

AIMS Annual Report 2020-2021

2020 Publications

In 2020 the Australian Institute of Marine Science published the following journal articles, books and book chapters:

Alexander JB, Bunce M, White N, Wilkinson SP, Adam AAS., Berry T, Stat M, Thomas L, Newman SJ, Dugal L, & Richards ZT (2020) Development of a multi-assay approach for monitoring coral diversity using eDNA metabarcoding. *Coral Reefs* 39(1): 159-171.

Andrzejaczek S, Chapple TK, Curnick DJ, Carlisle AB, Castleton M, Jacoby DMP, Peel LR, Schallert RJ, Tickler DM, Block BA (2020) Individual variation in residency and regional movements of reef manta rays *Mobula alfredi* in a large marine protected area. *Marine Ecology Progress Series* 639: 137-153.

Andrzejaczek S, Gleiss AC, Lear KO, Pattiaratchi C, Chapple TK, Meekan MG (2020) Depth-dependent dive kinematics suggest cost-efficient foraging strategies by tiger sharks. *Royal Society Open Science* 7(8): 200789.

Anthony KRN, Helmstedt KJ, Bay LK, Fidelman P, Hussey KE, Lundgren P, Mead D, McLeod IM, Mumby PJ, Newlands M, Schaffelke B, Wilson KA, Hardisty PE (2020) Interventions to help coral reefs under global change - A complex decision challenge. *PLoS One* 15(8): e0236399.

Ashok A, Kottuparambil S, Høj L, Negri AP, Duarte CM, Agustí S (2020) Accumulation of 13 C-labelled phenanthrene in phytoplankton and transfer to corals resolved using cavity ring-down spectroscopy. *Ecotoxicology & Environmental Safety* 196: 110511.

Assis JM, Abreu F, Villela HMD, Barno A, Valle RF, Vieira R, Taveira I, Duarte G, Bourne DG, Høj L, Peixoto RS (2020) Delivering Beneficial Microorganisms for Corals: Rotifers as Carriers of Probiotic Bacteria. *Frontiers in Microbiology* 11: 608506.

Astudillo-García C, Bell JJ, Montoya JM, Moitinho-Silva L, Thomas T, Webster NS, Taylor MW (2020) Assessing the strength and sensitivity of the core microbiota approach on a highly diverse sponge reef. *Environmental Microbiology* 22(9): 3985-3999.

Baird ME, Wild-Allen KA, Parslow J, Mongin M, Robson B, Skerratt J, Rizwi F, Soja-Wozniak M, Jones E, Herzfeld M, Margvelashvili N, Andrewartha J, Langlais C, Adams MP, Cherukuru N, Gustafsson M, Hadley S, Ralph PJ, Rosebrock U, Schroeder T, Laiolo L, Harrison D, Steven, ADL (2020) CSIRO Environmental Modelling Suite (EMS): scientific description of the optical and biogeochemical models (vB3p0). *Geoscientific Model Development* 13(9): 4503-4553.

Barrios-Garrido H, Shimada T, Diedrich A, Hamann M (2020) Conservation and Enforcement Capacity index (CECI): Integrating human development, economy, and marine turtle status. *Journal of Environmental Management* 262: 110311.

Barton JA, Bourne DG, Humphrey C, Hutson KS (2020) Parasites and coral-associated invertebrates that impact coral health. *Reviews in Aquaculture* 12(4): 2284-2303.

Barton JA, Humphrey C, Bourne DG, Hutson KS (2020) Biological controls to manage *Acropora*-eating flatworms in coral aquaculture. *Aquaculture Environment Interactions* 12: 61-66.

Bell SC, Heard GW, Berger L, Skerratt LF (2020) Connectivity over a disease risk gradient enables recovery of rainforest frogs. *Ecological Applications* 30(7).

Benthuisen JA, Oliver ECJ, Chen K, Wernberg T (2020) Editorial: Advances in Understanding Marine Heatwaves and Their Impacts. *Frontiers in Marine Science* 7: 147.

Birkmanis CA, Partridge JC, Simmons LW, Heupel MR, Sequeira AMM (2020) Shark conservation hindered by lack of habitat protection. *Global Ecology and Conservation* 21: e00862.

Blackall LL (2020) Probiotics for corals. *Microbiology Australia* 41(3): 100-104.

Bond T, Mueller RJ, Birt MJ, Prince J, Miller K, Partridge JC, McLean DL (2020) Mystery pufferfish create elaborate circular nests at mesophotic depths in Australia. *Journal of Fish Biology* 97(5): 1401-1407.

Bond T, Prince J, McLean DL, Partridge JC (2020) Comparing the Utility of Industry ROV and Hybrid-AUV Imagery for Surveys of Fish Along a Subsea Pipeline. *Marine Technology Society Journal* 54(3): 33-42.

Botte ES, Luter HM, Marangon E, Patel F, Uthicke S, Webster NS (2020) Simulated future conditions of ocean warming and acidification disrupt the microbiome of the calcifying foraminifera *Marginopora vertebralis* across life stages. *Environmental Microbiology Reports* 12(6): 693-701.

Brazenor AK, Francis DS, Conlan JA, Carton AG, Hutson KS (2020) Temperature alters reproduction and maternal provisioning in a fish ectoparasite. *International Journal for Parasitology* 50(10-11): 839-849.

Bridge TCL, Huang Z, Przeslawski R, Tran M, Siwabessy J, Picard K, Reside AE, Logan M, Nichol S, Caley MJ (2020) Transferable, predictive models of benthic communities informs marine spatial planning in a remote and data-poor region. *Conservation Science & Practice* 2(9): e251.

Brooker MA, de Lestang S, Fairclough DV, McLean D, Slawinski D, Pember MB, Langlois TJ (2020) Environmental and Anthropogenic Factors Affect Fish Abundance: Relationships Revealed by Automated Cameras Deployed by Fishers. *Frontiers in Marine Science* 7: 279.

Buerger P, Alvarez-Roa C, Coppin CW, Pearce SL, Chakravarti LJ, Oakeshott JG, Edwards OR, van Oppen MJH (2020) Heat-evolved microalgal symbionts increase coral bleaching tolerance. *Science Advances* 6(20): eaba2498.

Bunday P, Chappell J, Heyward A, Souter D (2020) Challenges in Designing the Next Coastal Class Research Vessel for Northern Australia. *The Journal of Ocean Technology*, 15(4): 10-17.

Calders K, Phinn S, Ferrari R, Leon J, Armston J, Asner GP, Disney M (2020) 3D Imaging Insights into Forests and Coral Reefs. *Trends in Ecology & Evolution* 35(1): 6-9.

Campbell MA, Connell MJ, Collett SJ, Udyawer V, Crewe TL, McDougall, A, Campbell HA (2020) The efficacy of protecting turtle nests as a conservation strategy to reverse population decline. *Biological Conservation* 251: 108769.

Cannell B, Ropert-Coudert Y, Radford B, Kato A (2020) The diving behaviour of little penguins in Western Australia predisposes them to risk of injury by watercraft. *Aquatic Conservation-Marine & Freshwater Ecosystems* 30(3): 461-474.

Carr H, Abas M, Boutahar L, Caretti ON, Chan WY, Chapman ASA, de Mendonça SN, Engleman A, Ferrario F, Simmons KR, Verdura J, Zivian A (2020) The Aichi Biodiversity Targets: achievements for marine conservation and priorities beyond 2020. *PeerJ* 8: e9743.

Carreira C, Carvalho JPS, Talbot S, Pereira I, Lønborg C (2020) Small-scale distribution of microbes and biogeochemistry in the Great Barrier Reef. *PeerJ* 8: e10049.

Ceccarelli DM, Evans RD, Logan M, Mantel P, Puotinen M, Petus C, Russ GR, Williamson DH (2020) Long-term dynamics and drivers of coral and macroalgal cover on inshore reefs of the Great Barrier Reef Marine Park. *Ecological Applications* 30(1): e02008.

Ceccarelli DM, McLeod IM, Boström-Einarsson L, Bryan SE, Chartrand KM, Emslie MJ, Gibbs MT, Gonzalez Rivero M, Hein MY, Heyward A, Kenyon TM, Lewis BM, Mattocks N, Newlands M, Schläppy ML, Suggett DJ, Bay LK (2020) Substrate stabilisation and small structures in coral restoration: State of knowledge, and considerations for management and implementation. *PLoS One* 15(10): e0240846.

Chakravarti LJ, Buerger P, Levin RA, van Oppen MJH (2020) Gene regulation underpinning increased thermal tolerance in a laboratory-evolved coral photosymbiont. *Molecular Ecology* 29(9): 1684-1703.

