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## ANNOTATED CHECKLIST OF THE FISHES OF NIZHNEVARTOVSK DISTRICT

## АННОТИРОВАННЫЙ СПИСОК РЫБ ВОДОЕМОВ НИЖНЕВАРТОВСКОГО РАЙОНА

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*Abstract.* The confirmed fishes of Nizhnevartovsk district waters (Russia, Western Siberia, Khanty–Mansi autonomous okrug (district)) comprise 24 species in 19 genera, 10 families, 6 orders and 2 classes found in Middle Ob River basin. There are also 5 species whose presence in Nizhnevartovsk district waters needs confirmation by the described specimens. The most diverse order is the *Cypriniformes* with 11 confirmed species (45.9%) followed by *Salmoniformes* with 5 species (20.8%), *Perciformes* (3 species, 12.5%), *Petromyzoniformes* (2 species, 8.3%), *Acipenseriformes* (2 species, 8.3%) and *Gadiiformes* with 1 species (4.2%). Of the 5 introduced species (including three require confirmation), the freshwater bream *Abramis brama* (Linnaeus, 1758) and the pike–perch *Sander lucioperca* (Linnaeus, 1758) naturalized and are constantly found.

*Аннотация.* Фауна рыб водоемов Нижневартовского района (Россия, Западная Сибирь, ХМАО — Югра) включает следующее количество таксонов, распространение которых не вызывает сомнений: 24 вида, 19 родов, 10 семейств, 6 отрядов и 2 класса. Кроме того, присутствие еще 5 видов требует подтверждения. Наиболее многочислен отряд *Cypriniformes* с 11 несомненными видами (45,9%), за которым следуют отряды *Salmoniformes* с 5 видами (20,8%), *Perciformes* (3 вида, 12,5%), *Petromyzoniformes* (2 вида, 8,3%), *Acipenseriformes* (2 вида, 8,3%) и *Gadiiformes* с одним видом (4,2%). Из 5-ти видов-интродуцентов (для 3-х из которых требуется подтверждение) натурализовались и постоянно встречаются в водоемах Нижневартовского района лещ *Abramis brama* (Linnaeus, 1758) и обыкновенный судак *Sander lucioperca* (Linnaeus, 1758).

*Keywords:* annotated checklist, fishes, fauna, Nizhnevartovsk district, introducents.

*Ключевые слова:* аннотированный список, рыбы, фауна, Нижневартовский район, интродуценты.

Nizhnevartovsk district waters include Ob River (eastern part of the Vakh–Salym subdistrict Middle Ob area Ob–Irtysh basin [1, p. 55]) with tributaries, forming a lake–river system, largest of them are the Sosninski Yogan River basin, Vakh River basin, Vatinski Yogan River basin, Kul'yogan River basin, Urevski Yogan River basin and Agan River basin (Figure).

Because of the central location in the Middle Ob area and opening up the lake–river systems, the Nizhnevartovsk district waters endemic are absent. The fauna of fish basically corresponds to the Middle Ob fish fauna [1, p. 54]. However, there are some of the local features of that characterize the conditions of fish dwelling:

– delayed (swamp) drainage combined with the long period of the rivers under the ice create the conditions under which the second half of winter in the river waters disappear completely oxygen;

– the concentration in the basins of the Vakh River, Vatinski Yogan River, Agan River significant part of oil and gas enterprises.

The described conditions are factors limiting widespread fish species that are susceptible to oxygen content and pollutants dissolved in water, and susceptible to the accumulation of pollutants in sediments.

