Descriptors of a Fish Genetic Resources

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Red Variant of Labeo rohita Cuvier

SESSION CODE. INDIA_FINFISH_LABEO_34323_02

GENERAL DESCRIPTION
Name of the Finfish Species
(Latin Name)
Labeo rohita (Hamilton)
Red variant of rohu
Sundari Rohu (Bengali)
This new variants has
been named after its
species specific rosy pink
coloration over the body.
Labeo rohita (rohu)

502 mm TL/ 2.0 kg
Rivers, Freshwater
Ponds, Acclimatized to
Farm Conditions.
This red variant is so far
only known from River
Punarbhava North Bengal.
Ganga River System
Not Known Yet

a. Punarbhava is a rain fed
perennial Small River
flowing in southeastern part
of Maldah district in West
Bengal. Originating from
the Himalayan foot hills at
Darjeeling, North Bengal it
flows about 400 km. in the
Indian Territory and finally
meets into Bay of Bengal,
Bangladesh. In India near
Maldah, the river flows all
along the international
border with Bangladesh.
b. Silty clay substrate
having submerged aquatic
vegetation,
Beldanga, District Malda,
North Bengal N 25°
56.570', E 088° 20.641;
altitude 155 ft.
Maldah

14. Specific Gear Used
15. Known Economic Importance

a. The new variant can be
considered as a potential
food fish due its size, which
comparable to other
commercially important
Labeo.
b. The new variant can also
be used as ornamental fish
due to presence of attractive
rosy coloration (Figure 1).
c. Captive breeding was
successful through induced
spawning and upto F2
generations red variant was
produced. Captive bred
individuals are being
maintained at NBFGGR wet
laboratory and in the
farmer's farm at Beldanga,
District Malda, North
Bengal.
d. Growth performance:
Attained 500 - 700 gm per
year under pond culture
system at Beldanga, Malda,
and North Bengal.
Food Usage, Potential food
fish
Not known

16. Local Importance
17. Any specific use such as
Medicinal / Local Dish &
Recipe/Special occasions/Tribal
18. Traditional knowledge
(Give Details): Ref. In Local/
Community/tribal mythology
19. Restrictions/Protection/
Conservation / under any
localRegional/ Community/
Religious sentiments.

II. DIAGNOSTIC TAXONOMIC CHARACTER
(Description)
i. Morphological and Meristic
Characters

a. Body moderate
(163.2-502 mm), deep
(25.55-33.55 mm in % of
SL).
b. Abdomen rounded,
mouth moderate (27.93-
34.63 in % of head length),
ii. Coloration

Subterminal and slightly overhanging, snout blunt and without any tubercles, broadly rounded and projecting beyond mouth.

c. Eyes are moderate (13.81-17.11 mm in % of HL), dorso-lateral in position and placed at the commencement of the posterior half of the head and are visible from underside of head, barbel not visible.

d. Dorsal fin concave with 3 branched and 11 unbranched, inserted anterior to origin of pelvic fins, with total 14 rays.

e. Pectoral fin laterally positioned on the body, reaching beyond the origin of dorsal fin and is longer than head length excluding snout.

f. Pelvic fins insert in the third dorsal fin ray and reach beyond anus.

g. Anal fin short consists of 2 branched and 4 unbranched rays.

h. Caudal fin deeply forked with somewhat rounded dorsal and ventral lobes consisting 10 upper and 9 lower principal rays along with 12 upper and 10 lower procurent rays.

i. Pelvic fin consists of one branched and 7-8 unbranched rays.

j. Lateral line complete, straight, running in the centre of the caudal peduncle up to tail with 40 scales of which 36 in the body and 4 in the base of the caudal fin, predorsal scale 11. 7.5 scale rows between dorsal fin origin and lateral line and 6.5 scales between lateral line and origin of pelvic fin.

a. Live specimen with bright pink color over the dorsal profile (three fourth of the body depth) of fish (starting from tip of the mouth to posterior region), the fins are more deeply colored as compared to ventral profile (Fig.1).

b. The pupil of the eye is also encircled by deep pink color. Belly creamy white. No differences in coloration were observed in male and female. Fixed specimen rosy in dorsal profile, belly creamy white, base of pelvic, anal and caudal has faded pink.