Cheal AJ, Emslie MJ (2020) Counts of coral reef fishes by an experienced observer are not biased by the number of target species. *Journal of Fish Biology* 97(4): 1063-1071.

Chin YY, Prince J, Kendrick G, Wahab MA (2020) Sponges in shallow tropical and temperate reefs are important habitats for marine invertebrate biodiversity. *Marine Biology* 167(11): 164.

Cleves PA, Tinoco AI, Bradford J, Perrin D, Bay LK, Pringle JR (2020) Reduced thermal tolerance in a coral carrying CRISPR-induced mutations in the gene for a heat-shock transcription factor. *Proceedings of the National Academy of Sciences of the United States of America* 117(46): 28899-28905.

Conlan JA, Bay LK, Jones A, Thompson A, Francis DS (2020) Seasonal variation in the lipid profile of *Acropora millepora* at Halfway Island, Great Barrier Reef. *Coral Reefs* 39(6): 1753-1765.

Cooke I, Ying H, Forêt S, Bongaerts P, Strugnell JM, Simakov O, Zhang J, Field MA, Rodriguez-Lanetty M, Bell SC, Bourne DG, van Oppen MJ, Ragan MA, Miller DJ (2020) Genomic signatures in the coral holobiont reveal host adaptations driven by Holocene climate change and reef specific symbionts. *Science Advances* 6(48).

Costa MDP, Gorddard R, Fidelman P, Helmstedt, KJ, Anthony KRN, Wilson KA, Beyer HL (2020) Linking social and biophysical systems to inform long-term, strategic management of coral reefs. *Pacific Conservation Biology*. 1-7.

Cresswell AK, Orr M, Renton M, Haywood MDE, Ospina AG, Slawinski D, Austin R, Thomson DP (2020) Structure-from-motion reveals coral growth is influenced by colony size and wave energy on the reef slope at Ningaloo Reef, Western Australia. *Journal of Experimental Marine Biology & Ecology* 530: 151438.

Currey-Randall LM, Cappo M, Simpfendorfer CA, Farabaugh NF, Heupel MR (2020) Optimal soak times for Baited Remote Underwater Video Station surveys of reef-associated elasmobranchs. *PLoS One* 15(5): e0231688.

Dale A, Vella K, Ryan S, Broderick K, Hill R, Potts R, Brewer T (2020) Governing community-based natural resource management in Australia: International implications. *Land*: 9(7).

Daly R, Daly CAK, Gray AE, Peel LR, Gordon L, Lea JSE, Clarke CR, Weng KC (2020) Investigating the efficacy of a proposed marine protected area for the Endangered humphead wrasse *Cheilinus undulatus* at a remote island group in Seychelles. *Endangered Species Research* 42: 7-20.

Dames V, Bernard A, Floros C, Mann B, Speed C, Maggs J, Laing S, Meekan M, Olbers J (2020) Zonation and reef size significantly influence fish population structure in an established marine protected area, iSimangaliso Wetland Park, South Africa. *Ocean & Coastal Management* 185: 105040.

Damjanovic K, Blackall LL, Menendez P, van Oppen MJH (2020) Bacterial and algal symbiont dynamics in early recruits exposed to two adult coral species. *Coral Reefs* 39(1): 189-202.

Damjanovic K, Blackall LL, Peplow LM, van Oppen MJH (2020) Assessment of bacterial community composition within and among *Acropora loripes* colonies in the wild and in captivity. *Coral Reefs* 39(5): 1245-1255.

Damjanovic K, Menendez P, Blackall LL, van Oppen MJH (2020) Early Life Stages of a Common Broadcast Spawning Coral Associate with Specific Bacterial Communities Despite Lack of Internalized Bacteria. *Microbial Ecology* 79(3): 706-719.

Damjanovic, K, Menendez P, Blackall LL, van Oppen MJH (2020) Mixed-mode bacterial transmission in the common brooding coral *Pocillopora acuta*. *Environmental Microbiology* 22(1): 397-412.

Davies HN, Gould J, Hovey RK, Radford B, Kendrick GA, Anindilyakwa Sea Rangers, Anindilyakwa Traditional Owners (2020) Mapping the Marine Environment Through a Cross-Cultural Collaboration. *Frontiers in Marine Science* 7: N 716.

Dawson AL, Motti CA, Kroon FJ (2020) Solving a Sticky Situation: Microplastic Analysis of Lipid-Rich Tissue. *Frontiers in Environmental Science* 8: 563565.

DiBattista JD, Saenz-Agudelo P, Piatek MJ, Cagua EF, Bowen BW, Choat JH, Rocha LA, Gaither MR, Hobbs JA, Sinclair-Taylor TH, McIlwain JH, Priest MA, Braun CD, Hussey NE, Kessel ST, Berumen ML (2020) Population genomic response to geographic gradients by widespread and endemic fishes of the Arabian Peninsula. *Ecology & Evolution* 10(10): 4314-4330.

Dungan AM, Hartman LM, Tortorelli G, Belderok R, Lamb AM, Pisan L, McFadden GI, Blackall LL, van Oppen MJH (2020) *Exaiptasia diaphana* from the great barrier reef: a valuable resource for coral symbiosis research. *Symbiosis* 80(2): 195-206.

Dwyer RG, Krueck NC, Udyawer V, Heupel MR, Chapman D, Pratt HL, Garla, R, Simpfendorfer CA (2020) Individual and Population Benefits of Marine Reserves for Reef Sharks. *Current Biology* 30(3): 480-489.e485.

Ellis JR, Barker J, McCully Phillips SR, Meyers EKM, Heupel M (2020) Angel sharks (*Squatinae*): A review of biological knowledge and exploitation. *Journal of Fish Biology* 98(3):592-621.

Emslie MJ, Bray P, Cheal AJ, Johns KA, Osborne K, Sinclair-Taylor T, Thompson CA (2020) Decades of monitoring have informed the stewardship and ecological understanding of Australia's Great Barrier Reef. *Biological Conservation* 252: 108854.

Engelberts JP, Robbins SJ, de Goeij JM, Aranda M, Bell SC, Webster NS (2020) Characterization of a sponge microbiome using an integrative genome-centric approach. *ISME Journal* 14(5): 1100-1110.

Erlor DV, Farid HT, Glaze TD, Carlson-Perret NL, Lough JM (2020) Coral skeletons reveal the history of nitrogen cycling in the coastal Great Barrier Reef. *Nature Communications* 11(1): 1500.

Erlor DV, Rangel MS, Tagliafico A, Riekenberg J, Farid HT, Christidis L, Scheffers SR, Lough JM (2020) Can coral skeletal-bound nitrogen isotopes be used as a proxy for past bleaching? *Biogeochemistry* 151(1): 31-41.

Evans RD, Wilson SK, Fisher R, Ryan NM, Babcock R, Blakeway D, Bond T, Dorji P, Dufois F, Fearnas P, Lowe RJ, Stoddart J, Thomson DP (2020) Early recovery dynamics of turbid coral reefs after recurring bleaching events. *Journal of Environmental Economics and Management* 268: 110666.

Fabricius KE, Neill, C, Van Ooijen E, Smith JN, Tilbrook B (2020) Progressive seawater acidification on the Great Barrier Reef continental shelf. *Scientific Reports* 10(1): 18602.

Flores F, Kaserzon S, Elisei G, Ricardo G, Negri AP (2020) Toxicity thresholds of three insecticides and two fungicides to larvae of the coral. *PeerJ* 8: e9615.

Fortune J, Butler ECV, Gibb K (2020) A decade of nitrogen inputs to a tropical macrotidal estuary of Northern Australia, Darwin Harbour. *Regional Studies in Marine Science* 36: 101275.

Foster T, Gilmour J (2020) Egg size and fecundity of biannually spawning corals at Scott Reef. *Scientific Reports* 10(1): 12313.

Frade PR, Glasl B, Matthews SA, Mellin C, Serrão EA, Wolfe K, Mumby PJ, Webster NS, Bourne DG (2020) Spatial patterns of microbial communities across surface waters of the Great Barrier Reef. *Communications Biology* 3(1): 442.

Fuller ZL, Mocellin VJL, Morris LA, Cantin N, Shepherd J, Sarre L, Peng J, Liao Y, Pickrell J, Andolfatto P, Matz M, Bay LK, Przeworski M (2020) Population genetics of the coral *Acropora millepora*: Toward genomic prediction of bleaching. *Science* 369(6501): eaba4674.

