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RESEARCH: CHECKLIST UPDATE

# New freshwater fishes discovered in Arunachal Pradesh, India: an updated checklist and database in Rajiv Gandhi University Museum of Fishes

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## Abstract

The type specimens, identified voucher specimens housed in the Rajiv Gandhi University Museum of Fishes (RGUMF) and all the relevant evidential literatures pertaining to discovery of new fresh water fishes in Arunachal Pradesh have been reviewed, updated and enumerated since the foremost pioneering work of McClelland (1839). The perusals on literatures revealed discovery of 25 more species compared to preceding report of 47 species, herein added to 72 species, belonging to 14 families and 25 genera, mostly bottom feeders and accordingly a total of 54 images are presented in this paper. It is thus believed that this documented information would be of great scientific significance for ichthyologist, taxonomist, conservationist, planners and local communities of the state.

**Keywords:** Freshwater Fishes; New species; Review Checklist; Trophic Niches; RGUMF; Arunachal Pradesh

## 1. Introduction

Biological taxonomy is the branch of science that deals with defining, naming and classifying of groups of biological organisms based on shared characters. New species are those organisms which are described first time from any geographical area, where levels of taxonomy viz., alpha, beta and gama etc., play an important role in describing a new species (Mayr and Ashlock, 1991). Speciation is the process by which new species form, when groups in a species become reproductively isolated and diverge (Cook, 1908). According to the most widely used species definition, the biological species concept, a species is a group of organisms that can potentially interbreed, or mate, with one another to produce viable, fertile offspring (Mallet, 1995). The state Arunachal Pradesh is the largest among the seven northeastern states (83,743 sq km) and recognized as highest forest coverage in India. The state has uniquely featured topography comprising of hills, mountains and deep valleys crisscrossed by a number of rivers, streams, rivulets and innumerable small drainages that has naturally led to the formation of various aquatic habitats over different regions of distinct elevation. These collectively forms huge lotic networks of water bodies in the foothill areas that eventually contributes to form mighty River Brahmaputra in Assam provided with enormous abode for diversified ichthyofauna along with other fresh water life forms. Thus, wild fishes from these water bodies are figured as predominant natural bioresources with essential protein diet for rural populace and their growing children. Moreover, abundance and richness of species in the ecosystem act as indicator of ecological health where the abundance and health of fish is directly proportionate to the health of water bodies (Hamzah, 2007). Hence, conservation of fishes along with pristine water resources is of immense value for safer existence as well as for our posterity amidst increasing environmental crisis.

History on ichthyofauna of the state is dated back as early as McClelland (1839) who was the pioneer worker followed by Chaudhuri (1913), Hora (1921), Jayaram (1963), Jayaram and Mazumdar (1964), Srivastava (1966), Dutta and Sen (1977), Dutta and Barman (1984, 1985), and Sen (1999). The first compilation of fish fauna of the state was done by Nath and Dey (2000) who listed a total of 131 species, followed by Bagra et al (2009) who added 82 more and updated the total upto 213 species. Thereafter, Darshan et al (2019) listed 218 species based on field surveys and available literatures, published in the form of a book. Furthermore, after Darshan et al (2019) fifteen more new species have been described and published namely *Garra ranganensis* Tamang et al (2019), *Garra magnacavus* Shangningam et al (2019), *Aborichthys iphipaniensis* Kosygin et al (2019), *A. kailashi* Shangningam et al (2019), *A. pangensis* Shangningam et al (2019), *Psilorhynchus bichomensis* Shangningam et al (2019), *Psilorhynchus kamengensis* Dey et al (2020), *Aborichthys palinensis* Nanda and Tamang (2021a), *A. uniobarensis* Nanda et al (2021), *A. barapensis* Nanda and Tamang (2021b), *Amblyceps motumensis* Abujam et al (2022), *Parachiloglanis paliziensis* Abujam et al (2022), *Exostoma dhritae* Singh et al (2022) and *Aborichthys bajpaii* Singh and Kosygin (2022), *Glyptothorax heokheei* Singh et al (2023), totaling to 233 species. Until now, the exact number of new fish species described from Arunachal Pradesh is unknown after Gurumayum et al (2016) who enlisted 47 new species. Thereafter, 25 more new species have been described which are added herein totaling to 72 species. Hence, this paper deals with the preparation of updated checklist of 72 new freshwater fish species described from Arunachal Himalaya till December, 2023 along with their type localities and 54 images.