Dr U.K. Sarkar, Senior Scientist, National Bureau of Fish Genetic Resources, Lucknow - 226002
Sri Dipak Roy, Progressive Fish farmer, Beldanga, Dist. Malda, West Bengal

iv. Source/Reference

v. Collected by

iv. Morphometric characters and measurements of red variant of L. rohita

<table>
<thead>
<tr>
<th>Morphometric descriptors</th>
<th>403 mm. TL</th>
<th>502 mm TL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length (mm.)</td>
<td>403</td>
<td>502</td>
</tr>
<tr>
<td>Total body weight (kg.)</td>
<td>1.05</td>
<td>2.0</td>
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<tr>
<td>Fork length (mm.)</td>
<td>307</td>
<td>406</td>
</tr>
<tr>
<td>Standard length (mm.)</td>
<td>304</td>
<td>403</td>
</tr>
<tr>
<td>Head Length (mm.)</td>
<td>89.98</td>
<td>100.99</td>
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<tr>
<td>Lateral transverse rows</td>
<td>½ 7 / ½ 6</td>
<td>½ 7 / ½ 6</td>
</tr>
<tr>
<td>Lateral line scale</td>
<td>42</td>
<td>40</td>
</tr>
<tr>
<td>Predorsal scale 11</td>
<td>11</td>
<td>Not visible</td>
</tr>
<tr>
<td>Barbels</td>
<td>Not visible</td>
<td>Not visible</td>
</tr>
</tbody>
</table>

In relation to % of standard length (SL)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Percentage</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Head length</td>
<td>29.59</td>
<td>25.05</td>
</tr>
<tr>
<td>Insertion of dorsal fin</td>
<td>49.34</td>
<td>47.14</td>
</tr>
<tr>
<td>Body depth</td>
<td>33.55</td>
<td>25.55</td>
</tr>
<tr>
<td>Height of dorsal fin</td>
<td>23.02</td>
<td>19.85</td>
</tr>
<tr>
<td>Height of pectoral fin</td>
<td>21.38</td>
<td>19.85</td>
</tr>
<tr>
<td>Height of pelvic fin</td>
<td>21.21</td>
<td>18.61</td>
</tr>
<tr>
<td>Height of anal fin</td>
<td>21.38</td>
<td>19.66</td>
</tr>
<tr>
<td>Length of caudal fin</td>
<td>26.41</td>
<td>24.81</td>
</tr>
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</table>
Macrobrachium lar

ACCESSION CODE. INDIA_PRAWN_CDP433

1. GENERAL DESCRIPTION
   1. Name of the Finfish/Shellfish Species (Scientific Name) Macrobrachium lar
   2. Name of the Variant NA
   3. Local Name & Language a. Mitha Pani ka Jhinga (Hindi)
   4. Background of the local name b. Glass or rock or monkey prawn
   5. Close related common species/variant Prawn inhabits rocky areas in freshwater Macrobrachium rosenbergii
   6. Max. Size Reported a. Male size varies from 86mm to 112mm with weight of 32-40 gms.
   b. Female’s size varies from 66-106 mm with weight of 14-20 gms.

   b. It is a peculiar prawn in its habits, it can move from freshwater canals to peak of the mountains where streams originate.

8. Native Distribution a. In India, M. lar is found only in streams of Andaman.

Fig 1. Lateral (top), dorsal (middle) and ventral (bottom) view of new variant of Labeo rohita

Freshwater prawn of Andaman, Macrobrachium lar
9. River basin/ Major River
   Galathea, Kalpong.
10. Reservoir/ Any other water body
    In a few seasonal and perennial streams and small reservoirs associated with the main rivers.
11. Local region of High Abundance (if any)
    Barma Nalla, Betapur, Rangat, Diglipur, Hut Bay, South Andaman and Campbell Bay.
    a. CARI Channel (6° 45' N and 13° 41' N latitude and 92° 12' E and 93° 57' E)
    b. Barma Nalla (11°.55N', 92°.73' E), Not available
12. Collection site(Name & Lat. - Long., Altitude)
    Cast net, Dip net & Hand picking.
13. Nearest Railway Station
    Food purpose
14. Specific Gear Used
    Food Usage: Fresh unprocessed consumption
15. Known Economic Importance
    a. Used for table purpose.
    b. M. lar may be a candidate species alternate to M. rosenbergii in Andaman with potential in freshwater culture.
16. Local Importance
    Not Known
17. Any specific use such as Medicinal / Local Dish & Recipe/Special occasions/ Tribal
    Not Known
18. Traditional knowledge (Give Details): Ref. In Local/ Community/tribal mythology:

II. DIAGNOSTIC TAXONOMIC CHARACTER
   ( Description)
   i. Morphological and Meristic Characters
      a. The rostrum is short, upturned distally before antennal flaps.
      b. First 2-3 rostral teeth are on the carapace.
      c. The rostral teeth formula is 6-8 / 2-4 commonly 7-8 / 2-3).
      d. The first and second pair of peleopods is chelated.
      e. Yellow spot are found both sides of abdominal segments except 3rd abdominal segments.
      f. In case of male prawn, there will be a hard point on the ventral side by physical touch where as in case of female there is no hard point on ventral side of prawn like M. rosenbergii.

   iii. Ref. Taxonomic Key
       iv. Collected by NA