Fulton C, Berkstrom C, Wilson SK, Abesamis RA, Bradley M, Akerlund C, Barrett LT, Bucol AA, Chacin DH, Chong-Seng KM, Coker DJ, Depczynski M, Eggertsen L, Eggertsen M, Ellis D, Evans R, Graham NJH, Hoey AS, Holmes TH, Kulbicki M, Leung PTY, Lam PKS, van Lier J, Matis PA, Noble MM, Perez-Matus A, Piggott C, Radford BT, Tano S, Tinkler P (2020) Macroalgal meadow habitats support fish and fisheries in diverse tropical seascapes. *Fish & Fisheries* 21(4): 700-717.

Gacesa R, Hung JY, Bourne DG, Long PF (2020) Horizontal transfer of a natterin-like toxin encoding gene within the holobiont of the reef building coral. *Journal of Venom Research* 10: 7-12.

Gagliano M, Vyazovskiy VV, Borbély AA, Depczynski M, Radford B (2020) Comment on 'Lack of evidence for associative learning in pea plants' *Elife*: 9.

Gaither MR, Coker DJ, Greaves S, Sarigol F, Payet SD, Chaidez V, Sinclair-Taylor TH, DiBattista JD, Berumen ML (2020) Does color matter? Molecular and ecological divergence in four sympatric color morphs of a coral reef fish. *Ecology & Evolution* 10(18): 9663-9681.

Galaiduk R, Lebreton L, Techera E, Reisser J (2020) Transnational Plastics: An Australian Case for Global Action. *Frontiers in Environmental Science* 8: 115.

Gillmore ML, Gissi F, Golding LA, Stauber JL, Reichelt-Brushett AJ, Severati A, Humphrey CA, Jolley DF (2020) Effects of dissolved nickel and nickel-contaminated suspended sediment on the scleractinian coral, *Acropora muricata*. *Marine Pollution Bulletin* 152: 110886.

Glasl B, Robbins S, Frade PR, Marangon E, Laffy PW, Bourne DG, Webster NS (2020) Comparative genome-centric analysis reveals seasonal variation in the function of coral reef microbiomes. *ISME Journal* 14(6): 1435-1450.

Gonzalez-Rivero M, Beijbom O, Rodriguez-Ramirez A, Bryant DEP, Ganase A, Gonzalez-Marrero Y, Herrera-Reveles A, Kennedy EV, Kim CJS, Lopez-Marcano S, Markey K, Neal BP, Osborne K, Reyes-Nivia C, Sampayo EM, Stolberg K, Taylor A, Vercelloni J, Wyatt M, Hoegh-Guldberg O (2020) Monitoring of Coral Reefs Using Artificial Intelligence: A Feasible and Cost-Effective Approach. *Remote Sensing* 12(3): 489.

Gordon TAC, Radford AN, Simpson SD, Meekan MG (2020) Marine restoration projects are undervalued. *Science* 367(6478): 635-636.

Gouezo M, Doropoulos C, Fabricius K, Olsudong D, Nestor V, Kurihara H, Golbuu Y, Harrison P (2020) Multispecific coral spawning events and extended breeding periods on an equatorial reef. *Coral Reefs* 39(4): 1107-1123.

Gouezo M, Olsudong D, Fabricius K, Harrison P, Golbuu Y, Doropoulos C (2020) Relative roles of biological and physical processes influencing coral recruitment during the lag phase of reef community recovery. *Scientific Reports* 10(1): 2471.

Greenslade D, Hemer M, Babanin A, Lowe R, Turner I, Power H, Young I, Ierodiaconou D, Hibbert G, Williams G, Aijaz S, Albuquerque J, Allen S, Banner M, Branson P, Buchan S, Burton A, Bye J, Cartwright N, Chabchoub A, Colberg F, Contardo S, Dufois F, Earl-Spurr C, Farr D, Goodwin I, Gunson J, Hansen J, Hanslow D, Harley M, Hetzel Y, Hoeke R, Jones N, Kinsela M, Liu Q, Makarynsky O, Marcollo H, Mazaheri S, McConochie J, Millar G, Moltmann T, Moodie N, Morim J, Morison R, Orszaghova J, Pattiaratchi C, Pomeroy A, Proctor R, Provis D, Reef R, Rijnsdorp D, Rutherford M, Schulz E, Shayer J, Splinter K, Steinberg C, Strauss D, Stuart G, Symonds G, Tarbath K, Taylor D, Taylor J, Thotagamuwage D, Toffoli A, Valizadeh A, van Hazel J, da Silva G, Wandres M, Whittaker C, Williams D, Winter G, Xu J, Zhong A, Zieger S (2020) 15 Priorities for Wind-Waves Research: An Australian Perspective. *Bulletin of the American Meteorological Society* 101(4): E446-E461.

Hammond M, Bond T, Prince J, Hovey R, McLean D (2020) An assessment of change to fish and benthic communities following installation of an artificial reef. *Regional Studies in Marine Science* 39: 101408.

Hannan KD, Miller GM, Watson SA, Rummer JL, Fabricius K, Munday PL (2020) Diel p CO₂ variation among coral reefs and microhabitats at Lizard Island, Great Barrier Reef. *Coral Reefs* 39(5): 1391-1406.

Harding HR, Gordon TAC, Wong K, McCormick MI, Simpson SD, Radford AN (2020) Condition-dependent responses of fish to motorboats. *Biology Letters* 16(11): 20200401.

Harrison HB, Bode M, Williamson DH, Berumen ML, Jones GP (2020) A connectivity portfolio effect stabilizes marine reserve performance. *Proceedings of the National Academy of Sciences of the United States of America* 117(41): 25595-25600.

Hartman LM, van Oppen MJH, Blackall LL (2020) The Effect of Thermal Stress on the Bacterial Microbiome of *Exaiptasia diaphana*. *Microorganisms* 8(1): 20.

Hartman LM, van Oppen MJH, Blackall LL (2020) Microbiota characterization of *Exaiptasia diaphana* from the Great Barrier Reef. *Animal Microbiome* 2(1): 10.

Hays GC, Koldewey HJ, Andrzejczek S, Attrill MJ, Barley S, Bayley DTI, Benkwitt CE, Block B, Schallert RJ, Carlisle AB, Carr P, Chapple TK, Collins C, Diaz C, Dunn N, Dunbar RB, Eager DS, Engel J, Embling C, Esteban N, Ferretti F, Foster NL, Freeman R, Gollock M, Graham NAJ, Harris, JL, Head CEI, Hosegood P, Howell KL, Hussey NE, Jacoby DMP, Jones R, Pilly SS, Lange ID, Letessier TB, Levy E, Lindhart M, McDevitt-Irwin JM, Meekan M, Meeuwig JJ, Micheli F, Mogg AOM, Mortimer JA, Mucciarone DA, Nicoll MA, Nuno A, Perry CT, Preston SG, Rattray AJ, Robinson E, Roche RC, Schiele M, Sheehan EV, Sheppard A, Sheppard C, Smith AL, Soule B, Spalding M, Stevens GMW, Steyaert M, Stiffel S, Taylor BM, Tickler D, Trevail AM, Trueba P, Turner J, Votier S, Wilson B, Williams GJ, Williamson BJ, Williamson MJ, Wood H, Curnick DJ (2020) A review of a decade of lessons from one of the world's largest MPAs: conservation gains and key challenges. *Marine Biology* 167(11): 159.

Heyward A, Negri A (2020). Distinct thermal signatures of coral morphologies above the waterline. *Bulletin of Marine Science*, 96(4): 765-766.

Hickey SM, Radford B, Roelfsema CM, Joyce KE, Wilson SK, Marrable D, Barker K, Wyatt M, Davies HN, Leon JX, Duncan J, Holmes TH, Kendrick AJ, Callow JN, Murray K (2020) Between a Reef and a Hard Place: Capacity to Map the Next Coral Reef Catastrophe. *Frontiers in Marine Science* 7: 544290.

Hipsey MR, Gal G, Arhonditsis GB, Carey CC, Elliott JA, Frassl MA, Janse JH, de Mora L, Robson BJ (2020) A system of metrics for the assessment and improvement of aquatic ecosystem models. *Environmental Modelling & Software* 128: 104697.

Hosegood J, Humble E, Ogden R, de Bruyn M, Creer S, Stevens GMW, Abudaya M, Bassos-Hull K, Bonfil R, Fernando D, Foote AD, Hipperson H, Jabado RW, Kaden J, Moazzam M, Peel LR, Pollett S, Ponzo A, Poortvliet M, Salah J, Senn H, Stewart JD, Wintner S, Carvalho G (2020) Phylogenomics and species delimitation for effective conservation of manta and devil rays. *Molecular Ecology* 29(24): 4783-4796.

Howe-Kerr LI, Bachelot B, Wright RM, Kenkel CD, Bay LK, Correa AMS. (2020) Symbiont community diversity is more variable in corals that respond poorly to stress. *Global Change Biology* 26(4): 2220-2334.

