**List of tables:**

Table S1. Taxonomical classification, habitat, feeding behavior and identifying characters of fish species collected from Dimna Lake, India.

Table S2. Operating condition for AAS (model: Avanta, GBC, Australia).

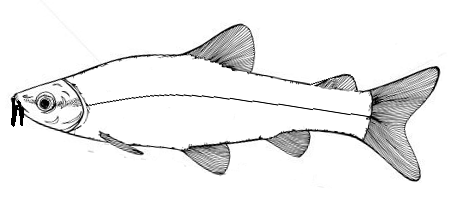
Fig. F1. Lateral view of a fish showing (a) Morphological (b) Anatomical features and (c) Photographs of six fish species collected from Dimna Lake, Jamshedpur, India. . DF = dorsal fin, ADF = adipose fin, CF = caudal fin, LL = lateral line, AF = anal fin, PF = pelvic fin, PCF = pectoral fin, BL = barbells, A = total length, B = standard length, C = snout length, D = body depth.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Order | Family | Species | Local name | Habitat | Feeding behaviour | Identifying characters ( Rao 1989; Jayaram 1981) |
| Cypriniformes | Cyprinidae | *Labeo calbasu*  (Hamilton, 1822) | Kalabakus | Found in slow-moving freshwater rivers and ponds | Bottom feeder and omnivorous that feeds on plants, small insects, filamentous algae, and diatoms. | * Body moderately elongated, round abdomen. * Caudal fin deeply forked. * Lips thick, fleshy, fringed, covering both jaws, continuous at an angle of mouth forming a labial fold. * Simple, unbranched rays in dorsal fin two, 13 – 18 dorsal fin rays. * No. of lateral line scales varies from 38 – 47. * Two pairs of maxillary barbels are present. * Scales between lateral line and pelvic fin base 5 ½ - 6. |
| Cypriniformes | Cyprinidae | *Puntius ticto*  (Hamilton, 1822) | Puthi | Found in mountain and sub-mountain region, and floodplains | Omnivorous, feeds on worms, insects and other small invertebrates, as well as plant material and organic detritus. | * Body moderately elongated, deep, compressed. * Barbells absent. * Dorsal spines strong, osseous, serrated. * Lateral line scales less than 30. * No vertical black color band. * Branched rays in the dorsal fin eight (8) about 12 rows of transverse scales. * Body depth 3 to 3.5 in total length. * Incomplete lateral line. Predorsal scales 11, 4 or 5 rows of scales between lateral line and pelvic fin. |
| Osteoglossiformes | Notopteridae | *Notopterus notopterus*  (Pallas, 1769) | Phalat | Inhabits fresh and brackish waters, and appears to thrive well in lentic water | Bottom  feeder, carnivorous, feeds on small organisms,  insects and crustaceans. | * Commonly known as Phalat. * Body oblong, laterally compressed. * Long and taper caudal region. * Maxillaries well toothed forming the greater part of the upper jaw. * Maxilla and pre-maxilla firmly bound together and have restricted mobility. * Anal fin long, confluent with caudal fin. * The gap of mouth not extending beyond the hind edge of orbit. |
| Cypriniformes | Cyprinidae | *Labeo rohita*  (Hamilton, 1822) | Rohu | Inhabitant of freshwater rivers and ponds | Bottom feeder, omnivorous and prefers to feed on plant matter including decaying vegetation | * Body moderately elongated, head large and round abdomen. * Dorsal fin rays 13 – 18. * Lateral line scales 38 – 47. * Simple, unbranched rays in dorsal fin three or four. * Breeding season monsoon. * Snout not truncated without any lateral lobe. * Overlapping scales between lateral line and pelvic fin base 6 – 6 ½. |
| Perciformes | Channidae | *Channa punctatus*  (Bloch, 1793) | Garai | Prefers stagnant water bodies, also found in rice fields and irrigation channels | Omnivorous feeds on insects, mollusks, annelids and crustaceans and also plant matter | * Body elongated, subcylindrical anteriorly. * Lateral line abruptly curved or almost interrupted. * Cephalic pits present. * Four or five scales between orbit and angle of preopercle, 12 or 13 predorsal scales. * Pelvic fin more than half length of the pectoral fin. * Pectoral fin plain and near to pelvic fin. * Gill four, gill membranes connected beneath isthmus. |
| Siluriformes | Bagridae | *Aorichthys seenghala*  (Sykes, 1839) | Tengra | Inhabits large lakes and rivers | Carnivorous, feeds on fishes, insects, prawns, mollusks, amphibians, and crabs | * Body elongated, round snout, occipital process present, toothed mouth. * Scales absent. * First pectoral and dorsal rays modified as the hard pungent spine. Adipose dorsal fin present. * Nostril wide apart, separated by some external space. * Dorsal spine present. Anal fin with 8 – 16 rays. * Gill membrane free from each other and also from the isthmus. * Four pairs of barbels are present, maxillary barbell elongated, extended beyond the pelvic, mandibular barbell is small. |

