

Publication list

OSCAR PUEBLA

May 2026

46 peer-reviewed contributions, 1640 citations, h-index 21 (Google Scholar)

Group members underlined

Preprints (2)

Tysall EE, Arias CF, Hoepfner MP, Frandsen PB, Tracy CB, Bernal MA, **Puebla O**, McMillan WO, Manica A (2025) Comparative genomic analyses of trans-isthmian reef fishes reveals different molecular targets of environmental adaptation in different families. *bioRxiv*, October 28 2025.

<https://doi.org/10.1101/2025.10.28.684510>

Abdelghany S, Helmkamp M, Schechter, Veseli IA, Leray M, Eren AM, **Puebla O** (2025) Proteobacteria with chemosynthetic potential are highly enriched in the gills of *Hypoplectrus* reef fishes. *bioRxiv*, July 2 2025.

<https://doi.org/10.1101/2025.07.01.662686>

First- and last-authored peer-reviewed contributions (26)

26. Helmkamp M, Coulmance F, Heckwolf MJ, Acero AP, Balard A, Bista I, Domínguez-Domínguez O, Frandsen PB, Torres-Oliva M, Santaquiteria A, Tavera J, Victor BC, Robertson DR, Betancur-R R, McMillan WO, **Puebla O** (2025) Radiation with reproductive isolation in the near-absence of phylogenetic signal. *Science Advances* 11, eadt0973.

<https://doi.org/10.1126/sciadv.adt0973>

25. Heckwolf MJ, Gismann J, González-Santoro M, Coulmance F, Fuß J, McMillan WO, **Puebla O** (2025) Differences in colour pattern, behaviour and gene expression in the brain suggest divergent camouflage strategies in sympatric reef fish species. *Molecular Ecology* 34, e17748.

<https://doi.org/10.1111/mec.17748>

24. **Puebla O**, Aguilar-Perera A, Helmkamp M, Robertson DR, Estapé CJ, Estapé AM, Domínguez-Domínguez O (2025) *Hypoplectrus espinosai* sp. nov. (Teleostei: Serranidae), a new hamlet on coral reefs in the southwestern Gulf of Mexico. *Zootaxa* 5618, 509–524.

<https://doi.org/10.11646/zootaxa.5618.4.3>

23. Coulmance F, Akkaynak D, Le Poul Y, Höppner MP, McMillan WO, **Puebla O** (2024) Phenotypic and genomic dissection of color pattern variation in a reef fish radiation. *Molecular Ecology* 33, e17047.

<https://doi.org/10.1111/mec.17047>

22. Hench K, Helmkamp M, McMillan WO, **Puebla O** (2022) Rapid radiation in a highly diverse marine environment. *Proceedings of the National Academy of Sciences of the United States of America* 119, e202045711922.

<https://doi.org/10.1073/pnas.2020457119>

21. **Puebla O**, Coulmance F, Estapé CJ, Estapé AM, Robertson DRR (2022) A review of 263 years of taxonomic research on *Hypoplectrus* (Perciformes: Serranidae), with a redescription of *Hypoplectrus affinis* (Poey, 1861). *Zootaxa* 5093, 101–141.

<https://doi.org/10.11646/zootaxa.5093.2.1>

20. Benestan L*, Fietz K*, Loiseau N, Guerin P-E, Trofimenko E, Rühls S, Schmidt C, Rath W, Biastoch A, Pérez-Ruzafa A, Baixauli P, Forcada A, Arcas E, Lenfant P, Mallol S, Goñi R, Velez L, Höppner M, Kininmonth S, Mouillot D, **Puebla O***, Manel S (2021) Restricted dispersal in a sea of gene flow. *Proceedings of the Royal Society B* 288, 20210458. *These authors contributed equally

<https://doi.org/10.1098/rspb.2021.0458>

19. Fietz K, Trofimenko E, Guerin PE, Arnalb V, Torres-Oliva M, Lobréaux S, Pérez-Ruzafa A, Manel S, **Puebla O** (2020) New genomic resources for three exploited Mediterranean fishes. *Genomics* 112, 4297–4303.