Hueni A, Chisholm LA, Ong C, Malthus TJ, Wyatt M, Trim SA, Schaepman M, Thankappan ME (2020) The SPECCHIO Spectral Information System. *IEEE Journal of Selected Topics in Applied Earth Observations & Remote Sensing* 13: 5789-5799.

Jin YK, Kininmonth S, Lundgren PB, van Oppen MJH, Willis BL (2020) Predicting the spatial distribution of allele frequencies for a gene associated with tolerance to eutrophication and high temperature in the reef-building coral, *Acropora millepora*, on the Great Barrier Reef. *Coral Reefs* 39(1): 147-158.

Johnson JE, Allain V, Basel B, Bell JD, Chin A, Dutra LXC, Hooper E, Loubser D, Lough J, Moore BR, Nicol S (2020) Impacts of climate change on marine resources in the Pacific Island region. In: Kumar L, (ed.) *Climate Change and Impacts in the Pacific*. Springer, Chams. 359-402.

Jones R, Giofre N, Luter HM, Neoh TL, Fisher R, Duckworth A (2020) Responses of corals to chronic turbidity. *Scientific Reports* 10(1): 4762.

Karelitz S, Lamare M, Patel F, Gemmell N, Uthicke S (2020) Parental acclimation to future ocean conditions increases development rates but decreases survival in sea urchin larvae. *Springer, Chams*. (Vol. 167).

Kenkel CD, Mocellin VJL, Bay LK (2020) Global gene expression patterns in *Porites* white patch syndrome: Disentangling symbiont loss from the thermal stress response in reef-building coral. *Molecular Ecology* 29(20): 3907-3920. doi:10.1111/mec.15608

Kennedy EV, Vercelloni J, Neal BP, Ambariyanto, Bryant DEP, Ganase A, Gartrell P, Brown K, Kim CJS, Hudatwi M, Hadi A, Prabowo A, Prihatiningsih P, Haryanta S, Markey K, Green S, Dalton P, Lopez-Marcano S, Rodriguez-Ramirez A, Gonzalez-Rivero M, Hoegh-Guldberg O (2020) Coral Reef Community Changes in Karimunjawa National Park, Indonesia: Assessing the Efficacy of Management in the Face of Local and Global Stressors. *Journal of Marine Science & Engineering* 8(10): 760.

Krawczyk H, Zinke J, Browne N, Struck U, McIlwain J, O'Leary M, Garbe-Schönberg D (2020) Corals reveal ENSO-driven synchrony of climate impacts on both terrestrial and marine ecosystems in northern Borneo. *Scientific Reports* 10(1): 3678.

Kroon FJ, Berry KLE, Brinkman DL, Kookana R, Leusch FDL, Melvin SD, Neale PA, Negri AP, Puotinen M, Tsang JJ, van de Merwe JP, Williams M (2020) Sources, presence and potential effects of contaminants of emerging concern in the marine environments of the Great Barrier Reef and Torres Strait, Australia. *Science of the Total Environment* 719: 135140.

Kroon FJ, Lefèvre CD, Doyle JR, Patel F, Milton G, Severati A, Kenway M, Johansson CL, Schnebert S, Thomas-Hall P, Bonin MC, Cameron DS, Westcott DA (2020) DNA-based identification of predators of the corallivorous Crown-of-Thorns Starfish (*Acanthaster cf. solaris*) from fish faeces and gut contents. *Scientific Reports* 10(1): 8184.

Author Correction: Kroon FJ, Lefèvre CD, Doyle JR, Patel F, Milton G, Severati A, Kenway M, Johansson CL, Schnebert S, Thomas-Hall P, Bonin MC, Cameron DS, Westcott DA (2020) Author Correction: DNA-based identification of predators of the corallivorous Crown-of-Thorns Starfish (*Acanthaster cf. solaris*) from fish faeces and gut contents. *Scientific Reports* 10(1): 18807.

Kulk G, Platt T, Dingle J, Jackson T, Jonsson BF, Bouman HA, Babin M, Brewin R, Doblin M, Estrada M, Figueiras FG, Furuya K, Gonzalez-Benitez N, Gudfinnsson HG, Gudmundsson K, Huang BQ, Isada T, Kovac Z, Lutz VA, Maranon E, Raman M, Richardson K, Rozema PD, van de Poll WH, Segura V, Tilstone GH, Uitz J, van Dongen-Vogels V, Yoshikawa T, Sathyendranath S (2020). Primary Production, an Index of Climate Change in the Ocean: Satellite-Based Estimates over Two Decades. *Remote Sensing* 12(5): 826.

Langlois T, Goetze J, Bond T, Monk J, Abesamis RA, Asher J, Barrett N, Bernard ATF, Bouchet PJ, Birt MJ, Cappel M, Currey-Randall LM, Driessen D, Fairclough DV, Fullwood LAF, Gibbons BA, Harasti D, Heupel MR, Hicks J, Holmes TH, Huveneres C, Ierodiaconou D, Jordan A, Knott NA, Lindfield S, Malcolm H, McLean D, Meekan M, Miller D, Mitchell PJ, Newman SJ, Radford B, Rolim FA, Saunders BJ, Stowar M, Smith ANH, Travers MJ, Wakefield CB, Whitmarsh SK, Williams J, Harvey ES (2020) A field and video annotation guide for baited remote underwater stereo-video surveys of demersal fish assemblages. *Methods in Ecology & Evolution* 11(11): 1401-1409.

Lannig G, Tillmann A, Howald S, Stapp LS (2020) Thermal sensitivity of cell metabolism of different Antarctic fish species mirrors organism temperature tolerance. *Polar Biology* 43(11): 1887-1898.

Lester EK, Langlois TJ, Simpson SD, McCormick MI, Meekan MG (2020) The hemisphere of fear: the presence of sharks influences the three dimensional behaviour of large mesopredators in a coral reef ecosystem. *Oikos* 129(5): 731-739.

Lester EK, Meekan MG, Barnes P, Raudino H, Rob D, Waples K, Speed CW (2020) Multi-year patterns in scarring, survival and residency of whale sharks in Ningaloo Marine Park, Western Australia. *Marine Ecology Progress Series* 634: 115-125.

Li ZY, Hentschel U, Webster N, Olson J, Haggblom M (2020) Editorial: special issue on sponge microbiome. *FEMS Microbiology Ecology* 96(5): fiae075.

Logan M, Hu ZY, Brinkman R, Sun S, Sun XX, Schaffelke B (2020) Ecosystem health report cards: An overview of frameworks and analytical methodologies. *Ecological Indicators* 113: 105834.

Luter HM, Andersen M, Versteegen E, Laffy PW, Uthicke S, Bell JJ, Webster NS (2020) Cross-generational effects of climate change on the microbiome of a photosynthetic sponge. *Environmental Microbiology* 22(11): 4732-4744.

Luter HM, Kenkel CD, Terzin M, Peirce T, Laffy PW, Gibb K, Webster NS (2020) Gene correlation networks reveal the transcriptomic response to elevated nitrogen in a photosynthetic sponge. *Molecular Ecology* 29(8): 1452-1462.

MacNeil MA, Chapman DD, Heupel M, Simpfendorfer CA, Heithaus M, Meekan M, Harvey E, Goetze J, Kiszka J, Bond ME, Currey-Randall LM, Speed CW, Sherman CS, Rees MJ, Udyawer V, Flowers KI, Clementi G, Valentin-Albanese J, Gorham T, Adam MS, Ali K, Pina-Amargós F, Angulo-Valdés, JA, Asher J, Barcia LG, Beaufort O, Benjamin C, Bernard ATF, Berumen ML, Bierwagen S, Bonnema E, Bown RMK, Bradley D, Brooks E, Brown JJ, Buddo D, Burke P, Cáceres C, Cardeñosa D, Carrie, JC, Caselle JE, Charloo V, Claverie T, Clua E, Cochran JEM, Cook N, Cramp J, D'Alberto B, de Graaf M, Dornhege M, Estep A, Fanovich L, Farabaugh NF, Fernando D, Flam AL, Floros C, Fourqurean V, Garla R, Gastrich K, George L, Graham R, Guttridge T, Hardenstine RS, Heck S, Henderson AC, Hertler H, Hueter R, Johnson M, Jupiter S, Kasana D, Kessel ST, Kiilu B, Kirata T,

Kuguru B, Kyne F, Langlois T, Lédée EJI, Lindfield S, Luna-Acosta A, Maggs J, Manjaji-Matsumoto BM, Marshall A, Matich P, McCombs E, McLean D, Meggs L, Moore S, Mukherji S, Murray R, Kaimuddin M, Newman SJ, Nogués J, Obota, C, O'Shea O, Osuka K, Papastamatiou YP, Perera N, Peterson B, Ponzio A, Prasetyo A, Quamar LMS, Quinlan, J, Ruiz-Abierno A, Sala E, Samoilys M, Schärer-Umpierre M, Schlaff A, Simpson N, Smith ANH, Sparks L, Tanna A, Torres R, Travers MJ, van Zinnicq Bergmann M, Vigliola L, Ward J, Watts AM, Wen C, Whitman E, Wirsing AJ, Wothke A, Zarza-González E, Cinner JE (2020) Global status and conservation potential of reef sharks. *Nature* 583(7818): 801-806.

