

Fish Diversity of River Kshipra District Ujjain Madhya Pradesh

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Abstract: Fish play crucial roles in maintaining ecological balance by contributing to nutrient cycling, food webs, and ecosystem productivity. The present study on fish diversity of shipra river of district Ujjain was carried out from July 2024 to June 2025 for a period of one year. During the present investigation, fishes were collected and identified. The aim of this study was to reveal the fish diversity of fish species in this river. During the entire study period 14 species belonging to 11 family and 8 order were collected and identified. Siluriformes was observed as the most abundant of all, consisting 3 species, 14 species were recorded.

Keywords: fish diversity, freshwater fish, river ecosystem, aquatic biodiversity, shipra river

1. Introduction

Fish diversity refers to the wide variety of fish species that inhabit different aquatic environments around the world. Fish are the most diverse group of vertebrates, with more than 34,000 known species found in oceans, rivers, lakes, and wetlands. They show remarkable differences in size, shape, color, behavior, and habitat preferences.

This diversity has evolved over millions of years, allowing fish to adapt to a wide range of environmental conditions- from the cold, dark depths of the ocean to warm, shallow coral reefs and freshwater streams. Fish play an essential role in aquatic ecosystems by maintaining ecological balance, serving as both predators and prey, and supporting global food webs.

Studying fish diversity helps scientists understand evolution, ecology, and environmental health. Protecting this diversity is vital for sustainable fisheries, biodiversity conservation, and the well-being of human communities that depend on aquatic resources. Fish diversity plays a crucial role in maintaining the balance of aquatic ecosystems. They help control populations of other organisms, recycle nutrients, and serve as a major source of food for humans and wildlife. Economically, fish contribute significantly to global fisheries, aquaculture, and livelihoods in coastal and riverine communities. However, fish diversity is under threat due to overfishing, habitat destruction, pollution, climate change, and the introduction of invasive species. Protecting fish diversity is essential for sustaining aquatic ecosystems and ensuring that future generations continue to benefit from these valuable resources. Conservation efforts such as establishing marine protected areas, promoting sustainable fishing practices, and

restoring degraded habitats are vital for the preservation of fish diversity worldwide.

2. Location of Study Area

Ujjain is one of the oldest and most sacred cities in India, located on the banks of the holy Shipra River in the state of Madhya Pradesh. It is an ancient city with a rich history of religion, culture, and learning. In ancient times, Ujjain was known as Avantika and served as the capital of the Avanti kingdom. It was also an important center for astronomy, trade, and education. Ujjain is world-famous for the Mahakaleshwar Temple, which houses one of the twelve Jyotirlingas of Lord Shiva. The city is also one of the four sites of the Kumbh Mela (Simhastha), a major Hindu festival held every twelve years, where millions of pilgrims gather to take a holy dip in the Shipra River. Today, Ujjain remains a blend of spiritual heritage and modern development, attracting devotees, scholars, and tourists from across the world. Its temples, ghats, and historical monuments reflect the city's glorious past and enduring spiritual energy.

