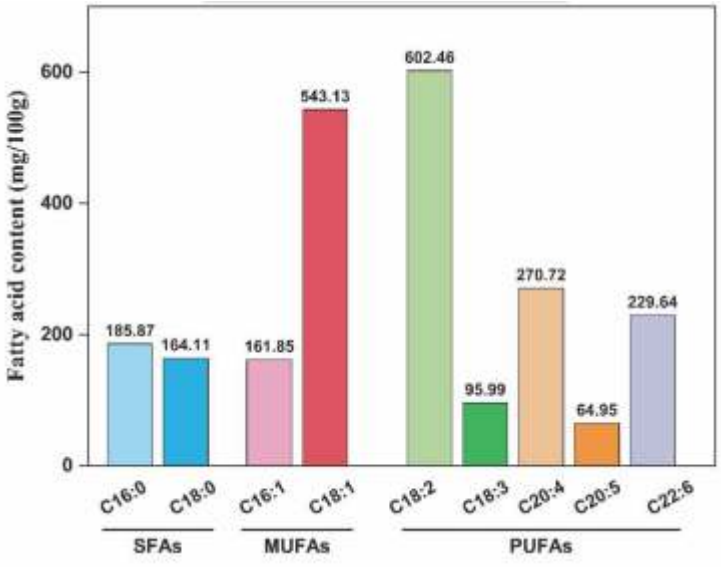
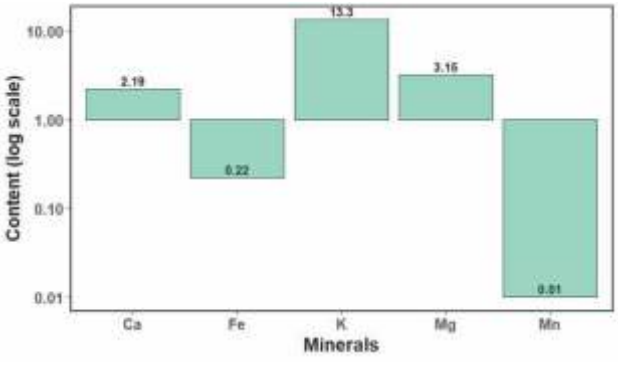


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Gagata cenia (Indian gagata) offers a high crude fat content of 11.5%, providing a rich energy source. It contains the essential amino acid lysine (0.91 g/100g), which is crucial for growth, tissue repair, and calcium absorption. Among non-essential amino acids, cystine is prominent (1.9 g/100g), contributing to protein structure and antioxidant activity. The mineral profile includes potassium (13.30 mg/kg), important for maintaining cellular function and fluid balance. Furthermore, the species supplies beneficial ω-3 fatty acids, with EPA at 64.95 mg/100g and DHA at 229.64 mg/100g, both known for supporting heart health, cognitive function, and reducing inflammation.

Glossogobius giuris (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Gobiiformes

Family: Gobiidae

Genus: *Glossogobius*

Species: *Glossogobius giuris*

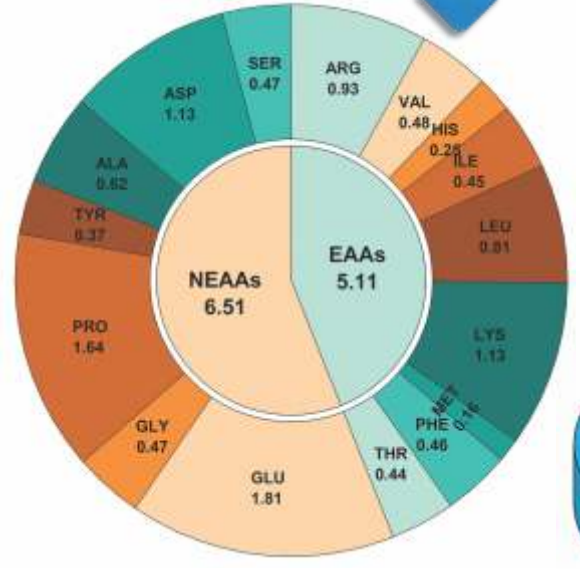
Common English Name: Tank goby

Vernacular Name: Bele/Jati Bele/Balia (Bengali), Patimutura (Assamese), Gulah (oriya), Uluvai (Tamil)

Habitat: Freshwater and Brackishwater

Distribution: Red Sea and East Africa, South Africa, and most inland freshwater bodies over the Indian Ocean and western Pacific, Madagascar, India and south of China

Amino acid content (g/100g)



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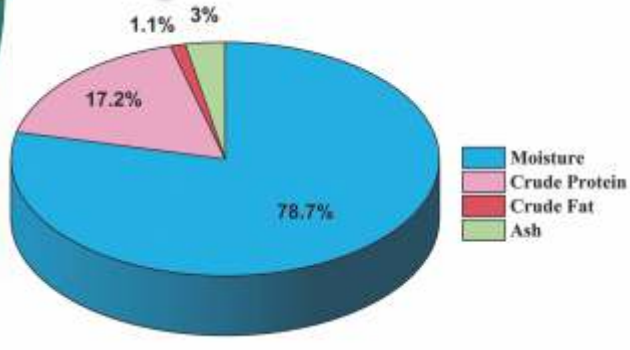
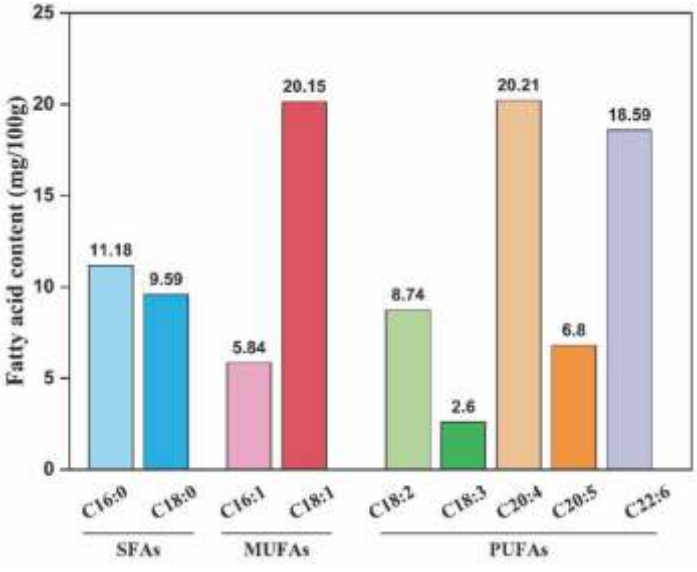
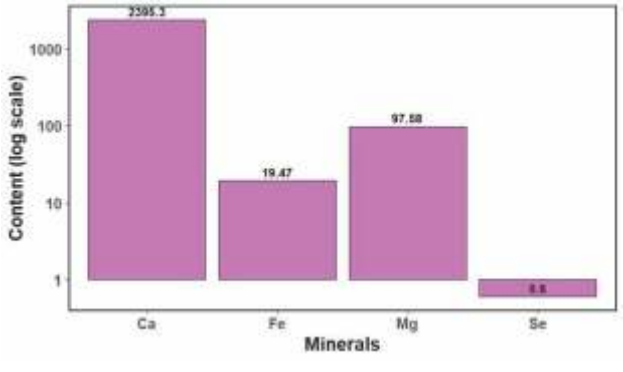


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Glossogobius giuris (Tank goby) exhibits a well-balanced nutritional composition, suitable for supporting dietary protein and micronutrient needs. Its crude protein content stands at 17.2%, beneficial for muscle maintenance and tissue repair. It offers a good supply of lysine (1.13 g/100g), an essential amino acid critical for calcium absorption and collagen formation. Glutamate, the non-essential amino acid is present at 1.81 g/100g, which not only supports metabolic activity but also contributes to taste enhancement. The calcium concentration is notable at 2,395.3 mg/kg, supporting skeletal health. Though the levels of ω-3 fatty acids are modest, with EPA at 6.8 mg/100g and DHA at 18.59 mg/100g, their presence still contributes to cardiovascular and cognitive well-being.

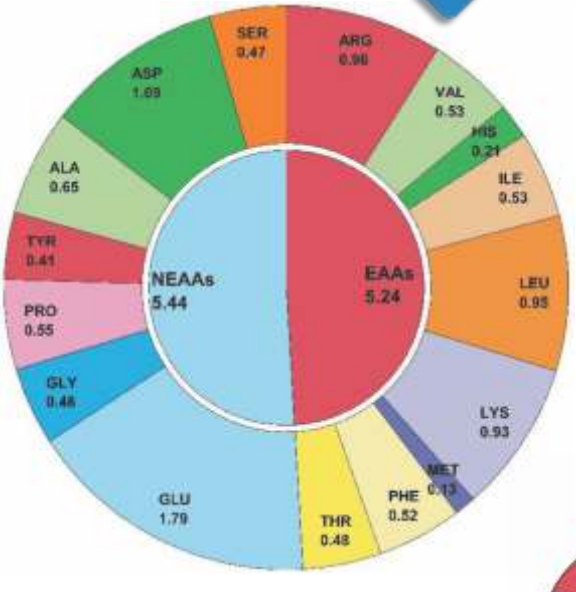
Glyptothorax telchitta (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Siluriformes
Family: Sisoridae
Genus: *Glyptothorax*
Species: *Glyptothorax telchitta*
Vernacular Name: Teli/ Telchitta (Bengali)

Habitat: Freshwater
Distribution: India, Nepal, Pakistan and Bangladesh

Amino acid content (g/100g)



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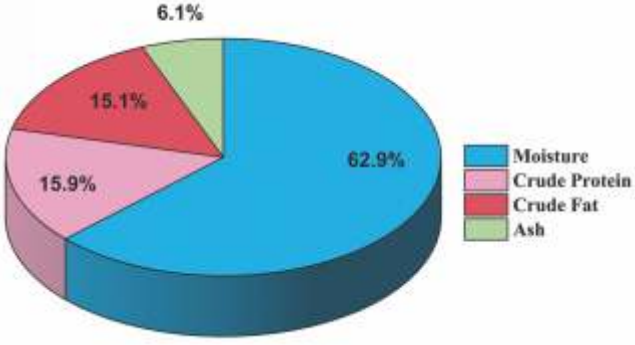
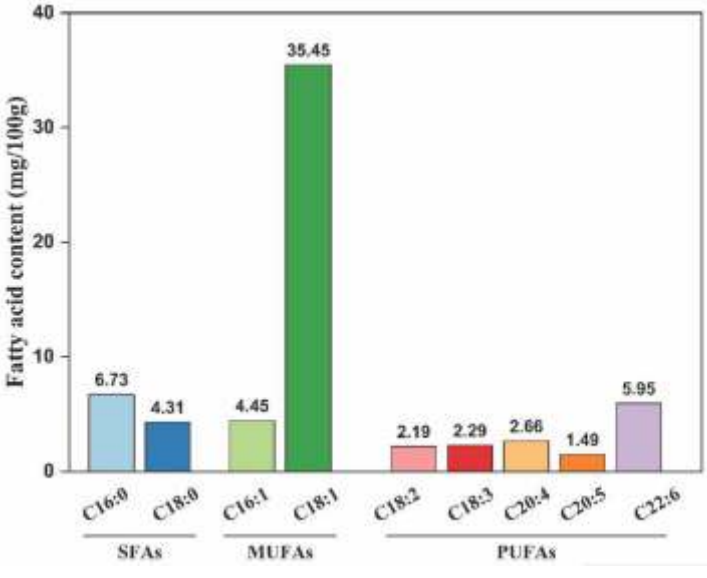
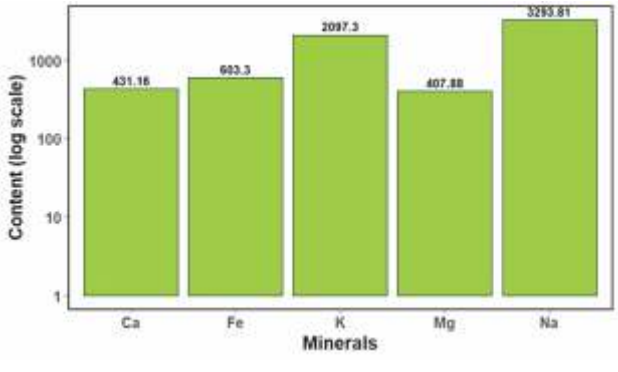


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Glyptothorax telchitta is notable for its high crude fat content of 15.1%, indicating its potential as an energy-rich dietary source. It contains the essential amino acid arginine at 0.96 g/100g, which supports immune and cardiovascular health. The non-essential amino acid glutamate is relatively high at 1.79 g/100g, enhancing both flavour and metabolic function. The sodium content is substantial at 3293.81 mg/kg, which may be a consideration for individuals sensitive to sodium. However, its fatty acid content is relatively low, with EPA at 1.49 mg/100g and DHA at 5.95 mg/100g, suggesting limited ω-3 benefits compared to other species. Overall, this fish offers energy density and amino acid value but moderate heart-health benefits.

Gonialosa manmina (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Clupeiformes

Family: Dorosomatidae

Genus: *Gonialosa*

Species: *Gonialosa manmina*

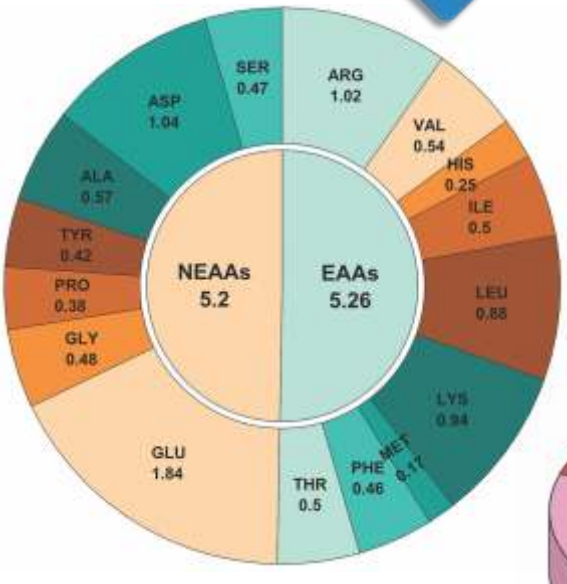
Common English Name: Ganges river gizzard shad

Vernacular Name: Chapila (Bengali), Koroti (Assamese), Majhali-suhia (Hindi), Mackundi/ Phophor (Oriya)

Habitat: Freshwater and Brackishwater

Distribution: Sri Lanka, India and Bangladesh

Amino acid content (g/100g)



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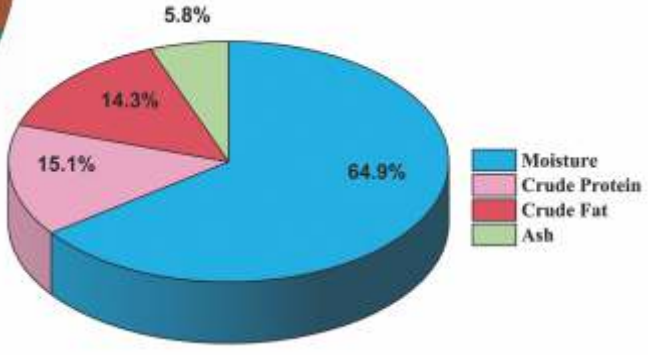
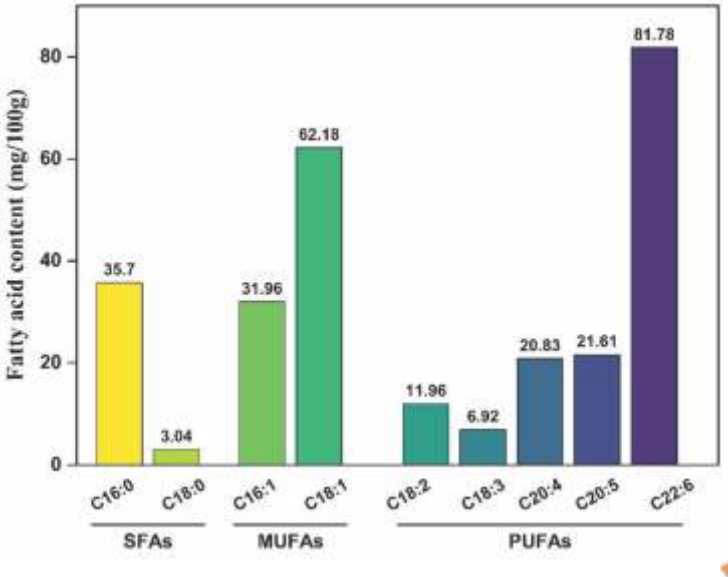
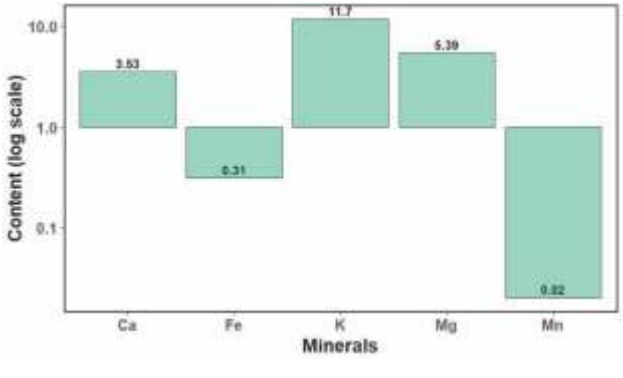


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Gonialosa manmina (Ganges River gizzard shad) is a rich source of energy, featuring a high crude fat content of 14.3%. It provides a good level of the essential amino acid arginine (1.02 g/100g), which is important for immune function, hormone regulation, and tissue repair. Glutamate (1.84 g/100g), a key non-essential amino acid, supports metabolic activities and enhances flavor. The mineral content includes potassium (11.70 mg/kg), essential for nerve signaling and muscle contraction. Additionally, the species contributes valuable ω-3 fatty acids, including EPA (21.61 mg/100g) and DHA (81.78 mg/100g), which support cardiovascular and brain health.

Gudusia chapra (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Clupeiformes

Family: Dorosomatidae

Genus: *Gudusia*

Species: *Gudusia chapra*

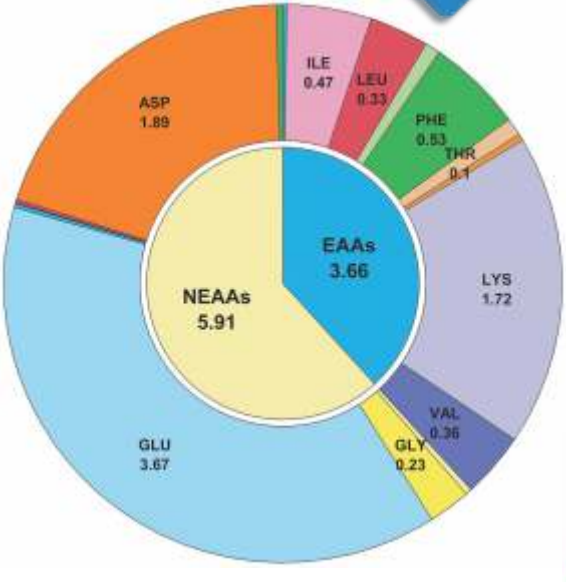
Common English Name: Indian river shad

Vernacular Name: Chapila / Chaila (Bengali), Karati (Assamese), Suhia (Hindi), Gudua (Oriya)

Habitat: Freshwater and Brackishwater

Distribution: India, Nepal, Bangladesh and Pakistan

Amino acid content (g/100g)



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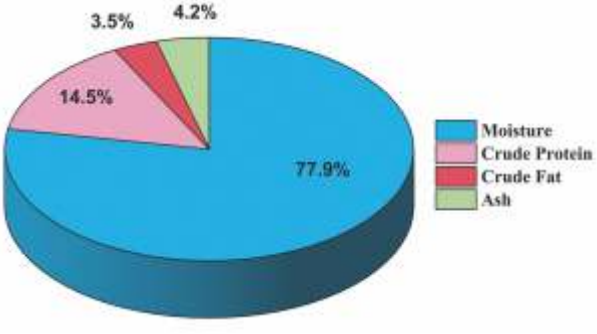
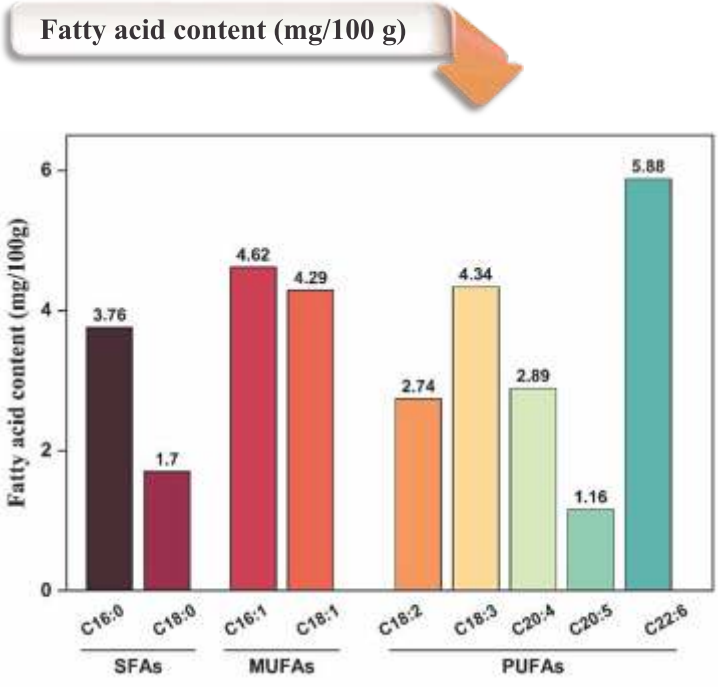
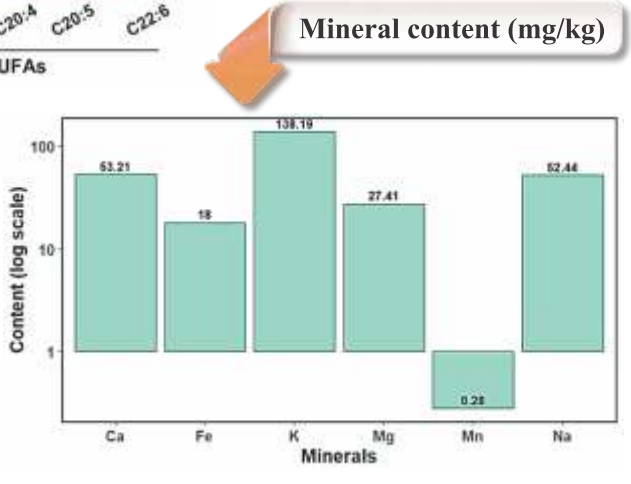






Nutritional significance

Gudusia chapra (Indian river shad) contains 14.5% crude protein, indicating a solid source of dietary protein that supports muscle maintenance and overall physiological functions. It is particularly rich in lysine, an essential amino acid present at 1.72 g/100g, which is vital for growth, immune defence, and calcium absorption. Glutamate, the dominant non-essential amino acid at 3.67 g/100g, plays a significant role in brain function and energy metabolism. The mineral content includes potassium at 138.19 mg/kg, which is essential for maintaining fluid balance, nerve function, and cardiovascular health. Additionally, the fish contains beneficial ω-3 fatty acids, with EPA at 1.16 mg/100g and DHA at 5.88 mg/100g. These fatty acids are recognised for their beneficial effects on heart health, reducing inflammation, and supporting cognitive function.

Heteropneustes fossilis (Bloch, 1794)

Systematic Classification

Class: Actinopterygii

Order: Siluriformes

Family: Heteropneustidae

Genus: *Heteropneustes*

Species: *Heteropneustes fossilis*

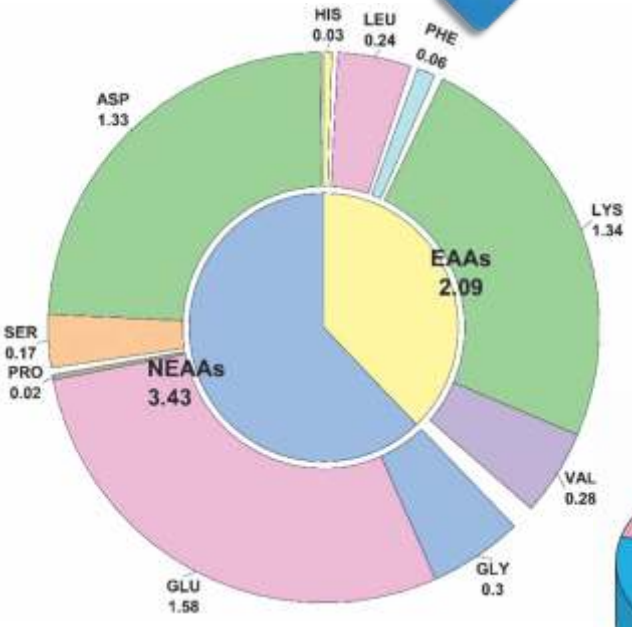
Common English Name: Stinging catfish

Vernacular Name: Singhi (Bengali, Assamese), Kadu/ Karri (Malayalam), Ingilayee/ Mapujella (Telugu)

Habitat: Freshwater and Brackishwater

Distribution: India, Nepal, Bangladesh, Sri Lanka, Myanmar and Pakistan

Amino acid content (g/100g)



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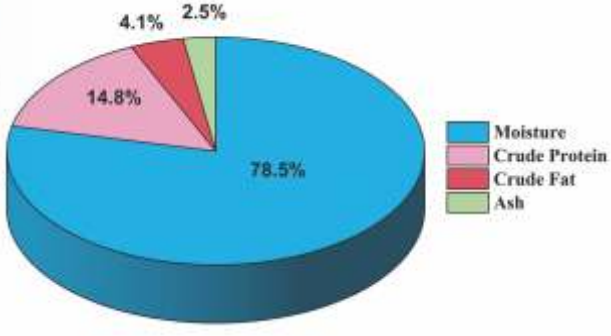
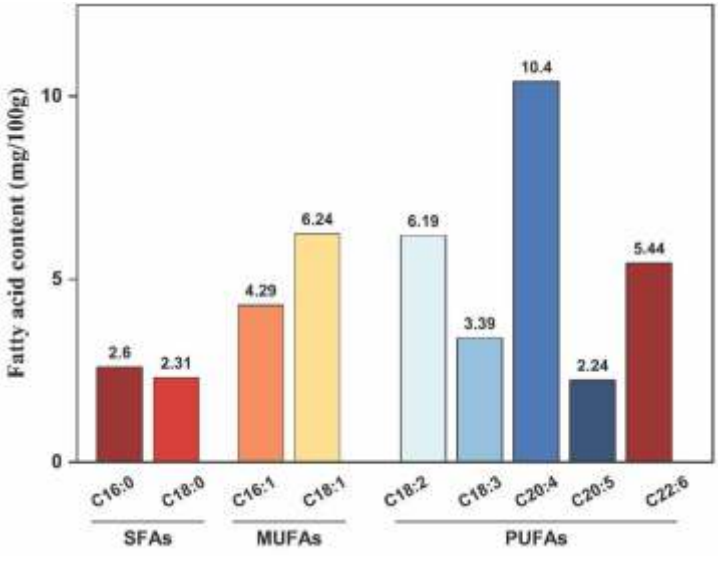
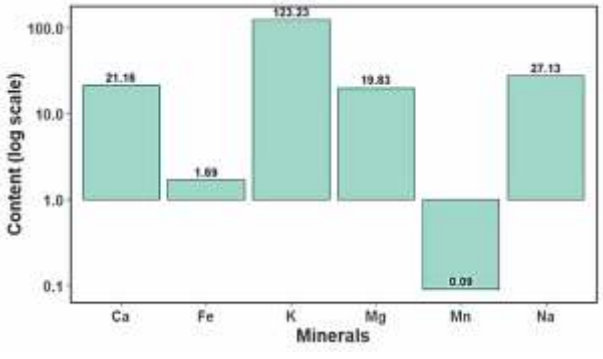


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Heteropneustes fossilis (Stinging catfish) is a nutritionally significant fish species, containing 14.8% crude protein, which contributes to the daily protein requirements of the human diet. It is especially rich in the essential amino acid lysine (1.34 g/100g), known for its role in calcium absorption, collagen formation, and immune function. Additionally, the fish provides a good amount of glutamate (1.58 g/100g), a non-essential amino acid that plays a crucial role in cellular metabolism and neurotransmission. In terms of mineral content, it offers potassium (123.23 mg/kg), which is vital for maintaining electrolyte balance and proper muscle function. The fatty acid profile includes EPA (2.24 mg/100g) and DHA (5.44 mg/100g), both known for supporting heart and brain health, making stinging catfish an excellent choice for nutritionally conscious consumers.

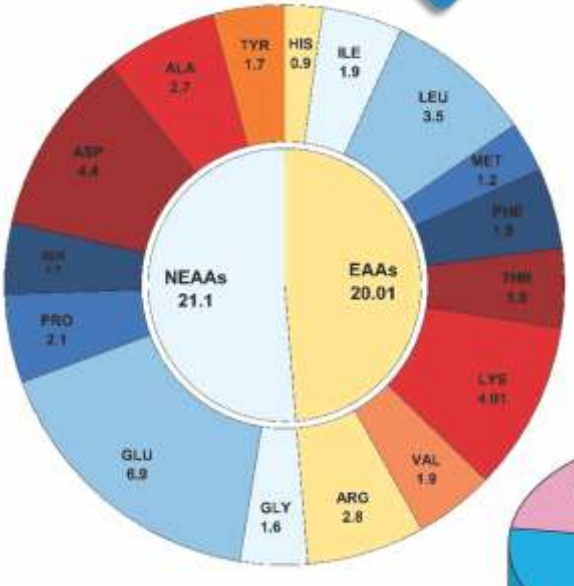
Hilsa kelee (Cuvier, 1829)

Systematic Classification

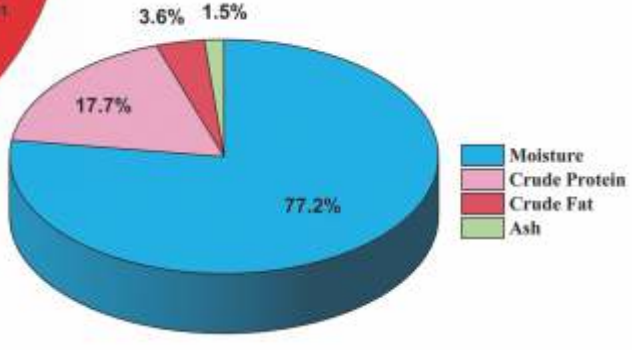
Class: Actinopterygii
Order: Clupeiformes
Family: Dorosomatidae
Genus: *Hilsa*
Species: *Hilsa kelee*
Common English Name: Kelee shad
Local name: Ilish (Bengali), koli- meen (Tamil)

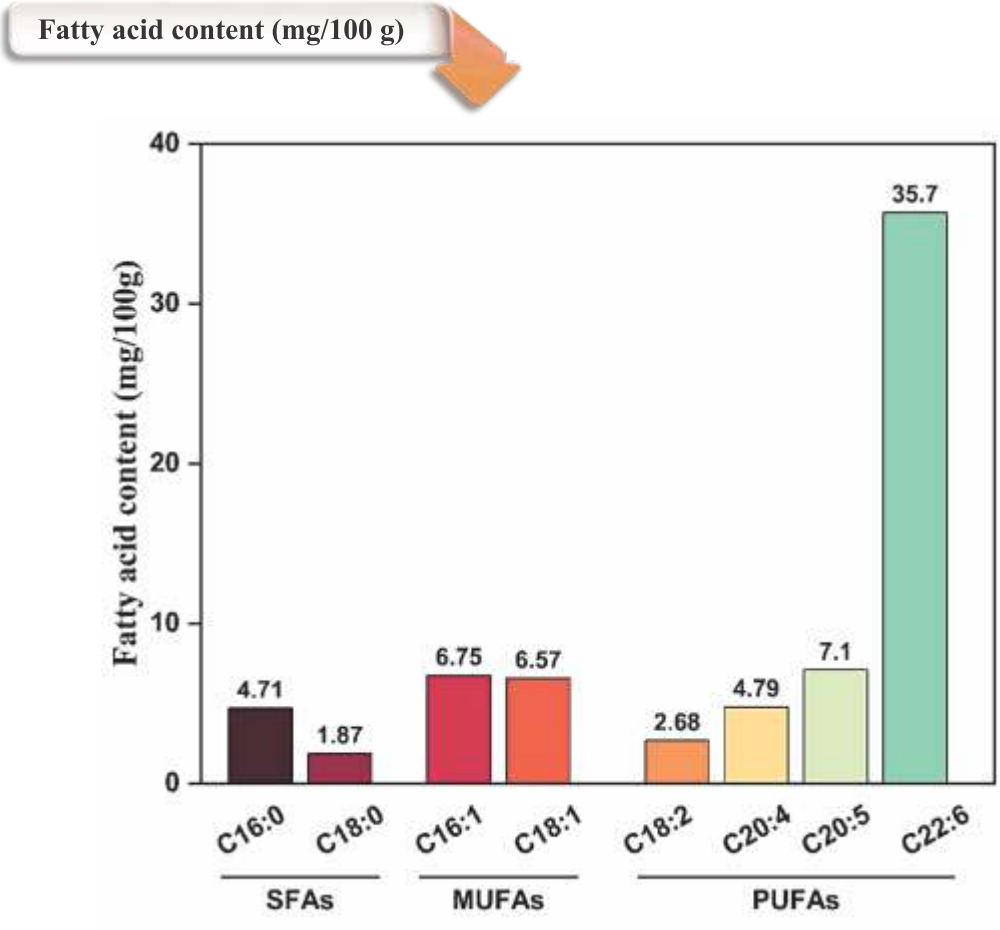
Habitat: Brackishwater, Freshwater and Marine
Distribution: Indo-West Pacific

Amino acid content (g/100g)



Proximate composition





Nutritional significance

Hilsa kelee (Kelee shad) contains 17.7% crude protein, making it a highly valuable source of quality protein essential for tissue repair, enzyme function, and muscle development. It is exceptionally rich in lysine, an essential amino acid, at 4.01 g/100g is crucial for immune support, calcium absorption, and collagen production. Glutamic acid, a dominant non-essential amino acid present at 6.9 g/100g, plays a key role in cellular metabolism and functions as a neurotransmitter, aiding brain health and cognitive function. The fish also boasts a remarkably high content of EPA (eicosapentaenoic acid) at 35.7 mg/100g, an ω-3 fatty acid well-known for its anti-inflammatory properties and cardiovascular benefits.

