



Fish fauna of Wajoo nullah, an important tributary of the river Ravi in Kathua District, Jammu Region, Jammu and Kashmir State, India

S.P.S. Dutta

Emeritus Fellow (UGC), Department of Environmental Sciences, University of Jammu, Jammu (J&K), INDIA
E-mail: duttasps@gmail.com

Received: April 29, 2016; Revised received: June 1, 2016; Accepted: June 10, 2016

Abstracts: Ichthyofaunistic survey in perennial Wajoo nullah, an important tributary of river Ravi in Kathua District, has shown the existence of 64 fish species belonging to 7 orders, 17 families and 42 genera. *Gudusia chapra* and *Parambassis bacails* are the new records for Jammu and Kashmir State. Fish fauna is dominated by Cypriniformes (37 species), followed by Siluriformes (12 species), Perciformes (9 species), Synbranchiformes and Osteoglossiformes (2 species each) and Clupeiformes and Beloniformes (1 species each). Overexploitation, illegal fishing and fishing during breeding season are serious threats to fish resources in Wajoo nullah.

Keywords: Fish fauna, Wajoo nullah, tributary, the river Ravi, Kathua district

INTRODUCTION

Kathua district of Jammu region is drained by the river Ravi and is joined by a large number of seasonal and perennial tributaries. Some of these tributaries at the foot hills of Shivaliks are spring fed, pooled, highly productive water bodies having a rich diversity and density of macrophytes, algae, macrobenthos, prawns, crabs, fish etc. Due to good water quality and rich diversity of fish food organisms many fish species from the river Ravi migrate freely for breeding and feeding and contribute to the rich fish diversity in the area. Earlier, Joshi *et al* (1978). Dutta and Kour (2006) Dutta *et al*, (2006) and Rathore and Dutta (2015ab) have added to the study of fish fauna of Kathua District. There is no record of fish fauna of Buzhoo nullah and has been enlisted. The objective of the present study is to provide a baseline data to the state fishery department to explore the possibilities of exploiting these water bodies for aquaculture, in framing a proper policy before issuing licenses to the fishermen and in stocking exotic and other fish species in the area.

Topography: Wajoo nullah an important tributary in Kathua district has its origin in village Samper Sola, Kathua town, from a spring. It is mainly spring fed, pooled, sluggish water body and is also joined by a large number of seasonal and perennial tributaries including a distributary of Ujh river. Wajoo nullah enters Punjab down stream Janial village in Kathua and finally enters the river Ravi draining eastern boundary of Jammu region. Its catchment area has vast agricultural fields and overflowing water used for irrigation enters the nullah along its length. There is a good diversity and density of macrophytes and algal blooms are common during certain months.

MATERIALS AND METHODS

Fishes collected by fishermen with castnet were purchased, studied for colour pattern and identified in the laboratory (Hamilton, 1822; Mishra, 1962; Dutta and Maihotra, 1984; Talwar and Jhingran, 1991; Day, 1994 and Jayaram, 1999). For systematic analysis work of Jayaram (1999) has been referred.

RESULTS AND DISCUSSION

Fishes identified from Wajoo nullah, Kathua district, are given as below:

Superclass: Gnathostomata
Class: Actinopterygii
Sub class: Neopterygii
Division: Teleostei
Sub Division: Osteoglossomorpha
Order: Osteoglossiformes
Sub order: Notopteroidei
Family: Notopteridae
Genus *Notopterus* Lacepede
L.N. notopterus (Pallas)
Genus : *Chitala* Fowler
2. *C. chitala* (Ham—Buch)
Sub division: Clupemorpha
Order: Clupeiformes
Family: Clupeidae
Sub Family: Alosinae
Genus : *Gudusia* Fowler
3. *G. chapra* (Ham.-Buch.)
Sub division: Eutelostei
Super order: Ostariophysi
Order Cypriniformes
Family Cyprinidae
Sub family: Daniorinae (Rasborinae)