Author Correction: MacNeil MA, Chapman DD, Heupel, M, Simpfendorfer CA, Heithaus M, Meekan M, Harvey E, Goetze J, Kiszka J, Bond ME, Currey-Randall LM, Speed CW, Sherman CS, Rees MJ, Udyawer V, Flowers KI, Clementi G, Valentin-Albanese J, Gorham T, Adam MS, Ali K, Pina-Amargós F, Angulo-Valdés JA, Asher J, Barcia LG, Beaufort O, Benjamin C, Bernard ATF, Berumen ML, Bierwagen S, Bonnema E, Bown RMK, Bradley D, Brooks E, Brown JJ, Buddo D, Burke P, Cáceres C, Cardeñosa D, Carrier JC, Caselle JE, Charloo V, Claverie T, Clua E, Cochran JEM, Cook N, Cramp J, D'Alberto B, de Graaf M, Dornhege M, Estep A, Fanovich L, Farabaugh NF, Fernando D, Flam AL, Floros C, Fourqurean V, Garla R, Gastrich K, George L, Graham R, Guttridge T, Hardenstine RS, Heck S, Henderson AC, Hertler H, Hueter R, Johnson M, Jupiter S, Kasana D, Kessel ST, Kiilu B, Kirata T, Kuguru B, Kyne F, Langlois T, Lédée EJI, Lindfield S, Luna-Acosta A, Maggs J, Manjaji-Matsumoto BM, Marshall A, Matich P, McCombs E, McLean D, Meggs L, Moore S, Mukherji S, Murray R, Kaimuddin M, Newman SJ, Nogués J, Obota C, O'Shea O, Osuka K, Papastamatiou YP, Perera N, Peterson B, Ponzio A, Prasetyo A, Quamar LMS, Quinlan J, Ruiz-Abierno A, Sala E, Samoilys M, Schärer-Umpierre M, Schlaff A, Simpson N, Smith ANH, Sparks L, Tanna A, Torres R, Travers MJ, van Zinnicq Bergmann M, Vigliola L, Ward J, Watts AM, Wen C, Whitman E, Wirsing AJ, Wothke A, Zarza-González E, Cinner JE (2020) Author Correction: Global status and conservation potential of reef sharks. *Nature* 585(7825): E11.

Madin EMP, Madin JS, Harmer AMT, Barrett NS, Booth DJ, Caley MJ, Cheal AJ, Edgar GJ, Emslie MJ, Gaines SD, Sweatman HPA (2020) Latitude and protection affect decadal trends in reef trophic structure over a continental scale. *Ecology & Evolution*, 10(14): 6954-6966.

Maor-Landaw K, van Oppen MJH, McFadden GI (2020) Symbiotic lifestyle triggers drastic changes in the gene expression of the algal endosymbiont *Breviolum minutum* (*Symbiodiniaceae*). *Ecology & Evolution* 10(1): 451-466.

Marchioro GM, Glasl B, Engelen AH, Serrão EA, Bourne DG, Webster NS, Frade PR (2020) Microbiome dynamics in the tissue and mucus of acroporid corals differ in relation to host and environmental parameters. *PeerJ* 8: e9644.

Marques JA, Flores F, Patel F, Bianchini A, Uthicke S, Negri AP (2020) Acclimation history modulates effect size of calcareous algae (*Halimeda opuntia*) to herbicide exposure under future climate scenarios. *Science of the Total Environment* 739: 140308.

Martin G, Espinoza M, Heupel M, Simpfendorfer CA (2020) Estimating marine protected area network benefits for reef sharks. *Journal of Applied Ecology* 57(10): 1969-1980.

Martins APB, Heupel MR, Bierwagen SL, Chin A, Simpfendorfer CA (2020) Tidal-diel patterns of movement, activity and habitat use by juvenile mangrove whiprays using towed-float GPS telemetry. *Marine & Freshwater Research* 72(4): 534-541.

Martins APB, Heupel MR, Oakley-Cogan A, Chin A, Simpfendorfer CA (2020) Towed-float GPS telemetry: a tool to assess movement patterns and habitat use of juvenile stingrays. *Marine & Freshwater Research* 71(1): 89-98.

Martins APB, Heupel MR, Bierwagen SL, Chin A, Simpfendorfer CA (2020) Diurnal activity patterns and habitat use of juvenile *Pastinachus ater* in a coral reef flat environment. *PLoS One* 15(2): e0228280.

Matsuda SB, Chakravarti LJ, Cunning JR, Van Oppen MJH, Gates RD (2020) Coral (*Acropora tenuis*) background symbiont, *Gerakladium* sp., competes with *Durusdinium* as dominant symbiont at elevated temperatures in multiple-genus symbiont-choice. *Integrative & Comparative Biology* 60: E154-E154.

Matthews JL, Raina JB, Kahlke T, Seymour JR, van Oppen MJH, Suggett DJ (2020) Symbiodiniaceae-bacteria interactions: rethinking metabolite exchange in reef-building corals as multi-partner metabolic networks. *Environmental Microbiology* 22(5): 1675-1687.

Matthews SA, Mellin C, Pratchett MS (2020) Larval connectivity and water quality explain spatial distribution of crown-of-thorns starfish outbreaks across the Great Barrier Reef. In: Riegl BM, (Ed) Population Dynamics of the Reef Crisis. Advances in Marine Biology, 87 (1). Elsevier, Amsterdam. 223-258.

Matthews SA, Shoemaker K, Pratchett MS, Mellin C, Riegl BM (2020) COTSMoD: A spatially explicit metacommunity model of outbreaks of crown-of-thorns starfish and coral recovery. Population Dynamics of the Reef Crisis 87: 259-290.

McEnulty FR, Davies CH, Armstrong AO, Atkins N, Coman F, Clementson L, Edgar S, Eriksen RS, Everett, JD, Anthony Koslow J, Lønborg C, McKinnon AD, Miller M, O'Brien TD, Pausina SA, Uribe-Palomino J, Rochester W, Rothlisberg PC, Slotwinski A, Strzelecki J, Suthers IM, Swadling, KM, Tonks ML, van Ruth PD, Young, JW, Richardson AJ (2020) A database of zooplankton biomass in Australian marine waters. Sci Data 7(1): 297.

McGenity TJ, Gessesse A, Hallsworth JE, Garcia Cela E, Verheecke-Vaessen C, Wang F, Chavarría M, Haggblom MM, Molin S, Danchin A, Smid EJ, Lood C, Cockell CS, Whitby C, Liu SJ, Keller NP, Stein LY, Bordenstein SR, Lal R, Nunes OC, Gram L, Singh BK, Webster NS, Morris C, Sivinski S, Bindschedler S, Junier P, Antunes A, Baxter BK, Scavone P, Timmis K (2020) Visualizing the invisible: class excursions to ignite children's enthusiasm for microbes. Microbial Biotechnology 13(4): 844-887.

McInerney PJ, Holt G, Lester RE, Thompson RM, Robson B, Ryder DS, Bond NR, Baldwin DS, Gawne B, Petrie R (2020) Basal resource quality and energy sources in three habitats of a lowland river ecosystem. Limnology & Oceanography 65(11): 2757-2771.

McLean DL, Parsons MJG, Gates AR, Benfield MC, Bond T, Booth DJ, Bunce M, Fowler AM, Harvey ES, Macreadie PI, Pattiaratchi CB, Rouse S, Partridge JC, Thomson PG, Todd VLG, Jones DOB (2020) Enhancing the Scientific Value of Industry Remotely Operated Vehicles (ROVs) in Our Oceans. Frontiers in Marine Science 7: 220.

McLean DL, Vaughan BI, Malseed BE, Taylor MD (2020) Fish-habitat associations on a subsea pipeline within an Australian Marine Park. Marine Environmental Research 153: 104813.

McLeod MI, Bostrom-Einarsson L, Creighton C, D'Anastasi B, Diggles B, Dwyer PG, Firby L, Le Port A, Luongo A, Martinez-Baena F, McOrrie S, Heller-Wagner G, Gillies C (2020) Habitat value of Sydney rock oyster (*Saccostrea glomerata*) reefs on soft sediments. Marine & Freshwater Research 71(7): 771-781.