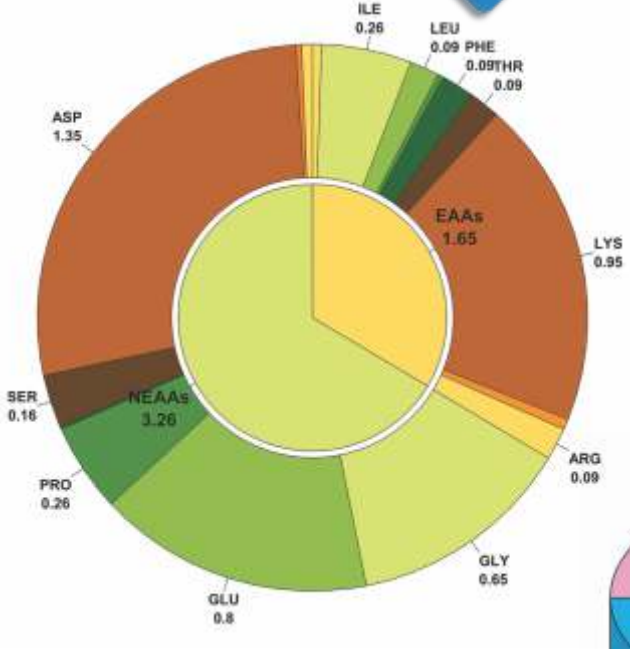
Labeo bata (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: *Labeo*
Species: *Labeo bata*
Common English Name: Bata
Vernacular Name: Bata (Bengali), Bhagan (Assamese)

Habitat: Freshwater
Distribution: India, Nepal, Bangladesh and Pakistan

Amino acid content (g/100g)



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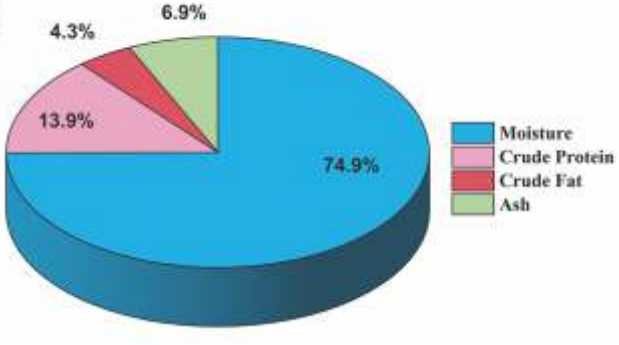
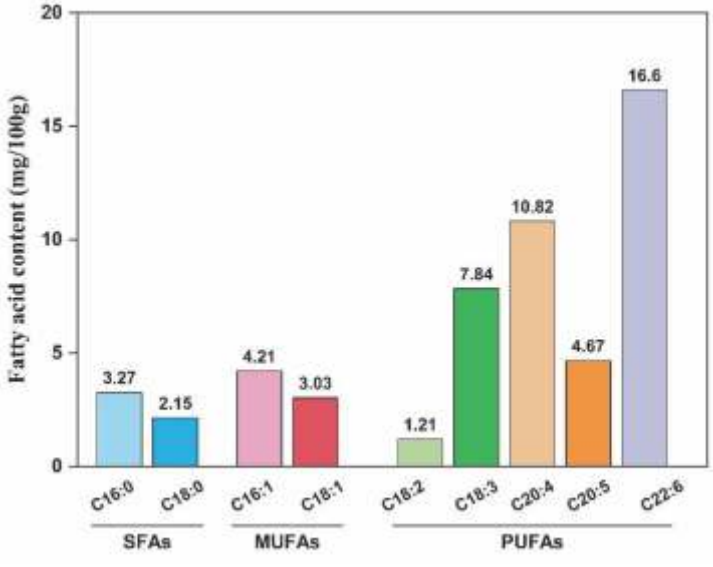
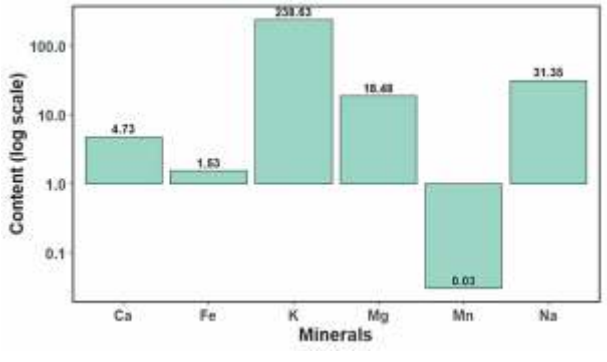


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Labeo bata (Bata) contains 13.9% crude protein, providing a moderate yet valuable source of dietary protein essential for bodily repair and maintenance. Lysine, the essential amino acid present at 0.95 g/100g, plays a critical role in immune function, hormone production, and calcium absorption. Aspartic acid, the dominant non-essential amino acid at 1.35 g/100g, plays a crucial role in energy production and supports various metabolic processes. The potassium content, measured at 238.63 mg/kg, aids in regulating fluid balance, nerve transmission, and muscle function. Notably, the fish is rich in ω-3 fatty acids, with EPA at 4.65 mg/100g and DHA at 16.6 mg/100g. These fatty acids are highly beneficial for heart health, brain function, and reducing inflammation.

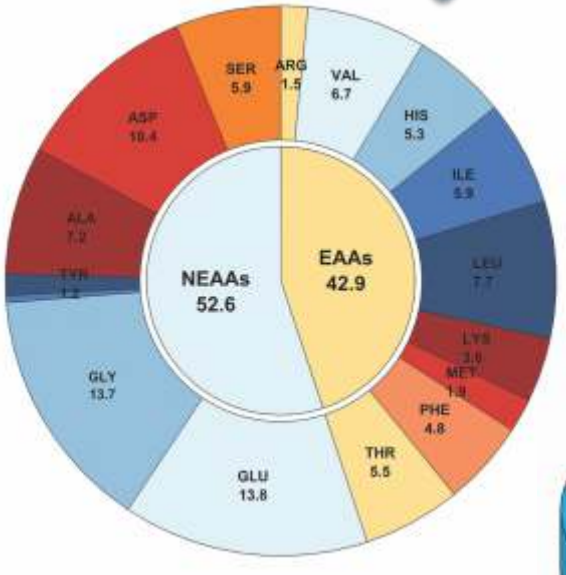
Labeo catla (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: *Labeo*
Species: *Labeo catla*
Common English Name: Catla
Vernacular Name: Katla (Bengali), Baudhekera (Assamese), Bawas (Gujrati), Bhakur (Hindi), Katala (Marathi)

Habitat: Freshwater
Distribution: India, Bangladesh, Pakistan, Nepal and Myanmar. Introduced elsewhere.

Amino acid content (g/100g)



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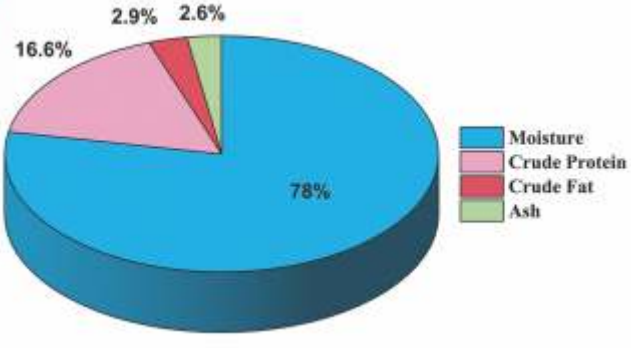
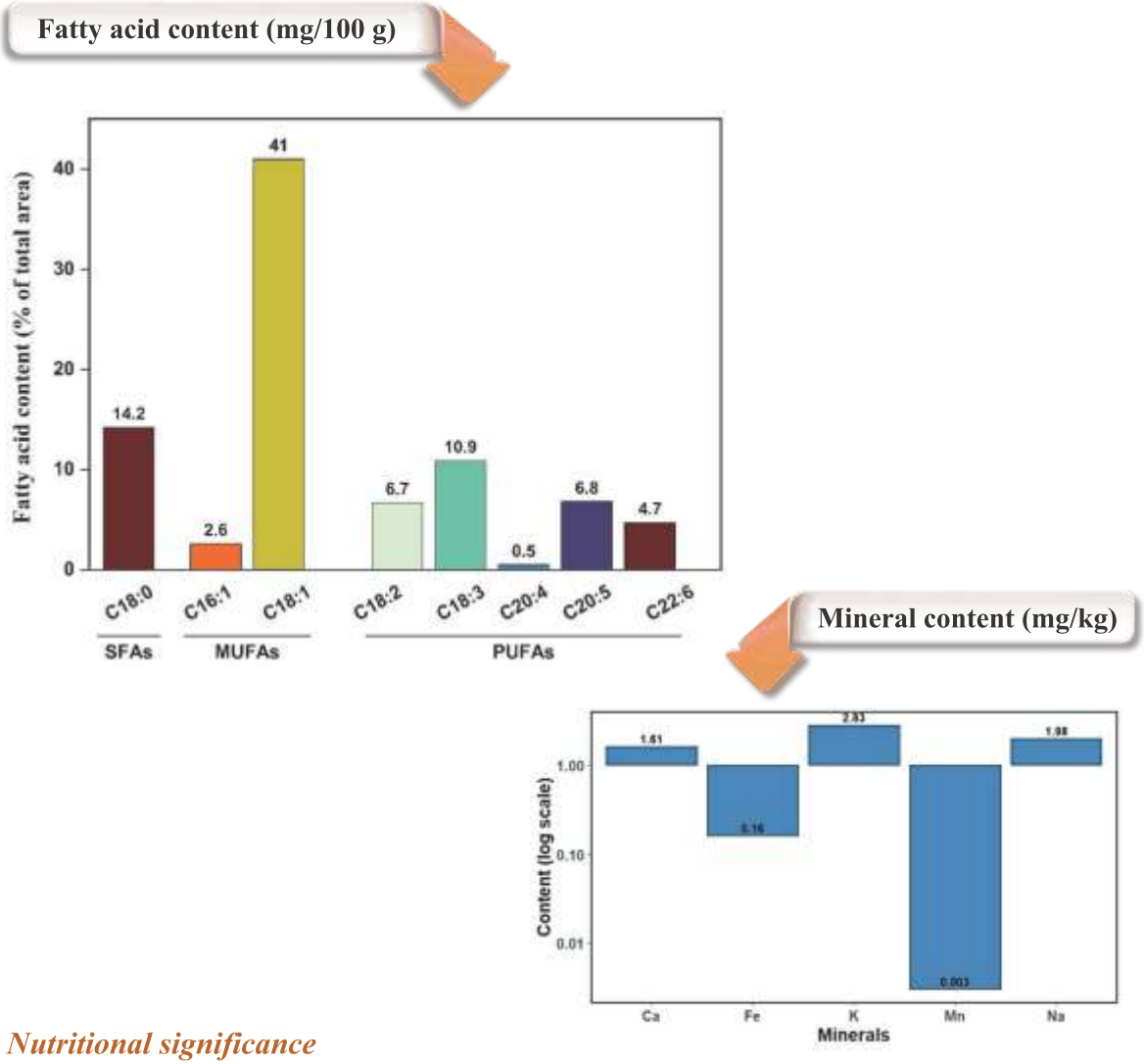




Nutritional significance

Labeo catla, a widely consumed Indian major carp, offers substantial nutritional benefits. It contains 16.6% crude protein, contributing significantly to daily dietary protein needs. Among amino acids, it is especially rich in the essential amino acid leucine (7.7 g/100g protein), which plays a vital role in muscle protein synthesis and metabolic function. It also contains a high level of glutamic acid (13.8 g/100g protein), a non-essential amino acid important in cellular metabolism and neurotransmission. The mineral content includes potassium (2.83 mg/kg), which supports nerve function and electrolyte balance. Notably, *Labeo catla* provides EPA (6.8%) and DHA (4.7%) of total fatty acids, both ω-3 fatty acids known to support cardiovascular health, reduce inflammation, and promote cognitive function.

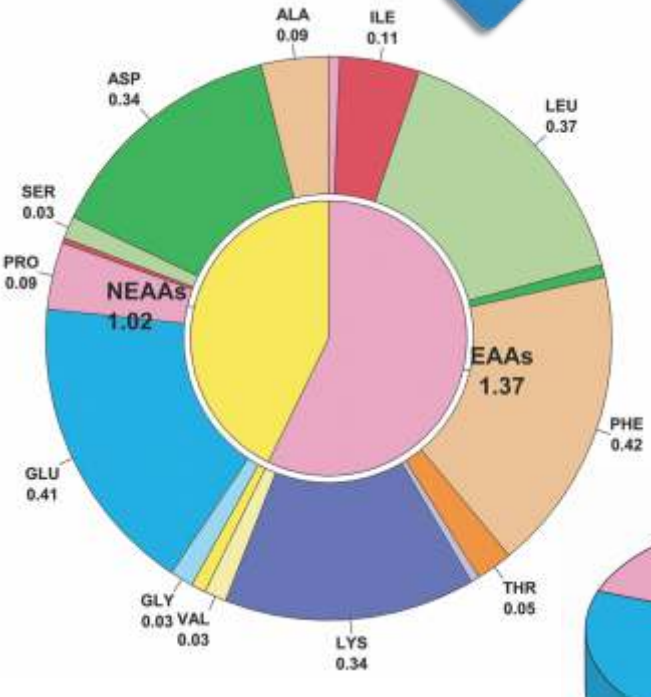
Labeo dyocheilus (McClelland, 1839)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: *Labeo*
Species: *Labeo dyocheilus*
Common English Name: Brahmaputra Labeo
Local name: Ghora mach (Bengali), Boalla/ Kali (Hindi)

Habitat: Freshwater
Distribution: India, Bangladesh, Pakistan and Nepal

Amino acid content (g/100g)



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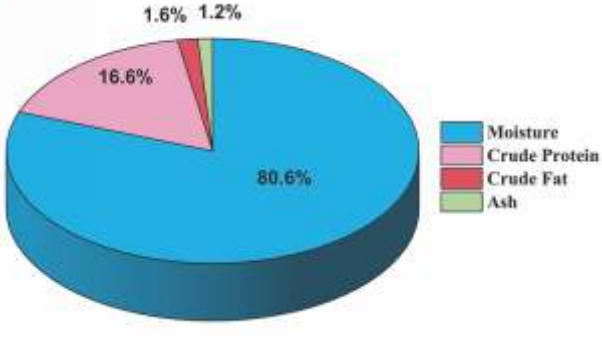
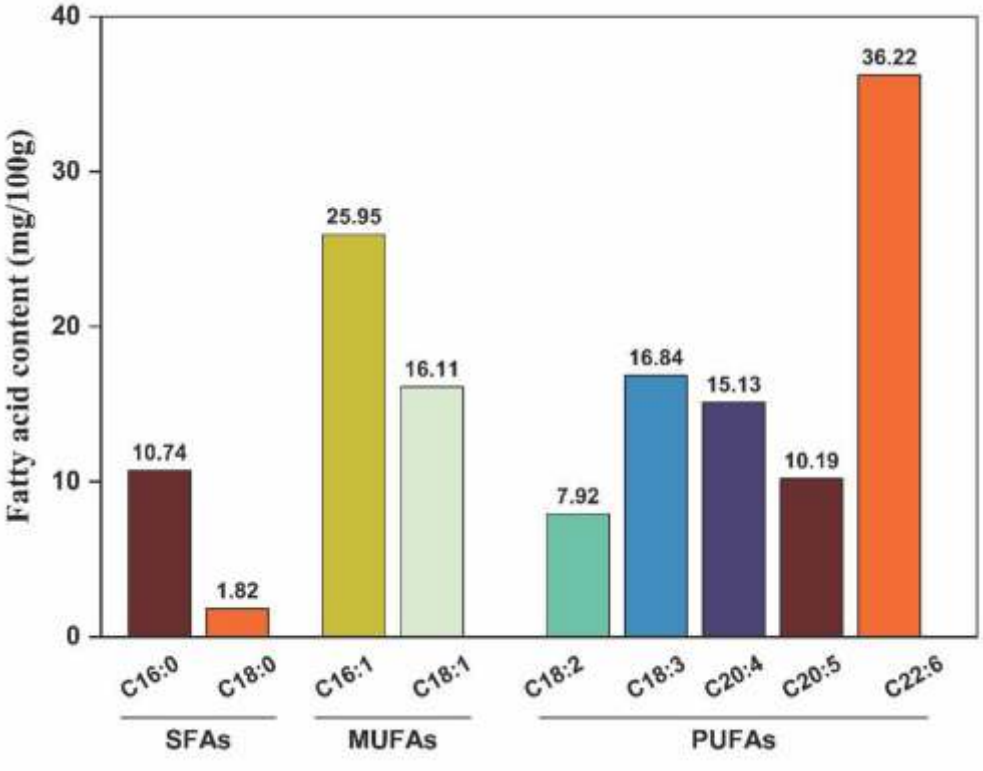


Fatty acid content (mg/100 g)



Nutritional significance

Labeo dyocheilus (Brahmaputra Labeo) contains 16.6% crude protein, indicating a high-quality source of dietary protein essential for growth, tissue repair, and enzyme function. It provides phenylalanine, an essential amino acid, at 0.42 g/100g, which is crucial for neurotransmitter synthesis and cognitive function. The non-essential amino acid glutamic acid is present at 0.41 g/100g, supporting cellular metabolism and acting as a key neurotransmitter in the brain. The fish also features a rich profile of ω-3 fatty acids, with EPA at 10.19 mg/100g and DHA at 36.22 mg/100g, that contribute significantly to heart health, reduce inflammation, and support brain and visual development.

Labeo rohita (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Cypriniformes

Family: Cyprinidae

Genus: *Labeo*

Species: *Labeo rohita*

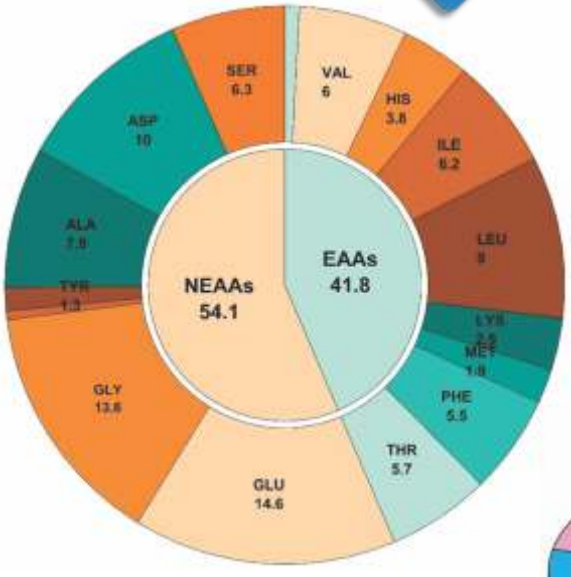
Common English Name: Roho labeo

Local name: Rui (Bengali), Rohiti/Row (Assamese), Ruhu (Oriya), Bhobhari (Hindi), Tambada masa (Marathi)

Habitat: Freshwater

Distribution: India, Bangladesh, Myanmar, Pakistan and Nepal

Amino acid content (g/100g)



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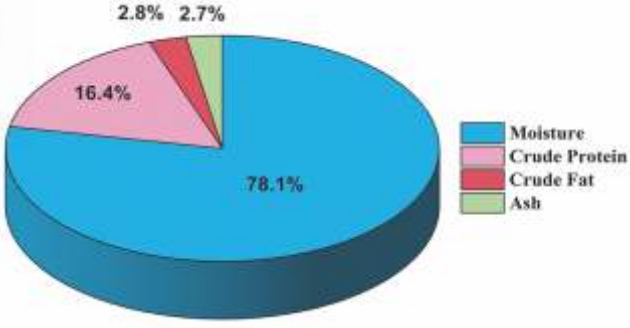
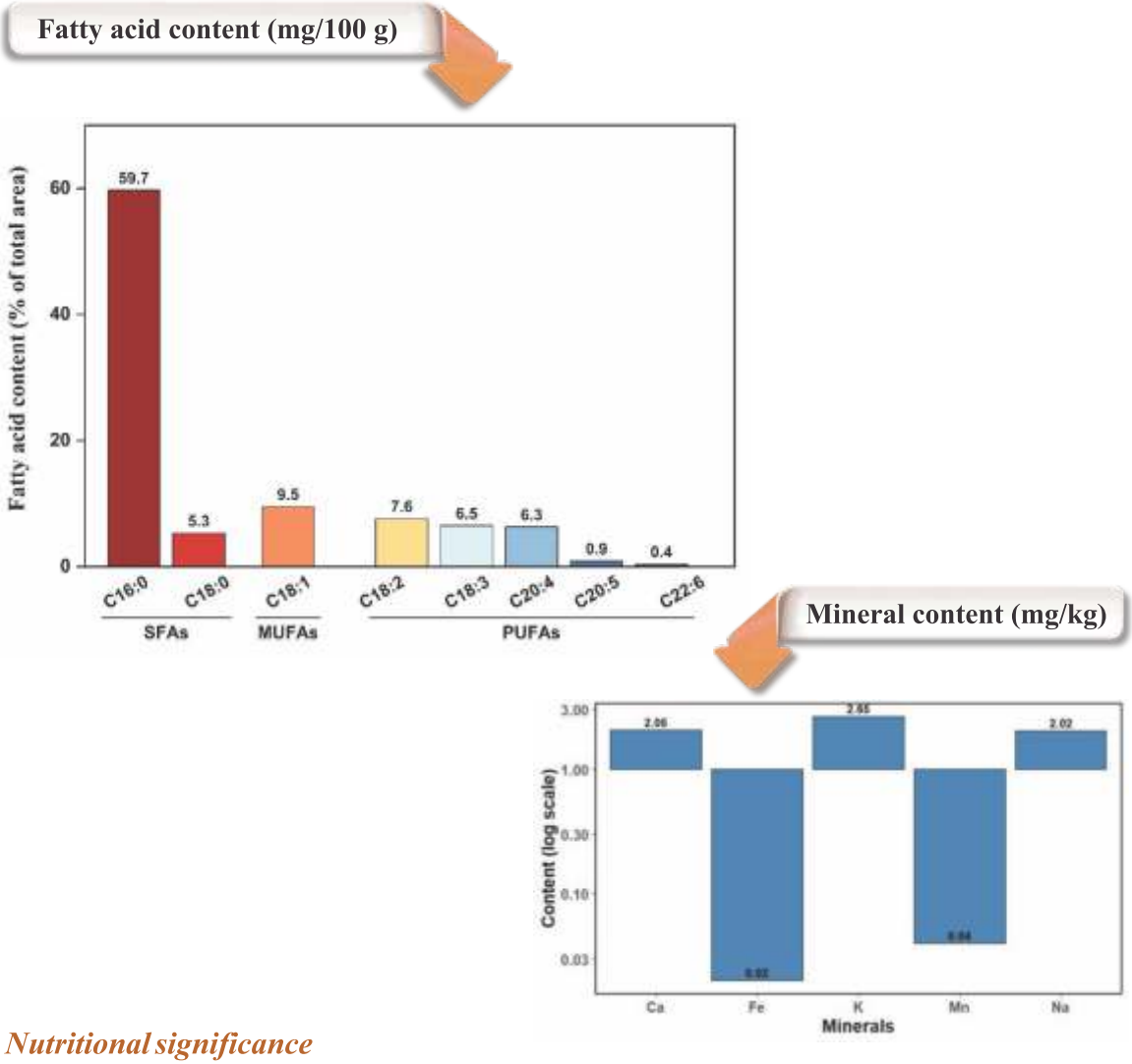




Nutritional significance

Labeo rohita, commonly known as Rohu, is a nutritionally valuable freshwater fish species. It contains 16.4% crude protein, making it a reliable source of high-quality protein in the human diet. It is rich in the essential amino acid leucine (9 g/100g protein), crucial for muscle growth and tissue repair, and glutamic acid (14.6 g/100g protein), a non-essential amino acid that supports metabolic function and acts as a neurotransmitter. The potassium content is 2.65 mg/kg, which aids in maintaining proper nerve and muscle function. Although its EPA (0.9%) and DHA (0.4%) content (as a percentage of total fatty acids) is comparatively lower than some other species, it still contributes beneficial ω-3 fatty acids, essential for heart and brain health. Overall, *Labeo rohita* offers a balanced nutritional profile suitable for regular consumption.

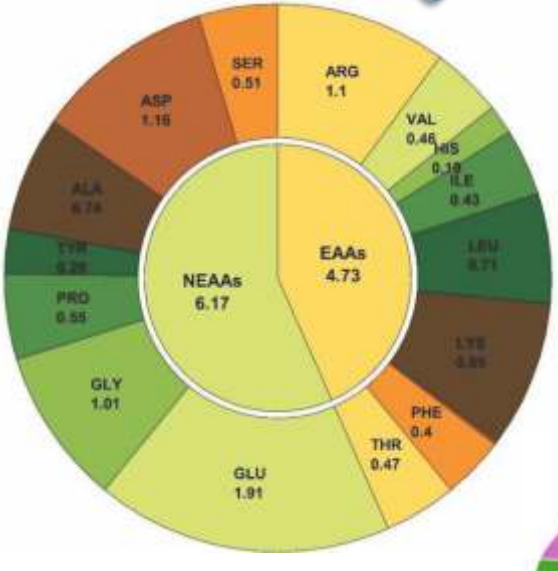
Lepidocephalichthys guntea (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Cobitidae
Genus: *Lepidocephalichthys*
Species: *L. guntea*
Common English Name: Guntea loach
Vernacular Name: Simaniya (Hindi)/ Gute, Gutum (Bengali)

Habitat: Freshwater and Brackishwater
Distribution: India, Bangladesh, Myanmar, Nepal and Pakistan

Amino acid content (g/100g)



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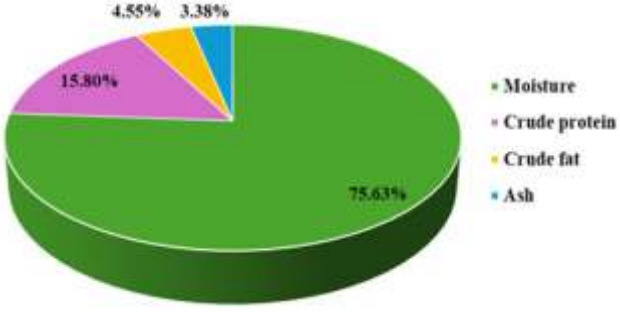
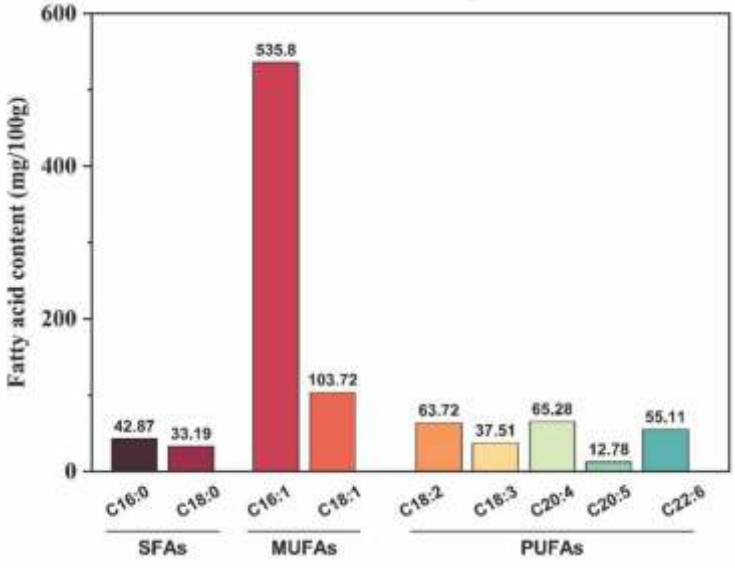
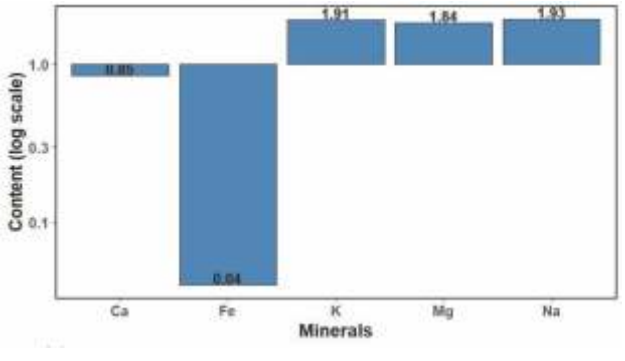


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Lepidocephalichthys guntea (Guntea loach) is nutritionally significant due to its high crude protein content of 15.80%, making it a valuable dietary source. It is particularly rich in essential amino acids, notably arginine (1.1 g/100g), and non-essential amino acids like glutamate (1.91 g/100g), both of which play vital roles in metabolic functions. Among minerals, Sodium is prominently present at 1.93 mg/kg. Furthermore, this species boasts an impressive fatty acid profile, with elevated levels of EPA at 12.78 mg/100g and DHA at 55.11 mg/100g, contributing significantly to heart and brain health.

Macrognathus pancalus Hamilton, 1822

Systematic Classification

Class: Actinopterygii

Order: Synbranchiformes

Family: Mastacembelidae

Genus: *Macrognathus*

Species: *Macrognathus pancalus*

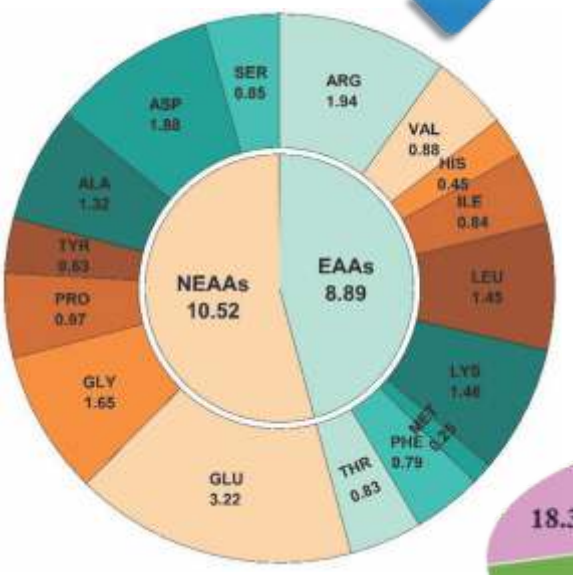
Common English Name: Barred spiny eel

Vernacular Name: Pakal/ Baim (Bengali), Vam (Marathi), Aral (Tamil), Havumeenu (Kannada)

Habitat: Freshwater

Distribution: Ganga and Brahmaputra River basins in India, Bangladesh, Nepal and Pakistan

Amino acid content (g/100g)



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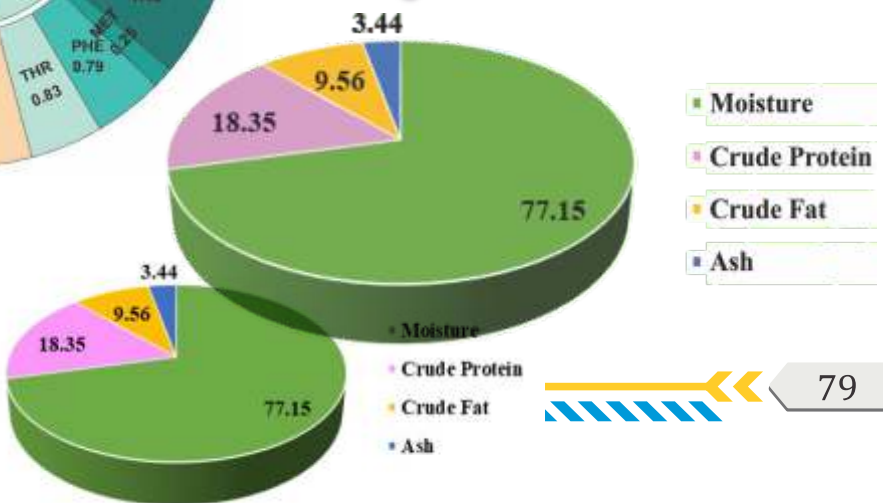
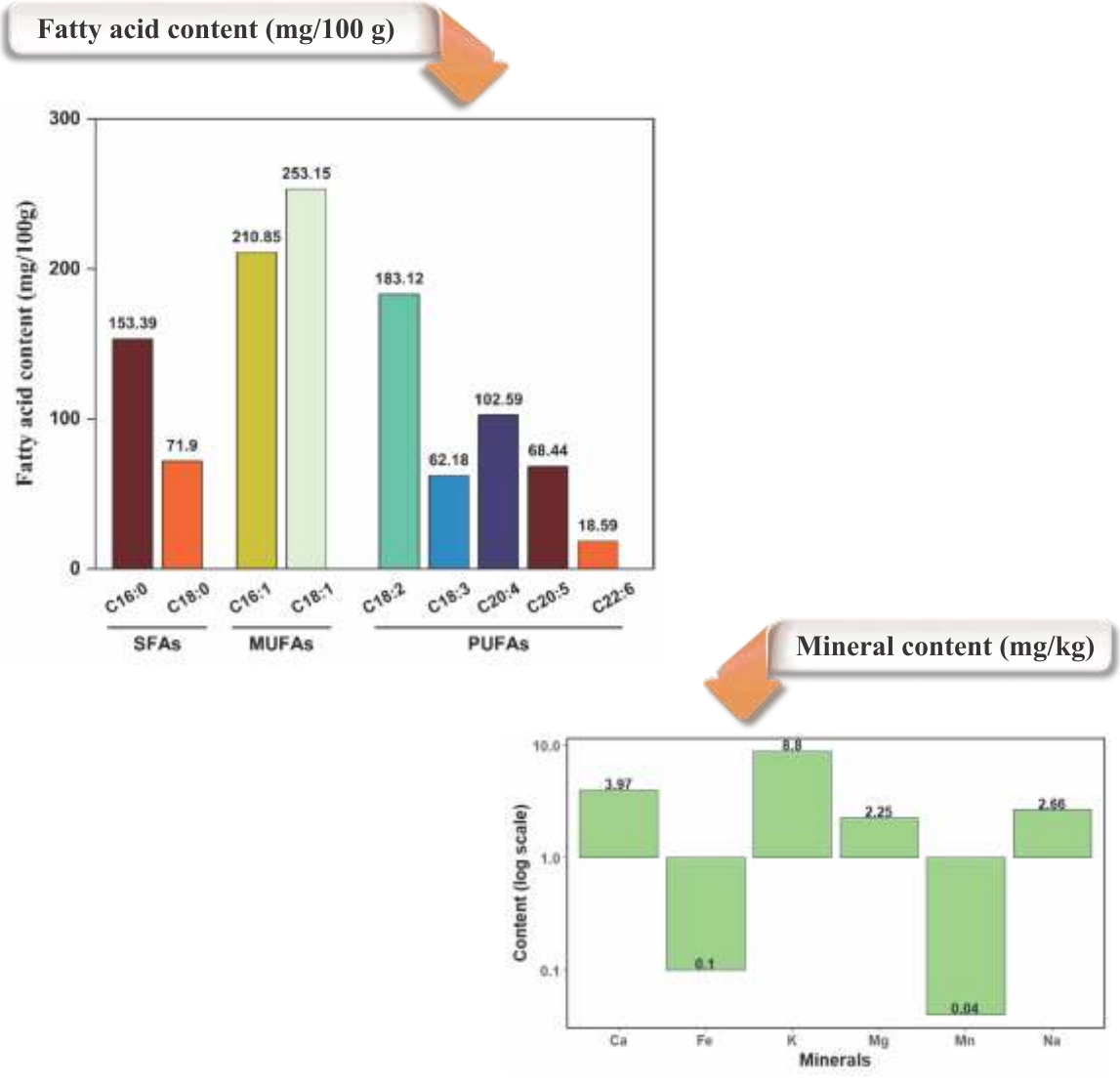




Nutritional significance

Macrognathus pancalus (Barred spiny eel) exhibits a high crude fat content of 9.56%, indicating its potential as an energy-rich food source. It is particularly rich in the essential amino acid arginine (1.94 g/100g), which plays a vital role in wound healing and immune function, along with a significant amount of the non-essential amino acid glutamate (3.22 g/100g), important for metabolism and neurotransmission. The mineral concentration is marked by potassium (8.80 mg/kg), which is crucial for maintaining fluid balance and muscle function. Additionally, it contains notable quantities of the ω-3 fatty acids EPA (68.44 mg/100g) and DHA (18.59 mg/100g), beneficial for heart and brain health.

