

The following supplements accompany the article

Patterns and trends in marine population connectivity research

Dale N. Bryan-Brown*, Christopher J. Brown, Jane M. Hughes, Rod M. Connolly

*Corresponding author: dale.bryan-brown@griffithuni.edu.au

Marine Ecology Progress Series 585: 243–256 (2017)

Supplement 1. Detailed paper processing methodology. Paper processing was broken down into several steps.

- 1) All papers yielded from the search were downloaded and imported into EndNote.
- 2) Duplicates were deleted.
- 3) Papers that were obviously irrelevant to the study (e.g. papers published in the Journal of Petrology) were deleted (after ensuring irrelevance by assessing Title and, if needed, Abstract).
- 4) PDF's were downloaded using EndNote's "Find Full Text" feature with Griffith University staff access.
- 5) Only papers that had a PDF file were considered during the manual checking stage. Manual checking ensured that all papers in the database met the definition of MPC as outlined in the paper.

Supplement 2. All research papers included in database, articles in **bold** are highly cited (>10 citations per year)

Abookire AA, Bailey KM (2007) The distribution of life cycle stages of two deep-water pleuronectids, Dover sole (*Microstomus pacificus*) and rex sole (*Glyptocephalus zachirus*), at the northern extent of their range in the Gulf of Alaska. *J Sea Res* 57:198–208

Aburto-Oropeza O, Dominguez-Guerrero I, Cota-Nieto J, Plomozo-Lugo T (2009) Recruitment and ontogenetic habitat shifts of the yellow snapper (*Lutjanus argentiventris*) in the Gulf of California. *Mar Biol* 156:2461–2472

Acha EM, Simionato CG, Carozza C, Mianzan H (2012) Climate-induced year-class fluctuations of whitemouth croaker *Micropogonias furnieri* (Pisces, Sciaenidae) in the Rio de la Plata estuary, Argentina-Uruguay. *Fish Oceanogr* 21:58–77

Acosta CA (1999) Benthic dispersal of Caribbean spiny lobsters among insular habitats: Implications for the conservation of exploited marine species. *Conserv Biol* 13:603–612

Acosta CA (2002) Spatially explicit dispersal dynamics and equilibrium population sizes in marine harvest refuges. *ICES J Mar Sci* 59:458–468

Adams AJ, Ebersole JP (2002) Use of back-reef and lagoon habitats by coral reef fishes. *Mar Ecol Prog Ser* 228:213–226

Adams DK, Flierl GR (2010) Modeled interactions of mesoscale eddies with the East Pacific Rise: Implications for larval dispersal. *Deep Res Part I-Oceanographic Res Pap* 57:1163–1176

Adams TP, Aleynik D, Burrows MT (2014) Larval dispersal of intertidal organisms and the influence of coastline geography. *Ecography (Cop)* 37:698–710

Adams TP, Miller RG, Aleynik D, Burrows MT (2014) Offshore marine renewable energy devices as stepping stones across biogeographical boundaries. *J Appl Ecol* 51:330–338

Adams TP, Proud R, Black KD (2015) Connected networks of sea lice populations: dynamics and implications for control. *Aquac Environ Interact* 6:273–284

Adams T, Black K, MacIntyre C, MacIntyre I, Dean R (2012) Connectivity modelling and network analysis of sea lice infection in Loch Fyne, west coast of Scotland. *Aquac Environ Interact* 3:51–63

Affonso PRAM, Galetti Jr PM (2007) Genetic diversity of three ornamental reef fishes (Families Pomacanthidae and Chaetodontidae) from the Brazilian coast. *Braz J Biol* 67:925–933

Afonso P, Tempera F, Menezes G (2008) Population structure and habitat preferences of red porgy (*Pagrus pagrus*) in the Azores, central North Atlantic. *Fish Res* 93:338–345

Aglieri G, Papetti C, Zane L, Milisenda G, Boero F, Piraino S (2014) First evidence of inbreeding, relatedness and chaotic genetic patchiness in the holoplanktonic jellyfish *Pelagia noctiluca* (Scyphozoa, Cnidaria). *PLoS One* 9:1–15

Agostini C, Papetti C, Patarnello T, Mark FC, Zane L, Marino IAM (2013) Putative selected markers in the *Chionodraco* genus detected by interspecific outlier tests. *Polar Biol* 36:1509–1518

Aguilar LA, Roberts DG, Minchinton TE, Ayre DJ (2015) Genetic differentiation in the barnacle *Catomerus polymerus* despite migration across a biogeographic barrier. *Mar Ecol Prog Ser* 524:213–224

- Aguilar-Perera A, Appeldoorn RS (2007) Variation in juvenile fish density along the mangrove-seagrass-coral reef continuum in SW Puerto Rico. *Mar Ecol Prog Ser* 348:139–148
- Aguirre JD, McNaught DC (2012) Ontogenetic variability in the habitat associations of *Haliotis iris* in central New Zealand. *Mar Freshw Res* 63:751–761
- Aguzzi J, Company JB, Bahamon N, Flexas MM, Tecchio S, Fernandez-Arcaya U, Garcia JA, Mecho A, Koenig S, Canals M (2013) Seasonal bathymetric migrations of deep-sea fishes and decapod crustaceans in the NW Mediterranean Sea. *Prog Oceanogr* 118:210–221
- Aiken CM, Navarrete SA, Pelegri JL (2011) Potential changes in larval dispersal and alongshore connectivity on the central Chilean coast due to an altered wind climate. *J Geophys Res* 116
- Aiken CM, Navarrete SA (2011) Environmental fluctuations and asymmetrical dispersal: generalized stability theory for studying metapopulation persistence and marine protected areas. *Mar Ecol Prog Ser* 428:77–88
- Aiken CM, Navarrete SA, Castillo MI, Castilla JC (2007) Along-shore larval dispersal kernels in a numerical ocean model of the central Chilean coast. *Mar Ecol Prog Ser* 339:13–24
- Ajemian MJ, Powers SP (2014) Towed-float satellite telemetry tracks large-scale movement and habitat connectivity of myliobatid stingrays. *Environ Biol Fishes* 97:1067–1081
- Akib NAM, Tam BM, Phumee P, Abidin MZ, Tamadoni S, Mather PB, Nor SAM (2015) High Connectivity in *Rastrelliger kanagurta*: Influence of Historical Signatures and Migratory Behaviour Inferred from mtDNA Cytochrome b. *PLoS One* 10
- Alberto F, Massa S, Manent P, Diaz-Almela E, Arnaud-Haond S, Duarte CM, Serrao EA (2008) Genetic differentiation and secondary contact zone in the seagrass *Cymodocea nodosa* across the Mediterranean-Atlantic transition region. *J Biogeogr* 35:1279–1294
- Alberto F, Raimondi PT, Reed DC, Coelho NC, Leblois R, Whitmer A, Serrao EA (2010) Habitat continuity and geographic distance predict population genetic differentiation in giant kelp. *Ecology* 91:49–56
- Alberto F, Raimondi PT, Reed DC, Watson JR, Siegel DA, Mitarai S, Coelho N, Serrao EA (2011) Isolation by oceanographic distance explains genetic structure for *Macrocystis pyrifera* in the Santa Barbara Channel. *Mol Ecol* 20:2543–2554
- Allen RL, Baltz DM (1997) Distribution and microhabitat use by flatfishes in a Louisiana estuary. *Environ Biol Fishes* 50:85–103
- Almany GR, Berumen ML, Thorrold SR, Planes S, Jones GP (2007) Local replenishment of coral reef fish populations in a marine reserve. *Science* 316:742–744**
- Almany GR, Hamilton RJ, Bode M, Matawai M, Potuku T, Saenz-Agudelo P, Planes S, Berumen ML, Rhodes KL, Thorrold SR, Russ GR, Jones GP (2013) Dispersal of Grouper Larvae Drives Local Resource Sharing in a Coral Reef Fishery. *Curr Biol* 23:626–630
- Alter SE, Ramirez SF, Nigenda S, Ramirez JU, Bracho LR, Palumbi SR (2009) Mitochondrial and Nuclear Genetic Variation across Calving Lagoons in Eastern North Pacific Gray Whales (*Eschrichtius robustus*). *J Hered* 100:34–46
- Amara R, Poulard JC, Lagardere F, Desaunay Y (1998) Comparison between the life cycles of two Soleidae, the common sole, *Solea solea*, and the thickback sole, *Microchirus variegatus*, in the Bay of Biscay (France). *Environ Biol Fishes* 53:193–209

- Amaral AR, Beheregaray LB, Bilgmann K, Boutov D, Freitas L, Robertson KM, Sequeira M, Stockin KA, Coelho MM, Moeller LM (2012) Seascape Genetics of a Globally Distributed, Highly Mobile Marine Mammal: The Short-Beaked Common Dolphin (Genus *Delphinus*). *PLoS One* 7
- Amorocho DF, Alberto Abreu-Grobois F, Dutton PH, Reina RD (2012) Multiple Distant Origins for Green Sea Turtles Aggregating off Gorgona Island in the Colombian Eastern Pacific. *PLoS One* 7
- Amoroso RO, Parma AM, Orensanz JML, Gagliardini DA (2011) Zooming the microscope: medium-resolution remote sensing as a framework for the assessment of a small-scale fishery. *ICES J Mar Sci* 68:696–706
- An HS, Nam MM, Myeong JI, An CM (2014) Genetic diversity and differentiation of the Korean starry flounder (*Platichthys stellatus*) between and within cultured stocks and wild populations inferred from microsatellite DNA analysis. *Mol Biol Rep* 41:7281–7292
- Andersen LW, Born EW, Doidge DW, Gjertz I, Wiig Ø, Waples RS (2009) Genetic signals of historic and recent migration between sub-populations of Atlantic walrus *Odobenus rosmarus rosmarus* west and east of Greenland. *Endanger Species Res* 9:197–211
- Anderson JD, Karel WJ, Mace CE, Bartram BL, Hare MP (2014) Spatial genetic features of eastern oysters (*Crassostrea virginica* Gmelin) in the Gulf of Mexico: northward movement of a secondary contact zone. *Ecol Evol* 4:1671–1685
- Andrade SCS, Magalhaes CA, Solferini VN (2003) Patterns of genetic variability in Brazilian Littorinids (Mollusca): a macrogeographic approach. *J Zool Syst Evol Res* 41:249–255
- Andrade SCS, Solferini VN (2007) Fine-scale genetic structure overrides macro-scale structure in a marine snail: Nonrandom recruitment, demographic events or selection? *Biol J Linn Soc* 91:23–36
- Andreakis N, Luter HM, Webster NS (2012) Cryptic speciation and phylogeographic relationships in the elephant ear sponge *Ianthella basta* (Porifera, Ianthellidae) from northern Australia. *Zool J Linn Soc* 166:225–235
- Andrello M, Manel S (2015) MetaPopGen: An R package to simulate population genetics in large size metapopulations. *Mol Ecol Resour*
- Andrello M, Bevacqua D, Maes GE, Leo GA De (2011) An integrated genetic- demographic model to unravel the origin of genetic structure in European eel (*Anguilla anguilla* L.). *Evol Appl* 4:517–533
- Andrello M, Jacobi MN, Manel S, Thuiller W, Mouillot D (2015) Extending networks of protected areas to optimize connectivity and population growth rate. *Ecography (Cop)* 38:273–282
- Andrello M, Mouillot D, Beuvier J, Albouy C, Thuiller W, Manel S (2013) Low Connectivity between Mediterranean Marine Protected Areas: A Biophysical Modeling Approach for the Dusky Grouper *Epinephelus marginatus*. *PLoS One* 8
- Andrello M, Mouillot D, Somot S, Thuiller W, Manel S (2015) Additive effects of climate change on connectivity between marine protected areas and larval supply to fished areas. *Divers Distrib* 21:139–150
- Andrew NL, Viejo RM (1998) Ecological limits to the invasion of *Sargassum muticum* in northern Spain. *Aquat Bot* 60:251–263

- Andrews KR, Moriwake VN, Wilcox C, Grau EG, Kelley C, Pyle RL, Bowen BW (2014) Phylogeographic Analyses of Submesophotic Snappers *Etelis coruscans* and *Etelis "marshi"* (Family Lutjanidae) Reveal Concordant Genetic Structure across the Hawaiian Archipelago. *PLoS One* 9
- Andrews KR, Norton EL, Fernandez-Silva I, Portner E, Goetze E (2014) Multilocus evidence for globally distributed cryptic species and distinct populations across ocean gyres in a mesopelagic copepod. *Mol Ecol* 23:5462–5479
- Andutta FP, Kingsford MJ, Wolanski E (2012) “Sticky water” enables the retention of larvae in a reef mosaic. *Estuar Coast Shelf Sci* 101:54–63
- Arai T, Chino N, Dung Quang L (2013) Migration and habitat use of the tropical eels *Anguilla marmorata* and *A. bicolor pacifica* in Vietnam. *Aquat Ecol* 47:57–65
- Arai T, Chino N, Kotake A (2009) Occurrence of estuarine and sea eels *Anguilla japonica* and a migrating silver eel *Anguilla anguilla* in the Tokyo Bay area, Japan. *Fish Sci* 75:1197–1203
- Araki S, Kunii H (2006) Allozymic implications of the propagation of eelgrass *Zostera japonica* within a river system. *Limnology* 7:15–21
- Arellano SM, Young CM (2010) Pre- and post-settlement factors controlling spatial variation in recruitment across a cold-seep mussel bed. *Mar Ecol Prog Ser* 414:131–144
- Arnaud-Haond S, Migliaccio M, Diaz-Almela E, Teixeira S, Vliet MS van de, Alberto F, Procaccini G, Duarte CM, Serrao EA (2007) Vicariance patterns in the Mediterranean Sea: east-west cleavage and low dispersal in the endemic seagrass *Posidonia oceanica*. *J Biogeogr* 34:963–976
- Arnaud-Haond S, Vonau V, Rouxel C, Bonhomme F, Prou J, Goyard E, Boudry P (2008) Genetic structure at different spatial scales in the pearl oyster (*Pinctada margaritifera cumingii*) in French Polynesian lagoons: beware of sampling strategy and genetic patchiness. *Mar Biol* 155:147–157
- Arrontes J (2002) Mechanisms of range expansion in the intertidal brown alga *Fucus serratus* in northern Spain. *Mar Biol* 141:1059–1067
- Arthur KE, Boyle MC, Limpus CJ (2008) Ontogenetic changes in diet and habitat use in green sea turtle (*Chelonia mydas*) life history. *Mar Ecol Prog Ser* 362:303–311
- Ashton G V, Stevens MI, Hart MC, Green DH, Burrows MT, Cook EJ, Willis KJ (2008) Mitochondrial DNA reveals multiple Northern Hemisphere introductions of *Caprella mutica* (Crustacea, Amphipoda). *Mol Ecol* 17:1293–1303
- Asplin L, Salvanes AG V, Kristoffersen JB (1999) Nonlocal wind driven fjord-coast advection and its potential effect on plankton and fish recruitment. *Fish Oceanogr* 8:255–263
- Assis J, Zupan M, Nicastro KR, Zardi GI, McQuaid CD, Serrao EA (2015) Oceanographic Conditions Limit the Spread of a Marine Invader along Southern African Shores. *PLoS One* 10
- Ayata S-D, Ellien C, Dumas F, Dubois S, Thiebaut E (2009) Modelling larval dispersal and settlement of the reef-building polychaete *Sabellaria alveolata*: Role of hydroclimatic processes on the sustainability of biogenic reefs. *Cont Shelf Res* 29:1605–1623
- Ayata S-D, Lazure P, Thiebaut E (2010) How does the connectivity between populations mediate range limits of marine invertebrates? A case study of larval dispersal between the Bay of Biscay and the English Channel (North-East Atlantic). *Prog Oceanogr* 87:18–36

Ayre DJ, Davis AR, Billingham M, Llorens T, Styan C (1997) Genetic evidence for contrasting patterns of dispersal in solitary and colonial ascidians. *Mar Biol* 130:51–61

Ayre DJ, Hughes TP (2000) Genotypic diversity and gene flow in brooding and spawning corals along the Great Barrier Reef, Australia. *Evolution (N Y)* 54:1590–1605

Ayre DJ, Hughes TP, Standish RS (1997) Genetic differentiation, reproductive mode, and gene flow in the brooding coral pocillopora damicornis along the Great Barrier Reef, Australia. *Mar Ecol Prog Ser* 159:175–187

Ayre DJ, Read J, Wishart J (1991) Genetic subdivision within the eastern Australian population of the sea anemone *Actinia tenebrosa*. *Mar Biol* 109:379–390

Ayre DJ, Minchinton TE, Perrin C (2009) Does life history predict past and current connectivity for rocky intertidal invertebrates across a marine biogeographic barrier? *Mol Ecol* 18:1887–1903

Banks SC, Ling SD, Johnson CR, Piggott MP, Williamson JE, Beheregaray LB (2010) Genetic structure of a recent climate change-driven range extension. *Mol Ecol* 19:2011–24

Banks SC, Piggott MP, Williamson JE, Bové U, Holbrook NJ, Beheregaray LB (2007) Oceanic variability and coastal topography shape genetic structure in a long-dispersing sea urchin. *Ecology* 88:3055–64

Barber PH, Moosa MK, Palumbi SR (2002) Rapid recovery of genetic populations on Krakatau: diversity of stomatopod temporal and spatial scales of marine larval dispersal. *Proc R Soc B-Biological Sci* 269:1591–1597

Barber PH, Palumbi SR, Erdmann M V, Moosa MK (2002) Sharp genetic breaks among populations of *Haptosquilla pulchella* (Stomatopoda) indicate limits to larval transport: patterns, causes, and consequences. *Mol Ecol* 11:659–674

Barbour AB, Adams AJ, Lorenzen K (2014) Size-based, seasonal, and multidirectional movements of an estuarine fish species in a habitat mosaic. *Mar Ecol Prog Ser* 507:263–276

Barnes DKA, Crook AC (2001) Implications of temporal and spatial variability in *Paracentrotus lividus* populations to the associated commercial coastal fishery. *Hydrobiologia* 465:95–102

Barreiro R, Couceiro L, Quintela M, Ruiz JM (2006) Population genetic structure of the prosobranch *Nassarius reticulatus* (L.) in a ria seascape (NW Iberian Peninsula) as revealed by RAPD analysis. *Mar Biol* 148:1051–1060

Barshis DJ, Sotka EE, Kelly RP, Sivasundar A, Menge BA, Barth JA, Palumbi SR (2011) Coastal upwelling is linked to temporal genetic variability in the acorn barnacle *Balanus glandula*. *Mar Ecol Prog Ser* 439:139–150

Bartsch J, Coombs SH (2001) An individual-based growth and transport model of the early life-history stages of mackerel (*Scomber scombrus*) in the eastern North Atlantic. *Ecol Modell* 138:127–141

Bass AL, Epperly SP, Braun-McNeill J (2006) Green turtle (*Chelonia mydas*) foraging and nesting aggregations in the Caribbean and Atlantic: Impact of currents and behavior on dispersal. *J Hered* 97:346–354

Basterretxea G, Catalán IA, Jordi A, Álvarez I, Palmer M, Sabatés A (2013) Dynamic regulation of larval fish self-recruitment in a marine protected area. *Fish Oceanogr* 22:477–495

- Basterretxea G, Jordi A, Catalan IA, Sabates A (2012) Model-based assessment of local-scale fish larval connectivity in a network of marine protected areas. *Fish Oceanogr* 21:291–306
- Bastidas C, Benzie JAH, Uthicke S, Fabricius KE (2001) Genetic differentiation among populations of a broadcast spawning soft coral, *Sinularia flexibilis*, on the Great Barrier Reef. *Mar Biol* 138:517–525
- Batta-Lona PG, Bucklin A, Wiebe PH, Patarnello T, Copley NJ (2011) Population genetic variation of the Southern Ocean krill, *Euphausia superba*, in the Western Antarctic Peninsula region based on mitochondrial single nucleotide polymorphisms (SNPs). *Deep Res Part II-Topical Stud Oceanogr* 58:1652–1661
- Bauer RK, Stepputtis D, Graewe U, Zimmermann C, Hammer C (2013) Wind-induced variability in coastal larval retention areas: a case study on Western Baltic spring-spawning herring. *Fish Oceanogr* 22:388–399
- Baums IB, Boulay JN, Polato NR, Hellberg ME (2012) No gene flow across the Eastern Pacific Barrier in the reef-building coral *Porites lobata*. *Mol Ecol* 21:5418–5433
- Baums IB, Miller MW, Hellberg ME (2005) Regionally isolated populations of an imperiled Caribbean coral, *Acropora palmata*. *Mol Ecol* 14:1377–90**
- Bay LK, Crozier RH, Caley MJ (2006) The relationship between population genetic structure and pelagic larval duration in coral reef fishes on the Great Barrier Reef. *Mar Biol* 149:1247–1256
- Bay LK, Caley MJM, Crozier RH (2008) Meta-population structure in a coral reef fish demonstrated by genetic data on patterns of migration, extinction and re-colonisation. *BMC Evol Biol* 8
- Beaudreau AH, Essington TE (2011) Use of pelagic prey subsidies by demersal predators in rocky reefs: insight from movement patterns of lingcod. *Mar Biol* 158:471–483
- Becheler R, Benkara E, Moalic Y, Hily C, Arnaud-Haond S (2014) Scaling of processes shaping the clonal dynamics and genetic mosaic of seagrasses through temporal genetic monitoring. *Heredity (Edinb)* 112:114–21
- Becheler R, Diekmann O, Hily C, Moalic Y, Arnaud-Haond S (2010) The concept of population in clonal organisms: mosaics of temporally colonized patches are forming highly diverse meadows of *Zostera marina* in Brittany. *Mol Ecol* 19:2394–2407
- Beck HJ, Styan CA (2010) Colour patterns in the sea urchin, *Heliocidaris erythrogramma*, suggest limited connectivity across the Southern and Pacific Ocean coastlines of Australia. *Mar Freshw Res* 61:143–152
- Becker BJ, Levin LA, Fodrie FJ, McMillan PA (2007) Complex larval connectivity patterns among marine invertebrate populations. *Proc Natl Acad Sci U S A* 104:3267–72**
- Bequet V, Lasota R, Pante E, Sokolowski A, Wolowicz M, Garcia P (2013) Effects of fine-scale environmental heterogeneity on local genetic structure in *Macoma balthica* from the Gulf of Gdask (southern Baltic Sea). *Hydrobiologia* 714:61–70
- Beedessee G, Watanabe H, Ogura T, Nemoto S, Yahagi T, Nakagawa S, Nakamura K, Takai K, Koonjul M, Marie DEP (2013) High Connectivity of Animal Populations in Deep-Sea Hydrothermal Vent Fields in the Central Indian Ridge Relevant to Its Geological Setting. *PLoS One* 8

- Beger M, Linke S, Watts ME, Game ET, Treml EA, Ball I, Possingham HP (2010) Incorporating asymmetric connectivity into spatial decision making for conservation. *Conserv Lett* 3:359–368
- Begovic E, Lindberg DR (2011) Genetic Population Structure of *Tectura paleacea*: Implications for the Mechanisms Regulating Population Structure in Patchy Coastal Habitats. *PLoS One* 6
- Bekkevold D, Jacobsen L, Hemmer-Hansen J, Berg S, Skov C (2015) From regionally predictable to locally complex population structure in a freshwater top predator: river systems are not always the unit of connectivity in Northern Pike *Esox lucius*. *Ecol Freshw Fish* 24:305–316
- Beldade R, Jackson AM, Cudney-Bueno R, Raimondi PT, Bernardi G (2014) Genetic structure among spawning aggregations of the gulf coney *Hyporthodus acanthistius*. *Mar Ecol Prog Ser* 499:193-U433
- Bell JJ (2012) High connectivity between sea lough populations of a planktonic larval disperser with the adjacent open coast. *Mar Ecol Evol Perspect* 33:516–521
- Bell JJ (2008) Similarity in connectivity patterns for two gastropod species lacking pelagic larvae. *Mar Ecol Prog Ser* 357:185–194
- Bell JJ (2008) Connectivity between island Marine Protected Areas and the mainland. *Biol Conserv* 141:2807–2820
- Bell JJ (2009) Hitching a ride on a hermit crabs home: Movement of gastropod shells inhabited by hermit crabs. *Estuar Coast Shelf Sci* 85:173–178
- Bell JJ, Smith D, Hannan D, Haris A, Jompa J, Thomas L (2014) Resilience to Disturbance Despite Limited Dispersal and Self-Recruitment in Tropical Barrel Sponges: Implications for Conservation and Management. *PLoS One* 9
- Bell SS, Hicks GRF (1991) marine landscapes and faunal recruitment - a field-test with seagrasses and copepods. *Mar Ecol Prog Ser* 73:61–68
- Bendtsen J, Hansen JLS (2013) A model of life cycle, connectivity and population stability of benthic macro-invertebrates in the North Sea/Baltic Sea transition zone. *Ecol Modell* 267:54–65
- Bennett RH, Cowley PD, Childs A-R, Naesje TF (2015) Movements and residency of juvenile white steenbras *Lithognathus lithognathus* in a range of contrasting estuaries. *Estuar Coast Shelf Sci* 152:100–108
- Bentley BP, Harvey ES, Newman SJ, Welch DJ, Smith AK, Kennington WJ (2014) Local genetic patchiness but no regional differences between Indo-West Pacific populations of the dogtooth tuna *Gymnosarda unicolor*. *Mar Ecol Prog Ser* 506:267–277
- Ben-Tzvi O, Kiflawi M, Gaines SD, Al-Zibdah M, Sheehy MS, Paradis GL, Abelson A (2008) Tracking recruitment pathways of *Chromis viridis* in the Gulf of Aqaba using otolith chemistry. *Mar Ecol Prog Ser* 359:229–238
- Berglund M, Jacobi MN, Jonsson PR (2012) Optimal selection of marine protected areas based on connectivity and habitat quality. *Ecol Modell* 240:105–112
- Berkstrom C, Jorgensen TL, Hellstrom M (2013) Ecological connectivity and niche differentiation between two closely related fish species in the mangrove-seagrass-coral reef continuum. *Mar Ecol Prog Ser* 477:201–215

- Berkstrom C, Lindborg R, Thyresson M, Gullstrom M (2013) Assessing connectivity in a tropical embayment: Fish migrations and seascape ecology. *Biol Conserv* 166:43–53
- Berline L, Zakardjian B, Molcard A, Ourmieres Y, Guihou K (2013) Modeling jellyfish *Pelagia noctiluca* transport and stranding in the Ligurian Sea. *Mar Pollut Bull* 70:90–99
- Berline L, Rammou A-M, Doglioli A, Molcard A, Petrenko A (2014) A Connectivity-Based Eco-Regionalization Method of the Mediterranean Sea. *PLoS One* 9
- Bernardi G, Holbrook SJ, Schmitt RJ (2001) Gene flow at three spatial scales in a coral reef fish, the three-spot dascyllus, *Dascyllus trimaculatus*. *Mar Biol* 138:457–465
- Berry O, England P, Fairclough D, Jackson G, Greenwood J (2012) Microsatellite DNA analysis and hydrodynamic modelling reveal the extent of larval transport and gene flow between management zones in an exploited marine fish (*Glaucosoma hebraicum*). *Fish Oceanogr* 21:243–254
- Berry O, England P, Marriott RJ, Burrige CP, Newman SJ (2012) Understanding age-specific dispersal in fishes through hydrodynamic modelling, genetic simulations and microsatellite DNA analysis. *Mol Ecol* 21:2145–2159
- Bert TM, Arnold WS, Wilbur AE, Seyoum S, McMillen-Jackson AL, Stephenson SP, Weisberg RH, Yarbrow LA (2014) Florida Gulf Bay Scallop (*Argopecten irradians concentricus*) Population Genetic Structure: Form, Variation, And Influential Factors. *J Shellfish Res* 33:99–136
- Berumen ML, Almany GR, Planes S, Jones GP, Saenz-Agudelo P, Thorrold SR (2012) Persistence of self-recruitment and patterns of larval connectivity in a marine protected area network. *Ecol Evol* 2:444–452
- Berumen ML, Walsh HJ, Raventos N, Planes S, Jones GP, Starczak V, Thorrold SR (2010) Otolith geochemistry does not reflect dispersal history of clownfish larvae. *Coral Reefs* 29:883–891
- Besnier F, Kent M, Skern-Mauritzen R, Lien S, Malde K, Edvardsen RB, Taylor S, Ljungfeldt LER, Nilsen F, Glover KA (2014) Human-induced evolution caught in action: SNP-array reveals rapid amphi-atlantic spread of pesticide resistance in the salmon ectoparasite *Lepeophtheirus salmonis*. *BMC Genomics* 15
- Bessudo S, Soler GA, Klimley AP, Ketchum JT, Hearn A, Arauz R (2011) Residency of the scalloped hammerhead shark (*Sphyrna lewini*) at Malpelo Island and evidence of migration to other islands in the Eastern Tropical Pacific. *Environ Biol Fishes* 91:165–176
- Beukema JJ, Dekker R (2003) Redistribution of spat-sized *Macoma balthica* in the Wadden Sea in cold and mild winters. *Mar Ecol Prog Ser* 265:117–122
- Beyst B, Mees J, Cattrijsse A (1999) Early postlarval fish in the hyperbenthos of the Dutch Delta (south-west Netherlands). *J Mar Biol Assoc United Kingdom* 79:709–724
- Bhaud M (1998) The spreading potential of polychaete larvae does not predict adult distributions; consequences for conditions of recruitment. *Hydrobiologia* 375–76:35–47
- Bhaud MR (2003) Identification of adults and larvae in *Spiochaetopterus* (Polychaeta, Chaetopteridae): consequences for larval transport and recruitment. *Hydrobiologia* 496:279–287
- Bidegain G, Francisco Barcena J, Garcia A, Antonio Juanes J (2013) LARVAHS: Predicting clam larval dispersal and recruitment using habitat suitability-based particle tracking model. *Ecol Modell* 268:78–92

- Bierne N, Borsa P, Daguin C, Jollivet D, Viard F, Bonhomme F, David P (2003) Introgression patterns in the mosaic hybrid zone between *Mytilus edulis* and *M. galloprovincialis*. *Mol Ecol* 12:447–461
- Bilgmann K, Möller LM, Harcourt RG, Gibbs SE, Beheregaray LB (2007) Genetic differentiation in bottlenose dolphins from South Australia: association with local oceanography and coastal geography. *Mar Ecol Prog Ser* 341:265–276
- Billingham M, Ayre DJ (1996) Genetic subdivision in the subtidal, clonal sea anemone *Anthothoe albocincta*. *Mar Biol* 125:153–163
- Bilodeau AL, Felder DL, Neigel JE (2005) Population structure at two geographic scales in the burrowing crustacean *Callichirus islagrande* (Decapoda, Thalassinidea): Historical and contemporary barriers to planktonic dispersal. *Evolution (N Y)* 59:2125–2138
- Bishop MA, Reynolds BF, Powers SP (2010) An In Situ, Individual-Based Approach to Quantify Connectivity of Marine Fish: Ontogenetic Movements and Residency of Lingcod. *PLoS One* 5
- Blakeslee AMH, McKenzie CH, Darling JA, Byers JE, Pringle JM, Roman J (2010) A hitchhiker’s guide to the Maritimes: anthropogenic transport facilitates long-distance dispersal of an invasive marine crab to Newfoundland. *Divers Distrib* 16:879–891
- Blanco-Bercial L, Alvarez-Marques F, Bucklin A (2011) Comparative phylogeography and connectivity of sibling species of the marine copepod *Clausocalanus* (Calanoida). *J Exp Mar Bio Ecol* 404:108–115
- Blanquer A, Uriz MJ (2010) Population genetics at three spatial scales of a rare sponge living in fragmented habitats. *BMC Evol Biol* 10
- Blanquer A, Uriz M-J, Caujape-Castells J (2009) Small-scale spatial genetic structure in *Scopalina lophyropoda*, an encrusting sponge with philopatric larval dispersal and frequent fission and fusion events. *Mar Ecol Prog Ser* 380:95–102
- Blower DC, Pandolfi JM, Bruce BD, Gomez-Cabrera M del C, Ovenden JR (2012) Population genetics of Australian white sharks reveals fine-scale spatial structure, transoceanic dispersal events and low effective population sizes. *Mar Ecol Prog Ser* 455:229–244
- Blum MJ, Bando KJ, Katz M, Strong DR (2007) Geographic structure, genetic diversity and source tracking of *Spartina alterniflora*. *J Biogeogr* 34:2055–2069
- Blumenthal JM, Abreu-Grobois FA, Austin TJ, Broderick AC, Bruford MW, Coyne MS, Ebanks-Petrie G, Formia A, Meylan PA, Meylan AB, Godley BJ (2009) Turtle groups or turtle soup: dispersal patterns of hawksbill turtles in the Caribbean. *Mol Ecol* 18:4841–4853
- Bode M, Armsworth PR, Fox HE, Bode L (2012) Surrogates for reef fish connectivity when designing marine protected area networks. *Mar Ecol Prog Ser* 466:155–166
- Bode M, Bode L, Armsworth PR (2011) Different dispersal abilities allow reef fish to coexist. *Proc Natl Acad Sci U S A* 108:16317–16321
- Boehm JT, Woodall L, Teske PR, Lourie SA, Baldwin C, Waldman J, Hickerson M (2013) Marine dispersal and barriers drive Atlantic seahorse diversification. *J Biogeogr* 40:1839–1849
- Bolch CJS, Salas MF de (2007) A review of the molecular evidence for ballast water introduction of the toxic dinoflagellates *Gymnodinium catenatum* and the Alexandrium “tamarensis complex” to Australasia. *Harmful Algae* 6:465–485