- Genus: *Securicula* Gunther
 4. *S.gora* (Ham. -Buch)
 Genus: *Salmostoma* Swainson
 5. *S. bacaila* (Ham.-Buch.)
 6. *S.punjabensis* (Ham.-Buch.)
 Genus: *Aspidoparia* Heckel
 7. *Aspidopa morar* (Ham.-Buch)
 Genus: *Barilius* Ham.-Buch.
 8. *B.bendelisis* (Ham.-Buch)
 9. *B.vagra vagra* (Ham.-Buch)
 10. *B.modestus* Day
 Genus: *Danio* Ham. -Buch.',
 11. *D.devario* (Ham.-Buch.)
 Genus : *Esomus* Swainson
 12. *E.danricus* (Ham.-Buch.)
 Genus : *Rasbora* Bleeker
 13. *R.rasbora* (Ham.-Buch.)
 Genus : *Amblypharyngodon* Bleeker
 14. *A.mola* (Ham.—Buch)
 Genus : *Chela* Ham.-Buch.
 15. *C.laubuca*(Ham.-Buch)
 16. *Ccachi* (Ham-Buch)
 Sub Family: Cyprininae
 Genus : *Cyprinus* Linnaeus
 17. *C.carpio communis* Linnaeus
 Genus : *Tor* Gray
 18. *T.tor* (Ham-Buch)
 19. *T.putitora* (Ham.-Buch.)
 Genus : *Puntius* Ham.-Buch.
 20. *P.ticto* (Ham.-Buch)
 21. *P.sophore* (Ham. Buch.)
 22. *P.sarana, sarana* (Ham.Buch.)
 23. *P.conchonius* (Ham.-Buch.)
 Genus: *Labeo* Cuvier
 24. *L.bata* (Ham.-Buch.)
 25. *L.dero*(Ham.-Buch.)
 26. *L.dyocheilus dyocheilus* (Mc Cli)
 27. *L.gonius* (Ham-Buch)
 28. *L.calbasu* (Ham.-Buch.)
 29. *L.pangusia* (Ham.-Buch)
 30. *L.boggut* (Sykes)
 Genus: *Cirrhinus* Oken
 31. *C.mrigala* (Ham-Buch)
 32. *C.reba* (Ham.-Buch.)
 Genus: *Osteobrama* Heckel
 33. *O.cotio cotio* (Ham.-Buch.)
 Sub family: Garrinae
 Genus: *Crossocheilus* Kuh1 & van Hasselt
 34. *C.latitus diplocheilus* (Heckel)
 Genus: *Garra* (Ham.-Buch)
 35. *G.gotyla gotyla* Gray
 36. *G.lamta* (Ham.Buch.)
 Family: Balitoridae
 Sub family: Nemachelinae
 Genus: *Acanthocobitis* Peter
 37. *A botia* (Ham.- Buch)
 Family: Cobitidae
 Sub Family: Botinae
 Genus: *Botia* Gray
 38. *B.almorhae* Gray
 39. *B. lohachata* Chaudhuri
 Sub family: Cobitinae
 Genus: *Lepidocephalus* Breker
 40. *L.guntea* (Ham.-Buch.)
 Order: Siluriformes
 Family: Bagridae
 Sub family: Ritinae
 Genus: Rita Bleeker
 41. *R.rita* (Ham.Buch.)
 Sub family: Bagrinal
 Genus: *Mystus* Scopoli
 42. *M.vittatus* (Bloch)
 43. *M.bleekeri* (Day)
 44. *M.cavasius* (Ham.Buch.)
 Genus: *Aorichthys* Wu
 45. *A.seenghala* (Sykes)
 Family: Siluridae
 Genus: *Ompok* Lacepede
 46. *O.pabda* (Ham.-Buch.)
 Genus: Wallago Bleeker
 47. *W.attu* (Bloch and Schneider)
 Family: Schilbidae
 Sub family: Schilbeinae
 Genus: *Pseudeutropius* Bleeker
 48. *P.atherinoides* (Bloch and Schneider)
 Family: Amblycepsidae
 Genus: *Amblyceps* Blyth
 49. *A. mangois* (Ham.-Buch.)
 Family: Sisoridae
 Genus: *Bagarius* Bleeker
 50. *B. bagarius* (Ham.-Buch.)
 Genus: *Gagata* Bleeker
 51. *G. cenia* (Ham.-Buch.)
 Family: Heteropneustidae
 Genus : *Heteropneustes* Muller
 52. *H.fossilis* (Bloch)
 Super order: Accantlopterygii
 Order: Beloniformes
 Family: Belonidae
 Genus: *Xenontodon* Regan
 53. *X. cancila* (Ham.-Buch.)
 Order: Perciformes
 Sub order: Percoidei
 Family: Chandidae
 Genus : *Chanda* Ham.-Buch
 54. *C. nama* Ham.-Buch
 Genus: *Parambassis* Bleeker
 55. *P.ranga* (Ham.- Buch
 56. *P.baculis* Ham.-Buch
 Family: Nandidae
 Sub Family: Nandinae
 Genus: *Nandus* Val.
 57. *N. nandus* Ham.-Buch
 Sub family: Gobinae
 Genus: *Glossogobius* Gill:
 58. *G.giuris* (Ham.-Buch)
 Suborder: Channodei
 Family: Channidae

Genus : *Channa* Scopoli

59. *C.punctantus* (Bloch)

60. *C.orientalis* Bloch and Schn

61. *C.marulius* (Ham.-Buch.)

62. *C.striatus* (Buch)

Order Synbranchiformes

Suborder Mastacembeloidei

Family Mastacembelidae

Subfamily Mastacembelinae

Genus : *Macroganthus* Lacepede

63. *M. pancalus* Hamilton-Buchanan

Genus : *Mastacembelus* Scopoli

64. *M. armatus* (Lac.)

Fish fauna of Wajoo nullah, comprising of sixty four species, is more diversified in comparison to the other tributaries of the river Ravi. Joshi *et al.* (1978) enlisted 12 fish species belonging to 4 orders, 6 families and 11 genera from Kathua Khad and three fish species viz *Barilius vagra*, *Tor putitora* and *Channa gachua* from UJh river. Dutta *et al.* (2006) noticed 27 fishes species belonging to 4 orders, 8 families and 20 genera from UJh river: 16 species belonging to 2 orders, 4 families and 12 genera from Tarna nullah and total absence of fish from Kathua Khad. Rathore and Dutta (2015) noticed 42 fish species belonging to 5 orders, 10 families and 27 genera from river UJh.