Mastacembelus armatus (Lacepède, 1800)

Systematic Classification

Class: Actinopterygii

Order: Synbranchiformes

Family: Mastacembelidae

Genus: *Mastacembelus*

Species: *Mastacembelus armatus*

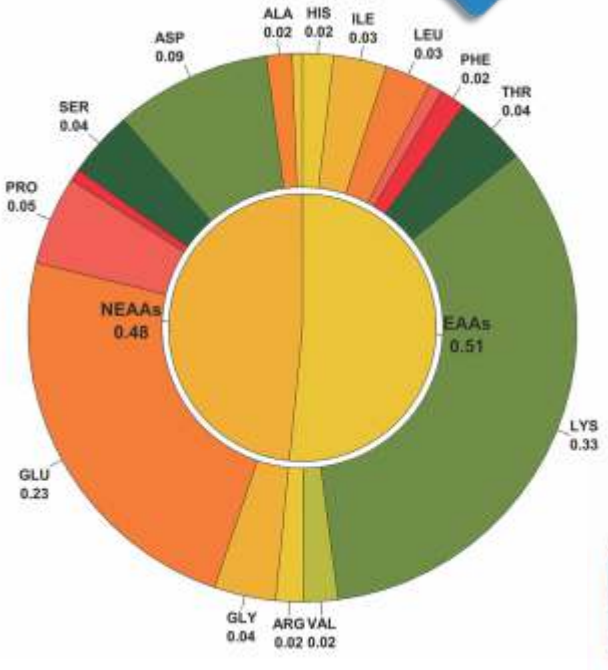
Common English Name: Zig-zag eel

Vernacular Name: Ban Machh (Bengali), Baam (Hindi), Haavu-meenu (Kannada), Bummi (Oriya), Vam (Marathi)

Habitat: Freshwater and Brackishwater

Distribution: India to Vietnam and Indonesia

Amino acid content (g/100g)



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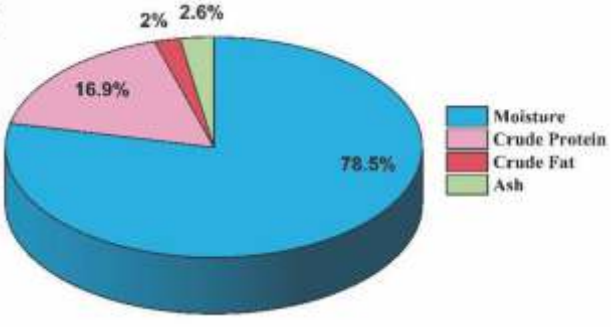
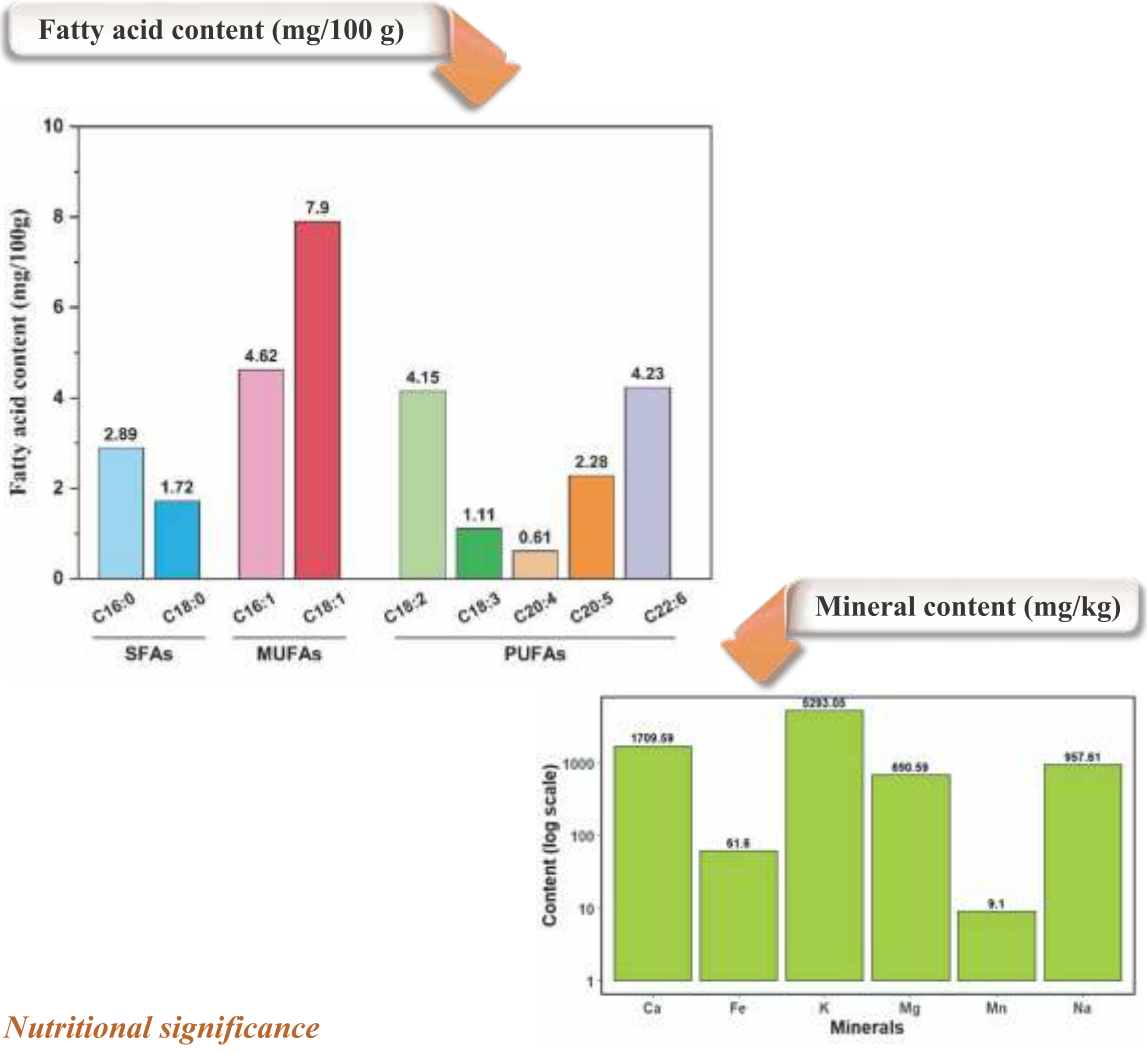




Nutritional significance

Mastacembelus armatus (Zig-zag eel) contains 16.9% crude protein, indicating a high-quality source of protein that supports muscle development, tissue repair, and overall metabolic health. Lysine, the essential amino acid present at 0.33 g/100g, plays a key role in protein synthesis, immune function, and calcium absorption. Glutamic acid, a non-essential amino acid found at 0.23 g/100g, contributes to energy production and acts as a neurotransmitter in the central nervous system. Remarkably, the potassium content is very high at 5293.06 mg/kg, which is beneficial for maintaining electrolyte balance, regulating blood pressure, and supporting nerve and muscle function. The fish also provides essential ω-3 fatty acids, with EPA at 2.28 mg/100g and DHA at 4.23 mg/100g. These fatty acids are known to support cardiovascular health, reduce inflammation and promote cognitive and visual development.

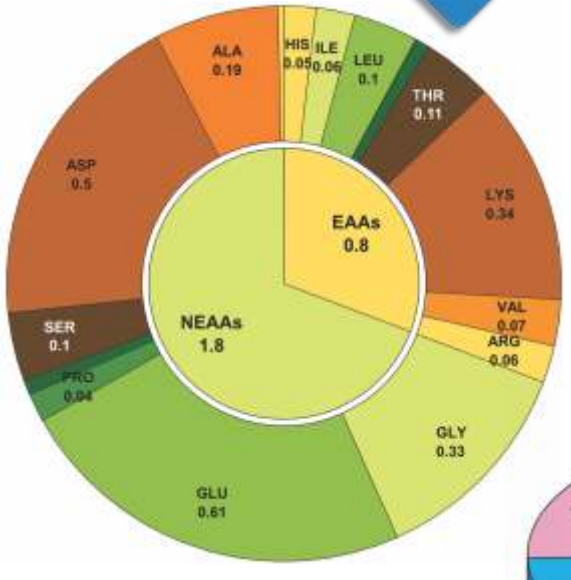
Mugil cephalus Linnaeus, 1758

Systematic Classification

Class: Actinopterygii
Order: Mugiliformes
Family: Mugilidae
Genus: *Mugil*
Species: *Mugil cephalus*
Common English Name: Flathead grey mullet
Local name: Khorul bata (Bengali), Bhomat (Gujrat), Boi (Marathi)

Habitat: Brackishwater, Freshwater and Marine
Distribution: Gulf of Mexico, Mediterranean Sea, Sea of Marmara, Black Sea, Red Sea, Persian Gulf and Sea of Japan

Amino acid content (g/100g)



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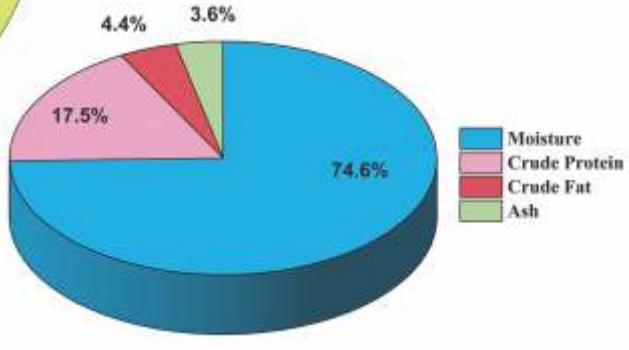
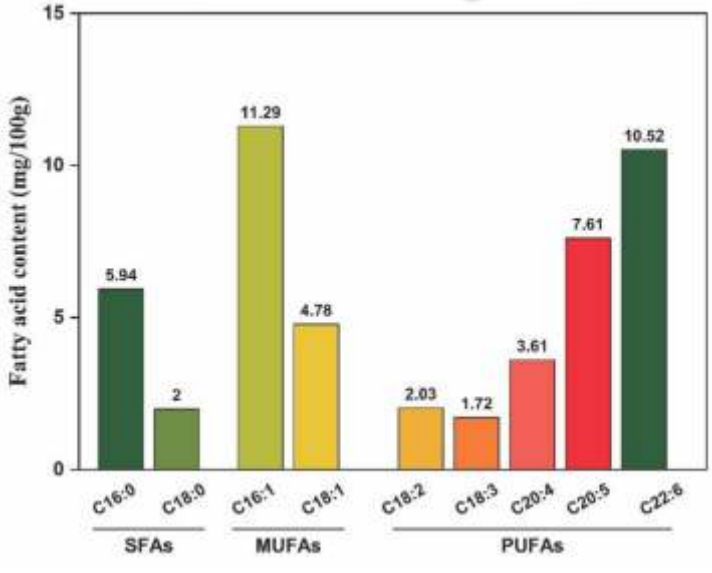
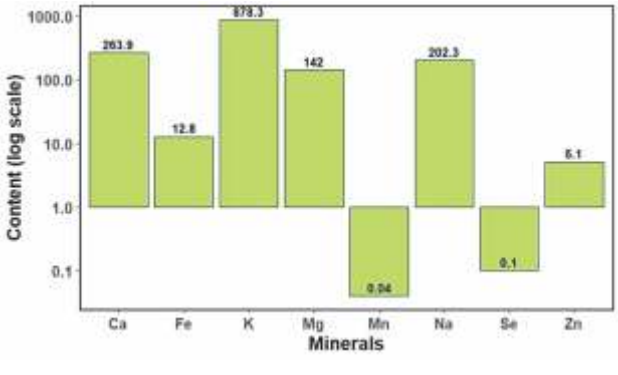


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Mugil cephalus (Flathead grey mullet) contains 17.5% crude protein, highlighting its role as a rich source of high-quality protein essential for muscle development, tissue repair, and enzymatic functions. Lysine, an essential amino acid present at 0.34 g/100g, supports calcium absorption, immune response, and collagen synthesis. Glutamic acid, a non-essential amino acid found at 0.61 g/100g, contributes to cellular metabolism and serves as an important neurotransmitter in brain function. The fish is also notably rich in ω-3 fatty acids, with EPA at 7.61 mg/100g and DHA at 10.52 mg/100g, both of which are vital for promoting cardiovascular health, reducing inflammation, and supporting brain and visual development

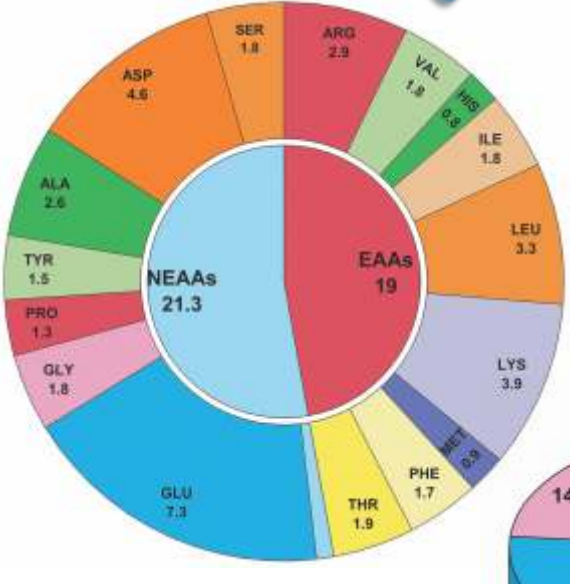
Mystus bleekeri (Day, 1877)

Systematic Classification

Class: Actinopterygii
Order: Siluriformes
Family: Bagridae
Genus: *Mystus*
Species: *Mystus bleekeri*
Common English Name: Day's mystus
Vernacular Name: Golsha-tengra (Bengali), Singarah (Assamese), Singhala (Marathi)

Habitat: Freshwater
Distribution: India, Bangladesh, Nepal, Myanmar, Pakistan, Indonesia and Bhutan

Amino acid content (g/100g)



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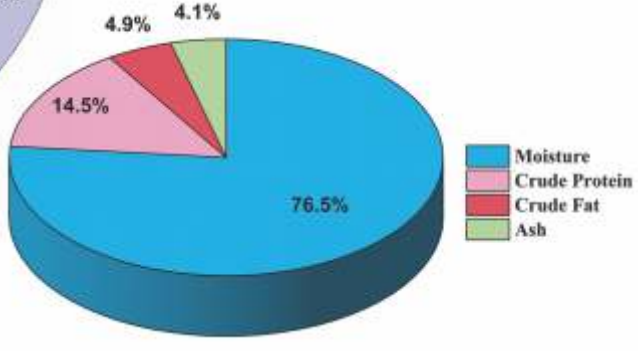
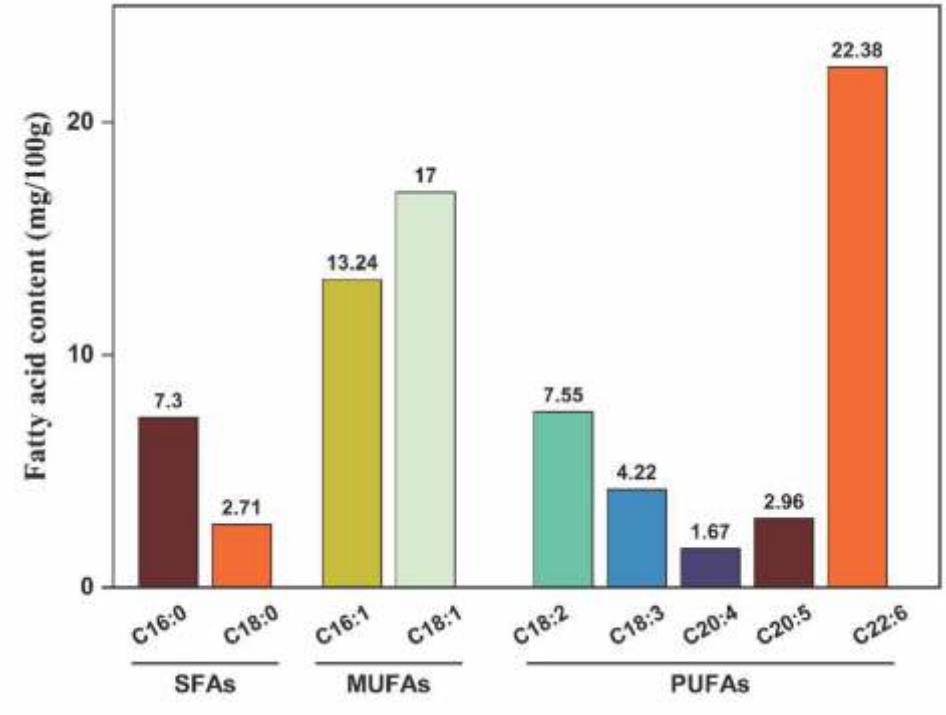


Fatty acid content (mg/100 g)



Nutritional significance

Mystus bleekeri (Day's mystus) contains 14.5% crude protein, making it a valuable source of dietary protein that supports muscle maintenance, enzyme production, and tissue repair. It is notably rich in lysine, an essential amino acid, at 3.9 g/100g, which plays a key role in immune function, calcium absorption, and collagen synthesis. Glutamic acid, the dominant non-essential amino acid at 7.3 g/100g, is crucial for energy metabolism and functions as a neurotransmitter, aiding in brain health. The species also offers a beneficial fatty acid profile, with EPA at 2.96 mg/100g and an exceptionally high DHA content of 22.38 mg/100g. These ω-3 fatty acids are known to promote cardiovascular health, reduce inflammation, and support brain and visual development.

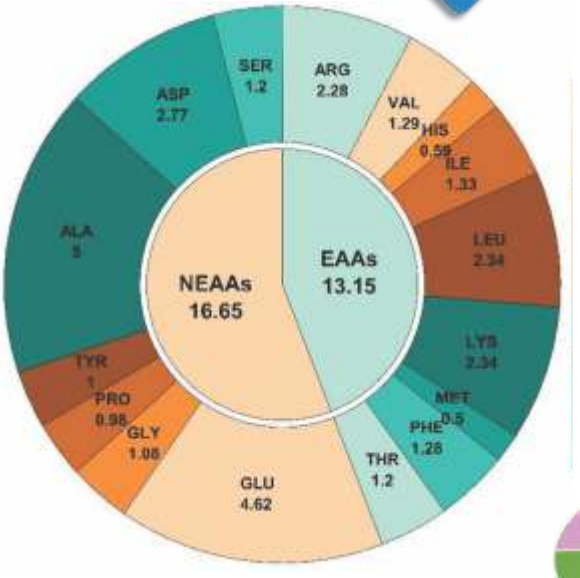
Mystus cavasius (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Siluriformes
Family: Bagridae
Genus: *Mystus*
Species: *Mystus cavasius*
Common English Name: Gangetic mystus
Vernacular Name: Golsha-tengra (Bengali), Kala-tenguah (Hindi), Cutta (Tamil)

Habitat: Freshwater and Brackishwater
Distribution: Asia: lowland rivers in most major basins of the Indian subcontinent (India, Pakistan, Nepal, Sri Lanka and Myanmar)

Amino acid content (g/100g)



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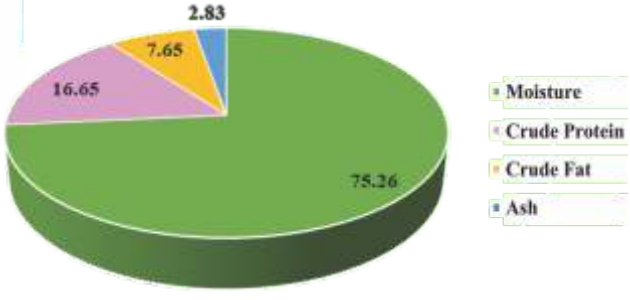
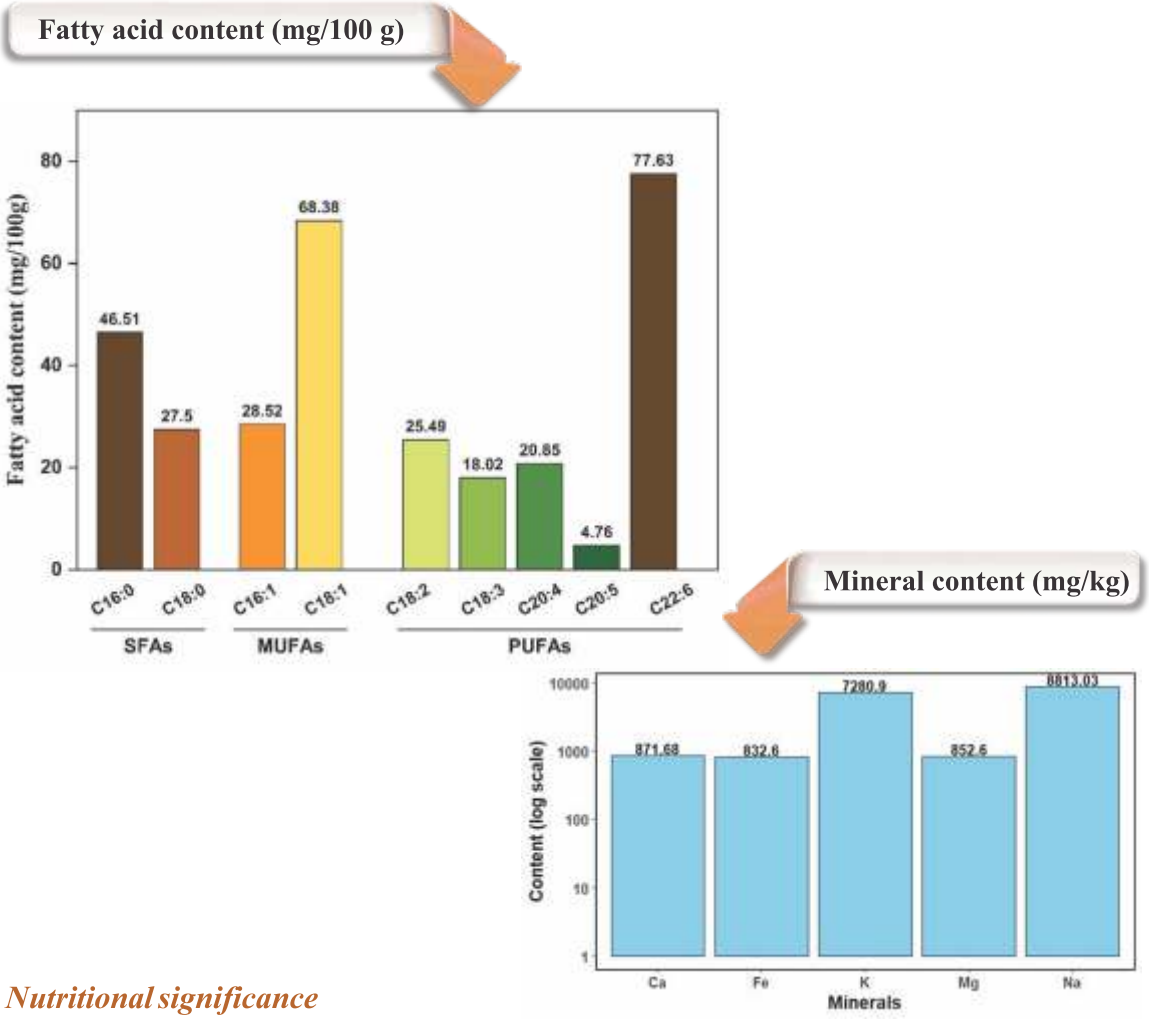




Nutritional significance

Mystus cavasius (Gangetic mystus) is a nutritionally dense fish, offering a substantial crude protein content of 16.65%, making it an excellent source of energy. It is particularly rich in essential amino acids (13.15 g/100g), with lysine (2.34 g/100g) and leucine (2.34 g/100g) standing out for their roles in protein synthesis and muscle repair. The fish also contains non-essential amino acids (16.65 g/100g), such as alanine (5 g/100g) and glutamate (4.62 g/100g), which contribute to metabolism and flavour. The fatty acid profile is impressive, especially with docosahexaenoic acid (DHA) at 77.63 mg/100g, crucial for brain and heart health, and monounsaturated fatty acids like oleic acid (68.38 mg/100g) promoting cardiovascular wellness. Mineral-wise, *Mystus cavasius* is exceptionally high in sodium (8813.03 mg/kg) and potassium (7280.9 mg/kg), both essential for fluid balance and nerve function, along with good levels of calcium (871.68 mg/kg), magnesium (852.6 mg/kg), and iron (832.6 mg/kg).

Mystus gulio (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Siluriformes

Family: Bagridae

Genus: *Mystus*

Species: *Mystus gulio*

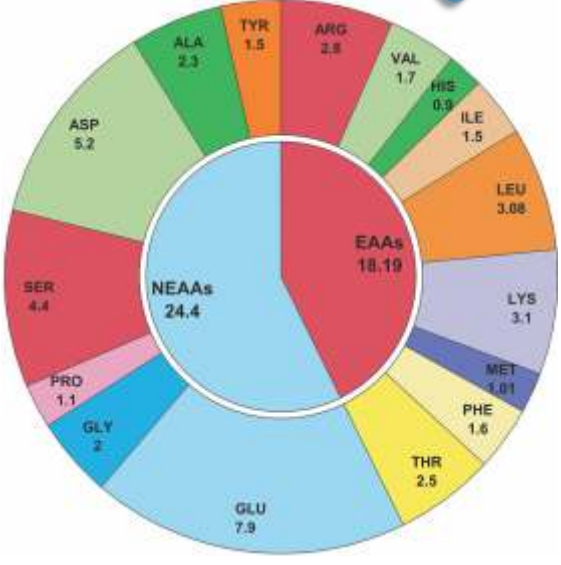
Common English Name: Long whiskers catfish

Vernacular Name: Nuna-tengra (Bengali), Kala-tenguah (Hindi), Chinkada (Kannada), Kadal-kelithi/ Vella-koorai (Malayalam), Sengati/ Shingati (Marathi), Kontia (Oriya)

Habitat: Freshwater and Brackishwater

Distribution: Countries bordering the eastern Indian Ocean, from India to Indonesia and Vietnam

Amino acid content (g/100g)



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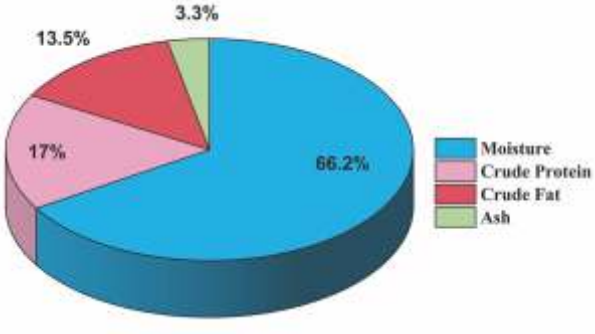
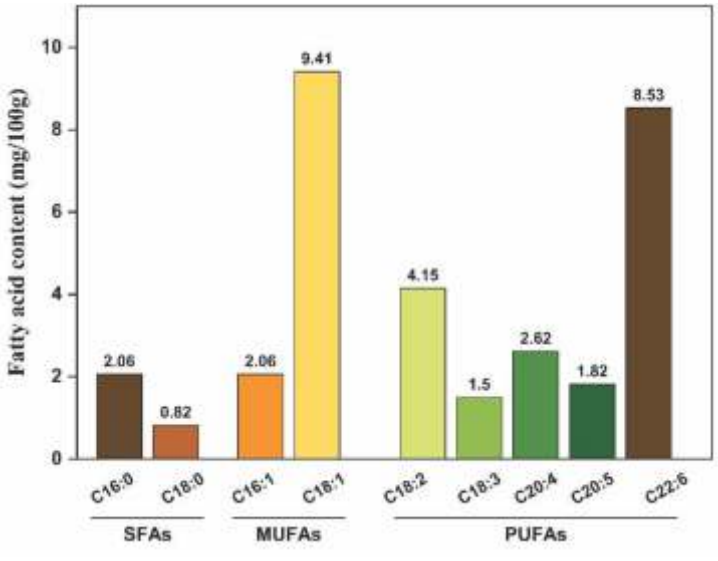
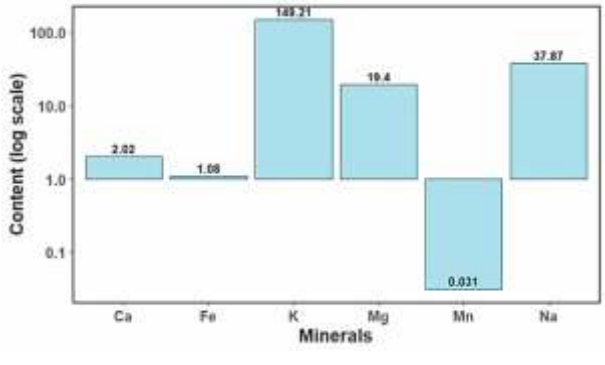


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Mystus gulio (Long whiskers catfish) exhibits a crude fat content of 13.5%, indicating a relatively high lipid level that can contribute to dietary energy. It is particularly rich in lysine, an essential amino acid critical for tissue repair and growth, with a notable concentration of 3.1 g/100g. Additionally, it contains a high level of glutamate (7.9 g/100g), a non-essential amino acid involved in metabolism and flavour enhancement. The mineral profile shows a relatively low potassium content of 149.21 mg/kg, suggesting limited contribution to electrolyte balance. In terms of fatty acids, it contains small amounts of ω-3 FAs namely EPA (1.82 mg/100g) and DHA (8.53 mg/100g), which are beneficial for cardiovascular and neural health, although the levels are modest. Overall, this species offers high amino acid density but limited mineral and ω-3 fatty acid content.

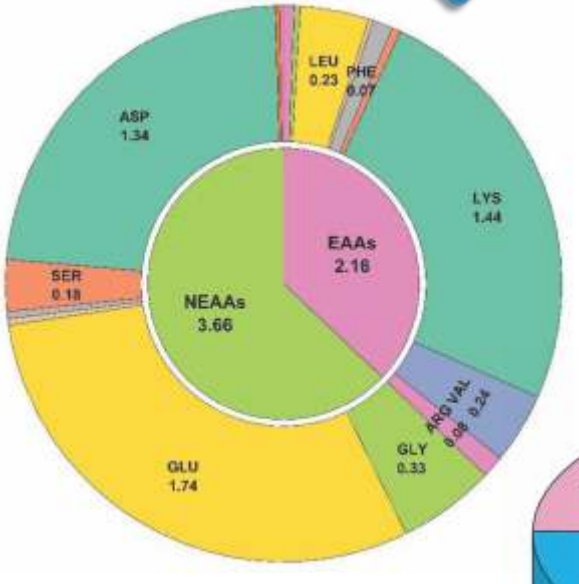
Mystus vittatus (Bloch, 1794)

Systematic Classification

Class: Actinopterygii
Order: Siluriformes
Family: Bagridae
Genus: *Mystus*
Species: *Mystus vittatus*
Common English Name: Striped dwarf catfish
Vernacular Name: Lal Tingara/ Tengra (Bengali), Kuggur/Palwa (Hindi), Chittu (Kannada)

Habitat: Freshwater and Brackishwater
Distribution: India, Sri Lanka, Nepal, Bangladesh, Pakistan, and probably Myanmar. Reported from Malaysia, Laos, Bhutan, Vietnam and Cambodia

Amino acid content (g/100g)



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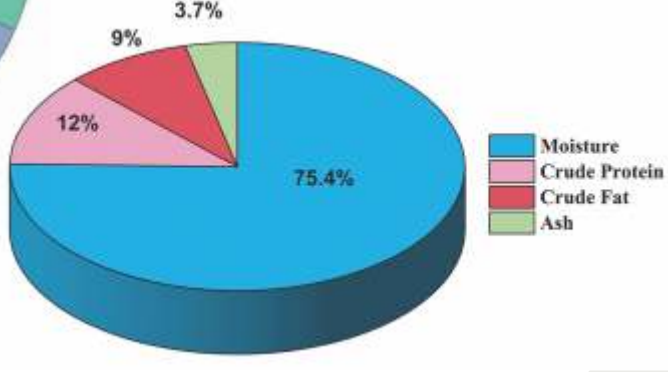
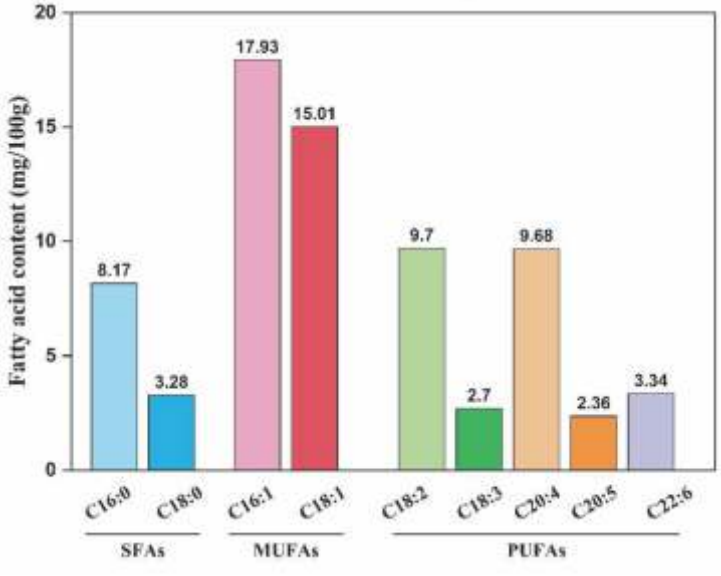
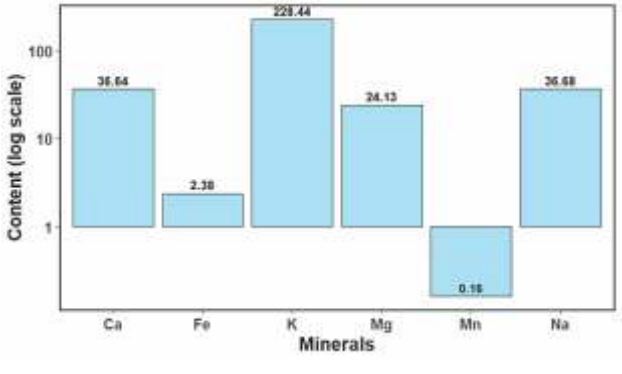


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Mystus vittatus (Striped dwarf catfish) contains 9% crude fat, suggesting a moderate fat content that provides a valuable source of energy. Lysine, the key essential amino acid at 1.44 g/100g, supports protein synthesis, tissue repair, and immune function. Glutamate, the dominant non-essential amino acid at 1.74 g/100g, plays a vital role in neurotransmission and cellular metabolism. Potassium is present at 228.44 mg/kg, contributing to fluid balance, muscle contractions, and proper nerve function. The fish also includes beneficial ω-3 fatty acids, with EPA at 2.36 mg/100g and DHA at 3.34 mg/100g, which are known to support cardiovascular health, reduce inflammation, and aid in brain development.