## 2. Methodology

The updated scientific names of new species of fish have been listed herein and systematic position of each taxon was followed as that of Eschmeyer's Catalog of Fishes - version of 2 May 2023. The literatures of Nath and Dey (2000), Gurumayum et al (2016),

Darshan et al (2019) were consulted for enlisting and crediting the number of discovered new species, and thereafter the other relevant articles published by Sen and Khynriam (2014), Tamang et al (2019), Kosygin et al (2019), Shangningam et al (2019a,b,c), Nanda and Tamang (2021a, b), Nanda et al (2021), Abujam et al (2022a, b), Rime et al (2022), Singh et al (2022), Singh and Kosygin (2022), Singh et al (2023) were consulted to scrutinize the fish species. Further, available images of 54 species have been presented along with their respective type localities and the districts where those species were found and remaining species for which images are not yet available are listed in Table 2. Of these, some are original images reproduced from each of the respective research paper acknowledging courtesy to each first author and rest of the figures were snapped from the identified voucher specimens of Rajiv Gandhi Museum of Fishes (RGUMF). Further, trophic niches of each species were identified and grouped on the milieu of positions of mouth i.e, (i) inferior/subinferior = bottom feeders, (ii) terminal=column feeders and (iii) superior= surface feeder. The conservation status of the enlisted species (Table 1) was confirmed from the IUCN Redlist of Threatened Species (version 2022-2., https://www.iucnredlist.org) and the scientific names of the species were arranged year-wise within their respective families and genera.

## 3. Results

Perusal of literatures have revealed 72 new fish species spreading over 14 families and 25 genera (Table 1) reported from the state of Arunachal Pradesh. In the present checklist review, 25 more species have been added with the previous report of 47 species by Gurumayum et al (2016). Among these, maximal species discovered were found belonging to the catfish family Sisoridae with 20 species, followed by Nemacheilidae (17 species), Cyprinidae (15 species), Amblycipitidae (4 species), Psilorhynchidae and Danionidae (3 species) each, Badidae and Cobitidae (2 species) each, and the 6 families namely Bagridae, Balitoridae, Channidae, Erethistidae, Siluridae, and Synbranchidae contain only 1 species each (Figure 1). The systematically updated checklist of new species of fishes is presented in Table 1 with their respective museum registration number, IUCN conservation status, and trophic niche. The IUCN conservation status of most of the described new species have so far not been assessed or evaluated (Nev) except the species *Lepidocephalichthys arunachalensis* and *Devario horai* as an endangered species (EN), *Aborichthys kempi* and *Garra rupicola* as near threatened (NT), *Aborichthys tikaderi* as vulnerable (Vu), *Psilorhynchus arunachalensis* and *Pterocryptis indica* as data deficient (DD) and *Garra kempi*, *Exostoma labiatum* and *Amblyceps apangi* as Least Concern (LC) category. Out of 72 species, maximal i.e 66 species (47.52%) were identified as bottom feeders whereas merely 4 species (2.88%) each viz. *Opsarius arunachalensis, Channa pomanensis*, *Badis singenensis,* and *Badis triocellus* were identified as column feeders and *Devario horai* and *Rasbora kobonensis* were identified as surface feeders. For easy identification, the general morphological images of the 54 species of fish are also presented in Figure 2 (A-C).

## 4. Discussion

Aquatic environments are facing serious threats which affects the diversity and ecosystem stability. Therefore, focused research is being pursued to develop systematic conservation plan to protect freshwater biodiversity (Margules and Pressey, 2000; Saunders et al., 2002). Frequent degradation of stream and riverine ecosystem causes ultimate destruction to the structure and function of stream biota (Stoddard et al., 2006). Upon considerable increase in number of newly described fish species since last decade, the biodiversity hotspot region of Arunachal Himalaya, also need thorough assessment of IUCN status of fishes for determining conservation strategies. The occurrence of a total of 233 species of fishes including 72 newly described species from various water bodies of Arunachal Pradesh, undoubtedly confirms Arunachal Pradesh as "fish biodiversity" hotspot regions of the world. However, the ongoing developmental activities for rapid urbanization and changing patterns of natural landscape along with anthropocentric activities and changing life style of the people, and indiscriminate use of modern fishing contraptions in several water bodies particularly in streams and rivers of Arunachal Pradesh has been affecting species