- <https://doi.org/10.1016/j.ygeno.2020.06.041>
18. Peña J, Nöldeke G, **Puebla O** (2020) The evolution of egg trading in simultaneous hermaphrodites. *The American Naturalist* 195, 524–533.
<https://doi.org/10.1086/707016>
 17. **Hench K**, Vargas M, Höppner MP, McMillan WO, **Puebla O** (2019) Inter-chromosomal coupling between vision and pigmentation genes during genomic divergence. *Nature Ecology & Evolution* 3, 657–667.
<https://doi.org/10.1038/s41559-019-0814-5>
 16. **Moran BM**, **Hench K**, Waples RS, Höppner MP, Baldwin CC, McMillan WO, **Puebla O** (2019) The evolution of microendemism in a reef fish (*Hypoplectrus maya*). *Molecular Ecology* 28, 2872–2885.
<https://doi.org/10.1111/mec.15110>
 15. **Picq S**, Scotti M, **Puebla O** (2019) Behavioural syndromes as a link between ecology and mate choice: a field study in a reef fish population. *Animal Behaviour* 150, 219–237.
<https://doi.org/10.1016/j.anbehav.2019.02.016>
 14. **Puebla O**, **Picq S**, **Lesser JS**, **Moran B** (2018) Social-trap or mimicry? An empirical evaluation of the *H. unicolor* – *C. capistratus* association in Bocas del Toro, Panama. *Coral Reefs* 37, 1127–1137.
<https://doi.org/10.1007/s00338-018-01741-0>
 13. Petereit C, Bekkevold D, Nickel S, Dierking J, Hantke H, Hahn A, Reusch T, **Puebla O** (2018) Population genetic structure after 125 years of stocking in Northern Germany sea trout. *Conservation Genetics* 19, 1123–1136.
<https://doi.org/10.1007/s10592-018-1083-6>
 12. **Hench K**, McMillan WO, Betancur-R R, **Puebla O** (2017) Temporal changes in hamlet communities (*Hypoplectrus* spp, Serranidae) over 17 years. *Journal of Fish Biology* 91, 1475–1490.
<https://doi.org/10.1111/jfb.13481>
 11. **Theodosiou L**, McMillan WO, **Puebla O** (2016) Recombination in the eggs and sperm in a simultaneously hermaphroditic vertebrate. *Proceedings of the Royal Society B* 283, 20161821.
<https://doi.org/10.1098/rspb.2016.1821>
 10. **Picq S**, McMillan WO, **Puebla O** (2016) Population genomics of local adaptation versus speciation in coral reef fishes (*Hypoplectrus* spp, Serranidae). *Ecology and Evolution* 6, 2109–2124.
<https://doi.org/10.1002/ece3.2028>
 9. **Puebla O**, Bermingham E, McMillan WO (2014) Genomic atolls of divergence in coral reef fishes (*Hypoplectrus* spp, Serranidae). *Molecular Ecology* 23, 5291–5303.
<https://doi.org/10.1111/mec.12926>
 8. **Puebla O**, Bermingham E, McMillan WO (2012) On the spatial scale of dispersal in coral reef fishes. *Molecular Ecology* 21, 5675–5688.
<https://doi.org/10.1111/j.1365-294X.2012.05734.x>
 7. **Puebla O**, Bermingham E, Guichard F (2012) Pairing dynamics and the origin of species. *Proceedings of the Royal Society B* 279, 1085–1092.
<https://doi.org/10.1098/rspb.2011.1549>
 6. **Puebla O**, Bermingham E, Guichard F (2009) Estimating dispersal from genetic isolation by distance in a coral reef fish (*Hypoplectrus puella*). *Ecology* 90, 3087–3098.
<https://doi.org/10.1890/08-0859.1>
 5. **Puebla O** (2009) Ecological speciation in marine v. freshwater fishes. *Journal of Fish Biology* 75, 960–996.
<https://doi.org/10.1111/j.1095-8649.2009.02358.x>
 4. **Puebla O**, Bermingham E, Guichard F (2008) Population genetic analyses of *Hypoplectrus* coral reef fishes provide evidence that local processes are operating during the early stages of marine adaptive radiations. *Molecular Ecology* 17, 1405–1415.
<https://doi.org/10.1111/j.1365-294X.2007.03654.x>
 3. **Puebla O**, Sévigny JM, Sainte-Marie B, Brêthes JC, Burmeister A, Dawe EG, Moriyasu M (2008) Population genetic structure of the snow crab (*Chionoecetes opilio*) at the Northwest Atlantic scale. *Canadian Journal of Fisheries and Aquatic Sciences* 65, 425–436.
<https://doi.org/10.1139/f07-163>
 2. **Puebla O**, Bermingham E, Guichard F, Whiteman E (2007) Colour pattern as a single trait driving speciation in *Hypoplectrus* coral reef fishes? *Proceedings of the Royal Society B* 274, 1265–1271.