- Bolker BM, Okuyama T, Bjorndal KA, Bolten AB (2007) Incorporating multiple mixed stocks in mixed stock analysis: “many-to-many” analyses. *Mol Ecol* 16:685–695
- Bonfil R, Meyer M, Scholl MC, Johnson R, O’Brien S, Oosthuizen H, Swanson S, Kotze D, Paterson M (2005) Transoceanic migration, spatial dynamics, and population linkages of white sharks. *Science* (80-) 310:100–103**
- Bonhommeau S, Blanke B, Treguier A-M, Grima N, Rivot E, Vermard Y, Greiner E, Pape O Le (2009) How fast can the European eel (*Anguilla anguilla*) larvae cross the Atlantic Ocean? *Fish Oceanogr* 18:371–385
- Bonnet X, Brischoux F, Bonnet C, Plichon P, Fauvel T (2014) Coastal Nurseries and Their Importance for Conservation of Sea Kraits. *PLoS One* 9
- Boo GH, Mansilla A, Nelson W, Bellgrove A, Boo SM (2014) Genetic connectivity between trans-oceanic populations of *Capreolia implexa* (Gelidiales, Rhodophyta) in cool temperate waters of Australasia and Chile. *Aquat Bot* 119:73–79
- Booth DJ, Figueira WF, Gregson MA, Brown L, Beretta G (2007) Occurrence of tropical fishes in temperate southeastern Australia: Role of the East Australian Current. *Estuar Coast Shelf Sci* 72:102–114
- Borgianini SA, Styles R, Brodie RJ (2012) Simple model of megalopal transport in narrow river-dominated estuaries. *Mar Ecol Prog Ser* 452:179–191
- Bors EK, Rowden AA, Maas EW, Clark MR, Shank TM (2012) Patterns of Deep-Sea Genetic Connectivity in the New Zealand Region: Implications for Management of Benthic Ecosystems. *PLoS One* 7
- Bostrom C, Tornroos A, Bonsdorff E (2010) Invertebrate dispersal and habitat heterogeneity: Expression of biological traits in a seagrass landscape. *J Exp Mar Bio Ecol* 390:106–117
- Bowen BW, Bass AL, Chow SM, Bostrom M, Bjorndal KA, Bolten AB, Okuyama T, Bolker BM, Epperly S, Lacasella E, Shaver D, Dodd M, Hopkins-Murphy SR, Musick JA, Swingle M, Rankin-Baransky K, Teas W, Witzell WN, Dutton PH (2004) Natal homing in juvenile loggerhead turtles (*Caretta caretta*). *Mol Ecol* 13:3797–3808
- Bowen BW, Bass AL, Muss A, Carlin J, Robertson DR (2006) Phylogeography of two Atlantic squirrelfishes (Family Holocentridae): exploring links between pelagic larval duration and population connectivity. *Mar Biol* 149:899–913
- Bowen BW, Grant WS, Hillis-Starr Z, Shaver DJ, Bjorndal A, Bolten AB, Bass AL (2007) Mixed-stock analysis reveals the migrations of juvenile hawksbill turtles (*Eretmochelys imbricata*) in the Caribbean Sea. *Mol Ecol* 16:49–60
- Bowlby HD, Hanson JM, Hutchings JA (2008) Stock structure and seasonal distribution patterns of American lobster, *Homarus americanus*, inferred through movement analyses. *Fish Res* 90:279–288
- Bradbury IR, Campana SE, Bentzen P (2008) Estimating contemporary early life-history dispersal in an estuarine fish: integrating molecular and otolith elemental approaches. *Mol Ecol* 17:1438–1450
- Bradbury IR, Coulson MW, Campana SE, Paterson IG, Bentzen P (2011) Contemporary nuclear and mitochondrial genetic clines in a north temperate estuarine fish reflect Pleistocene vicariance. *Mar Ecol Prog Ser* 438:207-U235
- Bradbury IR, Laurel BJ, Robichaud D, Rose GA, Snelgrove PVR, Gregory RS, Cote D, Windle MJS (2008) Discrete spatial dynamics in a marine broadcast spawner: Re-evaluating

scales of connectivity and habitat associations in Atlantic cod (*Gadus morhua* L.) in coastal Newfoundland. *Fish Res* 91:299–309

Bradbury IR, Snelgrove PVR, Bentzen P, Young B de, Gregory RS, Morris CJ (2009) Structural and functional connectivity of marine fishes within a semi-enclosed Newfoundland fjord. *J Fish Biol* 75:1393–1409

Brame AB, McIvor CC, Peebles EB, Hollander DJ (2014) Site fidelity and condition metrics suggest sequential habitat use by juvenile common snook. *Mar Ecol Prog Ser* 509:255–269

Brazeau DA, Sammarco PW, Gleason DF (2005) A multi-locus genetic assignment technique to assess sources of *Agaricia agaricites* larvae on coral reefs. *Mar Biol* 147:1141–1148

Brennan G, Kregting L, Beatty GE, Cole C, Elsaesser B, Savidge G, Provan J (2014) Understanding macroalgal dispersal in a complex hydrodynamic environment: a combined population genetic and physical modelling approach. *J R Soc Interface* 11

Breusing C, Johnson SB, Tunnicliffe V, Vrijenhoek RC (2015) Population structure and connectivity in Indo-Pacific deep-sea mussels of the *Bathymodiolus septemdierum* complex. *Conserv Genet* 16:1415–1430

Bricker E, Waycott M, Calladine A, Zieman JC (2011) High connectivity across environmental gradients and implications for phenotypic plasticity in a marine plant. *Mar Ecol Prog Ser* 423:57–67

Briones C, Presa P, Pérez M, Pita A, Guiñez R (2013) Genetic connectivity of the ecosystem engineer *Perumytilus purpuratus* north to the 32°S southeast Pacific ecological discontinuity. *Mar Biol* 160:3143–3156

Brochier T, Echevin V, Tam J, Chaigneau A, Goubanova K, Bertrand A (2013) Climate change scenarios experiments predict a future reduction in small pelagic fish recruitment in the Humboldt Current system. *Glob Chang Biol* 19:1841–1853

Brodie RJ, Behum ME, Monroe E, Glenn N, Staton JL (2005) Recruitment to adult habitats following marine planktonic development in the fiddler crabs, *Uca pugilator*, *U. pugnax*, and *U. minax*. *Mar Biol* 147:105–111

Brooks DA (2009) Circulation and dispersion in a cancellate coast: The rivers, bays and estuaries of central Maine. *Estuar Coast Shelf Sci* 83:313–325

Brown AF, Kann LM, Rand DM (2001) Gene flow versus local adaptation in the northern acorn barnacle, *Semibalanus balanoides*: Insights from mitochondrial DNA variation. *Evolution (N Y)* 55:1972–1979

Brown CA, Holt SA, Jackson GA, Brooks DA, Holt GJ (2004) Simulating larval supply to estuarine nursery areas: how important are physical processes to the supply of larvae to the Aransas Pass Inlet? *Fish Oceanogr* 13:181–196

Buchanan J, Zuccarello GC (2012) Decoupling of short- and long-distance dispersal pathways in the endemic new zealand seaweed *Carpophyllum maschalocarpum* (Phaeophyceae, Fucales). *J Phycol* 48:518–529

Bucklin A (1991) Population genetic responses of the planktonic copepod *Metridia-pacifica* to a coastal eddy in the california current. *J Geophys Res* 96:14799–14808

Buonaccorsi VP, Kimbrell CA, Lynn EA, Vetter RD (2005) Limited realized dispersal and introgressive hybridization influence genetic structure and conservation strategies for brown rockfish, *Sebastes auriculatus*. *Conserv Genet* 6:697–713

- Buonaccorsi VP, McDowell JR, Graves JE (2001) Reconciling patterns of inter-ocean molecular variance from four classes of molecular markers in blue marlin (*Makaira nigricans*). *Mol Ecol* 10:1179–1196
- Burden CT, Stow AJ, Hoggard SJ, Coleman MA, Bishop MJ (2014) Genetic structure of *Carcinus maenas* in southeast Australia. *Mar Ecol Prog Ser* 500:139–147
- Burford MO, Larson RJ (2007) Genetic heterogeneity in a single year-class from a panmictic population of adult blue rockfish (*Sebastes mystinus*). *Mar Biol* 151:451–465
- Burgess SC, Kingsford MJ, Black KP (2007) Influence of tidal eddies and wind on the distribution of presettlement fishes around One Tree Island, Great Barrier Reef. *Mar Ecol Prog Ser* 341:233–242
- Burke JS, Ueno M, Tanaka Y, Walsh H, Maeda T, Kinoshita I, Seikai T, Hoss DE, Tanaka M (1998) The influence of environmental factors on early life history patterns of flounders. *J Sea Res* 40:19–32
- Burke JS, Kenworthy WJ, Wood LL (2009) Ontogenetic patterns of concentration indicate lagoon nurseries are essential to common grunts stocks in a Puerto Rican bay. *Estuar Coast Shelf Sci* 81:533–543
- Bussolini LT, Waters JM (2015) Genetic analyses of rafted macroalgae reveal regional oceanographic connectivity patterns. *J Biogeogr* 42:1319–1326
- Buston PM, Bogdanowicz SM, Wong A, Harrison RG (2007) Are clownfish groups composed of close relatives? An analysis of microsatellite DNA variation in *Amphiprion percula*. *Mol Ecol* 16:3671–3678
- Buston PM, Fauvelot C, Wong MYL, Planes S (2009) Genetic relatedness in groups of the humbug damselfish *Dascyllus aruanus*: small, similar-sized individuals may be close kin. *Mol Ecol* 18:4707–4715
- Buston PM, Jones GP, Planes S, Thorrold SR (2012) Probability of successful larval dispersal declines fivefold over 1 km in a coral reef fish. *Proc R Soc B-Biological Sci* 279:1883–1888
- Butler MJ, Paris CB, Goldstein JS, Matsuda H, Cowen RK (2011) Behavior constrains the dispersal of long-lived spiny lobster larvae. *Mar Ecol Prog Ser* 422:223–237
- Cahill AE, Viard F (2014) Genetic structure in native and non-native populations of the direct-developing gastropod *Crepidula convexa*. *Mar Biol* 161:2433–2443
- Campbell SJ, Kartawijaya T, Sabarini EK (2011) Connectivity in reef fish assemblages between seagrass and coral reef habitats. *Aquat Biol* 13:65–77
- Canete JI, Gallardo CS, Romero M, Ambler R (2007) Planktonic drifting dispersal of early juvenile *Trochita calyptraeiformis* Born 1778 *Gastropoda: Calyptraeidae*. *J Exp Mar Bio Ecol* 346:1–7
- Capello M, Soria M, Cotel P, Potin G, Dagorn L, Freon P (2012) The heterogeneous spatial and temporal patterns of behavior of small pelagic fish in an array of Fish Aggregating Devices (FADs). *J Exp Mar Bio Ecol* 430:56–62
- Carla de Aranzamendi M, Bastida R, Gardenal CN (2014) Genetic population structure in *Nacella magellanica*: Evidence of rapid range expansion throughout the entire species distribution on the Atlantic coast. *J Exp Mar Bio Ecol* 460:53–61

- Carlisle AB, Goldman KJ, Litvin SY, Madigan DJ, Bigman JS, Swithenbank AM, Kline Jr. TC, Block BA (2015) Stable isotope analysis of vertebrae reveals ontogenetic changes in habitat in an endothermic pelagic shark. *Proc R Soc B-Biological Sci* 282
- Carney LT, Bohonak AJ, Edwards MS, Alberto F (2013) Genetic and experimental evidence for a mixed-age, mixed-origin bank of kelp microscopic stages in southern California. *Ecology* 94:1955–1965
- Carr SD, Hench JL, Luettich RA, Forward RB, Tankersley RA (2005) Spatial patterns in the ovigerous *Callinectes sapidus* spawning migration: results from a coupled behavioral-physical model. *Mar Ecol Prog Ser* 294:213–226
- Carr SD, Capet XJ, McWilliams JC, Pennington JT, Chavez FP (2008) The influence of diel vertical migration on zooplankton transport and recruitment in an upwelling region: estimates from a coupled behavioral-physical model. *Fish Oceanogr* 17:1–15
- Carreras C, Godley BJ, León YM, Hawkes LA, Revuelta O, Raga JA, Tomás J (2013) Contextualising the Last Survivors: Population Structure of Marine Turtles in the Dominican Republic. *PLoS One* 8
- Carro B, Quintela M, Miguel Ruiz J, Barreiro R (2012) AFLPs Reveal Different Population Genetic Structure under Contrasting Environments in the Marine Snail *Nucella lapillus* L. *PLoS One* 7
- Carson HS (2010) Population connectivity of the Olympia oyster in Southern California. *Limnol Oceanogr* 55:134–148
- Carson HS, Lopez-Duarte PC, Rasmussen L, Wang D, Levin LA (2010) Reproductive Timing Alters Population Connectivity in Marine Metapopulations. *Curr Biol* 20:1926–1931
- Casabianca S, Penna A, Pecchioli E, Jordi A, Basterretxea G, Vernesi C (2012) Population genetic structure and connectivity of the harmful dinoflagellate *Alexandrium minutum* in the Mediterranean Sea. *Proc R Soc B-Biological Sci* 279:129–138
- Casado-Amezua P, Goffredo S, Templado J, Machordom A (2012) Genetic assessment of population structure and connectivity in the threatened Mediterranean coral *Astroides calycularis* (Scleractinia, Dendrophylliidae) at different spatial scales. *Mol Ecol* 21:3671–3685
- Casado-Amezua P, Kersting DK, Templado J, Machordom A (2014) Regional genetic differentiation among populations of *Cladocora caespitosa* in the Western Mediterranean. *Coral Reefs* 33:1031–1040
- Casale P, Affronte M, Scaravelli D, Lazar B, Vallini C, Luschi P (2012) Foraging grounds, movement patterns and habitat connectivity of juvenile loggerhead turtles (*Caretta caretta*) tracked from the Adriatic Sea. *Mar Biol* 159:1527–1535
- Casale P, Freggi D, Basso R, Vallini C, Argano R (2007) A model of area fidelity, nomadism, and distribution patterns of loggerhead sea turtles (*Caretta caretta*) in the Mediterranean Sea. *Mar Biol* 152:1039–1049
- Castelin M, Feutry P, Hautecoeur M, Marquet G, Wowor D, Zimmermann G, Keith P (2013) New insight on population genetic connectivity of widespread amphidromous prawn *Macrobrachium* lar (Fabricius, 1798) (Crustacea: Decapoda: Palaemonidae). *Mar Biol* 160:1395–1406

- Castellanos-Galindo GA, Krumme U (2014) Long-term stability of tidal and diel-related patterns in mangrove creek fish assemblages in North Brazil. *Estuar Coast Shelf Sci* 149:264–272
- Castellanos-Galindo GA, Krumme U, Willis TJ (2010) Tidal influences on fish distributions on tropical eastern Pacific rocky shores (Colombia). *Mar Ecol Prog Ser* 416:241–254
- Castillo-Rivera M, Montiel M, Anorve LS, Zarate R (2005) Spatial, seasonal and diel distribution patterns of two species of mojarras (Pisces : Gerreidae) in a Mexican tropical coastal lagoon. *J Appl Ichthyol* 21:498–503
- Casu M, Rivera-Ingraham GA, Cossu P, Lai T, Sanna D, Dedola GL, Sussarellu R, Sella G, Cristo B, Curini-Galletti M, Carlos Garcia-Gomez J, Espinosa F (2011) Patterns of spatial genetic structuring in the endangered limpet *Patella ferruginea*: implications for the conservation of a Mediterranean endemic. *Genetica* 139:1293–1308
- Ceriani SA, Roth JD, Tucker AD, Evans DR, Addison DS, Sasso CR, Ehrhart LM, Weishampel JF (2015) Carry-over effects and foraging ground dynamics of a major loggerhead breeding aggregation. *Mar Biol* 162:1955–1968
- Cerón-Souza I, Gonzalez EG, Schwarzbach AE, Salas-Leiva DE, Rivera-Ocasio E, Toro-Perea N, Bermingham E, McMillan WO (2015) Contrasting demographic history and gene flow patterns of two mangrove species on either side of the Central American Isthmus. *Ecol Evol*
- Cetina-Heredia P, Roughan M, Sebille E van, Feng M, Coleman MA (2015) Strengthened currents override the effect of warming on lobster larval dispersal and survival. *Glob Chang Biol* 21:4377–4386
- Chabot CL, Allen LG (2009) Global population structure of the tope (*Galeorhinus galeus*) inferred by mitochondrial control region sequence data. *Mol Ecol* 18:545–552
- Chambers MD, VanBlaricom GR, Hauser L, Utter F, Friedman CS (2006) Genetic structure of black abalone (*Haliotis cracherodii*) populations in the California islands and central California coast: Impacts of larval dispersal and decimation from withering syndrome. *J Exp Mar Bio Ecol* 331:173–185
- Chan IKK, Chan DKO, Lee SC, Tsukamoto K (1997) Genetic variability of the Japanese eel *Anguilla japonica* (Temminck & Schlegel) related to latitude. *Ecol Freshw Fish* 6:45–49
- Chan SW, Cheang CC, Chirapart A, Gerung G, Tharith C, Ang P (2013) Homogeneous Population of the Brown Alga *Sargassum polycystum* in Southeast Asia: Possible Role of Recent Expansion and Asexual Propagation. *PLoS One* 8
- Chandarana J, Reish DJ, Johnson RL (2013) Genetic structure of the polychaete *Nereis grubei* in the context of current patterns and life history. *Mar Ecol Prog Ser* 473:215–224
- Chang CW, Iizuka Y, Tzeng WN (2004) Migratory environmental history of the grey mullet *Mugil cephalus* as revealed by otolith Sr : Ca ratios. *Mar Ecol Prog Ser* 269:277–288
- Chaves-Fonnegra A, Feldheim KA, Secord J, Lopez J V (2015) Population structure and dispersal of the coral-excavating sponge *Cliona delitrix*. *Mol Ecol* 24:1447–1466
- Chen K, Ciannelli L, Decker MB, Ladd C, Cheng W, Zhou Z, Chan K-S (2014) Reconstructing Source-Sink Dynamics in a Population with a Pelagic Dispersal Phase. *PLoS One* 9

- Chevolot M, Ellis JR, Rijnsdorp AD, Stam WT, Olsen JL (2008) Temporal changes in allele frequencies but stable genetic diversity over the past 40 years in the Irish Sea population of thornback ray, *Raja clavata*. *Heredity (Edinb)* 101:120–126
- Chiang TY, Chiang YC, Chen YJ, Chou CH, Havanond S, Hong TN, Huang S (2001) Phylogeography of *Kandelia candel* in East Asiatic mangroves based on nucleotide variation of chloroplast and mitochondrial DNAs. *Mol Ecol* 10:2697–2710
- Childs A-R, Cowley PD, Naesje TF, Bennett RH (2015) Habitat connectivity and intra-population structure of an estuary-dependent fishery species. *Mar Ecol Prog Ser* 537:233–245
- Chimetto Tonon LA, Silva BSDO, Moreira APB, Valle C, Alves Jr. N, Cavalcanti G, Garcia G, Lopes RM, Francini-Filho RB, Moura RL de, Thompson CC, Thompson FL (2015) Diversity and ecological structure of vibrios in benthic and pelagic habitats along a latitudinal gradient in the Southwest Atlantic Ocean. *PeerJ* 3
- Chin A, Heupel MR, Simpfendorfer CA, Tobin AJ (2013) Ontogenetic movements of juvenile blacktip reef sharks: evidence of dispersal and connectivity between coastal habitats and coral reefs. *Aquat Conserv Freshw Ecosyst* 23:468–474
- Chin A, Tobin AJ, Heupel MR, Simpfendorfer CA (2013) Population structure and residency patterns of the blacktip reef shark *Carcharhinus melanopterus* in turbid coastal environments. *J Fish Biol* 82:1192–1210
- Chino N, Arai T (2010) Occurrence of marine resident tropical eel *Anguilla bicolor bicolor* in Indonesia. *Mar Biol* 157:1075–1081
- Chino N, Arai T (2010) Migratory history of the giant mottled eel (*Anguilla marmorata*) in the Bonin Islands of Japan. *Ecol Freshw Fish* 19:19–25
- Chino N, Arai T (2009) Relative contribution of migratory type on the reproduction of migrating silver eels, *Anguilla japonica*, collected off Shikoku Island, Japan. *Mar Biol* 156:661–668
- Chino N, Arai T (2010) Habitat use and habitat transitions in the tropical eel, *Anguilla bicolor bicolor*. *Environ Biol Fishes* 89:571–578
- Chiswell SM (2009) Colonisation and connectivity by intertidal limpets among New Zealand, Chatham and Sub-Antarctic Islands. II. Oceanographic connections. *Mar Ecol Prog Ser* 388:121–135
- Chiswell SM, Booth JD (2008) Sources and sinks of larval settlement in *Jasus edwardsii* around New Zealand: Where do larvae come from and where do they go? *Mar Ecol Prog Ser* 354:201–217
- Chiswell SM, Rickard GJ (2011) Larval connectivity of harbours via ocean currents: A New Zealand study. *Cont Shelf Res* 31:1057–1074
- Chittaro PM, Hogan JD (2013) Patterns of connectivity among populations of a coral reef fish. *Coral Reefs* 32:341–354
- Chittaro PM, Zabel RW, Palsson W, Grandin C (2013) Population interconnectivity and implications for recovery of a species of concern, the Pacific hake of Georgia Basin. *Mar Biol* 160:1157–1170
- Cho W, Shank TM (2010) Incongruent patterns of genetic connectivity among four ophiuroid species with differing coral host specificity on North Atlantic seamounts. *Mar Ecol Evol Perspect* 31:121–143

Christensen AB, Christensen EF, Weisrock DW (2008) Population genetic structure of North American *Ophiactis* spp. brittle stars possessing hemoglobin. *Mar Biol* 154:755–763

Christie MR, Tissot BN, Albins MA, Beets JP, Jia Y, Ortiz DM, Thompson SE, Hixon MA (2010) Larval connectivity in an effective network of marine protected areas. *PLoS One* 5

Christie MR, Johnson DW, Stallings CD, Hixon MA (2010) Self-recruitment and sweepstakes reproduction amid extensive gene flow in a coral-reef fish. *Mol Ecol* 19:1042–1057

Churchill JH, Runge J, Chen C (2011) Processes controlling retention of spring-spawned Atlantic cod (*Gadus morhua*) in the western Gulf of Maine and their relationship to an index of recruitment success. *Fish Oceanogr* 20:32–46

Chust G, Albaina A, Aranburu A, Borja ?ngel, Diekmann OE, Estonba A, Franco J, Garmendia JM, Iriondo M, Muxika I, Rendo F, Rodr??guez JG, Ruiz-Larra??aga O, Serr??o EA, Valle M (2013) Connectivity, neutral theories and the assessment of species vulnerability to global change in temperate estuaries. *Estuar Coast Shelf Sci* 131:52–63

Clark NJ, Russ GR (2012) Ontogenetic shifts in the habitat associations of butterflyfishes (F. Chaetodontidae). *Environ Biol Fishes* 94:579–590

Clarke C, Lea JSE, Ormond RFG (2011) Reef-use and residency patterns of a baited population of silky sharks, *Carcharhinus falciformis*, in the Red Sea. *Mar Freshw Res* 62:668–675

Clarke LM, Munch SB, Thorrold SR, Conover DO (2010) High connectivity among locally adapted populations of a marine fish (*Menidia menidia*). *Ecology* 91:3526–3537

Clarke LM, Walther BD, Munch SB, Thorrold SR, Conover DO (2009) Chemical signatures in the otoliths of a coastal marine fish, *Menidia menidia*, from the northeastern United States: spatial and temporal differences. *Mar Ecol Prog Ser* 384:261–271

Claydon JAB, Calosso MC, Leo GA De, Peachey RBJ (2015) Spatial and demographic consequences of nursery-dependence in reef fishes: an empirical and simulation study. *Mar Ecol Prog Ser* 525:171–183

Claydon JAB, Calosso MC, Traiger SB (2012) Progression of invasive lionfish in seagrass, mangrove and reef habitats. *Mar Ecol Prog Ser* 448:119–129

Coates JH, Hovel KA, Butler JL, Bohonak AJ (2014) Recruitment and recovery of pink abalone (*Haliotis corrugata*) in a historically overexploited kelp forest: Are local populations self-sustaining? *J Exp Mar Bio Ecol* 460:184–192

Coleman MA, Brawley SH (2005) Are life history characteristics good predictors of genetic diversity and structure? A case study of the intertidal alga *Fucus spiralis* (Heterokontophyta; Phaeophyceae). *J Phycol* 41:753–762

Coleman MA, Gillanders BM, Connell SD (2009) Dispersal and gene flow in the habitat-forming kelp, *Ecklonia radiata*: relative degrees of isolation across an east-west coastline. *Mar Freshw Res* 60:802–809

Coleman MA (2013) Connectivity of the Habitat-Forming Kelp, *Ecklonia radiata* within and among Estuaries and Open Coast. *PLoS One* 8

Coleman MA, Roughan M, Macdonald HS, Connell SD, Gillanders BM, Kelaher BP, Steinberg PD (2011) Variation in the strength of continental boundary currents determines continent-wide connectivity in kelp. *J Ecol* 99:1026–1032

- Coleman MA, Kelaher BP (2009) Connectivity among fragmented populations of a habitat-forming alga, *Phyllospora comosa* (Phaeophyceae, Fucales) on an urbanised coast. *Mar Ecol Prog Ser* 381:63–70
- Colgan DJ, Schreiter S (2011) Extrinsic and intrinsic influences on the phylogeography of the *Austrocochlea constricta* species group. *J Exp Mar Bio Ecol* 397:44–51
- Collin R (2001) The effects of mode of development on phylogeography and population structure of North Atlantic *Crepidula* (Gastropoda : Calyptraeidae). *Mol Ecol* 10:2249–2262
- Collin SB, Edwards PK, Leung B, Johnson LE (2013) Optimizing early detection of non-indigenous species: Estimating the scale of dispersal of a nascent population of the invasive tunicate *Ciona intestinalis* (L.). *Mar Pollut Bull* 73:64–69
- Collins CJ, Fraser CI, Ashcroft A, Waters JM (2010) Asymmetric dispersal of southern bull-kelp (*Durvillaea antarctica*) adults in coastal New Zealand: testing an oceanographic hypothesis. *Mol Ecol* 19:4572–4580
- Colson I, Hughes RN (2004) Rapid recovery of genetic diversity of dogwhelk (*Nucella lapillus* L.) populations after local extinction and recolonization contradicts predictions from life-history characteristics. *Mol Ecol* 13:2223–2233
- Concepcion GT, Kahng SE, Crepeau MW, Franklin EC, Coles SL, Toonen RJ (2010) Resolving natural ranges and marine invasions in a globally distributed octocoral (genus *Carijoa*). *Mar Ecol Prog Ser* 401:113–127
- Condie SA, Loneragan NR, Die DJ (1999) Modelling the recruitment of tiger prawns *Penaeus esculentus* and *P-semisulcatus* to nursery grounds in the Gulf of Carpentaria, northern Australia: implications for assessing stock-recruitment relationships. *Mar Ecol Prog Ser* 178:55–68
- Condie SA, Mansbridge J V, Cahill ML (2011) Contrasting local retention and cross-shore transports of the East Australian Current and the Leeuwin Current and their relative influences on the life histories of small pelagic fishes. *Deep Res Part Ii-Topical Stud Oceanogr* 58:606–615
- Cook BD, Pringle CM, Hughes JM (2010) Immigration history of amphidromous species on a Greater Antillean island. *J Biogeogr* 37:270–277
- Cook GS (2011) Changes in otolith microchemistry over a protracted spawning season influence assignment of natal origin. *Mar Ecol Prog Ser* 423:197–209
- Cook GS, Parnell PE, Levin LA (2014) Population Connectivity Shifts at High Frequency within an Open-Coast Marine Protected Area Network. *PLoS One* 9
- Corell H, Moksnes P-O, Engqvist A, Doos K, Jonsson PR (2012) Depth distribution of larvae critically affects their dispersal and the efficiency of marine protected areas. *Mar Ecol Prog Ser* 467:29–+
- Corgos A, Bernardez C, Sampedro P, Verisimo P, Freire J (2011) Spatial structure of the spider crab, *Maja brachydactyla* population: Evidence of metapopulation structure. *J Sea Res* 66:9–19
- Correia AT, Ramos AA, Barros F, Silva G, Hamer P, Morais P, Cunha RL, Castilho R (2012) Population structure and connectivity of the European conger eel (*Conger conger*) across the north-eastern Atlantic and western Mediterranean: integrating molecular and otolith elemental approaches. *Mar Biol* 159:1509–1525

- Coscia I, Robins PE, Porter JS, Malham SK, Ironside JE (2013) Modelled larval dispersal and measured gene flow: seascape genetics of the common cockle *Cerastoderma edule* in the southern Irish Sea. *Conserv Genet* 14:451–466
- Cossu P, Dedola GL, Scarpa F, Sanna D, Lai T, Maltagliati F, Curini-Galletti M, Casu M (2015) Patterns of spatial genetic variation in *Patella ulyssiponensis*: insights from the western Mediterranean marine ecoregion. *Hydrobiologia* 755:39–55
- Costantini F, Carlesi L, Abbiati M (2013) Quantifying Spatial Genetic Structuring in Mesophotic Populations of the Precious Coral *Corallium rubrum*. *PLoS One* 8
- Costello C, Rassweiler A, Siegel D, Leo G De, Micheli F, Rosenberg A (2010) The value of spatial information in MPA network design. *Proc Natl Acad Sci U S A* 107:18294–18299
- Cote CL, Gagnaire P-A, Bourret V, Verreault G, Castonguay M, Bernatchez L (2013) Population genetics of the American eel (*Anguilla rostrata*): $F_{ST}=0$ and North Atlantic Oscillation effects on demographic fluctuations of a panmictic species. *Mol Ecol* 22:1763–1776
- Couceiro L, Lopez L, Sotka EE, Ruiz JM, Barreiro R (2012) Molecular data delineate cryptic *Nassarius* species and characterize spatial genetic structure of *N. nitidus*. *J Mar Biol Assoc United Kingdom* 92:1175–1182
- Couceiro L, Barreiro R, Ruiz JM, Sotka EE (2007) Genetic isolation by distance among populations of the netted dog whelk *Nassarius reticulatus* (L.) along the European Atlantic coastline. *J Hered* 98:603–610
- Couceiro L, Lopez L, Miguel Ruiz J, Barreiro R (2012) Population structure and range expansion: the case of the invasive gastropod *Cyclope neritea* in northwest Iberian Peninsula. *Integr Zool* 7:286–298
- Couceiro L, Maneiro I, Miguel Ruiz J, Barreiro R (2011) multiscale genetic structure of an endangered seaweed *Ahnfeltiopsis pusilla* (Rhodophyta): implications for its conservation. *J Phycol* 47:259–268
- Couceiro L, Robuchon M, Destombe C, Valero M (2013) Management and conservation of the kelp species *Laminaria digitata*: using genetic tools to explore the potential exporting role of the MPA “Parc naturel marin d’Iroise.” *Aquat Living Resour* 26:197–205
- Coulson LA, Perrin C, Roberts DG, Minchinton TE, Ayre DJ (2011) Can limited dispersal or biotic interaction explain the declining abundance of the whelk, *Morula marginalba*, at the edge of its range? *Biol J Linn Soc* 103:849–862
- Cowart DA, Huang C, Arnaud-Haond S, Carney SL, Fisher CR, Schaeffer SW (2013) Restriction to large-scale gene flow vs. regional panmixia among cold seep *Escarpia* spp. (Polychaeta, Siboglinidae). *Mol Ecol* 22:4147–4162
- Cowen RK, Lwiza KMM, Sponaugle S, Paris CB, Olson DB (2000) Connectivity of marine populations: Open or closed? *Science* (80-) 287:857–859**
- Cowen RK, Paris CB, Srinivasan A (2006) Scaling of connectivity in marine populations. *Science* (80-) 311:522–527**
- Coyer JA, Miller KA, Engle JM, Veldsink J, Cabello-Pasini A, Stam WT, Olsen JL (2008) Eelgrass meadows in the California Channel Islands and adjacent coast reveal a mosaic of two species, evidence for introgression and variable clonality. *Ann Bot* 101:73–87
- Craft JD, Russ AD, Yamamoto MN, Iwai Jr. TY, Hau S, Kahiapo J, Chong CT, Ziegler-Chong S, Muir C, Fujita Y, Polhemus DA, Kinzie III RA, Santos SR (2008) Islands under