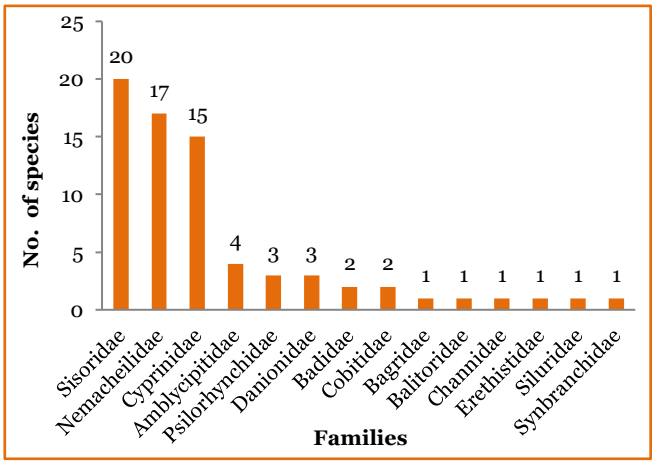


**Figure 1.** Family-wise distribution of new fish species discovered from Arunachal Pradesh, showing maximal species belonging to the family Sisoridae, followed by Nemacheilidae and Cyprinidae.

diversity with hasty decline (Chaudhry and Tamang, 2007; Tamang and Shivaji, 2012). In the recent year, Taro et al (2022) also reported severe habitat fragmentation and degradations on various aspects with disappearance of 14 fish species in the Senkhi stream within Itanagar wildlife sanctuary. Similarly, a glimpse of non-conventional methods of fishing using inverter and battery were reported as major threat to aquatic life in Arunachal Pradesh (Arunachal 24, dated 24 September 2020). In light of these unrestrained anthropogenic activities, there is an urgent need to undertake immediate exploration surveys covering various remote and inaccessible areas, so that explored fish taxa could be accessed and evaluated for setting future conservation priorities.

## 5. Conclusion

The present updated checklist is necessary in every aspect of ichthyological studies primarily in determining the quality of uniquely featured geomorphological structure of this region and it would be immensely helpful for implementation of conservation planning and mitigation measures for protection of freshwater fish biodiversity in mountain region of Arunachal Himalaya and Himalaya as a whole. Present review is expected to serve as primary data bases for the post graduate students in zoology, ichthyologists, taxonomists, conservationists, ecologists, planners, NGOs, stakeholders as well as for national or international tourists visiting the state. Therefore, prior to protection and well-being of the fish biodiversity of the state, there is a need for dissemination of message for effective conservation of ichthyofauna diversity in Arunachal Pradesh.

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**Author's contribution**

**LT:** Contributed in literature review, manuscript draft. **DND:** Research design, proof editing and approach.

**Declaration of Conflict of interest**

Authors have no conflict of interest.

1. ***Lepidocephalichthys saketi*** Tamang *et al*, 2022: Poma River, Itanagar, Papum Pare district and Leku stream about 3km from Ruksin check gate enroute to Pasighat, East Siang district (in press).

7. ***Mustura harkishorei*** (Das & Darshan, 2017): Dibang River, Lower Dibang Valley district.

13. ***Aborichthys kailashi*** Shangningam *et al.*, 2019: Pange River, Lower Subansiri district.

2.***Lepidocephalichthys arunachalensis*** (Datta & Barman, 1984): Namdapha River, Namdapha National Park, Changlang district.

8. ***Schistura tirapensis*** Kottelat, 1990: Riwa River, Nampong, Tirap district.

14. ***Aborichthys pangensis*** Shangningam *et al.*, 2019: Pange River, Ziro, Lower Subansiri district.

3. ***Channa pomanensis*** Gurumayum & Tamang 2016: Poma River, about 10 km from Itanagar, Papum Pare district.

9. ***Aborichthys kempi*** Chaudhuri 1913: Near Rottung & Renging village, East Siang district.

15. ***Aborichthys iphipaniensis***, Kosygin *et al.*, 2019: Iphipani River, Roing, Lower Dibang Valley district. (Courtesy: L. Kosygin)

4. ***Paracanthocobitis hijumensis*** Rime, Tamang & Das, 2022: Hijum River, Rime village, West Siang district.

10. ***Aborichthys waikhomi*** Kosygin, 2012: Bulbulia stream, a tributary of Noa-Dihing River, Namdapha, Changlang district.

16. ***Aborichthys barapensis*** Nanda & Tamang, 2021: Barap River near Lazu village, Tirap district.

5. ***Mustura dikrongensis*** (Lokeswor & Vishwanath, 2012): Dikrong River at Doimukh, Papum Pare district. (Courtesy: L. Lokeswor)

11. ***Aborichthys cataracta*** Arunachalam *et al.*, 2013: a drainage near Hong village, Ziro, Lower Subansiri district.

17. ***Aborichthys uniobarensis*** Nanda *et al.*, 2021: Senkhi River, Itanagar, Papum Pare district.

6. ***Mustura walongensis*** (Tamang & Sinha, 2016): Lohit River at Walong, Anjaw district.