<https://doi.org/10.1098/rspb.2006.0435>

1. Puebla O, Parent E, Sévigny JM (2003) New microsatellite markers for the snow crab *Chionoecetes opilio* (Brachyura: Majidae). *Molecular Ecology Notes* 3, 644–646.
<https://doi.org/10.1046/j.1471-8286.2003.00542.x>

Middle-authored peer-reviewed contributions (20)

20. Benestan L, Dalongeville A, Goñi R, Mallol S, Díaz D, Puebla O, Manel S (*accepted*) Investigating sex-biased dispersal in a threatened marine invertebrate, the European spiny lobster (*Palinurus elephas*). *Ecology and Evolution*.
19. Tracy CB, Arias CF, Tysall E, Hoepfner MP, McMillan WO, Puebla O, Moisés A. Bernal (2026) Comparative genomics of transisthmian damselfishes (*Abudefduf saxatilis* and *A. troschellii*). *Genome Biology and Evolution*, evag111.
<https://doi.org/10.1093/gbe/evag111>
18. Polanco A, Rozanski R, Marques V, Helmkamp M, Mouillot D, Manel S, Albouy C, Puebla O, Pellissier M (2025) A confidence ranking procedure for eDNA metabarcoding records and a global application to marine fishes. *Environmental DNA* 7, e70077.
<http://dx.doi.org/10.1002/edn3.70077>
17. Then AIH, Lim KC, Leung AJX, Puebla O, Helmkamp M, Adam S (2025) Unwedging the secrets: species and genetic diversity of wedgefishes (Rhinidae) in Malaysian waters. *Aquatic Conservation: Marine and Freshwater Ecosystems* 35, e70095.
<http://dx.doi.org/10.1002/aqc.70095>
16. Estradivari, Pratama AMA, Syafruddin G, Kanna PL, Stuhr M, Torres AF, Munawwarah, Ramos DA, Ambo-Rappe R, Bejarano S, Puebla O, Wild C, Ferse SCA (2025) Coastal urbanization-related stressors affect fish herbivory in the Spermonde Archipelago, Indonesia. *Frontiers in Marine Sciences* 12, 1359139.
<https://doi.org/10.3389/fmars.2025.1359139>
15. Örey S, Rehren J, Schulze T, Puebla O, Diekmann R (2025) Identifying fishing behavior groups from vessel movement data: application to the German brown shrimp fleet. *Fisheries Research* 283, 107285.
<https://doi.org/10.1016/j.fishres.2025.107285>
14. Hannak A, Puebla O, Perera N (2025) Fish assemblages on shipwrecks versus natural reefs in Colombo, Sri Lanka. *Bulletin of Marine Science* 101(1), 179–195.
<https://doi.org/10.5343/bms.2023.0109>
13. Estradivari, Kartika I, Adhuri DS, Adrianto L, Agung F, Ahmadi G, Bejarano S, Campbell S, Fachri SR, Kushardanto H, Marlessy C, Pane B, Puebla O, Purnama RC, Santiadji IWV, Suherfian W, Tillah M, Widodo H, Wild C, Ferse SCA (2024) Prospective ecological contributions of potential marine OECMs and MPAs to enhance marine conservation in Indonesia. *Ocean and Coastal Management* 258, 107411.
<https://doi.org/10.1016/j.ocecoaman.2024.107411>
12. Islam MJ, Puebla O, Kunzmann A (2024) Nutritional mitigation of heatwave stress in European seabass, *Dicentrarchus labrax*: metabolic, cellular, and molecular responses. *Aquaculture Reports* 36, 102–168.
<https://doi.org/10.1016/j.aqrep.2024.102168>
11. Aubier TG, Kopp M, Linn IJ, Puebla O, Rafajlović M, Servedio MR (2024) Negative coupling: the coincidence of premating isolating barriers can reduce reproductive isolation. *Cold Spring Harbour Perspectives in Biology*, a041435.
<https://doi.org/10.1101/cshperspect.a041435>
10. Islam MJ, Puebla O, Kunzmann A (2024) Mitigation of extreme winter stress in European seabass, *Dicentrarchus labrax* through dietary supplementation. *Aquaculture* 587, 740814.
<https://doi.org/10.1016/j.aquaculture.2024.740814>
9. Merten V, Puebla O, Bayer T, Reusch TBH, Fuss J, Stefanschitz J, Metfies K, Stauffer J, Hoving H-J (2023) Arctic nekton uncovered by eDNA metabarcoding: diversity, potential range expansions and benthopelagic coupling. *Environmental DNA* 5, 503–518.
<https://doi.org/10.1002/edn3.403>