Meekan MG, Cappo M, Speed CW (2020) Response to Comments on "Evidence for rapid recovery of shark populations within a coral reef marine protected area". Speed et al., 2018 220:308-319. Biological Conservation 244: 108490.

Meekan MG, Taylor BM, Lester E, Ferreira LC, Sequeira AMM, Dove ADM, Birt MJ, Aspinall A, Brooks K, Thums M (2020) Asymptotic Growth of Whale Sharks Suggests Sex-Specific Life-History Strategies. Frontiers in Marine Science 7(774): 575683.

Mellin C, Peterson EE, Puotinen M, Schaffelke B (2020) Representation and complementarity of the long-term coral monitoring on the Great Barrier Reef. Ecological Applications 30(6): e02122.

Miller ME, Hamann M, Kroon FJ (2020) Bioaccumulation and biomagnification of microplastics in marine organisms: A review and meta-analysis of current data. PLoS One 15(10): e0240792.

Mitchell JD, Schifiliti M, Birt MJ, Bond T, McLean DL, Barnes PB, Langlois TJ (2020) A novel experimental approach to investigate the potential for behavioural change in sharks in the context of depredation. Journal of Experimental Marine Biology & Ecology 530: 151440.

Mohamed AR, Andrade N, Moya A, Chan CX, Negri AP, Bourne DG, Ying H, Ball EE, Miller DJ (2020) Dual RNA-sequencing analyses of a coral and its native symbiont during the establishment of symbiosis. Molecular Ecology 29(20): 3921-3937.

Mohamed AR, Chan CX, Ragan MA, Zhang J, Cooke I, Ball EE, Miller DJ (2020) Comparative transcriptomic analyses of *Chromera* and *Symbiodiniaceae*. Environmental Microbiology Reports 12(4): 435-443.

Mooney TA, Di Iorio L, Lammers M, Lin TH, Nedelec SL, Parsons M, Radford C, Urban E, Stanley J (2020) Listening forward: approaching marine biodiversity assessments using acoustic methods. Royal Society Open Science 7(8): 201287.

- Morais RA, Depczynski M, Fulton C, Marnane M, Narvaez P, Huertas V, Brandl SJ, Bellwood DR (2020) Severe coral loss shifts energetic dynamics on a coral reef. *Functional Ecology* 34(7): 1507-1518.
- Morán XAG, Baltar F, Carreira C, Lønborg C (2020) Responses of physiological groups of tropical heterotrophic bacteria to temperature and dissolved organic matter additions: food matters more than warming. *Environmental Microbiology* 22(5): 1930-1943.
- Morgans CA, Hung JY, Bourne DG, Quigley KM (2020) *Symbiodiniaceae* probiotics for use in bleaching recovery. *Restoration Ecology* 28(2): 282-288.
- Munday PL, Dixson, DL, Welch MJ, Chivers DP, Domenici P, Grosell M, Heuer R M, Jones GP, McCormick MI, Meekan M, Nilsson GE, Ravasi T, Watson SA (2020) Methods matter in repeating ocean acidification studies. *Nature* 586(7830): E20-E24.
- Negri AP, Smith RA, King O, Frangos J, Warne MSJ, Uthicke S (2020) Adjusting Tropical Marine Water Quality Guideline Values for Elevated Ocean Temperatures. *Environmental Science & Technology* 54(2): 1102-1110.
- Nielsen JJV, Kenkel CD, Bourne DG, Despringhere L, Mocellin VJL, Bay LK (2020) Physiological effects of heat and cold exposure in the common reef coral *Acropora millepora*. *Coral Reefs* 39(2): 259-269.
- Nordborg FM, Jones RJ, Oelgemoller M, Negri AP (2020) The effects of ultraviolet radiation and climate on oil toxicity to coral reef organisms - A review. *Science of the Total Environment* 720: 137486.
- O'Brien PA, Tan S, Yang C, Frade PR, Andreakis N, Smith HA, Miller DJ, Webster NS, Zhang G, Bourne DG (2020) Diverse coral reef invertebrates exhibit patterns of phyllosymbiosis. *ISME Journal* 14(9): 2211-2222.
- O'Connor MI, Barneche DR, Gonzalez AL, Messier J (2020) Editorial: Unifying Ecology Across Scales: Progress, Challenges and Opportunities. *Frontiers in Ecology & Evolution* 8: 10459.
- Ong JLL, Meekan MG, Hsu HH, Fanning LP, Campana SE (2020) Annual Bands in Vertebrae Validated by Bomb Radiocarbon Assays Provide Estimates of Age and Growth of Whale Sharks. *Frontiers in Marine Science* 7: 188.
- Parsons M, Meekan MG (2020) Acoustic Characteristics of Small Research Vessels. *Journal of Marine Science & Engineering* 8(12): 970.
- Parsons MJG, Duncan AJ, Parsons SK, Erbe C (2020) Reducing vessel noise: An example of a solar-electric passenger ferry. *Journal of the Acoustical Society of America* 147(5): 3575.
- Pascelli C, Laffy P, Botte EW, Kupresanin M, Rattei T, Lurgi M, Ravasi T, Webster N (2020) Viral ecogenomics across the Porifera. *Microbiome* 8(1): 144.
- Payet SD, Lowe JR, Mapstone BD, Pratchett MS, Sinclair-Taylor TH, Taylor BM, Waldie PA, Harrison HB (2020) Comparative demography of commercially important species of coral grouper, *Plectropomus leopardus* and *P. laevis*, from Australia's great barrier reef and Coral Sea marine parks. *Journal of Fish Biology* 97(4): 1165-1176.
- Peel L, Stevens GMW, Daly R, Daly CAK, Collin SP, Noguez J, Meekan MG (2020) Regional Movements of Reef Manta Rays (*Mobula alfredi*) in Seychelles Waters. *Frontiers in Marine Science* 7: 558.
- Peterson EE, Santos-Fernandez E, Chen C, Clifford S, Vercelloni J, Pearse A, Brown R, Christensen B, James A, Anthony K, Loder J, Gonzalez-Rivero M, Roelfsema C, Caley MJ, Mellin C, Bednarz T, Mengersen K (2020) Monitoring through many eyes: Integrating disparate datasets to improve monitoring of the Great Barrier Reef. *Environmental Modelling & Software* 124: 104557.
- Piggott CVH, Depczynski M, Gagliano M, Langlois TJ (2020) Remote video methods for studying juvenile fish populations in challenging environments. *Journal of Experimental Marine Biology & Ecology* 532: 151454.

Przeslawski R, Scott Nichol S, Alvarez B, Carroll A, Glasby C, Picard K, Radford B (2020) Carbonate banks and terraces of the Oceanic Shoals Marine Park region, Northern Australia. In Harris PT, Baker E (Eds) Seafloor Geomorphology as Benthic Habitat (2nd Edition). Elsevier. 545-559.

Puotinen M, Drost E, Lowe R, Depczynski M, Radford B, Heyward A, Gilmour J (2020) Towards modelling the future risk of cyclone wave damage to the world's coral reefs. *Global Change Biology* 26(8): 4302-4315.

Pygas DR, Ferrari R, Figueira WF (2020) Review and meta-analysis of the importance of remotely sensed habitat structural complexity in marine ecology. *Estuarine Coastal & Shelf Science* 235: 106468.

Quigley KM (2020) First person - Kate Quigley. *Biology Open*, 9(1): bio050427.

Quigley KM, Alvarez Roa C, Torda G, Bourne DG, Willis BL (2020) Co-dynamics of *Symbiodiniaceae* and bacterial populations during the first year of symbiosis with *Acropora tenuis* juveniles. *MicrobiologyOpen*, 9(2): e959.

Quigley KM, Bay LK, van Oppen MJH (2020) Genome-wide SNP analysis reveals an increase in adaptive genetic variation through selective breeding of coral. *Molecular Ecology* 29(12): 2176-2188.

Quigley KM, Randall CJ, van Oppen MJH, Bay LK (2020) Assessing the role of historical temperature regime and algal symbionts on the heat tolerance of coral juveniles. *Biology Open* 9(1).

Ramsby BD, Heishman J, Hoogenboom MO, Whalan S, Webster NS (2020) Dissolved inorganic nutrient enrichment does not affect sponge growth or condition. *Marine Ecology Progress Series* 634: 77-88.

Randall CJ, Negri AP, Quigley KM, Foster T, Ricardo GF, Webster NS, Bay LK, Harrison PL, Babcock RC, Heyward AJ (2020) Sexual production of corals for reef restoration in the Anthropocene. *Marine Ecology Progress Series* 635: 203-232.