12. ***Aborichthys verticauda*** Arunachalam *et al.*, 2013: a stream near Khola camp, Ziro, Lower Subansiri district.

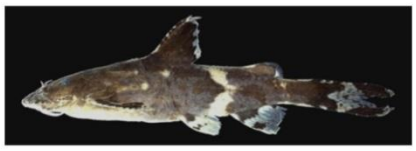
18. ***Aborichthys palinensis*** Nanda & Tamang, 2021: a tributary of Palin River, Palin, Kraa Daadi district.

**Figure 2A.** Images of fifty four new fish species discovered from Arunachal Pradesh, Northeastern India.

**19. *Erethistoides senkhiensis*** Tamang *et al.*, 2008: Senkhi River, Itanagar, Papum Pare district.

**25. *Oreoglanis majuscula*** Linthoingambi & Vishwanath, 2011: Kameng River at Rupa, West Kameng district.

**31. *Creteuchiloglanis tawangensis*** Darshan *et al.*, 2019: Tawangchu, Tawang, West Kameng district.



**20. *Pseudolaguvia viriosa*** Ng & Tamang, 2012; Sille River, Sille village, East Siang district.

**26. *Exostoma tenuicaudata*** Tamang *et al.*, 2015: Mountain drainage near Bomdo village, Upper Siang district.

**32. *Amblyceps apangi*** Nath & Dey, 1989: Dikrong River, Doimukh, Itanagar, Papum Pare district.

**21. *Pseudolaguvia magna*** Tamang & Sinha, 2014: Jiya stream, Bolik village, Roing, Lower Dibang Valley district.

**27. *Exostoma kottelati*** Darshan, *et al.*, 2019: Ranga River, Yazali, Lower Subansiri district.

**33. *Amblyceps arunachalensis*** Nath & Dey, 1989: Dikrong River, Doimukh, Itanagar, Papum Pare district.

**22. *Pseudolaguvia jiyaensis*** Tamang & Sinha, 2014: Jiya stream, Bolik village, Roing, Lower Dibang Valley district.

**28. *Exostoma labiatum*** (McClelland 1842): Mishmee Hills, Lower Dibang Valley district.

**34. *Amblyceps waikhomi*** Darshan, Kachari, Dutta & Das, 2016: Nongkon stream at Nongkon village, Namsai, Namsai district.

**23.*Creteuchiloglanis Arunachalensis*** Sinha & Tamang, 2014; Pange River, Ziro, Lower Subansiri district.

**29. *Creteuchiloglanis kamengensis*** (Jayaram 1966): Norgum River, Kalaktang, West Kameng district.

**35. *Amblyceps motumensis*** Abujam, et al, 2022: Motum River, Pasighat, East Siang district.

**24. *Oreoglanis pangenensis*** Sinha & Tamang, 2015: Pange River, Ziro, Lower Subansiri district.

**30. *Creteuchiloglanis payjab*** Darshan *et al.*, 2014: Yomgo River at Mechuka, West Siang district.

**36. *Pterocryptis indica*** (Datta *et al.*, 1987): Namdapha River, Hornbill point, Namdapha Wildlife Sanctuary, Changlang district.

**Figure 2B.** Images of fifty four new fish species discovered from Arunachal Pradesh, Northeastern India.

**37. *Glyptothorax dikrongensis*** Tamang & Chaudhry, 2011: Dikrong River, Doimukh, Papum Pare district.

**43. *Opsarius arunachalensis*** (Nath *et al.,* 2010): Agari River, D. Ering, Wildlife Sanctuary, Pasighat, East Siang district.

**49. *Garra quadratirostris*** Nebeshwar & Vishwanath, 2013: Deopani River, Roing, Lower Dibang Valley district. (Courtesy: K. Nebeshwar)

**38. *Glyptothorax pantherinus*** Anganthoibi & Vishwanath, 2013: Noa-Dehing River, Deban-Namdapha, Changlang district.

**44. *Psilorhynchus arunachalensis*** (Nebeshwar *et al.,* 2007): Dirang River, Dirang, West Kameng district.

**50. *Garra birostris*** Nebeshwar & Vishwanath, 2013: Dikrong River, Doimukh, Papum Pare district. (Courtesy: K. Nebeshwar)