Dutta *et al.*, (2001) reported 59 fish species belonging to 6 orders, 15 families and 25 genera from river Basantar; an important tributary of the river Ravi, in Samba area. Sharma and Dutta (2012) resurveyed fish fauna of river Basantar and noticed 35 fish species belonging to 5 orders, 10 families and 25 genera.

A rich fish diversity in Wajoo nullah in comparison to some other tributaries of the river Ravi is attributed to:

1. Perennial water flow and presence of large number of pools along its length
2. A rich macrophytic and algal diversity and density and other fish food organisms.
3. Migration of fish from the river Ravi for feeding and breeding. Presence of *Bagarius*, *Tor*, *Labeo*, *Garra*, *Cirrhinus* etc. in this nullah indicates fish migration from the river Ravi.

Fish conservation in this highly productive tributary of the river Ravi and other water bodies in Jammu requires a strict monitoring by the state fishery department. There is no check on fish size collection by fishermen. These collect fishes measuring few centimeters and weighing few gms. Commercial fishes like *Tor tor*, *Tor putitora*, *Labeo spp*, *Cirrhinus spp*, *Aorichthys spp*, *Bagarius spp.*, etc weighing less than 100 gm are collected by fishermen. There should be total ban on fishing during fish breeding season viz; May-August as is instructed in the licences issued by the state fishery department. Many states in our country are strictly implementing total ban on fishing during monsoon.

Conclusion

Present fish survey in Wajoo nullah has shown rich diversity of 64 species in comparison to some other

tributaries of the river Ravi in Kathua district. This is a tributary to perennial water flow, rich diversity and density of fish food organism and fish migration from the river Ravi. Fish conservation requires monitoring by the state Fishery Department to check illegal fishing methods, fishing of small sized fishes and implementing total ban on fishing during monsoon.

ACKNOWLEDGMENTS

Emeritus fellowship awarded by UGC, New Delhi, is gratefully acknowledged. Mr. Pawan Paul Sharma, Assistant Director, Sate Fishery Department is acknowledge for providing information about Wajoo nullah. I express my thanks to the Head, Department of Environmental Sciences, University of Jammu, for providing necessary facilities in the department.

REFERENCES

- Day, F. (1994). The fishes of India, being a natural history of the fishes known to inhabit seas and fresh waters of India, Burma and Ceylon, Fourth India Reprint Vol I and II, Jagmandier Book Agency, New Delhi,
- Dutta, S.P.S and Kour, H. (2006). Fish fauna of Kathua District, Jammu region. In proceedings National Seminar: New Trends in Fishery Development in India, Punjab University, Chandigarh Feb. 16-18:233-240.
- Dutta, S.P.S. and Malhotra, Y.R. (1984). An upto date checklist and a key to the identification of fishes of Jammu, *Jammu University Review (Sc)* J, 2:65-92.
- Dutta, S.P.S., Bali, J.P.S., Kour, H. and Sharma, L. (2001). Hydro biology of river Basantar, an important tributary of the river Ravi. *J.Aquatic BioL*, 16 (1-2):41
- Dutta, S.P.S., Gupta, S.C., Rathore, V. and Sharma, A. (2006). Fish fauna of some tributaries of the river Ravi; District kathua, J&K State, In: Trends in Biodiversity and Aquaculture. Edited by Wanganeo, A. and Langer, R.K. Daya Publishing House, New Delhi: 443-452.
- Hamilton, B.F. (1822). An account of the fishes found in the river Ganga and its tributaries. Edinburg and London.
- Jayaram, K.C. (1999). The Freshwater fishes of the Indian Region. Narendra Publishing House Delhi.
- Joshi, C.S. Sehgal, K.L. and Sunder S. (1978). Observations on the fishery resources of hill streams of Jammu Province with special reference to maha haseer and other commercial important species. *Indian J. Fish*, 25 (1-2): 197-206
- Misra, K.S. (1962). An aid to the identification of the common commercial fishes of India and Pakistan, Rec. Indian Mus., 57; 1-320.
- Sharma, A. and Dutta, S.P.S. (2012). Present and past status of fish fauna of river Basantar, an important tributary of the river Ravi in Samba district, Jammu (J&K State). *J. Applied and Natural Resources*, 4(1): 123-126.
- Rathore, V. and Dutta, S.P.S. (2015a). Some new fish records of river UJh, an important tributary of the river Ravi, Kathua district, Jammu region J&K State. Sourvenir 10th JK Science Congress, March 14-16, 2015, organized by University of Jammu: 163 (Abstract EVS 016).
- Rathore, V. and Dutta, S.P. (2015b). Fish fauna of river UJh, an important tributary of the river ravi, District Kathua, Jammu. *Env. Conservation J*, 16(1-L 2): 81-86.
- Talwar, P.K. and Jhingran, A.G. (1991). Inland Fishes of India and adjacent countries, Oxford and IBH publishing Co Pvt, Ltd. New Delhi Vol I and II.