8. Benestan L, Loiseau N, Guerin P-E, Rühls S, Schmidt C, Rath W, Biastoch A, Ford A, Pérez-Ruzafa A, Baixauli P, Forcada A, Arcas E, Lenfant P, Mallol S, Goñi R, Velez L, Mouillot D, **Puebla O**, Manel S (2022) Contrasting influence of seascape, space and marine reserves on genomic variation in multiple species. *Ecography* e06127.
<https://doi.org/10.1111/ecog.06127>
7. Merten V, Bayer T, Reusch TBH, **Puebla O**, Fuss J, Stefanschitz J, Lischka A, Hauss H, Neitzel P, Piatkowski U, Czudaj S, Christiansen B, Denda A, Hoving H-JT (2021) An integrative assessment combining deep-sea net sampling, in situ observations and eDNA analysis identifies Cabo Verde as a cephalopod biodiversity hotspot in the Atlantic Ocean. *Frontiers in Marine Science* 8, 760108.
<https://doi.org/10.3389/fmars.2021.760108>
6. Marcos C, Diaz D, Fietz K, Forcada A, Ford A, García-Charton J-A, Goñi R, Lenfant P, Mallol S, Mouillot D, Pérez-Marcos M, **Puebla O**, Manel S, Pérez-Ruzafa A (2021) Reviewing the ecosystem services, societal goods and benefits of marine protected areas. *Frontiers in Marine Science* 8, 613819.
<https://doi.org/10.3389/fmars.2021.613819>
5. Visser F, Merten VJ, Bayer T, Oudejans MG, de Jonge DSW, **Puebla O**, Reusch TBH, Fuss J, Hoving HJT (2021). Deep-sea predator niche segregation revealed by combined cetacean biologging and eDNA analysis of cephalopod prey. *Science Advances* 2021, eabf5908.
<https://doi.org/10.1126/sciadv.abf5908>
4. de Jonge DSW, Merten V, Bayer T, **Puebla O**, Reusch TBH, Hoving H-JT (2021) A novel metabarcoding primer pair for environmental DNA analysis of Cephalopoda (Mollusca) targeting the nuclear 18S rRNA region. *Royal Society Open Science* 8, 201388.
<https://doi.org/10.1098/rsos.201388>
3. Moody EK, Alda F, Capps KA, **Puebla O**, Turner BL (2019) Trophic trait evolution explains variation in nutrient excretion stoichiometry among Panamanian armored catfishes (Loricariidae). *Diversity* 11, 88.
<https://doi.org/10.3390/d11060088>
2. Manel S, Loiseau N, Andrello M, Fietz K, Goñi R, Forcada A, Lenfant P, Kininmonth S, Marcos C, Marques V, Mallol S, Pérez-Ruzafa A, Breusing C, **Puebla O**, Mouillot D (2019) Long-distance benefits of marine reserves: myth or reality? *Trends in Ecology & Evolution* 34, 342–354.
<https://doi.org/10.1016/j.tree.2019.01.002>
1. Merten V, Christiansen B, Javidpour J, Piatkowski U, **Puebla O**, Gasca R, Hoving HJT (2017) Diet and stable isotope analyses reveal the feeding ecology of the orangeback squid *Sthenoteuthis pteropus* (Steenstrup 1855) (Mollusca, Ommastrephidae) in the eastern tropical Atlantic. *PLoS one* 12, e0189691.
<https://doi.org/10.1371/journal.pone.0189691>

Editorial (3 contributions)

3. Manel S, Loiseau N, **Puebla O** (2019) Long-Distance Marine Connectivity: Poorly Understood but Potentially Important. *Trends in Ecology & Evolution* 34, 688–689.
<https://doi.org/10.1016/j.tree.2019.05.011>
2. **Puebla O** (2018) Another useful property of mtDNA: editorial comment on the highlighted article by Lou *et al.* (2018). *Marine Biology* 165, 125.
<https://doi.org/10.1007/s00227-018-3372-5>
1. **Puebla O**, Bermingham E, Guichard F (2011) Perspective: matching, mate choice, and speciation. *Integrative and Comparative Biology* 51, 485-491.
<https://doi.org/10.1093/icb/icr025>

Other (2 contributions)

1. Meyer A, Volanandiana A, Mtonga CJ, Benjamin D, Karan D, Tovele E, Mahudi H, Baxter, Kipyegon JK, Oduor N, Otwoma L, Farah LI, Kambikambi M, Ghilardi M, Nyawo M, Mrombo N, **Puebla O**, Mgelek S, Amponsah SKK, Oladipo SO, Bejarano S, Wacira T, Fanoro T, Silali V (2023) Lab protocols for Fish Barcoding. *Protocols Series, No. 1. Leibniz Centre for Tropical Marine Research*, Bremen, 30 pp.



<https://doi.org/10.21244/zmt.2023.002>

2. Moran B & Puebla O (2020) *Hypoplectrus maya*. *The IUCN Red List of Threatened Species* 2020: e.T16759101A86415416.
<https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T16759101A86415416.en>

