proceedings

Abstract

European Catfish Massive Aggregations: Turning a Behavioural Threat into a Management Opportunity †

Diogo Ribeiro [1,*,‡], Christos Gkenas [1], Diogo Dias [1,2], Mafalda Moncada [1], Beatriz Castro [1], Rui Rivaes [1] and Filipe Ribeiro [1,3]

[1] MARE—Marine and Environmental Sciences Centre, ARNET—Aquatic Research Network, Faculty of Sciences, University of Lisbon, 1749-016 Lisbon, Portugal
[2] CE3C—Centre for Ecology, Evolution and Environmental Changes, Global Change and Sustainability Institute, Faculty of Sciences, University of Lisbon, 1749-016 Lisbon, Portugal
[3] Departamento de Biologia, Faculdade de Ciências da Universidade de Lisboa, 1749-016 Lisbon, Portugal
* Correspondence: drribeiro@ciencias.ulisboa.pt
† Presented at the XI Iberian Congress of Ichthyology, Vila Real, Portugal, 23–27 June 2026.
‡ Presenting author (Oral Presentation).

Abstract

Introduction: The colossal European catfish (*Silurus glanis*) is the largest invasive freshwater fish on the Iberian Peninsula, reaching up to 2.8 metres and 130 kg in weight. Its large size makes it a highly valued target for recreational anglers, leading to repeated illegal introductions across several Iberian watersheds. Despite its appeal to anglers, this species is recognised as a high-impact invasive predator with substantial ecological consequences for European freshwater ecosystems. Recently, large catfish aggregations have been reported by anglers and environmentalists in several areas of Portugal and Spain. These impressive aggregations are frequently documented on videos and posted on social media networks (Facebook, WhatsApp groups, etc) or shared directly with our team members. **Objective:** Such records provide a valuable source of information for identifying the habitats and seasonal periods associated with aggregation behaviours and may therefore support more efficient management and population control actions. **Methodology:** We compiled information on European catfish aggregation events in Southern Iberia, namely date and location. The catfish aggregations were mapped, and their general habitat characteristics were described. **Results:** We recorded 10 catfish aggregation events, most of which occurred between May and June. These were generally located in transitional areas between lentic and lotic habitats, especially in narrower river sections. Possible explanations include hydromorphological constraints, seasonal environmental conditions, and species-specific behavioural responses, although these mechanisms require further investigation. **Conclusions:** Within the LIFE PREDATOR project, which focuses on the management of European catfish in the Tagus watershed, knowledge of aggregation locations is important to direct population control efforts aimed at reducing the abundance of this invasive fish. Moreover, the identification of common habitat characteristics may help predict other potential aggregation sites and improve the planning of future management actions.

Keywords: *Silurus glanis*; invasive fish; freshwater ecosystems; fisheries management; conservation biology

Check for updates

Academic Editor: Alberto Teodorico Correia

Published: 17 June 2026

Copyright: © 2026 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license.

Author Contributions: Conceptualization, D.R., C.G. and F.R.; methodology, D.R., C.G., D.D., M.M., B.C., R.R., and F.R.; investigation, D.R., C.G. and F.R.; resources, D.R., C.G., D.D., R.R. and F.R.; data curation, D.R. and F.R.; writing—original draft preparation, D.R., C.G. and F.R.; writing—review and editing, D.R., C.G., D.D., M.M., B.C., R.R. and F.R.; funding acquisition, C.G., R.R. and F.R. All authors have read and agreed to the published version of the manuscript.

Funding: This study was conducted within the framework of the project LIFE PREDATOR co-funded by the European Commission under the EU LIFE Nature & Biodiversity 422 Project programme (GA101074458). MARE—Marine and Environmental Sciences Centre was financed by the FCT (UID/04292/2025, https://doi.org/10.54499/UID/04292/2025) and the PRR (UID/PRR/04292/2025, https://doi.org/10.54499/UID/PRR/04292/2025). ARNET—Aquatic Research Infrastructure Network was financed by FCT (LA/P/0069/2020, https://doi.org/10.54499/LA/P/0069/2020). FCT funding was awarded to the institution "Centro de Ecologia, Evolução e Alterações Ambientais" with reference UID/00329/2025. D. Dias (2023.01409.BD, https://doi.org/10.54499/2023.01409.BD) is supported by FCT with a PhD grant. R. Rivaes (2024.09047.CEECIND), C. Gkenas (DL57/2016/CP1479/CT0036) and F. Ribeiro (CEEC/0482/2020, https://doi.org/10.54499/2020.00482.CEECIND/CP1595/CT0001) are supported by individual contracts from FCT.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in the study will be made available by the authors on request.

Conflicts of Interest: The authors declare no conflicts of interest.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.