Nandus nandus (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Anabantiformes

Family: Nandidae

Genus: *Nandus*

Species: *Nandus nandus*

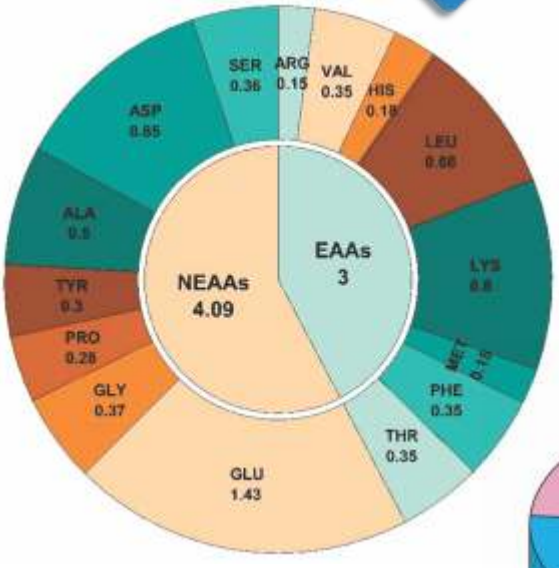
Common English Name: Gangetic leaffish

Vernacular Name: Nadosh (Bengali), Badvaadei (Assamese), Debari (Hindi), Mootahree/ Muthukki (Malyalam), Bodisi (Oriya)

Habitat: Freshwater and Brackishwater

Distribution: India, Bangladesh, Pakistan, Thailand, Laos, Cambodia and Vietnam

Amino acid content (g/100g)



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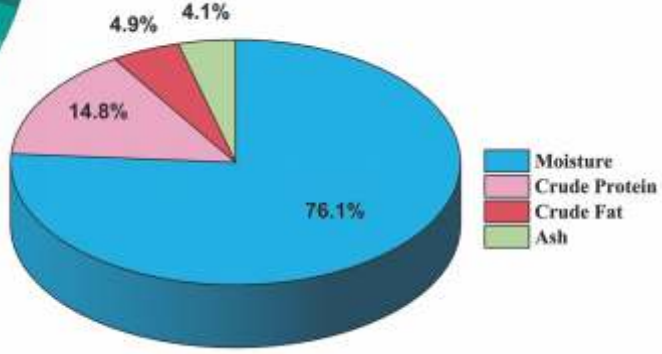
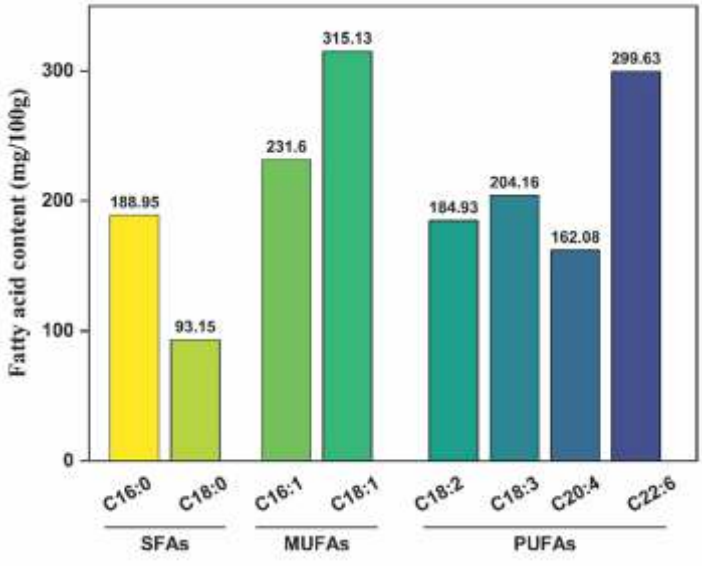
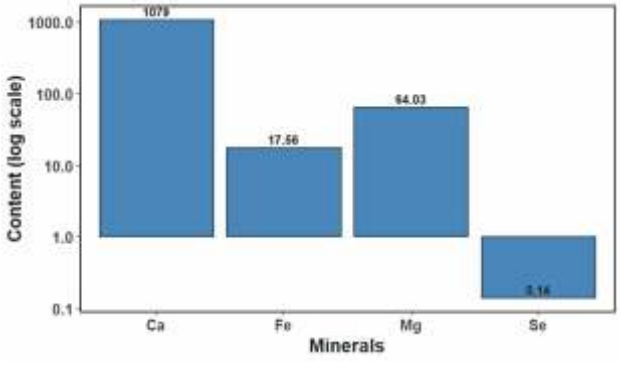


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Nandus nandus (Gangetic leaffish) is a species that provides a commendable nutritional profile, with a crude protein content of 14.8%, which supports growth and tissue repair. It contains the essential amino acid lysine (0.8 g/100g), crucial for protein synthesis, enzyme function, and calcium absorption. The non-essential amino acid glutamate (1.43 g/100g) aids in energy production and enhances the savoury flavour of the fish. Calcium is present in significant quantity (1079 mg/kg), contributing to bone strength and metabolic processes. The species is also a good source of ω-3 fatty acids, offering EPA (162.08 mg/100g) and DHA (299.63 mg/100g), which are well-known for promoting cardiovascular and neurological health.

Notopterus notopterus (Pallas, 1769)

Systematic Classification

Class: Actinopterygii

Order: Osteoglossiformes

Family: Notopteridae

Genus: *Notopterus*

Species: *Notopterus notopterus*

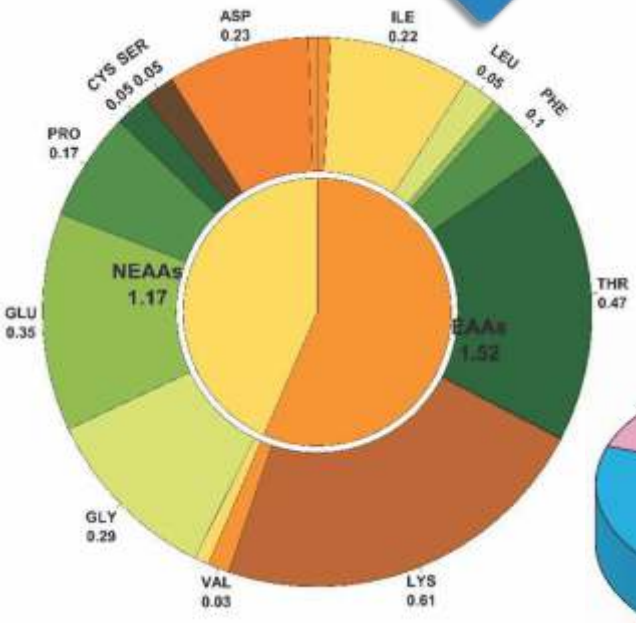
Common English Name: Bronze featherback

Vernacular Name: Kanduli/Kandulee/Kandhuli/Pholi (Assamese), Falui (Bengali), Chalat (Marathi), Battu (Punjabi), Ambattan vazhai (Tamil)

Habitat: Freshwater and Brackishwater

Distribution: Indus, Ganges-Brahmaputra, Mahanadi, Krishna, Cauvery, and other river basins in southern India; Irrawaddy, Thailand and Malaysia; Sumatra and Java

Amino acid content (g/100g)



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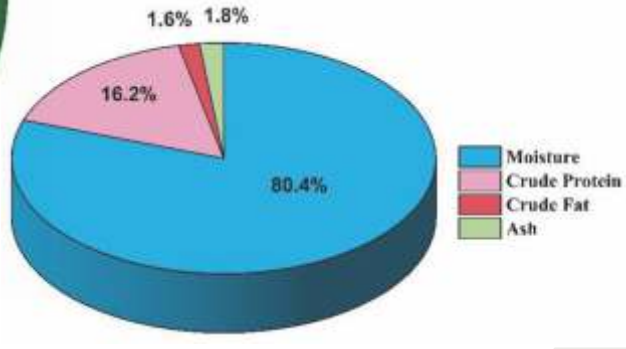
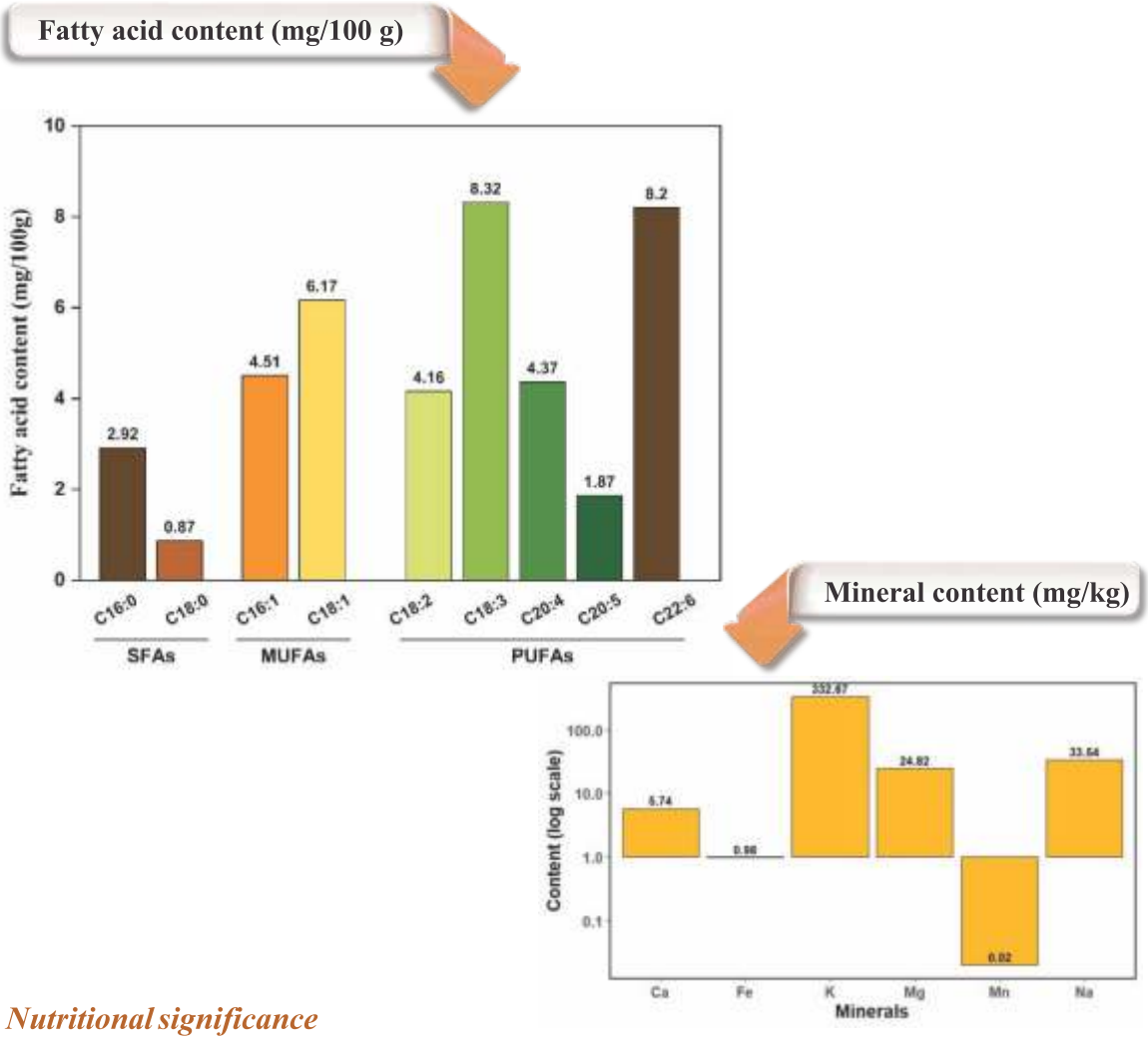




Nutritional significance

Notopterus notopterus (Bronze featherback) contains 16.2% crude protein, reflecting a high protein content beneficial for muscle growth, repair, and overall metabolic functions. Lysine, the essential amino acid present at 0.61 g/100g, is important for immune function and collagen formation. The combined non-essential amino acids- glutamate and alanine-measuring 0.35 g/100g, contribute to energy production and play supportive roles in nervous system function. A notable highlight is the high potassium content at 332.67 mg/kg, which aids in maintaining fluid balance, regulating blood pressure, and ensuring proper nerve and muscle function. Additionally, the presence of ω-3 fatty acids, with EPA at 1.87 mg and DHA at 8.2 mg/100g, offers significant health benefits, including improved cardiovascular health, anti-inflammatory effects, and enhanced brain and visual development.

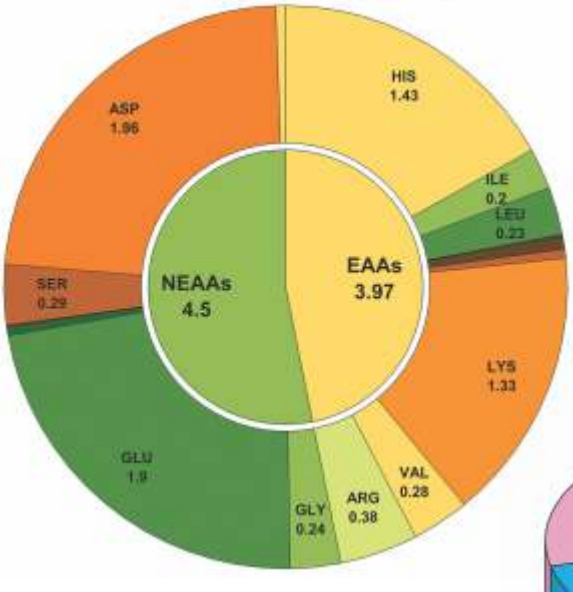
Opsarius bendelisis (Hamilton, 1807)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Danionidae
Genus: *Opsarius*
Species: *Opsarius bendelisis*
Common English Name: Indian hill Trout
Local name: Khoksa/ Joia (Bengali), Angura/ Bhareli (Hindi), Bagra bahri (Oriya)

Habitat: Freshwater
Distribution: Himalaya Foothills, Nepal, Bhutan, India, Myanmar, Pakistan and Thailand.

Amino acid content (g/100g)



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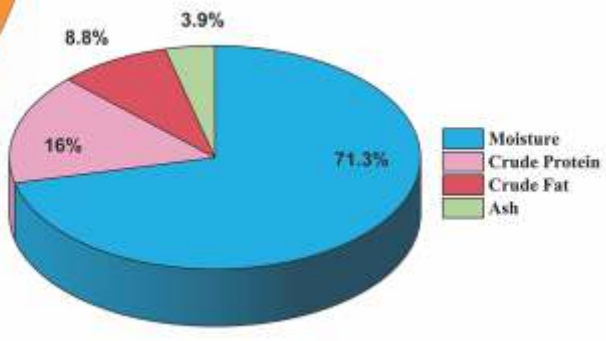
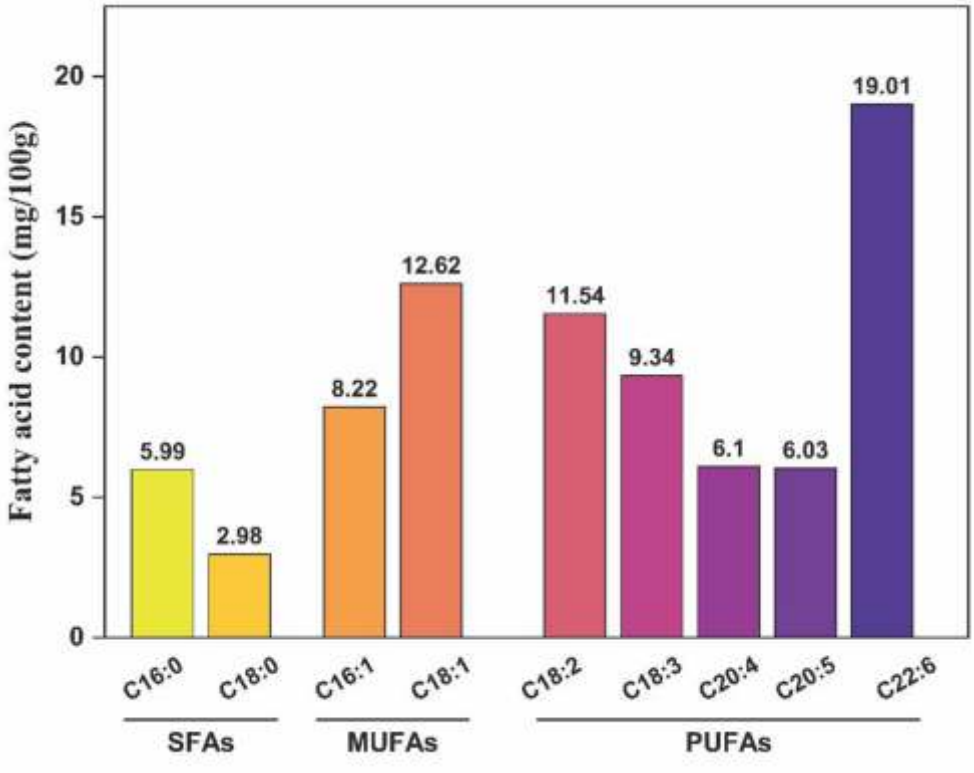


Fatty acid content (mg/100 g)



Nutritional significance

Opsarius bendelisis (Indian hill Trout) contains 8.8% crude fat, providing a valuable source of dietary energy and supporting the absorption of essential fat-soluble vitamins. It is rich in histidine, an essential amino acid (1.43 g/100g), which plays a vital role in tissue repair, immune function, and the formation of blood cells. Additionally, it contains 1.96 g/100g of aspartic acid, a non-essential amino acid involved in energy production and amino acid synthesis. The fatty acid profile is particularly noteworthy, with EPA at 6.03 mg/100g and DHA at 19.01 mg/100g, the two key ω-3 fatty acids known for promoting cardiovascular health, reducing inflammation, and supporting brain and visual development.

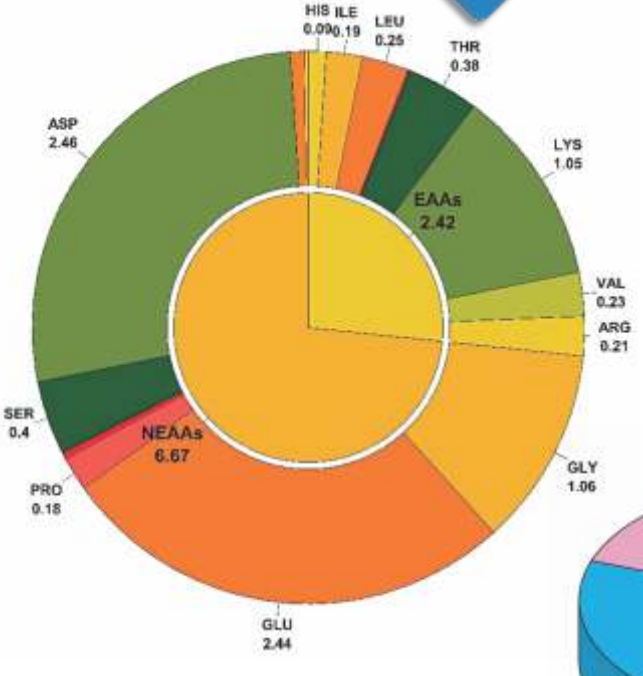
Oreochromis niloticus (Linnaeus, 1758)

Systematic Classification

Class: Actinopterygii
Order: Cichliformes
Family: Cichlidae
Genus: *Oreochromis*
Species: *Oreochromis niloticus*
Common English Name: Nile tilapia
Vernacular Name: Nilotica/ Tilapia

Habitat: Freshwater and Brackishwater
Distribution: North and northeast Africa. Widely introduced elsewhere.

Amino acid content (g/100g)



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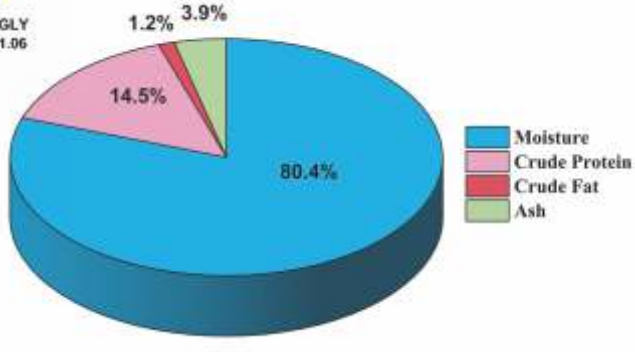
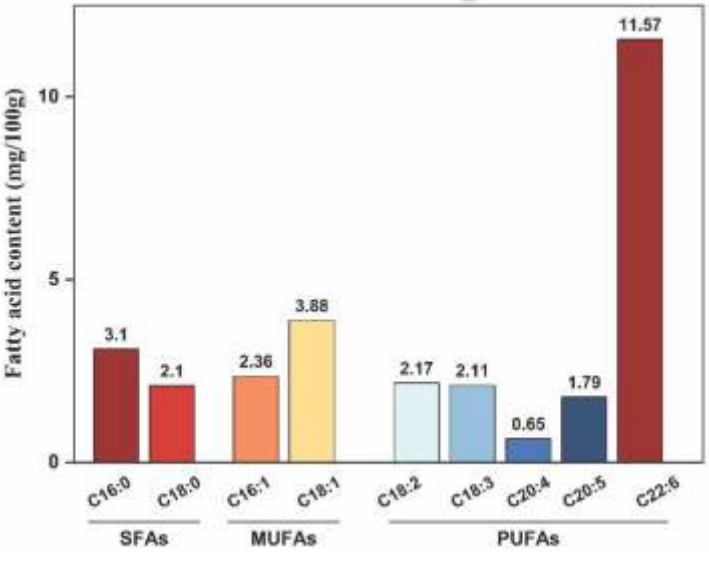
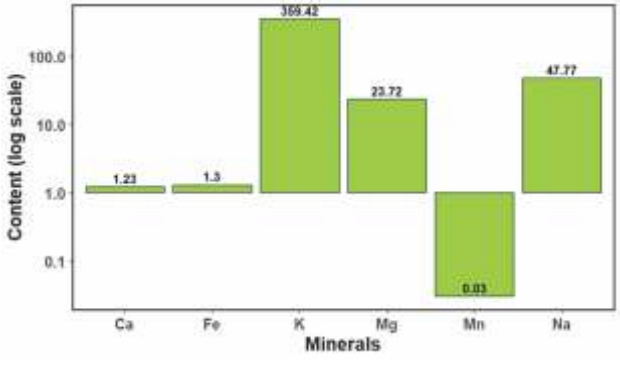


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Oreochromis niloticus (Nile tilapia) contains 14.5% crude protein, indicating a good source of dietary protein essential for muscle maintenance, enzymatic activity, and overall body function. Lysine, the essential amino acid present at 1.05 g/100g, plays a critical role in tissue repair, calcium absorption, and immune response. Aspartic acid, the major non-essential amino acid at 2.46 g/100g, supports energy production and the synthesis of other amino acids. The mineral content shows a high level of potassium at 359.42 mg/kg, which is important for maintaining fluid balance, regulating blood pressure, and ensuring proper muscle and nerve function. Additionally, the fish is rich in ω-3 fatty acids, with EPA at 1.79 mg/100g and DHA at 11.57 mg/100g, both of which contribute to heart health, reduce inflammation, and support brain and visual development.

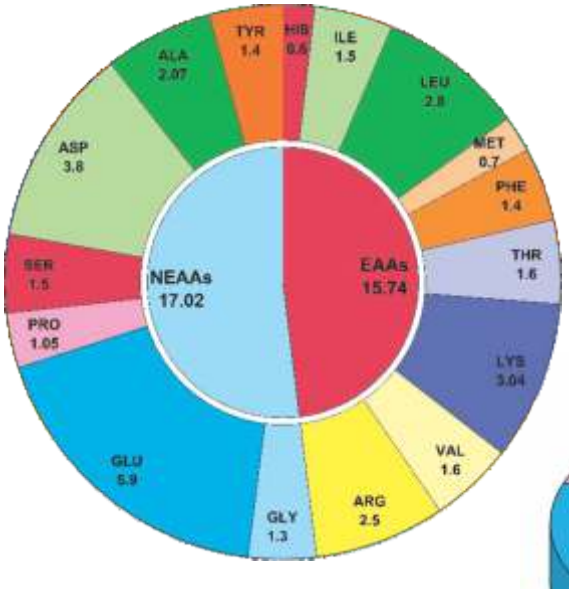
Otolithoides pama (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Perciformes
Family: Sciaenidae
Genus: *Otolithoides*
Species: *Otolithoides pama*
Common English Name: Pama croaker
Vernacular Name: Bhola (Hindi)

Habitat: Freshwater, Brackishwater and Marine
Distribution: Indo-Pacific: India, Sri Lanka, Pakistan and Papua New Guinea

Amino acid content (g/100g)



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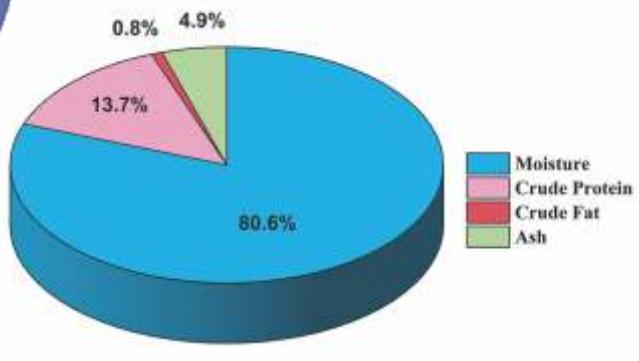
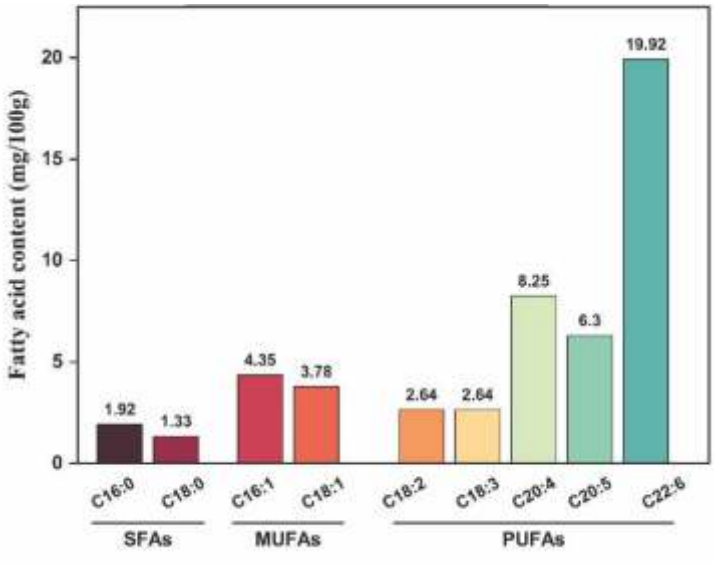
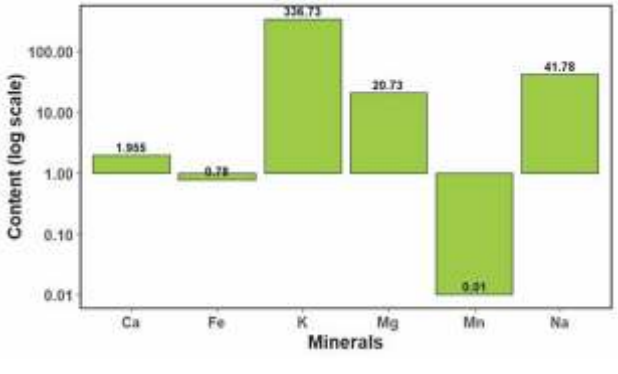


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Otolithoides pama (Pama croaker) contains a crude protein level of 13.7%, contributing moderately to dietary protein intake. It is rich in lysine (3.04 g/100g), an essential amino acid vital for growth and immune function, and glutamate (5.9 g/100g), a non-essential amino acid associated with cellular metabolism and flavour enhancement. The mineral composition includes potassium at 336.73 mg/kg, which plays a role in maintaining fluid balance and supporting muscle function. Additionally, the species provides ω-3 fatty acids in the form of EPA (6.3 mg/100g) and DHA (19.92 mg/100g), which are beneficial for cardiovascular and brain health. This composition makes it a valuable dietary source of key amino acids and healthy fats.

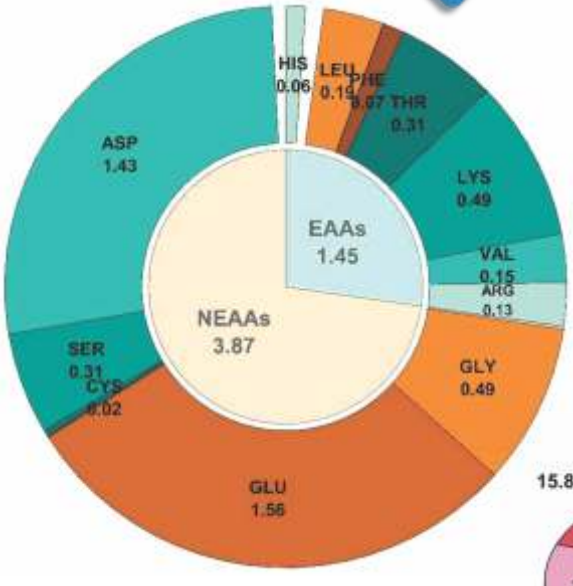
Pachypterus atherinoides (Bloch, 1794)

Systematic Classification

Class: Actinopterygii
Order: Siluriformes
Family: Schilbeidae
Genus: *Pachypterus*
Species: *Pachypterus atherinoides*
Common English Name: Indian potasi
Local name: Batasi (Bengali)

Habitat: Brackishwater and Freshwater
Distribution: India, Pakistan, Bangladesh, Nepal and Myanmar

Amino acid content (g/100g)



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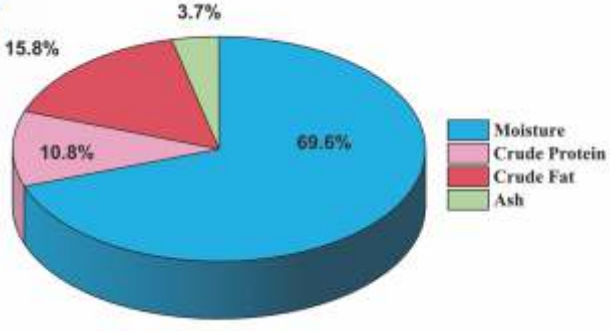
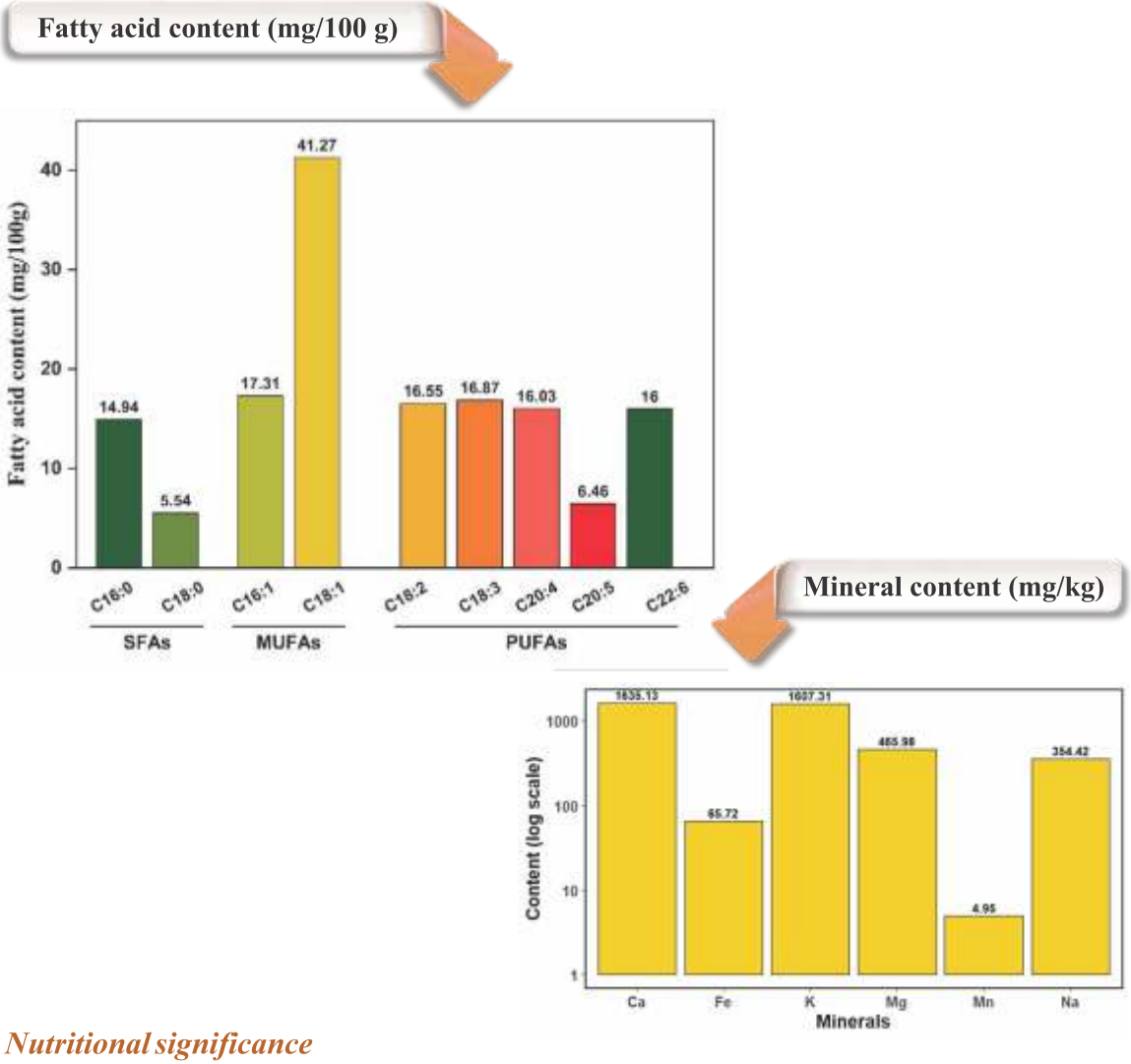




Nutritional significance

Pachypterus atherinoides (Indian potasi) contains 15.8% crude fat, indicating a high energy value and an excellent source of dietary lipids that support the absorption of fat-soluble vitamins and hormone production. It provides lysine, an essential amino acid, at 0.49 g/100g, which is important for protein synthesis, immune function, and calcium utilization. Glutamic acid, a non-essential amino acid present at 1.56 g/100g, plays a critical role in metabolic processes and neurotransmission. The fish is also rich in calcium, with a content of 1635.13 mg/kg, which supports bone health, muscle contraction, and nerve function. Additionally, it offers significant amounts of ω-3 fatty acids, EPA at 6.46 mg/100g and DHA at 16 mg/100g. These fatty acids are known to promote heart health, reduce inflammation and enhance brain and visual development.

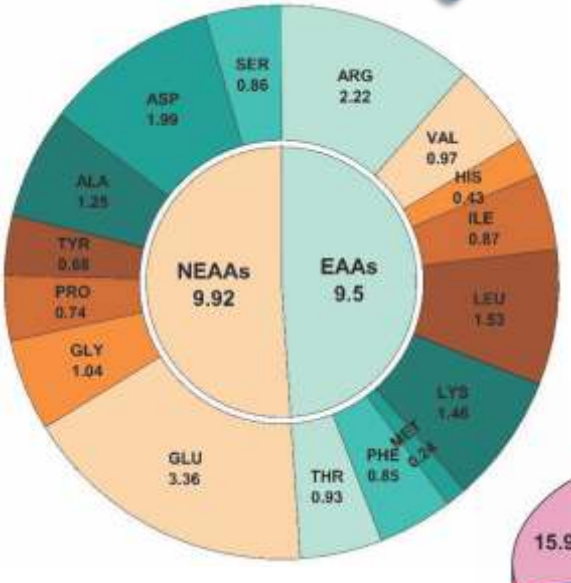
Paracanthocobitis botia (Hamilton 1822)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Nemacheilidae
Genus: *Paracanthocobitis*
Species: *Paracanthocobitis botia*
Common English Name: Mottled loach
Vernacular Name: Bilturi (Bengali)

Habitat: Freshwater
Distribution: India, Pakistan, Bhutan, Nepal, Bangladesh, Myanmar, Thailand and China

Amino acid content (g/100g)



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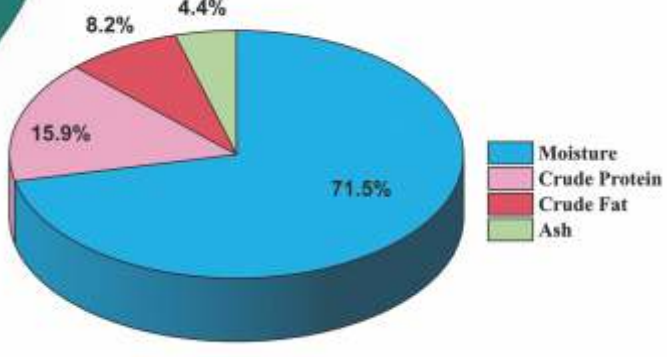
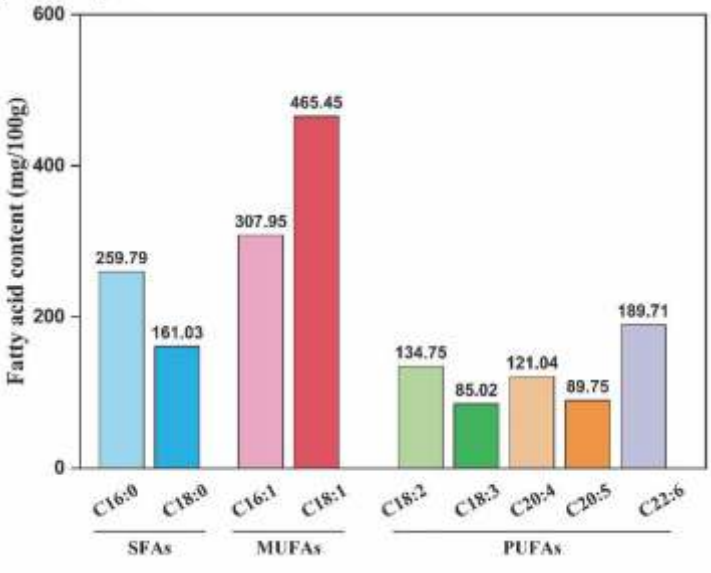
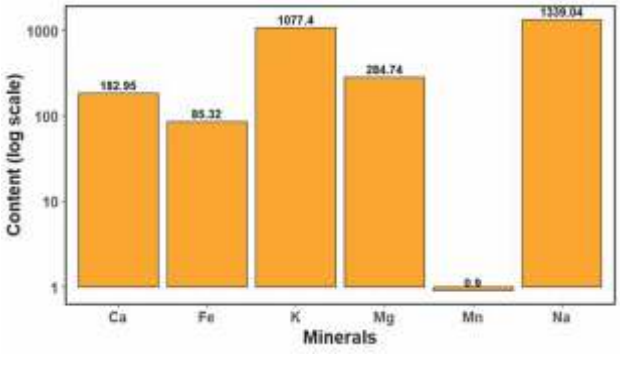


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Paracanthocobitis botia (Mottled loach) is notable for its relatively high crude fat content of 8.2%, indicating a good source of energy. It is particularly rich in the essential amino acid arginine (2.22 g/100g), which plays a vital role in immune function and wound healing. The non-essential amino acid glutamate is also abundant (3.36 g/100 g), contributing to metabolic functions and enhancing taste. Sodium is the predominant mineral present (1339.04 mg/kg), essential for fluid balance and nerve transmission. Additionally, the fish provides beneficial ω-3 fatty acids, including EPA (89.75 mg/100g) and DHA (189.71 mg/100g), which support cardiovascular and neurological health.