- islands: The phylogeography and evolution of *Halocaridina rubra* Holthuis, 1963 (Crustacean : Decapoda : Atyidae) in the Hawaiian archipelago. *Limnol Oceanogr* 53:675–689
- Craig MT, Eble JA, Bowen BW, Robertson DR (2007) High genetic connectivity across the Indian and Pacific Oceans in the reef fish *Myripristis berndti* (Holocentridae). *Mar Ecol Prog Ser* 334:245–254
- Crandall ED, Taffel JR, Barber PH (2010) High gene flow due to pelagic larval dispersal among South Pacific archipelagos in two amphidromous gastropods (Neritomorpha: Neritidae). *Heredity (Edinb)* 104:563–72
- Crandall ED, Trembl EA, Barber PH (2012) Coalescent and biophysical models of stepping-stone gene flow in neritid snails. *Mol Ecol* 21:5579–98
- Crespi-Abril AC, Baron PJ (2012) Revision of the population structuring of *Illex argentinus* (Castellanos, 1960) and a new interpretation based on modelling the spatio-temporal environmental suitability for spawning and nursery. *Fish Oceanogr* 21:199–214
- Criales MM, Wang J, Browder JA, Robblee MB (2005) Tidal and seasonal effects on transport of pink shrimp postlarvae. *Mar Ecol Prog Ser* 286:231–238
- Crochelet E, Chabanet P, Pothin K, Lagabrielle E, Roberts J, Pennober G, Lecomte-Finiger R, Petit M (2013) Validation of a fish larvae dispersal model with otolith data in the Western Indian Ocean and implications for marine spatial planning in data-poor regions. *Ocean Coast Manag* 86:13–21
- Crook DA, Macdonald JJ, O'Connor JP, Barry B (2006) Use of otolith chemistry to examine patterns of diadromy in the threatened Australian grayling *Prototroctes maraena*. *J Fish Biol* 69:1330–1344
- Cudney-Bueno R, Lavin MF, Marinone SG, Raimondi PT, Shaw WW (2009) Rapid Effects of Marine Reserves via Larval Dispersal. *PLoS One* 4
- Cui Y, Yang X, Didelot X, Guo C, Li D, Yan Y, Zhang Y, Yuan Y, Yang H, Wang J, Wang J, Song Y, Zhou D, Falush D, Yang R (2015) Epidemic clones, oceanic gene pools, and eco-LD in the free living marine pathogen *Vibrio parahaemolyticus*. *Mol Biol Evol* 32:1396–1410
- Cuif M, Kaplan DM, Fauvelot C, Lett C, Vigliola L (2015) Monthly variability of self-recruitment for a coral reef damselfish. *Coral Reefs*
- Cuif M, Kaplan DM, Lefevre J, Faure VM, Caillaud M, Verley P, Vigliola L, Lett C (2014) Wind-induced variability in larval retention in a coral reef system: A biophysical modelling study in the South-West Lagoon of New Caledonia. *Prog Oceanogr* 122:105–115
- Cumming RA, Nikula R, Spencer HG, Waters JM (2014) Transoceanic genetic similarities of kelp-associated sea slug populations: long-distance dispersal via rafting? (A Crame, Ed.). *J Biogeogr*:n/a-n/a
- Cunha MR, Matos FL, Genio L, Hilario A, Moura CJ, Ravara A, Rodrigues CF (2013) Are Organic Falls Bridging Reduced Environments in the Deep Sea? - Results from Colonization Experiments in the Gulf of Cadiz. *PLoS One* 8
- Cunha RL, Lopes EP, Reis DM, Castilho R (2011) Genetic structure of *Brachidontes puniceus* populations in Cape Verde Archipelago shows signature of expansion during the last glacial maximum. *J Molluscan Stud* 77:175–181

- Curley BG, Gillings MR (2009) Population connectivity in the temperate damselfish *Parma microlepis*: analyses of genetic structure across multiple spatial scales. *Mar Biol* 156:381–393
- Curtis JMR, Vincent ACJ (2006) Life history of an unusual marine fish: survival, growth and movement patterns of *Hippocampus guttulatus* Cuvier 1829. *J Fish Biol* 68:707–733
- Silva AG da, Appleyard SA, Upston J (2015) Establishing the evolutionary compatibility of potential sources of colonizers for overfished stocks: a population genomics approach. *Mol Ecol* 24:564–579
- D'Agostini A, Marcolino Gherardi DF, Pezzi LP (2015) Connectivity of Marine Protected Areas and Its Relation with Total Kinetic Energy. *PLoS One* 10
- Dailianis T, Tsigenopoulos CS, Dounas C, Voultsiadou E (2011) Genetic diversity of the imperilled bath sponge *Spongia officinalis* Linnaeus, 1759 across the Mediterranean Sea: patterns of population differentiation and implications for taxonomy and conservation. *Mol Ecol* 20:3757–3772
- D'Aloia CC, Bogdanowicz SM, Harrison RG, Buston PM (2014) Seascape continuity plays an important role in determining patterns of spatial genetic structure in a coral reef fish. *Mol Ecol* 23:2902–2913
- D'Aloia CC, Bogdanowicz SM, Majoris JE, Harrison RG, Buston PM (2013) Self-recruitment in a Caribbean reef fish: a method for approximating dispersal kernels accounting for seascape. *Mol Ecol* 22:2563–2572
- D'Aloia CC, Bogdanowicz SM, Francis RK, Majoris JE, Harrison RG, Buston PM (2015) Patterns, causes, and consequences of marine larval dispersal. *Proc Natl Acad Sci U S A* 112:13940–13945
- Daly-Engel TS, Randall JE, Bowen BW (2012) Is the Great Barracuda (*Sphyraena barracuda*) a reef fish or a pelagic fish? The phylogeographic perspective. *Mar Biol* 159:975–985
- Damerau M, Matschiner M, Salzburger W, Hanel R (2014) Population divergences despite long pelagic larval stages: lessons from crocodile icefishes (Channichthyidae). *Mol Ecol* 23:284–299
- Damerau M, Matschiner M, Salzburger W, Hanel R (2012) Comparative population genetics of seven notothenioid fish species reveals high levels of gene flow along ocean currents in the southern Scotia Arc, Antarctica. *Polar Biol* 35:1073–1086
- Damerau M, Salzburger W, Hanel R (2014) Population genetic structure of *Lepidonotothen larseni* revisited: cyb and microsatellites suggest limited connectivity in the Southern Ocean. *Mar Ecol Prog Ser* 517:251–263
- Daniel Anadon J, D'Agrosa C, Gondor A, Gerber LR (2011) Quantifying the Spatial Ecology of Wide-Ranging Marine Species in the Gulf of California: Implications for Marine Conservation Planning. *PLoS One* 6
- Dao HT, Smith-Keune C, Wolanski E, Jones CM, Jerry DR (2015) Oceanographic Currents and Local Ecological Knowledge Indicate, and Genetics Does Not Refute, a Contemporary Pattern of Larval Dispersal for The Ornate Spiny Lobster, *Panulirus ornatus* in the South-East Asian Archipelago. *PLoS One* 10:e0124568–e0124568
- Darcy MC, Eggleston DB (2005) Do habitat corridors influence animal dispersal and colonization in estuarine systems? *Landsc Ecol* 20:841–855

- Darling JA, Herborg L-M, Davidson IC (2012) Intracoastal shipping drives patterns of regional population expansion by an invasive marine invertebrate. *Ecol Evol* 2:2552–2561
- Davies KTA, Gentleman WC, DiBacco C, Johnson CL (2014) Semi-annual spawning in marine scallops strengthens larval recruitment and connectivity on Georges Bank: a model study. *Mar Ecol Prog Ser* 516:209–227
- Davies SW, Treml EA, Kenkel CD, Matz M V (2015) Exploring the role of Micronesian islands in the maintenance of coral genetic diversity in the Pacific Ocean. *Mol Ecol* 24:70–82
- Davis B, Baker R, Sheaves M (2014) Seascape and metacommunity processes regulate fish assemblage structure in coastal wetlands. *Mar Ecol Prog Ser* 500:187–202
- Davis B, Mattone C, Sheaves M (2014) Bottom-up control regulates patterns of fish connectivity and assemblage structure in coastal wetlands. *Mar Ecol Prog Ser* 500:175–186
- Davis JP, Pitt KA, Fry B, Olds AD, Connolly RM (2014) Seascape-scale trophic links for fish on inshore coral reefs. *Coral Reefs* 33:897–907
- Bruyn M De, Mather PB (2007) Molecular signatures of Pleistocene sea-level changes that affected connectivity among freshwater shrimp in Indo-Australian waters. *Mol Ecol* 16:4295–4307
- la Moriniere EC de, Pollux BJA, Nagelkerken I, Velde G van der (2002) Post-settlement life cycle migration patterns and habitat preference of coral reef fish that use seagrass and mangrove habitats as nurseries. *Estuar Coast Shelf Sci* 55:309–321
- Magalhaes CA De (1998) Density and shell-size variation of *Nodilittorina lineolata* (Orbigny, 1840) in the intertidal region in southeastern Brazil. *Hydrobiologia* 378:143–148
- DeBiase MB, Richards VP, Shivji MS (2010) Genetic assessment of connectivity in the common reef sponge, *Callyspongia vaginalis* (Demospongiae: Haplosclerida) reveals high population structure along the Florida reef tract. *Coral Reefs* 29:47–55
- DeBoer TS, Subia MD, Ambariyanto, Erdmann M V, Kovitvongsa K, Barber PH (2008) Phylogeography and Limited Genetic Connectivity in the Endangered Boring Giant Clam across the Coral Triangle. *Conserv Biol* 22:1255–1266
- deHart PAP, Picco CM (2015) Stable oxygen and hydrogen isotope analyses of bowhead whale baleen as biochemical recorders of migration and arctic environmental change. *Polar Sci* 9:235–248
- Delaney DG, Edwards PK, Leung B (2012) Predicting regional spread of non-native species using oceanographic models: validation and identification of gaps. *Mar Biol* 159:269–282
- Delany J, Myers AA, McGrath D (1998) Recruitment, immigration and population structure of two coexisting limpet species in mid-shore tidepools, on the West Coast of Ireland. *J Exp Mar Bio Ecol* 221:221–230
- Demarchi M, Chiappero M, Laudien J, Sahade R (2008) Population genetic structure of the ascidian *Styela rustica* at Kongsfjorden, Svalbard, Arctic. *J Exp Mar Bio Ecol* 364:29–34
- DeMartini EE, Wren JLK, Kobayashi DR (2013) Persistent spatial patterns of recruitment in a guild of Hawaiian coral reef fishes. *Mar Ecol Prog Ser* 485:165-U200
- Dethier MN, McDonald K, Strathmann RR (2003) Colonization and connectivity of habitat patches for coastal marine species distant from source populations. *Conserv Biol* 17:1024–1035

- Dethmers KEM, Jensen MP, FitzSimmons NN, Broderick D, Limpus CJ, Moritz C (2010) Migration of green turtles (*Chelonia mydas*) from Australasian feeding grounds inferred from genetic analyses. *Mar Freshw Res* 61:1376–1387
- Detjen M, Sterling E, Gomez A (2015) Stable isotopes in barnacles as a tool to understand green sea turtle (*Chelonia mydas*) regional movement patterns. *Biogeosciences* 12:7081–7086
- Franco A Di, Coppini G, Pujolar JM, Leo GA De, Gatto M, Lyubartsev V, Melia P, Zane L, Guidetti P (2012) Assessing Dispersal Patterns of Fish Propagules from an Effective Mediterranean Marine Protected Area. *PLoS One* 7
- Franco A Di, Gillanders BM, Benedetto G De, Pennetta A, Leo GA De, Guidetti P (2012) Dispersal Patterns of Coastal Fish: Implications for Designing Networks of Marine Protected Areas. *PLoS One* 7
- Diaz RJ, Cutter GR, Able KW (2003) The importance of physical and biogenic structure to juvenile fishes on the shallow inner continental shelf. *Estuaries* 26:12–20
- Diaz-Ferguson E, Haney RA, Wares JP, Silliman BR (2010) Population genetics of a trochid gastropod broadens picture of Caribbean Sea connectivity. *PLoS One* 5
- Diaz-Jaimes P, Uribe-Alcocer M, Rocha-Olivares A, Garcia-de-Leon FJ, Nortmoon P, Durand JD (2010) Global phylogeography of the dolphinfish (*Coryphaena hippurus*): The influence of large effective population size and recent dispersal on the divergence of a marine pelagic cosmopolitan species. *Mol Phylogenet Evol* 57:1209–1218
- DiBattista JD, Berumen ML, Gaither MR, Rocha LA, Eble JA, Choat JH, Craig MT, Skillings DJ, Bowen BW (2013) After continents divide: comparative phylogeography of reef fishes from the Red Sea and Indian Ocean. *J Biogeogr* 40:1170–1181
- DiBattista JD, Rocha LA, Craig MT, Feldheim KA, Bowen BW (2012) Phylogeography of Two Closely Related Indo-Pacific Butterflyfishes Reveals Divergent Evolutionary Histories and Discordant Results from mtDNA and Microsatellites. *J Hered* 103:617–629
- Dick S, Shurin JB, Taylor EB (2014) Replicate divergence between and within sounds in a marine fish: the copper rockfish (*Sebastes caurinus*). *Mol Ecol* 23:575–590
- Dight IJ, James MK, Bode L (1990) Modelling the larval dispersal of *Acanthaster planci* - II. Patterns of reef connectivity. *Coral Reefs* 9:125–134
- Dohna TA, Timm J, Hamid L, Kochzius M (2015) Limited connectivity and a phylogeographic break characterize populations of the pink anemonefish, *Amphiprion perideraion*, in the Indo-Malay Archipelago: inferences from a mitochondrial and microsatellite loci. *Ecol Evol* 5:1717–1733
- Domingues CP, Creer S, Taylor MI, Queiroga H, Carvalho GR (2011) Temporal genetic homogeneity among shore crab (*Carcinus maenas*) larval events supplied to an estuarine system on the Portuguese northwest coast. *Heredity (Edinb)* 106:832–840
- Domingues CP, Creer S, Taylor MI, Queiroga H, Carvalho GR (2010) Genetic structure of *Carcinus maenas* within its native range: larval dispersal and oceanographic variability. *Mar Ecol Prog Ser* 410:111–123
- Domingues CP, Nolasco R, Dubert J, Queiroga H (2012) Model-Derived Dispersal Pathways from Multiple Source Populations Explain Variability of Invertebrate Larval Supply. *PLoS One* 7

- Donahue MJ, Karnauskas M, Toews C, Paris CB (2015) Location Isn't Everything: Timing of Spawning Aggregations Optimizes Larval Replenishment. *PLoS One* 10
- Dong Y, Wang H, Han G-D, Ke C, Zhan X, Nakano T, Williams GA (2012) The Impact of Yangtze River Discharge, Ocean Currents and Historical Events on the Biogeographic Pattern of *Cellana toreuma* along the China Coast. *PLoS One* 7
- Dorenbosch M, Grol MGG, Christianen MJA, Nagelkerken I, Velde G van der (2005) Indo-Pacific seagrass beds and mangroves contribute to fish density coral and diversity on adjacent reefs. *Mar Ecol Prog Ser* 302:63–76
- Dorenbosch M, Grol MGG, Nagelkerken I, Velde G van der (2006) Different surrounding landscapes may result in different fish assemblages in east african seagrass beds. *Hydrobiologia* 563:45–60
- Dorenbosch M, Grol MGG, Nagelkerken I, Velde G van der (2005) Distribution of coral reef fishes along a coral reef-seagrass gradient: edge effects and habitat segregation. *Mar Ecol Prog Ser* 299:277–288
- Dorenbosch M, Pollux BJA, Pustjens AZ, Rajagopal S, Nagelkerken I, Velde G van der, Moon-van der Staay SY (2006) Population structure of the Dory snapper, *Lutjanus fulvivlamma*, in the western Indian Ocean revealed by means of AFLP fingerprinting. *Hydrobiologia* 568:43–53
- Dorenbosch M, Riel MC van, Nagelkerken I, Velde G van der (2004) The relationship of reef fish densities to the proximity of mangrove and seagrass nurseries. *Estuar Coast Shelf Sci* 60:37–48
- Dorenbosch M, Verberk WCEP, Nagelkerken I, Velde G van der (2007) Influence of habitat configuration on connectivity between fish assemblages of Caribbean seagrass beds, mangroves and coral reefs. *Mar Ecol Prog Ser* 334:103–116
- Dorenbosch M, Verweij MC, Nagelkerken I, Jiddawi N, Velde G van der (2004) Homing and daytime tidal movements of juvenile snappers (*Lutjanidae*) between shallow-water nursery habitats in Zanzibar, western Indian Ocean. *Environ Biol Fishes* 70:203–209
- Santos A dos, Santos AMP, Conway DVP, Bartilotti C, Lourenco P, Queiroga H (2008) Diel vertical migration of decapod larvae in the Portuguese coastal upwelling ecosystem: implications for offshore transport. *Mar Ecol Prog Ser* 359:171–183
- Drake PT, Edwards CA, Morgan SG (2015) Relationship between larval settlement, alongshore wind stress and surface temperature in a numerical model of the central California coastal circulation. *Mar Ecol Prog Ser* 537:71–87
- Drew JA, Barber PH (2012) Comparative Phylogeography in Fijian Coral Reef Fishes: A Multi-Taxa Approach towards Marine Reserve Design. *PLoS One* 7
- Duda Jr TF, Lessios HA (2009) Connectivity of populations within and between major biogeographic regions of the tropical Pacific in *Conus ebraeus*, a widespread marine gastropod. *Coral Reefs* 28:651–659
- Dudgeon CL, Broderick D, Ovenden JR (2009) IUCN classification zones concord with, but underestimate, the population genetic structure of the zebra shark *Stegostoma fasciatum* in the Indo-West Pacific. *Mol Ecol* 18:248–261
- Dudgeon S, Kubler JE, Wright WA, Vadas RL, Petraitis PS (2001) Natural variability in zygote dispersal of *Ascophyllum nodosum* at small spatial scales. *Funct Ecol* 15:595–604

Dufour V, Pierre C, Rancher J (1998) Stable isotopes in fish otoliths discriminate between lagoonal and oceanic residents of Taiaro Atoll (Tuamotu Archipelago, French Polynesia). *Coral Reefs* 17:23–28

Duncan KM, Martin AP, Bowen BW, Couet HG De (2006) Global phylogeography of the scalloped hammerhead shark (*Sphyrna lewini*). *Mol Ecol* 15:2239–2251

Duncan M, James N, Fennessy ST, Mutombene RJ, Mwale M (2015) Genetic structure and consequences of stock exploitation of *Chrysoblephus puniceus*, a commercially important sparid in the South West Indian Ocean. *Fish Res* 164:64–72

Dunstan PK, Bax NJ (2007) How far can marine species go? Influence of population biology and larval movement on future range limits. *Mar Ecol Prog Ser* 344:15–28

Dupont L, Jollivet D, Viard F (2003) High genetic diversity and ephemeral drift effects in a successful introduced mollusc (*Crepidula fornicata*: Gastropoda). *Mar Ecol Prog Ser* 253:183–195

Dupont L, Viard F, Dowell MJ, Wood C, Bishop JDD (2009) Fine- and regional-scale genetic structure of the exotic ascidian *Styela clava* (Tunicata) in southwest England, 50 years after its introduction. *Mol Ecol* 18:442–453

Dupont L, Ellien C, Viard F (2007) Limits to gene flow in the slipper limpet *Crepidula fornicata* as revealed by microsatellite data and a larval dispersal model. *Mar Ecol Prog Ser* 349:125–138

Eble JA, Toonen RJ, Sorenson L, Basch L V, Papastamatiou YP, Bowen BW (2011) Escaping paradise: larval export from Hawaii in an Indo-Pacific reef fish, the yellow tang *Zebrasoma flavescens*. *Mar Ecol Prog Ser* 428:245–258

Edwards KP, Hare JA, Werner FE (2008) Dispersal of black sea bass (*Centropristis striata*) larvae on the southeast US continental shelf: results of a coupled vertical larval behavior - 3D circulation model. *Fish Oceanogr* 17:299–315

Edwards KP, Hare JA, Werner FE, Seim H (2007) Using 2-dimensional dispersal kernels to identify the dominant influences on larval dispersal on continental shelves. *Mar Ecol Prog Ser* 352:77–87

Eggers F, Olsen EM, Moland E, Slotte A (2015) Individual habitat transitions of Atlantic herring *Clupea harengus* in a human-modified coastal system. *Mar Ecol Prog Ser* 520:245–256

Einfeldt AL, Addison JA (2013) Hydrology influences population genetic structure and connectivity of the intertidal amphipod *Corophium volutator* in the northwest Atlantic. *Mar Biol* 160:1015–1027

Ellien C, Thiebaut E, Barnay AS, Dauvin JC, Gentil F, Salomon JC (2000) The influence of variability in larval dispersal on the dynamics of a marine metapopulation in the eastern Channel. *Oceanol Acta* 23:423–442

Ellien C, Thiebaut E, Dumas F, Salomon JC, Nival P (2004) A modelling study of the respective role of hydrodynamic processes and larval mortality on larval dispersal and recruitment of benthic invertebrates: example of *Pectinaria koreni* (Annelida: Polychaeta) in the Bay of Seine (English Channel). *J Plankton Res* 26:117–132

Elphie H, Raquel G, David D, Serge P (2012) Detecting immigrants in a highly genetically homogeneous spiny lobster population (*Palinurus elephas*) in the northwest Mediterranean Sea. *Ecol Evol* 2:2387–2396

- Elsäßer B, Fariñas-Franco JM, Wilson CD, Kregting L, Roberts D (2013) Identifying optimal sites for natural recovery and restoration of impacted biogenic habitats in a special area of conservation using hydrodynamic and habitat suitability modelling. *J Sea Res* 77:11–21
- Engstedt O, Stenroth P, Larsson P, Ljunggren L, Elfman M (2010) Assessment of natal origin of pike (*Esox lucius*) in the Baltic Sea using Sr:Ca in otoliths. *Environ Biol Fishes* 89:547–555
- Engstrom TN, Meylan PA, Meylan AB (2002) Origin of juvenile loggerhead turtles (*Caretta caretta*) in a tropical developmental habitat in Caribbean Panama. *Anim Conserv* 5:125–133
- Erfteimeijer PLA, Beek JKL van, Bolle LJ, Dickey-Collas M, Los HFJ (2009) Variability in transport of fish eggs and larvae. I. Modelling the effects of coastal reclamation. *Mar Ecol Prog Ser* 390:167–181
- Erlandsson J, McQuaid CD, Stanczak S (2011) Recruit/algal interaction prevents recovery of overexploited mussel beds: Indirect evidence that post-settlement mortality structures mussel populations. *Estuar Coast Shelf Sci* 92:132–139
- Etherington LL, Eggleston DB (2000) Large-scale blue crab recruitment: linking postlarval transport, post-settlement planktonic dispersal, and multiple nursery habitats. *Mar Ecol Prog Ser* 204:179–198
- Etter RJ, Bower AS (2015) Dispersal and population connectivity in the deep North Atlantic estimated from physical transport processes. *Deep Res Part I-Oceanographic Res Pap* 104:159–172
- Fach BA (2014) Modeling the Influence of Hydrodynamic Processes on Anchovy Distribution and Connectivity in the Black Sea. *Turkish J Fish Aquat Sci* 14:353–365
- Fassio G, Modica M V, Alvaro MC, Schiaparelli S, Oliverio M (2015) Developmental trade-offs in Southern Ocean mollusc kleptoparasitic species. *Hydrobiologia*
- Faugeron S, Martinez EA, Correa JA, Billot C (2005) Long-term copper mine waste disposal in northern Chile associated with gene flow disruption of the intertidal kelp *Lessonia nigrescens*. *Mar Ecol Prog Ser* 288:129–140
- Feis ME, Thielges DW, Olsen JL, Montaudouin X de, Jensen KT, Bazairi H, Culloty SC, Lutikhuisen PC (2015) The most vagile host as the main determinant of population connectivity in marine macroparasites. *Mar Ecol Prog Ser* 520:85–99
- Feutry P, Vergnes A, Broderick D, Lambourdiere J, Keith P, Ovenden JR (2013) Stretched to the limit; can a short pelagic larval duration connect adult populations of an Indo-Pacific diadromous fish (*Kuhlia rupestris*)? *Mol Ecol* 22:1518–1530
- Fiechter J, Haus BK, Melo N, Mooers CNK (2008) Physical processes impacting passive particle dispersal in the Upper Florida Keys. *Cont Shelf Res* 28:1261–1272
- Fischer DT, White JW, Botsford LW, Largier J, Kaplan DM (2011) A GIS-Based Tool for Representing Larval Dispersal for Marine Reserve Selection. *Prof Geogr* 63:489–513
- Fitzpatrick JM, Carlon DB, Lippe C, Robertson DR (2011) The West Pacific diversity hotspot as a source or sink for new species? Population genetic insights from the Indo-Pacific parrotfish *Scarus rubroviolaceus*. *Mol Ecol* 20:219–234
- Fletcher LM, Forrest BM, Bell JJ (2013) Natural dispersal mechanisms and dispersal potential of the invasive ascidian *Didemnum vexillum*. *Biol Invasions* 15:627–643

- Fodrie FJ, Becker BJ, Levin LA, Gruenthal K, McMillan PA (2011) Connectivity clues from short-term variability in settlement and geochemical tags of mytilid mussels. *J Sea Res* 65:141–150
- Fodrie FJ, Herzka SZ (2008) Tracking juvenile fish movement and nursery contribution within and coastal embayments via otolith microchemistry. *Mar Ecol Prog Ser* 361:253–265
- Fodrie FJ, Herzka SZ (2013) A Comparison of Otolith Geochemistry and Stable Isotope Markers to Track Fish Movement: Describing Estuarine Ingress by Larval and Post-larval Halibut. *Estuaries and Coasts* 36:906–917
- Fodrie FJ, Levin LA (2008) Linking juvenile habitat utilization to population dynamics of California halibut. *Limnol Oceanogr* 53:799–812
- Foighil DO, Jozefowicz CJ (1999) Amphi-Atlantic phylogeography of direct-developing lineages of *Lasaea*, a genus of brooding bivalves. *Mar Biol* 135:115–122
- Foltz DW, Fatland SD, Eleaume M, Markello K, Howell KL, Neill K, Mah CL (2013) Global population divergence of the sea star *Hippasteria phrygiana* corresponds to the onset of the last glacial period of the Pleistocene. *Mar Biol* 160:1285–1296
- Foote AD, Similae T, Vikingsson GA, Stevick PT (2010) Movement, site fidelity and connectivity in a top marine predator, the killer whale. *Evol Ecol* 24:803–814
- Forcada A, Valle C, Bonhomme P, Criquet G, Cadiou G, Lenfant P, Sanchez-Lizaso JL (2009) Effects of habitat on spillover from marine protected areas to artisanal fisheries. *Mar Ecol Prog Ser* 379:197–211
- Fossette S, Heide-Jørgensen MP, Jensen M V, Kiszka J, Bérubé M, Bertrand N, Vély M (2014) Humpback whale (*Megaptera novaeangliae*) post breeding dispersal and southward migration in the western Indian Ocean. *J Exp Mar Bio Ecol* 450:6–14
- Foster NL, Paris CB, Kool JT, Baums IB, Stevens JR, Sanchez JA, Bastidas C, Agudelo C, Bush P, Day O, Ferrari R, Gonzalez P, Gore S, Guppy R, McCartney MA, McCoy C, Mendes J, Srinivasan A, Steiner S, Vermeij MJA, Weil E, Mumby PJ (2012) Connectivity of Caribbean coral populations: complementary insights from empirical and modelled gene flow. *Mol Ecol* 21:1143–1157
- Fraser CI, Thiel M, Spencer HG, Waters JM (2010) Contemporary habitat discontinuity and historic glacial ice drive genetic divergence in Chilean kelp. *BMC Evol Biol* 10
- Fratini S, Ragionieri L, Cutuli G, Vannini M, Cannicci S (2013) Pattern of genetic isolation in the crab *Pachygrapsus marmoratus* within the Tuscan Archipelago (Mediterranean Sea). *Mar Ecol Prog Ser* 478:173–183
- Freedman R, Whitcraft CR, Lowe CG (2015) Connectivity and movements of juvenile predatory fishes between discrete restored estuaries in southern California. *Mar Ecol Prog Ser* 520:191–201
- Friedland KD, Manning JP, Link JS, Gilbert JR, Gilbert AT, O'Connell Jr. AF (2012) Variation in wind and piscivorous predator fields affecting the survival of Atlantic salmon, *Salmo salar*, in the Gulf of Maine. *Fish Manag Ecol* 19:22–35
- Fromentin J-M, Reygondeau G, Bonhommeau S, Beaugrand G (2014) Oceanographic changes and exploitation drive the spatio-temporal dynamics of Atlantic bluefin tuna (*Thunnus thynnus*). *Fish Oceanogr* 23:147–156

- Froukh T, Kochzius M (2007) Genetic population structure of the endemic fourline wrasse (*Larabicus quadrilineatus*) suggests limited larval dispersal distances in the Red Sea. *Mol Ecol* 16:1359–1367
- Fujimura AG, Reniers AJHM, Paris CB, Shanks AL, MacMahan JH, Morgan SG (2014) Numerical simulations of larval transport into a rip-channeled surf zone. *Limnol Oceanogr* 59:1434–1447
- Furman BT, Jackson LJ, Bricker E, Peterson BJ (2015) Sexual recruitment in *Zostera marina*: A patch to landscape-scale investigation. *Limnol Oceanogr* 60:584–599
- Gahagan BI, Fox DA, Secor DH (2015) Partial migration of striped bass: revisiting the contingent hypothesis. *Mar Ecol Prog Ser* 525:185–197
- Gaines SD, Bertness MD (1992) Dispersal of Juveniles and Variable Recruitment in Sessile Marine Species. *Nature* 360:579–580**
- Gaither MR, Jones SA, Kelley C, Newman SJ, Sorenson L, Bowen BW (2011) High Connectivity in the Deepwater Snapper *Pristipomoides filamentosus* (Lutjanidae) across the Indo-Pacific with Isolation of the Hawaiian Archipelago. *PLoS One* 6
- Galindo HM, Olson DB, Palumbi SR (2006) Seascape genetics: A coupled oceanographic-genetic model predicts population structure of Caribbean corals. *Curr Biol* 16:1622–1626**
- Galindo HM, Pfeiffer-Herbert AS, McManus MA, Chao Y, Chai F, Palumbi SR (2010) Seascape genetics along a steep cline: using genetic patterns to test predictions of marine larval dispersal. *Mol Ecol* 19:3692–3707
- Gaonkar CA, Samiksha S V, George G, Aboobacker VM, Vethamony P, Anil AC (2012) Numerical simulations of barnacle larval dispersion coupled with field observations on larval abundance, settlement and recruitment in a tropical monsoon influenced coastal marine environment. *J Mar Syst* 94:218–231
- Garavelli L, Gruess A, Grote B, Chang N, Smith M, Verley P, Stenevik EK, Kaplan DM, Lett C (2012) Modeling the dispersal of Cape hake ichthyoplankton. *J Plankton Res* 34:655–669
- Garavelli L, Kaplan DM, Colas F, Stotz W, Yannicelli B, Lett C (2014) Identifying appropriate spatial scales for marine conservation and management using a larval dispersal model: The case of *Concholepas concholepas* (loco) in Chile. *Prog Oceanogr* 124:42–53
- Gardner JPA, Wei KJ (2015) The genetic architecture of hybridisation between two lineages of greenshell mussels. *Heredity (Edinb)* 114:344–355
- Gardner MJ, Chaplin JA, Potter IC, Fairclough D V (2015) Pelagic early life stages promote connectivity in the demersal labrid *Choerodon rubescens*. *J Exp Mar Bio Ecol* 472:142–150
- Garland EC, Goldizen AW, Lilley MS, Rekdahl ML, Garrigue C, Constantine R, Hauser ND, Poole MM, Robbins J, Noad MJ (2015) Population structure of humpback whales in the western and central South Pacific Ocean as determined by vocal exchange among populations. *Conserv Biol* 29:1198–1207
- Garofalo G, Fortibuoni T, Gristina M, Sinopoli M, Fiorentino F (2011) Persistence and co-occurrence of demersal nurseries in the Strait of Sicily (central Mediterranean): Implications for fishery management. *J Sea Res* 66:29–38
- Garofalo L, Mastrogiacomo A, Casale P, Carlini R, Eleni C, Freggi D, Gelli D, Knittweis L, Mifsud C, Mingozzi T, Novarini N, Scaravelli D, Scillitani G, Oliverio M, Novelletto A