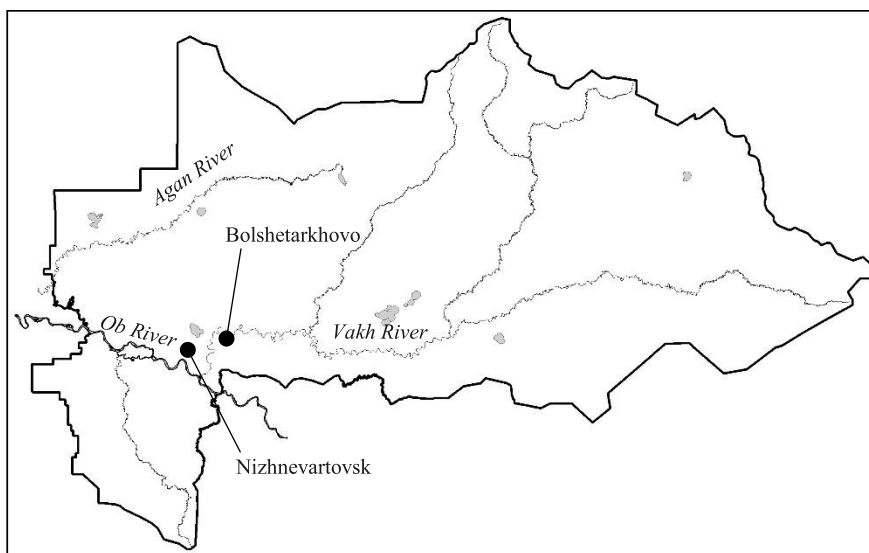


Figure. Nizhnevartovsk district.

In addition, the presence of fisheries and climate change may also affect the quantitative and qualitative structure of the fish fauna in the Nizhnevartovsk district. For example, downsizing or disappearance of some native species from among *Acipenseridae* Bonaparte, 1832, *Salmonidae* Rafinesque, 1815 or *Coregonidae* Cope, 1872 and penetration of newly introduced species.

The quantitative and qualitative structure of fish populations in the Middle Ob area generally presented in sufficient detail. Her studies in different years were engaged in B. Ioganzen et al. [2], V. Sudakov [3], V. Malkov [4], A. Gundrizer et al. [5], G. Karasev, V. Popkov, D. Pavlov, A. Mochek [1], V. Romanov et al. [7], E. Yadrenkina [8], A. Pavlenko [9], E. Interesova [10], and others. However, we believe that in fact, fish fauna Nizhnevartovsk district waters needs more detailed studies [4, 6].

This paper presents the first checklist of Nizhnevartovsk district fishes including introduced species, with notes on taxonomy, protected status, distribution and type localities.

Table 1.

ACCEPTED SPELLING OF THE SCIENTIFIC NAME

No.	Common name	Scientific name	Source
1	Arctic lamprey	<i>Lethenteron camtschaticum</i> (Tilesius, 1811)	[14]
2	Humpback whitefish	<i>Coregonus pidschian</i> (Gmelin 1789)	[14]
3	Prussian carp	<i>Carassius gibelio</i> (Bloch 1782)	[14]
4	Siberian gudgeon	<i>Gobio cynocephalus</i> Dybowski, 1869	[14]
5	Siberian dace	<i>Leuciscus baicalensis</i> (Dybowski, 1874)	[14]
6	Lake minnow	<i>Rhynchocypris percnurus</i> (Pallas 1814)	[14], [20]
7	Ruffe	<i>Gymnocephalus cernua</i> (Linnaeus, 1758)	[14]
8	Pike-perch	<i>Sander lucioperca</i> (Linnaeus, 1758)	[14]

The checklist has been compiled from the works [1–19], as well own data obtained in 1995–2005. Fishes system and the spelling of the scientific name given according to systematic indexes [11, pp. 8–15; 12, pp. 6–10], (with the exception of see Table 1).

*Results*

The confirmed fishes of Nizhnevartovsk district waters (Russia, Western Siberia, Khanty–Mansi autonomous okrug (district)) comprise 24 species in 19 genera, 10 families, 6 orders and 2 classes found in Middle Ob River basin. The most diverse order is the *Cypriniformes* with 11 confirmed species (45.9%) followed by *Salmoniformes* with 5 species (20.8%), *Perciformes* (3 species, 12.5%), *Petromyzoniformes* (2 species, 8.3%), *Acipenseriformes* (2 species, 8.3%) and *Gadiiformes* with 1 species (4.2%). The most diverse family is the *Cyprinidae* with 9 confirmed species (37.5%) followed by *Coregonidae* with 3 species (12.5%) and *Percidae* 3 species (12.5%). Two families have 2 species. Five families have only one species.

Endemics not represented. Five species require confirmation of their presence in Nizhnevartovsk district. Of the five introduced species (including three require confirmation), the freshwater bream *Abramis brama* (Linnaeus, 1758) and the pike–perch *Sander lucioperca* (Linnaeus, 1758) naturalized and are constantly found.

Five taxa of the rank of species / subspecies (depending on the researcher’s point of view [11, 14, 15, 19]) have in our opinion, the uncertain status (see Table 2).

Table 2.