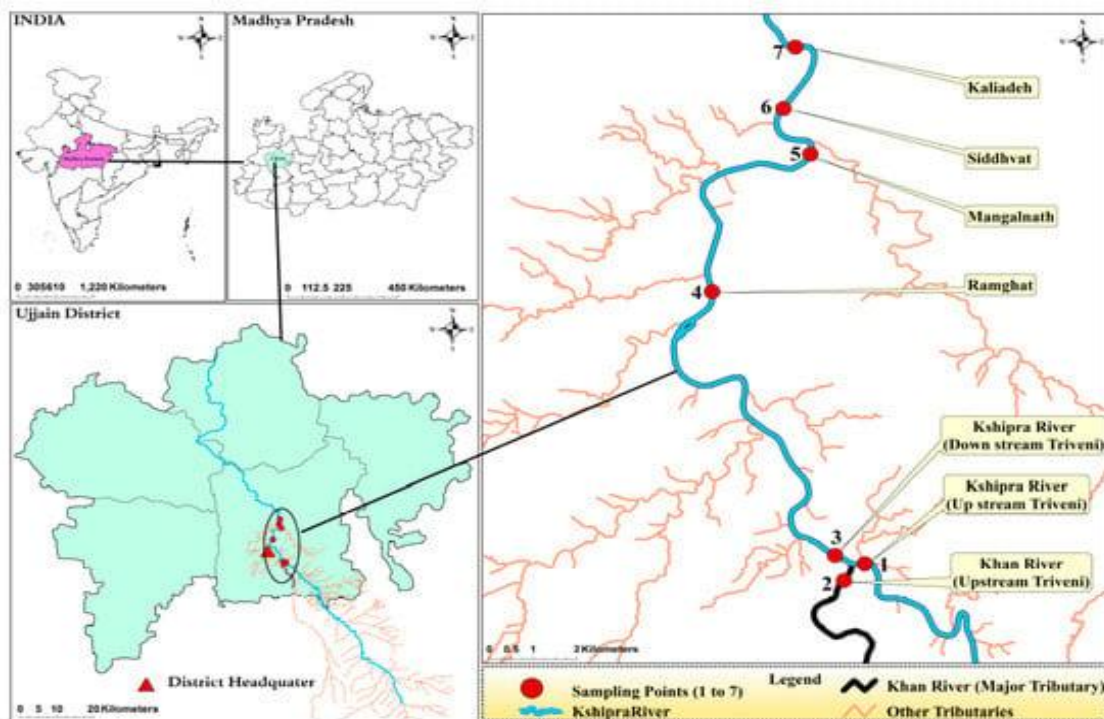
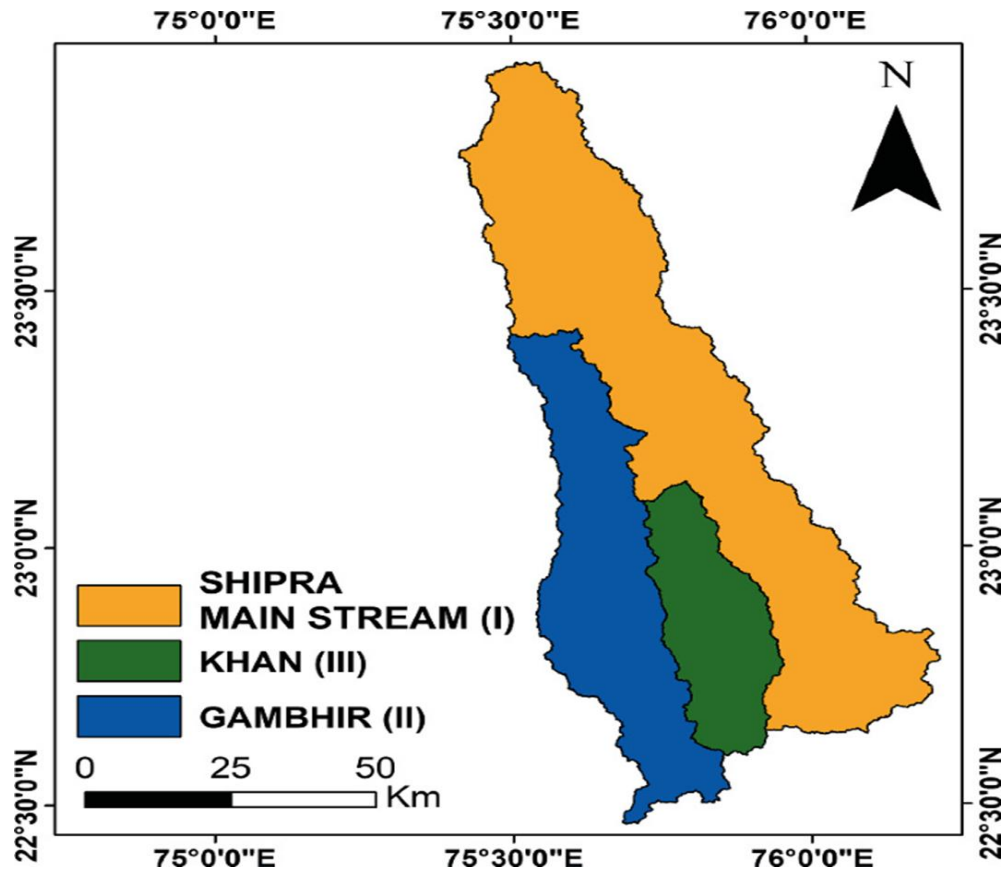
The Shipra River, also known as Kshipra, is one of the most sacred rivers in India, flowing through the ancient and holy city of Ujjain in Madhya Pradesh. It originates from the Kakri Bardi hills in the Vindhya Range near Indore and travels about 195 kilometers before joining the Chambal River. The Shipra holds immense religious, cultural, and historical significance in Hinduism. Ujjain, situated on its banks, is one of the four holy sites of the Kumbh Mela (Simhastha), a grand religious festival held every 12 years, where millions of devotees take a sacred dip in the river