- (2013) Genetic characterization of central Mediterranean stocks of the loggerhead turtle (*Caretta caretta*) using mitochondrial and nuclear markers, and conservation implications. *Aquat Conserv Freshw Ecosyst* 23:868–884
- Garofalo L, Mingozi T, Mico A, Novelletto A (2009) Loggerhead turtle (*Caretta caretta*) matriline in the Mediterranean: further evidence of genetic diversity and connectivity. *Mar Biol* 156:2085–2095
- Gaylord B, Reed DC, Raimondi PT, Washburn L (2006) Macroalgal spore dispersal in coastal environments: Mechanistic insights revealed by theory and experiment. *Ecol Monogr* 76:481–502
- George G, Vethamony P, Sudheesh K, Babu MT (2011) Fish larval transport in a macro-tidal regime: Gulf of Kachchh, west coast of India. *Fish Res* 110:160–169
- Gerlach G, Atema J, Kingsford MJ, Black KP, Miller-Sims V (2007) Smelling home can prevent dispersal of reef fish larvae. *Proc Natl Acad Sci U S A* 104:858–863**
- Ghezzi M, Pascalis F De, Umgiesser G, Zemlyy P, Sigovini M, Marcos C, Pérez-Ruzafa A (2014) Connectivity in Three European Coastal Lagoons. *Estuaries and Coasts*
- Gibbons MJ, Gugushe N, Boyd AJ, Shannon LJ, Mitchell-Innes BA (1999) Changes in the composition of the non-copepod zooplankton assemblage in St Helena Bay (southern Benguela ecosystem) during a six day drogue study. *Mar Ecol Prog Ser* 180:111–120
- Gilbert-Horvath EA, Larson RJ, Garza JC (2006) Temporal recruitment patterns and gene flow in kelp rockfish (*Sebastes atrovirens*). *Mol Ecol* 15:3801–3815
- Giles EC, Saenz-Agudelo P, Hussey NE, Ravasi T, Berumen ML (2015) Exploring seascape genetics and kinship in the reef sponge *Stylissa carteri* in the Red Sea. *Ecol Evol* 5:2487–2502
- Gilg MR, Hilbish TJ (2003) The geography of marine larval dispersal: Coupling genetics with fine-scale physical oceanography. *Ecology* 84:2989–2998
- Gilg MR, Howard R, Turner R, Middlebrook M, Abdulnour M, Lukaj E, Sheng YP, Liu T, Tutak B (2014) Estimating the dispersal capacity of the introduced green mussel, *Perna viridis* (Linnaeus, 1758), from field collections and oceanographic modeling. *J Exp Mar Bio Ecol* 461:233–242
- Gilg MR, Kirby SE, Sullivan R, Knapp LW, Hilbish TJ (2007) Dispersal vs. retention: correspondence of species-specific reproductive cycles and settlement periods in a blue mussel hybrid zone. *Mar Ecol Prog Ser* 351:151–161
- Gilmour JP, Smith LD, Brinkman RM (2009) Biannual spawning, rapid larval development and evidence of self-seeding for scleractinian corals at an isolated system of reefs. *Mar Biol* 156:1297–1309
- Goetze E (2011) Population Differentiation in the Open Sea: Insights from the Pelagic Copepod *Pleuromamma xiphias*. *Integr Comp Biol* 51:580–597
- Goldstien SJ, Schiel DR, Gemmell NJ (2010) Regional connectivity and coastal expansion: differentiating pre-border and post-border vectors for the invasive tunicate *Styela clava*. *Mol Ecol* 19:874–885
- Gomez JG (1995) Distribution patterns, abundance and population-dynamics of the Euphausiids *Nyctiphanes simplex* and *Euphausia eximia* off the west-coast of Baja-California, Mexico. *Mar Ecol Prog Ser* 119:63–76

- Goni R, Renones O, Quetglas A (2001) Dynamics of a protected Western Mediterranean population of the European spiny lobster *Palinurus elephas* (Fabricius, 1787) assessed by trap surveys. *Mar Freshw Res* 52:1577–1587
- Goni R, Hilborn R, Diaz D, Mallol S, Adlerstein S (2010) Net contribution of spillover from a marine reserve to fishery catches. *Mar Ecol Prog Ser* 400:233–243
- Gonzalez EB, Knutsen H, Jorde PE, Glover KA, Bergstad OA (2015) Genetic analyses of ling (*Molva molva*) in the Northeast Atlantic reveal patterns relevant to stock assessments and management advice. *ICES J Mar Sci* 72:635–641
- Gonzalez-Wanguemert M, Canovas F, Perez-Ruzafa A, Marcos C, Alexandrino P (2010) Connectivity patterns inferred from the genetic structure of white seabream (*Diplodus sargus* L.). *J Exp Mar Bio Ecol* 383:23–31
- Gonzalez-Wevar CA, Huene M, Canete JI, Mansilla A, Nakano T, Poulin E (2012) Towards a model of postglacial biogeography in shallow marine species along the Patagonian Province: lessons from the limpet *Nacella magellanica* (Gmelin, 1791). *BMC Evol Biol* 12
- Goodbody-Gringley G, Woollacott RM, Giribet G (2012) Population structure and connectivity in the Atlantic scleractinian coral *Montastraea cavernosa* (Linnaeus, 1767). *Mar Ecol Evol Perspect* 33:32–48
- Goodsell PJ, Chapman MG, Underwood AJ (2007) Differences between biota in anthropogenically fragmented habitats and in naturally patchy habitats. *Mar Ecol Prog Ser* 351:15–23
- Gordon GNG, Andrew NL, Montgomery SS (1995) Deterministic compartmental model for the eastern king prawn (*Penaeus plebejus*) fishery in New-South-Wales. *Mar Freshw Res* 46:793–807
- Gormley K, Mackenzie C, Robins P, Coscia I, Cassidy A, James J, Hull A, Piertney S, Sanderson W, Porter J (2015) Connectivity and Dispersal Patterns of Protected Biogenic Reefs: Implications for the Conservation of *Modiolus modiolus* (L.) in the Irish Sea. *PLoS One* 10
- Gorospe KD, Karl SA (2015) Depth as an Organizing Force in *Pocillopora damicornis*: Intra-Reef Genetic Architecture. *PLoS One* 10
- Grant WS, Merkouris SE, Kruse GH, Seeb LW (2011) Low allozyme heterozygosity in North Pacific and Bering Sea populations of red king crab (*Paralithodes camtschaticus*): adaptive specialization, population bottleneck, or metapopulation structure? *ICES J Mar Sci* 68:499–506
- Green BC, Smith DJ, Grey J, Underwood GJC (2012) High site fidelity and low site connectivity in temperate salt marsh fish populations: A stable isotope approach. *Oecologia* 168:245–255
- Green KM, Starr RM (2011) Movements of small adult black rockfish: implications for the design of MPAs. *Mar Ecol Prog Ser* 436:219–230
- Griffin DA, Wilkin JL, Chubb CF, Pearce AF, Caputi N (2001) Ocean currents and the larval phase of Australian western rock lobster, *Panulirus cygnus*. *Mar Freshw Res* 52:1187–1199
- Griffiths AM, Sims DW, Johnson A, Lynghammar A, McHugh M, Bakken T, Genner MJ (2011) Levels of connectivity between longnose skate (*Dipturus oxyrinchus*) in the Mediterranean Sea and the north-eastern Atlantic Ocean. *Conserv Genet* 12:577–582

- Grober-Dunsmore R, Frazer TK, Lindberg WJ, Beets J (2007) Reef fish and habitat relationships in a Caribbean seascape: the importance of reef context. *Coral Reefs* 26:201–216
- Gruenthal KM, Acheson LK, Burton RS (2007) Genetic structure of natural populations of California red abalone (*Haliotis rufescens*) using multiple genetic markers. *Mar Biol* 152:1237–1248
- Gruenthal KM, Burton RS (2008) Genetic structure of natural populations of the California black abalone (*Haliotis cracherodii* Leach, 1814), a candidate for endangered species status. *J Exp Mar Bio Ecol* 355:47–58
- Grüss A, Kaplan DM, Lett C (2012) Estimating local settler-recruit relationship parameters for complex spatially explicit models. *Fish Res* 127–128:34–39
- Gubili C, Bilgin R, Kalkan E, Karhan SU, Jones CS, Sims DW, Kabasakal H, Martin AP, Noble LR (2011) Antipodean white sharks on a Mediterranean walkabout? Historical dispersal leads to genetic discontinuity and an endangered anomalous population. *Proc R Soc B-Biological Sci* 278:1679–1686
- Gubili C, Robinson CEC, Cliff G, Wintner SP, Sabata E de, Innocentiis S De, Canese S, Sims DW, Martin AP, Noble LR, Jones CS (2015) DNA from historical and trophy samples provides insights into white shark population origins and genetic diversity. *Endanger Species Res* 27:233–241
- Guelinckx J, Maes J, Geysen B, Ollevier F (2008) Estuarine recruitment of a marine goby reconstructed with an isotopic clock. *Oecologia* 157:41–52
- Guizien K, Belharet M, Marsaleix P, Guarinia JM (2012) Using larval dispersal simulations for marine protected area design: Application to the Gulf of Lions (northwest Mediterranean). *Limnol Oceanogr* 57:1099–1112
- Guizien K, Belharet M, Moritz C, Guarini JM (2014) Vulnerability of marine benthic metapopulations: implications of spatially structured connectivity for conservation practice in the Gulf of Lions (NW Mediterranean Sea). *Divers Distrib* 20:1392–1402
- Guizien K, Brochier T, Duchene JC, Koh BS, Marsaleix P (2006) Dispersal of *Owenia fusiformis* larvae by wind-driven currents: turbulence, swimming behaviour and mortality in a three-dimensional stochastic model. *Mar Ecol Prog Ser* 311:47–66
- Haase AT, Eggleston DB, Luettich RA, Weaver RJ, Puckett BJ (2012) Estuarine circulation and predicted oyster larval dispersal among a network of reserves. *Estuar Coast Shelf Sci* 101:33–43
- Haffray P, Malha R, Sidi MOT, Prista N, Hassan M, Castelnaud G, Karahan-Nomm B, Gamsiz K, Sadek S, Bruant J-S, Balma P, Bonhomme F (2012) Very high genetic fragmentation in a large marine fish, the meagre *Argyrosomus regius* (Sciaenidae, Perciformes): impact of reproductive migration, oceanographic barriers and ecological factors. *Aquat Living Resour* 25:173–183
- Hallier J-P, Gaertner D (2008) Drifting fish aggregation devices could act as an ecological trap for tropical tuna species. *Mar Ecol Prog Ser* 353:255–264
- Halsband-Lenk C (2005) *Metridia pacifica* in Dabob Bay, Washington: The diatom effect and the discrepancy between high abundance and low egg production rates. *Prog Oceanogr* 67:422–441

- Hamann M, Grech A, Wolanski E, Lambrechts J (2011) Modelling the fate of marine turtle hatchlings. *Ecol Modell* 222:1515–1521
- Hamm DE, Burton RS (2000) Population genetics of black abalone, *Haliotis cracherodii*, along the central California coast. *J Exp Mar Bio Ecol* 254:235–247
- Han Y-S, Hung C-L, Liao Y-F, Tzeng W-N (2010) Population genetic structure of the Japanese eel *Anguilla japonica*: panmixia at spatial and temporal scales. *Mar Ecol Prog Ser* 401:221–232
- Han Y-S, Zhang H, Tseng Y-H, Shen M-L (2012) Larval Japanese eel (*Anguilla japonica*) as sub-surface current bio-tracers on the East Asia continental shelf. *Fish Oceanogr* 21:281–290
- Harding JM, Mann R (2001) Diet and habitat use by bluefish, *Pomatomus saltatrix*, in a Chesapeake Bay estuary. *Environ Biol Fishes* 60:401–409
- Harii S, Kayanne H (2003) Larval dispersal, recruitment, and adult distribution of the brooding stony octocoral *Heliopora coerulea* on Ishigaki Island, southwest Japan. *Coral Reefs* 22:188–196
- Harriott VJ (1995) Is the Crown-Of-Thorns Starfish a Threat to the Reefs of Lord-Howe-Island. *Aquat Conserv Freshw Ecosyst* 5:179–190
- Harrison HB, Williamson DH, Evans RD, Almany GR, Thorrold SR, Russ GR, Feldheim KA, Herwerden L van, Planes S, Srinivasan M, Berumen ML, Jones GP (2012) Larval Export from Marine Reserves and the Recruitment Benefit for Fish and Fisheries. *Curr Biol* 22:1023–1028**
- Hatase H, Omuta K, Tsukamoto K (2010) Oceanic residents, neritic migrants: a possible mechanism underlying foraging dichotomy in adult female loggerhead turtles (*Caretta caretta*). *Mar Biol* 157:1337–1342
- Haupt AJ, Michel F, Palumbi SR (2013) Dispersal at a Snail's Pace: Historical Processes Affect Contemporary Genetic Structure in the Exploited Wavy Top Snail (*Megastrea undosa*). *J Hered* 104:327–340
- Havrylkoff JM, Peterson MS, Slack WT (2012) Assessment of the seasonal usage of the lower Pascagoula River estuary by Gulf sturgeon (*Acipenser oxyrinchus desotoi*). *J Appl Ichthyol* 28:681–686
- Heath M, Zenitani H, Watanabe Y, Kimura R, Ishida M (1998) Modelling the dispersal of larval Japanese sardine, *Sardinops melanostictus*, by the Kuroshio Current in 1993 and 1994. *Fish Oceanogr* 7:335–346
- Henriques R, Potts WM, Santos C V, Sauer WHH, Shaw PW (2014) Population Connectivity and Phylogeography of a Coastal Fish, *Atractoscion aequidens* (Sciaenidae), across the Benguela Current Region: Evidence of an Ancient Vicariant Event. *PLoS One* 9
- Henry L-A, Frank N, Hebbeln D, Wienberg C, Robinson L, Flierdt T van de, Dahl M, Douarin M, Morrison CL, Lopez Correa M, Rogers AD, Ruckelshausen M, Roberts JM (2014) Global ocean conveyor lowers extinction risk in the deep sea. *Deep Res Part I-Oceanographic Res Pap* 88:8–16
- Hermann AJ, Hinckley S, Megrey BA, Napp JM (2001) Applied and theoretical considerations for constructing spatially explicit individual-based models of marine larval fish that include multiple trophic levels. *ICES J Mar Sci* 58:1030–1041

- Hermann AJ, Hinckley S, Megrey BA, Stabeno PJ (1996) Interannual variability of the early life history of walleye pollock near Shelikof Strait as inferred from a spatially explicit, individual-based model. *Fish Oceanogr* 5:39–57
- Hernandez S, Daley R, Walker T, Braccini M, Varela A, Francis MP, Ritchie PA (2015) Demographic history and the South Pacific dispersal barrier for school shark (*Galeorhinus galeus*) inferred by mitochondrial DNA and microsatellite DNA mark. *Fish Res* 167:132–142
- Hernandez-Lamb J, Dibello A, Lewis S, Mackin G, Kirby K, Acosta C (2012) Modelling the effects of reserve size and fishing mortality for Caribbean queen conch *Strombus gigas*. *Aquat Conserv Freshw Ecosyst* 22:721–730
- Hibino M, Ohta T, Isoda T, Nakayama K, Tanaka M (2006) Diel and tidal changes in the distribution and feeding habits of Japanese temperate bass *Lateolabrax japonicus* juveniles in the surf zone of Ariake Bay. *Ichthyol Res* 53:129–136
- Hilbish TJ, Brannock PM, Jones KR, Smith AB, Bullock BN, Wethey DS (2010) Historical changes in the distributions of invasive and endemic marine invertebrates are contrary to global warming predictions: the effects of decadal climate oscillations. *J Biogeogr* 37:423–431
- Hill BJ (1994) Offshore spawning by the Portunid crab *Scylla-serrata* (Crustacea, Decapoda). *Mar Biol* 120:379–384
- Hinckley S, Hermann AJ, Megrey BA (1996) Development of a spatially explicit, individual-based model of marine fish early life history. *Mar Ecol Prog Ser* 139:47–68
- Hindar K, Tufto J, Saettem LM, Balstad T (2004) Conservation of genetic variation in harvested salmon populations. *ICES J Mar Sci* 61:1389–1397
- Hinrichsen HH, Bottcher U, Koster FW, Lehmann A, St John MA (2003) Modelling the influences of atmospheric forcing conditions on Baltic cod early life stages: distribution and drift. *J Sea Res* 49:187–201
- Hinrichsen HH, John MS, Aro E, Gronkjaer P, Voss R (2001) Testing the larval drift hypothesis in the Baltic Sea: retention versus dispersion caused by wind-driven circulation. *ICES J Mar Sci* 58:973–984
- Hirase S, Kanno M, Ikeda M, Kijima A (2012) Evidence of the restricted gene flow within a small spatial scale in the Japanese common intertidal goby *Chaenogobius annularis*. *Mar Ecol Evol Perspect* 33:481–489
- Hitt S, Pittman SJ, Nemeth RS (2011) Diel movements of fishes linked to benthic seascape structure in a Caribbean coral reef ecosystem. *Mar Ecol Prog Ser* 427:275–291
- Hoareau TB, Boissin E, Paulay G, Bruggemann JH (2013) The Southwestern Indian Ocean as a potential marine evolutionary hotspot: perspectives from comparative phylogeography of reef brittle-stars. *J Biogeogr* 40:2167–2179
- Hoareau TB, Bosc P, Valade P, Berrebi P (2007) Gene flow and genetic structure of *Sicyopterus lagocephalus* in the south-western Indian Ocean, assessed by intron-length polymorphism. *J Exp Mar Bio Ecol* 349:223–234
- Hobday AJ (2000) Abundance and dispersal of drifting kelp *Macrocystis pyrifera* rafts in the Southern California Bight. *Mar Ecol Prog Ser* 195:101–116
- Hock K, Wolff NH, Condie SA, Anthony KRN, Mumby PJ (2014) Connectivity networks reveal the risks of crown-of-thorns starfish outbreaks on the Great Barrier Reef. *J Appl Ecol* 51:1188–1196

- Hogan JD, Thiessen RJ, Heath DD (2010) Variability in connectivity indicated by chaotic genetic patchiness within and among populations of a marine fish. *Mar Ecol Prog Ser* 417:263-U289
- Hogan JD, Thiessen RJ, Sale PF, Heath DD (2012) Local retention, dispersal and fluctuating connectivity among populations of a coral reef fish. *Oecologia* 168:61–71
- Hollenbeck CM, Portnoy DS, Saillant E, Gold JR (2015) Population structure of red snapper (*Lutjanus campechanus*) in US waters of the western Atlantic Ocean and the northeastern Gulf of Mexico. *Fish Res* 172:17–25
- Holst JC, Slotte A (1998) Effects of juvenile nursery on geographic spawning distribution in Norwegian spring-spawning herring (*Clupea harengus* L.). *ICES J Mar Sci* 55:987–996
- Holstein DM, Paris CB, Mumby PJ (2014) Consistency and inconsistency in multispecies population network dynamics of coral reef ecosystems. *Mar Ecol Prog Ser* 499:1–18
- Horne JB, Momigliano P, Welch DJ, Newman SJ, Herwerden L van (2011) Limited ecological population connectivity suggests low demands on self-recruitment in a tropical inshore marine fish (*Eleutheronema tetradactylum*: Polynemidae). *Mol Ecol* 20:2291–2306
- Horne JB, Herwerden L van, Abellana S, McIlwain JL (2013) Observations of Migrant Exchange and Mixing in a Coral Reef Fish Metapopulation Link Scales of Marine Population Connectivity. *J Hered* 104:532–546
- Hrycik JM, Chassé J, Ruddick BR, Taggart CT (2013) Dispersal kernel estimation: A comparison of empirical and modelled particle dispersion in a coastal marine system. *Estuar Coast Shelf Sci* 133:11–22
- Hsieh HL, Hsu CF (1999) Differential recruitment of annelids onto tidal elevations in an estuarine mud flat. *Mar Ecol Prog Ser* 177:93–102
- Hubbard AB, Reidenbach MA (2015) Effects of larval swimming behavior on the dispersal and settlement of the eastern oyster *Crassostrea virginica*. *Mar Ecol Prog Ser* 535:161–176
- Hubne Rdot L, Pennings SC, Zimmer M (2015) Sex- and habitat-specific movement of an omnivorous semi-terrestrial crab controls habitat connectivity and subsidies: a multi-parameter approach. *Oecologia* 178:999–1015
- Huey JA, Crook DA, Macdonald JI, Schmidt DJ, Marshall JC, Balcombe SR, Woods RJ, Hughes JM (2014) Is variable connectivity among populations of a continental gobiid fish driven by local adaptation or passive dispersal? *Freshw Biol* 59:1672–1686
- Hughes JM, Schmidt DJ, Macdonald JI, Huey JA, Crook DA (2014) Low interbasin connectivity in a facultatively diadromous fish: evidence from genetics and otolith chemistry. *Mol Ecol* 23:1000–1013
- Huijbers CM, Nagelkerken I, Debrot AO, Jongejans E (2013) Geographic coupling of juvenile and adult habitat shapes spatial population dynamics of a coral reef fish. *Ecology* 94:1859–1870
- Huijbers CM, Nagelkerken I, Layman CA (2015) Fish movement from nursery bays to coral reefs: a matter of size? *Hydrobiologia* 750:89–101
- Hunter ME, Mignucci-Giannoni AA, Tucker KP, King TL, Bonde RK, Gray BA, McGuire PM (2012) Puerto Rico and Florida manatees represent genetically distinct groups. *Conserv Genet* 13:1623–1635

- Hunter RL, Halanych KM (2010) Phylogeography of the Antarctic planktotrophic brittle star *Ophionotus victoriae* reveals genetic structure inconsistent with early life history. *Mar Biol* 157:1693–1704
- Hunter RL, Halanych KM (2008) Evaluating connectivity in the brooding brittle star *Astrofoma agassizii* across the Drake Passage in the Southern Ocean. *J Hered* 99:137–148
- Huntington BE, Lirman D (2012) Species-area relationships in coral communities: evaluating mechanisms for a commonly observed pattern. *Coral Reefs* 31:929–938
- Huret M, Petitgas P, Woillez M (2010) Dispersal kernels and their drivers captured with a hydrodynamic model and spatial indices: A case study on anchovy (*Engraulis encrasicolus*) early life stages in the Bay of Biscay. *Prog Oceanogr* 87:6–17
- Iacchei M, Ben-Horin T, Selkoe KA, Bird CE, Garcia-Rodriguez FJ, Toonen RJ (2013) Combined analyses of kinship and FST suggest potential drivers of chaotic genetic patchiness in high gene-flow populations. *Mol Ecol* 22:3476–3494
- Igulu MM, Nagelkerken I, Velde G van der, Mgaya YD (2013) Mangrove fish production is largely fuelled by external food sources: a stable isotope analysis of fishes at the individual, species, and community levels from across the globe. *Ecosystems* 16:1336–1352
- Incze L, Xue H, Wolff N, Xu D, Wilson C, Steneck R, Wahle R, Lawton P, Pettigrew N, Chen Y (2010) Connectivity of lobster (*Homarus americanus*) populations in the coastal Gulf of Maine: part II. Coupled biophysical dynamics. *Fish Oceanogr* 19:1–20
- Jackson AM, Semmens BX, Mitcheson YS de, Nemeth RS, Heppell SA, Bush PG, Aguilar-Perera A, Claydon JAB, Calosso MC, Sealey KS, Schaerer MT, Bernardi G (2014) Population Structure and Phylogeography in Nassau Grouper (*Epinephelus striatus*), a Mass-Aggregating Marine Fish. *PLoS One* 9
- Jackson PR, Ledwell JR, Thurnherr AM (2010) Dispersion of a tracer on the East Pacific Rise (9 degrees N to 10 degrees N), including the influence of hydrothermal plumes. *Deep Res Part I-Oceanographic Res Pap* 57:37–52
- Jacobi MN, Andre C, Doos K, Jonsson PR (2012) Identification of subpopulations from connectivity matrices. *Ecography (Cop)* 35:1004–1016
- James MK, Armsworth PR, Mason LB, Bode L (2002) The structure of reef fish metapopulations: modelling larval dispersal and retention patterns. *Proc R Soc B Biol Sci* 269:2079–86**
- Jamison JL, Lasker HR (2008) Identification of octocoral recruits using microsatellite primers: Relationships between recruitment and adult distribution of *Pseudopterogorgia* spp. *Limnol Oceanogr* 53:1963–1972
- Jansen T, Gislason H (2011) Temperature affects the timing of spawning and migration of North Sea mackerel. *Cont Shelf Res* 31:64–72
- Janssen A, Kaiser S, Meissner K, Brenke N, Menot L, Arbizu PM (2015) A Reverse Taxonomic Approach to Assess Macrofaunal Distribution Patterns in Abyssal Pacific Polymetallic Nodule Fields. *PLoS One* 10
- Jenkins GP, Black KP, Hamer PA (2000) Determination of spawning areas and larval advection pathways for King George whiting in southeastern Australia using otolith microstructure and hydrodynamic modelling. I. Victoria. *Mar Ecol Prog Ser* 199:231–242

- Jensen AJ, Karlsson S, Fiske P, Hansen LP, Ostborg GM, Hindar K (2014) Origin and life history of Atlantic salmon (*Salmo salar*) near their northernmost oceanic limit. *Can J Fish Aquat Sci* 71:1740–1746
- Jessop BM, Cairns DK, Thibault I, Tzeng WN (2008) Life history of American eel *Anguilla rostrata*: new insights from otolith microchemistry. *Aquat Biol* 1:205–216
- Johannessen A, Skaret G, Langard L, Slotte A, Husebo A, Ferno A (2014) The Dynamics of a Metapopulation: Changes in Life-History Traits in Resident Herring that Co-Occur with Oceanic Herring during Spawning. *PLoS One* 9
- Johannesson K, Johannesson B (1995) Dispersal and population expansion in a direct developing marine snail (*Littorina saxatilis*) following a severe population bottleneck. *Hydrobiologia* 309:173–180
- Johansson ML, Banks MA, Glunt KD, Hassel-Finnegan HM, Buonaccorsi VP (2008) Influence of habitat discontinuity, geographical distance, and oceanography on fine-scale population genetic structure of copper rockfish (*Sebastes caurinus*). *Mol Ecol* 17:3051–3061
- Johansson ML, Alberto F, Reed DC, Raimondi PT, Coelho NC, Young MA, Drake PT, Edwards CA, Cavanaugh K, Assis J, Ladah LB, Bell TW, Coyer JA, Siegel DA, Serrao EA (2015) Seascape drivers of *Macrocystis pyrifera* population genetic structure in the northeast Pacific. *Mol Ecol* 24:4866–4885
- Johansson ML, Raimondi PT, Reed DC, Coelho NC, Serrao EA, Alberto FA (2013) Looking into the black box: simulating the role of self-fertilization and mortality in the genetic structure of *Macrocystis pyrifera*. *Mol Ecol* 22:4842–4854
- Johnson MS, Wernham J (1999) Temporal variation of recruits as a basis of ephemeral genetic heterogeneity in the western rock lobster *Panulirus cygnus*. *Mar Biol* 135:133–139
- Johnson SB, Won Y-J, Harvey JBJ, Vrijenhoek RC (2013) A hybrid zone between *Bathymodiolus* mussel lineages from eastern Pacific hydrothermal vents. *BMC Evol Biol* 13
- Johnston MW, Purkis SJ (2014) Are lionfish set for a Mediterranean invasion? Modelling explains why this is unlikely to occur. *Mar Pollut Bull* 88:138–147
- Johnston MW, Purkis SJ (2015) A coordinated and sustained international strategy is required to turn the tide on the Atlantic lionfish invasion. *Mar Ecol Prog Ser* 533:219–235
- Jolly MT, Guyard P, Ellien C, Gentil F, Viard F, Thiebaut E, Jollivet D (2009) Population genetics and hydrodynamic modeling of larval dispersal dissociate contemporary patterns of connectivity from historical expansion into European shelf seas in the polychaete *Pectinaria koreni*. *Limnol Oceanogr* 54:2089–2106
- Jolly MT, Thiebaut E, Guyard P, Gentil F, Jollivet D (2014) Meso-scale hydrodynamic and reproductive asynchrony affects the source-sink metapopulation structure of the coastal polychaete *Pectinaria koreni*. *Mar Biol* 161:367–382
- Jones BT, Gyory J, Grey EK, Bartlein M, Ko DS, Nero RW, Taylor CM (2015) Transport of blue crab larvae in the northern Gulf of Mexico during the Deepwater Horizon oil spill. *Mar Ecol Prog Ser* 527:143–156
- Jones DL, Walter JF, Brooks EN, Serafy JE (2010) Connectivity through ontogeny: fish population linkages among mangrove and coral reef habitats. *Mar Ecol Prog Ser* 401:245–258
- Jones GP, Milicich MJ, Emslie MJ, Lunow C (1999) Self-recruitment in a coral reef fish population. *Nature* 402:802–804**

Jones GP, Planes S, Thorrold SR (2005) Coral reef fish larvae settle close to home. *Curr Biol* 15:1314–8

Jordão JC, Bondioli AC V, Guebert FM, Thoisy B De, Toledo LFA de (2015) Green turtle (*Chelonia mydas*) genetic diversity at Paranaguá Estuarine complex feeding grounds in Brazil. *Genet Mol Biol* 38:346–352

Jose Perez-Alvarez M, Olavarria C, Moraga R, Baker CS, Hamner RM, Poulin E (2015) Microsatellite Markers Reveal Strong Genetic Structure in the Endemic Chilean Dolphin. *PLoS One* 10

Jud ZR, Layman CA (2012) Site fidelity and movement patterns of invasive lionfish, *Pterois* spp., in a Florida estuary. *J Exp Mar Bio Ecol* 414:69–74

Jue NK, Brule T, Coleman FC, Koenig CC (2015) From Shelf to Shelf: Assessing Historical and Contemporary Genetic Differentiation and Connectivity across the Gulf of Mexico in Gag, *Mycteroperca microlepis*. *PLoS One* 10

Jue NK, Coleman FC, Koenig CC (2014) Wide-spread genetic variability and the paradox of effective population size in the gag, *Mycteroperca microlepis*, along the West Florida Shelf. *Mar Biol* 161:1905–1918

Kamel SJ, Grosberg RK, Addison JA (2014) Multiscale patterns of genetic structure in a marine snail (*Solenosteira macrospira*) without pelagic dispersal. *Mar Biol* 161:1603–1614

Kamin LM, Palof KJ, Heifetz J, Gharrett AJ (2014) Interannual and spatial variation in the population genetic composition of young-of-the-year Pacific ocean perch (*Sebastes alutus*) in the Gulf of Alaska. *Fish Oceanogr* 23:1–17

Karlsen BO, Klingan K, Emblem A, Jorgensen TE, Jueterbock A, Furmanek T, Hoarau G, Johansen SD, Nordeide JT, Moum T (2013) Genomic divergence between the migratory and stationary ecotypes of Atlantic cod. *Mol Ecol* 22:5098–5111

Katselis G, Koukou K, Ramfos A, Moutopoulos DK (2015) Sex-specific daily spawning seaward migration of striped mullet *Mugil cephalus* in a coastal lagoon. *J Fish Biol* 87:274–285

Katz CH, Cobb JS, Spaulding M (1994) Larval behavior, hydrodynamic transport, and potential offshore-to-inshore recruitment in the american lobster *Homarus-americanus*. *Mar Ecol Prog Ser* 103:265–273

Kawabata A, Yatsu A, Ueno Y, Suyama S, Kurita Y (2006) Spatial distribution of the Japanese common squid, *Todarodes pacificus*, during its northward migration in the western North Pacific Ocean. *Fish Oceanogr* 15:113–124

Keith P, Galewski T, Cattaneo-Berrebi G, Hoareau T, Berrebi P (2005) Ubiquity of *Sicyopterus lagocephalus* (Teleostei : Gobioidae) and phylogeography of the genus *Sicyopterus* in the Indo-Pacific area inferred from mitochondrial cytochrome b gene. *Mol Phylogenet Evol* 37:721–732

Keith SA, Herbert RJH, Norton PA, Hawkins SJ, Newton AC (2011) Individualistic species limitations of climate-induced range expansions generated by meso-scale dispersal barriers. *Divers Distrib* 17:275–286

Kelly DW, Muirhead JR, Heath DD, Macisaac HJ (2006) Contrasting patterns in genetic diversity following multiple invasions of fresh and brackish waters. *Mol Ecol* 15:3641–3653

Kelly RP, Palumbi SR (2010) Genetic Structure Among 50 Species of the Northeastern Pacific Rocky Intertidal Community. *PLoS One* 5:e8594

