

## Appendix 1: References for peracarid trait data used in analyses of trait dispersion

- Arimoto, I. (1976). Taxonomic studies of caprellids (Crustacea, Amphipoda, Caprellidae) found in the Japanese and adjacent waters. *Special Publications from the Seto Marine Biological Laboratory*, 3, 234.
- Ariyama, H. (2004). Nine Species of the Genus *Aoroides* (Crustacea : Amphipoda : Aoridae) from Osaka Bay, Central Japan. *Publications of the Seto Marine Biological Laboratory*, 40, 1–66.
- Ashford, O.S., Kenny, A.J., Barrio Froján, C.R.S., Bonsall, M.B., Horton, T., Brandt, A., et al. (2018). Phylogenetic and functional evidence suggests that deep-ocean ecosystems are highly sensitive to environmental change and direct human disturbance. *Proceedings of the Royal Society B: Biological Sciences*, 285, 20180923.
- Beermann, J. & Franke, H.-D. (2011). A supplement to the amphipod (Crustacea) species inventory of Helgoland (German Bight, North Sea): Indication of rapid recent change. *Marine Biodiversity Records*, 4, 1–15.
- Best, R.J. & Stachowicz, J.J. (2012). Trophic cascades in seagrass meadows depend on mesograzers variation in feeding rates, predation susceptibility, and abundance. *Marine Ecology Progress Series*, 456, 29–42.
- Best, R.J. & Stachowicz, J.J. (2013). Phylogeny as a Proxy for Ecology in Seagrass Amphipods: Which Traits Are Most Conserved? *PLOS ONE*, 8, e57550.
- Borges, F.O., Figueiredo, C., Sampaio, E., Rosa, R. & Grilo, T.F. (2018). Transgenerational deleterious effects of ocean acidification on the reproductive success of a keystone crustacean (*Gammarus locusta*). *Marine Environmental Research*, 138, 55–64.
- Borowsky, B. (1996). Laboratory Observations On the Life History of the Isopod *Sphaeroma quadridentatum* Say, 1818. *Crustaceana*, 69, 94–100.
- Boström, C. & Bonsdorff, E. (1997). Community structure and spatial variation of benthic invertebrates associated with *Zostera marina* (L.) beds in the northern Baltic Sea. *Journal of Sea Research*, 37, 153–166.
- Brook, H.J., Rawlings, T.A. & Davies, R.W. (1994). Protogynous Sex Change in the Intertidal Isopod *Gnorimosphaeroma oregonense* (Crustacea: Isopoda). *The Biological Bulletin*, 187, 99–111.
- Cruz-García, R., Cupul-Magaña, A.L., Hendrickx, M.E. & Rodríguez-Troncoso, A.P. (2013). Abundance of three species of Isopoda (Peracarida, Isopoda) associated with a coral reef environment in Pacific Mexico. *Crustaceana*, 86, 1664–1674.
- Drumm, D.T. & Heard, R.W. (2007). Redescription of *Mesokalliapseudes crassus* (Menzies, 1953) (Crustacea: Tanaidacea: Kalliapseudidae): the first record of a hermaphroditic kalliapseudid. *pbsw*, 120, 459–468.
- Drumm, D.T. & Kreiser, B. (2012). Population genetic structure and phylogeography of *Mesokalliapseudes macsweenyi* (Crustacea: Tanaidacea) in the northwestern Atlantic and Gulf of Mexico. *Journal of Experimental Marine Biology and Ecology*, 412, 58–65.
- Duffy, J.E. & Harvilicz, A.M. (2001). Species-specific impacts of grazing amphipods in an eelgrass-bed community. *Marine Ecology Progress Series*, 223, 201–211.
- Duffy, J.E. & Hay, M.E. (1991). Food and Shelter as Determinants of Food Choice by an Herbivorous Marine Amphipod. *Ecology*, 72, 1286–1298.
- Ferreira, A.C., Ambrosio, E.S. & Capítulo, A.R. (2015). Population ecology of *Sinelobus stanfordi* (Crustacea: Tanaidacea) in a temperate southern microtidal estuary. *New Zealand Journal of Marine and Freshwater Research*, 49, 462–471.