FISH SPECIES WITH UNCERTAIN SYSTEMATIC STATUS

No.	Common name	Taxa rank	
		species	subspecies
1	Humpback whitefish	<i>Coregonus pidschian</i> (Gmelin 1789) *	<i>Coregonus lavaretus pidschian</i> (Gmelin, 1789)
2	Sheefish, nelma	<i>Stenodus nelma</i> (Pallas, 1773)	<i>Stenodus leucichthys nelma</i> (Pallas, 1773) *
3	Prussian carp	<i>Carassius gibelio</i> (Bloch 1782) *	<i>Carassius auratus gibelio</i> (Blokh, 1782)
4	Siberian gudgeon	<i>Gobio cynocephalus</i> Dybowski, 1869 *	<i>Gobio gobio cynocephalus</i> Dybowski, 1869
5	Siberian dace	<i>Leuciscus baicalensis</i> (Dybowski, 1874) *	<i>Leuciscus leuciscus baicalensis</i> (Dybowski, 1874)

\* — accepted status.

The distribution of fishes is summarized for each species within Nizhnevartovsk district type localities (Table 3).

Table 3.

DISTRIBUTION OF FISH TAXA IN NIZHNEVARTOVSK DISTRICT WATERS BY TYPE LOCALITIES

Type localities	Families	Genera	Species	Unconfirmed (sp.)	Introducents (sp.)	Siberian Endemics (sp. / ssp.)
Rivers, incl.:	11	21	25	4	5	6
Ob	10	20	24	3	4	6
Vakh	11	20	24	3	4	4
other rivers	6	11	12	0	0	2
Lakes	4	10	12	1	0	2

The greatest diversity is seen in the rivers Ob and Vakh, the smallest in the lakes.

Zoogeographically, the Nizhnevartovsk district waters fish fauna comprises representatives of five fauna complexes: Boreal–plain with 10 species (northern pike, Prussian carp, crucian carp,

Siberian gudgeon, ide, lake minnow, roach, Siberian spined loach, river perch); Arctic–freshwater — 6 species (humpback whitefish, muksun, peled, sheefish (nelma), Eurasian minnow, burbot); Ancient upper Tertiary — 4 species (arctic lamprey, Siberian brook lamprey, Siberian sturgeon, sterlet sturgeon); Boreal–piedmont — 3 species (taimen, Siberian dace, Siberian stone loach) and Ponto–Caspian which 1 species — tench (given by G. Karasev [1, pp. 54–55]).

### Checklist

## CLASS CEPHALASPIDOMORPHI

### Order PETROMYZONIFORMES

(1 family, 1 genus and 2 species)

#### Family PETROMYZONIDAE Bonaparte, 1832

(1 genus and 2 species)

Genus *Lethenteron* Creaser et Hubbs, 1922

1. *Lethenteron camtschaticum* (Tilesius, 1811) — Arctic lamprey. Ob River, Vakh River (lower reaches). Rare, anadromous, native. IUCN Red List Status: Least Concern (LC).

2. *Lethenteron kessleri* (Anikin, 1905) — Siberian brook lamprey. Ob River, Vakh River. Rare, local, native. IUCN Red List Status: Not Evaluated (NE).

## CLASS OSTEICHTHYES

### Order ACIPENSERIFORMES

(1 family, 1 genus and 2 species)

#### Family ACIPENSERIDAE Bonaparte, 1832

(1 genus and 2 species)

Genus *Acipenser* Linnaeus, 1758

3. *Acipenser baerii* Brandt, 1869 — Siberian sturgeon. Ob River, Vakh River. Rare, anadromous, native. IUCN Red List Status: Endangered (EN) A2bcd+4bc. Khanty–Mansi autonomous okrug (district) Red Book Status: 1 category. Endangered.

4. *Acipenser ruthenus* Linnaeus, 1758 — Sterlet sturgeon. Ob River, Vakh River. Common, potamodromous, native. IUCN Red List Status: Vulnerable (VU) A2cde.

Comment: *Acipenser ruthenus marsiglii* Brandt, 1833 is the subspecies in the Ob and Yenisei River basins.

### Order SALMONIFORMES

(3 families, 4 genera, and 6 species)

#### Family SALMONIDAE Rafinesque, 1815

(1 genus and 1 species)

Genus *Hucho* Günther, 1866

5. *Hucho taimen* (Pallas, 1773) — Taimen. Ob River, Lower Vakh River. Rare, potamodromous, native. IUCN Red List Status: Vulnerable (VU) A2bc. Khanty–Mansi autonomous okrug (district) Red Book Status: 1 category. Endangered.