- Kendall MS, Poti M, Wynne TT, Kinlan BP, Bauer LB (2013) Consequences of the life history traits of pelagic larvae on interisland connectivity during a changing climate. *Mar Ecol Prog Ser* 489:43–59
- Kesaniemi JE, Geuverink E, Knott KE (2012) Polymorphism in Developmental Mode and Its Effect on Population Genetic Structure of a Spionid Polychaete, *Pygospio elegans*. *Integr Comp Biol* 52:181–196
- Kesaniemi JE, Mustonen M, Bostrom C, Hansen BW, Knott KE (2014) Temporal genetic structure in a poecilogonous polychaete: the interplay of developmental mode and environmental stochasticity. *BMC Evol Biol* 14
- Ketchum JT, Hearn A, Klimley AP, Penaherrera C, Espinoza E, Bessudo S, Soler G, Arauz R (2014) Inter-island movements of scalloped hammerhead sharks (*Sphyrna lewini*) and seasonal connectivity in a marine protected area of the eastern tropical Pacific. *Mar Biol* 161:939–951
- Kim C-K, Park K, Powers SP (2013) Establishing Restoration Strategy of Eastern Oyster via a Coupled Biophysical Transport Model. *Restor Ecol* 21:353–362
- Kim H, Kimura S, Shinoda A, Kitagawa T, Sasai Y, Sasaki H (2007) Effect of El Nino on migration and larval transport of the Japanese eel (*Anguilla japonica*). *ICES J Mar Sci* 64:1387–1395
- Kim S, Barth JA (2011) Connectivity and larval dispersal along the Oregon coast estimated by numerical simulations. *J Geophys Res* 116
- Kim WJ, Kim KK, Han HS, Nam BH, Kim YO, Kong HJ, Noh JK, Yoon M (2010) Population structure of the olive flounder (*Paralichthys olivaceus*) in Korea inferred from microsatellite marker analysis. *J Fish Biol* 76:1958–1971
- Kimirei IA, Nagelkerken I, Slooter N, Gonzalez ET, Huijbers CM, Mgaya YD, Rypel AL (2015) Demography of fish populations reveals new challenges in appraising juvenile habitat values. *Mar Ecol Prog Ser* 518:225–237
- Kimirei IA, Nagelkerken I, Mgaya YD, Huijbers CM (2013) The Mangrove Nursery Paradigm Revisited: Otolith Stable Isotopes Support Nursery-to-Reef Movements by Indo-Pacific Fishes. *PLoS One* 8
- Kimura S, Kato Y, Kitagawa T, Yamaoka N (2010) Impacts of environmental variability and global warming scenario on Pacific bluefin tuna (*Thunnus orientalis*) spawning grounds and recruitment habitat. *Prog Oceanogr* 86:39–44
- Kininmonth S, Drechsler M, Johst K, Possingham HP (2010) Metapopulation mean life time within complex networks. *Mar Ecol Prog Ser* 417:139–149
- Kininmonth SJ, De'ath G, Possingham HP (2010) Graph theoretic topology of the Great but small Barrier Reef world. *Theor Ecol* 3:75–88
- Kininmonth S, Oppen MJH van, Possingham HP (2010) Determining the community structure of the coral *Seriatopora hystrix* from hydrodynamic and genetic networks. *Ecol Modell* 221:2870–2880
- Kiyofuji H, Saitoh S (2004) Use of nighttime visible images to detect Japanese common squid *Todarodes pacificus* fishing areas and potential migration routes in the Sea of Japan. *Mar Ecol Prog Ser* 276:173–186

- Knittweis L, Kraemer WE, Timm J, Kochzius M (2009) Genetic structure of *Heliofungia actiniformis* (Scleractinia: Fungiidae) populations in the Indo-Malay Archipelago: implications for live coral trade management efforts. *Conserv Genet* 10:241–249
- Knutsen H, Jorde PE, Bergstad OA, Skogen M (2012) Population genetic structure in a deepwater fish *Coryphaenoides rupestris*: patterns and processes. *Mar Ecol Prog Ser* 460:233–246
- Kobayashi DR (2006) Colonization of the Hawaiian Archipelago via Johnston Atoll: a characterization of oceanographic transport corridors for pelagic larvae using computer simulation. *Coral Reefs* 25:407–417
- Koeck B, Alos J, Caro A, Neveu R, Crec'hriou R, Saragoni G, Lenfant P (2013) Contrasting Fish Behavior in Artificial Seascapes with Implications for Resources Conservation. *PLoS One* 8
- Koeck B, Gerigny O, Durieux EDH, Coudray S, Garsi L-H, Bisgambiglia P-A, Galgani F, Agostini S (2015) Connectivity patterns of coastal fishes following different dispersal scenarios across a transboundary marine protected area (Bonifacio strait, NW Mediterranean). *Estuar Coast Shelf Sci* 154:234–247
- Kool JT, Nichol SL (2015) Four-dimensional connectivity modelling with application to Australia's north and northwest marine environments. *Environ Model Softw* 65:67–78
- Kool JT, Paris CB, Andrefouet S, Cowen RK (2010) Complex migration and the development of genetic structure in subdivided populations: an example from Caribbean coral reef ecosystems. *Ecography (Cop)* 33:597–606
- Kool JT, Paris CB, Barber PH, Cowen RK (2011) Connectivity and the development of population genetic structure in Indo-West Pacific coral reef communities. *Glob Ecol Biogeogr* 20:695–706
- Koolkalya S, Thapanand T, Tunkijjanujij S, Havanont V, Jutagate T (2006) Aspects in spawning biology and migration of the mud crab *Scylla olivacea* in the Andaman Sea, Thailand. *Fish Manag Ecol* 13:391–397
- Kordos LM, Burton RS (1993) Genetic Differentiation of Texas Gulf-Coast Populations of the Blue-Crab *Callinectes-sapidus*. *Mar Biol* 117:227–233
- Kotake A, Arai T, Ohji M, Yamane S, Miyazaki N, Tsukamoto K (2004) Application of otolith microchemistry to estimate the migratory history of Japanese eel *Anguilla japonica* on the Sanriku Coast of Japan. *J Appl Ichthyol* 20:150–153
- Kough AS, Paris CB (2015) The influence of spawning periodicity on population connectivity. *Coral Reefs*
- Kough AS, Paris CB, Behringer DC, Butler MJ (2015) Modelling the spread and connectivity of waterborne marine pathogens: the case of PaV1 in the Caribbean. *ICES J Mar Sci* 72:139–146
- Kough AS, Paris CB, Butler MJ (2013) Larval Connectivity and the International Management of Fisheries. *PLoS One* 8
- Krueck NC, Chargulaf CA, Saint-Paul U, Tibbetts IR (2009) Early post-settlement habitat and diet shifts and the nursery function of tidepools during *Sillago* spp. recruitment in Moreton Bay, Australia. *Mar Ecol Prog Ser* 384:207–219
- Kumagai NH (2006) Distance effects on patterns and processes of dispersal in an octocoral-associated amphipod. *Mar Ecol Prog Ser* 321:203–214

- Kusumo HT, Pfister CA, Wootton JT (2006) Small-scale genetic structure in the sea palm *Postelsia palmaeformis* Ruprecht (Phaeophyceae). *Mar Biol* 149:731–742
- Lacerda CHF, Barletta M, Dantas D V (2014) Temporal patterns in the intertidal faunal community at the mouth of a tropical estuary. *J Fish Biol* 85:1571–1602
- Lacroix G, Maes GE, Bolle LJ, Volckaert FAM (2013) Modelling dispersal dynamics of the early life stages of a marine flatfish (*Solea solea* L.). *J Sea Res* 84:13–25
- Laptikhovskiy V, Brickle P, Soeffker M, Davidson D, Roux M-J, Rexer-Huber K, Brewin PE, Kaelkvist E, Brown J, Brown S, Black A, Anders NR, Cartwright S, Poncet D, Parker G (2015) Life history and population characteristics of the Antarctic starfish, *Anasterias antarctica* Loken, 1856 (Asteroidea: Forcipulatida: Asteroidea) around the Falkland Islands. *Polar Biol* 38:463–474
- Larsson LC, Laikre L, Andre C, Dahlgren TG, Ryman N (2010) Temporally stable genetic structure of heavily exploited Atlantic herring (*Clupea harengus*) in Swedish waters. *Heredity (Edinb)* 104:40–51
- Lasker HR, Porto-Hannes I (2015) Population structure among octocoral adults and recruits identifies scale dependent patterns of population isolation in The Bahamas. *PeerJ* 3
- Laugier F, Feunteun E, Pecheyran C, Carpentier A (2015) Life history of the Small Sandeel, *Ammodytes tobianus*, inferred from otolith microchemistry. A methodological approach. *Estuar Coast Shelf Sci*
- Lawton RJ, Wing SR, Lewis AM (2010) Evidence for discrete subpopulations of sea perch (*Helicolenus ercooides*) across four fjords in Fiordland, New Zealand. *New Zeal J Mar Freshw Res* 44:309–322
- Lawton RJ, Messmer V, Pratchett MS, Bay LK (2011) High gene flow across large geographic scales reduces extinction risk for a highly specialised coral feeding butterflyfish. *Mol Ecol* 20:3584–3598
- Bris A Le, Frechet A, Galbraith PS, Wroblewski JS (2013) Evidence for alternative migratory behaviours in the northern Gulf of St Lawrence population of Atlantic cod (*Gadus morhua* L.). *ICES J Mar Sci* 70:793–804
- Port A Le, Montgomery JC, Croucher AE (2014) Biophysical modelling of snapper *Pagrus auratus* larval dispersal from a temperate MPA. *Mar Ecol Prog Ser* 515:203–215
- Leakey CDB, Attrill MJ, Fitzsimons MF (2009) Multi-element otolith chemistry of juvenile sole (*Solea solea*), whiting (*Merlangius merlangus*) and European seabass (*Dicentrarchus labrax*) in the Thames Estuary and adjacent coastal regions. *J Sea Res* 61:268–274
- Ledoux JB, Garrabou J, Bianchimani O, Drap P, Feral JP, Aurelle D (2010) Fine-scale genetic structure and inferences on population biology in the threatened Mediterranean red coral, *Corallium rubrum*. *Mol Ecol* 19:4204–4216
- Lee C-L, Huang Y-H, Chung C-Y, Lin H-J (2014) Tidal variation in fish assemblages and trophic structures in tropical Indo-Pacific seagrass beds. *Zool Stud* 53
- Lee PLM, Dawson MN, Neill SP, Robins PE, Houghton JDR, Doyle TK, Hays GC (2013) Identification of genetically and oceanographically distinct blooms of jellyfish. *J R Soc Interface* 10
- Lefebvre A, Ellien C, Davoult D, Thiebaut E, Salomon JC (2003) Pelagic dispersal of the brittle-star *Ophiothrix fragilis* larvae in a megatidal area (English Channel, France) examined using an advection/diffusion model. *Estuar Coast Shelf Sci* 57:421–433

- Lefevre MA, Stokesbury MJW, Whoriskey FG, Dadswell MJ (2012) Atlantic salmon post-smolt migration routes in the Gulf of St. Lawrence. *ICES J Mar Sci* 69:981–990
- Leis JM, Trnski T, Doherty PJ, Dufour V (1998) Replenishment of fish populations in the enclosed lagoon of Taiaro Atoll: (Tuamotu Archipelago, French Polynesia) evidence from eggs and larvae. *Coral Reefs* 17:1–8
- Leitao F, Santos MN, Erzini K, Monteiro CC (2008) Fish assemblages and rapid colonization after enlargement of an artificial reef off the Algarve coast (Southern Portugal). *Mar Ecol Evol Perspect* 29:435–448
- Lemer S, Planes S (2014) Effects of habitat fragmentation on the genetic structure and connectivity of the black-lipped pearl oyster *Pinctada margaritifera* populations in French Polynesia. *Mar Biol* 161:2035–2049
- Li H, Lin H, Li J, Ding S (2014) Phylogeography of the Chinese Beard Eel, *Cirrhimuraena chinensis* Kaup, Inferred from Mitochondrial DNA: A Range Expansion after the Last Glacial Maximum. *Int J Mol Sci* 15:13564–13577
- Li Y, Chen X, Chen C, Ge J, Ji R, Tian R, Xue P, Xu L (2014) Dispersal and survival of chub mackerel (*Scomber Japonicus*) larvae in the East China Sea. *Ecol Modell* 283:70–84
- Liggins L, Booth DJ, Figueira WF, Treml EA, Tonk L, Ridgway T, Harris DA, Riginos C (2015) Latitude-wide genetic patterns reveal historical effects and contrasting patterns of turnover and nestedness at the range peripheries of a tropical marine fish. *Ecography (Cop)*
- Lindquist N, Bolser R, Laing K (1997) Timing of larval release by two Caribbean demosponges. *Mar Ecol Prog Ser* 155:309–313
- Liu S-YV, Wang C-H, Shiao J-C, Dai C-F (2010) Population connectivity of neon damsel, *Pomacentrus coelestis*, inferred from otolith microchemistry and mtDNA. *Mar Freshw Res* 61:1416–1424
- Lobel PS (1989) Ocean current variability and the spawning season of Hawaiian reef fishes. *Environ Biol Fishes* 24:161–171
- Loh WKW, Loi T, Carter D, Hoegh-Guldberg O (2001) Genetic variability of the symbiotic dinoflagellates from the wide ranging coral species *Seriatopora hystrix* and *Acropora longicyathus* in the Indo-West Pacific. *Mar Ecol Prog Ser* 222:97–107
- Loneragan NR, Potter IC, Lenanton RCJ (1989) Influence of site, season and year on contributions made by marine, estuarine, diadromous and freshwater species to the fish fauna of a temperate Australian estuary. *Mar Biol* 103:461–479
- Longmore C, Trueman CN, Neat F, O’Gorman EJ, Milton JA, Mariani S (2011) Otolith geochemistry indicates life-long spatial population structuring in a deep-sea fish, *Coryphaenoides rupestris*. *Mar Ecol Prog Ser* 435:209–224
- López MD, Alcocer MU, Jaimes PD (2010) Phylogeography and historical demography of the Pacific Sierra mackerel (*Scomberomorus sierra*) in the Eastern Pacific. *BMC Genet* 11
- Lopez-Abellan LJ, Santamaria MTG, Gonzalez JF (2008) Approach to ageing and growth back-calculation based on the otolith of the southern boarfish *Pseudopentaceros richardsoni* (Smith, 1844) from the south-west Indian Ocean seamounts. *Mar Freshw Res* 59:269–278
- Lopez-Castro MC, Bjorndal KA, Kamenov GD, Bolten AB (2014) Identifying oceanic foraging grounds of sea turtles in the Atlantic using lead isotopes. *Mar Biol* 161:2269–2278

- Lotterhos KE, Dick SJ, Haggarty DR (2014) Evaluation of rockfish conservation area networks in the United States and Canada relative to the dispersal distance for black rockfish (*Sebastes melanops*). *Evol Appl* 7:238–259
- Lowry M, Suthers I (2004) Population structure of aggregations, and response to spear fishing, of a large temperate reef fish *Cheilodactylus fuscus*. *Mar Ecol Prog Ser* 273:199–210
- Lo-Yat A, Meekan MG, Carleton JH, Galzin R (2006) Large-scale dispersal of the larvae of nearshore and pelagic fishes in the tropical oceanic waters of French Polynesia. *Mar Ecol Prog Ser* 325:195–203
- Lukoschek V, Waycott M, Marsh H (2007) Phylogeography of the olive sea snake, *Aipysurus laevis* (Hydrophiinae) indicates Pleistocene range expansion around northern Australia but low contemporary gene flow. *Mol Ecol* 16:3406–3422
- Macdonald AHH, Schleyer MH, Lamb JM (2011) *Acropora austera* connectivity in the south-western Indian Ocean assessed using nuclear intron sequence data. *Mar Biol* 158:613–621
- Macdonald JI, Farley JH, Clear NP, Williams AJ, Carter TI, Davies CR, Nicol SJ (2013) Insights into mixing and movement of South Pacific albacore *Thunnus alalunga* derived from trace elements in otoliths. *Fish Res* 148:56–63
- MacPherson E (1998) Ontogenetic shifts in habitat use and aggregation in juvenile sparid fishes. *J Exp Mar Bio Ecol* 220:127–150
- Madduppa HH, Timm J, Kochzius M (2014) Interspecific, Spatial and Temporal Variability of Self-Recruitment in Anemonefishes. *PLoS One* 9
- Maes GE, Pujolar JM, Hellems B, Volckaert FAM (2006) Evidence for isolation by time in the European eel (*Anguilla anguilla* L.). *Mol Ecol* 15:2095–2107
- Maes GE, Vo B van, Crivelli AJ, Volckaert FAM (2009) Morphological and genetic seasonal dynamics of European eel *Anguilla anguilla* recruitment in southern France. *J Fish Biol* 74:2047–2068
- Maffucci F, Kooistra W, Bentiveyna F (2006) Natal origin of loggerhead turtles, *Caretta caretta*, in the neritic habitat off the Italian coasts, Central Mediterranean. *Biol Conserv* 127:183–189
- Magsino RM, Antonette Juinio-Menez M (2008) The influence of contrasting life history traits and oceanic processes on genetic structuring of rabbitfish populations *Siganus argenteus* and *Siganus fuscescens* along the eastern Philippine coasts. *Mar Biol* 154:519–532
- Maier E, Tollrian R, Nuernberger B (2009) Fine-scale analysis of genetic structure in the brooding coral *Seriatopora hystrix* from the Red Sea. *Coral Reefs* 28:751–756
- Mandal S, Tamaki A, Ohashi S, Takeuchi S, Agata Y, Takahara Y, Harada K, Yamada F (2010) How newly recruited cohorts are formed in the trochid gastropod population (*Umbonium moniliferum*) on an intertidal sandflat in western Kyushu, Japan. *J Exp Mar Bio Ecol* 389:18–37
- Mariani S, Uriz M-J, Turon X, Alcoverro T (2006) Dispersal strategies in sponge larvae: integrating the life history of larvae and the hydrologic component. *Oecologia* 149:174–184
- Marinone SG, Ulloa MJ, Pares-Sierra A, Lavin MF, Cudney-Bueno R (2008) Connectivity in the northern Gulf of California from particle tracking in a three-dimensional numerical model. *J Mar Syst* 71:149–158

- Marko PB, Barr KR (2007) Basin-scale patterns of mtDNA differentiation and gene flow in the bay scallop *Argopecten irradians concentricus*. *Mar Ecol Prog Ser* 349:139–150
- Marko PB, Rogers-Bennett L, Dennis AB (2007) MtDNA population structure and gene flow in lingcod (*Ophiodon elongatus*): limited connectivity despite long-lived pelagic larvae. *Mar Biol* 150:1301–1311
- Marta-Almeida M, Dubert J, Peliz A, Queiroga H (2006) Influence of vertical migration pattern on retention of crab larvae in a seasonal upwelling system. *Mar Ecol Prog Ser* 307:1–19
- Martin J, Daverat F, Pecheyran C, Als TD, Feunteun E, Reveillac E (2010) An otolith microchemistry study of possible relationships between the origins of leptocephali of European eels in the Sargasso Sea and the continental destinations and relative migration success of glass eels. *Ecol Freshw Fish* 19:627–637
- Martin TSH, Olds AD, Pitt KA, Johnston AB, Butler IR, Maxwell PS, Connolly RM (2015) Effective protection of fish on inshore coral reefs depends on the scale of mangrove - Reef connectivity. *Mar Ecol Prog Ser* 527:157–165
- Martins RS, Roberts MJ, Lett C, Chang N, Moloney CL, Camargo MG, Vidal EAG (2014) Modelling transport of chokka squid (*Loligo reynaudii*) paralarvae off South Africa: reviewing, testing and extending the “Westward Transport Hypothesis.” *Fish Oceanogr* 23:116–131
- Mather ME, Finn JT, Pautzke SM, Fox D, Savoy T, Brundage III HM, Deegan LA, Muth RM (2010) Diversity in destinations, routes and timing of small adult and sub-adult striped bass *Morone saxatilis* on their southward autumn migration. *J Fish Biol* 77:2326–2337
- Matthee CA, Cockcroft AC, Gopal K, Heyden S von der (2007) Mitochondrial DNA variation of the west-coast rock lobster, *Jasus lalandii*: marked genetic diversity differences among sampling sites. *Mar Freshw Res* 58:1130–1135
- Mbaye BC, Brochier T, Echevin V, Lazar A, Levy M, Mason E, Gaye AT, Machu E (2015) Do *Sardinella aurita* spawning seasons match local retention patterns in the Senegalese-Mauritanian upwelling region? *Fish Oceanogr* 24:69–89
- McBride RS, Conover DO (1991) Recruitment of young-of-the-year bluefish *Pomatomus saltatrix* to the new-york bight - variation in abundance and growth of spring-spawned and summer-spawned cohorts. *Mar Ecol Prog Ser* 78:205–216
- McCusker MR, Bentzen P (2010) Historical influences dominate the population genetic structure of a sedentary marine fish, Atlantic wolffish (*Anarhichas lupus*), across the North Atlantic Ocean. *Mol Ecol* 19:4228–4241
- McGovern TM, Keever CC, Sasaki CA, Hart MW, Marko PB (2010) Divergence genetics analysis reveals historical population genetic processes leading to contrasting phylogeographic patterns in co-distributed species. *Mol Ecol* 19:5043–5060
- McInerney CE, Allcock AL, Johnson MP, Prodoehl PA (2009) Understanding marine reserve function in a seascape genetics context: *Nucella lapillus* in Strangford Lough (Northern Ireland) as an example. *Aquat Biol* 7:45–58
- McKeown NJ, Arkhipkin AI, Shaw PW (2015) Integrating genetic and otolith microchemistry data to understand population structure in the Patagonian Hoki (*Macrurus magellanicus*). *Fish Res* 164:1–7

- McMahon KW, Berumen ML, Mateo I, Elsdon TS, Thorrold SR (2011) Carbon isotopes in otolith amino acids identify residency of juvenile snapper (Family: Lutjanidae) in coastal nurseries. *Coral Reefs* 30:1135–1145
- McMahon KW, Berumen ML, Thorrold SR (2012) Linking habitat mosaics and connectivity in a coral reef seascape. *Proc Natl Acad Sci U S A* 109:15372–15376
- McMillen-Jackson AL, Bert TM, Steele P (1994) Population-genetics of the blue-crab *Callinectes-sapidus* - modest population structuring in a background of high gene flow. *Mar Biol* 118:53–65
- McQuaid CD, Phillips TE (2000) Limited wind-driven dispersal of intertidal mussel larvae: in situ evidence from the plankton and the spread of the invasive species *Mytilus galloprovincialis* in South Africa. *Mar Ecol Prog Ser* 201:211–220
- Melbourne-Thomas J, Johnson CR, Alino PM, Geronimo RC, Villanoy CL, Gurney GG (2011) A multi-scale biophysical model to inform regional management of coral reefs in the western Philippines and South China Sea. *Environ Model Softw* 26:66–82
- Melia P, Schiavina M, Gatto M, Bonaventura L, Masina S, Casagrandi R (2013) Integrating field data into individual-based models of the migration of European eel larvae. *Mar Ecol Prog Ser* 487:135–149
- Melnychuk MC, Christensen V, Walters CJ (2013) Meso-scale movement and mortality patterns of juvenile coho salmon and steelhead trout migrating through a coastal fjord. *Environ Biol Fishes* 96:325–339
- Melnychuk MC, Welch DW, Walters CJ, Christensen V (2007) Riverine and early ocean migration and mortality patterns of juvenile steelhead trout (*Oncorhynchus mykiss*) from the Cheakamus River, British Columbia. *Hydrobiologia* 582:55–65
- Mercier L, Mouillot D, Bruguier O, Vigliola L, Darnaude AM (2012) Multi-element otolith fingerprints unravel sea-lagoon lifetime migrations of gilthead sea bream *Sparus aurata*. *Mar Ecol Prog Ser* 444:175–194
- Meynecke J, Lee S, Duke N (2008) Linking spatial metrics and fish catch reveals the importance of coastal wetland connectivity to inshore fisheries in Queensland, Australia. *Biol Conserv* 141:981–996
- Miethe T, Groehsler T, Boettcher U, Dorrien C von (2014) The effects of periodic marine inflow into the Baltic Sea on the migration patterns of Western Baltic spring-spawning herring. *ICES J Mar Sci* 71:519–527
- Miller JA, DiMaria RA, Hurst TP (2015) Patterns of larval source distribution and mixing in early life stages of Pacific cod (*Gadus macrocephalus*) in the southeastern Bering Sea. *Deep Res Part II Top Stud Oceanogr*
- Miller KJ, Maynard BT, Mundy CN (2009) Genetic diversity and gene flow in collapsed and healthy abalone fisheries. *Mol Ecol* 18:200–211
- Miller KJ, Mundy CN, Mayfield S (2014) Molecular genetics to inform spatial management in benthic invertebrate fisheries: a case study using the Australian Greenlip Abalone. *Mol Ecol* 23:4958–4975
- Miller KJ, Ayre DJ (2008) Population structure is not a simple function of reproductive mode and larval type: insights from tropical corals. *J Anim Ecol* 77:713–724
- Miller KJ, Ayre DJ (2008) Protection of genetic diversity and maintenance of connectivity among reef corals within marine protected areas. *Conserv Biol* 22:1245–54

- Miller KJ, Rowden AA, Williams A, Hauessermann V (2011) Out of Their Depth? Isolated Deep Populations of the Cosmopolitan Coral *Desmophyllum dianthus* May Be Highly Vulnerable to Environmental Change. *PLoS One* 6
- Miller K, Williams A, Rowden AA, Knowles C, Dunshea G (2010) Conflicting estimates of connectivity among deep-sea coral populations. *Mar Ecol Evol Perspect* 31:144–157
- Miller-Sims VC, Gerlach G, Kingsford MJ, Atema J (2008) Dispersal in the spiny damselfish, *Acanthochromis polyacanthus*, a coral reef fish species without a larval pelagic stage. *Mol Ecol* 17:5036–5048
- Minegishi Y, Gagnaire P-A, Aoyama J, Bosc P, Feunteun E, Tsukamoto K, Berrebi P (2012) Present and past genetic connectivity of the Indo-Pacific tropical eel *Anguilla bicolor*. *J Biogeogr* 39:408–420
- Mitarai S, Siegel DA, Winters KB (2008) A numerical study of stochastic larval settlement in the California Current system. *J Mar Syst* 69:295–309
- Miyake Y, Kimura S, Kawamura T, Horii T, Kurogi H, Kitagawa T (2009) Simulating larval dispersal processes for abalone using a coupled particle-tracking and hydrodynamic model: implications for refugium design. *Mar Ecol Prog Ser* 387:205–222
- Miyake Y, Kimura S, Kawamura T, Kitagawa T, Hara M, Hoshikawa H (2010) Estimating larval supply of Ezo abalone *Haliotis discus hannai* in a small bay using a coupled particle-tracking and hydrodynamic model: insights into the establishment of harvest refugia. *Fish Sci* 76:561–570
- Miyake Y, Kimura S, Kawamura T, Kitagawa T, Takahashi T, Takami H (2011) Population connectivity of Ezo abalone on the northern Pacific coast of Japan in relation to the establishment of harvest refugia. *Mar Ecol Prog Ser* 440:137–150
- Mizerek T, Regan HM, Hovel KA (2011) Seagrass habitat loss and fragmentation influence management strategies for a blue crab *Callinectes sapidus* fishery. *Mar Ecol Prog Ser* 427:247–257
- Mokhtar-Jamai K, Pascual M, Ledoux JB, Coma R, Feral JP, Garrabou J, Aurelle D (2011) From global to local genetic structuring in the red gorgonian *Paramuricea clavata*: the interplay between oceanographic conditions and limited larval dispersal. *Mol Ecol* 20:3291–3305
- Mokhtar-Jamai K, Coma R, Wang J, Zuberer F, Feral J-P, Aurelle D (2013) Role of evolutionary and ecological factors in the reproductive success and the spatial genetic structure of the temperate gorgonian *Paramuricea clavata*. *Ecol Evol* 3:1765–1779
- Moksnes PO (2004) Interference competition for space in nursery habitats: density-dependent effects on growth and dispersal in juvenile shore crabs *Carcinus maenas*. *Mar Ecol Prog Ser* 281:181–191
- Moksnes PO (2002) The relative importance of habitat-specific settlement, predation and juvenile dispersal for distribution and abundance of young juvenile shore crabs *Carcinus maenas* L. *J Exp Mar Bio Ecol* 271:41–73
- Moksnes P-O, Corell H, Tryman K, Hordoir R, Jonsson PR (2014) Larval behavior and dispersal mechanisms in shore crab larvae (*Carcinus maenas*): Local adaptations to different tidal environments? *Limnol Oceanogr* 59:588–602

- Monzon-Arguello C, Rico C, Carreras C, Calabuig P, Marco A, Felipe Lopez-Jurado L (2009) Variation in spatial distribution of juvenile loggerhead turtles in the eastern Atlantic and western Mediterranean Sea. *J Exp Mar Bio Ecol* 373:79–86
- Moody KN, Hunter SN, Childress MJ, Blob RW, Schoenfuss HL, Blum MJ, Ptacek MB (2015) Local adaptation despite high gene flow in the waterfall-climbing Hawaiian goby, *Sicyopterus stimpsoni*. *Mol Ecol* 24:545–563
- Moore M, Berejikian BA, Tezak EP (2013) A Floating Bridge Disrupts Seaward Migration and Increases Mortality of Steelhead Smolts in Hood Canal, Washington State. *PLoS One* 8
- Morais P, Babaluk J, Correia AT, Chicharo MA, Campbell JL, Chicharo L (2010) Diversity of anchovy migration patterns in an European temperate estuary and in its adjacent coastal area: Implications for fishery management. *J Sea Res* 64:295–303
- Morgan EMJ, Green BS, Murphy NP, Strugnell JM (2013) Investigation of Genetic Structure between Deep and Shallow Populations of the Southern Rock Lobster, *Jasus edwardsii* in Tasmania, Australia. *PLoS One* 8
- Morgan SG, Fisher JL (2010) Larval behavior regulates nearshore retention and offshore migration in an upwelling shadow and along the open coast. *Mar Ecol Prog Ser* 404:109–126
- Morita SH, Morita K, Nishimura A (2012) Sex-biased dispersal and growth in sablefish (*Anoplopoma fimbria*) in the northeastern Pacific Ocean. *Environ Biol Fishes* 94:505–511
- Moritz C, Meynard CN, Devictor V, Guizien K, Labrune C, Guarini JM, Mouquet N (2013) Disentangling the role of connectivity, environmental filtering, and spatial structure on metacommunity dynamics. *Oikos* 122:1401–1410
- Morrison CL, Ross SW, Nizinski MS, Brooke S, Jaernegren J, Waller RG, Johnson RL, King TL (2011) Genetic discontinuity among regional populations of *Lophelia pertusa* in the North Atlantic Ocean. *Conserv Genet* 12:713–729
- Mourier J, Planes S (2013) Direct genetic evidence for reproductive philopatry and associated fine-scale migrations in female blacktip reef sharks (*Carcharhinus melanopterus*) in French Polynesia. *Mol Ecol* 22:201–214
- Mullineaux LS, Adams DK, Mills SW, Beaulieu SE (2010) Larvae from afar colonize deep-sea hydrothermal vents after a catastrophic eruption. *Proc Natl Acad Sci U S A* 107:7829–7834
- Mumby PJ, Elliott IA, Eakin CM, Skirving W, Paris CB, Edwards HJ, Enriquez S, Iglesias-Prieto R, Cherubin LM, Stevens JR (2011) Reserve design for uncertain responses of coral reefs to climate change. *Ecol Lett* 14:132–140
- Munguia P, Mackie C, Levitan DR (2007) The influence of stage-dependent dispersal on the population dynamics of three amphipod species. *Oecologia* 153:533–541
- Munguia-Vega A, Jackson A, Marinone SG, Erisman B, Moreno-Baez M, Giron-Nava A, Pfister T, Aburto-Oropeza O, Torre J (2014) Asymmetric connectivity of spawning aggregations of a commercially important marine fish using a multidisciplinary approach. *PeerJ* 2
- Murray TS, Gouws G, Mwale M, Mann BQ, Cowley PD (2014) Unravelling population structure of black musselcracker *Cymatoceps nasutus*: evidence for multiple populations in South African coastal waters. *African J Mar Sci* 36:493–503
- MurrayJones SE, Ayre DJ (1997) High levels of gene flow in the surf bivalve *Donax deltoides* (Bivalvia: Donacidae) on the east coast of Australia. *Mar Biol* 128:83–89

