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IDENTIFICATION OF THREATS OF FISH PROTECTED SPECIES IN THE SITE ROSCI0045 THE JIU CORRIDOR

Ciupeanu Călugăru Eleonora Daniela[1*], Țucă Ovidiu Andrei[1] , Stan Cătălin[1]
[1*]University of Craiova, Faculty of Horticulture, Craiova
** Correspondence author. E-mail*: ciupeanudaniela@gmail.com

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ABSTRACT

This paper presents the results of the research on threats of fish protected species in the site ROSCI0045 the Jiu corridor. In the site ROSCI0045 the Jiu corridor there have been identified 15 species of fish: Alosa immaculata Aspius aspius, Barbus barbus,Barbus meridionalis,Cobitis taenia, Gobio albipinnatus, Gobio kessleri, Gymnocephalus baloni, Gymnocephalus schraetzer, Misgurnus fossilis, Pelecus cultratus, Rhodeus sericeus, amarus, Sabanejewia aurata, Zingel streber, Zingel zingel. From the analysis of threats off fish protected species in the site ROSCI0045 The Jiu Corridor it was found that for every endangered spercies there are several threats.

INTRODUCTION

Rivers and lakes cover less than 1% of Earth's surface but represent substantial biodiversity, including nearly 18,000 fish species that constitute one-fourth of global vertebrates (Allen & Pavelsky 2018, van der Laan 2020). These freshwater fishes support the functioning and stability of ecosystems through their contribution tobiomass production and regulation of trophic networks and nutrient cycles (Villeger et al. 2017). Freshwater fishes also contribute to human welfare as key food resources (Hassan et al. 2005) and for recreative and cultural activities (Dudgeon et al. 2006).

Human activities have also modified the natural environment by chang¬ing land uses, altering flow regimes, frag¬menting rivers by dams, polluting soil and waters, and altering climate; such actions indirectly favor extinction of native species and/or establishment of non-native species (Pereira et al. 2010, Reid et al. 2019, Tickner et al. 2020). However, biodiversity is not restricted to purely taxonomic components but also includes functional and phylogenetic diver¬sities.

Among the 10,682 fish species considered, 170 fish species went extinct in a river basin, but this number might be under¬estimated because of the time lag between effective extinction and published extinction reports (Jackson & Sax 2010). In addition, 23% of freshwater fish species are currently considered to be threatened (IUCN, 2018), and some of these might become extinct in the near future (Albert et al. 2021).

The site ROSCI0045 The Jiu Corridor takes place mainly on the administrative territory of Dolj county - 73.76% of the site area, as well as in Gorj

county - 25.07% of the site area; very small areas are found in Olt counties - 0.67% of the site area and Mehedinți 0.29% of the site area. The total area of the natural area of community interest ROSCI0045 Jiu Corridor is 71,452 ha, being arranged on a length of about 150 km from the Getic Subcarpathians to the Danube.

Within the limits of the ROSCI0045 Jiu Corridor site, there are two Natura 2000 sites: ROSPA0023 Jiu-Danube Confluence, ROSPA0010 Bistreț and five nature reserves: 2,390 Bucovăț fossil site, 2,391 Drănic fossil site, 2,399 Cleanov, 2,448 Gârbov IV fossil site. Zăval. At landscape level in ROSCI0045 Jiu Corridor there are ecosystems of aquatic and marshy wetlands, open areas of xeric and alluvial meadows, hayfields and forest ecosystems.

MATERIAL AND METHODS

The study on the fish was performed at the end of spring, and of summer (May-August) and in the autumn periods (September-October).

Through the exact knowledge of fish populations, of the changes that occur in the component within the aquatic ecosystems in order to restore and conserve it requires laborious work, based on exact methodologies, over a minimum interval of three years, carried out on portions of hydrogeological habitats as uniform as possible and more representative.

The sampling of the ichthyofauna in the protected area under study was carried out in compliance with the legislation in force (Law 192/2001 with subsequent amendments and additions) at the respective times and with Ordinance 1133/2005 regarding obtaining fishing authorization for scientific purposes, and the quantities of products obtained from scientific fishing were not subject to commercialization.

The equipment that was used to achieve the proposed objective was: lie detector, jeweler, camera, portable magnifying glass, determination key. The equipment has of course been disinfected both before and after use to prevent the spread of diseases and parasites. The biological material extracted for the investigation was released after the completion of the investigation phases. The sampling period in rheophilic and limnic stations was at the end of spring, and of summer (May-August) and in the autumn periods (September-October).

The sampling by which the ichthyofauna study was carried out where there were areas with shallow water was done using fishing nets, mainly used by placing them at both ends of the segments chosen for sampling (the ends of a 75-meter segment were blocked), in 5 representative stations from the perimeter of the area. All the fish caught were kept in buckets of water.

To minimize the stress caused to them, the period in which they were captive was as short as possible and the counting was carried out after each segment and the fish were released immediately after, in the area where they were fished. The fish were handled to avoid losses and injuries.

RESULTS AND DISCUSSIONS

The study on the fish was performed at the end of spring, and of summer (May-August) and in the autumn periods (September-October) 2021.

In the site ROSCI0045 the Jiu corridor there have been identified 15 species of fish: *Alosa immaculata Aspius aspius, Barbus barbus,Barbus meridionalis,Cobitis taenia, Gobio albipinnatus, Gobio kessleri, Gymnocephalus*

baloni, Gymnocephalus schraetzer, Misgurnus fossilis, Pelecus cultratus, Rhodeus sericeus, amarus, Sabanejewia aurata, Zingel streber, Zingel zingel.

From the analysis of threats off fish protected species in the site ROSCI0045 The Jiu Corridor it was found that for every endangered spercies there are several threats (Table1.

Table 1

Threats of fish protected species in the site ROSCI0045 The Jiu Corridor

Species	Threat code	Threat description
Alosa immaculata	F02.01.02	Net fishing
Aspius aspius	F02.01.01	Fishing with traps, lines, winches, etc.
Barbus barbus	F02.03.02	Rod fishing
Barbus meridionalis	F05.04	Poaching
Cobitis taenia	K01.03	Drainig
Gobio albipinnatus	J02.05.02	Changing the structure of continental watercourses
Gobio kessleri	J02.06.02	Surface water intakes for water supply
Gymnocephalus baloni	J03.02.01	Reducing migration/migration barriers
Gymnocephalus schraetzer	J03.02.01	Reducing migration/migration barriers
Misgurnus fossilis	J03.02.01	Reducing migration/migration barriers
Pelecus cultratus	J03.02.01	Reducing migration/migration barriers
Rhodeus sericeus, amarus	J03.02.01	Reducing migration/migration barriers
Sabanejewia aurata	J03.02.01	Reducing migration/migration barriers
Zingel streber	J03.02.01	Reducing migration/migration barriers
Zingel zingel	J03.02.01	Reducing migration/ migration barriers

CONCLUSIONS

From the analysis of threats of fish protected species in the site ROSCI0045 The Jiu Corridor it was found that for every endangered spercies there are several threats.

According to our data, the most common threats are:

Reducing migration/migration barriers (J03.02.01);

Net fishing (F02.01.02);

Fishing with traps, lines, winches, etc. (F02.01.01);

Draining (K01.03;

Rod fishing (F02.03.02.);
Poaching (F05.04);
Changing the structure of continrntal watercourses (J02.05.02).

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