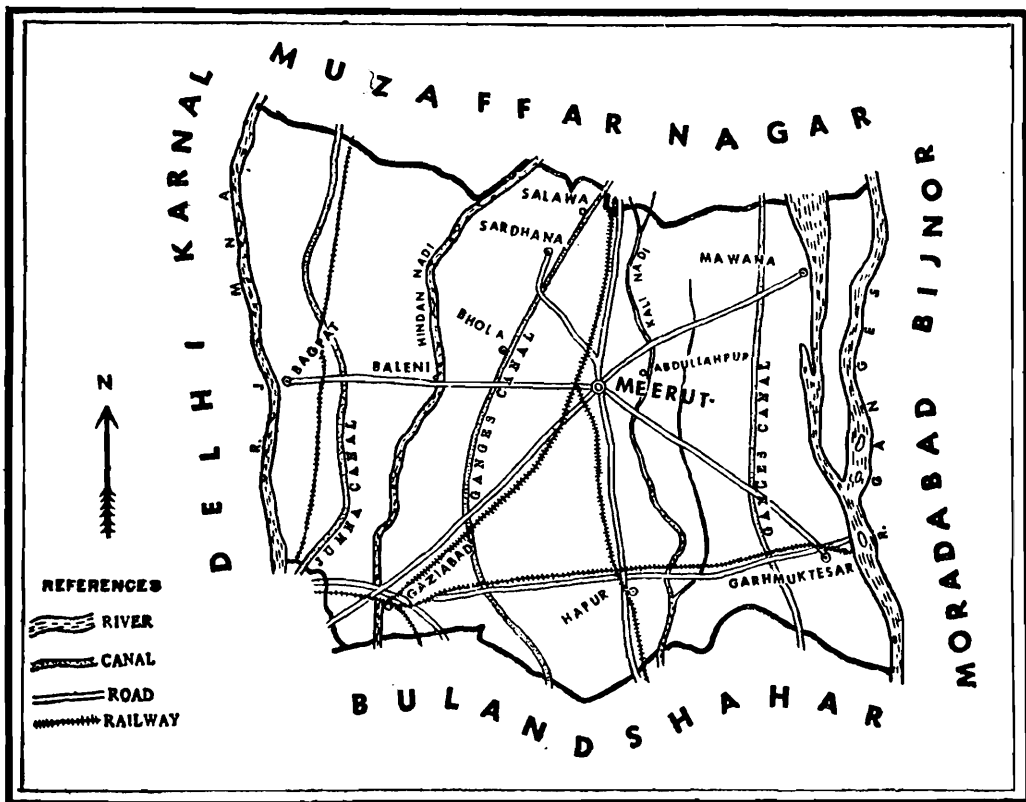


## THE FISH OF MEERUT.

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### INTRODUCTION.

In spite of the fact that the fish fauna of the Meerut district is fairly rich, no scientific attempt has so far been made to explore it. In this note, the authors enumerate the fishes collected during the last two years from Kalinadi near Abdullah-pur, Hindan-nadi near Belani and bunds of Ganges at Garh-mukteswar. About fifty-one species, belonging to thirty-six different genera, have been locally collected and recorded in this paper.



### PHYSICAL FEATURES.

The district of Meerut is situated in the western part of U.P. adjoining Delhi, the two cities being only forty-five miles apart. The surface of the district is more or less flat, except for a strip of land about three miles wide along the west flank of river Ganges called 'Khadar'. This is marshy, saline and covered with thick vegetation. Meerut is fed by four rivers: the Ganges flowing along its eastern border, the Jumna along the western and Kalinadi and Hindan-nadi through it in the

eastern and western parts respectively. The district has three important canals, a Ganges canal in the eastern part and a Ganges and a Jumna canal in the western part. In addition to the three rivers and canals, there are perennial ponds all over the district, which are fed by local distributaries of the canal. The rainfall in the district ranges between thirty to thirty-five inches in a year.

### LIST OF FISHES <sup>1</sup>

The fishes, whose names are marked with an asterisk (\*) are abundantly available throughout the year.