- Muths D, Jollivet D, Gentil F, Davoult D (2009) Large-scale genetic patchiness among NE Atlantic populations of the brittle star *Ophiothrix fragilis*. *Aquat Biol* 5:117–132
- Muths D, Rastorgueff P-A, Selva M, Chevaldonne P (2015) Local scale connectivity in the cave-dwelling brooding fish *Apogon imberbis*. *J Sea Res* 95:70–74
- Nagelkerken I, Bothwell J, Nemeth RS, Pitt JM, Velde G van der (2008) Interlinkage between Caribbean coral reefs and seagrass beds through feeding migrations by grunts (*Haemulidae*) depends on habitat accessibility. *Mar Ecol Prog Ser* 368:155–164
- Nahas EL, Jackson G, Pattiaratchi CB, Ivey GN (2003) Hydrodynamic modelling of snapper *Pagrus auratus* egg and larval dispersal in Shark Bay, Western Australia: reproductive isolation at a fine spatial scale. *Mar Ecol Prog Ser* 265:213–226
- Nakajima Y, Matsuki Y, Lian C, Fortes MD, Uy WH, Campos WL, Nakaoka M, Nadaoka K (2014) The Kuroshio Current influences genetic diversity and population genetic structure of a tropical seagrass, *Enhalus acoroides*. *Mol Ecol* 23:6029–6044
- Nakamura M, Sakai K (2010) Spatiotemporal variability in recruitment around Iriomote Island, Ryukyu Archipelago, Japan: implications for dispersal of spawning corals. *Mar Biol* 157:801–810
- Nakamura M, Watanabe H, Sasaki T, Ishibashi J, Fujikura K, Mitarai S (2014) Life history traits of *Lepetodrilus nux* in the Okinawa Trough, based upon gametogenesis, shell size, and genetic variability. *Mar Ecol Prog Ser* 505:119–130
- Nance HA, Klimley P, Galvan-Magana F, Martinez-Ortiz J, Marko PB (2011) Demographic Processes Underlying Subtle Patterns of Population Structure in the Scalloped Hammerhead Shark, *Sphyrna lewini*. *PLoS One* 6
- Nanninga GB, Saenz-Agudelo P, Zhan P, Hoteit I, Berumen ML (2015) Not finding Nemo: limited reef-scale retention in a coral reef fish. *Coral Reefs* 34:383–392
- Nanninga GB, Saenz-Agudelo P, Manica A, Berumen ML (2014) Environmental gradients predict the genetic population structure of a coral reef fish in the Red Sea. *Mol Ecol* 23:591–602
- Naro-Maciel E, Gaughran SJ, Putman NF, Amato G, Arengo F, Dutton PH, McFadden KW, Vintinner EC, Sterling EJ (2014) Predicting connectivity of green turtles at Palmyra Atoll, central Pacific: a focus on mtDNA and dispersal modelling. *J R Soc Interface* 11
- Naro-Maciel E, Vigliar Bondioli AC, Martin M, Almeida A de P, Baptistotte C, Bellini C, Marcovaldi MA, Barsante Santos AJ, Amato G (2012) The Interplay of Homing and Dispersal in Green Turtles: A Focus on the Southwestern Atlantic. *J Hered* 103:792–805
- Neiva J, Pearson GA, Valero M, Serrao EA (2012) Fine-scale genetic breaks driven by historical range dynamics and ongoing density-barrier effects in the estuarine seaweed *Fucus ceranoides* L. *BMC Evol Biol* 12
- Nelson JS, Hoddell RJ, Chou LM, Chan WK, Phang VPE (2000) Phylogeographic structure of false clownfish, *Amphiprion ocellaris*, explained by sea level changes on the Sunda shelf. *Mar Biol* 137:727–736
- Neo ML, Erftemeijer PLA, Beek JKL van, Maren DS van, Teo SLM, Todd PA (2013) Recruitment constraints in Singapore's fluted giant clam (*Tridacna squamosa*) population-A dispersal model approach. *PLoS One* 8
- Neo ML, Todd PA (2012) Population density and genetic structure of the giant clams *Tridacna crocea* and *T. squamosa* on Singapore's reefs. *Aquat Biol* 14:265–275

- Neuman MJ, Able KW (2003) Inter-cohort differences in spatial and temporal settlement patterns of young-of-the-year windowpane (*Scophthalmus aquosus*) in southern New Jersey. *Estuar Coast Shelf Sci* 56:527–538
- Ng W-C, Leung FCC, Chak STC, Slingsby G, Williams GA (2010) Temporal genetic variation in populations of the limpet *Cellana grata* from Hong Kong shores. *Mar Biol* 157:325–337
- Nicastro KR, Zardi GI, McQuaid CD, Teske PR, Barker NP (2008) Coastal topography drives genetic structure in marine mussels. *Mar Ecol Prog Ser* 368:189–195
- Nickols KJ, White JW, Largier JL, Gaylord B (2015) Marine Population Connectivity: Reconciling Large-Scale Dispersal and High Self-Retention. *Am Nat* 185:196–211
- Nicolle A, Dumas F, Foveau A, Foucher E, Thiebaut E (2013) Modelling larval dispersal of the king scallop (*Pecten maximus*) in the English Channel: examples from the bay of Saint-Brieuc and the bay of Seine. *Ocean Dyn* 63:661–678
- Niklitschek EJ, Secor DH, Toledo P, Valenzuela X, Cubillos LA, Zuleta A (2014) Nursery systems for Patagonian grenadier off Western Patagonia: large inner sea or narrow continental shelf? *ICES J Mar Sci* 71:374–390
- Nikula R, Spencer HG, Waters JM (2013) Passive rafting is a powerful driver of transoceanic gene flow. *Biol Lett* 9:20120821
- Nishibe Y, Ikeda T (2007) Vertical distribution, population structure and life cycles of four oncaeid copepods in the Oyashio region, western subarctic Pacific. *Mar Biol* 150:609–625
- Nolasco R, Dubert J, Domingues CP, Cordeiro Pires A, Queiroga H (2013) Model-derived connectivity patterns along the western Iberian Peninsula: asymmetrical larval flow and source-sink cell. *Mar Ecol Prog Ser* 485:123–142
- North EW, Hood RR, Chao SY, Sanford LP (2005) The influence of episodic events on transport of striped bass eggs to the estuarine turbidity maximum nursery area. *Estuaries* 28:108–123
- Norton EL, Goetze E (2013) Equatorial dispersal barriers and limited population connectivity among oceans in a planktonic copepod. *Limnol Oceanogr* 58:1581–1596
- Nunes FLD, Norris RD, Knowlton N (2011) Long Distance Dispersal and Connectivity in *Amphi-Atlantic* Corals at Regional and Basin Scales. *PLoS One* 6
- Okunishi T, Ito S-I, Ambe D, Takasuka A, Kameda T, Tadokoro K, Setou T, Komatsu K, Kawabata A, Kubota H, Ichikawa T, Sugisaki H, Hashioka T, Yamanaka Y, Yoshie N, Watanabe T (2012) A modeling approach to evaluate growth and movement for recruitment success of Japanese sardine (*Sardinops melanostictus*) in the western Pacific. *Fish Oceanogr* 21:44–57
- Okunishi T, Ito S, Hashioka T, Sakamoto TT, Yoshie N, Sumata H, Yara Y, Okada N, Yamanaka Y (2012) Impacts of climate change on growth, migration and recruitment success of Japanese sardine (*Sardinops melanostictus*) in the western North Pacific. *Clim Change* 115:485–503
- Okunishi T, Yamanaka Y, Ito S (2009) A simulation model for Japanese sardine (*Sardinops melanostictus*) migrations in the western North Pacific. *Ecol Modell* 220:462–479
- Olds AD, Connolly RM, Pitt KA, Maxwell PS (2012) Primacy of seascape connectivity effects in structuring coral reef fish assemblages. *Mar Ecol Prog Ser* 462:191–203

- Olds AD, Pitt K a., Maxwell PS, Connolly RM (2012) Synergistic effects of reserves and connectivity on ecological resilience (C Frid, Ed.). *J Appl Ecol* 49:1195–1203
- Olds AD, Albert S, Maxwell PS, Pitt KA, Connolly RM (2013) Mangrove-reef connectivity promotes the effectiveness of marine reserves across the western Pacific. *Glob Ecol Biogeogr* 22:1040–1049
- Olds AD, Connolly RM, Pitt KA, Maxwell PS, Aswani S, Albert S (2014) Incorporating Surrogate Species and Seascape Connectivity to Improve Marine Conservation Outcomes. *Conserv Biol* 28:982–991
- Oliva S, Romero J, Perez M, Manent P, Mascaro O, Serrao EA, Coelho N, Alberto F (2014) Reproductive strategies and isolation-by-demography in a marine clonal plant along an eutrophication gradient. *Mol Ecol* 23:5698–5711
- Oliver H, Rognstad RL, Wetthey DS (2015) Using meteorological reanalysis data for multi-decadal hindcasts of larval connectivity in the coastal ocean. *Mar Ecol Prog Ser* 530:47–62
- Onate-Gonzalez EC, Rocha-Olivares A, Saavedra-Sotelo NC, Sosa-Nishizaki O (2015) Mitochondrial Genetic Structure and Matrilineal Origin of White Sharks, *Carcharodon carcharias*, in the Northeastern Pacific: Implications for Their Conservation. *J Hered* 106:347–354
- Oresland V, Andre C (2008) Larval group differentiation in Atlantic cod (*Gadus morhua*) inside and outside the Gullmar Fjord. *Fish Res* 90:9–16
- Osman RW, Whitlatch RB (1998) Local control of recruitment in an epifaunal community and the consequences to colonization processes. *Hydrobiologia* 375–76:113–123
- Ospina-Alvarez A, Bernal M, Alberto Catalan I, Roos D, Bigot J-L, Palomera I (2013) Modeling Fish Egg Production and Spatial Distribution from Acoustic Data: A Step Forward into the Analysis of Recruitment. *PLoS One* 8
- Ospina-Alvarez A, Parada C, Palomera I (2012) Vertical migration effects on the dispersion and recruitment of European anchovy larvae: From spawning to nursery areas. *Ecol Modell* 231:65–79
- Ouagajjou Y, Presa P (2015) The connectivity of *Mytilus galloprovincialis* in northern Morocco: A gene flow crossroads between continents. *Estuar Coast Shelf Sci* 152:1–10
- Pacariz S, Westerberg H, Bjork G (2014) Climate change and passive transport of European eel larvae. *Ecol Freshw Fish* 23:86–94
- Page TJ, Torati LS, Cook BD, Binderup A, Pringle CM, Reuschel S, Schubart CD, Hughes JM (2013) Invertebrates Sans Frontieres: Large Scales of Connectivity of Selected Freshwater Species among Caribbean Islands. *Biotropica* 45:236–244
- Palkovacs EP, Hasselman DJ, Argo EE, Gephard SR, Limburg KE, Post DM, Schultz TF, Willis T V (2014) Combining genetic and demographic information to prioritize conservation efforts for anadromous alewife and blueback herring. *Evol Appl* 7:212–226
- Pallas A, Garcia-Calvo B, Corgos A, Bernardez C, Freire J (2006) Distribution and habitat use patterns of benthic decapod crustaceans in shallow waters: a comparative approach. *Mar Ecol Prog Ser* 324:173–184
- Palstra FP, Ruzzante DE (2011) Demographic and genetic factors shaping contemporary metapopulation effective size and its empirical estimation in salmonid fish. *Heredity (Edinb)* 107:444–455

- Pampoulie C, Jakobsdottir KB, Marteinsdottir G, Thorsteinsson V (2008) Are vertical behaviour patterns related to the pantophysin locus in the atlantic cod (*Gadus morhua* L.)? *Behav Genet* 38:76–81
- Pannacciulli FG, Manetti G, Maltagliati F (2009) Genetic diversity in two barnacle species, *Chthamalus stellatus* and *Tesseropora atlantica* (Crustacea, Cirripedia), with different larval dispersal modes in the archipelago of the Azores. *Mar Biol* 156:2441–2450
- Papetti C, Pujolar JM, Mezzavilla M, Mesa M La, Rock J, Zane L, Patarnello T (2012) Population genetic structure and gene flow patterns between populations of the Antarctic icefish *Chionodraco rastrospinosus*. *J Biogeogr* 39:1361–1372
- Parada C, Colas F, Soto-Mendoza S, Castro L (2012) Effects of seasonal variability in across- and alongshore transport of anchoveta (*Engraulis ringens*) larvae on model-based pre-recruitment indices off central Chile. *Prog Oceanogr* 92–95:192–205
- Pardo LM, Palma AT, Prieto C, Sepulveda P, Valdivia I, Ojeda FP (2007) Processes regulating early post-settlement habitat use in a subtidal assemblage of brachyuran decapods. *J Exp Mar Bio Ecol* 344:10–22
- Paris CB, Cherubin LM, Cowen RK (2007) Surfing, spinning, or diving from reef to reef: effects on population connectivity. *Mar Ecol Prog Ser* 347:285–300**
- Paris CB, Helgers J, Sebille E van, Srinivasan A (2013) Connectivity Modeling System: A probabilistic modeling tool for the multi-scale tracking of biotic and abiotic variability in the ocean. *Environ Model Softw* 42:47–54**
- Parsons KE (1996) The genetic effects of larval dispersal depend on spatial scale and habitat characteristics. *Mar Biol* 126:403–414
- Pearce A, Slawinski D, Feng M, Hutchins B, Fearn P (2011) Modelling the potential transport of tropical fish larvae in the Leeuwin Current. *Cont Shelf Res* 31:2018–2040
- Pedersen OP, Nilssen EM, Jorgensen LL, Slagstad D (2006) Advection of the red king crab larvae on the coast of North Norway - A lagrangian model study. *Fish Res* 79:325–336
- Pelc RA, Warner RR, Gaines SD (2009) Geographical patterns of genetic structure in marine species with contrasting life histories. *J Biogeogr* 36:1881–1890
- Pelc RA, Baskett ML, Tanci T, Gaines SD, Warner RR (2009) Quantifying larval export from South African marine reserves. *Mar Ecol Prog Ser* 394:65–78
- Pendoley KL, Schofield G, Whittock PA, Ierodiaconou D, Hays GC (2014) Protected species use of a coastal marine migratory corridor connecting marine protected areas. *Mar Biol* 161:1455–1466
- Pepin P (2013) Distribution and feeding of *Benthosema glaciale* in the western Labrador Sea: Fish-zooplankton interaction and the consequence to calanoid copepod populations. *Deep Res Part I-Oceanographic Res Pap* 75:119–134
- Petersen CH (2007) Historical demography and contemporary spatial genetic structure of an estuarine crab in the northeast Pacific (*Hemigrapsus oregonensis*). *Mar Biol* 150:1289–1300
- Petersen CH, Drake PT, Edwards CA, Ralston S (2010) A numerical study of inferred rockfish (*Sebastes* spp.) larval dispersal along the central California coast. *Fish Oceanogr* 19:21–41

Pettay DT, LaJeunesse TC (2013) Long-Range Dispersal and High-Latitude Environments Influence the Population Structure of a “Stress-Tolerant” Dinoflagellate Endosymbiont. *PLoS One* 8

Pfeiffer-Herbert AS, McManus MA, Raimondi PT, Chao Y, Chai F (2007) Dispersal of barnacle larvae along the central California coast: A modeling study. *Limnol Oceanogr* 52:1559–1569

Pfeiffer-Hoyt AS, McManus MA (2005) Modeling the effects of environmental variability on *Balanus glandula* larval development. *J Plankton Res* 27:1211–1228

Piggott MP, Banks SC, Tung P, Beheregaray LB (2008) Genetic evidence for different scales of connectivity in a marine mollusc. *Mar Ecol Prog Ser* 365:127–136

Pike DA (2013) Forecasting range expansion into ecological traps: climate-mediated shifts in sea turtle nesting beaches and human development. *Glob Chang Biol* 19:3082–3092

Pillar SC, Barange M (1995) diel feeding periodicity, daily ration and vertical migration of juvenile cape hake off the west-coast of south-africa. *J Fish Biol* 47:753–768

Pinho M, Diogo H, Carvalho J, Pereira JG (2014) Harvesting juveniles of blackspot sea bream (*Pagellus bogaraveo*) in the Azores (Northeast Atlantic): biological implications, management, and life cycle considerations. *ICES J Mar Sci* 71:2448–2456

Pinsky ML, Montes Jr. HR, Palumbi SR (2010) Using isolation by distance and effective density to estimate dispersal scales in anemonefish. *Evolution* 64:2688–2700

Pires RF, Pan M, Santos AMP, Peliz A, Boutov D, Santos A dos (2013) Modelling the variation in larval dispersal of estuarine and coastal ghost shrimp: *Upogebia* congeners in the Gulf of Cadiz. *Mar Ecol Prog Ser* 492:153–168

Pita A, Perez M, Balado M, Presa P (2014) Out of the Celtic cradle: The genetic signature of European hake connectivity in South-western Europe. *J Sea Res* 93:90–100

Pittman SJ, Monaco ME, Friedlander AM, Legare B, Nemeth RS, Kendall MS, Poti M, Clark RD, Wedding LM, Caldow C (2014) Fish with Chips: Tracking Reef Fish Movements to Evaluate Size and Connectivity of Caribbean Marine Protected Areas. *PLoS One* 9

Planes S (1993) Genetic Differentiation in Relation to Restricted Larval Dispersal of the Convict Surgeonfish *Acanthurus-Triostegus* in French-Polynesia. *Mar Ecol Prog Ser* 98:237–246

Planes S, Jones GP, Thorrold SR (2009) Larval dispersal connects fish populations in a network of marine protected areas. *Proc Natl Acad Sci* 106:5693–7

Plante CJ, Stinson S (2003) Recolonization and cues for bacterial migration into “mock” deposit-feeder fecal casts. *Aquat Microb Ecol* 33:107–115

Polato NR, Concepcion GT, Toonen RJ, Baums IB (2010) Isolation by distance across the Hawaiian Archipelago in the reef-building coral *Porites lobata*. *Mol Ecol* 19:4661–4677

Popa LO, Popa OP, Krapal A-M, Iorgu EI, Surugiu V (2014) Fine- Scale Population Genetics Analysis of *Platynereis dumerilii* (Polychaeta, Nereididae) in the Black Sea: How Do Local Marine Currents Drive Geographical Differentiation? *J Exp Zool Part a-Ecological Genet Physiol* 321:41–47

Portnoy DS, Hollenbeck CM, Belcher CN, Driggers III WB, Frazier BS, Gelsleichter J, Grubbsk RD, Gold JR (2014) Contemporary population structure and post-glacial genetic

- demography in a migratory marine species, the blacknose shark, *Carcharhinus acronotus*. *Mol Ecol* 23:5480–5495
- Portnoy DS, Hollenbeck CM, Renshaw MA, Cummings NJ, Gold JR (2013) Does mating behaviour affect connectivity in marine fishes? Comparative population genetics of two protogynous groupers (Family Serranidae). *Mol Ecol* 22:301–313
- Pous S, Feunteun E, Ellien C (2010) Investigation of tropical eel spawning area in the South-Western Indian Ocean: Influence of the oceanic circulation. *Prog Oceanogr* 86:396–413
- Pozzi LM, Borboroglu PG, Boersma PD, Pascual MA (2015) Population Regulation in Magellanic Penguins: What Determines Changes in Colony Size? *PLoS One* 10
- Prado P, Tomas F, Pinna S, Farina S, Roca G, Ceccherelli G, Romero J, Alcoverro T (2012) Habitat and Scale Shape the Demographic Fate of the Keystone Sea Urchin *Paracentrotus lividus* in Mediterranean Macrophyte Communities. *PLoS One* 7
- Priest MA, Halford AR, McIlwain JL (2012) Evidence of stable genetic structure across a remote island archipelago through self-recruitment in a widely dispersed coral reef fish. *Ecol Evol* 2:3195–3213
- Proctor CH, Thresher RE, Gunn JS, Mills DJ, Harrowfield IR, Sie SH (1995) Stock Structure of the Southern Bluefin Tuna *Thunnus-Maccoyii* - An Investigation Based on Probe Microanalysis Of Otolith Composition. *Mar Biol* 122:511–526
- Prouzet P, Odunlami M, Duquesne E, Boussouar A (2009) Analysis and visualization of the glass eel behavior (*Anguilla anguilla*) in the Adour estuary and estimate of its upstream migration speed. *Aquat Living Resour* 22:525–534
- Puckett BJ, Eggleston DB, Kerr PC, Luettich Jr. RA (2014) Larval dispersal and population connectivity among a network of marine reserves. *Fish Oceanogr* 23:342–361
- Puebla O, Bermingham E, McMillan WO (2012) On the spatial scale of dispersal in coral reef fishes. *Mol Ecol* 21:5675–5688
- 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
- Pujolar JM, Leo GA De, Ciccotti E, Zane L (2009) Genetic composition of Atlantic and Mediterranean recruits of European eel *Anguilla anguilla* based on EST-linked microsatellite loci. *J Fish Biol* 74:2034–2046
- Pujolar JM, Schiavina M, Franco A Di, Melia P, Guidetti P, Gatto M, Leo GA De, Zane L (2013) Understanding the effectiveness of marine protected areas using genetic connectivity patterns and Lagrangian simulations. *Divers Distrib* 19:1531–1542
- Purcell JFH, Cowen RK, Hughes CR, Williams DA (2009) Population structure in a common Caribbean coral-reef fish: implications for larval dispersal and early life-history traits. *J Fish Biol* 74:403–417
- Purcell JFH, Cowen RK, Hughes CR, Williams DA (2006) Weak genetic structure indicates strong dispersal limits: a tale of two coral reef fish. *Proc R Soc B Biol Sci* 273:1483–90
- Puritz JB, Toonen RJ (2011) Coastal pollution limits pelagic larval dispersal. *Nat Commun* 2
- Pusack TJ, Christie MR, Johnson DW, Stallings CD, Hixon MA (2014) Spatial and temporal patterns of larval dispersal in a coral-reef fish metapopulation: evidence of variable reproductive success. *Mol Ecol* 23:3396–3408

- Putman NF, He R (2013) Tracking the long-distance dispersal of marine organisms: sensitivity to ocean model resolution. *J R Soc Interface* 10
- Putman NF, Naro-Maciel E (2013) Finding the “lost years” in green turtles: insights from ocean circulation models and genetic analysis. *Proc R Soc B-Biological Sci* 280
- Putman NF, Verley P, Shay TJ, Lohmann KJ (2012) Simulating transoceanic migrations of young loggerhead sea turtles: merging magnetic navigation behavior with an ocean circulation model. *J Exp Biol* 215:1863–1870
- Qian H, Li Y, He R, Eggleston DB (2015) Connectivity in the Intra-American Seas and implications for potential larval transport. *Coral Reefs* 34:403–417
- Quinlan JA, Blanton BO, Miller TJ, Werner FE (1999) From spawning grounds to the estuary: Using linked individual-based and hydrodynamic models to interpret patterns and processes in the oceanic phase of Atlantic menhaden *Brevoortia tyrannus* life history. *Fish Oceanogr* 8:224–246
- Ramon ML, Nelson PA, Martini E De, Walsh WJ, Bernardi G (2008) Phylogeography, historical demography, and the role of post-settlement ecology in two Hawaiian damselfish species. *Mar Biol* 153:1207–1217
- Ravago-Gotanco RG, Magsino RM, Juinio-Menez MA (2007) Influence of the North Equatorial Current on the population genetic structure of *Tridacna crocea* (Mollusca : Tridacnidae) along the eastern Philippine seaboard. *Mar Ecol Prog Ser* 336:161–168
- Reece JS, Bowen BW, Smith DG, Larson A (2011) Comparative phylogeography of four Indo-Pacific moray eel species (Muraenidae) reveals comparable ocean-wide genetic connectivity despite five-fold differences in available adult habitat. *Mar Ecol Prog Ser* 437:269–277
- Reveillac E, Robinet T, Rabenevanana MW, Valade P, Feunteun E (2009) Clues to the location of the spawning area and larval migration characteristics of *Anguilla mossambica* as inferred from otolith microstructural analyses. *J Fish Biol* 74:1866–1877
- Reynolds LK, Waycott M, McGlathery KJ (2013) Restoration recovers population structure and landscape genetic connectivity in a dispersal-limited ecosystem. *J Ecol* 101:1288–1297
- Rhyne AL, Zhang D, Lin J, Schizas N V (2009) Not any two will do: DNA divergence and interpopulation reproductive compatibility in the simultaneous hermaphroditic shrimp *Lysmata wurdemanni*. *Mar Ecol Prog Ser* 388:185–195
- Richards VP, Thomas JD, Stanhope MJ, Shivji MS (2007) Genetic connectivity in the Florida reef system: comparative phylogeography of commensal invertebrates with contrasting reproductive strategies. *Mol Ecol* 16:139–157
- Riginos C, Douglas KE, Jin Y, Shanahan DF, Trembl EA (2011) Effects of geography and life history traits on genetic differentiation in benthic marine fishes. *Ecography (Cop)* 34:566–575
- Riginos C, Henzler CM (2008) Patterns of mtDNA diversity in North Atlantic populations of the mussel *Mytilus edulis*. *Mar Biol* 155:399–412
- Rilov G, Schiel DR (2011) Community Regulation: The Relative Importance of Recruitment and Predation Intensity of an Intertidal Community Dominant in a Seascape Context. *PLoS One* 6
- Rius M, Shenkar N (2012) Ascidian introductions through the Suez Canal: The case study of an Indo-Pacific species. *Mar Pollut Bull* 64:2060–2068

- Rivera A, Weidberg N, Pardinas AF, Gonzalez-Gil R, Garcia-Florez L, Acuna JL (2013) Role of Upwelling on Larval Dispersal and Productivity of Gooseneck Barnacle Populations in the Cantabrian Sea: Management Implications. *PLoS One* 8
- Roberts DG, Ayre DJ (2010) Panmictic population structure in the migratory marine sparid *Acanthopagrus australis* despite its close association with estuaries. *Mar Ecol Prog Ser* 412:223–230
- Roberts MA, Schwartz TS, Karl SA (2004) Global population genetic structure and male-mediated gene flow in the green sea turtle (*Chelonia mydas*): Analysis of microsatellite loci. *Genetics* 166:1857–1870
- Robins PE, Neill SP, Gimenez L, Jenkins SR, Malham SK (2013) Physical and biological controls on larval dispersal and connectivity in a highly energetic shelf sea. *Limnol Oceanogr* 58:505–524
- Robinson CJ, Gomez-Gutierrez J, Felix-Uraga R, Arenas-Fuentes V (2000) Seasonal hydro-acoustical observations of small pelagic fish behaviour in Bahia Magdalena, Mexico. *Aquat Living Resour* 13:11–18
- Rocha LA, Robertson DR, Roman J, Bowen BW (2005) Ecological speciation in tropical reef fishes. *Proc R Soc B-Biological Sci* 272:573–579**
- Rochette S, Huret M, Rivot E, Pape O Le (2012) Coupling hydrodynamic and individual-based models to simulate long-term larval supply to coastal nursery areas. *Fish Oceanogr* 21:229–242
- Rodgers KL, Wing SR (2008) Spatial structure and movement of blue cod *Parapercis colias* in Soubthful Sound, New Zealand, inferred from $\delta^{13}\text{C}$ and $\Delta^{15}\text{N}$. *Mar Ecol Prog Ser* 359:239–248
- Rodrigues KA, Jaureguizar AJ, Guerrero RA (2013) Environmental factors that define the spawning and nursery areas for *Percophis brasiliensis* (Teleostei: Percophididae) in a multispecific reproductive coastal zone, El Rincn (39A degrees-41A degrees S), Argentina. *Hydrobiologia* 709:1–10
- Rodriguez-Cabello C, Sanchez F (2014) Is *Centrophorus squamosus* a highly migratory deep-water shark? *Deep Res Part I-Oceanographic Res Pap* 92:1–10
- Roe JH, Morreale SJ, Paladino F V, Shillinger GL, Benson SR, Eckert SA, Bailey H, Santidrian Tomillo P, Bograd SJ, Eguchi T, Dutton PH, Seminoff JA, Block BA, Spotila JR (2014) Predicting bycatch hotspots for endangered leatherback turtles on longlines in the Pacific Ocean. *Proc R Soc B-Biological Sci* 281
- Rogers LA, Olsen EM, Knutsen H, Stenseth NC (2014) Habitat effects on population connectivity in a coastal seascape. *Mar Ecol Prog Ser* 511:153–163
- Rooker JR, Secor DH, Zdanowicz VS, Metrio G De, Relini LO (2003) Identification of Atlantic bluefin tuna (*Thunnus thynnus*) stocks from putative nurseries using otolith chemistry. *Fish Oceanogr* 12:75–84
- Rooker JR, Arrizabalaga H, Fraile I, Secor DH, Dettman DL, Abid N, Addis P, Deguara S, Karakulak FS, Kimoto A, Sakai O, Macias D, Santos MN (2014) Crossing the line: migratory and homing behaviors of Atlantic bluefin tuna. *Mar Ecol Prog Ser* 504:265–276
- Rooker JR, Secor DH, Metrio G De, Schloesser R, Block BA, Neilson JD (2008) Natal Homing and Connectivity in Atlantic Bluefin Tuna Populations. *Science* (80-) 322:742–744**

- Rosa AL, Yamamoto J, Sakurai Y (2011) Effects of environmental variability on the spawning areas, catch, and recruitment of the Japanese common squid, *Todarodes pacificus* (Cephalopoda: Ommastrephidae), from the 1970s to the 2000s. *ICES J Mar Sci* 68:1114–1121
- Rossi V, Ser-Giacomi E, L pez C, Hern andez-Garc a E (2014) Hydrodynamic provinces and oceanic connectivity from a transport network help designing marine reserves. *Geophys Res Lett* 41:2883–2891
- Rouger R, Jump S (2014) A seascape genetic analysis reveals strong biogeographical structuring driven by contrasting processes in the polyploid saltmarsh species *Puccinellia maritima* and *Triglochin maritima*. *Mol Ecol* 23:3158–3170
- Roughan M, Macdonald HS, Baird ME, Glasby TM (2011) Modelling coastal connectivity in a Western Boundary Current: Seasonal and inter-annual variability. *Deep Sea Res Part II Top Stud Oceanogr* 58:628–644
- Rowell TJ, Nemeth RS, Sch arer MT, Appeldoorn RS (2015) Fish sound production and acoustic telemetry reveal behaviors and spatial patterns associated with spawning aggregations of two Caribbean groupers. *Mar Ecol Prog Ser* 518:239–254
- Russell DJ, McDougall AJ (2005) Movement and juvenile recruitment of mangrove jack, *Lutjanus argentimaculatus* (Forsskal), in northern Australia. *Mar Freshw Res* 56:465–475
- Ruttenberg BI, Warner RR (2006) Spatial variation in the chemical composition of natal otoliths from a reef fish in the Galapagos Islands. *Mar Ecol Prog Ser* 328:225–236
- Ruzzante DE, Hansen MM, Meldrup D, Ebert KM (2004) Stocking impact and migration pattern in an anadromous brown trout (*Salmo trutta*) complex: where have all the stocked spawning sea trout gone? *Mol Ecol* 13:1433–1445
- Saavedra-Sotelo NC, Calderon-Aguilera LE, Reyes-Bonilla H, Lopez-Perez RA, Medina-Rosas P, Rocha-Olivares A (2011) Limited genetic connectivity of *Pavona gigantea* in the Mexican Pacific. *Coral Reefs* 30:677–686
- Saenz-Agudelo P, Jones GP, Thorrold SR, Planes S (2009) Estimating connectivity in marine populations: an empirical evaluation of assignment tests and parentage analysis under different gene flow scenarios. *Mol Ecol* 18:1765–1776
- Saenz-Agudelo P, Jones GP, Thorrold SR, Planes S (2012) Patterns and persistence of larval retention and connectivity in a marine fish metapopulation. *Mol Ecol* 21:4695–4705
- Saenz-Agudelo P, Jones GP, Thorrold SR, Planes S (2011) Connectivity dominates larval replenishment in a coastal reef fish metapopulation. *Proc R Soc B-Biological Sci* 278:2954–2961
- Sagarese SR, Frisk MG (2011) Movement Patterns and Residence of Adult Winter Flounder within a Long Island Estuary. *Mar Coast Fish* 3:295–306
- Sala-Bozano M, Ketmaier V, Mariani S (2009) Contrasting signals from multiple markers illuminate population connectivity in a marine fish. *Mol Ecol* 18:4811–4826
- Salas E, Molina-Urena H, Walter RP, Heath DD (2010) Local and regional genetic connectivity in a Caribbean coral reef fish. *Mar Biol* 157:437–445
- Salinas-de-Leon P, Jones T, Bell JJ (2012) Successful Determination of Larval Dispersal Distances and Subsequent Settlement for Long-Lived Pelagic Larvae. *PLoS One* 7

- Sammarco PW, Andrews JC (1988) Localized dispersal and recruitment in Great Barrier Reef corals: The helix experiment. *Science* (80-) 239:1422–1424
- Sammarco PW, Brazeau DA, Sinclair J (2012) Genetic Connectivity in Scleractinian Corals across the Northern Gulf of Mexico: Oil/Gas Platforms, and Relationship to the Flower Garden Banks. *PLoS One* 7
- Samuelsen A, Huse G, Hansen C (2009) Shelf recruitment of *Calanus finmarchicus* off the west coast of Norway: role of physical processes and timing of diapause termination. *Mar Ecol Prog Ser* 386:163–180
- Sanchez F, Gil J (2000) Hydrographic mesoscale structures and Poleward Current as a determinant of hake (*Merluccius merluccius*) recruitment in southern Bay of Biscay. *ICES J Mar Sci* 57:152–170
- Sanchez-Gil P, Yanez-Arancibia A, Tapia M, Day JW, Wilson CA, Cowan Jr. JH (2008) Ecological and biological strategies of *Etropus crossotus* and *Citharichthys spilopterus* (Pleuronectiformes : Paralichthyidae) related to the estuarine plume, Southern Gulf of Mexico. *J Sea Res* 59:173–185
- Sandin SA, Regetz J, Hamilton SL (2005) Testing larval fish dispersal hypotheses using maximum likelihood analysis of otolith chemistry data. *Mar Freshw Res* 56:725–734
- Sanna D, Cossu P, Dedola GL, Scarpa F, Maltagliati F, Castelli A, Franzoi P, Lai T, Cristo B, Curini-Galletti M, Francalacci P, Casu M (2013) Mitochondrial DNA Reveals Genetic Structuring of *Pinna nobilis* across the Mediterranean Sea. *PLoS One* 8
- Santos S, Cruzeiro C, Olsen JL, Veer HW van der, Luttkhuizen PC (2012) Isolation by distance and low connectivity in the peppery furrow shell *Scrobicularia plana* (Bivalvia). *Mar Ecol Prog Ser* 462:111–124
- Saruwatari T (1995) Temporal Utilization of a Brackish-Water Lake, Lake Hinuma, as a Nursery Ground by Amphidromous Ayu, *Plecoglossus-Altivelis* (Plecoglossidae) Larvae. *Environ Biol Fishes* 43:371–380
- Sato K-I, Yamaguchi A, Ueno H, Ikeda T (2011) Vertical segregation within four grazing copepods in the Oyashio region during early spring. *J Plankton Res* 33:1230–1238
- Schiavina M, Marino IAM, Zane L, Melia P (2014) Matching oceanography and genetics at the basin scale. Seascape connectivity of the Mediterranean shore crab in the Adriatic Sea. *Mol Ecol* 23:5496–5507
- Schmidt DJ, Crook DA, O'Connor JP, Hughes JM (2011) Genetic analysis of threatened Australian grayling *Prototroctes maraena* suggests recruitment to coastal rivers from an unstructured marine larval source population. *J Fish Biol* 78:98–111
- Schultz JK, Feldheim KA, Gruber SH, Ashley M V, McGovern TM, Bowen BW (2008) Global phylogeography and seascape genetics of the lemon sharks (genus *Negaprion*). *Mol Ecol* 17:5336–5348
- Schultz JK, Baker JD, Toonen RJ, Harting AL, Bowen BW (2011) Range-Wide Genetic Connectivity of the Hawaiian Monk Seal and Implications for Translocation. *Conserv Biol* 25:124–132
- Schunter C, Carreras-Carbonell J, MacPherson E, Tintore J, Vidal-Vijande E, Pascual A, Guidetti P, Pascual M (2011) Matching genetics with oceanography: directional gene flow in a Mediterranean fish species. *Mol Ecol* 20:5167–5181