Volume 15 Issue 5, May 2026

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3. Material and Method

Fishes will be collected seasonally. Catching fishes with the help of using cast nets for different mesh size. Will identify the fish in laboratory using taxonomic keys of day (1958), Shrivastav (1980) Jhingran (1982).

Fish diversity of River Shipra District Ujjain (M.P.) (July 2024 to June 2025)

S. No	Order	Family	Scientific name	Common name
1	Cichliformes	Cichlidae	Oreochromis	Tilapia
2	Synbranchiiformes	Synbranchidae	Monopterus albus	baam
3	Anabantiformes	channidae	Channa panctata	murrel
4	Cypriniformes	Cyprinidae	Cirrhinus mrigala	Mrigala
5	Cypriniformes	Cyprinidae	Labeo rohita	Rohu
6	Clupeiformes	clupeidae	Chela cachus	chaal
7	Anabantiformes	Channidae	Channa marulius	Bherka
8	Clupeiforms	Dorsomatidae	Sardinella	Kitia
9	Clupeiforms	Notopetridae	Notopterus chitala	Moya
10	Anabantiformes	Channidae	Hydrolea varticillate	charanga
11	Siluriformes	Bagridae	Sperata seenghala	sinhgad
12	Siluriformes	Siluridae	Ompok pabda	Padam
13	Cypriniformes	Cyprinidae	Catla catla	Bhakura
14	Decapoda	Palaemonidae	Dendrobranchiate	Jhinga

4. Result and Discussion

During the entire study period 14 species belonging to 11 family and 8 order were collected and identify. The details of these fishes are listed in table. Tilapia is the most common fish. Its surface is hard and it is found in turbid water. Sinhgad fish is mostly found in summer and its quantity is comparatively low in rainy and winter. Padam fish is found in both summer and winter.

The order- siluriformes was observed as the most abundant including family -heteropneustidae, bagridae and siluridae contain 3 species among heteropneustidae: H. fossilis bagridae: sperata seenghala, siluridae: ompok pabda were recorded while other second abundant order- anabantiformes were contain 3 species: channa panctata, channa moruulius and hydrolia varticillate. Other species such as Oreochromis niloticus (cichlidae), monopteros albus (synbranchidae), cirrhinus mrigala (cyprinidae), labio rohita (cyprinidae), chela cachus (Clupeidae), saedinella (dorsomatidae), notopterus chitala (notopteridae), dendrobranchiate (palaemonidae),

5. Conclusion

This study shows that the Shipra River is above average diversity rich. The water of this river is turbid. Due to increasing pollution, the life of aquatic creatures is in danger. Appropriate action should be taken on this. River treatment can include a combination of technological, biological, and ecological methods such as wastewater treatment before discharge, aeration, desilting, use of constructed wetlands, and restoration of riparian vegetation. Effective river treatment not only improves water quality but also supports biodiversity, prevents the spread of waterborne diseases, and promotes sustainable development.

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