



Species richness in North Atlantic fish: Process concealed by pattern

Gislason, Henrik; Collie, Jeremy; MacKenzie, Brian R.; Nielsen, Anders; de Fatima Borges, Maria ; Bottari, Teresa; Chaves, Corina; Dolgov, Andrey V.; Dulcic, Jakov; Duplisea, Daniel; Fock, Heino O.; Gascuel, Didier; de Sola, Luis Gil; Hiddink, Jan Geert; ter Hofstede, Remment; Isajlovic, Igor; Pall Jonasson, Jonas; Jorgensen, Ole; Kristinsson, Kristjan; Marteinsdottir, Gudrun; Masski, Hicham; Matic-Skoko, Sanja; Payne, Mark R.; Peharda, Melita; Reinert, Jakup; Sólmundsson, Jon; Silva, Cristina; Stefansdottir, Lilja; Velasco, Francisco; Vrgoc, Nedo

Global Ecology and Biogeography

DOI:

[10.1111/geb.13068](https://doi.org/10.1111/geb.13068)

Published: 01/05/2020

Peer reviewed version

[Cyswllt i'r cyhoeddriad / Link to publication](#)

Dyfyniad o'r fersiwn a gyhoeddwyd / Citation for published version (APA):

Gislason, H., Collie, J., MacKenzie, B. R., Nielsen, A., de Fatima Borges, M., Bottari, T., Chaves, C., Dolgov, A. V., Dulcic, J., Duplisea, D., Fock, H. O., Gascuel, D., de Sola, L. G., Hiddink, J. G., ter Hofstede, R., Isajlovic, I., Pall Jonasson, J., Jorgensen, O., Kristinsson, K., ... Vrgoc, N. (2020). Species richness in North Atlantic fish: Process concealed by pattern. *Global Ecology and Biogeography*, 29(5), 842-856. <https://doi.org/10.1111/geb.13068>

Hawliau Cyffredinol / General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

1 The explanatory power of metabolic, neutral and descriptive models of fish species richness in the
2 northern Atlantic

3

4 Henrik Gislason¹, Jeremy Collie², Brian R. MacKenzie³, Anders Nielsen³, Maria de Fatima Borges⁴, Teresa
5 Bottari⁵, Corina Chaves⁴, Andrey V. Dolgov⁶, Jakov Dulčić⁷, Daniel Duplisea⁸, Heino O. Fock⁹, Didier Gascuel¹⁰,
6 Luís Gil de Sola¹¹, Jan Geert Hiddink¹², Remment ter Hofstede¹³, Igor Isajlović⁷, Jónas Páll Jonasson¹⁴, Ole
7 Jørgensen³, Kristján Kristinsson¹⁴, Gudrun Marteinsdottir¹⁵, Hicham Masski¹⁶, Sanja Matić-Skoko⁷, Mark R.
8 Payne³, Melita Peharda⁷, Jakup Reinert¹⁷, Jón Sólmundsson¹⁴, Cristina Silva⁴, Lilja Stefansdottir¹⁵, Francisco
9 Velasco¹⁸, and Nedo Vrgoč⁷

10

11 ¹Corresponding author: DTU Aqua, Technical University of Denmark, Kemitorvet, Building 202, DK2800 Lyngby,
12 Denmark, E-mail:hg@aqua.dtu.dk, ²Graduate School of Oceanography, University of Rhode Island,
13 Narragansett, USA, ³DTU Aqua, Technical University of Denmark, Kemitorvet, Building 202, DK2800 Lyngby,
14 Denmark, ⁴Instituto Português do Mar e da Atmosfera (IPMA), Lisboa, Portugal, ⁵Institute for Coastal Marine
15 Environment (IAMC), National Research Council (CNR), Messina, Italy, ⁶Knipovich Polar Research Institute of
16 Marine Fisheries and Oceanography (PINRO), Murmansk, Russia, ⁷Institute of Oceanography and Fisheries,
17 Laboratory of Ichthyology and Coastal Fishery, Split, Croatia, ⁸Fisheries and Oceans Canada Canada, Institut
18 Maurice-Lamontagne, Mont-Joli, QC, Canada, ⁹Thuenen Institute of Sea Fisheries, Bremerhaven, Germany,
19 ¹⁰Agrocampus Ouest, Université Européenne de Bretagne, Rennes, cedex, France, ¹¹Instituto Español de
20 Oceanografía, Málaga, Spain, ¹²School of Ocean Sciences, Bangor University, Menai Bridge, Anglesey, UK,
21 ¹³Van Oord Dredging and Marine Contractors, Rotterdam, The Netherlands, ¹⁴Marine and Freshwater Research
22 Institute, Reykjavík, Iceland, ¹⁵University of Iceland, Reykjavik, Iceland, ¹⁶Institut National de Recherche

23 Halieutique, Casablanca, Morocco, ¹⁷Faroe Marine Research Institute, Tórshavn, Faroe Islands, ¹⁸Instituto

24 Español de Oceanografía, Santander, Spain.

25

26

27 Acknowledgements

28 Thanks to E. Collie for suggesting improvements to the manuscript. Initial data compilations from EU
29 waters were conducted as part of the EU Network of Excellence MarBEF (Marine Biodiversity and
30 Ecosystem Functioning; contract number GOCE-CT-2003-505446), and supported by the Center for
31 Macroecology, Evolution and Climate (Danish National Research Foundation). The first author was
32 supported by the EU FP7-KBBE project VECTORS (project ID: 266445).

33

34 Biosketch

35 Henrik Gislason is professor emeritus in fisheries ecology and interested in fish community models,
36 species interaction, fish life history theory, marine biodiversity, and the impacts of fishing on marine
37 ecosystems.

38

39 Keywords: marine fish, biodiversity, species size, temperature, density, abundance.