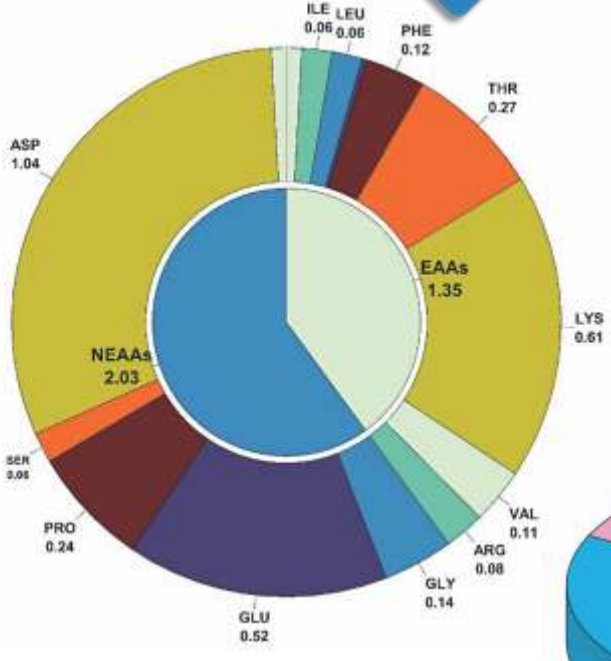
Parastromateus niger (Bloch, 1795)

Systematic Classification

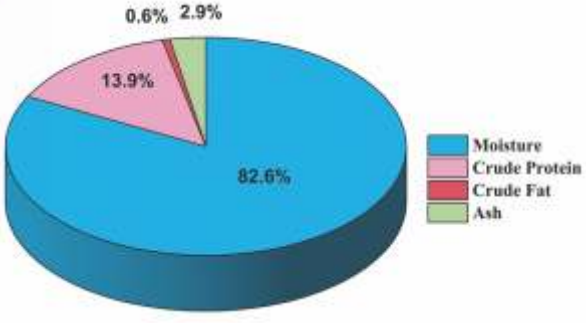
Class: Actinopterygii
Order: Carangiformes
Family: Carangidae
Genus: *Parastromateus*
Species: *Parastromateus niger*
Common English Name: Black pomfret
Local name: Rup Chada (Bengali), Halwa (Gujrat), Thondrotte (Kannada)

Habitat: Brackishwater and Marine
Distribution: Indo-West Pacific: East Africa to southern Japan and Australia.

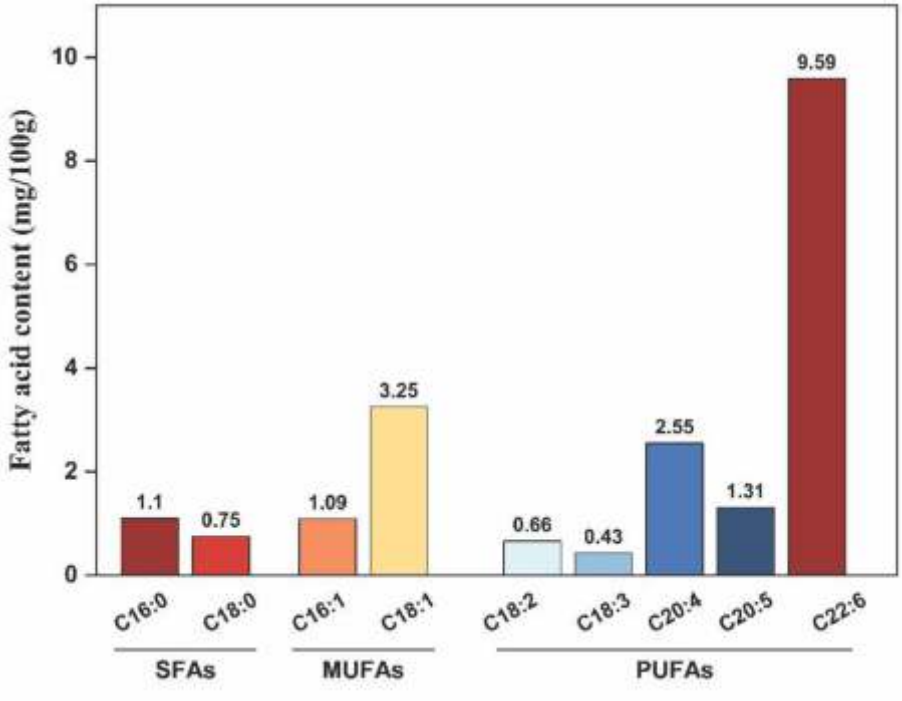
Amino acid content (g/100g)



Proximate composition



Fatty acid content (mg/100 g)



Nutritional significance

Parastromateus niger (Black pomfret) contains 13.9% crude protein, making it a moderate but valuable source of dietary protein essential for maintaining muscle mass, repairing tissues, and supporting metabolic functions. It provides lysine, an essential amino acid, at 0.61 g/100g, which is vital for immune health, collagen formation, and calcium absorption. Aspartic acid, a non-essential amino acid present at 1.04 g/100g, plays a key role in energy production and the biosynthesis of other amino acids. Additionally, the fish is a good source of ω-3 fatty acids, with EPA at 1.31 mg/100g and DHA at 9.59 mg/100g. These fatty acids are important for cardiovascular health, reducing inflammation, and supporting brain and eye development.

Pethia conchonius (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Cypriniformes

Family: Cyprinidae

Genus: *Pethia*

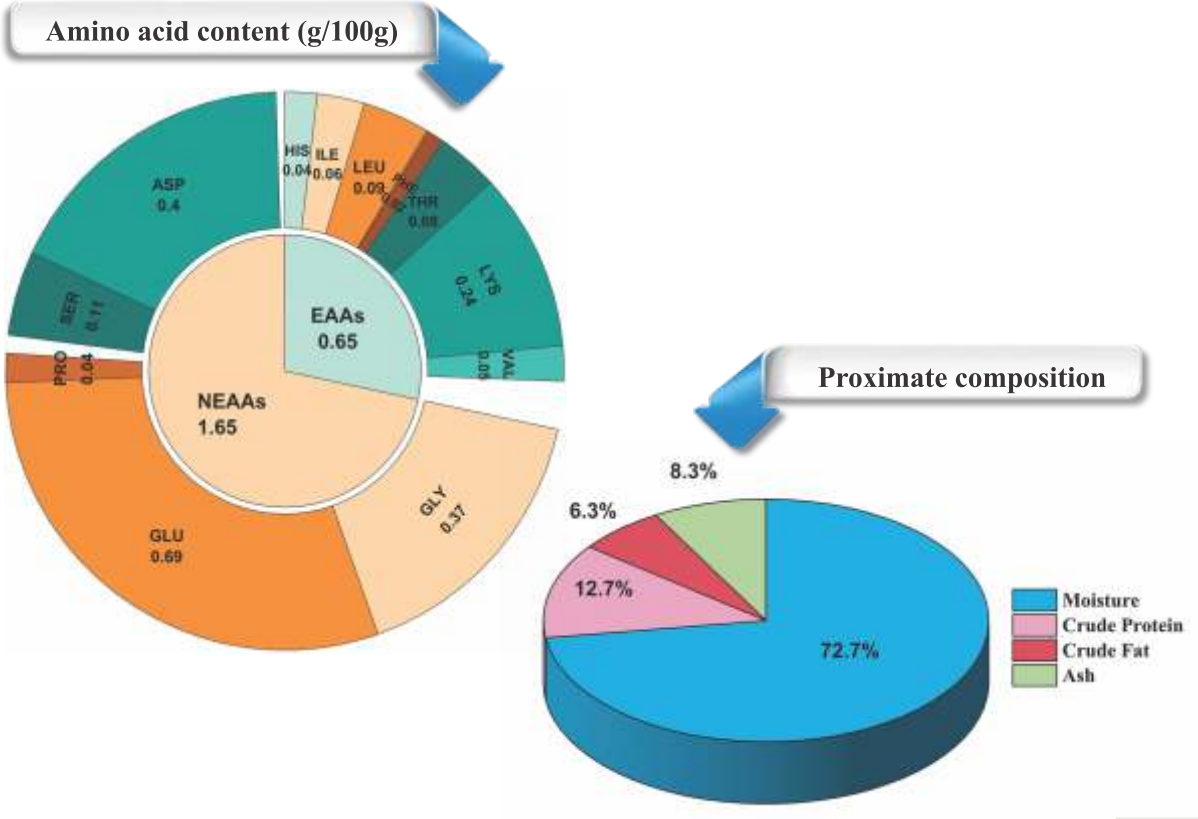
Species: *Pethia conchonius*

Common English Name: Rosy barb

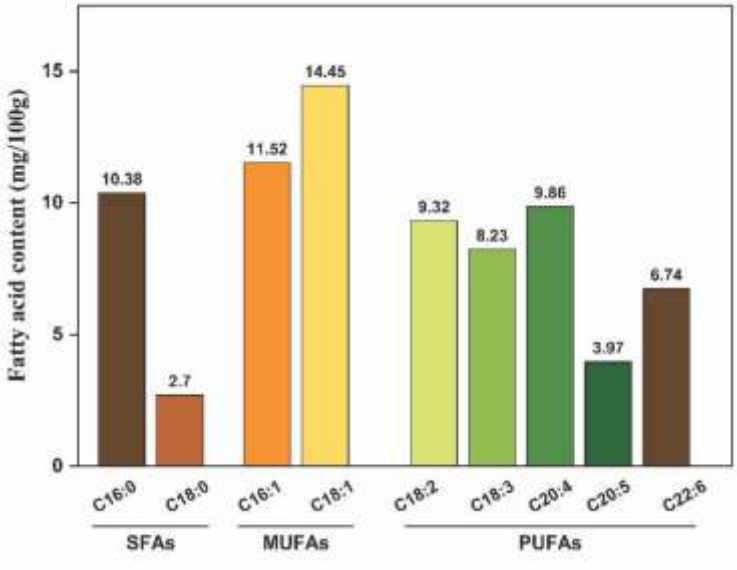
Vernacular Name: Kanchan punti (Bengali), Kharauli-pothi (Hindi), Khavli (Marathi), Pitia kerundi (Oriya)

Habitat: Freshwater

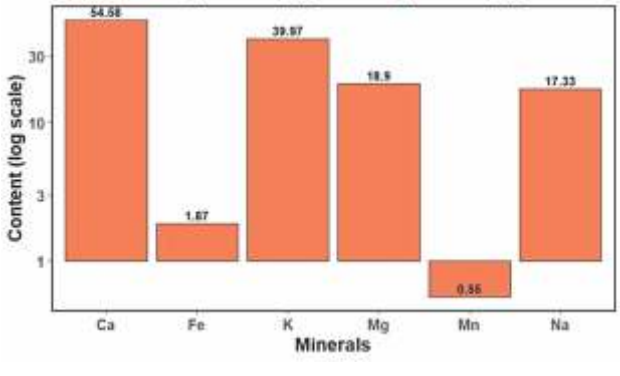
Distribution: India, Afghanistan, Pakistan, Nepal, Myanmar and Bangladesh



Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Pethia conchonius (Rosy barb) species contains a crude protein content of 12.7%, providing a moderate source of dietary protein. It includes the essential amino acid lysine at 0.24 g/100g, important for muscle development and enzyme production, and the non-essential amino acid glutamate at 0.69 g/100g, which plays a role in neurotransmission and metabolism. The calcium content is measured at 54.58 mg/kg, contributing to bone health and cellular signalling. Additionally, it offers beneficial ω-3 fatty acids, with EPA (3.97 mg/100g) and DHA (6.74 mg/100g), which support cardiovascular function and brain health.

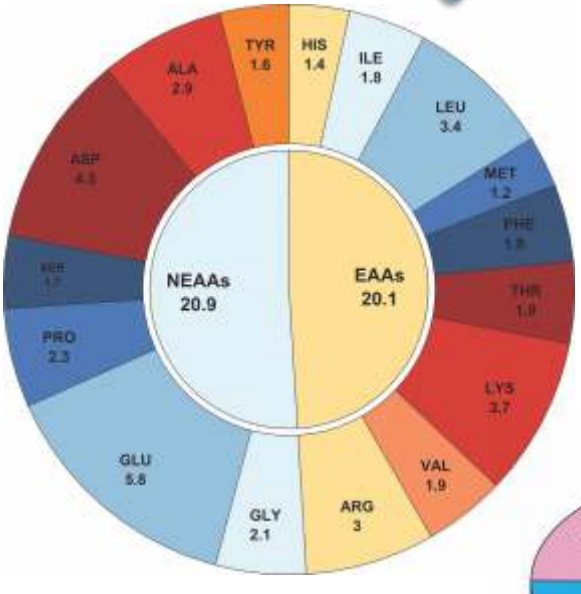
Pisodonophis boro (Hamilton, 1822)

Systematic Classification

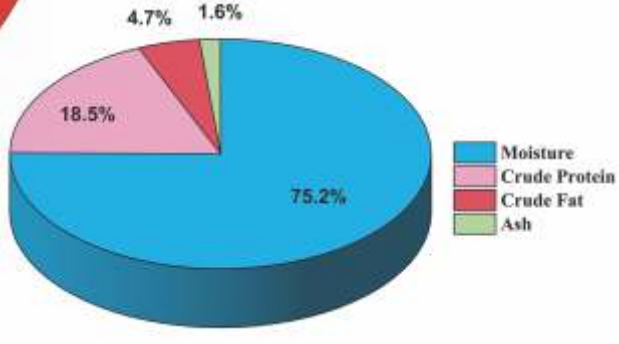
Class: Actinopterygii
Order: Anguilliformes
Family: Ophichthidae
Genus: *Pisodonophis*
Species: *Pisodonophis boro*
Common English Name: Rice-paddy eel
Local name: Boro baim/ Kharu (Bengali)

Habitat: Brackishwater, Freshwater and Marine
Distribution: Indo-West Pacific

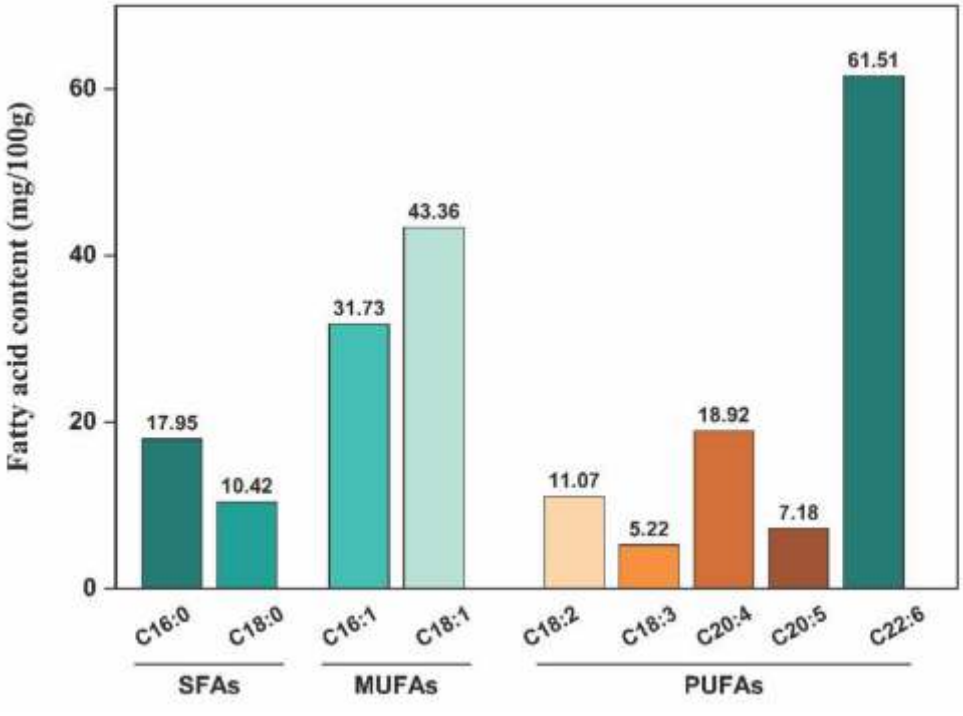
Amino acid content (g/100g)



Proximate composition



Fatty acid content (mg/100 g)



Nutritional significance

Pisodonophis boro (Rice-paddy eel) contains 18.5% crude protein, indicating an excellent source of high-quality protein essential for muscle development, enzyme production, and overall cellular repair. It is particularly rich in lysine, an essential amino acid, at 3.7 g/100g, which supports immune function, calcium absorption, and collagen formation. Glutamic acid, a key non-essential amino acid present at 5.8 g/100g, contributes significantly to cellular metabolism and acts as an important neurotransmitter in the brain. Moreover, the fish offers a potent profile of ω-3 fatty acids, with EPA at 7.18 mg/100g and DHA at an exceptionally high 61.51 mg/100g. These fatty acids are renowned for their roles in reducing inflammation, supporting cardiovascular health, and promoting optimal brain and visual development.

Polynemus paradiseus Linnaeus, 1758

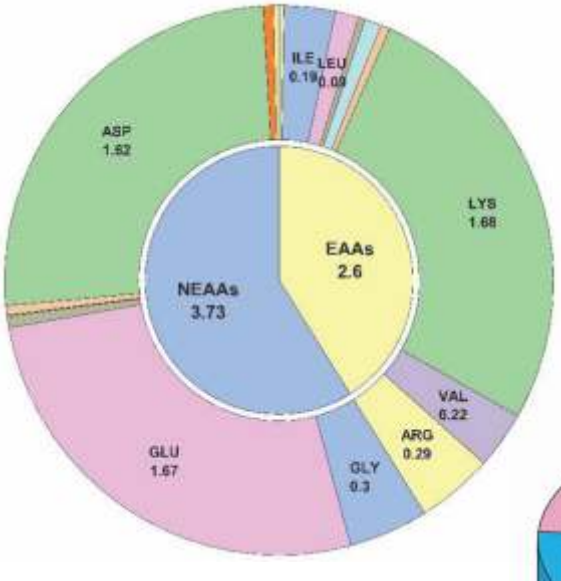
Systematic Classification

Class: Actinopterygii
Order: Carangiformes
Family: Polynemidae
Genus: *Scatophagus*
Species: *Scatophagus argus*

Common English Name: Paradise threadfin
Vernacular Name: Tapsee (Bengali), Vahmeenu (Kannada), Dodywa-rawas (Marathi)

Habitat: Freshwater, Brackishwater and Marine
Distribution: Eastern Indian Ocean and Western Pacific: west coast of India to Thailand

Amino acid content (g/100g)



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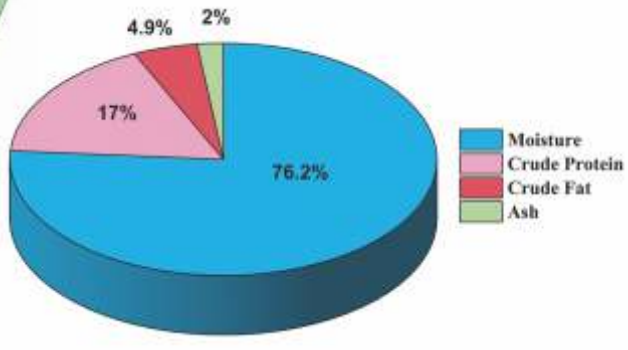
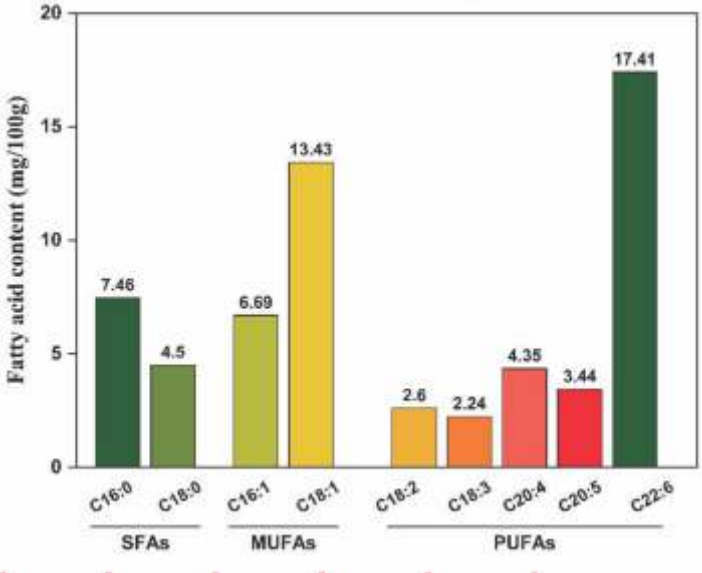
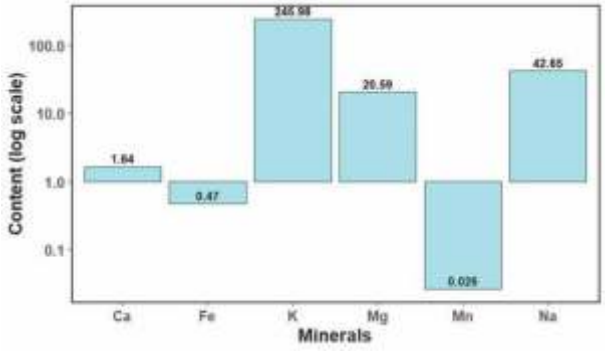


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Scatophagus argus (Paradise threadfin) contains 17% crude protein, reflecting a rich source of high-quality protein essential for muscle development, tissue repair, and overall metabolic functions. Lysine, the primary essential amino acid at 1.68 g/100g, supports immune function, calcium absorption, and collagen formation. Glutamic acid, a key non-essential amino acid present at 1.67 g/100g, plays a crucial role in neurotransmission and cellular metabolism. The mineral potassium is present at 245.98 mg/kg, aiding in fluid balance, nerve function, and blood pressure regulation. Notably, the species is an excellent source of ω-3 fatty acids, with EPA at 3.44 mg/100g and DHA at 17.41 mg/100g. These fatty acids are well-known for promoting cardiovascular health, supporting brain function, and reducing inflammation.

Rasbora daniconius (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Cypriniformes

Family: Danionidae

Genus: *Rasbora*

Species: *Rasbora daniconius*

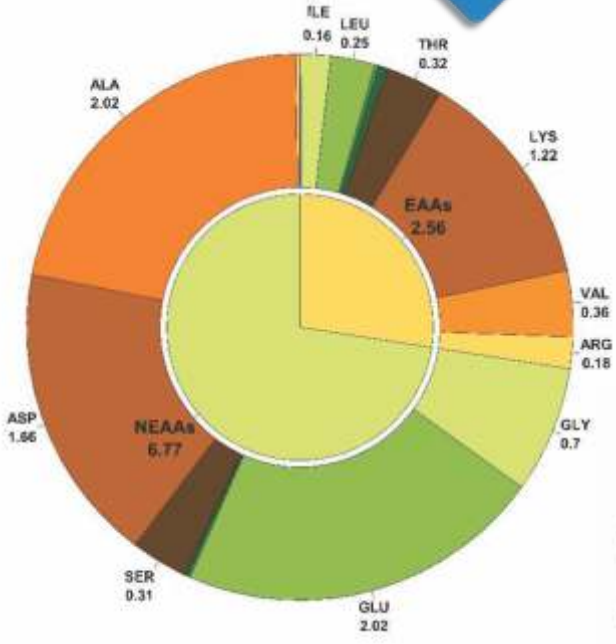
Common English Name: Slender rasbora

Vernacular Name: Darikana/ Darikhana/ Dohni Kona/ Danikana (Bengali, Assamese), Jilo (Oriya), Dandai (Marathi)

Habitat: Freshwater and Brackishwater

Distribution: Mekong, Chao Phraya and Salween basins, northern Malay Peninsula, westwards to the Indus and Sri Lanka

Amino acid content (g/100g)



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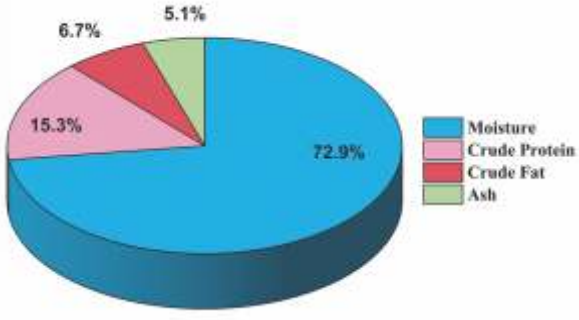
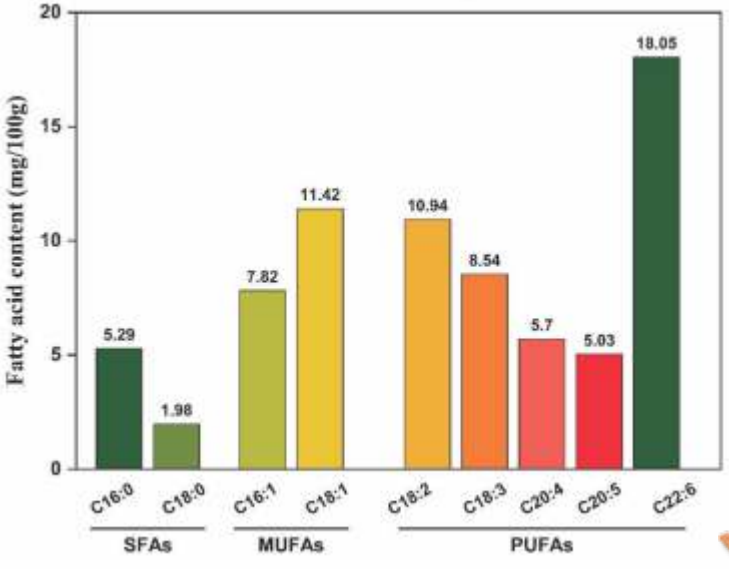
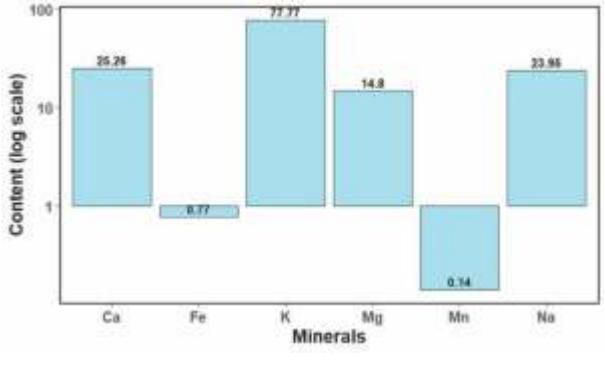


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Rasbora daniconius (Slender rasbora) contains 15.3% crude protein, indicating a rich source of high-quality protein essential for tissue building and repair. Among the amino acids, lysine is the key essential amino acid at 1.22 g/100g, vital for growth, immune function, and calcium absorption. The dominant non-essential amino acids are glutamate and alanine are present at a concentration of 2.02 g/100g each and contribute to energy metabolism and neurotransmission. Potassium, at 77.77 mg/kg, supports muscle function, nerve signalling, and fluid balance. Notably, the species is an excellent source of ω-3 fatty acids, with EPA at 5.03 mg/100g and DHA at 18.05 mg/100g. These fatty acids are known for promoting heart health, reducing inflammation, and supporting brain development and cognitive function.

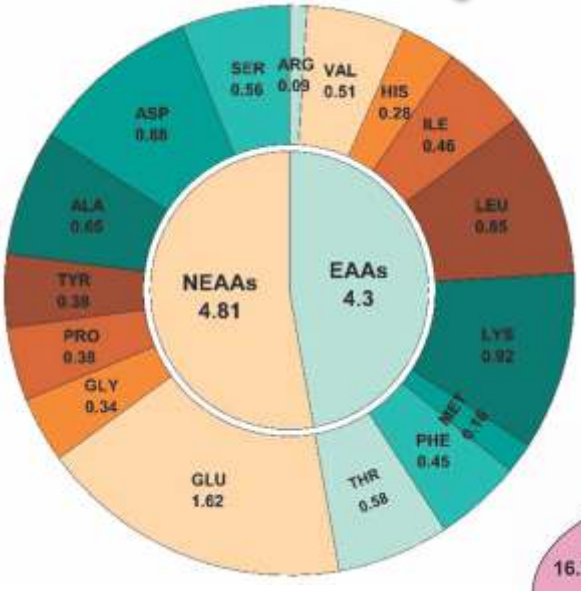
Rhinomugil corsula (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Siluriformes
Family: Mugilidae
Genus: *Rhinomugil*
Species: *Rhinomugil corsula*
Common English Name: Corsula
Vernacular Name: Khorsula (Bengali), Thiruta (Malayalam), Mizhugu meen (Tamil)

Habitat: Freshwater and Brackishwater
Distribution: India, Bangladesh, Nepal and Myanmar

Amino acid content (g/100g)



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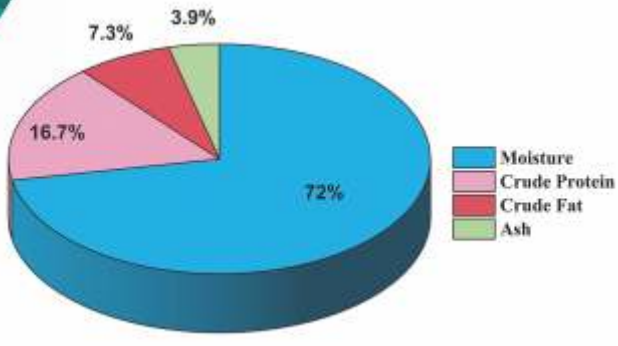
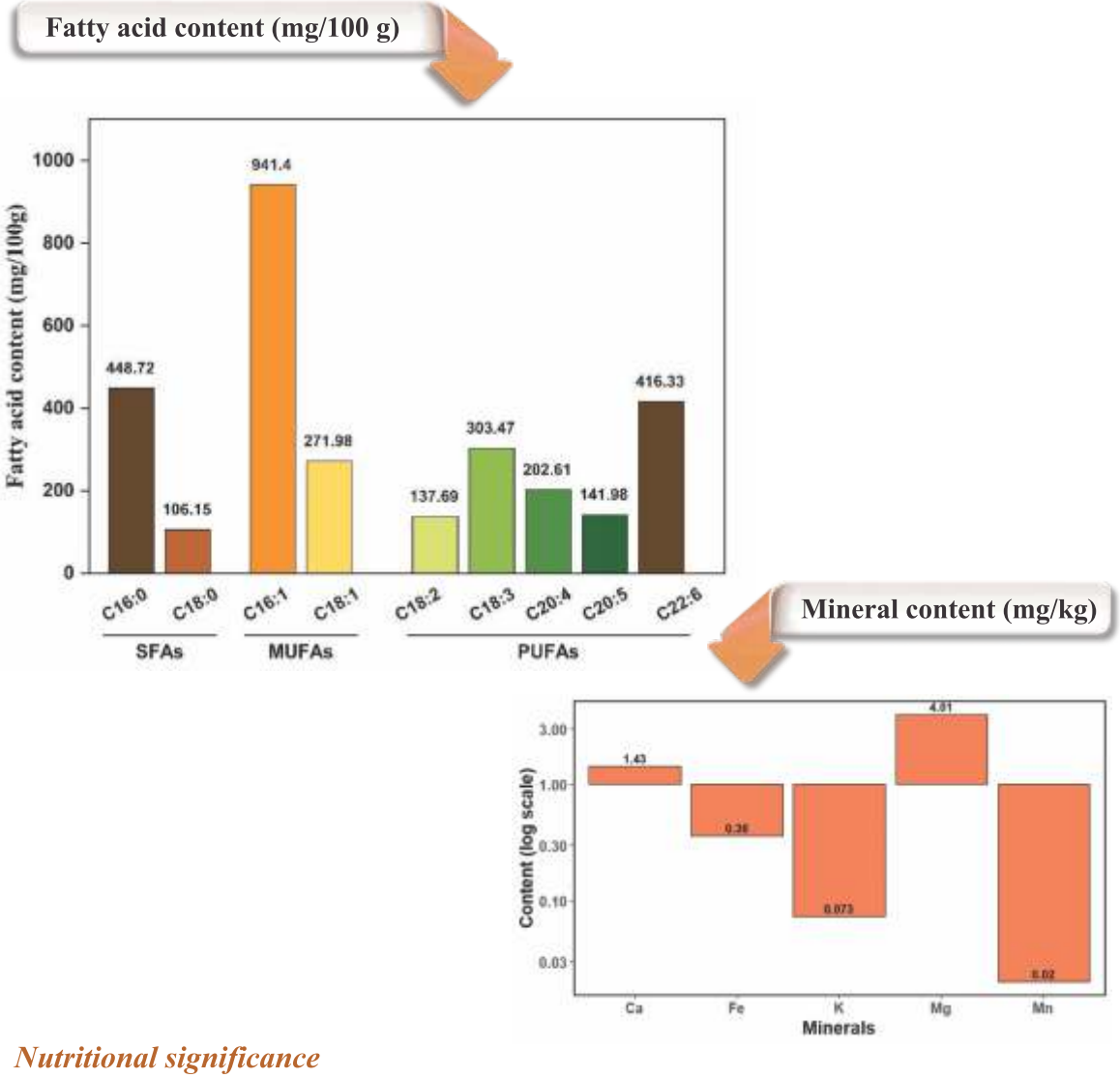




Nutritional significance

Rhinomugil corsula (Corsula) is a rich source of high-quality nutrition, boasting a crude protein content of 16.7%, which supports muscle development and overall body maintenance. It contains the essential amino acid lysine (0.92 g/100 g), which is crucial for growth, enzyme production, and calcium absorption. The non-essential amino acid glutamate (1.62 g/100g) enhances metabolic activity and contributes to flavour. Magnesium, present at 4.01 mg/kg, plays a vital role in muscle and nerve function, as well as energy production. Notably, the species is abundant in ω-3 fatty acids, with EPA (141.98 mg/100g) and DHA (416.33 mg/100g), both of which are known to support cardiovascular health, reduce inflammation, and promote brain function.