Name and Systematic position of the fish.	Locality of Collection.
<b>Family 1. Clupeidae</b>	
1. <i>Gadusia chapra</i> (Ham.) . . .	Kali-nadi.
<b>Family 2. Notopteridae</b>	
2. <i>Notopterus chitala</i> (Ham.)* . . .	Kalinadi, Hindan-nadi & Garh-mukteshwar.
3. <i>Notopterus notopterus</i> (Pallas) . . .	Ditto.
<b>Family 3. Cyprinidae</b>	
4. <i>Ohela bacaila</i> Ham.* . . .	Kalinadi.
5. <i>Labuca atpar</i> (Ham.)* . . .	Ditto.
6. <i>Barilius bendelisis</i> Ham.* . . .	Hindan-nadi.
7. <i>Barilius bola</i> Ham. . . .	Kalinadi.
8. <i>Barilius modestus</i> Day . . .	Hindan-nadi.
9. <i>Esomus danrica</i> (Ham.) . . .	Kalinadi.
10. <i>Aspidoparia morar</i> (Ham.)* . . .	Ditto.
11. <i>Barbus sophore</i> (Ham.)* . . .	Kalinadi, Hindan-nadi & Garh-mukteswar.
12. <i>Barbus sarana</i> (Ham.)* . . .	Hindan-nadi.
13. <i>Catla catla</i> (Ham.) . . .	Kalinadi & Hindan nadi
14. <i>Cirrhina mrigala</i> (Ham.) . . .	Kalinadi, Hindan nadi & Garh-mukteshwar.
15. <i>Cirrhina reba</i> (Ham.)* . . .	Ditto.
16. <i>Garra gotyla</i> (Gray) . . .	Kalinadi.
17. <i>Labeo calbasu</i> (Ham.)* . . .	Kalinadi & Hindan-nadi.
18. <i>Labeo pangusia</i> (Ham.)* . . .	Hindan-nadi.
19. <i>Labeo gonius</i> (Ham.) . . .	Kalinadi.
20. <i>Labeo rohita</i> (Ham.)* . . .	Kalinadi, Hindan-nadi & Garh-mukteshwar.
21. <i>Rohtee colio</i> (Ham.)* . . .	Kalinadi.
22. <i>Crossocheilus latius punjabensis</i> Mukerji . . .	Kalinadi.
<b>Family 4. Cobitidae</b>	
23. <i>Botia lohachata</i> Chaudhri* . . .	Kalinadi.
24. <i>Nemachilus botia</i> (Ham.) . . .	Kalinadi.
<b>Family 5. Clariidae</b>	
25. <i>Clarias batrachus</i> (Linn.) . . .	Garh-mukteshwar.

<sup>1</sup> The classification adopted is that given by Leo S. Berg in the English edition of his book—Classification of Fishes both recent and fossil. (1947).

Name and Systematic position of the fish.	Locality of Collection.
<b>Family 6. Saccobranchidae</b>	
26. <i>Heteropneustes fossilis</i> (Bloch)* . . .	Kalinadi & Hindan-nadi.
<b>Family 7. Siluridae</b>	
27. <i>Wallago attu</i> (Bl. & Sohn.)* . . .	Kalinadi, Hindan-nadi. & Garh-mukteshwar.
28. <i>Ompok bimaculatus</i> . . .	Ditto.
<b>Family 8. Schilbeidae</b>	
29. <i>Eutropiichthys vacha</i> (Ham.) * . . .	Ditto.
30. <i>Clupisoma garua</i> (Ham.) . . .	Hindan-nadi.
31. <i>Silonia silondia</i> (Ham.) . . .	Ditto.
<b>Family 9. Bagridae</b>	
32. <i>Mystus aor</i> (Ham.) . . .	Kalinadi & Hindan-nadi.
33. <i>Mystus seenghala</i> (Sykes)* . . .	Kalinadi, Hindan-nadi, & Garh- mukteshwar.
34. <i>Mystus tengara</i> (Ham.)* . . .	Kalindai, Hindan-nadi & Garh- mukteshwar.
35. <i>Mystus corsula</i> (Ham.) . . .	Hindan-nadi.
36. <i>Rita rita</i> (Ham.) . . .	Ditto.
<b>Family 10. Sisoridae</b>	
37. <i>Bagarius bagarius</i> (Ham.) . . .	Ditto.
38. <i>Gagata cenia</i> (Ham.) . . .	Kalinadi.
<b>Family 11. Belonidae</b>	
39. <i>Xenentodan cancila</i> (Ham.) . . .	Kalinadi & Garh-mukteshwar.
<b>Family 12. Centropomidae</b>	
40. <i>Ambassis nama</i> (Ham.)* . . .	Kalinadi.
<b>Family 13. Nandidae</b>	
41. <i>Nandusnandus</i> (Ham.) . . .	Garh-mukteshwar.
<b>Family 14. Gobiidae</b>	
42. <i>Glosso-gobius giuris</i> (Ham.) . . .	Ditto.
<b>Family 15. Ophicephalidae</b>	
43. <i>Ophi-cephalus gachua</i> Ham. . . .	Kalinadi, Hindan-nadi & Garh- muktshwar.
44. <i>Ophicephalus marulius</i> Ham.* . . .	Ditto.
45. <i>Ophicephalus punctatus</i> Bloch* . . .	Ditto.
46. <i>Ophicephalus striatus</i> Bloch* . . .	Ditto.
<b>Family 16. Anabantidae</b>	
47. <i>Trichogaster fasciatus</i> (Bl. & Schn.). . .	Kalinadi & Garh-mukteshwar.
<b>Family 17. Mastacembelidae</b>	
48. <i>Mastacembelus armatus</i> (Lacep)* . . .	Kalinadi.
49. <i>Mastacembelus pancalus</i> (Ham.) . . .	Ditto.
50. <i>Rhynchobdella aculeata</i> (Bloch)* . . .	Ditto.
<b>Family 18. Amphipnoidae</b>	
51. <i>Amphipnous cuchia</i> (Ham.) . . .	Ditto.