- Schunter C, Pascual M, Garza JC, Raventos N, Macpherson E (2014) Kinship analyses identify fish dispersal events on a temperate coastline. *Proc R Soc B-Biological Sci* 281
- Scott R, Biastoch A, Roder C, Stiebens VA, Eizaguirre C (2014) Nano-tags for neonates and ocean-mediated swimming behaviours linked to rapid dispersal of hatchling sea turtles. *Proc R Soc B-Biological Sci* 281
- Seddon JM, Ovenden JR, Sneath HL, Broderick D, Dudgeon CL, Lanyon JM (2014) Fine scale population structure of dugongs (*Dugong dugon*) implies low gene flow along the southern Queensland coastline. *Conserv Genet* 15:1381–1392
- See KE, Feist BE (2010) Reconstructing the range expansion and subsequent invasion of introduced European green crab along the west coast of the United States. *Biol Invasions* 12:1305–1318
- Seeb LW, Templin WD, Sato S, Abe S, Warheit K, Park JY, Seeb JE (2011) Single nucleotide polymorphisms across a species' range: implications for conservation studies of Pacific salmon. *Mol Ecol Resour* 11:195–217
- Selkoe KA, Gaggiotti OE, Bowen BW, Toonen RJ (2014) Emergent patterns of population genetic structure for a coral reef community. *Mol Ecol* 23:3064–3079
- Selkoe KA, Gaines SD, Caselle JE, Warner RR (2006) Current shifts and kin aggregation explain genetic patchiness in fish recruits. *Ecology* 87:3082–3094
- Selkoe KA, Watson JR, White C, Horin T Ben, Iacchei M, Mitarai S, Siegel DA, Gaines SD, Toonen RJ (2010) Taking the chaos out of genetic patchiness: seascape genetics reveals ecological and oceanographic drivers of genetic patterns in three temperate reef species. *Mol Ecol* 19:3708–3726**
- Sequeira AMM, Mellin C, Floch L, Williams PG, Bradshaw CJA (2014) Inter-ocean asynchrony in whale shark occurrence patterns. *J Exp Mar Bio Ecol* 450:21–29
- Serghini M, Boutayeb A, Auger P, Charouki N, Ramzi A, Ettahiri O, Tchunte M (2009) Multiregional Periodic Matrix for Modeling the Population Dynamics of Sardine (*Sardina pilchardus*) Along the Moroccan Atlantic Coast: Management Elements for Fisheries. *Acta Biotheor* 57:501–512
- Severance EG, Karl SA (2006) Contrasting population genetic structures of sympatric, mass-spawning Caribbean corals. *Mar Biol* 150:57–68
- Sharma R, Quinn TP (2012) Linkages between life history type and migration pathways in freshwater and marine environments for Chinook salmon, *Oncorhynchus tshawytscha*. *Acta Oecologica-International J Ecol* 41:1–13
- Shen KN, Chang CW, Iizuka Y, Tzeng WN (2009) Facultative habitat selection in Pacific tarpon *Megalops cyprinoides* as revealed by otolith Sr:Ca ratios. *Mar Ecol Prog Ser* 387:255–263
- Shepherd SA, Brook JB (2007) Distribution and ontogenetic shifts in habitat and abundance of the temperate western blue groper, *Achoerodus gouldii* (Richardson). *J Fish Biol* 71:1457–1478
- Sherman CDH, Hunt A, Ayre DJ (2008) Is life history a barrier to dispersal? Contrasting patterns of genetic differentiation along an oceanographically complex coast. *Biol J Linn Soc* 95:106–116
- Shima JS, Swearer SE (2010) The legacy of dispersal: larval experience shapes persistence later in the life of a reef fish. *J Anim Ecol* 79:1308–14

- Shima JS, Swearer SE (2009) Larval quality is shaped by matrix effects: implications for connectivity in a marine metapopulation. *Ecology* 90:1255–67
- Shubina EA, Mel'nikova MN, Glubokov AI, Mednikov BM (2004) Analysis of the genetic structure of northwestern Bering Sea walleye pollock, *Theragra chalcogramma*. *Environ Biol Fishes* 69:177–185
- Siegle MR, Taylor EB, Miller KM, Withler RE, Yamanaka KL (2013) Subtle Population Genetic Structure in Yelloweye Rockfish (*Sebastes ruberrimus*) Is Consistent with a Major Oceanographic Division in British Columbia, Canada. *PLoS One* 8
- Silva IC, Mesquita N, Paula J (2010) Genetic and morphological differentiation of the mangrove crab *Perisesarma guttatum* (Brachyura: Sesarmidae) along an East African latitudinal gradient. *Biol J Linn Soc* 99:28–46
- Silva IC, Mesquita N, Schubart CD, Alves MJ, Paula J (2009) Genetic patchiness of the shore crab *Pachygrapsus marmoratus* along the Portuguese coast. *J Exp Mar Bio Ecol* 378:50–57
- Simpson SD, Harrison HB, Claereboudt MR, Planes S (2014) Long-Distance Dispersal via Ocean Currents Connects Omani Clownfish Populations throughout Entire Species Range (JA Craft, Ed.). *PLoS One* 9:e107610
- Sjöqvist C, Godhe A, Jonsson PR, Sundqvist L, Kremp A (2015) Local adaptation and oceanographic connectivity patterns explain genetic differentiation of a marine diatom across the North Sea-Baltic Sea salinity gradient. *Mol Ecol* 24:2871–2885
- Skomal GB, Zeeman SI, Chisholm JH, Summers EL, Walsh HJ, McMahon KW, Thorrold SR (2009) Transequatorial Migrations by Basking Sharks in the Western Atlantic Ocean. *Curr Biol* 19:1019–1022
- Smilansky V, Lasker HR (2014) Fine-scale genetic structure in the surface brooding Caribbean octocoral, *Antilloorgia elisabethae*. *Mar Biol* 161:853–861
- Smith JM, Macleod CD, Valavanis V, Hastie L, Valinassab T, Bailey N, Begona Santos M, Pierce GJ (2013) Habitat and distribution of post-recruit life stages of the squid *Loligo forbesii*. *Deep Res Part II-Topical Stud Oceanogr* 95:145–159
- Smith LM, Hutchings P, Fraser CI (2015) Molecular evidence supports coastal dispersal among estuaries for two benthic marine worm (Nephtyidae) species in southeastern Australia. *Mar Biol* 162:1319–1327
- Smith WE, Kwak TJ (2014) Otolith microchemistry of tropical diadromous fishes: spatial and migratory dynamics. *J Fish Biol* 84:913–928
- Snauffer EL, Masson D, Allen SE (2014) Modelling the dispersal of herring and hake larvae in the Strait of Georgia for the period 2007-2009. *Fish Oceanogr* 23:375–388
- Snyder RE, Paris CB, Vaz AC (2014) How Much Do Marine Connectivity Fluctuations Matter? *Am Nat* 184:523–530
- So JJ, Uthicke S, Hamel J-F, Mercier A (2011) Genetic population structure in a commercial marine invertebrate with long-lived lecithotrophic larvae: *Cucumaria frondosa* (Echinodermata: Holothuroidea). *Mar Biol* 158:859–870
- Soria G, Munguia-Vega A, Marinone SG, Moreno-Baez M, Martinez-Tovar I, Cudney-Bueno R (2012) Linking bio-oceanography and population genetics to assess larval connectivity. *Mar Ecol Prog Ser* 463:159–175

Sorte CJB, Etter RJ, Spackman R, Boyle EE, Hannigan RE (2013) Elemental Fingerprinting of Mussel Shells to Predict Population Sources and Redistribution Potential in the Gulf of Maine. *PLoS One* 8

Sotka EE, Wares JP, Barth JA, Grosberg RK, Palumbi SR (2004) Strong genetic clines and geographical variation in gene flow in the rocky intertidal barnacle *Balanus glandula*. *Mol Ecol* 13:2143–2156

Souter P, Grahn M (2008) Spatial genetic patterns in lagoonal, reef-slope and island populations of the coral *Platygyra daedalea* in Kenya and Tanzania. *Coral Reefs* 27:433–439

Souza AT, Dias E, Nogueira A, Campos J, Marques JC, Martins I (2013) Population ecology and habitat preferences of juvenile flounder *Platichthys flesus* (Actinopterygii: Pleuronectidae) in a temperate estuary. *J Sea Res* 79:60–69

Spivak ED, Arévalo E, Cuesta JA, González-Gordillo JI (2010) Population structure and reproductive biology of the stone crab *Xantho poressa* (Crustacea: Decapoda: Xanthidae) in the Corrales de Rota (south-western Spain), a human-modified intertidal fishing area. *J Mar Biol Assoc United Kingdom* 90:323–334

Sponaugle S, Paris C, Walter KD, Kourafalou V, D'Alessandro E (2012) Observed and modeled larval settlement of a reef fish to the Florida Keys. *Mar Ecol Prog Ser* 453:201–212

Staaterman E, Paris CB, Helgers J (2012) Orientation behavior in fish larvae: A missing piece to Hjort's critical period hypothesis. *J Theor Biol* 304:188–196

Standish JD, Sheehy M, Warner RR (2008) Use of otolith natal elemental signatures as natural tags to evaluate connectivity among open-coast fish populations. *Mar Ecol Prog Ser* 356:259–268

Standish JD, White JW, Warner RR (2011) Spatial pattern of natal signatures in the otoliths of juvenile kelp rockfish along the Californian coast. *Mar Ecol Prog Ser* 437:279–290

Starger CJ, Barber PH, Ambariyanto, Baker AC (2010) The recovery of coral genetic diversity in the Sunda Strait following the 1883 eruption of Krakatau. *Coral Reefs* 29:547–565

Stepanenko MA, Gritsay E V (2014) Eastern Bering Sea pollock recruitment, abundance, distribution and approach to fishery management. *Fish Sci* 80:151–160

Stephens SA, Broekhuizen N, Macdiarmid AB, Lundquist CJ, McLeod L, Haskew R (2006) Modelling transport of larval New Zealand abalone (*Haliotis iris*) along an open coast. *Mar Freshw Res* 57:519–532

Stewart KR, James MC, Roden S, Dutton PH (2013) Assignment tests, telemetry and tag-recapture data converge to identify natal origins of leatherback turtles foraging in Atlantic Canadian waters. *J Anim Ecol* 82:791–803

Stockhausen WT, Lipcius RN (2001) Single large or several small marine reserves for the Caribbean spiny lobster? *Mar Freshw Res* 52:1605–1614

Stokes DL, Boersma PD, Casenave JL de, Garcia-Borboroglu P (2014) Conservation of migratory Magellanic penguins requires marine zoning. *Biol Conserv* 170:151–161

Storlazzi CD, Brown EK, Field ME (2006) The application of acoustic Doppler current profilers to measure the timing and patterns of coral larval dispersal. *Coral Reefs* 25:369–381

- Su N-J, Sun C-L, Punt AE, Yeh S-Z, Dinardo G (2011) Evaluation of a spatially sex-specific assessment method incorporating a habitat preference model for blue marlin (*Makaira nigricans*) in the Pacific Ocean. *Fish Oceanogr* 20:415–433
- Sulak KJ, Clugston JP (1999) Recent advances in life history of Gulf of Mexico sturgeon, *Acipenser oxyrinchus desotoi*, in the Suwannee river, Florida, USA: a synopsis. *J Appl Ichthyol Fur Angew Ichthyol* 15:116–128
- Sun S, Tao Z, Li C, Liu H (2011) Spatial distribution and population structure of *Euphausia pacifica* in the Yellow Sea (2006-2007). *J Plankton Res* 33:873–889
- Sunday JM, Popovic I, Palen WJ, Foreman MGG, Hart MW (2014) Ocean circulation model predicts high genetic structure observed in a long-lived pelagic developer. *Mol Ecol* 23:5036–5047
- Sundelof A, Jonsson PR (2012) Larval dispersal and vertical migration behaviour - a simulation study for short dispersal times. *Mar Ecol Evol Perspect* 33:183–193
- Suzuki G, Arakaki S, Kai S, Hayashibara T (2012) Habitat differentiation in the early life stages of simultaneously mass-spawning corals. *Coral Reefs* 31:535–545
- Svedang H, Righton D, Jonsson P (2007) Migratory behaviour of Atlantic cod *Gadus morhua*: natal homing is the prime stock-separating mechanism. *Mar Ecol Prog Ser* 345:1–12
- Swearer SE, Shima JS (2010) Regional variation in larval retention and dispersal drives recruitment patterns in a temperate reef fish. *Mar Ecol Prog Ser* 417:229–236
- Tanaka K, Hanamura Y, Ving Ching C, Watanabe S, Man A, Kassim FM, Kodama M, Ichikawa T (2011) Stable isotope analysis reveals ontogenetic migration and the importance of a large mangrove estuary as a feeding ground for juvenile John's snapper *Lutjanus johnii*. *Fish Sci* 77:809–816
- Tay YC, Noreen AME, Suharsono, Chou LM, Todd PA (2015) Genetic connectivity of the broadcast spawning reef coral *Platygyra sinensis* on impacted reefs, and the description of new microsatellite markers. *Coral Reefs* 34:301–311
- Tegner MJ (1993) Southern California Abalones - can stocks be rebuilt using marine harvest refugia. *Can J Fish Aquat Sci* 50:2010–2018
- Teixeira S, Olu K, Decker C, Cunha RL, Fuchs S, Hourdez S, Serrao EA, Arnaud-Haond S (2013) High connectivity across the fragmented chemosynthetic ecosystems of the deep Atlantic Equatorial Belt: efficient dispersal mechanisms or questionable endemism? *Mol Ecol* 22:4663–4680
- Tepolt CK, Darling JA, Bagley MJ, Geller JB, Blum MJ, Grosholz ED (2009) European green crabs (*Carcinus maenas*) in the northeastern Pacific: genetic evidence for high population connectivity and current-mediated expansion from a single introduced source population. *Divers Distrib* 15:997–1009
- Teske PR, Forget FRG, Cowley PD, Heyden S von der, Beheregaray LB (2010) Connectivity between marine reserves and exploited areas in the philopatric reef fish *Chrysoblephus laticeps* (Teleostei: Sparidae). *Mar Biol* 157:2029–2042
- Teske PR, Papadopoulos I, Zardi GI, McQuaid CD, Edkins MT, Griffiths CL, Barker NP (2007) Implications of life history for genetic structure and migration rates of southern African coastal invertebrates: planktonic, abbreviated and direct development. *Mar Biol* 152:697–711

- Teske PR, Papadopoulos I, Barker NP, McQuaid CD (2013) Dispersal barriers and stochastic reproductive success do not explain small-scale genetic structure in a broadcast spawning marine mussel. *Mar Ecol Prog Ser* 482:133–140
- Teske PR, Papadopoulos I, Newman BK, Dworschak PC, McQuaid CD, Barker NP (2008) Oceanic dispersal barriers, adaptation and larval retention: an interdisciplinary assessment of potential factors maintaining a phylogeographic break between sister lineages of an African prawn. *BMC Evol Biol* 8
- Thiel R, Potter IC (2001) The ichthyofaunal composition of the Elbe Estuary: an analysis in space and time. *Mar Biol* 138:603–616
- Thomas Y, Gendre R Le, Garen P, Dumas F, Andrefouet S (2012) Bivalve larvae transport and connectivity within the Ahe atoll lagoon (Tuamotu Archipelago), with application to pearl oyster aquaculture management. *Mar Pollut Bull* 65:441–452
- Thomas Y, Dumas F, Andrefouet S (2014) Larval Dispersal Modeling of Pearl Oyster *Pinctada margaritifera* following Realistic Environmental and Biological Forcing in Ahe Atoll Lagoon. *PLoS One* 9
- Thresher R, Proctor C, Ruiz G, Gurney R, MacKinnon C, Walton W, Rodriguez L, Bax N (2003) Invasion dynamics of the European shore crab, *Carcinus maenas*, in Australia. *Mar Biol* 142:867–876
- Thums M, Whiting SD, Reisser JW, Pendoley KL, Pattiaratchi CB, Harcourt RG, McMahon CR, Meekan MG (2013) Tracking sea turtle hatchlings - A pilot study using acoustic telemetry. *J Exp Mar Bio Ecol* 440:156–163
- Tian RC, Chen C, Stokesbury KDE, Rothschild BJ, Cowles GW, Xu Q, Hu S, Harris BP, Marino II MC (2009) Dispersal and settlement of sea scallop larvae spawned in the fishery closed areas on Georges Bank. *ICES J Mar Sci* 66:2155–2164
- Tiessen MCH, Fernard L, Gerkema T, Molen J van der, Ruardij P, Veer HW van der (2014) Numerical modelling of physical processes governing larval transport in the southern North Sea. *Ocean Sci* 10:357–376
- Timm J, Kochzius M (2008) Geological history and oceanography of the Indo-Malay Archipelago shape the genetic population structure in the false clown anemonefish (*Amphiprion ocellaris*). *Mol Ecol* 17:3999–4014
- Tobin D, Wright PJ, Gibb FM, Gibb IM (2010) The importance of life stage to population connectivity in whiting (*Merlangius merlangus*) from the northern European shelf. *Mar Biol* 157:1063–1073
- Todd CD, Lambert WJ, Thorpe JP (1998) The genetic structure of intertidal populations of two species of nudibranch molluscs with planktotrophic and pelagic lecithotrophic larval stages: are pelagic larvae “for” dispersal? *J Exp Mar Bio Ecol* 228:1–28
- Torda G, Lundgren P, Willis BL, Oppen MJH Van (2013) Genetic assignment of recruits reveals short- and long-distance larval dispersal in *Pocillopora damicornis* on the Great Barrier Reef. *Mol Ecol* 22:5821–5834
- Treml EA, Halpin PN, Urban DL, Pratson LF (2008) Modeling population connectivity by ocean currents, a graph-theoretic approach for marine conservation. *Landsc Ecol* 23:19–36**

- Treml EA, Roberts JJ, Chao Y, Halpin PN, Possingham HP, Riginos C (2012) Reproductive output and duration of the pelagic larval stage determine seascape-wide connectivity of marine populations. *Integr Comp Biol* 52:525–37
- Treml EA, Ford JR, Black KP, Swearer SE (2015) Identifying the key biophysical drivers, connectivity outcomes, and metapopulation consequences of larval dispersal in the sea. *Mov Ecol* 3:17
- Treml EA, Halpin PN (2012) Marine population connectivity identifies ecological neighbors for conservation planning in the Coral Triangle. *Conserv Lett* 5:441–449
- Treml EA, Roberts J, Halpin PN, Possingham HP, Riginos C (2015) The emergent geography of biophysical dispersal barriers across the Indo-West Pacific. *Divers Distrib* 21:465–476
- Tsang LM, Chan BKK, Wu TH, Ng WC, Chatterjee T, Williams GA, Chu KH (2008) Population differentiation in the barnacle *Chthamalus malayensis*: postglacial colonization and recent connectivity across the Pacific and Indian Oceans. *Mar Ecol Prog Ser* 364:107–118
- Tseng MC, Tzeng WN, Lee SC (2006) Population genetic structure of the Japanese eel *Anguilla japonica* in the northwest Pacific Ocean: evidence of non-panmictic populations. *Mar Ecol Prog Ser* 308:221–230
- Tsuda A, Saito H, Kasai H (1999) Life histories of *Neocalanus flemingeri* and *Neocalanus plumchrus* (Calanoida : Copepoda) in the western subarctic Pacific. *Mar Biol* 135:533–544
- Tu C-Y, Tseng Y-H, Chiu T-S, Shen M-L, Hsieh C-H (2012) Using coupled fish behavior-hydrodynamic model to investigate spawning migration of Japanese anchovy, *Engraulis japonicus*, from the East China Sea to Taiwan. *Fish Oceanogr* 21:255–268
- Tulp I, Keller M, Navez J, Winter H V, Graaf M de, Baeyens W (2013) Connectivity between Migrating and Landlocked Populations of a Diadromous Fish Species Investigated Using Otolith Microchemistry. *PLoS One* 8
- Turra A, Petracco M, Amaral ACZ, Denadai MR (2015) Population biology and secondary production of the harvested clam *Tivela mactroides* (Born, 1778) (Bivalvia, Veneridae) in Southeastern Brazil. *Mar Ecol Evol Perspect* 36:221–234
- Underwood JN, Smith LD, Oppen MJH Van, Gilmour JP (2007) Multiple scales of genetic connectivity in a brooding coral on isolated reefs following catastrophic bleaching. *Mol Ecol* 16:771–784**
- Underwood JN, Smith LD, Oppen MJH van, Gilmour JP (2009) Ecologically relevant dispersal of corals on isolated reefs: implications for managing resilience. *Ecol Appl* 19:18–29
- Unsworth RKF, Garrard SL, Leon PS De, Cullen LC, Smith DJ, Sloman KA, Bell JJ (2009) Structuring of Indo-Pacific fish assemblages along the mangrove-seagrass continuum. *Aquat Biol* 5:85–95
- Unsworth RKF, Wylie E, Smith DJ, Bell JJ (2007) Diel trophic structuring of seagrass bed fish assemblages in the Wakatobi Marine National Park, Indonesia. *Estuar Coast Shelf Sci* 72:81–88
- Vagelli A, Burford M, Bernardi G (2008) Fine scale dispersal in Banggai Cardinalfish, *Pterapogon kaudemi*, a coral reef species lacking a pelagic larval phase. *Mar Genomics* 1:129–134

- Valentine-Rose L, Layman CA (2011) Response of Fish Assemblage Structure and Function Following Restoration of Two Small Bahamian Tidal Creeks. *Restor Ecol* 19:205–215
- Putte AP Van de, Houdt JKJ Van, Maes GE, Hellemans B, Collins MA, Volckaert FAM (2012) High genetic diversity and connectivity in a common mesopelagic fish of the Southern Ocean: The myctophid *Electrona antarctica*. *Deep Res Part II-Topical Stud Oceanogr* 59:199–207
- Putte AP Van de, Janko K, Kasparova E, Maes GE, Rock J, Koubbi P, Volckaert FAM, Choleva L, Fraser KPP, Smykla J, Houdt JKJ Van, Marshall C (2012) Comparative phylogeography of three trematomid fishes reveals contrasting genetic structure patterns in benthic and pelagic species. *Mar Genomics* 8:23–34
- Heijden K van der, Petersen JM, Dubilier N, Borowski C (2012) Genetic Connectivity between North and South Mid-Atlantic Ridge Chemosynthetic Bivalves and Their Symbionts. *PLoS One* 7
- Meer MH van der, Berumen ML, Hobbs JPA, Herwerden L van (2015) Population connectivity and the effectiveness of marine protected areas to protect vulnerable, exploited and endemic coral reef fishes at an endemic hotspot. *Coral Reefs* 34:393–402
- Meer MH van der, Hobbs J-PA, Jones GP, Herwerden L van (2012) Genetic Connectivity among and Self-Replenishment within Island Populations of a Restricted Range Subtropical Reef Fish. *PLoS One* 7
- Meer MH van der, Horne JB, Gardner MG, Hobbs J-PA, Pratchett M, Herwerden L van (2013) Limited contemporary gene flow and high self-replenishment drives peripheral isolation in an endemic coral reef fish. *Ecol Evol* 3:1653–1666
- Oppen MJH van, Peplow LM, Kininmonth S, Berkelmans R (2011) Historical and contemporary factors shape the population genetic structure of the broadcast spawning coral, *Acropora millepora*, on the Great Barrier Reef. *Mol Ecol* 20:4899–4914
- Varela AI, Ritchie PA, Smith PJ (2013) Global genetic population structure in the commercially exploited deep-sea teleost orange roughy (*Hoplostethus atlanticus*) based on microsatellite DNA analyses. *Fish Res* 140:83–90
- Veale AJ, Lavery SD (2011) Phylogeography of the snakeskin chiton *Sypharochiton pelliserpentis* (Mollusca: Polyplacophora) around New Zealand: are seasonal near-shore upwelling events a dynamic barrier to gene flow? *Biol J Linn Soc* 104:552–563
- Verdier-Bonnet C, Carlotti F, Rey C, Bhaud M (1997) A model of larval dispersion coupling wind-driven currents and vertical larval behaviour: application to the recruitment of the annelid *Owenia fusiformis* in Banyuls Bay, France. *Mar Ecol Prog Ser* 160:217–231
- Verissimo A, McDowell JR, Graves JE (2012) Genetic population structure and connectivity in a commercially exploited and wide-ranging deepwater shark, the leafscale gulper (*Centrophorus squamosus*). *Mar Freshw Res* 63:505–512
- Vermeij MJA (2005) Substrate composition and adult distribution determine recruitment patterns in a Caribbean brooding coral. *Mar Ecol Prog Ser* 295:123–133
- Verweij MC, Nagelkerken I (2007) Short and long-term movement and site fidelity of juvenile Haemulidae in back-reef habitats of a Caribbean embayment. *Hydrobiologia* 592:257–270
- Verweij MC, Nagelkerken I, Hans I, Ruseler SM, Mason PRD (2008) Seagrass nurseries contribute to coral reef fish populations. *Limnol Oceanogr* 53:1540–1547

- Viana M, Pierce GJ, Illian J, MacLeod CD, Bailey N, Wang J, Hastie LC (2009) Seasonal movements of veined squid *Loligo forbesi* in Scottish (UK) waters. *Aquat Living Resour* 22:291–305
- Viard F, Ellien C, Dupont L (2006) Dispersal ability and invasion success of *Crepidula fornicata* in a single gulf: insights from genetic markers and larval-dispersal model. *Helgol Mar Res* 60:144–152
- Vikebo F, Sundby S, Adlandsvik B, Fiksen O (2005) The combined effect of transport and temperature on distribution and growth of larvae and pelagic juveniles of Arcto-Norwegian cod. *ICES J Mar Sci* 62:1375–1386
- Villamor A, Costantini F, Abbiati M (2014) Genetic Structuring across Marine Biogeographic Boundaries in Rocky Shore Invertebrates. *PLoS One* 9
- Willegas-Sanchez CA, Rivera-Madrid R, Arias-Gonzalez JE (2010) Small-scale genetic connectivity of bicolor damselfish (*Stegastes partitus*) recruits in Mexican Caribbean reefs. *Coral Reefs* 29:1023–1033
- Vinagre C, Salgado J, Costa MJ, Cabral HN (2008) Nursery fidelity, food web interactions and primary sources of nutrition of the juveniles of *Solea solea* and *S. senegalensis* in the Tagus estuary (Portugal): A stable isotope approach. *Estuar Coast Shelf Sci* 76:255–264
- Visram S, Yang M-C, Pillay RM, Said S, Henriksson O, Grahn M, Chen CA (2010) Genetic connectivity and historical demography of the blue barred parrotfish (*Scarus ghobban*) in the western Indian Ocean. *Mar Biol* 157:1475–1487
- Vogler C, Benzie JAH, Tenggardjaja K, Ambariyanto, Barber PH, Woerheide G (2013) Phylogeography of the crown-of-thorns starfish: genetic structure within the Pacific species. *Coral Reefs* 32:515–525
- Vollmer S V, Palumbi SR (2007) Restricted gene flow in the Caribbean staghorn coral *Acropora cervicornis*: Implications for the recovery of endangered reefs. *J Hered* 98:40–50
- Walters A, Lea M-A, Hoff J van den, Field IC, Virtue P, Sokolov S, Pinkerton MH, Hindell MA (2014) Spatially Explicit Estimates of Prey Consumption Reveal a New Krill Predator in the Southern Ocean. *PLoS One* 9
- Wang JJ, Pierce GJ, Boyle PR, Denis V, Robin JP, Bellido JM (2003) Spatial and temporal patterns of cuttlefish (*Sepia officinalis*) abundance and environmental influences - a case study using trawl fishery data in French Atlantic coastal, English Channel, and adjacent waters. *ICES J Mar Sci* 60:1149–1158
- Wang J, Tsang LM, Dong Y-W (2015) Causations of phylogeographic barrier of some rocky shore species along the Chinese coastline. *BMC Evol Biol* 15
- Ward P, Atkinson A, SchnackSchiel SB, Murray AWA (1997) Regional variation in the life cycle of *Rhincalanus gigas* (Copepoda: Calanoida) in the Atlantic sector of the Southern Ocean - re-examination of existing data (1928 to 1993). *Mar Ecol Prog Ser* 157:261–275
- Watson JR, Hays CG, Raimondi PT, Mitarai S, Dong C, McWilliams JC, Blanchette CA, Caselle JE, Siegel DA (2011) Currents connecting communities: nearshore community similarity and ocean circulation. *Ecology* 92:1193–1200
- Watson JR, Mitarai S, Siegel DA, Caselle JE, Dong C, McWilliams JC (2010) Realized and potential larval connectivity in the Southern California Bight. *Mar Ecol Prog Ser* 401:31–48
- Watson JR, Kendall BE, Siegel DA, Mitarai S (2012) Changing Seascapes, Stochastic Connectivity, and Marine Metapopulation Dynamics. *Am Nat* 180:99–112

Watson JR, Siegel DA, Kendall BE, Mitarai S, Rassweiller A, Gaines SD (2011) Identifying critical regions in small-world marine metapopulations. *Proc Natl Acad Sci U S A* 108:E907–E913

Weber ED, Chao Y, Chai F, McClatchie S (2015) Transport patterns of Pacific sardine *Sardinops sagax* eggs and larvae in the California Current System. *Deep Res Part I-Oceanographic Res Pap* 100:127–139

Weerts SP, MacKay CF, Cyrus DP (2014) The potential for a fish ladder to mitigate against the loss of marine-estuarine-freshwater connectivity in a subtropical coastal lake. *Water SA* 40:27–38

Weetman D, Hauser L, Bayes MK, Ellis JR, Shaw PW (2006) Genetic population structure across a range of geographic scales in the commercially exploited marine gastropod *Buccinum undatum*. *Mar Ecol Prog Ser* 317:157–169

Weinstein MP, Litvin SY, Guida VG, Chambers RC (2009) Is global climate change influencing the overwintering distribution of weakfish *Cynoscion regalis*? *J Fish Biol* 75:693–698

Westerberg H, Sjoberg N, Lagenfelt I, Aarestrup K, Righton D (2014) Behaviour of stocked and naturally recruited European eels during migration. *Mar Ecol Prog Ser* 496:145-U409

Whalan S, Nys R de, Smith-Keune C, Evans BS, Battershill C, Jerry DR (2008) Low genetic variability within and among populations of the brooding sponge *Rhopaloeides odorabile* on the central Great Barrier Reef. *Aquat Biol* 3:111–119

White C, Selkoe KA, Watson J, Siegel DA, Zacherl DC, Toonen RJ (2010) Ocean currents help explain population genetic structure. *Proc R Soc B-Biological Sci* 277:1685–1694

Whitney NM, Robbins WD, Schultz JK, Bowen BW, Holland KN (2012) Oceanic dispersal in a sedentary reef shark (*Triaenodon obesus*): genetic evidence for extensive connectivity without a pelagic larval stage. *J Biogeogr* 39:1144–1156

Wieman AC, Berendzen PB, Hampton KR, Jang J, Hopkins MJ, Jurgenson J, McNamara JC, Thurman CL (2014) A panmictic fiddler crab from the coast of Brazil? Impact of divergent ocean currents and larval dispersal potential on genetic and morphological variation in *Uca maracoani*. *Mar Biol* 161:173–185

Wilhelm R, Hilbish TJ (1998) Assessment of natural selection in a hybrid population of mussels: Evaluation of exogenous vs endogenous selection models. *Mar Biol* 131:505–514

Williams RC, Jackson BC, Duvaux L, Dawson DA, Burke T, Sinclair W (2015) The genetic structure of *Nautilus pompilius* populations surrounding Australia and the Philippines. *Mol Ecol* 24:3316–3328

Willis TJ, Millar RB, Babcock RC (2003) Protection of exploited fish in temperate regions: high density and biomass of snapper *Pagrus auratus* (Sparidae) in northern New Zealand marine reserves. *J Appl Ecol* 40:214–227