**39. *Glyptothorax mibangi*** Darshan,*et al.,* 2015: Tisa River near Longding, Longding district.

**45. *Garra rupicola*** (McClelland, 1839): Mishmi Hills, Roing, Lower Dibang Valley district.

**51. *Garra arupi*** Nebeshwar & Vishwanath, 2013: Deopani River, Roing, Lower Dibang Valley district.

**40. *Glyptothorax pasighatensis*** Arunkumar, 2016: Siang River, Pasighat, East Siang district.

**46. *Garra kempi*** Hora, 1921; Siyom River, Damda village, Aalo, West Siang district.

**52. *Garra tamangi*** Gurumayum & Kosygin, 2016: Dikrong River at Hoj, Papum Pare district.

**41. *Pseudecheneis serinica*** Vishwanath & Darshan, 2007: Siren River, East Siang district.

**47. *Garra magnidiscus*** Tamang, 2013: Mountain drainage, Bomdo village, Upper Siang district.

**53. *Garra kalpangi*** Nebeshwar, Bagra & Das 2012: Kalpangi river at Yachuli, Lower Subansiri district .

**42 *Mystus prabini*** Darshan *et al.*, 2019: Sinkin River at Anpum village, Lower Dibang Valley district

**48. *Garra arunachalensis*** Nebeshwar & Vishwanath, 2013: Deopani River, Roing, Lower Dibang Valley district. (Courtesy: K. Nebeshwar)

**54. *Garra ranganensis*** Tamang *et al.,* 2019: Ranga River at Yazali, Lower Subansiri district.

**Figure 2C.** Images of fifty four new fish species discovered from Arunachal Pradesh, Northeastern India.

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**Table 1. Systematic updated checklist of new freshwater fish species discovered from Arunachal Pradesh, North East India.**

| Sl. No | Family & species | Museum Registration No. | | IUCN conservation status | Trophic niche |
|---|---|---|---|---|---|
| | | Holotype | Paratype(s) | | |
| | **Cobitidae** | | | | |
| 1 | *Lepidocephalichthys arunachalensis* (Datta & Barman, 1984) | ZSI FF 1713 | ZSI FF 1714 | EN | Bottom |
| 2 | *Lepidocephalichthys saketi* Tamang et al., 2024 | RGUMF 500 | RGUMF 501; ZSI/APRC/ P 1888 | Accepted (in press) | Bottom |
| | **Balitoridae** | | | | |
| 3 | *Balitora arunachalensis* (Nath et al., 2007) | APFS/ZSI/P 488 | APFS/ZSI/P 489 | Nev | Bottom |
| | **Nemacheilidae** | | | | |
| 4 | *Aborichthys kempi* Chaudhuri, 1913 | - | *ZSI F 7721/1; ZSI F 7722/1; ZSI F 7723/1 | NT | Bottom |
| 5 | *Aborichthys tikaderi* Barman, 1985 | ZSI FF 2135 | ZSI FF 2136 | Vu | Bottom |
| 6 | *Aborichthys waikhomi* Kosygin, 2012 | EBRC/ZSI F 7414 | V/APRC/ZSI/P 519; EBRC/ZSI/F 7415 | Nev | Bottom |
| 7 | *Aborichthys verticauda* Arunachalam et al., 2013 | MSUMNH 3 | MSUMNH 58; ZSI/SRS/F 8579 | Nev | Bottom |