#### Family COREGONIDAE Cope, 1872

(2 genera and 4 species)

Genus *Coregonus* Lacepède, 1804

6. *Coregonus pidschian* (Gmelin, 1789) — Humpback whitefish. Ob River. Rare, anadromous, native. IUCN Red List Status: Least Concern (LC).

Comment: Reported from the Middle Ob River (Vakh–Salym subdistrict) by G. Karasev [1, p. 54, Table 1.9], but not confirm by the described specimens for Nizhnevartovsk district.

7. *Coregonus muksun* (Pallas, 1814) — Muksun. Ob River. Rare, anadromous, native. IUCN Red List Status: Least Concern (LC).

8. *Coregonus peled* (Gmelin, 1789) — Peled. Ob River, Vakh River, Sosninski Yogan River (one specimen, caught in 2005 from the lower reaches of the Sosninski Yogan River). Rare, anadromous / potamodromous, native. IUCN Red List Status: Least Concern (LC).

Genus *Stenodus* Richardson, 1836

9. *Stenodus leucichthys* (Güldenstädt, 1772) — Sheefish (nelma). Ob River, Vakh River. Rare, anadromous, native.

Comment: *Stenodus leucichthys nelma* (Pallas, 1773) is the subspecies in the Rivers of Arctic Ocean basin. IUCN Red List Status: Least Concern (LC).

#### Family **ESOCIDAE** Cuvier, 1816

(1 genus and 1 species)

Genus *Esox* Linnaeus, 1758

10. *Esox lucius* Linnaeus, 1758 — Northern pike. Rivers and flowing lakes. Common, local, native. IUCN Red List Status: Least Concern (LC).

#### Order **CYPRINIFORMES**

(3 families, 12 genera, and 14 species)

#### Family **CYPRINIDAE** Bonaparte, 1832

(10 genera and 12 species)

Genus *Abramis* Cuvier, 1816

11. *Abramis brama* (Linnaeus, 1758) — Freshwater bream. Ob River, Vakh River. Common, local, introduced. IUCN Red List Status: Least Concern (LC).

Comment: *Abramis brama orientalis* Berg, 1949 is the subspecies introduced to the Novosibirsk reservoir of Ob River. Presence in Vakh River needs confirmation. Record from V. Popkov [1, p. 225, Table 3.12].

Genus *Carassius* Jarocki, 1822

12. *Carassius gibelio* (Blokh, 1782) — Prussian carp. Large rivers and floodplain lakes. Common, local, native. IUCN Red List Status: Not Evaluated (NE).

13. *Carassius carassius* (Linnaeus, 1758) — Crucian carp. Lakes. Common, local, native. IUCN Red List Status: Least Concern (LC).

Genus *Ctenopharyngodon* Steindachner, 1866

14. *Ctenopharyngodon idella* (Valenciennes, 1844) — Grass carp. Ob River. Rare, potamodromous, introduced. IUCN Red List Status: Not Evaluated (NE).

Comment: Reported from the Ob River by E. Interesova [10, p. 87], but not confirm by the described specimens for Nizhnevartovsk district.

Genus *Cyprinus* Linnaeus, 1758

15. *Cyprinus carpio* Linnaeus, 1758 — Common carp. Ob River, Vakh River. Rare, local, introduced. IUCN Red List Status: Vulnerable (VU) A2ce. Farmed in Khanty–Mansi autonomous okrug (district).

Comment: Reported from the Middle Ob River by A. Gundrizer et al. [5, p. 320] and from the Vakh River by V. Malkov [4, p. 26], but the presence in Ob River and Vakh River for Nizhnevartovsk district at the present time needs confirmation.

Genus *Gobio* Cuvier, 1816

16. *Gobio cynocephalus* Dybowski, 1869 — Siberian gudgeon. Rivers; flowing lakes of Agan River basin. Rare, local, native. IUCN Red List Status: Not Evaluated (NE).

Comment: Reported from the Surgut depression non-floodplain lakes by E. Yadrenkina [8, p. 101] as gudgeon *Gobio gobio* (Linnaeus, 1758), but not confirm by the described specimens for Nizhnevartovsk district lakes.