Wilson NG, Schroedl M, Halanych KM (2009) Ocean barriers and glaciation: evidence for explosive radiation of mitochondrial lineages in the Antarctic sea slug *Doris kerguelensis* (Mollusca, Nudibranchia). *Mol Ecol* 18:965–984

Wingfield DK, Hoyt Peckham S, Foley DG, Palacios DM, Lavaniegos BE, Durazo R, Nichols WJ, Croll DA, Bograd SJ (2011) The Making of a Productivity Hotspot in the Coastal Ocean. *PLoS One* 6

- Wirshing HH, Feldheim KA, Baker AC (2013) Vectored dispersal of Symbiodinium by larvae of a Caribbean gorgonian octocoral. *Mol Ecol* 22:4413–4432
- Wiszniewski J, Beheregaray LB, Allen SJ, Moeller LM (2010) Environmental and social influences on the genetic structure of bottlenose dolphins (*Tursiops aduncus*) in Southeastern Australia. *Conserv Genet* 11:1405–1419
- Witman JD, Genovese SJ, Bruno JF, McLaughlin JW, Pavlin BI (2003) Massive prey recruitment and the control of rocky subtidal communities on large spatial scales. *Ecol Monogr* 73:441–462
- Witteveen BH, Worthy GAJ, Wynne KM, Roth JD (2009) Population structure of North Pacific humpback whales on their feeding grounds revealed by stable carbon and nitrogen isotope ratios. *Mar Ecol Prog Ser* 379:299–310
- Wolanski E, Kingsford MJ (2014) Oceanographic and behavioural assumptions in models of the fate of coral and coral reef fish larvae. *J R Soc Interface* 11
- Wood AR, Gardner JPA (2007) Small spatial scale population genetic structure in two limpet species endemic to the Kermadec Islands, New Zealand. *Mar Ecol Prog Ser* 349:159–170
- Wood S, Paris CB, Ridgwell A, Hendy EJ (2014) Modelling dispersal and connectivity of broadcast spawning corals at the global scale. *Glob Ecol Biogeogr* 23:1–11
- Worcester SE (1994) Adult rafting versus larval swimming: dispersal and recruitment of a botryllid ascidian on eelgrass. *Mar Biol* 121:309–317
- Wysujack K, Westerberg H, Aarestrup K, Trautner J, Kurwie T, Nagel F, Hanel R (2015) The migration behaviour of European silver eels (*Anguilla anguilla*) released in open ocean conditions. *Mar Freshw Res* 66:145–157
- Yamada H, Nanami A, Ohta I, Fukuoka K, Sato T, Kobayashi M, Hirai N, Chimura M, Akita Y, Kawabata Y (2012) Occurrence and distribution during the post-settlement stage of two *Choerodon* species in shallow waters around Ishigaki Island, southern Japan. *Fish Sci* 78:809–818
- Yamaguchi A, Onishi Y, Kawai M, Omata A, Kaneda M, Ikeda T (2010) Diel and ontogenetic variations in vertical distributions of large grazing copepods during the spring phytoplankton bloom in the Oyashio region. *Deep Res Part II-Topical Stud Oceanogr* 57:1691–1702
- Yannicelli B, Castro L, Parada C, Schneider W, Colas F, Donoso D (2012) Distribution of *Pleuroncodes monodon* larvae over the continental shelf of south-central Chile: Field and modeling evidence for partial local retention and transport. *Prog Oceanogr* 92–95:206–227
- Yasuda N, Taquet C, Nagai S, Yoshida T, Adjeroud M (2014) Genetic connectivity of the coral-eating sea star *Acanthaster planci* during the severe outbreak of 2006–2009 in the Society Islands, French Polynesia. *Mar Ecol*
- Yasuda N, Nagai S, Hamaguchi M, Okaji K, Gerard K, Nadaoka K (2009) Gene flow of *Acanthaster planci* (L.) in relation to ocean currents revealed by microsatellite analysis. *Mol Ecol* 18:1574–1590
- Yednock BK, Neigel JE (2014) An investigation of genetic population structure in blue crabs, *Callinectes sapidus*, using nuclear gene sequences. *Mar Biol* 161:871–886
- Yoshiyama RM, Sassaman C (1987) Geographical patterns of allozymic variation in three species of intertidal sculpins. *Environ Biol Fishes* 20:203–218

- Young CM, He R, Emlet RB, Li Y, Qian H, Arellano SM, Gaest A Van, Bennett KC, Wolf M, Smart TI, Rice ME (2012) Dispersal of Deep-Sea Larvae from the Intra-American Seas: Simulations of Trajectories using Ocean Models. *Integr Comp Biol* 52:483–496
- Young EF, Belchier M, Hauser L, Horsburgh GJ, Meredith MP, Murphy EJ, Pascoal S, Rock J, Tysklind N, Carvalho GR (2015) Oceanography and life history predict contrasting genetic population structure in two Antarctic fish species. *Evol Appl* 8:486–509
- Young EF, Rock J, Meredith MP, Belchier M, Murphy EJ, Carvalho GR (2012) Physical and behavioural influences on larval fish retention: contrasting patterns in two Antarctic fishes. *Mar Ecol Prog Ser* 465:201–215
- Yuhara T, Kawane M, Furota T (2014) Genetic Population Structure of Local Populations of the Endangered Saltmarsh Sesarmid Crab *Clistocheiloma sinense* in Japan. *PLoS One* 9
- Yund PO, Stires A (2002) Spatial variation in population dynamics in a colonial ascidian (*Botryllus schlosseri*). *Mar Biol* 141:955–963
- Zakas C, Binford J, Navarrete SA, Wares JP (2009) Restricted gene flow in Chilean barnacles reflects an oceanographic and biogeographic transition zone. *Mar Ecol Prog Ser* 394:165–177
- Zardi GI, McQuaid CD, Teske PR, Barker NP (2007) Unexpected genetic structure of mussel populations in South Africa: indigenous *Perna perna* and invasive *Mytilus galloprovincialis*. *Mar Ecol Prog Ser* 337:135–144
- Zardi GI, Nicastro KR, McQuaid CD, Castilho R, Costa J, Serrao EA, Pearson GA (2015) Intraspecific genetic lineages of a marine mussel show behavioural divergence and spatial segregation over a tropical/subtropical biogeographic transition. *BMC Evol Biol* 15
- Zeller BM, Pollock BR, Williams LE (1996) Aspects of the life history and management of tailor (*Pomatomus saltatrix*) in Queensland. *Mar Freshw Res* 47:323–329
- Zenimoto K, Kitagawa T, Miyazaki S, Sasai Y, Sasaki H, Kimura S (2009) The effects of seasonal and interannual variability of oceanic structure in the western Pacific North Equatorial Current on larval transport of the Japanese eel *Anguilla japonica*. *J Fish Biol* 74:1878–1890
- Zhang H, Zhang X, Han Z, Gao T (2015) AFLP markers suggest low population genetic differentiation of the black rockfish *Sebastes schlegelii*. *Biochem Syst Ecol* 59:325–330
- Zhang X, Haidvogel D, Munroe D, Powell EN, Klinck J, Mann R, Castruccio FS (2015) Modeling larval connectivity of the Atlantic surfclams within the Middle Atlantic Bight: Model development, larval dispersal and metapopulation connectivity. *Estuar Coast Shelf Sci* 153:38–53
- Zimmer RK, Fingerut JT, Zimmer CA (2009) Dispersal pathways, seed rains, and the dynamics of larval behavior. *Ecology* 90:1933–1947
- Zimmerman CE, Ramey AM, Turner SM, Mueter FJ, Murphy SM, Nielsen JL (2013) Genetics, recruitment, and migration patterns of Arctic cisco (*Coregonus autumnalis*) in the Colville River, Alaska, and Mackenzie River, Canada. *Polar Biol* 36:1543–1555

Supplement 3. Full list of all taxa (Phyla, Class and Family) in dataset

Each row is the count of how many studies included an organism at the given taxonomic level

Taxa denoted with * are not taxonomically ranked at the given level, but the ranking was helpful in identifying taxonomic trends.

e.g. The Order *Testudines* was used as a Class as it was more informative than Reptilia (which would include marine Squamates and Crocodilians)

Phyla	Class	Family	Count
Annelida			28
Annelida	Hirudinea		1
Annelida	Hirudinea	Piscicolidae	1
Annelida	Oligochaeta		3
Annelida	Polychaeta		28
Annelida	Polychaeta	Arenicolidae	1
Annelida	Polychaeta	Chaetopteridae	1
Annelida	Polychaeta	Nephtyidae	1
Annelida	Polychaeta	Nereidae	3
Annelida	Polychaeta	Onuphidae	1
Annelida	Polychaeta	Oweniidae	3
Annelida	Polychaeta	Pectinariidae	4
Annelida	Polychaeta	Sabellariidae	2
Annelida	Polychaeta	Sabellidae	1
Annelida	Polychaeta	Siboglinidae	2
Annelida	Polychaeta	Spionidae	2
Arthropoda			152
Arthropoda	Arachnida		1
Arthropoda	Branchiopoda		1
Arthropoda	Branchiopoda	*Cladocera*	1
Arthropoda	Branchiopoda	Cercopagidae	1
Arthropoda	Entognatha		1
Arthropoda	Entognatha	Poduridae	1
Arthropoda	Insecta		1
Arthropoda	Insecta	Chironomidae	1
Arthropoda	Malacostraca		114
Arthropoda	Malacostraca	Acanthephyridae	1
Arthropoda	Malacostraca	Alvinocarididae	2
Arthropoda	Malacostraca	Aoridae	1
Arthropoda	Malacostraca	Aristeidae	2
Arthropoda	Malacostraca	Atyidae	3
Arthropoda	Malacostraca	Bodotriidae	1
Arthropoda	Malacostraca	Brachyura	
Arthropoda	Malacostraca	Bythograeidae	1
Arthropoda	Malacostraca	Callianassidae	1
Arthropoda	Malacostraca	Cancriidae	2
Arthropoda	Malacostraca	Caprellidae	1

Arthropoda	Malacostraca	Corophiidae	2
Arthropoda	Malacostraca	Decapoda	
Arthropoda	Malacostraca	Diogenidae	1
Arthropoda	Malacostraca	Epialtidae	2
Arthropoda	Malacostraca	Euphasiidae	3
Arthropoda	Malacostraca	Gammaridae	2
Arthropoda	Malacostraca	Geryonidae	1
Arthropoda	Malacostraca	Grapsidae	3
Arthropoda	Malacostraca	Hippidae	1
Arthropoda	Malacostraca	Hippolytidae	1
Arthropoda	Malacostraca	Homolidae	1
Arthropoda	Malacostraca	Hyalidae	1
Arthropoda	Malacostraca	Hymenosomatidae	1
Arthropoda	Malacostraca	Idoteidae	3
Arthropoda	Malacostraca	Ischyroceridae	1
Arthropoda	Malacostraca	Isopoda	1
Arthropoda	Malacostraca	Janiridae	1
Arthropoda	Malacostraca	Leucothoidae	1
Arthropoda	Malacostraca	Lithodidae	2
Arthropoda	Malacostraca	Lysianassidae	1
Arthropoda	Malacostraca	Majidae	1
Arthropoda	Malacostraca	Melitidae	1
Arthropoda	Malacostraca	Munididae	2
Arthropoda	Malacostraca	Neomegamphopidae	1
Arthropoda	Malacostraca	Nephropidae	4
Arthropoda	Malacostraca	Ocypodidae	3
Arthropoda	Malacostraca	Paguridae	2
Arthropoda	Malacostraca	Palaemonidae	5
Arthropoda	Malacostraca	Palinuridae	19
Arthropoda	Malacostraca	Pandalidae	1
Arthropoda	Malacostraca	Panopeidae	1
Arthropoda	Malacostraca	Penaeidae	6
Arthropoda	Malacostraca	Pilumnoididae	1
Arthropoda	Malacostraca	Pleustidae	1
Arthropoda	Malacostraca	Pontoporeiidae	1
Arthropoda	Malacostraca	Porcellanidae	1
Arthropoda	Malacostraca	Portunidae	26
Arthropoda	Malacostraca	Protosquillidae	2
Arthropoda	Malacostraca	Scyllaridae	
Arthropoda	Malacostraca	Sesarmidae	3
Arthropoda	Malacostraca	Sphaeromatidae	1
Arthropoda	Malacostraca	Upogebiidae	3
Arthropoda	Malacostraca	Varunidae	4
Arthropoda	Malacostraca	Xanthidae	2
Arthropoda	Malacostraca	Xiphocarididae	2
Arthropoda	Maxillopoda		45

Arthropoda	Maxillopoda	*Cirripedia*	
Arthropoda	Maxillopoda	*Copepoda*	3
Arthropoda	Maxillopoda	Archaeobalanidae	6
Arthropoda	Maxillopoda	Augaptilidae	2
Arthropoda	Maxillopoda	Balanidae	10
Arthropoda	Maxillopoda	Calanidae	4
Arthropoda	Maxillopoda	Caligidae	3
Arthropoda	Maxillopoda	Catophragmidae	2
Arthropoda	Maxillopoda	Chthamalidae	6
Arthropoda	Maxillopoda	Clausocalanidae	1
Arthropoda	Maxillopoda	Eucalanidae	3
Arthropoda	Maxillopoda	Harpacticidae	1
Arthropoda	Maxillopoda	Metridinidae	5
Arthropoda	Maxillopoda	Oncaeidae	1
Arthropoda	Maxillopoda	Pollicipedidae	3
Arthropoda	Maxillopoda	Tetraclitidae	3
Arthropoda	Merostomata		1
Arthropoda	Ostracoda		3
Bacteria			1
Bryozoa			3
Bryozoa	Gymnolaemata		1
Bryozoa	Gymnolaemata	Electridae	1
Chaetognatha			1
Chaetognatha	Sagittoidea		1
Chordata			526
Chordata	*Testudines*		36
Chordata	*Testudines*	Cheloniidae	34
Chordata	*Testudines*	Dermochelyidae	3
Chordata	Actinopterygii		433
Chordata	Actinopterygii	Acanthuridae	15
Chordata	Actinopterygii	Achiridae	1
Chordata	Actinopterygii	Acipenseridae	2
Chordata	Actinopterygii	Alepocephalidae	1
Chordata	Actinopterygii	Ambassidae	1
Chordata	Actinopterygii	Ammodytidae	1
Chordata	Actinopterygii	Anablepidae	
Chordata	Actinopterygii	Anarhichadidae	1
Chordata	Actinopterygii	Anguillidae	30
Chordata	Actinopterygii	Anoplopomatidae	1
Chordata	Actinopterygii	Apogonidae	4
Chordata	Actinopterygii	Ariidae	
Chordata	Actinopterygii	Atherinidae	1
Chordata	Actinopterygii	Atherinopsidae	2
Chordata	Actinopterygii	Auchenipteridae	
Chordata	Actinopterygii	Balistidae	2
Chordata	Actinopterygii	Batrachoididae	

Chordata	Actinopterygii	Belonidae	
Chordata	Actinopterygii	Blenniidae	
Chordata	Actinopterygii	Caesionidae	1
Chordata	Actinopterygii	Carangidae	4
Chordata	Actinopterygii	Centracanthidae	
Chordata	Actinopterygii	Centropomidae	2
Chordata	Actinopterygii	Chaetodontidae	17
Chordata	Actinopterygii	Chanidae	2
Chordata	Actinopterygii	Channichthyidae	6
Chordata	Actinopterygii	Characidae	
Chordata	Actinopterygii	Cheilodactylidae	1
Chordata	Actinopterygii	Cichlidae	1
Chordata	Actinopterygii	Cirrhitidae	1
Chordata	Actinopterygii	Clupeidae	20
Chordata	Actinopterygii	Congridae	1
Chordata	Actinopterygii	Coryphaenidae	1
Chordata	Actinopterygii	Cottidae	1
Chordata	Actinopterygii	Cynoglossidae	1
Chordata	Actinopterygii	Eleotridae	2
Chordata	Actinopterygii	Elopidae	1
Chordata	Actinopterygii	Engraulidae	10
Chordata	Actinopterygii	Ephippidae	
Chordata	Actinopterygii	Esocidae	2
Chordata	Actinopterygii	Gadidae	19
Chordata	Actinopterygii	Gerreidae	6
Chordata	Actinopterygii	Ginglymostomatidae	1
Chordata	Actinopterygii	Glaucosomatidae	1
Chordata	Actinopterygii	Gobiidae	14
Chordata	Actinopterygii	Haemulidae	16
Chordata	Actinopterygii	Hemiramphidae	
Chordata	Actinopterygii	Hexagrammidae	3
Chordata	Actinopterygii	Holocentridae	5
Chordata	Actinopterygii	Ipnopidae	1
Chordata	Actinopterygii	Istiophoridae	2
Chordata	Actinopterygii	Kuhliidae	1
Chordata	Actinopterygii	Kyphosidae	1
Chordata	Actinopterygii	Labridae	20
Chordata	Actinopterygii	Lateolabracidae	1
Chordata	Actinopterygii	Latidae	2
Chordata	Actinopterygii	Leiognathidae	2
Chordata	Actinopterygii	Lethrinidae	8
Chordata	Actinopterygii	Lophiidae	
Chordata	Actinopterygii	Lotidae	1
Chordata	Actinopterygii	Lutjanidae	32
Chordata	Actinopterygii	Macrouridae	3
Chordata	Actinopterygii	Malacanthidae	1

Chordata	Actinopterygii	Megalopidae	2
Chordata	Actinopterygii	Merlucciidae	10
Chordata	Actinopterygii	Monodactylidae	2
Chordata	Actinopterygii	Moridae	1
Chordata	Actinopterygii	Moronidae	5
Chordata	Actinopterygii	Mugilidae	6
Chordata	Actinopterygii	Mullidae	7
Chordata	Actinopterygii	Muraenidae	1
Chordata	Actinopterygii	Myctophidae	2
Chordata	Actinopterygii	Nemipteridae	3
Chordata	Actinopterygii	Nototheniidae	5
Chordata	Actinopterygii	Ophichthidae	1
Chordata	Actinopterygii	Ophidiidae	
Chordata	Actinopterygii	Osmeridae	4
Chordata	Actinopterygii	Ostraciidae	1
Chordata	Actinopterygii	Paralichthyidae	9
Chordata	Actinopterygii	Pentacerotidae	1
Chordata	Actinopterygii	Percophidae	1
Chordata	Actinopterygii	Phycidae	3
Chordata	Actinopterygii	Pinguipedidae	1
Chordata	Actinopterygii	Plecoglossidae	1
Chordata	Actinopterygii	Pleuronectidae	6
Chordata	Actinopterygii	Plotosidae	1
Chordata	Actinopterygii	Poeciliidae	
Chordata	Actinopterygii	Polynemidae	2
Chordata	Actinopterygii	Pomacanthidae	3
Chordata	Actinopterygii	Pomacentridae	57
Chordata	Actinopterygii	Pomatomidae	4
Chordata	Actinopterygii	Pristigasteridae	
Chordata	Actinopterygii	Pseudomugilidae	1
Chordata	Actinopterygii	Retropinnidae	3
Chordata	Actinopterygii	Salmonidae	12
Chordata	Actinopterygii	Scaridae	11
Chordata	Actinopterygii	Scatophagidae	1
Chordata	Actinopterygii	Sciaenidae	6
Chordata	Actinopterygii	Scombridae	17
Chordata	Actinopterygii	Scopthalmidae	1
Chordata	Actinopterygii	Scorpaenidae	4
Chordata	Actinopterygii	Sebastidae	18
Chordata	Actinopterygii	Serranidae	32
Chordata	Actinopterygii	Siganidae	9
Chordata	Actinopterygii	Sillaginidae	3
Chordata	Actinopterygii	Soleidae	6
Chordata	Actinopterygii	Sparidae	23
Chordata	Actinopterygii	Sphyraenidae	3
Chordata	Actinopterygii	Syngnathidae	2

Chordata	Actinopterygii	Synodontidae	
Chordata	Actinopterygii	Terapontidae	1
Chordata	Actinopterygii	Tetraodontidae	1
Chordata	Actinopterygii	Trachichthyidae	2
Chordata	Actinopterygii	Trachinidae	
Chordata	Actinopterygii	Trichiuridae	
Chordata	Actinopterygii	Triglidae	
Chordata	Actinopterygii	Tripterygiidae	4
Chordata	Actinopterygii	Uranoscopidae	
Chordata	Actinopterygii	Zanclidae	3
Chordata	Actinopterygii	Zeidae	
Chordata	Ascidiaceae		12
Chordata	Ascidiaceae	Botryllidae	4
Chordata	Ascidiaceae	Cionidae	1
Chordata	Ascidiaceae	Didemnidae	1
Chordata	Ascidiaceae	Pyuridae	3
Chordata	Ascidiaceae	Styelidae	5
Chordata	Aves		2
Chordata	Aves	Spheniscidae	2
Chordata	Chondrichthyes		32
Chordata	Chondrichthyes	Carcharhinidae	8
Chordata	Chondrichthyes	Centrophoridae	2
Chordata	Chondrichthyes	Cetorhinidae	1
Chordata	Chondrichthyes	Lamnidae	6
Chordata	Chondrichthyes	Myliobatidae	1
Chordata	Chondrichthyes	Rajidae	2
Chordata	Chondrichthyes	Rhincodontidae	2
Chordata	Chondrichthyes	Rhinobatidae	1
Chordata	Chondrichthyes	Scyliorhinidae	
Chordata	Chondrichthyes	Sphyrnidae	5
Chordata	Chondrichthyes	Stegostomatidae	1
Chordata	Chondrichthyes	Torpedinidae	
Chordata	Chondrichthyes	Triakidae	3
Chordata	Mammalia		17
Chordata	Mammalia	Balaenidae	1
Chordata	Mammalia	Balaenopteridae	4
Chordata	Mammalia	Delphinidae	6
Chordata	Mammalia	Dugongidae	1
Chordata	Mammalia	Eschrichtiidae	1
Chordata	Mammalia	Odobenidae	1
Chordata	Mammalia	Phocidae	2
Chordata	Mammalia	Trichechidae	1
Chordata	Squamata		2
Chordata	Squamata	Elapidae	2
Cnidaria			71
Cnidaria	Anthozoa		65

Cnidaria	Anthozoa	Acroporidae	13
Cnidaria	Anthozoa	Actiniidae	4
Cnidaria	Anthozoa	Agariciidae	2
Cnidaria	Anthozoa	Alcyoniidae	1
Cnidaria	Anthozoa	Antipathidae	1
Cnidaria	Anthozoa	Astrocoeniidae	1
Cnidaria	Anthozoa	Caryophyllidae	4
Cnidaria	Anthozoa	Clavulariidae	1
Cnidaria	Anthozoa	Corallidae	2
Cnidaria	Anthozoa	Dendrophyllidae	3
Cnidaria	Anthozoa	Faviidae	1
Cnidaria	Anthozoa	Fungiidae	1
Cnidaria	Anthozoa	Gorgoniidae	4
Cnidaria	Anthozoa	Helioporidae	1
Cnidaria	Anthozoa	Merulinidae	8
Cnidaria	Anthozoa	Montastraeidae	2
Cnidaria	Anthozoa	Mussidae	1
Cnidaria	Anthozoa	Oculinidae	1
Cnidaria	Anthozoa	Plexauridae	3
Cnidaria	Anthozoa	Pocilloporidae	11
Cnidaria	Anthozoa	Poritidae	6
Cnidaria	Anthozoa	Sagartiidae	1
Cnidaria	Anthozoa	Siderastreidae	2
Cnidaria	Hydrozoa		3
Cnidaria	Hydrozoa	Hydridae	1
Cnidaria	Hydrozoa	Protohydridae	1
Cnidaria	Scyphozoa		5
Cnidaria	Scyphozoa	Pelagiidae	2
Cnidaria	Scyphozoa	Rhizosomatidae	1
Ctenophora			1
Ctenophora	Nuda		1
Ctenophora	Tentaculata		1
Dinoflagellata			5
Dinoflagellata	Dinophyaceae		5
Dinoflagellata	Dinophyaceae	Goniodomataceae	2
Dinoflagellata	Dinophyaceae	Gymnodiniaceae	1
Dinoflagellata	Dinophyaceae	Symbiodiniaceae	3
Echinodermata			37
Echinodermata	Asteroidae		20
Echinodermata	Asteroidae	Acanthasteridae	6
Echinodermata	Asteroidae	Asteridae	6
Echinodermata	Asteroidae	Asterinidae	6
Echinodermata	Asteroidae	Goniasteridae	1
Echinodermata	Asteroidae	Stichasteridae	1
Echinodermata	Crinoidea		1
Echinodermata	Echinoidea		10

Echinodermata	Echinoidae	Cidaridae	1
Echinodermata	Echinoidae	Diadematidae	2
Echinodermata	Echinoidae	Echinometridae	2
Echinodermata	Echinoidae	Parechinidae	2
Echinodermata	Echinoidae	Strongylocentrotidae	2
Echinodermata	Holothuroidae		3
Echinodermata	Holothuroidae	Cucumariidae	2
Echinodermata	Holothuroidae	Holothuriidae	1
Echinodermata	Holothuroidae	Stichopodidae	1
Echinodermata	Ophiuroidae		10
Echinodermata	Ophiuroidae	Asteroschematidae	1
Echinodermata	Ophiuroidae	Gorgonocephalidae	1
Echinodermata	Ophiuroidae	Ophiacanthidae	1
Echinodermata	Ophiuroidae	Ophiactidae	1
Echinodermata	Ophiuroidae	Ophiocomidae	2
Echinodermata	Ophiuroidae	Ophiodermatidae	1
Echinodermata	Ophiuroidae	Ophiolepididae	1
Echinodermata	Ophiuroidae	Ophionereidae	1
Echinodermata	Ophiuroidae	Ophiothricidae	3
Echinodermata	Ophiuroidae	Ophiuridae	1
Heterokontophyta			28
Heterokontophyta	Bacillariophyceae		1
Heterokontophyta	Bacillariophyceae	Skeletonemataceae	1
Heterokontophyta	Phaeophyceae		27
Heterokontophyta	Phaeophyceae	Durvillaeaceae	3
Heterokontophyta	Phaeophyceae	Fucaceae	5
Heterokontophyta	Phaeophyceae	Heterochordariaceae	1
Heterokontophyta	Phaeophyceae	Laminariaceae	11
Heterokontophyta	Phaeophyceae	Lessoniaceae	4
Heterokontophyta	Phaeophyceae	Ralfsiaceae	1
Heterokontophyta	Phaeophyceae	Sargassaceae	4
Heterokontophyta	Phaeophyceae	Seirococcaceae	0
Mollusca			165
Mollusca	*Polyplacophora*		6
Mollusca	*Polyplacophora*	Chitonidae	3
Mollusca	*Polyplacophora*	Ischnochitonidae	1
Mollusca	*Polyplacophora*	Lepidochitonidae	1
Mollusca	*Polyplacophora*	Mopaliidae	3
Mollusca	Bivalvia		76
Mollusca	Bivalvia	Cardiidae	7
Mollusca	Bivalvia	Donacidae	1
Mollusca	Bivalvia	Lasaeidae	1
Mollusca	Bivalvia	Mactridae	1
Mollusca	Bivalvia	Myidae	1
Mollusca	Bivalvia	Mytilidae	35
Mollusca	Bivalvia	Ostreidae	6

Mollusca	Bivalvia	Pectinidae	7
Mollusca	Bivalvia	Pinnidae	2
Mollusca	Bivalvia	Pteriidae	4
Mollusca	Bivalvia	Semelidae	1
Mollusca	Bivalvia	Spondylidae	2
Mollusca	Bivalvia	Tellinidae	4
Mollusca	Bivalvia	Veneridae	2
Mollusca	Bivalvia	Vesicomyidae	2
Mollusca	Cephalopoda		12
Mollusca	Cephalopoda	Loliginidae	3
Mollusca	Cephalopoda	Nautilidae	1
Mollusca	Cephalopoda	Octopodidae	1
Mollusca	Cephalopoda	Ommastrephidae	4
Mollusca	Cephalopoda	Sepiidae	1
Mollusca	Gastropoda		88
Mollusca	Gastropoda	Aplysiidae	1
Mollusca	Gastropoda	Buccinidae	6
Mollusca	Gastropoda	Calliostomatidae	1
Mollusca	Gastropoda	Calyptraeidae	6
Mollusca	Gastropoda	Capulidae	1
Mollusca	Gastropoda	Conidae	1
Mollusca	Gastropoda	Doridae	1
Mollusca	Gastropoda	Fissurellidae	1
Mollusca	Gastropoda	Goniodoridae	1
Mollusca	Gastropoda	Haliotidae	16
Mollusca	Gastropoda	Hydrobiidae	1
Mollusca	Gastropoda	Lepetodrilidae	1
Mollusca	Gastropoda	Limapontiidae	2
Mollusca	Gastropoda	Littorinidae	9
Mollusca	Gastropoda	Lottidae	3
Mollusca	Gastropoda	Muricidae	14
Mollusca	Gastropoda	Nacellidae	8
Mollusca	Gastropoda	Nasariidae	4
Mollusca	Gastropoda	Neritidae	6
Mollusca	Gastropoda	Olivellidae	1
Mollusca	Gastropoda	Onchidiidae	1
Mollusca	Gastropoda	Onchidoridae	1
Mollusca	Gastropoda	Patellidae	6
Mollusca	Gastropoda	Provannidae	1
Mollusca	Gastropoda	Siphonariidae	3
Mollusca	Gastropoda	Strombidae	2
Mollusca	Gastropoda	Tegulidae	2
Mollusca	Gastropoda	Tergipedidae	1
Mollusca	Gastropoda	Trochidae	6
Mollusca	Gastropoda	Turbinidae	1
Nematoda			1

Nemertea			3
Nemertea	Enopla		2
Nemertea	Enopla	Emplectonematidae	1
Nemertea	Enopla	Tetrastemmatidae	1
Plantae			16
Plantae	Angiospermae		16
Plantae	Angiospermae	Avicenniaceae	1
Plantae	Angiospermae	Cymodoceaceae	2
Plantae	Angiospermae	Hydrocharitaceae	2
Plantae	Angiospermae	Juncaginaceae	1
Plantae	Angiospermae	Poaceae	2
Plantae	Angiospermae	Posidoniaceae	1
Plantae	Angiospermae	Rhizophoraceae	2
Plantae	Angiospermae	Zosteraceae	7
Platyhelmintha			4
Platyhelmintha	Trematoda		2
Platyhelmintha	Trematoda	Bucephalidae	1
Platyhelmintha	Trematoda	Echinostomatidae	1
Platyhelmintha	Turbellaria		2
Porifera			14
Porifera	Demospongiae		12
Porifera	Demospongiae	Callyspongiidae	1
Porifera	Demospongiae	Chondrillidae	1
Porifera	Demospongiae	Clionidae	2
Porifera	Demospongiae	Crambeidae	1
Porifera	Demospongiae	Dictyonellidae	4
Porifera	Demospongiae	Dysideidae	1
Porifera	Demospongiae	Hymedesmiidae	1
Porifera	Demospongiae	Ianthellidae	1
Porifera	Demospongiae	Niphatidae	1
Porifera	Demospongiae	Petrosiidae	1
Porifera	Demospongiae	Spongiidae	2
Priapulida			1
Priapulida	Halicryptomorpha		1
Priapulida	Halicryptomorpha	Halicryptidae	1
Proteobacteria			2
Proteobacteria	Gamma Proteobacteria		2
	Gamma		
Proteobacteria	Proteobacteria	Vibrionaceae	2
Rhodophyta			4
Rhodophyta	Florideophyceae		4
Rhodophyta	Florideophyceae	Callithamniaceae	1
Rhodophyta	Florideophyceae	Corallinaceae	1
Rhodophyta	Florideophyceae	Dumontiaceae	1
Rhodophyta	Florideophyceae	Endocladaceae	1
Rhodophyta	Florideophyceae	Gelidiaceae	2

Rhodophyta	Florideophyceae	Gigartinaceae	1
Rhodophyta	Florideophyceae	Halymeniaceae	1
Rhodophyta	Florideophyceae	Phylloporaceae	2
Rhodophyta	Florideophyceae	Rhodomelaceae	1
Sipuncula			2
Sipuncula	Phascolosomatidea		1
Sipuncula	Phascolosomatidea	Phascolosomatidae	1
Virus			1

Supplement 4. Full list of habitats in dataset

Habitat	No. of studies	Habitat	No. of studies
Unstated	246	Freshwater-Freshwater	14
Coral reefs	231	Estuarine-Marine	11
Freshwater-Marine	152	Unspecified deep sea (>1km depth)	11
Rocky Intertidal	120	Hydrothermal vents	10
Hard bottom	99	Saltmarsh	10
Estuarine	92	Marine lagoon	8
Seagrass beds	70	Sea mount	8
Soft bottom	59	Mussel reefs	5
Open Pelagic	44	Other biogenic	5
Mangrove	38	Oyster reefs	5
Algae	37	Deep Coral	3
Terrestrial-based fauna *	34	Terrestrial-Intertidal	1
Soft intertidal	31	Worm reefs	1
Man-made	18		

* e.g. turtles, penguins and seals – unique in that it links terrestrial and marine systems, but highly restricted to culturally significant (mega)fauna