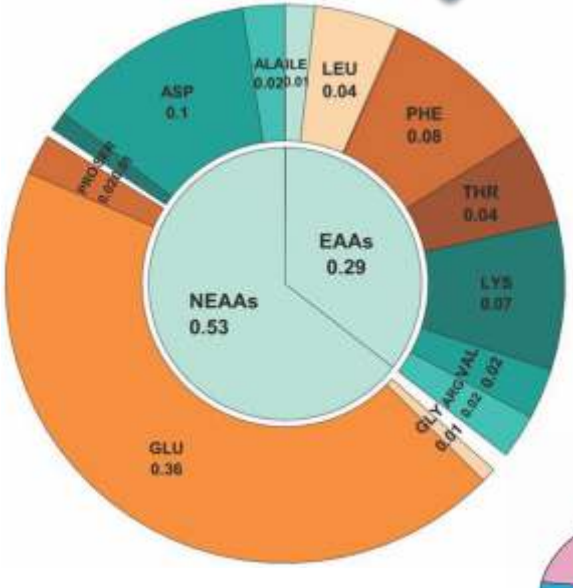
Salmostoma acinaces (Valenciennes, 1844)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Danionidae
Genus: *Salmostoma*
Species: *Salmostoma acinaces*
Common English Name: Silver razorbelly minnow
Vernacular Name: Chela Maach (Bengali), Bilchi (Kannada), Chaya (Tamil)

Habitat: Freshwater
Distribution: India and Bangladesh

Amino acid content (g/100g)



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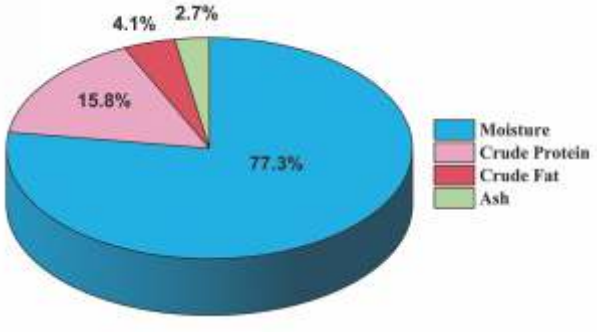
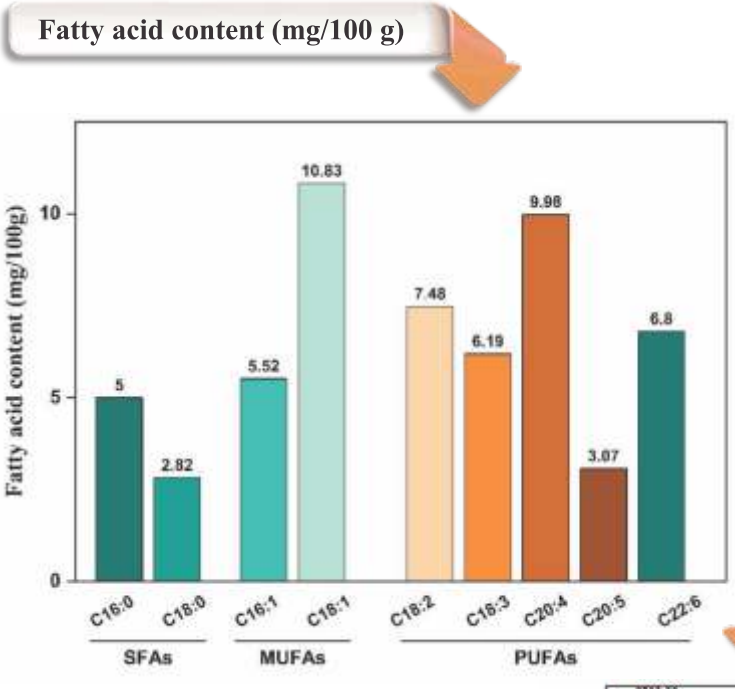
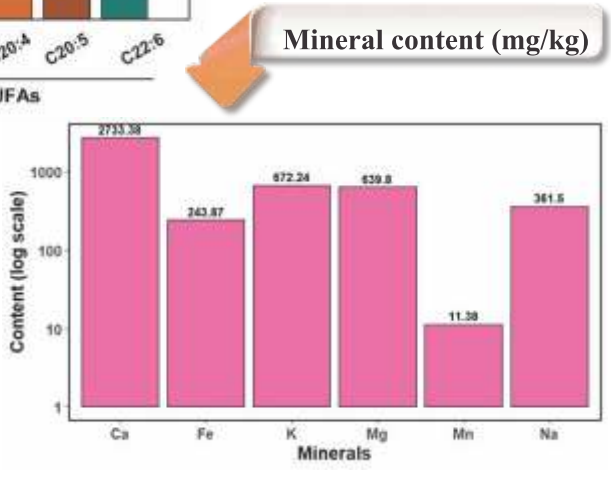






Nutritional significance

Salmostoma acinaces (Silver razorbelly minnow) contains 15.8% crude protein, reflecting a robust protein profile that supports muscle growth, tissue repair, and essential metabolic processes. Phenylalanine, an essential amino acid present at 0.33 g/100g, plays a crucial role in the synthesis of neurotransmitters such as dopamine and norepinephrine, which contribute to cognitive function and mood regulation. Glutamic acid, a non-essential amino acid found at 0.36 g/100g, plays a central role in cellular energy metabolism and acts as a key neurotransmitter in the brain. A standout feature is the high calcium content of 2733.38 mg/kg, which supports bone and dental health, muscle function, and nerve signalling. Additionally, the fish is enriched with ω-3 fatty acids; EPA at 3.07 mg/100g and DHA at 6.8 mg/100g, both of which are well known for promoting heart health, reducing inflammation, and supporting brain and eye development.

Salmostoma bacaila (Hamilton, 1822)

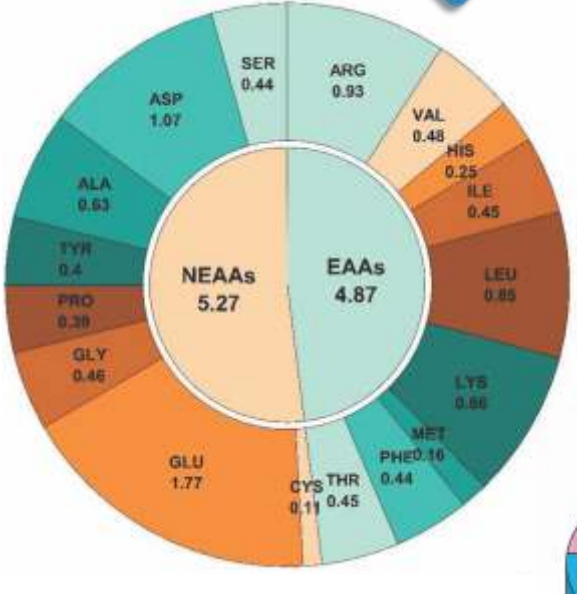
Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Danionidae
Genus: *Salmostoma*
Species: *Salmostoma bacaila*

Common English Name: Large razorbelly minnow
Vernacular Name: Chele (Bengali), Chelakani (Assamese)

Habitat: Freshwater and Brackishwater
Distribution: India, Bangladesh, Afghanistan, Pakistan and Nepal

Amino acid content (g/100g)



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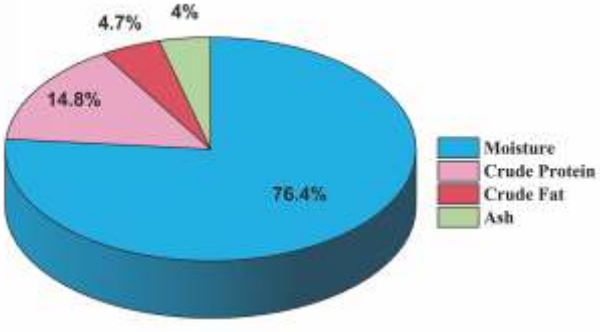
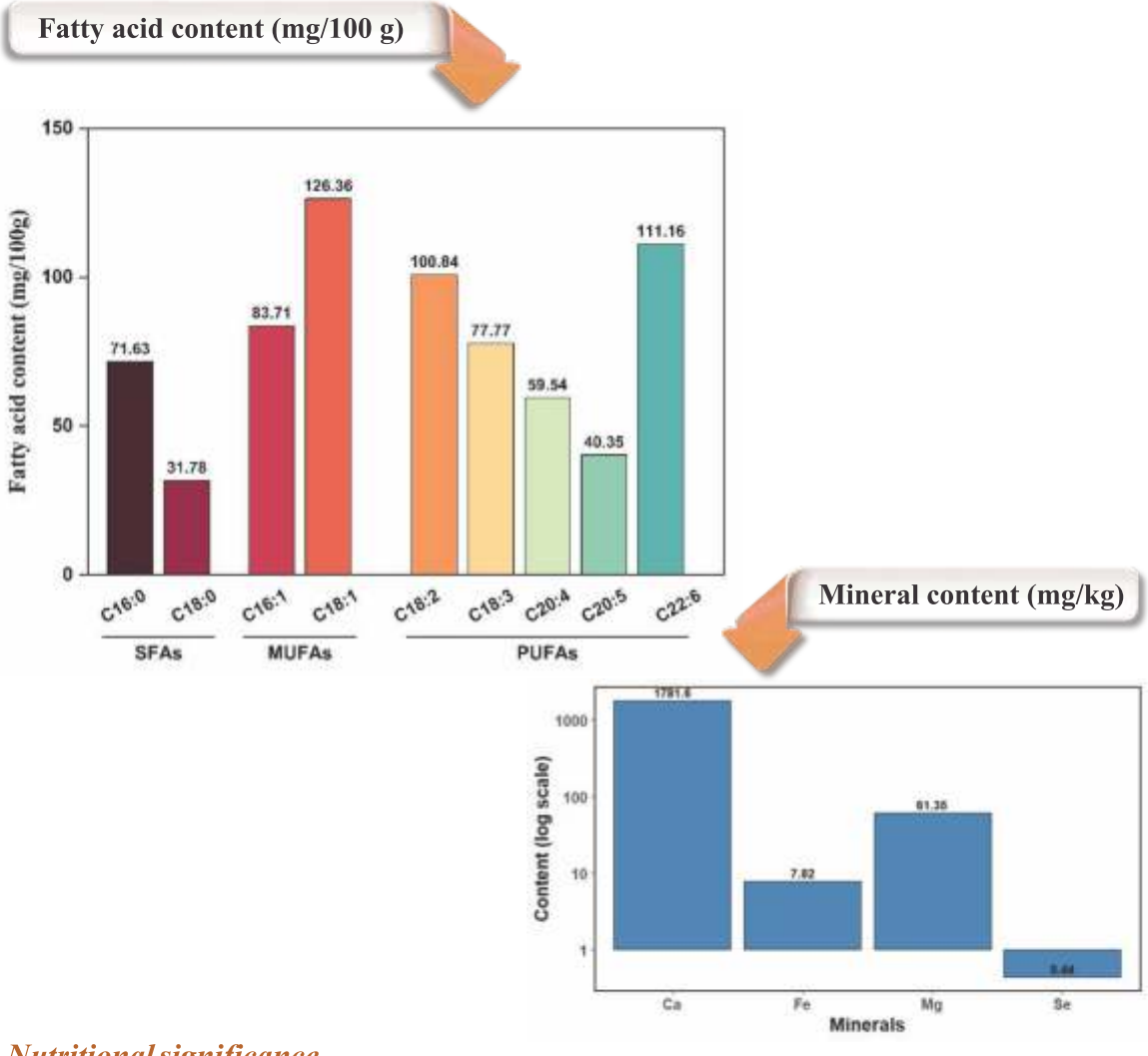




Nutritional significance

Salmostoma bacaila (Large razorbelly minnow) offers a robust nutritional profile, highlighted by a crude protein content of 14.8%, which supports muscle development and cellular repair. It contains a moderate amount of the essential amino acid arginine (0.93 g/100g), important for immune function, hormone production, and tissue healing. Glutamate, a key non-essential amino acid present at 1.77 g/100g, contributes to metabolic processes and enhances the umami flavor. Remarkably, the calcium content is exceptionally high at 17,881.6 mg/kg, making this species a valuable dietary source for bone health and structural maintenance. Additionally, the species contains beneficial levels of ω-3 fatty acids, with EPA (40.35 mg/100g) and DHA (111.16 mg/100g), which support cardiovascular and brain health.

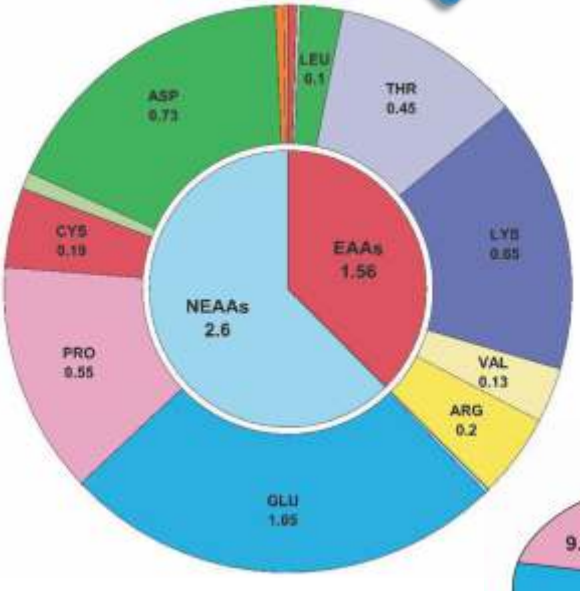
Salmostoma phulo (Hamilton, 1822)

Systematic Classification

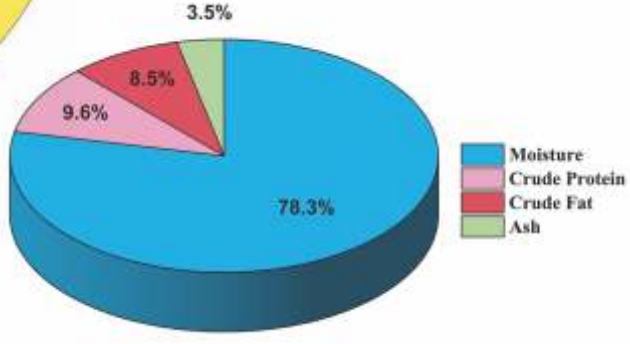
Class: Actinopterygii
Order: Cypriniformes
Family: Danionidae
Genus: *Salmostoma*
Species: *Salmostoma phulo*
Common English Name: Finescale razorbelly minnow
Vernacular Name: Phuloi (Bengali), Selkona (Assamese)

Habitat: Freshwater
Distribution: India and Bangladesh

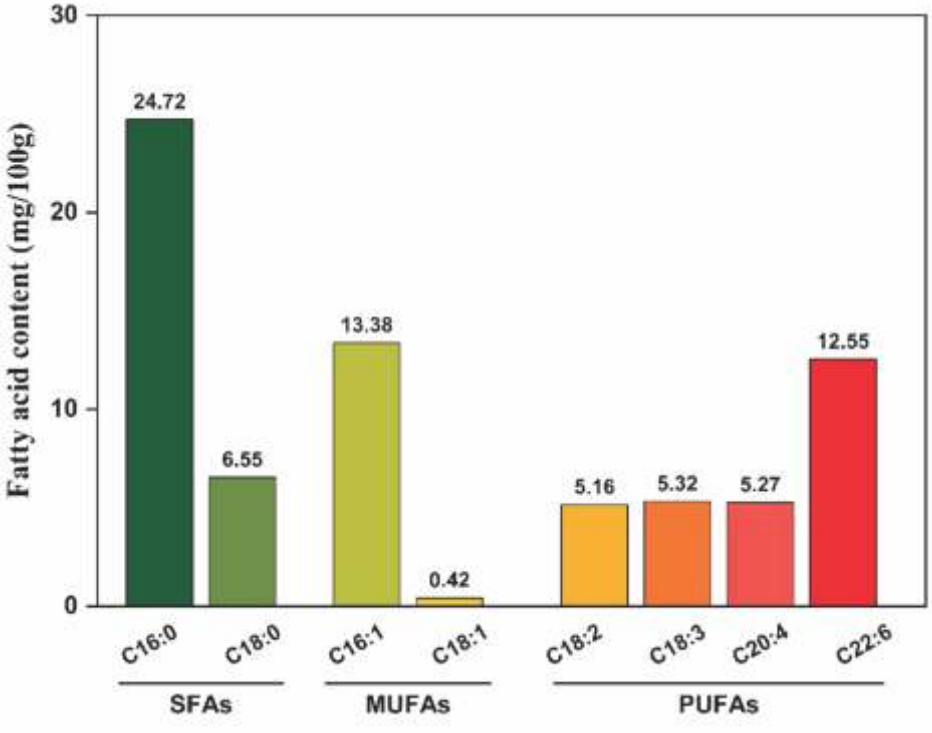
Amino acid content (g/100g)



Proximate composition



Fatty acid content (mg/100 g)



Nutritional significance

Salmostoma phulo (Finescale razorbelly minnow) contains 8.5% crude fat, indicating a moderate lipid content that serves as an energy source and aids in the absorption of fat-soluble vitamins. Lysine, the essential amino acid present at 0.65 g/100g, plays a crucial role in protein synthesis, immune response, and calcium metabolism. Glutamic acid, a non-essential amino acid found at 1.05 g/100g, supports cellular metabolism and functions as a neurotransmitter in the central nervous system. The fish also includes ω-3 fatty acids, with EPA at 5.27 mg/100g and DHA at 12.55 mg/100g. Though modest in amount, these fatty acids contribute to cardiovascular health, reduce inflammation, and support cognitive and visual development.

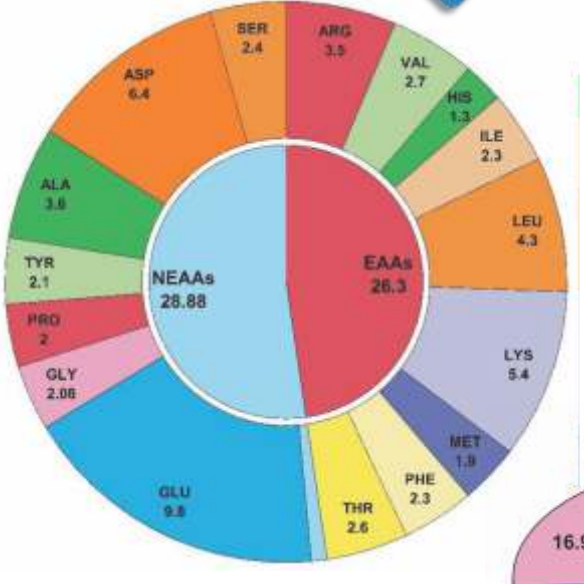
Sardinella melanura (Cuvier, 1829)

Systematic Classification

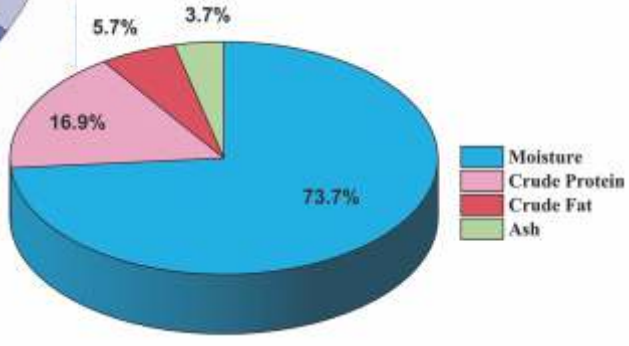
Class: Actinopterygii
Order: Clupeiformes
Family: Dorosomatidae
Genus: *Sardinella*
Species: *Sardinella melanura*
Common English Name: Blacktip sardinella
Vernacular Name: Chandana ilish (Bengali), Chalai (Tamil), Keeri- charlay (Malayalam)'

Habitat: Marine and Brackishwater
Distribution: Indo-West Pacific

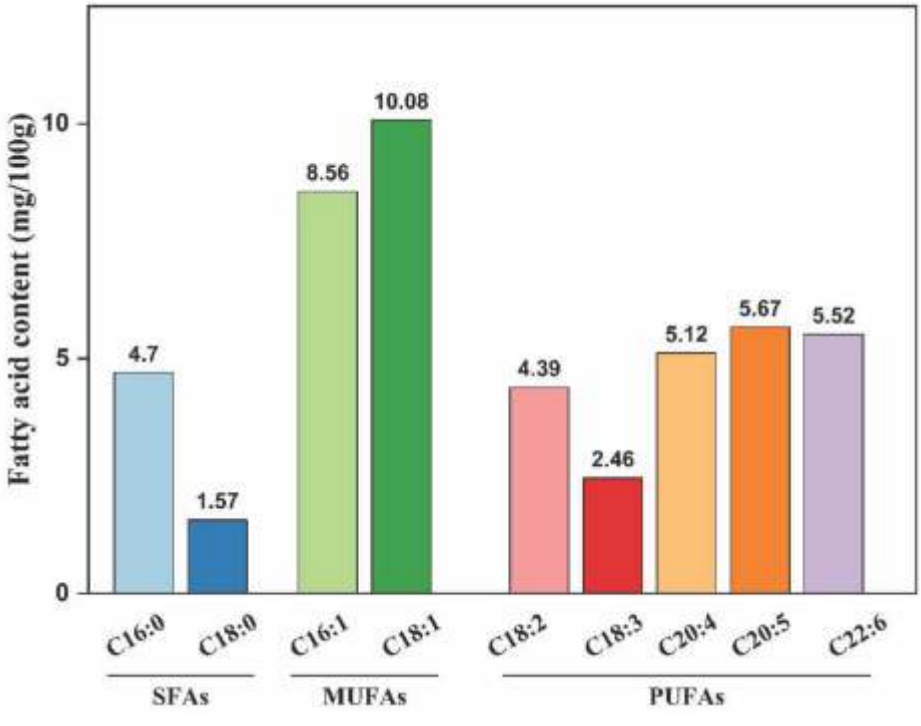
Amino acid content (g/100g)



Proximate composition



Fatty acid content (mg/100 g)



Nutritional significance

Sardinella melanura (Blacktip sardinella) contains 16.9% crude protein, indicating a rich source of high-quality protein essential for muscle repair, tissue growth, and metabolic function. It is exceptionally high in lysine, an essential amino acid, at 5.4 g/100g, which plays a critical role in calcium absorption, collagen formation, and immune support. Glutamic acid, the dominant non-essential amino acid at 9.8 g/100g, is vital for cellular metabolism and acts as a major neurotransmitter in the brain, supporting cognitive health. The fish also offers a well-balanced composition of ω-3 fatty acids, with EPA at 5.67 mg/100g and DHA at 5.52 mg/100g. These fatty acids play a significant role in heart health, help reduce inflammation, and support the development of the brain and eyes.

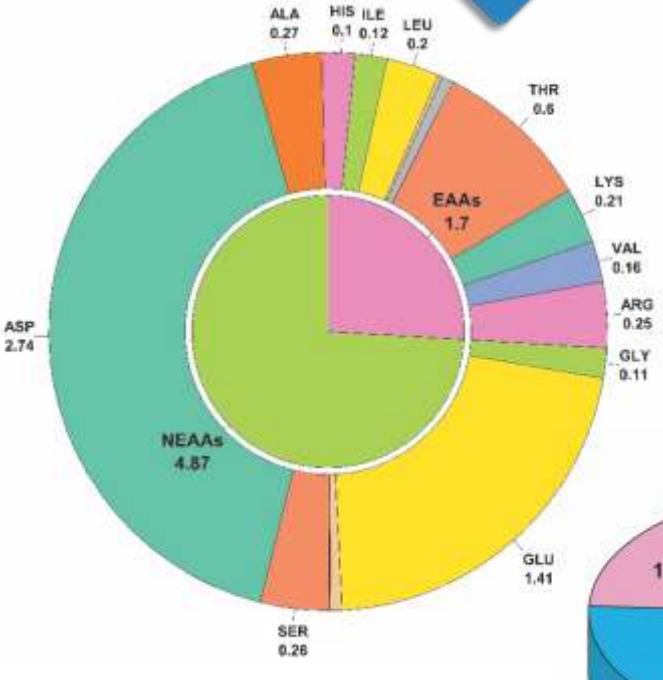
Scatophagus argus (Linnaeus, 1766)

Systematic Classification

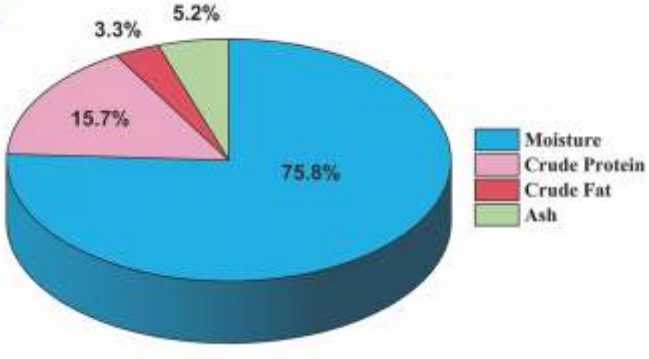
Class: Actinopterygii
Order: Acanthuriformes
Family: Scatophagidae
Genus: *Scatophagus*
Species: *Scatophagus argus*
Common English Name: Spotted scat
Vernacular Name: Paayrachanda (Bengali), Kaski/Sungeli (Gujrati), Sipili (Tamil)

Habitat: Freshwater, Brackishwater and Marine
Distribution: Indo-Pacific region

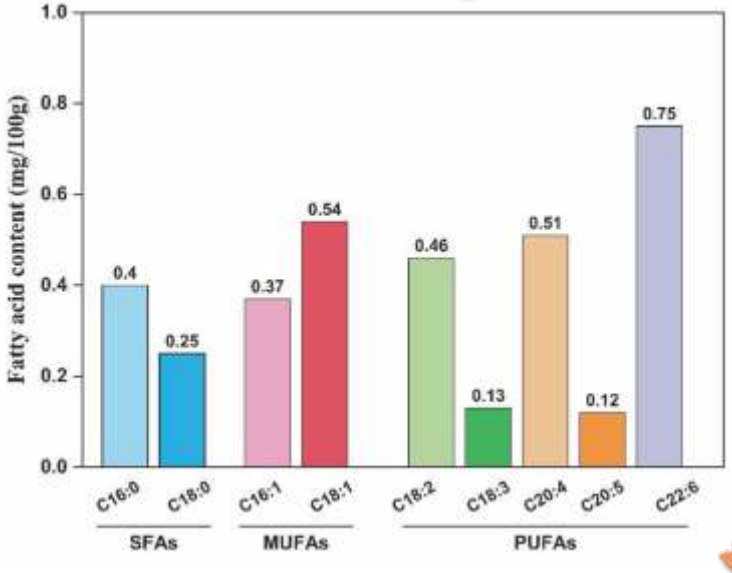
Amino acid content (g/100g)



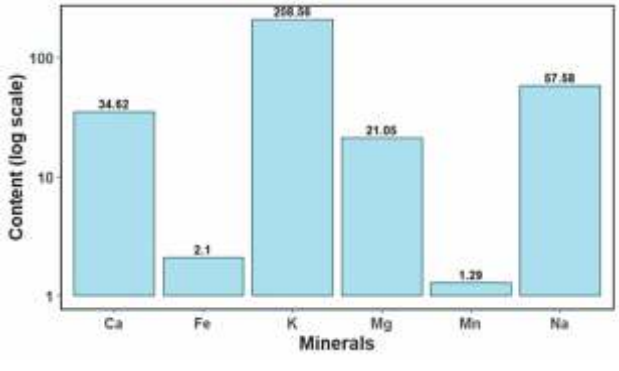
Proximate composition



Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Scatophagus argus (Spotted scat) contains 15.7% crude protein, indicating a high-quality protein source that supports muscle growth, tissue repair, and overall metabolic activity. Threonine, the essential amino acid present at 0.6 g/100g, is vital for maintaining protein balance, immune function, and the health of connective tissues. Aspartic acid, the dominant non-essential amino acid at 2.74 g/100 grams, plays a key role in energy production and the synthesis of other amino acids. Potassium, measured at 208.56 mg/kg, supports nerve signalling, muscle contraction, and fluid balance. While the levels of ω-3 fatty acids, EPA (0.12 mg/100 g) and DHA (0.75 mg/ 100 g), are relatively low, they still contribute to cardiovascular support and cellular health.

Setipinna phasa (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Clupeiformes

Family: Engraulidae

Genus: *Setipinna*

Species: *Setipinna phasa*

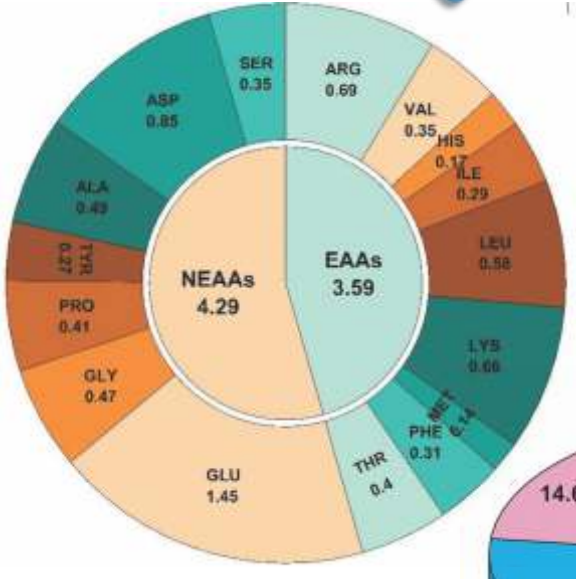
Common English Name: Gangetic hairfin anchovy

Vernacular Name: Phasa (Bengali), Chalo/Salo (Assamese), Bindi/ Patara/Phasia (Hindi), Tampara (Oriya)

Habitat: Freshwater and Brackishwater

Distribution: India, Bangladesh and Myanmar

Amino acid content (g/100g)



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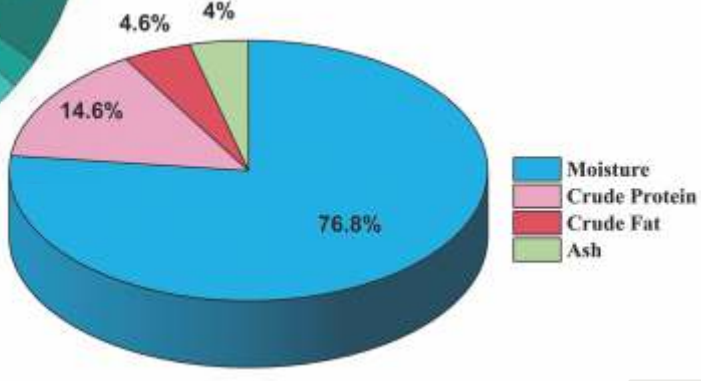
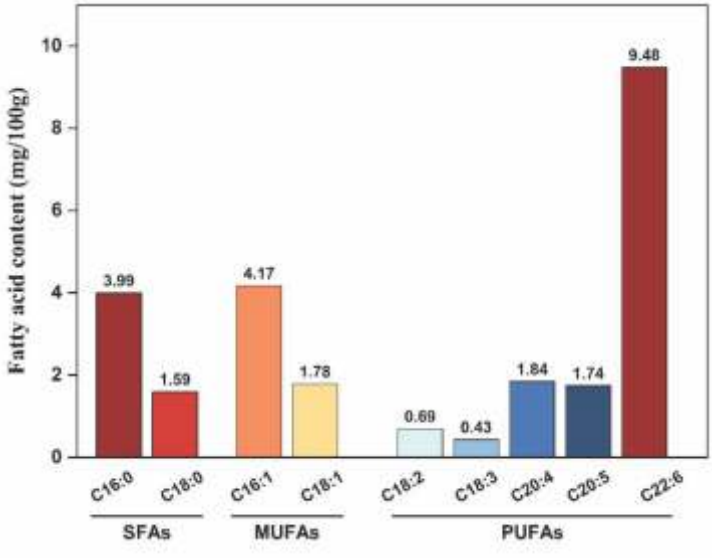
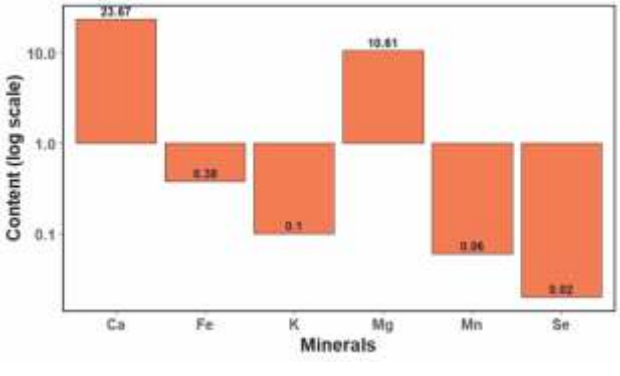


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Setipinna phasa (Gangetic hairfin anchovy) offers a moderate crude protein content of 14.6%, making it a valuable source of dietary protein. It contains the essential amino acid arginine (0.69 g/100g), which supports immune response, hormone production, and wound healing. The non-essential amino acid glutamate (1.45 g/100g) plays a role in metabolism and adds to the umami flavour of the fish. Calcium is the predominant mineral, at 23.67 mg/kg, and is important for bone health and muscle function. Although the ω-3 fatty acid levels are relatively low, the presence of EPA (1.74 mg/100g) and DHA (9.48 mg/100g) still contributes to heart and brain health.