Genus *Leuciscus* Cuvier (ex Klein), 1816

17. *Leuciscus idus* (Linnaeus, 1758) — Ide. Rivers and flowing lakes. Common, local, native. IUCN Red List Status: Least Concern (LC).

18. *Leuciscus baicalensis* (Dybowski, 1874) — Siberian dace. Rivers and flowing lakes. Common, local, native. IUCN Red List Status: Not Evaluated (NE).

Genus *Phoxinus* Rafinesque, 1820

19. *Phoxinus phoxinus* (Linnaeus, 1758) — Eurasian minnow. Rivers. Rare, local, native. IUCN Red List Status: Least Concern (LC).

Genus *Rhynchocypris* Günther, 1889

20. *Rhynchocypris percunurus* (Pallas 1814) — Lake minnow. Lakes. Rare, local, native. IUCN Red List Status: Least Concern (LC).

Genus *Rutilus* Rafinesque, 1820

21. *Rutilus rutilus* (Linnaeus, 1758) — Roach. Rivers and flowing lakes. Common, potamodromous / local, native. IUCN Red List Status: Least Concern (LC).

Comment: We agree with the opinion of E. Tsepkin [11, p. 320], that the assignment of roach from the Siberian waters [7, p. 104; 19, p. 65,] status of subspecies *Rutilus rutilus lacustris* Pallas, 1814 based on indefinite criteria.

Genus *Tinca* Cuvier, 1816

22. *Tinca tinca* (Linnaeus, 1758) — Tench. Lakes of Agan River basin. Rare, local, native. IUCN Red List Status: Least Concern (LC).

Comment: Reported from the Surgut depression non-floodplain lakes by E. Yadrenkina [8, p. 101], but not confirm by the described specimens for Nizhnevartovsk district.

#### Family **BALITORIDAE** Swainson, 1839

(1 genus and 1 species)

Genus *Barbatula* Linck, 1790

23. *Barbatula toni* (Dybowski, 1869) — Siberian stone loach. Rivers. Rare, local, native. IUCN Red List Status: Not Evaluated (NE).

#### Family **COBITIDAE** Swainson, 1838

(1 genus and 1 species)

Genus *Cobitis* Linnaeus, 1758

24. *Cobitis melanoleuca* Nichols, 1925 — Siberian spined loach. Ob River, Vakh River. Rare, local, native. IUCN Red List Status: Least Concern (LC).

#### Order **SILURIFORMES**

(1 family, 1 genus and 1 species)

#### Family **ICTALURIDAE** Taylor, 1954

(1 genus and 1 species)

Genus *Ictalurus* Rafinesque, 1815

25. *Ictalurus punctatus* (Rafinesque, 1818) — Channel catfish. The first record. Known one specimen, catch in 2003 from the Vakh River near Bolshetarkhovo. Rare, local, introduced. IUCN Red List Status: Least Concern (LC). Farmed in Khanty–Mansi autonomous okrug (district).

Comment: The status requires confirmation. Information about the naturalization of this species in Nizhnevartovsk district waters is absent. A possible source of inadvertent introduction is a reservoir of Surgut Power Station on Chornaya River (Middle Ob River basin, Surgut district).

#### Order **GADIIFORMES**

(1 family, 1 genus and 1 species)

##### Family **LOTIDAE** Jordan et Evermann, 1898

(1 genus and 1 species)

Genus *Lota* Oken, 1817

26. *Lota lota* (Linnaeus, 1758) — Burbot. Rivers and flowing lakes. Common, potamodromous / local, native. IUCN Red List Status: Least Concern (LC).

#### Order **PERCIFORMES**

(1 family, 3 genera and 3 species)

##### Family **PERCIDAE** Cuvier, 1816

(3 genera and 3 species)

Genus *Gymnocephalus* Bloch, 1793

27. *Gymnocephalus cernua* (Linnaeus, 1758) — Ruffe. Rivers and flowing lakes. Common, local, native. IUCN Red List Status: Least Concern (LC).

Genus *Perca* Linnaeus, 1758

28. *Perca fluviatilis* Linnaeus, 1758 — River Perch. Rivers and lakes. Common, local, native. IUCN Red List Status: Least Concern (LC).

Genus *Sander* Oken, 1817

29. *Sander lucioperca* (Linnaeus, 1758) — Pike-perch. Ob River, Vakh River. Rare, potamodromous / local, introduced. IUCN Red List Status: Least Concern (LC).

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