





Invasive species and protection of freshwater native biodiversity in Georgia

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Introduction

The territory of Georgia is included in two of the 36 hotspots identified by Conservation International as the richest and most threatened reservoirs of plant and animal life on Earth. These are the Caucasus and Iran-Anatolian hotspots (Fig.1-3). Invasive species pose a special risk in such regions, as they can have a large-scale negative impact on local biodiversity. In some cases, alien species have had a negative impact on local species and played an important role in habitat modification.

Materials and Methods

The papers published in 2017–2022 on Invasive and Alien Species (IAS) in Georgia were analyzed, as were the data from the implemented international projects. Along with this, for situational analysis and assessment, current studies and obtained samples of macroinvertebrates and fishes were used (Fig. 4–7).



Figure 1. Map of Georgia







Figure 4. Macroinvertebrate sampling

Figure 5. Fish sampling



Figure 6. Electrofishing

Figure 2. Caucasus hotspot

Figure 3. Irano-Anatolian hotspot

Results and Conclusion

Several harmful invasive species were detected during the study period; IAS checklists were done within the framework of the Global Register of Introduced and Invasive Species (GRIIS), 32 non-native extant and horizon fish species were screened for their risk of invasiveness under current and predicted climate conditions. However, no significant progress has been made. IAS are unnoticed and underappreciated gifts/threats to local biodiversity and economies, and immediate action is required to uncover alien species introduction tendencies, evaluate existing and potential risks, raise public awareness, and plan monitoring and mitigation measures. Effective measures for the control of the introduction and distribution of invasive species should be activated, as well as inventory and monitoring IAS.



Pseudorasbora parva



Syngnathus abaster



Oreochromis niloticus





Figure 7. Sampling site







Mytilopsis leucophaeata



Corbicula fluminalis



Carassius gibelio

Rhinogobius lindbergi