| 8 | *Aborichthys cataracta* Arunachalam et al., 2013 | MSUMNH 2 | ZSI/SRS F 8575 | Nev | Bottom |
| 9 | *Aborichthys iphipaniensis*, Kosygin et al., 2019 | ZSI FF 8002 | ZSI/V/APRC/P 165 | Nev | Bottom |
| 10 | *Aborichthys pangensis* Shangningam et al., 2019 | ZSI FF 8000 | ZSI FF 8001 | Nev | Bottom |
| 11 | *Aborichthys kailashi* Shangningam et al., 2019 | ZSI FF 8310 | ZSI FF 5821; ZSI/V/ APRC/P 786 | Nev | Bottom |
| 12 | *Aborichthys uniobarensis* Nanda et al., 2021 | EBRC/ZSI/F 12607 | DNGC F 05 | Nev | Bottom |
| 13 | *Aborichthys palinensis* Nanda & Tamang, 2021 | EBRC/ZSI/F 12609 | DNGC F 04 | Nev | Bottom |
| 14 | *Aborichthys barapensis* Nanda & Tamang, 2021 | EBRC/ZSI/F 12608 | DNGC F 02 | Nev | Bottom |
| 15 | *Aborichthys bajpaii* Singh & Kosygin, 2022 | ZSI FF 8949 | ZSI FF 895 | Nev | Bottom |
| 16 | *Schistura tirapensis* Kottelat,1990 | ZSI/SRS F 572 | ZSI/SRS 573/2 | Nev | Bottom |
| 17 | *Mustura dikrongensis* (Lokeswor & Vishwanath, 2012) | MUMF 11091/3 | MUMF 11090/2; MUMF 11091/4; ZSI FF 423 | Nev | Bottom |
| 18 | *Mustura walongensis* (Tamang & Sinha, 2016) | ZSI/APRC1190 | ZSI/APRC 1268; ZSI/APRC 1269; ZSI/APRC 1270 | Nev | Bottom |
| 19 | *Mustura harkishorei* (Das & Darshan, 2017) | RGUMF 290 | RGUMF 291-295 | Nev | Bottom |
| 20 | *Paracanthocobitis hijumensis* Rime et al.,2022 | RGUMF 0567 | RGUMF 0568; ZSI/APRC/P 1896 | Nev | Bottom |
| | **Psilorhynchidae** | | | | |
| 21 | *Psilorhynchus arunachalensis* (Nebeshwar et al., 2007) | RGUMF 0001 | RGUMF-0002; RGUMF-0003; RGUMF-0004; RGUMF-0005 | DD | Bottom |
| 22 | *Psilorhynchus bichomensis* Shangningam et al., 2019 | ZSI FF 5908 | ZSI FF 5907 | Nev | Bottom |
| 23 | *Psilorhynchus kamengensis* Dey et al., 2020 | ZSI FF 8422 | GUMF 516/9 | Nev | Bottom |
| | **Cyprinidae** | | | | |
| 24 | *Garra rupicola* (McClelland, 1839) | - | *SMF 894 (1) | NT | Bottom |
| 25 | *Garra kempi* Hora, 1921 | ZSI F 771 | - | LC | Bottom |
| 26 | *Garra kalpangi* Nebeshwar et al.,2012 | RGUMF 0006 | RGUMF 0007 | Nev | Bottom |
| 27 | *Garra arunachalensis* Nebeshwar & Vishwanath, 2013 | MUMF 4304 | MUMF 4305; RGUMF 0190 | Nev | Bottom |
| 28 | *Garra birostris* Nebeshwar & Vishwanath, 2013 | MUMF 4302 | MUMF 4303; RGUMF 0077; RGUMF 0078; RGUMF 0080 | Nev | Bottom |
| 29 | *Garra quadratirostris* Nebeshwar & Vishwanath, 2013 | MUMF 4306 | MUMF 4307; RGUMF 0200; RGUMF 020 | Nev | Bottom |
| 30 | *Garra arupi* Nebeshwar & Vishwanath, 2013 | RGUMF 0184 | RGUMF 0185; RGUMF 0186; RGUMF 0187; RGUMF 0188 | Nev | Bottom |
| 31 | *Garra kimini* Arunachalam et al., 2013 | ZSI/SRS F8581 | MSUMNH 62; CMA 20 | Nev | Bottom |