Table S1. Taxonomical classification, habitat, feeding behavior and identifying characters of fish species collected from Dimna Lake, India

Table S2. Operating condition for AAS (model: Avanta, GBC, Australia).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Element | Minimum Detection Limit (mg/kg) | wavelength (nm) | Silt (nm) | Mode | Gases used | Standards prepared (mg/l) | Absorbance (mean) |
| As | 3.0E-04 | 193.7 | 0.7 | Flame | Nitrous oxide | 20 (µg/l) | 0.075 |
| 40 (µg/l) | 0.151 |
| 60 (µg/l) | 0.277 |
| Cd | 4.0E-03 | 228.8 | 0.7 | Flame | Nitrous oxide | 0.5 (mg/l) | 0.028 |
| 2.5 (mg/l) | 0.134 |
| 5.0 (mg/l) | 0.292 |
| Cr | 3.0E-03 | 357.9 | 0.7 | Flame | Nitrous oxide | 0.5 (mg/l) | 0.034 |
| 2.5 (mg/l) | 0.157 |
| 5.0 (mg/l) | 0.235 |
| Cu | 1.0E-03 | 324.8 | 0.7 | Flame | Nitrous oxide | 0.5 (mg/l) | 0.224 |
| 1.0 (mg/l) | 0.586 |
| 2.5 (mg/l) | 0.825 |
| Hg | 1.0E-04 | 253.7 | 0.7 | Cold vapour process | - | 20 (µg/l) | 0.005 |
| 40 (µg/l) | 0.017 |
| 60 (µg/l) | 0.024 |
| Pb | 1.0E-02 | 283.3 | 0.7 | Flame | Nitrous oxide | 0.5 (mg/l) | 0.021 |
| 2.5 (mg/l) | 0.127 |
| 5.0 (mg/l) | 0.222 |
| Zn | 5.0E-03 | 213.9 | 0.7 | Flame | Nitrous oxide | 1.0 (mg/l) | 0.238 |
| 2.5 (mg/l) | 0.332 |
| 5.0 (mg/l) | 0.752 |



B

C

DF

ADF

CF

LL

AF

PF

PCF

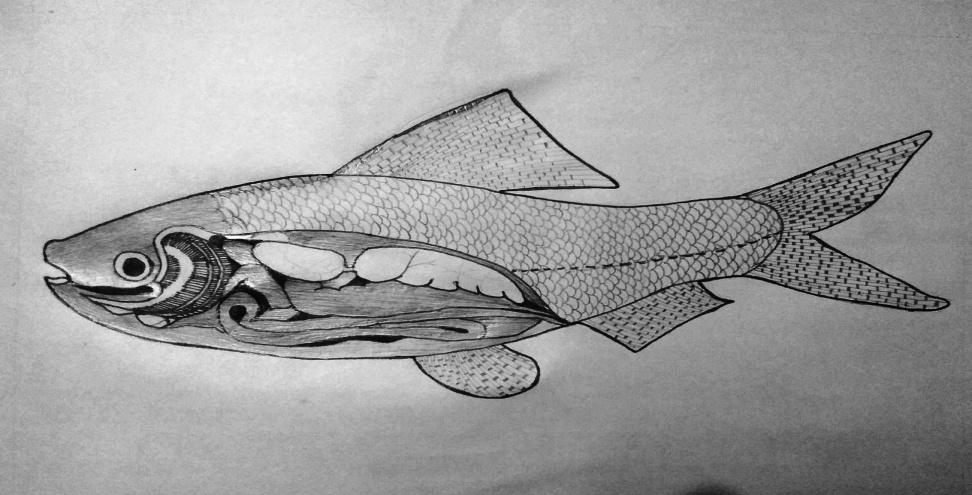
BL

(a)

(b)

A

D



KIDNEY

SWIM BLADDER

STOMACH

INTESTINE

GILLS

LIVER

HEART



*Labeo rohita*

*Labeo calbasu*

*Notopterus notopterus*

*Aorichthys seenghala*

*Puntius ticto*

*Channa punctatus*

(b)

(c)

\*Italic letter: *Genus name, species name*.

Fig. S3. Lateral view of a fish showing (a) Morphological (b) Anatomical features and (c) Photographs of six fish species collected from Dimna Lake, Jamshedpur, India. DF = dorsal fin, ADF = adipose fin, CF = caudal fin, LL = lateral line, AF = anal fin, PF = pelvic fin, PCF = pectoral fin, BL = barbells, A = total length, B = standard length, C = snout length, D = body depth.