Randall CJ, Toth LT, Leichter JJ, Mate JL, Aronson RB (2020) Upwelling buffers climate change impacts on coral reefs of the eastern tropical Pacific. *Ecology* 101(2): e02918.

Randall CJ, Speaks JE, Lager C, Hagedorn M, Llewellyn L, Pulak R, Thompson J, Bay LK, Mead D, Heyward AJ, Negri AP (2020) Rapid counting and spectral sorting of live coral larvae using large-particle flow cytometry. *Scientific Reports* 10(1): 12919.

Razak TB, Roff G, Lough JM, Mumby PJ (2020) Growth responses of branching versus massive corals to ocean warming on the Great Barrier Reef, Australia. *Science of the Total Environment* 705: 135908.

Recalde-Salas A, Erbe C, Kent CS, Parsons M (2020) Non-song Vocalizations of Humpback Whales in Western Australia. *Frontiers in Marine Science* 7: 141.

Rhodes KL, Baremore IE, Taylor BM, Cuertos-Bueno J, Hernandez D (2020) Aligning fisheries management with life history in two commercially important groupers in Chuuk, Federated States of Micronesia. *Aquatic Conservation-Marine & Freshwater Ecosystems* 31(3): 605-619.

Robertson AI, Dixon P, Daniel PA, Zagorskis I (2020) Primary production in forests of the mangrove palm *Nypa fruticans*. *Aquatic Botany* 167: 103288.

Robertson AI, Dixon P, Zagorskis I (2020) Phenology and litter production in the mangrove genus *Xylocarpus* along rainfall and temperature gradients in tropical Australia. *Marine and Freshwater Research* 72: 551-562.

Robson BJ, Skerratt J, Baird ME, Davies C, Herzfeld M, Jones EM, Mongin M, Richardson AJ, Rizwi F, Wild-Allen K, Steven ADL (2020) Enhanced assessment of the eReefs biogeochemical model for the Great Barrier Reef using the Concept/State/Process/System model evaluation framework. *Environmental Modelling & Software* 129: 104707.

Rocha LA, DiBattista JD, Sinclair-Taylor TH, Berumen ML (2020) Wolves in sheep's clothing: three new cases of aggressive mimicry in Red Sea coral reef fishes. *Journal of Natural History* 54(15-16): 1019-1023.

Rodrigues LFD, Feitosa LM, Nunes JLS, Palmeira ARO, Martins APB, Giarrizzo T, Carvalho-Costa LF, Monteiro ILP, Gemaque R, Gomes F, Souza RFC, Sampaio I, Sales JBD (2020) Molecular identification of ray species traded along the Brazilian Amazon coast. *Fisheries Research* 223: 105407.

Rodriguez-Ramirez A, Gonzalez-Rivero M, Beijbom O, Bailhache C, Bongaerts P, Brown KT, Bryant DEP, Dalton P, Dove S, Ganase A, Kennedy EV, Kim CJS, Lopez-Marcano S, Neal BP, Radice VZ, Vercelloni J, Beyer HL, Hoegh-Guldberg O (2020) A contemporary baseline record of the world's coral reefs. *Scientific Data* 7(1): 355.

Roelfsema CM, Kovacs EM, Ortiz JC, Callaghan DP, Hock K, Mongin M, Johansen K, Mumby PJ, Wettle M, Ronan M, Lundgren P, Kennedy EV, Phinn SR (2020) Habitat maps to enhance monitoring and management of the Great Barrier Reef. *Coral Reefs* 39(4): 1039-1054.

Roos NC, Taylor BM, Carvalho AR, Longo GO (2020) Demography of the largest and most endangered Brazilian parrotfish, *Scarus trispinosus*, reveals overfishing. *Endangered Species Research* 41: 319-327.

Rosenberger KJ, Storlazzi CC, Cheriton OM, Pomeroy AWM, Hansen JE, Lowe RJ, Buckley ML (2020) Spectral Wave-Driven Bedload Transport Across a Coral Reef Flat/Lagoon Complex. *Frontiers in Marine Science* 7: 513020.

Rosser NL, Edyvane K, Malina AC, Underwood JN, Johnson MS (2020) Geography and spawning season drive genetic divergence among populations of the hard coral *Acropora tenuis* from Indonesia and Western Australia. *Coral Reefs* 39(4): 989-999.

Rueger T, Harrison HB, Buston PM, Gardiner NM, Berumen ML, Jones GP (2020) Natal philopatry increases relatedness within groups of coral reef cardinalfish. *Proceedings of the Royal Society B* 287(1930): 20201133.

Sakai Y, Kato K, Koyama H, Kuba A, Takahashi H, Fujimori T, Hatta M, Negri AP, Baird AH, Ueno N (2020) A step-down photophobic response in coral larvae: implications for the light-dependent distribution of the common reef coral, *Acropora tenuis*. *Scientific Reports* 10(1): 17680.

Sancelme T, Goetze J, Jaquet S, Meekan MG, Flam A, Watts AM, & Speed CW (2020) Contrasting patterns in the abundance of fish communities targeted by fishers on two coral reefs in southern Mozambique. *African Journal of Marine Science* 42(1): 95-107.

Schiettekatte NMD, Barneche DR, Villeger S, Allgeier JE, Burkepile DE, Brandl SJ, Casey JM, Merciere A, Munsterman KS, Morat F, Parravicini V (2020) Nutrient limitation, bioenergetics and stoichiometry: A new model to predict elemental fluxes mediated by fishes. *Functional Ecology* 34(9): 1857-1869.

Schlaff AM, Menendez P, Hall M, Heupel MR, Armstrong T, Motti C (2020) Acoustic tracking of a large predatory marine gastropod, *Charonia tritonis*, on the Great Barrier Reef. *Marine Ecology Progress Series* 642: 147-161.

Schlaff AM, Heupel MR, Udyawer V, Simpfendorfer CA (2020) Sex-based differences in movement and space use of the blacktip reef shark, *Carcharhinus melanopterus*. *PLoS One* 15(4): e0231142.

Schoepf V, Jung MU, McCulloch MT, White NE, Stat M, Thomas L (2020) Thermally Variable, Macrotidal Reef Habitats Promote Rapid Recovery From Mass Coral Bleaching. *Frontiers in Marine Science* 7: 245.

Seinor KM, Smith SDA, Logan M, Purcell SW (2020) Biophysical Habitat Features Explain Colonization and Size Distribution of Introduced Trochus (Gastropoda). *Frontiers in Marine Science* 7: 223.

Selmoni O, Lecellier G, Ainley L, Collin A, Doucet R, Dubousquet V, Feremaito H, Waia E, Kininmonth S, Magalon H, Malimali S, Maugateau A, Meibom A, Mosese S, Rene-Trouillefou M, Satoh N, van Oppen MJH, Xozame A, Yekawene M, Joost S, Berteaux-Lecellier V (2020). Using Modern Conservation Tools for Innovative Management of Coral Reefs: The MANACO Consortium. *Frontiers in Marine Science* 7: 609.

Sen Gupta A, Thomsen M, Benthuisen JA, Hobday AJ, Oliver E, Alexander LV, Burrows MT, Donat MG, Feng M, Holbrook NJ, Perkins-Kirkpatrick S, Moore PJ, Rodrigues RR, Scannell HA, Taschetto AS, Ummenhofer CC, Wernberg T, Smale DA (2020) Drivers and impacts of the most extreme marine heatwaves events. *Scientific Reports* 10(1): 19359.

Sequeira AM, Caley MJ, Mellin C, Mengersen KL (2020) Bayesian Learning of Biodiversity Models Using Repeated Observations. In: Mengersen K., Pudlo P., Robert C. (eds) Case Studies in Applied Bayesian Data Science. Lecture Notes in Mathematics. Springer, Cham. 2259: 371-384.

Shaffer MR, Luter HM, Webster NS, Abdul Wahab MA, Bell, J (2020) Evidence for genetic structuring and limited dispersal ability in the Great Barrier Reef sponge *Carteriospongia foliascens*. *Coral Reefs* 39(1): 39-46.

Shalom HY, Granot I, Blowes SA, Friedlander A, Mellin C, Ferreira CEL, Arias-Gonzalez JE, Kulbicki M, Floeter SR, Chabanet P, Parravicini V, Belmaker J (2020) A closer examination of the 'abundant centre' hypothesis for reef fishes. *Journal of Biogeography* 47(10): 2194-2209.

Sherman CS, Heupel MR, Johnson M, Kaimuddin M, Qamar LMS, Chin A, Simpfendorfer CA (2020) Repeatability of baited remote underwater video station (BRUVS) results within and between seasons. *PLoS One* 15(12): e0244154.