Sillaginopsis domina (Cuvier, 1816)

Systematic Classification

Class: Actinopterygii

Order: Perciformes

Family: Sillaginidae

Genus: *Sillaginopsis*

Species: *Sillaginopsis domina*

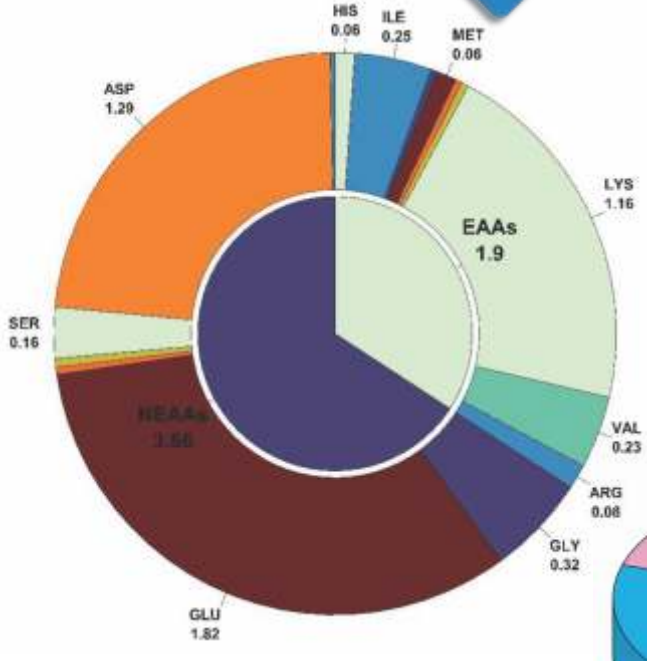
Common English Name: Flathead sillago

Vernacular name: Tool-mach (Bengali), Tool-danti (Oriya), Yarra-soring (Tegulu), Nakku meen (Tamil)

Habitat: Brackishwater and Marine

Distribution: Indo-West Pacific region

Amino acid content (g/100g)



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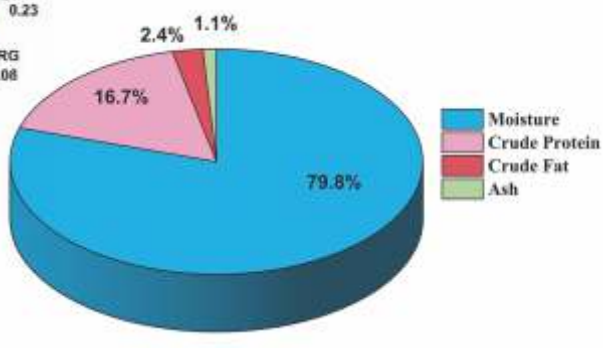
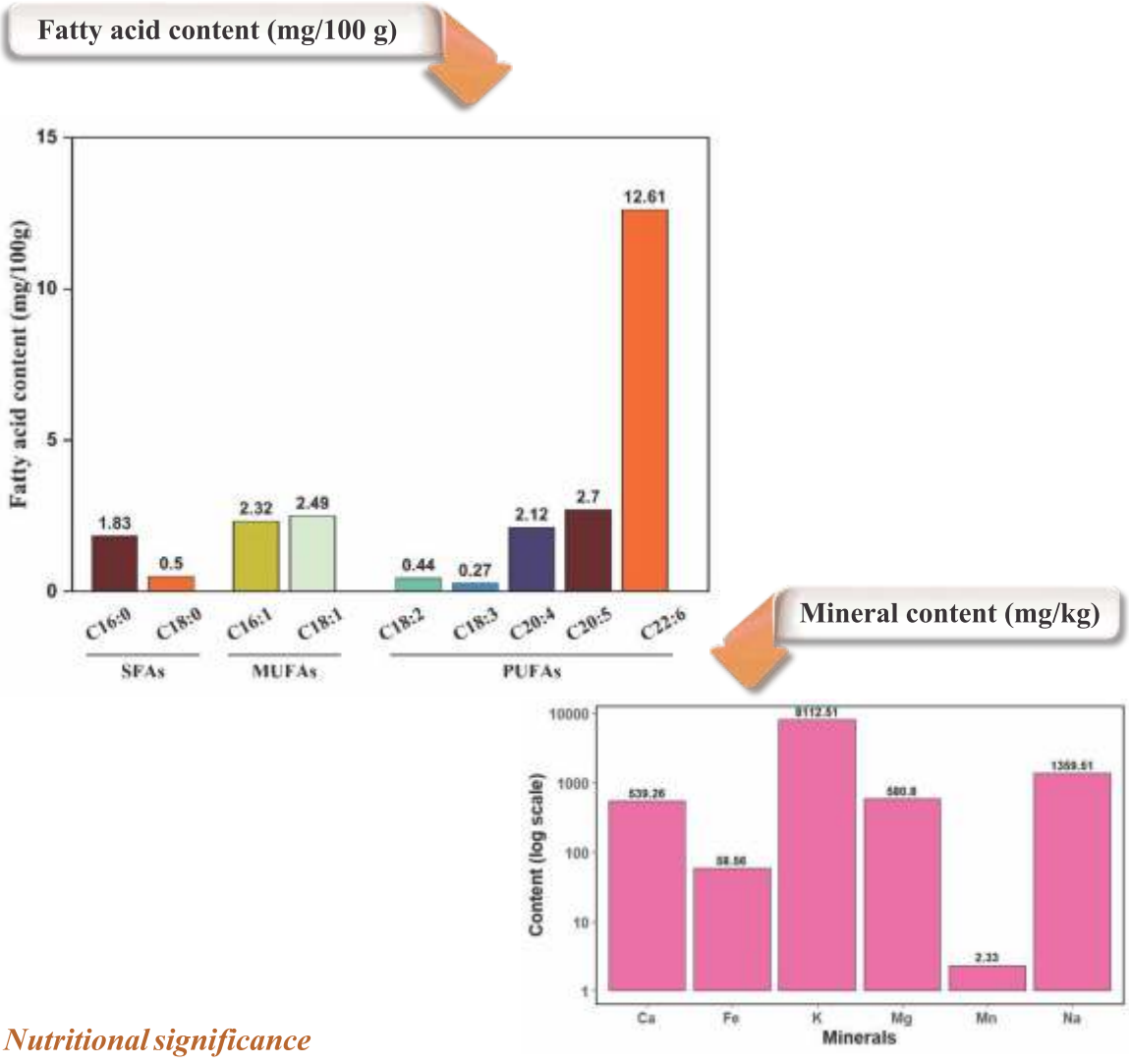




Nutritional significance

Sillaginopsis domina (Flathead sillago) contains 16.7% crude protein, making it a high-quality protein source that supports muscle growth, tissue repair, and overall metabolic function. It provides 1.16 g/100g of lysine, an essential amino acid vital for protein synthesis, immune response, and calcium absorption. Glutamic acid, a non-essential amino acid present at 1.82 g/100g, plays a significant role in cellular metabolism and neurotransmission. The mineral content is notably rich in potassium, with a value of 8,112.51 mg/kg, which helps regulate fluid balance, nerve impulses, and muscle contractions. Furthermore, the species offers beneficial ω-3 fatty acids, including EPA (2.7 mg/100g) and DHA (12.61 mg/100g), which support cardiovascular health, reduce inflammation, and promote brain and eye development.

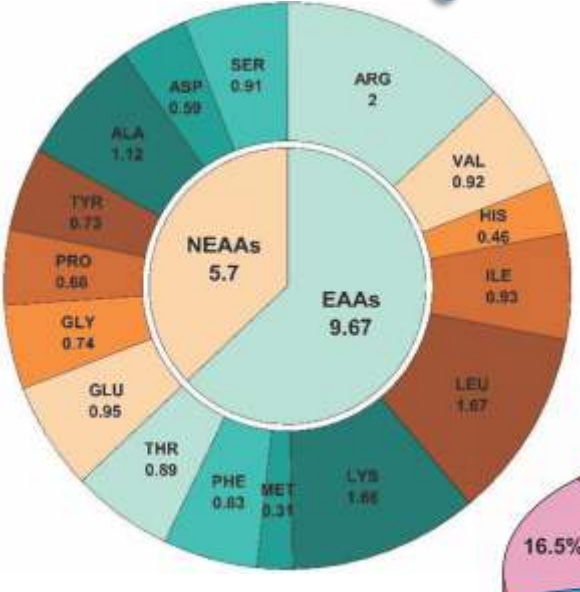
Silonia silondia (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Siluriformes
Family: *Ailiidae*
Genus: *Silonia*
Species: *Silonia silondia*
Common English Name: Silond catfish
Vernacular Name: Silon (Bengali)

Habitat: Freshwater
Distribution: India, Bangladesh, Myanmar, Nepal, Pakistan and Thailand

Amino acid content (g/100g)



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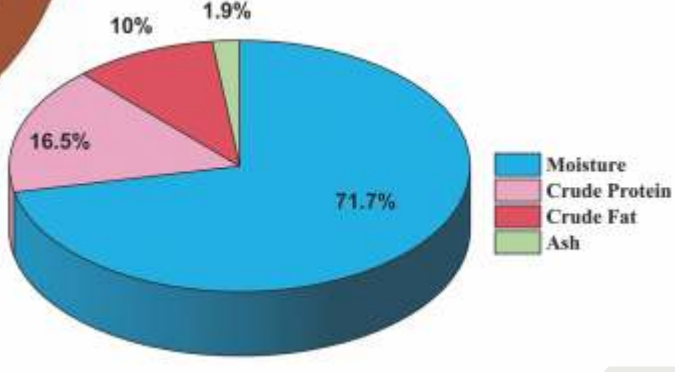
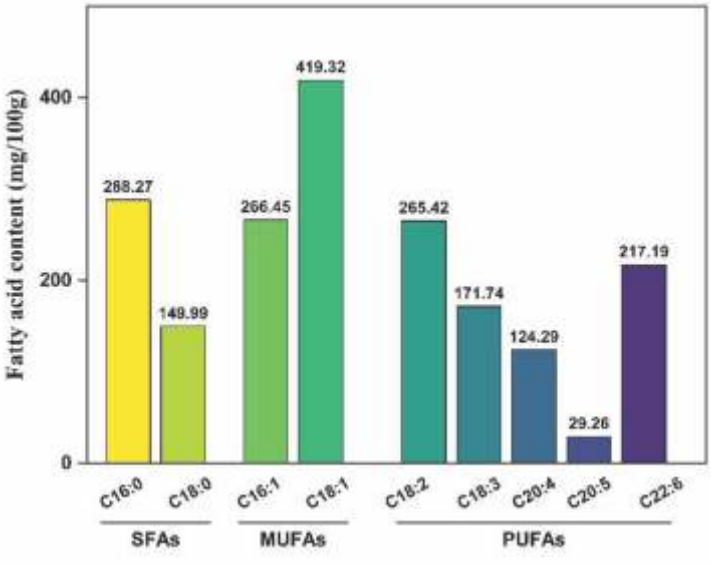
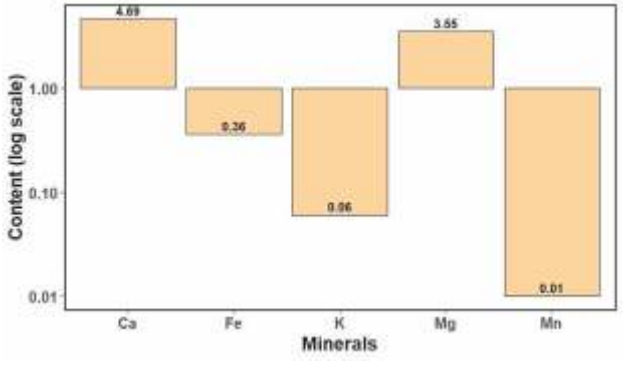


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Silonia silondia (Silond catfish) contains a substantial crude fat content of 10%, making it a significant energy source in the diet. It is especially rich in the essential amino acid arginine (2 g/100g), which plays a critical role in immune function, hormone secretion, and wound healing. The non-essential amino acid alanine (1.12 g/100g) supports glucose metabolism and energy production. Its mineral profile features calcium (3.55 mg/kg), which is vital for maintaining bone health. Additionally, the fish provides beneficial levels of ω-3 fatty acids, including EPA (29.26 mg/100g) and DHA (217.19 mg/100g), known for promoting heart and brain health.

Sperata seenghala (Sykes, 1839)

Systematic Classification

Class: Actinopterygii

Order: Siluriformes

Family: Bagridae

Genus: *Sperata*

Species: *Sperata seenghala*

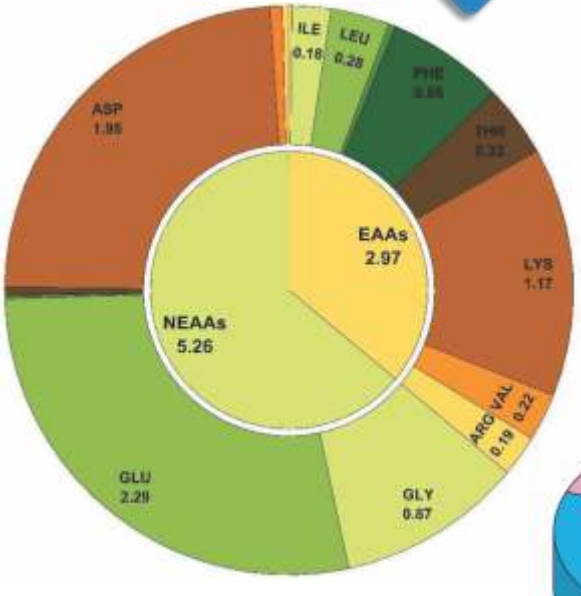
Common English Name: Giant river-catfish

Vernacular Name: Air/ Guja (Bengali), Aor/ Auri (Assamese), Ari/ Gagari (Hindi), Shingali (Marathi)

Habitat: Freshwater and Brackishwater

Distribution: India, Afghanistan, Pakistan, Nepal, Bangladesh, Thailand and China

Amino acid content (g/100g)



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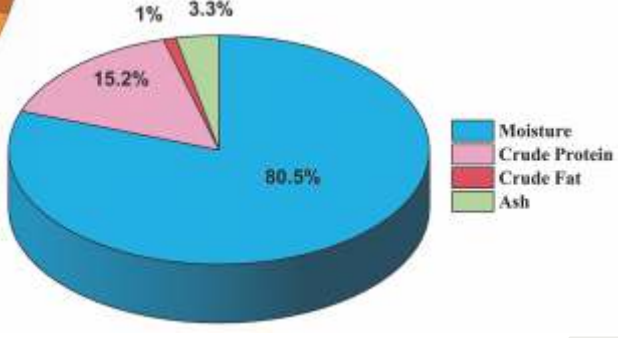
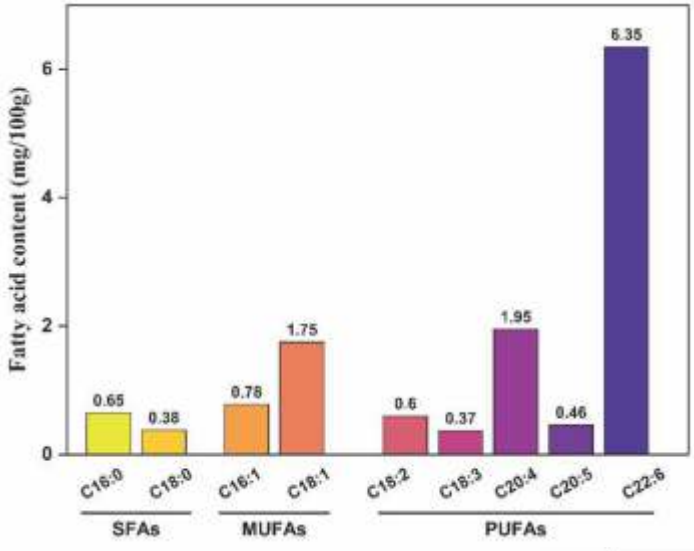
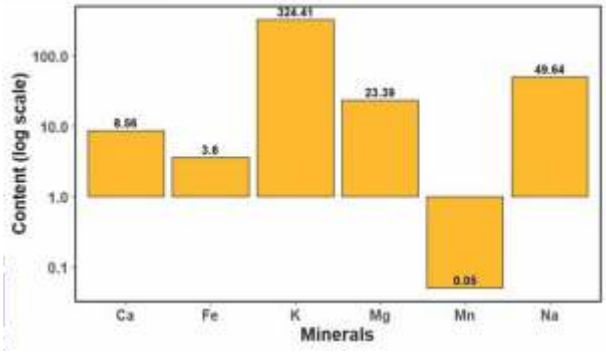


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Sperata seenghala (Giant river-catfish) contains 15.2% crude protein, indicating a good-quality protein source essential for maintaining muscle mass and supporting various physiological functions. Lysine, the essential amino acid present at 1.17 g/100g, plays a vital role in protein synthesis, immune response, and calcium metabolism. Glutamate, the predominant non-essential amino acid at 2.29 g/100g, supports brain function and acts as a key molecule in cellular energy production. The mineral content reveals a high level of potassium at 324.41 mg/kg, beneficial for maintaining electrolyte balance, regulating blood pressure, and supporting muscle and nerve function. Additionally, the fish provides ω-3 fatty acids, with EPA at 0.46 mg/100g and DHA at 6.35 mg/100g. While EPA content is low, the substantial DHA level supports brain development, cognitive function, and cardiovascular health.

Systomus sarana (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Cypriniformes

Family: Cyprinidae

Genus: *Systomus*

Species: *Systomus sarana*

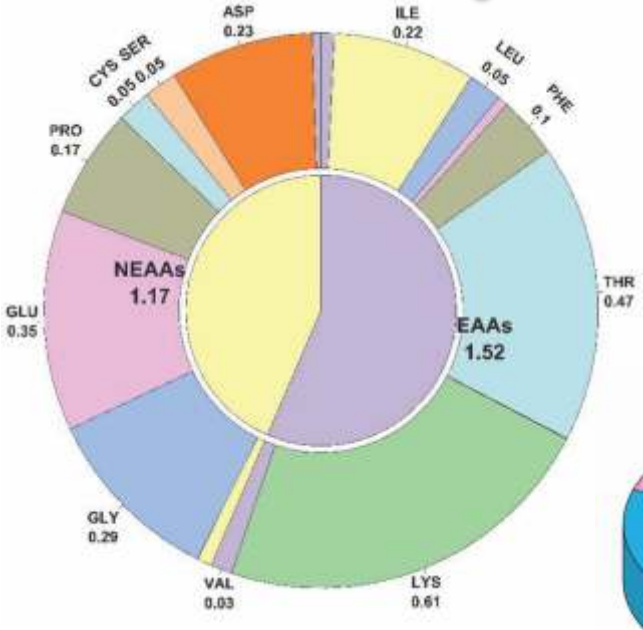
Common English Name: Olive barb

Vernacular Name: Sarputi (Bengali), Giddi-kaoli/ Durhie/ Potah/ Pothi (Bihar and Uttar Pradesh), Kharn/ Bhangan/ Kuhne/ Puthia (Punjab)

Habitat: Freshwater and Brackishwater

Distribution: India, Afghanistan, Pakistan, Nepal, Bangladesh, Bhutan, Sri Lanka, Myanmar and Thailand

Amino acid content (g/100g)



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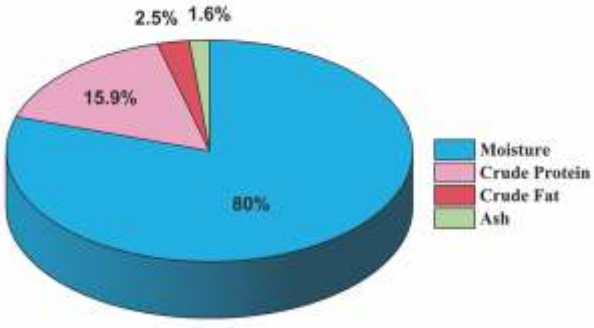
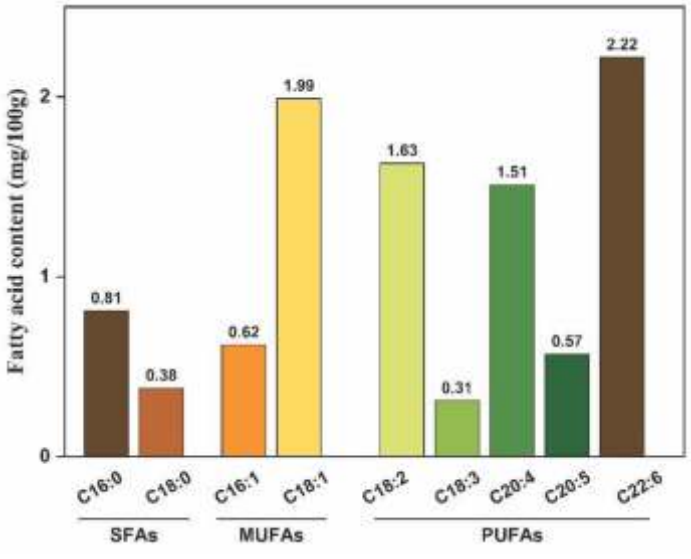
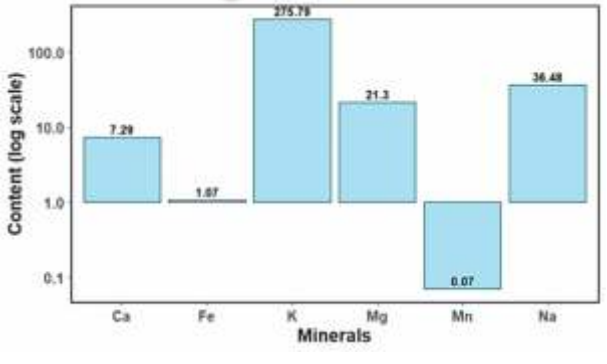


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Systomus sarana (Olive barb) contains a crude protein content of 15.9%, indicating its moderate contribution to dietary protein intake. It provides lysine, an essential amino acid necessary for protein synthesis and growth, at 0.61 g/100g. In contrast, glutamate, a non-essential amino acid that supports cellular metabolism and enhances flavour, is present at 0.35 g/100g. The mineral profile reveals a potassium content of 275.79 mg/kg, which is beneficial for maintaining electrolyte balance and supporting muscle function. However, its fatty acid profile shows very low concentrations of the ω-3 fatty acids EPA (0.57 mg/100g) and DHA (2.22 mg/100g), suggesting limited cardiovascular and neuroprotective benefits. Overall, this fish serves as a moderate source of protein and minerals but is relatively poor in high-value long-chain ω-3 fatty acids.

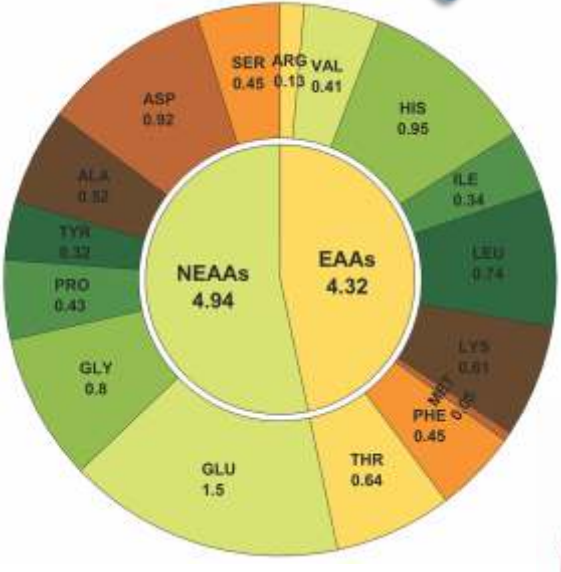
Tariqilabeo latius (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii
Order: Cypriniformes
Family: Cyprinidae
Genus: *Tariqilabeo*
Species: *Tariqilabeo latius*
Common English Name: Gangetic latia
Vernacular Name: Kalabatta/Petphorani/Gauma (Bengali), Karimpachi (Malayalam)

Habitat: Freshwater and Brackishwater
Distribution: India, Bangladesh, Myanmar and China

Amino acid content (g/100g)



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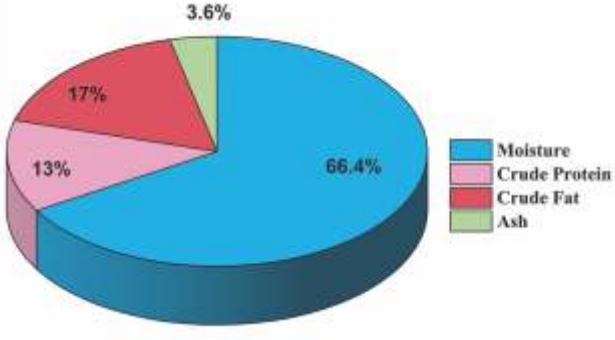
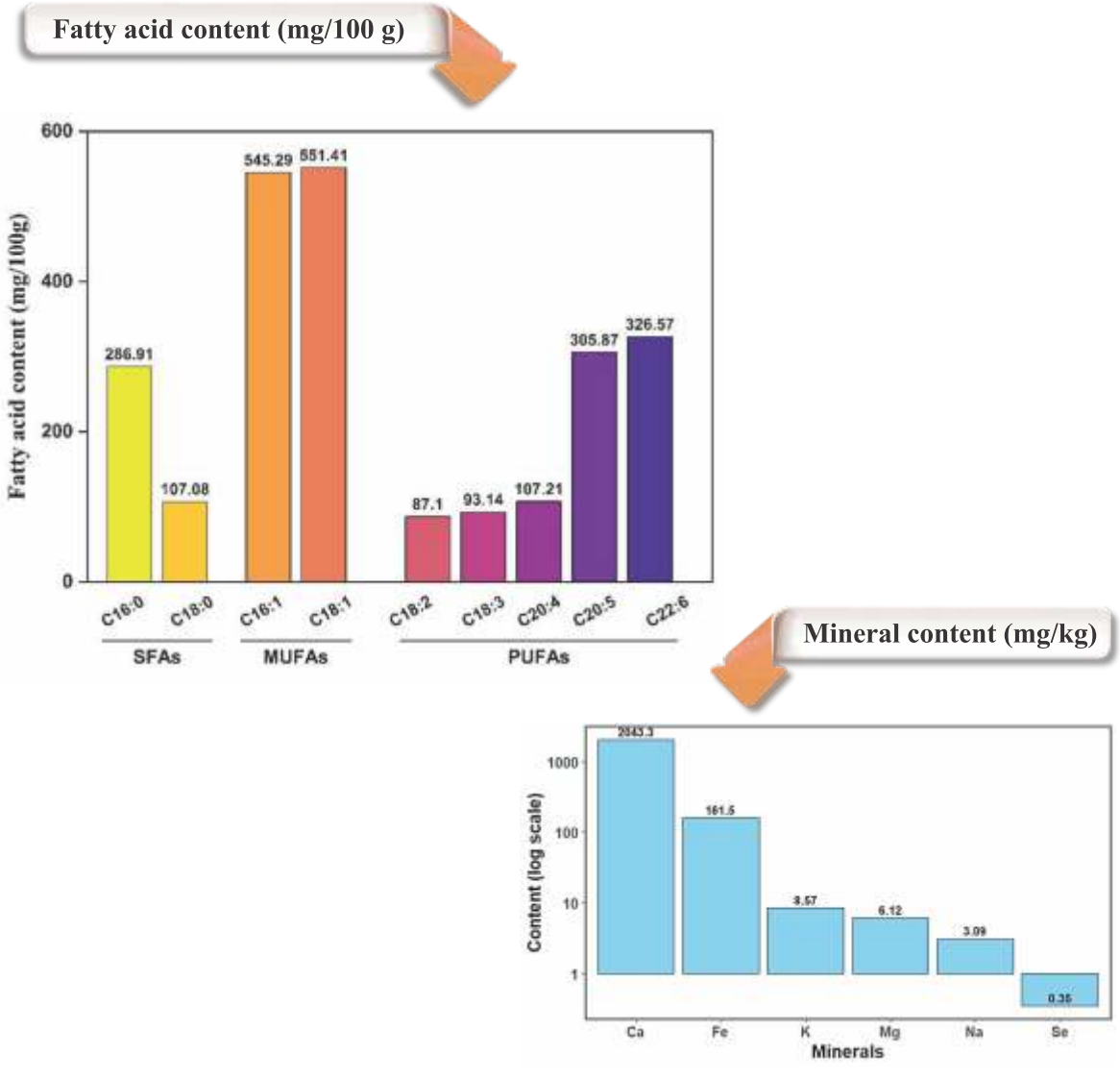




Nutritional significance

Tariqilabeo latius (Gangetic latia) exhibits valuable nutritional attributes, with a crude protein content of 13%, highlighting its role as a moderate protein source. It is particularly rich in the essential amino acid histidine (0.95 g/100g), which supports tissue growth and enzyme function, while glutamate (1.5 g/100g) is the major non-essential amino acid, enhancing flavour and metabolic activity. The species also offers a significant calcium content (2043.3 mg/kg), supporting bone health. Additionally, it contains health-promoting ω-3 fatty acids, including EPA (305.87 mg/100g) and DHA (326.57 mg/100g), which are beneficial for cardiovascular and neurological health.

Tenualosa ilisha (Hamilton, 1822)

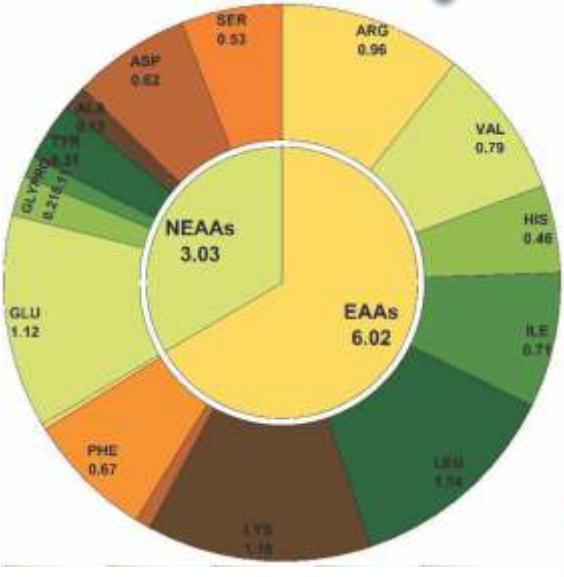
Systematic Classification

Class: Actinopterygii
Order: Clupeiformes
Family: Dorosomatidae
Genus: *Tenualosa*
Species: *Tenualosa ilisha*
Common English Name: Hilsa shad
Local name: Ilish (Bengali), Chaksi (Gujrati), Mallasu (Kannada), Pala (Marathi)

Habitat: Freshwater, Brackishwater and Marine

Distribution: Indian Ocean: Persian Gulf eastward to Myanmar, including western and eastern coasts of India. Reported from the Gulf of Tonkin, Vietnam

Amino acid content (g/100g)



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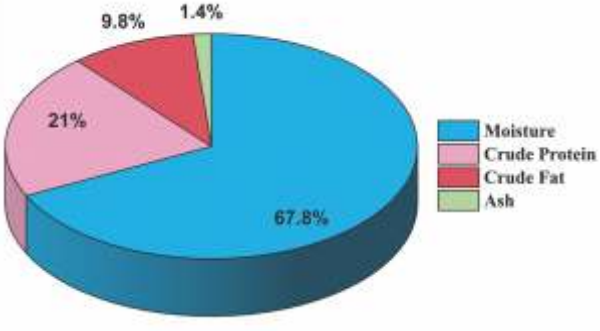
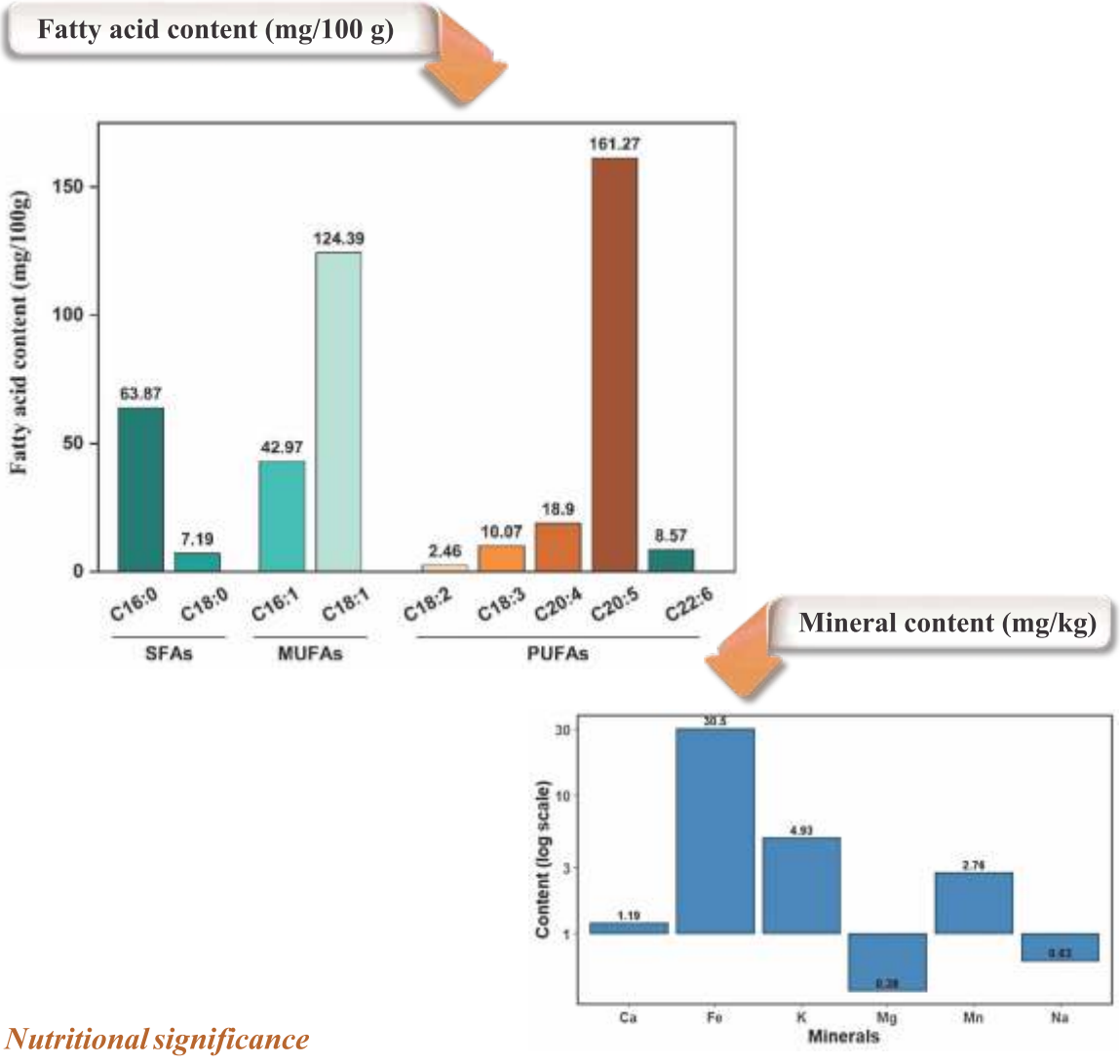




Nutritional significance

Tenualosa ilisha (Hilsa shad) stands out as a nutritionally rich fish species, offering a high crude protein content of 21%, which is vital for muscle development, tissue repair, and overall metabolic functions. It is a valuable source of the essential amino acid lysine (1.18 g/100g), important for calcium absorption and immune function, and the non-essential amino acid glutamic acid (1.12 g/100g), which plays a key role in cellular metabolism and neurotransmission. Hilsa is also notable for its mineral content, particularly iron (30.5 mg/kg), which is essential for haemoglobin formation and prevention of anaemia. Moreover, the species is exceptionally rich in ω-3 fatty acids, including EPA (161.27 mg/100g) and DHA (8.57 mg/100g), which contribute to cardiovascular health, brain development, and anti-inflammatory benefits.

Terapon jarbua (Fabricius, 1775)

Systematic Classification

Class: Actinopterygii

Order: Centrarchiformes

Family: Terapontidae

Genus: *Terapon*

Species: *Terapon jarbua*

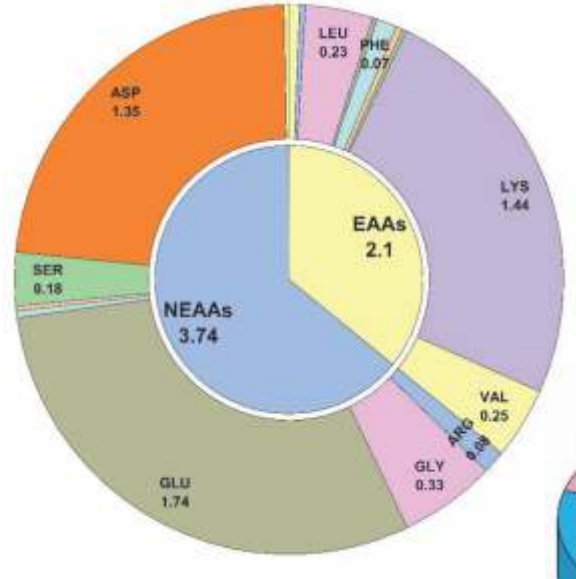
Common English Name: Jarbua terapon

Local name: Borguni/ Jeerpye (Bengali), Garangeta (Gujrat), Gore (Kannada), Naveri (Marathi), Gahnu (Oriya)

Habitat: Freshwater, Brackishwater and Marine

Distribution: Indo-Pacific region

Amino acid content (g/100g)



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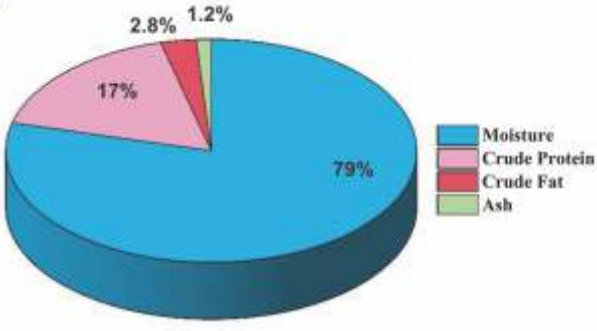
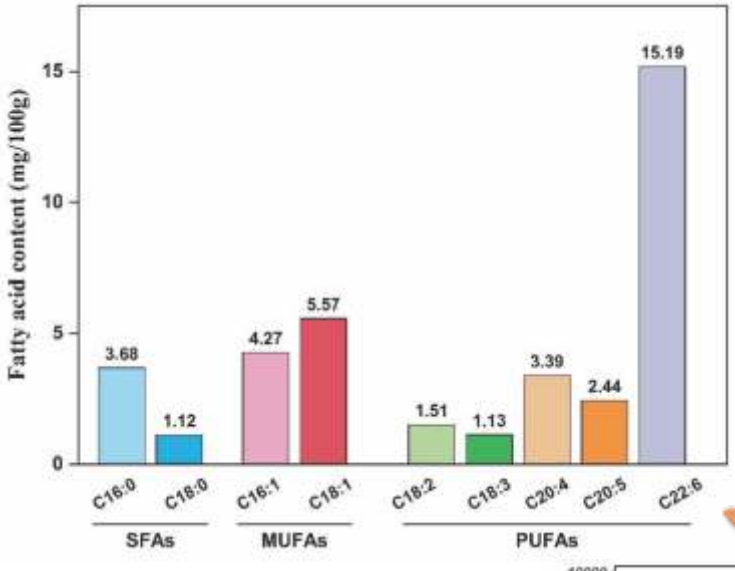
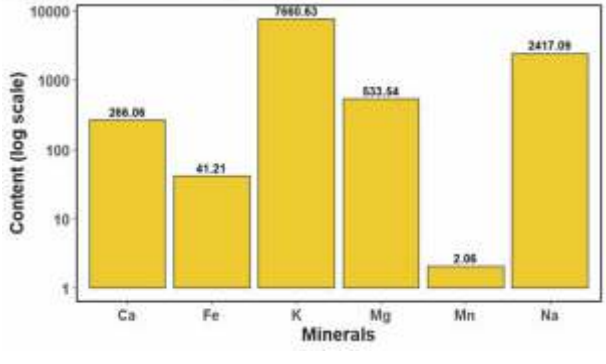


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Terapon jarbua (Jarbua terapon) contains 17% crude protein, indicating a high-quality source of protein essential for tissue repair, muscle development, and enzyme production. It provides a substantial amount of essential amino acids, with lysine and histidine together contributing 1.44 g/100g. Lysine supports protein synthesis and immune function, while histidine is crucial for growth, blood cell production, and tissue repair. The non-essential amino acid glutamic acid, present at 1.74 g/100g, plays an important role in brain function and metabolic processes. The mineral profile is marked by a high potassium content of 7,660.63 mg/kg, which aids in maintaining fluid balance, nerve function, and normal blood pressure. Additionally, the fish is a good source of ω-3 fatty acids, with EPA at 2.44 mg/100g and DHA at 15.19 mg/100g, contributing to cardiovascular health, reducing inflammation, and supporting cognitive and visual development.