| | | | | | |
|---|---|---|---|---|---|
| 32 | *Garra alticaputus* Arunachalam et al., 2013 | ZSI/SRS F8578 | MSUMNH 60 | Nev | Bottom |
| 33 | *Garra minimus* Arunachalam et al., 2013 | ZSI/SRS F8577 | MSUMNH 59; CMA 17 | Nev | Bottom |
| 34 | *Garra nigricauda* Arunachalam et al., 2013 | ZSI/SRS F8580 | MSUMNH 61 | Nev | Bottom |
| 35 | *Garra magnidiscus* Tamang, 2013 | ZSI/V/APFS/P 622 | ZSI/V/APFS/P 623 | Nev | Bottom |
| 36 | *Garra tamangi* Gurumayum & Kosygin, 2016 | ZSI/APRC/P 1175 | ZSI FF 5423; ZSI/APRC/P 1176 | Nev | Bottom |
| 37 | *Garra ranganensis* Tamang et al., 2019 | ZSI/APRC 782 | ZSI/APRC1166 | Nev | Bottom |
| 38 | *Garra magnacavus* Shangningam et al., 2019 | ZSI FF 6010 | ZSI/V/APRC/P 783 | Nev | Bottom |
| | **Danionidae** | | | | |
| 39 | *Opsarius arunachalensis* (Nath et al., 2010) | APFS/ZSI/P 502 | APFS/ZSI/P 503 | Nev | Column |
| 40 | *Rasbora kobonensis* Chaudhuri, 1913 | ZSI F7796/1 | - | Nev | Surface |
| 41 | *Devario horai* (Barman, 1983) | ZSI FF1827 | ZSI FF1828 | EN | Surface |
| | **Bagridae** | | | | |
| 42 | *Mystus prabini* Darshan et al., 2019 | RGUMF 499 | RGUMF 308-315; ZSI/APRC P 1660 | Nev | Bottom |
| | **Amblycipitidae** | | | | |
| 43 | *Amblyceps apangi* Nath & Dey, 1989 | F/GUZ 1215 | F/GUZ 1215 | LC | Bottom |
| 44 | *Amblyceps arunachalensis* Nath & Dey, 1989 | GUZ 1213 | GUZ 1214 | Nev | Bottom |
| 45 | *Amblyceps waikhomi* Darshan et al., 2016 | ZSI/APRC/P 1125 | RGUMF 269; RGUMF 270; RGUMF 271 | Nev | Bottom |
| 46 | *Amblyceps motumensis* Abujam et al., 2022 | RGUMF 0486 | ZSI/APRC/F 1894 | Nev | Bottom |
| | **Sisoridae** | | | | |
| 47 | *Creteuchiloglanis kamengensis* (Jayaram 1966) | ZSI F2105/2 | ZSI F2106/2 | Nev | Bottom |
| 48 | *Creteuchiloglanis arunachalensis* Sinha & Tamang, 2014 | ZSI/V/APRC/P 844 | - | Nev | Bottom |
| 49 | *Creteuchiloglanis payjab* Darshan et al., 2014 | RGUMF 0249 | RGUMF 0251-0254; ZSI/V/APRC/P 921 | Nev | Bottom |
| 50 | *Creteuchiloglanis tawangensis* Darshan et al., 2019 | RGUMF 449 | RGUMF 450 | Nev | Bottom |
| 51 | *Parachiloglanis paliziensis* Abujam et al., 2022 | RGUMF 717 | RGUMF 01 ZSI/APRC/F 1945; RGUFMSL-16 | Nev | Bottom |
| 52 | *Exostoma labiatum* (McClelland, 1842) | BMNH 1860.3.19.97 | - | LC | Bottom |
| 53 | *Exostoma tenuicaudata* Tamang et al., 2015 | ZSI/APFS/P 92 | ZSI/APFS/P 930 | Nev | Bottom |
| 54 | *Exostoma kottelati* Darshan et al., 2019 | RGUMF 457 | RGUMF 458 461 | Nev | Bottom |
| 55 | *Exostoma dhritae* Singh et al., 2022 | | | Nev | Bottom |
| 56 | *Glyptothorax dikrongensis* Tamang & Chaudhry, 2011 | ZSI V/APFS/P 515 | ZSI V/APFS/P 516 | Nev | Bottom |
| 57 | *Glyptothorax pantherinus* Anganthoibi & Vishwanath, 2013 | MUMF 10047 | MUMF 10048-10051 | Nev | Bottom |
| 58 | *Glyptothorax mibangi* Darshan, et al., 2015 | RGUMF 243 | RGUMF 244-245 | Nev | Bottom |
| 59 | *Glyptothorax pasighatensis* Arunkumar, 2016 | 44/NH/MUM | | Nev | Bottom |
| 60 | *Glyptothorax heokheei* Singh et al., 2023 | ZSI FF 9555 | ZSI FF 9556 | Nev | Bottom |
| 61 | *Oreoglanis majuscula* Linthoingambi & Vishwanath, 2011 | MUMF 6294 | MUMF 6195-6197; RGUMF 0128 | Nev | Bottom |
| 62 | *Oreoglanis pangenensis* Sinha & Tamang, 2015 | ZSI/APRC P 791 | - | Nev | Bottom |
| 63 | *Pseudecheneis serinica* Vishwanath & Darshan, 2007 | MUMF 9070/1 | MUMF 9070/2-3 | Nev | Bottom |
| 64 | *Pseudolaguvia viriosa* Ng & Tamang, 2012 | ZSI V/APRC/P-524 | RGUMF 007 | Nev | Bottom |
| 65 | *Pseudolaguvia jiyaensis* Tamang & Sinha, 2014 | ZSI/V/APRC/P 1034 | ZSI/V/APRC/P-1035 | Nev | Bottom |
| 66 | *Pseudolaguvia magna* Tamang & Sinha, 2014 | ZSI/ V/APRC/P 947 | ZSI/ V/APRC/P-948 | Nev | Bottom |
| | **Erethistidae** | | | | |
| 67 | *Erethistoides senkhiensis* Tamang et al., 2008 | ZSI FF 4049 | ZSI FF 4050; ZSI FF 4051; ZSI FF 4052 | Nev | Bottom |
| | **Siluridae** | | | | |
| 68 | *Pterocryptis indica* (Datta et al., 1987) | ZSI FF 1699 | - | DD | Bottom |
| | **Synbranchidae** | | | | |
| 69 | *Ophichthys hodgarti* (Chaudhuri, 1913) | - | * ZSI F7830/1-7834/1; F7838/1 | Nev | Bottom |
| | **Channidae** | | | | |