## REMARKS ON TAXONOMY AND DISTRIBUTION OF CERTAIN FISHES.

Majority of the species listed in this paper are well known and widely distributed except *Mystus corsula* (Ham.), which is recorded here for the first time from western India. The range of *Mystus corsula* (Ham.) according to Day<sup>1</sup> is "from Orissa through Bengal and Assam." *Clarias batrachus* (Linn.) is localised in distribution in this district, this species being found only in a few ponds at Garh-mukteshwar in the months of April, May and June. A reference to the rarity of *Clarius* in the north-western parts of India beyond Delhi has already been made by Menon (1951).<sup>2</sup>

## REMARKS ON THE POSSIBILITIES OF FISH CULTURE.

From the surveys made during the last two years, the district appears to be quite rich in fish fauna and holds bright prospects of fish culture. Fishes marked in the list with an asterisk are abundantly available throughout the year. Of these, fishes like *Cirrhina mrigala* (Ham.), *Cirrhina reba* (Ham.), *Labeo rohita* (Ham.), *Labeo gonius* (Ham.), *Ophicephalus marulius* Ham. and *Barbus sarana* (Ham.) can easily be utilized for fish culture. There are two good Government reservoirs also in the district, one at Bhola and the other at Salawa on the Ganges canal flowing through the western part. They can easily form centre for fish culture.

The river Kalinadi, which is only five miles from the city of Meerut and which for the most part of the year is about six to eight yards wide and three to four feet deep, was sometime back the natural spawning ground for fishes. It was rich both in quantity and the variety of fish. But for the last four or five years, due to the continual flow of mollasses from the sugar factories and the distillery refuse into the water, the fishes in it are dying at an early stage of development. An estimate of havoc can be made out from the fact that the daily catch of the fish from the river, before the pollution of its water was about ten maunds, which was sufficient for local consumption. But it is now reduced to about ten seers and the local consumption is met by import from Bharatpur, Gwalior and Delhi.

It will not be out of place to suggest that Meerut with its excellent situation in the western part of U.P., has ample scope for fish culture. It deserves all attention in these days of food shortage, when the Government is keen on exploring ways to supplement it with other resources in the country.

## ACKNOWLEDGEMENTS.

We are grateful to Dr. S. L. Hora and Dr. M. L. Bhatia for helpful suggestions and to the former for going through the manuscript and checking up our identification of the specimens.

<sup>1</sup> Day'F. (1877) Fishes of India, II, pp. 446.

<sup>2</sup> Menon, A. G. K. (1951) Distribution of Clariid fishes, and its significance in Zoogeographical studies. *Proc. Nat. Inst. Sci. India*, XVII, No. 4, pp. 291-299.

*Addendum*

After the above article had been sent to the press, we received from the Zoological Survey of India confirmation of our identification of some more recently collected material of fish. It includes the undernoted nine extra species which belong to six different genera. Thus we record sixty species belonging to forty-two different genera of fish from this district.

Name and Systematic position of the fish.	Locality of Collection.
<b>Family 1. Cyprinidae</b>	
1. <i>Puntius ticto</i> (Ham.) . . .	Ponds near Meerut city.
2. <i>Puntius chrysipterus</i> (Ham.) . . .	Hindan-nadi.
3. <i>Puntius chagunio</i> (Ham.) . . .	Kalinadi.
4. <i>Tor Putitora</i> (Ham.)	Hindan-nadi.
<b>Family 2. Cobitidae</b>	
5. <i>Lep idocephalichthys guntea</i> (Ham.) .	Kalinadi.
<b>Family 3. Schilbeidae</b>	
6. <i>Allia coila</i> (Ham.) . . .	Ditto.
<b>Family 4. Bagridae</b>	
7. <i>Mystus vittatus</i> (Bloch.) . . .	Kalinadi & Hindan-nadi
<b>Family 5. Sisoridae</b>	
8. <i>Nangra punctata</i> Day. . . .	Kalinadi.
<b>Family 6. Mugilidae (Ham.)</b>	
9. <i>Mugil corsula</i> (Ham.) . . .	River Jumna.