Sherman CS, Heupel MR, Moore SK, Chin A, Simpfendorfer CA (2020) When sharks are away, rays will play: effects of top predator removal in coral reef ecosystems. *Marine Ecology Progress Series* 641: 145-157.

Shimada T, Limpus CJ, Hamann M, Bell I, Esteban N, Groom R, Hays GC (2020) Fidelity to foraging sites after long migrations. *Journal of Animal Ecology* 89(4): 1008-1016.

Siboni N, Abrego D, Puill-Stephan E, King W, Bourne D, Raina J, Seymour J, Harder T (2020) Crustose coralline algae that promote coral larval settlement harbor distinct surface bacterial communities. *Coral Reefs* 39(6): 1703-1713.

Smallhorn-West P, Gordon S, Stone K, Ceccarelli D, Malimali S, Halafihi T, Wyatt M, Bridge T, Pressey R, Jones G (2020) Biophysical and anthropogenic influences on the status of Tonga's coral reefs and reef fish fishery. *PLoS One* 15(11): e0241146.

Smith HA, Conlan, JA, Pollock FJ, Wada N, Shore A, Hung JY, Aeby GS, Willis BL, Francis DS, Bourne DG (2020) Energy depletion and opportunistic microbial colonisation in white syndrome lesions from corals across the Indo-Pacific. *Scientific Reports* 10(1): 19990.

Smith JN, Mongin M, Thompson A, Jonker MJ, De'ath G, Fabricius KE (2020) Shifts in coralline algae, macroalgae, and coral juveniles in the Great Barrier Reef associated with present-day ocean acidification 26(4): 2149-2160. *Global Change Biology*.

Taylor BM, Chinkin M, Meekan MG (2020) Teleconnections reveal that drivers of inter-annual growth can vary from local to ocean basin scales in tropical snappers. *Coral Reefs* 39(2): 397-407.

Taylor BM, Benkwitt CE, Choat H, Clements, KD, Graham NAJ, Meekan MG (2020) Synchronous biological feedbacks in parrotfishes associated with pantropical coral bleaching. *Global Change Biology* 26(3): 1285-1294.

Tebbett SB, Hoey AS, Depczynski M, Wismer S, Bellwood DR (2020) Macroalgae removal on coral reefs: realised ecosystem functions transcend biogeographic locations. *Coral Reefs* 39(1): 203-214.

Thomas L, Underwood JN, Adam AAS, Richards ZT, Dugal L, Miller KJ, Gilmour JP (2020) Contrasting patterns of genetic connectivity in brooding and spawning corals across a remote atoll system in northwest Australia. *Coral Reefs* 39(1): 55-60.

Thomas MC, Flores F, Kaserzon S, Fisher R, Negri AP (2020) Toxicity of ten herbicides to the tropical marine microalgae *Rhodomonas salina*. *Scientific Reports* 10(1): 7612.

Thompson A, Martin K, Logan M (2020) Development of the coral index, a summary of coral reef resilience as a guide for management. *Journal of Environmental Economics & Management* 271: 111038.

Thums M, Rossendell J, Fisher R, Guinea ML (2020) Nesting ecology of flatback sea turtles *Natator depressus* from Delambre Island, Western Australia. *Marine & Freshwater Research* 71(4): 443-451.

Todd VLG, Lazar L, Williamson LD, Peters IT, Hoover AL, Cox SE, Todd IB, Macreadie PI, McLean DL (2020) Underwater Visual Records of Marine Megafauna Around Offshore Anthropogenic Structures. *Frontiers in Marine Science* 7: 230.

Tortorelli G, Belderok R, Davy SK, McFadden GI, van Oppen MJH (2020) Host Genotypic Effect on Algal Symbiosis Establishment in the Coral Model, the Anemone *Exaiptasia diaphana*, From the Great Barrier Reef. *Frontiers in Marine Science* 6: 833.

Udyawer V, Goiran, C, Chateau O, Shine R (2020) Swim with the tide: Tactics to maximize prey detection by a specialist predator, the greater sea snake (*Hydrophis major*). *PLoS One* 15(10): e0239920.

Udyawer V, Somaweera R, Nitschke C, D'Anastasi B, Sanders K, Webber BL, Hourston M, Heupel MR (2020) Prioritising search effort to locate previously unknown populations of endangered marine reptiles. *Global Ecology & Conservation* 22: e01013.

Underwood JN, Richards Z, Berry O, Oades D, Howard A, Gilmour JP (2020) Extreme seascape drives local recruitment and genetic divergence in brooding and spawning corals in remote north-west Australia. *Evolutionary Applications* 13(9): 2404-2421.

Uthicke S, Patel F, Karelitz S, Luter HM, Webster NS, Lamare M (2020) Key biological responses over two generations of the sea urchin *Echinometra* sp. A under future ocean conditions. *Marine Ecology Progress Series* 637: 87-101.

van Oppen MJH, Medina M (2020) Coral evolutionary responses to microbial symbioses. *Philosophical Transactions of the Royal Society B: Biological Sciences* 375(1808): 20190591.

van Oppen MJH, Oakeshott JG (2020) A breakthrough in understanding the molecular basis of coral heat tolerance. *Proceedings of the National Academy of Sciences of the United States of America* 117(46): 28546-28548.

Vanwonderghem I, Webster NS (2020) Coral Reef Microorganisms in a Changing Climate. *iScience* 23(4): 100972.

Velu C, Cirés S, Brinkman DL, Heimann K (2020) Bioproduct Potential of Outdoor Cultures of *Tolypothrix* sp.: Effect of Carbon Dioxide and Metal-Rich Wastewater. *Frontiers in Bioengineering & Biotechnology* 8:51.

Vercelloni J, Lique B, Kennedy EV, González-Rivero M, Caley MJ, Peterson EE, Puotinen M, Hoegh-Guldberg O, Mengersen K (2020) Forecasting intensifying disturbance effects on coral reefs. *Global Change Biology* 26(5): 2785-2797.

Wada N, Yuasa H, Kajitani R, Gotoh Y, Ogura Y, Yoshimura D, Toyoda A, Tang SL, Higashimura Y, Sweatman H, Forsman Z, Bronstein O, Eyal G, Thongtham N, Itoh T, Hayashi T, Yasuda N (2020) A ubiquitous subcuticular bacterial symbiont of a coral predator, the crown-of-thorns starfish, in the Indo-Pacific. *Microbiome* 8(1): 123.

Wakefield CB, Williams AJ, Fisher EA, Hall NG, Hesp SA, Halafihi T, Kaltavara J, Vourey E, Taylor BM, O'Malley JM, Nicol SJ, Wise BS, Newman SJ (2020) Variations in life history characteristics of the deep-water giant ruby snapper (*Etelis* sp.) between the Indian and Pacific Oceans and application of a data-poor assessment. *Fisheries Research* 230: 105651.

Watson LA, Stark JS, Johnstone G, Wapstra E, Miller K (2020) Antarctic sea anemone distribution, abundance and relationships with habitat composition, community structure and anthropogenic disturbance. *Antarctic Science* 32(3): 186 - 198.

Westcott DA, Fletcher CS, Kroon FJ, Babcock RC, Plaganyi EE, Pratchett MS, Bonin MC (2020) Relative efficacy of three approaches to mitigate Crown-of-Thorns Starfish outbreaks on Australia's Great Barrier Reef. *Scientific Reports* 10(1): 12594.

Whitman TN, Negri AP, Bourne DG, & Randall, CJ (2020) Settlement of larvae from four families of corals in response to a crustose coralline alga and its biochemical morphogens. *Scientific Reports* 10(1): 16397.

Yang C, Zheng YX, Tan SJ, Meng GL, Rao W, Yang CQ, Bourne DG, O'Brien PA, Xu JQ, Liao S, Chen A, Chen XW, Jia XR, Zhang AB, Liu SL (2020) Efficient COI barcoding using high throughput single-end 400bp sequencing. *BMC Genomics* 21(1): 862.

Yon A, Meekan MG, Andrzejczek S, Martinez S, Speed CW (2020) Shark and ray community structure in a turbid, nearshore coral reef habitat. *Marine & Freshwater Research* 71(9): 1194-1204.

Zitoun R, Connell SD, Cornwall CE, Currie KI, Fabricius K, Hoffmann LJ, Lamare MD, Murdoch J, Noonan SG, Sander SG, Sewell MA, Shears NT., van den Berg CMG, & Smith AM (2020) A unique temperate rocky coastal hydrothermal vent system (Whakaari-White Island, Bay of Plenty, New Zealand): constraints for ocean acidification studies. *Marine & Freshwater Research* 71(3): 321-344.