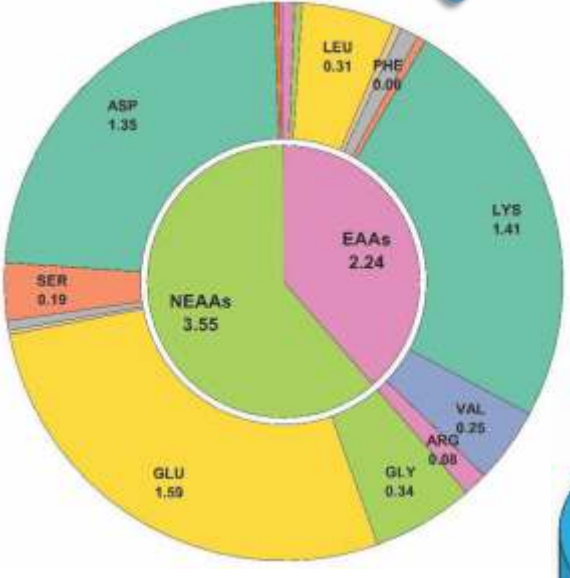
Thryssa malabarica (Gray, 1835)

Systematic Classification

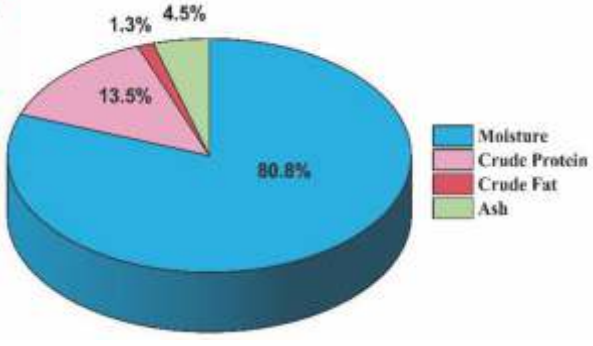
Class: Actinopterygii
Order: Clupeiformes
Family: Engraulidae
Genus: *Thryssa*
Species: *Thryssa malabarica*
Common English Name: Hamilton's thryssa
Local name: Phansha (Bengali), Charlay (Malayalam), Badarkati (Marathi), Poorawah (Telugu)

Habitat: Brackishwater, Freshwater and Marine
Distribution: Indo-Pacific

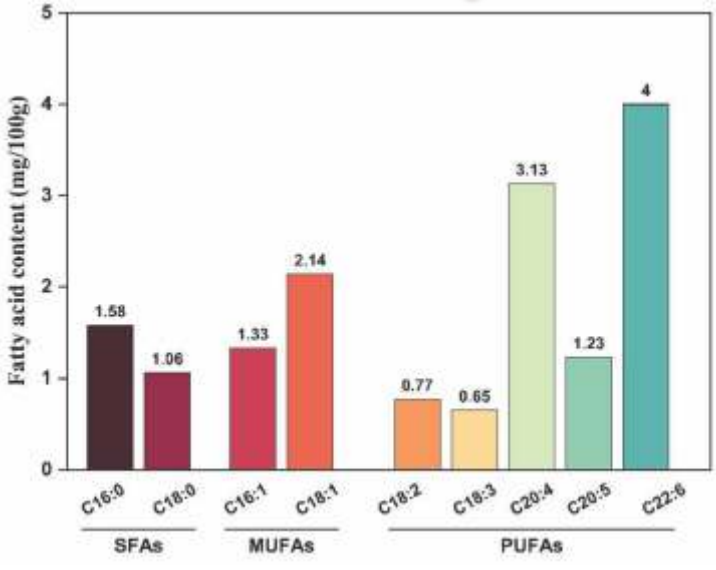
Amino acid content (g/100g)



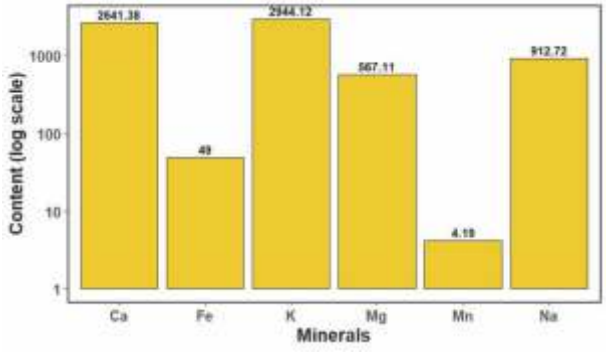
Proximate composition



Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Thryssa malabarica (Hamilton's thryssa) contains 13.5% crude protein, indicating a decent source of dietary protein important for maintaining muscle mass, supporting tissue repair, and fueling metabolic processes. It is rich in lysine, an essential amino acid at 1.41 g/100g, which plays a vital role in immune function, collagen formation, and calcium absorption. Glutamic acid, a non-essential amino acid present at 1.59 g/100g, supports cellular metabolism and acts as a key neurotransmitter in the brain. The fish also offers a substantial amount of potassium at 2944.12 mg/kg, which helps regulate fluid balance, nerve signals, and muscle contractions. Additionally, it contains beneficial ω-3 fatty acids, with EPA at 1.23 mg/100g and DHA at 4 mg/100g, both known for promoting cardiovascular health, reducing inflammation, and supporting cognitive and visual development.

Trichogaster fasciata (Bloch & Schneider, 1801)

Systematic Classification

Class: Actinopterygii

Order: Anabantiformes

Family: Osphronemidae

Genus: *Trichogaster*

Species: *Trichogaster fasciata*

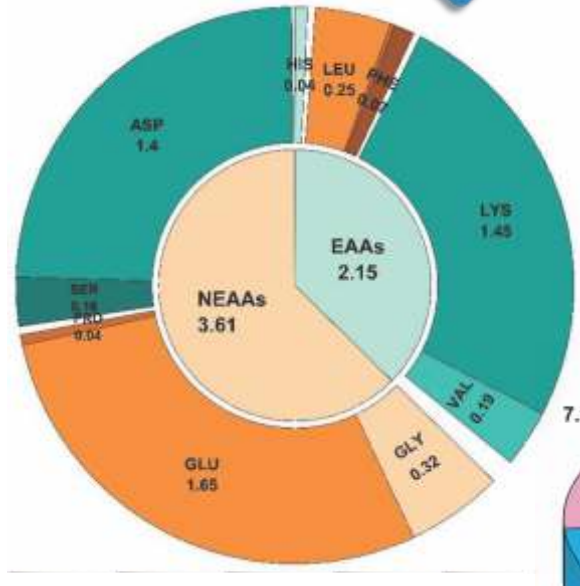
Common English Name: Banded gourami

Vernacular Name: Ranga kholisa (Bengali), Ngapemma (Manipur), Kholiana/ Kholihona (Assamese)

Habitat: Freshwater

Distribution: India, Pakistan, Nepal, Bangladesh and upper Myanmar

Amino acid content (g/100g)



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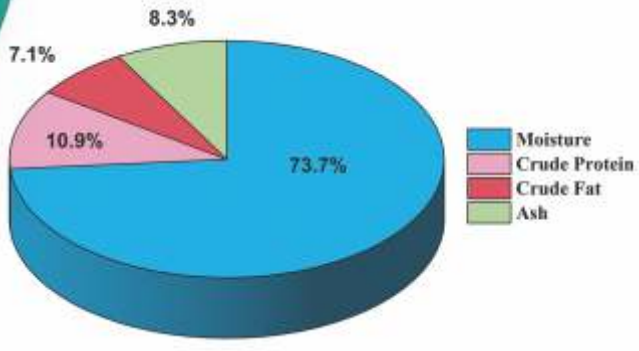
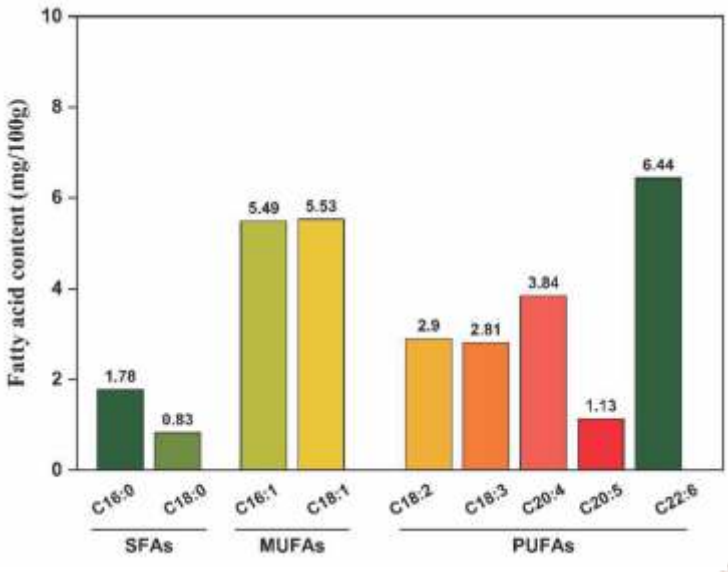
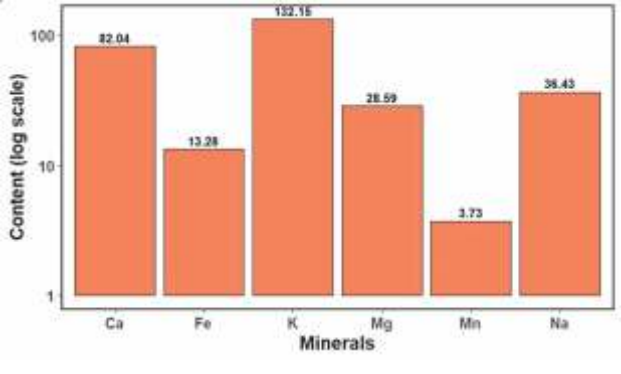


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Trichogaster fasciata (Banded gourami) contains 7.1% crude fat, indicating a moderate fat content that can contribute to energy intake. It provides a good amount of the essential amino acid lysine at 1.45 g/100g, which is crucial for protein synthesis and tissue repair. The non-essential amino acid glutamate is present at 1.65 g/100g, playing a key role in metabolism and neurotransmission. The calcium content stands at 132.15 mg/kg, supporting bone development and various physiological functions. Furthermore, it is a source of beneficial ω-3 fatty acids, with EPA at 1.13 mg/100g and DHA at 6.44 mg/100g, which are important for heart, brain, and eye health.

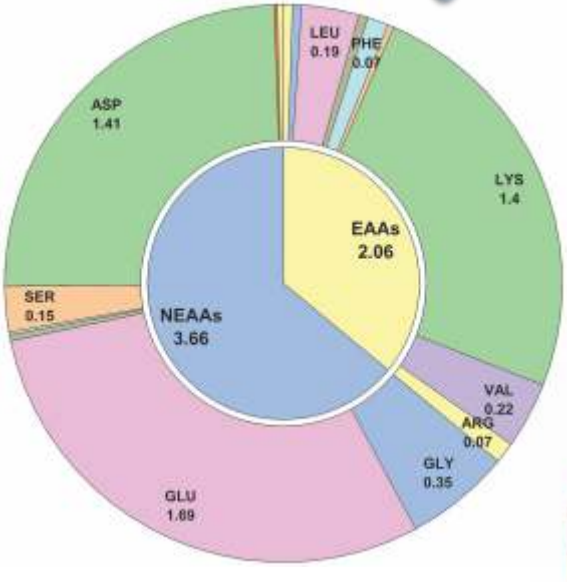
Wallago attu (Bloch & Schneider, 1801)

Systematic Classification

Class: Actinopterygii
Order: Siluriformes
Family: Siluridae
Genus: *Wallago*
Species: *Wallago attu*
Common English Name: Wallago
Vernacular Name: Boal (Bengali), Parhin/ Poil/ Sareng (Assamese), Balae (Kannada)

Habitat: Freshwater and Brackishwater
Distribution: India to Vietnam and Indonesia. Reported from Afghanistan

Amino acid content (g/100g)



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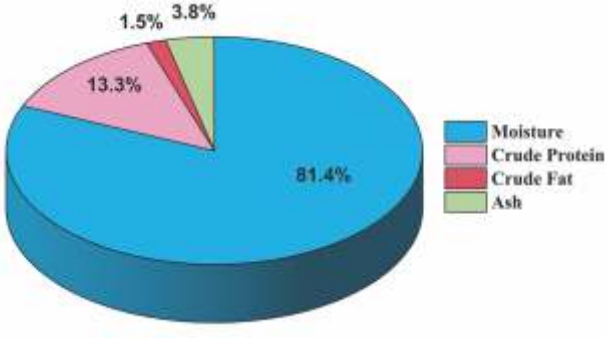
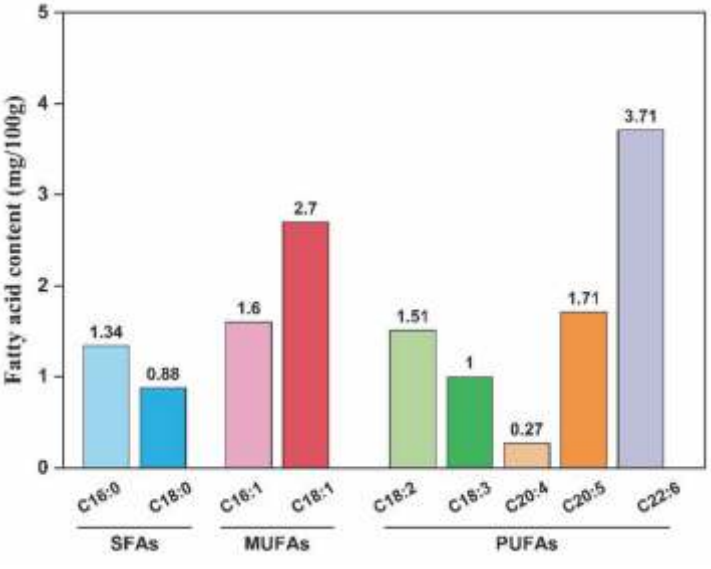
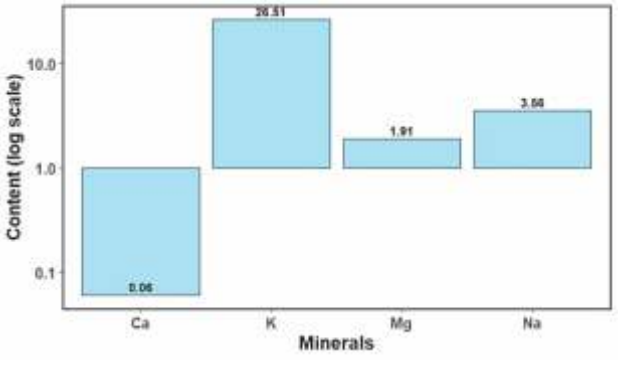


Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Wallago attu (Wallago) contains 13.3% crude protein, offering a moderate level of protein important for maintaining muscle health, supporting enzyme functions, and facilitating tissue repair. Lysine, the essential amino acid present at 1.4 g/100g, is crucial for immune function, hormone production, and calcium absorption. Glutamic acid, the dominant non-essential amino acid at 1.69 g/100g, plays a significant role in cellular metabolism and acts as a key neurotransmitter in the brain. The potassium content, at 26.51 mg/kg, is relatively low but still contributes to maintaining basic electrolyte balance and nerve function. The fish also contains beneficial ω-3 fatty acids, with EPA at 1.71 mg/100g and DHA at 3.71 mg/100g, which support cardiovascular health, reduce inflammation, and promote brain development.

Xenentodon cancila (Hamilton, 1822)

Systematic Classification

Class: Actinopterygii

Order: Beloniformes

Family: Belonidae

Genus: *Xenentodon*

Species: *Xenentodon cancila*

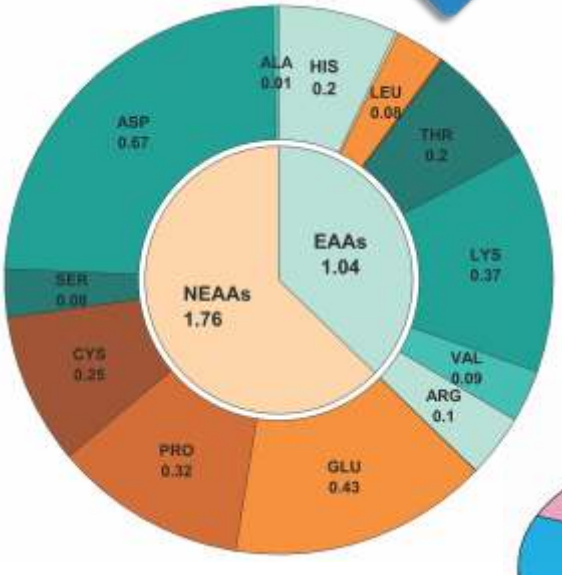
Common English Name: Freshwater garfish

Vernacular Name: Kokila/ Kankely Kakila (Bengali), Kokila Kakla (Assamese), Kutramasa (Marathi)

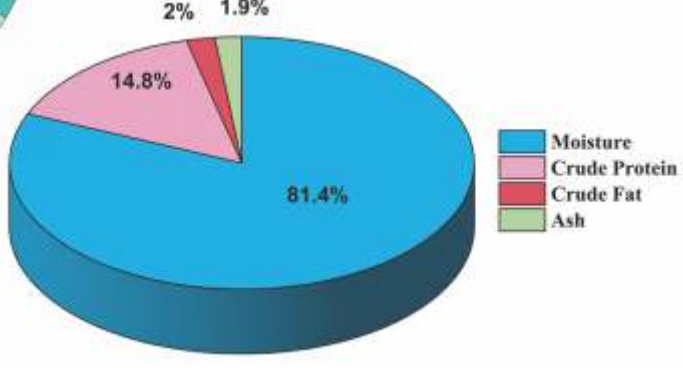
Habitat: Freshwater

Distribution: Asia: India, Sri Lanka and eastward to the Mekong

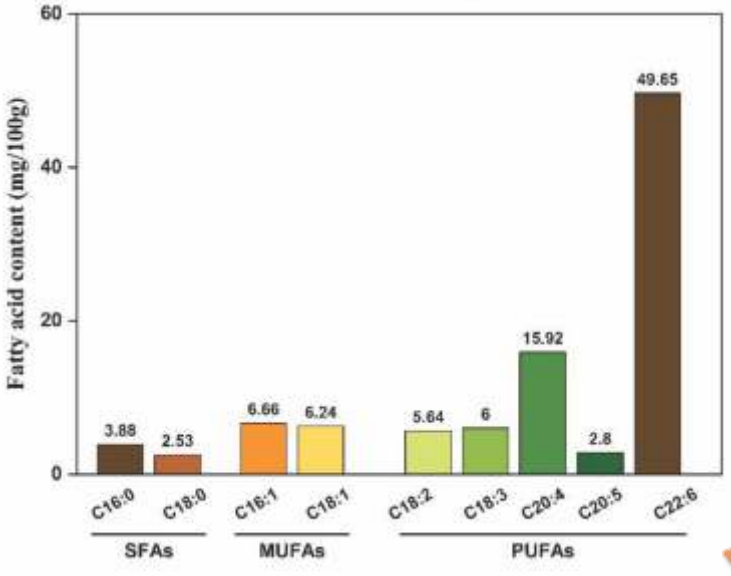
Amino acid content (g/100g)



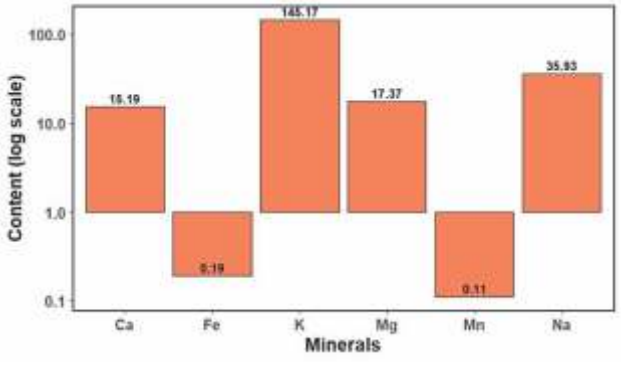
Proximate composition



Fatty acid content (mg/100 g)



Mineral content (mg/kg)



Nutritional significance

Xenentodon cancila (Freshwater garfish) contains a moderate crude protein content of 14.8%, offering a decent source of dietary protein. It includes lysine (0.37 g/100g), an essential amino acid necessary for tissue repair and nutrient absorption, and aspartate (0.67 g/100g), a non-essential amino acid that supports energy production and metabolic processes. The potassium content is measured at 145.17 mg/kg, which contributes to nerve function and electrolyte balance. Notably, the fish is a rich source of docosahexaenoic acid (DHA) at 49.65 mg/100g, alongside eicosapentaenoic acid (EPA) at 2.8 mg/100g, making it a valuable contributor to cardiovascular and cognitive health through its ω-3 fatty acid profile.

Recommended Dietary Allowances (RDA)

Amino acid (AA)	AA requirement in 60 kg adult (mg)	Species	Daily value (%)
Leucine	2340 mg/day	*Cynoglossus cynoglossus*	35.15
		Silonia silondia	35.57
		Mystus cavasius	49.91
		Eleotris fusca	111.87
Lysine	1800 mg/day	*Silonia silondia*	46.14
		Cynoglossus cynoglossus	53.38
		Mystus cavasius	65.10
		Eleotris fusca	112.79
Valine	1560 mg/day	*Acanthocobitis botia*	31.14
		Cynoglossus cynoglossus	33.20
		Mystus cavasius	41.32
		Eleotris fusca	99.84
Isoleucine	1200 mg/day	*Silonia silondia*	38.66
		Cynoglossus cynoglossus	41.06
		Mystus cavasius	55.27
		Eleotris fusca	129.13
Methionine	600 mg/day	*Silonia silondia*	26.12
		Cynoglossus cynoglossus	27.74
		Mystus cavasius	41.88
		Eleotris fusca	160.23

Top 10 fishes rich in Eicosapentaenoic acid (EPA)

Sl. No.	Species	Common name	EPA content (mg/100g)
1.	*Anodontostoma chacunda*	Chacunda gizzard shad	2106.68
2.	*Coilia dussumieri*	Goldspotted grenadier anchovy	482.07
3.	*Tariqilabeo latius*	Gangetic latia	305.87
4.	*Clupisoma garua*	Garua bachcha	287.06
5.	*Cabdio morar*	Morari	239.35
6.	*Tenualosa ilisha*	Hilsa	161.27
7.	*Rhinomugil corsula*	Corsula	141.98
8.	*Cirrhinus reba*	Reba carp	135.76
9.	*Paracanthocobitis botia*	Mottled loach	89.75
10.	*Eleotris fusca*	Dusky sleeper	69.90

Anodontostoma chacunda

Coilia dussumieri

Tariqilabeo latius

Clupisoma garua

Cabdio morar

Rhinomugil corsula

Cirrhinus reba

Paracanthocobitis botia

Eleotris fusca

Tenualosa ilisha

Top 10 fishes rich in Docosahexaenoic acid (DHA)

Sl. No.	Species	Common name	DHA content (mg/100g)
1.	*Anodontostoma chacunda*	Chacunda gizzard shad	1820.72
2.	*Coilia dussumieri*	Goldspotted grenadier anchovy	844.03
3.	*Clupisoma garua*	Garua bachcha	698.36
4.	*Rhinomugil corsula*	Corsula	416.33
5.	*Cabdio morar*	Morari	379.86
6.	*Eleotris fusca*	Dusky sleeper	373.73
7.	*Tariqilabeo latius*	Gangetic latia	326.57
8.	*Chanda ranga*	Indian glassy fish	318.61
9.	*Nandus nandus*	Gangetic leaffish	299.63
10.	*Eutropiichthys vacha*	Batchwa vacha	290.74

Anodontostoma chacunda

Coilia dussumieri

Clupisoma garua

Rhinomugil corsula

Cabdio morar

Eleotris fusca

Tariqilabeo latius

Chanda ranga

Nandus nandus

Eutropiichthys vacha

Top 10 fishes rich in Crude protein content

Sl. No.	Species	Crude protein content (%)
1.	*Tenualosa Ilisha* (Hilsa)	21.00
2.	*Notopterus notopterus* (Bronze featherback)	19.43
3.	*Pisodonophis boro* (Rice-paddy eel)	18.39
4.	*Macrognathus pancalus* (Barred spiny eel)	17.89
5.	*Xenentodon cancila* (Freshwater garfish)	17.46
6.	*Systomus sarana* (Olive barb)	17.38
7.	*Hilsa kelee* (Kelee shad)	17.17
8.	*Mugil cephalus* (Flathead grey mullet)	17.14
9.	*Glossogobius giuris* (Tank goby)	17.08
10.	*Terapon jarbua* (Jarbua terapon)	16.99

Tenualosa ilisha

Pisodonophis boro

Macrognathus pancalus

Xenentodon cancila

Systomus sarana

Hilsa kelee

Mugil cephalus

Glossogobius giuris

Terapon jarbua

Notopterus notopterus

Classification according to fat content of fishes

Classification	Species
Lean meat (<2% fat)	*Glossogobius giuris* *Escualosa thoracata* *Eleutheronema tetradactylum* *Xenentodon cancila* *Notopterus notopterus* *Channa punctata* *Labeo dyocheilus* *Wallago attu* *Amblypharyngodon mola* *Butis butis*
Low fat Fish (2-4%)	*Systomus sarana* *Chanda ranga* *Acanthopagrus datnia* *Hilsa kelee* *Labeo bata* *Scatophagus argus* *Xenentodon cancila* *Labeo catla* *Cirhinnus mrigala* *Terapon jarbua*
Medium fat fish (4-8%)	*Trichogaster fasciata* *Ailia coila* *Setipinna phasa* *Salmostoma phulo* *Chelon parsia* *Cirrhinus reba* *Rasbora daniconius* *Pethia conchonius* *Arius arius* *Gudusia chapra*
High fat fish (>8%)	*Pachypterus atherinoides* *Chagunius chagunio* *Mystus gulio* *Tenualosa ilisha* *Mystus vittatus* *Barilius barila* *Tariqilabeo latius* *Opsarius bendelisis* *Amlypharyngodon mola* *Anodontostoma chacunda*

Top 10 fishes rich in Iron

Sl. No.	Species	Common name	Iron content (mg/kg)
1.	*Coilia dussumieri*	Goldspotted grenadier anchovy	1401.79
2.	*Corica soborna*	Ganges river sprat	832.65
3.	*Mystus cavasius*	Gangetic mystus	832.62
4.	*Cynoglossus cynoglossus*	Bengal tongue sole	639.99
5.	*Glyptothorax telchitta*	Telchitta	603.37
6.	*Chelon parsia*	Goldspot mullet	411.71
7.	*Eleotris fusca*	Dusky sleeper	375.72
8.	*Salmostoma acinaces*	Silver razorbelly minnow	243.87
9.	*Barilius barila*	Barred Baril	190.46
10.	*Cabdio morar*	Morari	165.43

Coilia dussumieri

Corica soborna

Mystus cavasius

Cynoglossus cynoglossus

Glyptothorax telchitta

Chelon parsia

Eleotris fusca

Salmostoma acinaces

Barilius barila

Cabdio morar

Top 10 fishes rich in Manganese

Sl. No.	Species	Common name	Manganese content (mg/kg)
1.	*Barilius barila*	Barred Baril	28.46
2.	*Chelon parsia*	Goldspot mullet	14.25
3.	*Salmostoma acinaces*	Silver razorbelly minnow	11.38
4.	*Mastacembelus armatus*	Zig-zag eel	9.10
5.	*Pachypterus atherinoides*	Indian potasi	4.95
6.	*Thryssa malabarica*	Hamilton's thryssa	4.19
7.	*Chagunius chagunio*	Chaguni	3.76
8.	*Trichogaster fasciata*	Banded gourami	3.73
9.	*Acanthopagrus datnia*	Bengal yellowfin seabream	3.67
10.	*Sillaginopsis domina*	Flathead sillago	2.33

Barilius barila

Chelon parsia

Salmostoma acinaces

Mastacembelus armatus

Pachypterus atherinoides

Thryssa malabarica

Chagunius chagunio

Trichogaster fasciata

Acanthopagrus datnia

Sillaginopsis domina

Top 10 fishes rich in Selenium

Sl. No.	Species	Common name	Selenium content (mg/kg)
1.	*Glossogobius giuris*	Tank goby	0.60
2.	*Eleotris fusca*	Dusky sleeper	0.52
3.	*Salmostoma bacaila*	Large razorbelly minnow	0.44
4.	*Tariqilabeo latius*	Gangetic latia	0.35
5.	*Chanda ranga*	Indian glassy fish	0.34
6.	*Cabdio morar*	Morari	0.28
7.	*Nandus nandus*	Gangetic leaffish	0.14
8.	*Cirrhinus reba*	Reba carp	0.04
9.	*Setipinna phasa*	Gangetic hairfin anchovy	0.02

Glossogobius giuris

Eleotris fusca

Salmostoma bacaila

Tariqilabeo latius

Chanda ranga

Cabdio morar

Nandus nandus

Cirrhinus reba

Setipinna phasa

Top 10 fishes rich in Zinc

Sl. No.	Species	Common name	Zinc content (mg/kg)
1.	*Eleotris fusca*	Dusky sleeper	103.71
2.	*Tariqilabeo latius*	Gangetic latia	64.23
3.	*Cabdio morar*	Morari	50.20
4.	*Chanda ranga*	Indian glassy fish	15.40
5.	*Glossogobius giuris*	Tank goby	13.71
6.	*Salmostoma bacaila*	Large razorbelly minnow	11.94
7.	*Nandus nandus*	Gangetic leaffish	6.60
8.	*Cirrhinus reba*	Reba carp	2.50
9.	*Mystus vittatus*	Striped dwarf catfish	1.44
10.	*Trichogaster fasciata*	Banded gourami	1.09

Eleotris fusca

Tariqilabeo latius

Cabdio morar

Chanda ranga

Glossogobius giuris

Salmostoma bacaila

Nandus nandus

Cirrhinus reba

Mystus vittatus

Trichogaster fasciata

Top 10 fishes rich in Leucine

Sl. No.	Species	Common name	Leucine content (g/100g)
1.	*Eleotris fusca*	Dusky sleeper	5.24
2.	*Systomus sarana*	Olive barb	4.60
3.	*Sardinella melanura*	Blacktip sardinella	4.30
4.	*Hilsa kelee*	Kelee shad	3.50
5.	*Pisodonophis boro*	Rice-paddy eel	3.40
6.	*Mystus bleekeri*	Day's mystus	3.30
7.	*Mystus gulio*	Long whiskers catfish	3.08
8.	*Otolithoides pama*	Pama croaker	2.80
9.	*Mystus cavasius*	Gangetic mystus	2.34
10.	*Silonia silondia*	Silond catfish	1.67

Eleotris fusca

Systomus sarana

Sardinella melanura

Hilsa kelee

Pisodonophis boro

Mystus bleekeri

Mystus gulio

Otolithoides pama

Mystus cavasius

Silonia silondia

Top 10 fishes rich in Methionine

Sl. No.	Species	Common name	Methionine content (g/100g)
1.	*Eleotris fusca*	Dusky sleeper	1.92
2.	*Sardinella melanura*	Blacktip sardinella	1.90
3.	*Systomus sarana*	Olive barb	1.60
4.	*Hilsa kelee*	Kelee shad	1.20
5.	*Pisodonophis boro*	Rice-paddy eel	1.20
6.	*Mystus gulio*	Long whiskers catfish	1.01
7.	*Mystus bleekeri*	Day's mystus	0.90
8.	*Otolithoides pama*	Pama croaker	0.70
9.	*Mystus cavasius*	Gangetic mystus	0.50
10.	*Cynoglossus cynoglossus*	Bengal tongue sole	0.33

Eleotris fusca

Sardinella melanura

Systomus sarana

Hilsa kelee

Pisodonophis boro

Mystus gulio

Mystus bleekeri

Otolithoides pama

Mystus cavasius

Cynoglossus cynoglossus

Top 10 fishes rich in Lysine

Sl. No.	Species	Common name	Lysine content (g/100g)
1.	*Sardinella melanura*	Blacktip sardinella	5.40
2.	*Systomus sarana*	Olive barb	5.10
3.	*Eleotris fusca*	Dusky sleeper	4.06
4.	*Hilsa kelee*	Kelee shad	4.01
5.	*Mystus bleekeri*	Day's mystus	3.90
6.	*Pisodonophis boro*	Rice-paddy eel	3.70
7.	*Mystus gulio*	Long whiskers catfish	3.10
8.	*Otolithoides pama*	Pama croaker	3.04
9.	*Mystus cavasius*	Gangetic mystus	2.34
10.	*Cynoglossus cynoglossus*	Bengal tongue sole	1.92

Sardinella melanura

Systomus sarana

Eleotris fusca

Hilsa kelee

Mystus bleekeri

Pisodonophis boro

Mystus gulio

Otolithoides pama

Mystus cavasius

Cynoglossus cynoglossus

Summary

The Ganga River system harbors a rich diversity of fish species that play a vital role in ensuring food and nutritional security. Fishes are not only a major source of high-quality proteins but also provide essential fatty acids, amino acids, vitamins, and minerals with high bioavailability. Despite their importance, comprehensive data on the nutrient composition of different fish species remain limited and fragmented, often focusing on only a few commercially important species. This book addresses that gap by presenting a consolidated nutrient profiling of 75 fish species from freshwater, estuarine, and marine environments, including both commercially exploited and small indigenous species (SIFs). Each species profile includes detailed analyses of proximate composition, amino acids, fatty acids (including EPA and DHA), and key minerals such as calcium, iron, and zinc. The data are organized in a standardized format, supplemented with brief notes on habitat, distribution, and vernacular names to enable easy comparison and practical use. Beyond serving as a scientific reference, the book highlights the role of nutrient-rich but lesser-known fish species in promoting sustainable and diversified diets. It aligns with the United Nations Sustainable Development Goals (SDGs) on Zero Hunger, Good Health and Well-being, and Life Below Water. The compiled data can support nutrition planning, food fortification, and policy formulation aimed at combating malnutrition and advancing sustainable fisheries. Overall, the book bridges fisheries and nutritional sciences, contributing valuable knowledge for researchers, policymakers, and practitioners working toward healthier and more sustainable food systems.

FISH NUTRIENT ATLAS OF RIVER GANGA

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