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|---|---|---|---|---|---|
| 70 | *Channa pomanensis* Gurumayum & Tamang, 2016 | ZSI/APRC P 1066 | ZSI/APRC P-1308; ZSI/APRC P-1309 | Nev | Column |
| | **Badidae** | | | | |
| 71 | *Badis singenensis* Geetakumari & Kadu, 2011 | MUMF 112 | RGUMF 0218-0225; MUMF 113-131; MUMF 119-120 | Nev | Column |
| 72 | *Badis triocellus* Khynriam & Sen, 2013 | ERS-V/F 2806 | ERS-V/F 2807; ERS-V/F-2808; ERS-V/ F 2809; ERS-V/F 2810. | Nev | Column |

***Indicates for Syntypes**

**Abbreviation**: APFS: Arunachal Pradesh Field Station (Itanagar); APRC: Arunachal Pradesh Regional Centre (Itanagar); CMA: Collection of M. Arunachalam (Tamil Nadu); DNGC: Dera Natung Govt College (Itanagar); ERS: Eastern Regional Station (Shillong): RGUMF: Rajiv Gandhi University Museum of Fishes (Itanagar); RGUFMSL: Rajiv Gandhi University Fish Museum Soil & Limnology (Itanagar); EBRC: Estuarine Biology Regional Centre (Orissa), MUMF: Manipur University Museum of Fishes (Imphal); MUM: Manipur University Museum (Imphal); NH: Natural History; MSUMNH: Manonmaniam Sundaranar University Museum of Natural History (Tamil Nadu); BMNH: British Museum of Natural History; GUMF: Gauhati University Museum of Fishes (Guwahati); SRS: Southern Regional Station (Chennai); ZSI: Zoological Survey of India; SMF: Natur-Museum und Forschungs-Institut Senckenberg (Germany). F: Fish; P: Pisces; V: Vertebrate; EN: Endangered; Vu: Vulnerable; NT: Near Threatened; LC: Least Concerned; Nev: Not evaluated; DD: Data Deficient.

**Table 2. List of new fish species along with their type localities whose images are not yet available.**

| | | | |
|---|---|---|---|
| 1 | *Aborichthys tikaderi* Barman 1985: Namdapha Wildlife Sanctuary, Changlang district. | 10 | *Garra minimus* Arunachalam et al., 2013: Ranga River, Lower Subansiri district. |
| 2 | *Aborichthys bajpaii* Singh & Kosygin 2022: a stream of Siang River at Ramsing, Upper Siang district. | 11 | *Badis singenensis* Geetakumari & Kadu 2011: Singen River, Saku-Kadu village, East Siang district. |
| 3 | *Rasbora kobonensis* Chaudhuri 1913: Kobo village, Abor Hills, East Siang district. | 12 | *Badis triocellus* Khynriam & Sen, 2013: Subansiri River below damsite, Lower Subansiri district. |
| 4 | *Balitora arunachalensis* Nath, Dam, Bhutia, Dey & Das 2007: Noadihing River, Namsai, Namsai district. | 13 | *Exostoma dhritae* Singh et al., 2022. Siking stream near Yingkiong, Upper Siang district. |
| 5 | *Devario horai* (Barman 1983): Namdapha River, Changlang district. | 14 | *Parachiloglanis paliziensis* Abujam et al., 2022: Bichom river near Palizi village, West Kameng district. |
| 6 | *Garra magnacavus* Shangningam et al., 2019: Ranga River, Yazali, Lower Subansiri district. | 15 | *Psilorhynchus kamengensis* Dey et al., 2020: Tippi Naala (stream) at Tippi and unnamed stream of Kameng River, West Kameng district. |
| 7 | *Garra kimini* Arunachalam et al., 2013: a tributary of Ranga River, Khola camp, Lower Subansiri district. | 16 | *Psilorhynchus bichomensis* Kosygin & Gopi, 2019: Bichom River at Bana (Brahmaputra basin), 38 km from Seppa towards Ziro, East Kameng District. |
| 8 | *Garra alticaputus* Arunachalam et al., 2013: Dikrong River, Boorum village, Papum Pare district. | 17 | *Glyptothorax heokheei* Singh et al., 2023: Siku stream near Mebo, Siang River drainage, Brahmaputra River basin, East Siang District. |
| 9 | *Garra nigricauda* Arunachalam et al., 2013: Siang River near Pasighat, East Siang district. | 18 | *Ophichthys hodgarti* (Chaudhuri, 1913): Upper Rotung village, East Siang District. |