- Fincham, A.A. (1974). Rhythmic swimming of the isopod *Exosphaeroma obtusum* (Dana). *New Zealand Journal of Marine and Freshwater Research*, 8, 655–662.
- Ford, A.T., Fernandes, T.F., Rider, S.A., Read, P.A., Robinson, C.D. & Davies, I.M. (2003). Reproduction in the amphipod, *Echinogammarus marinus*: a comparison between normal and intersex specimens. *Journal of the Marine Biological Association of the United Kingdom*, 83, 937–940.
- Gaston, K.J. & Spicer, J.I. (2001). The relationship between range size and niche breadth: a test using five species of *Gammarus* (Amphipoda). *Global Ecology and Biogeography*, 10, 179–188.
- Gray, A.P., Richardson, C.A. & Seed, R. (1997). Ecological Relationships Between the Valviferan Isopod *Edotia doellojuradoi* Giambiagi, 1925, and its Host *Mytilus edulis chilensis* in the Falkland Islands. *Estuarine, Coastal and Shelf Science*, 44, 231–239.
- Greve, L. (1974). *Anatanais normani* (Richardson) found near Bermuda and notes on other *Anatanais* species. *Sarsia*, 55, 115–120.
- Guerra-García, J.M. & Tierno de Figueroa, J.M. (2009). What do caprellids (Crustacea: Amphipoda) feed on? *Mar Biol*, 156, 1881–1890.
- Hosono, T. (2014). Temperature explains reproductive dynamics in caprellids at different latitudes. *Marine Ecology Progress Series*, 511, 129–141.
- Hou, Z., Fu, J. & Li, S. (2007). A molecular phylogeny of the genus *Gammarus* (Crustacea: Amphipoda) based on mitochondrial and nuclear gene sequences. *Molecular Phylogenetics and Evolution*, 45, 596–611.
- Ingólfsson, A. (2000). Colonization of floating seaweed by pelagic and subtidal benthic animals in southwestern Iceland. In: *Island, Ocean and Deep-Sea Biology, Developments in Hydrobiology* (eds. Jones, M.B., Azevedo, J.M.N., Neto, A.I., Costa, A.C. & Martins, A.M.F.). Springer Netherlands, pp. 181–189.
- Jeong, S.J., Yu, O.H. & Suh, H.L. (2007). Life History and Reproduction of *Jassa slatteryi* (Amphipoda, Ischyroceridae) on a Seagrass Bed (*Zostera Marina L.*) in Southern Korea. *J Crustacean Biol*, 27, 65–70.
- Jung, T.W., Jeong, S., Han, D., Kim, M.-S. & Yoon, S. (2016). The First Record of the Genus *Eogammarus* (Crustacea: Amphipoda: Anisogammidae) from Korea. *ASED*.
- Khalaji-Pirbalouty, V., Bruce, N. & Wägele, J.W. (2013). The genus *Cymodoce* Leach, 1814 (Crustacea: Isopoda: Sphaeromatidae) in the Persian Gulf with description of a new species. *Zootaxa*, 3686.
- Kondylatos, G., Corsini-Foka, M. & Perakis, E. (2018). First record of the isopod *Idotea hectica* (Pallas, 1772) (Idoteidae) and of the brachyuran crab *Matuta victor* (Fabricius, 1781) (Matutidae) in the Hellenic waters. *Mediterranean Marine Science*, 19, 656–661.
- Kunkel, B.Waugh. & Kunkel, B.W. (1918). *The Arthrostraca of Connecticut*. State Geological and Natural History Survey, Hartford, CT, USA.
- Ledet, J., Byrne, M. & Poore, A.G.B. (2018). Temperature effects on a marine herbivore depend strongly on diet across multiple generations. *Oecologia*, 187, 483–494.
- Lefcheck, J.S. & Duffy, J.E. (2015). Multitrophic functional diversity predicts ecosystem functioning in experimental assemblages of estuarine consumers. *Ecology*, 96, 2973–2983.
- Levings, C.D. (1980). The biology and energetics of *Eogammarus confervicolus* (Stimpson) (Amphipoda, Anisogammaridae) at the Squamish River Estuary, B.C. *Can. J. Zool.*, 58, 1652–1663.

- Lindén, E., Lehtiniemi, M. & Viitasalo, M. (2003). Predator avoidance behaviour of Baltic littoral mysids *Neomysis integer* and *Praunus flexuosus*. *Marine Biology*, 143, 845–850.
- Lürig, M.D., Best, R.J. & Stachowicz, J.J. (2016). Microhabitat partitioning in seagrass mesograzers is driven by consistent species choices across multiple predator and competitor contexts. *Oikos*, 125, 1324–1333.
- Mancinelli, G. (2012). To bite, or not to bite? A quantitative comparison of foraging strategies among three brackish crustaceans feeding on leaf litters. *Estuarine, Coastal and Shelf Science*, Coastal Lagoons in a changing environment: understanding, evaluating and responding, 110, 125–133.
- Martínez-Laiz, G., Ulman, A., Ros, M. & Marchini, A. (2019). Is recreational boating a potential vector for non-indigenous peracarid crustaceans in the Mediterranean Sea? A combined biological and social approach. *Marine Pollution Bulletin*, 140, 403–415.
- Menzies, R.J. (1951). New Marine Isopods, Chiefly from Northern California, with Notes on Related Forms.
- Nakamachi, T., Ishida, H. & Hirohashi, N. (2015). Sound Production in the Aquatic Isopod *Cymodoce japonica* (Crustacea: Peracarida). *The Biological Bulletin*, 229, 167–172.
- Othman, M.S. & Pascoe, D. (2001). Growth, Development and Reproduction of *Hyalella azteca* (Saussure, 1858) in Laboratory Culture. *Crustaceana*, 74, 171–181.
- Pennafirme, S. & Soares-Gomes, A. (2009). Population biology and reproduction of *Kalliaipseudes schubarti* Mañé-Garzón, 1949 (Peracarida, Tanaidacea) in a tropical coastal lagoon, Itaipu, southeastern Brazil. *Crustaceana*, 82, 1509–1526.
- Pilgrim, E.M., Blum, M.J., Reusser, D.A., Lee, H. & Darling, J.A. (2013). Geographic range and structure of cryptic genetic diversity among Pacific North American populations of the non-native amphipod *Grandidierella japonica*. *Biol Invasions*, 15, 2415–2428.
- Poore, A.G.B., Ahyong, S.T., Lowry, J.K. & Sotka, E.E. (2017). Plant feeding promotes diversification in the Crustacea. *PNAS*, 114, 8829–8834.
- Rumbold, C.E., Obenat, S.M. & Spivak, E.D. (2012). Life History of *Tanais dulongii* (Tanaidacea: Tanaidae) in an Intertidal Flat in the Southwestern Atlantic. *J Crustacean Biol*, 32, 891–898.
- Rumbold, C.E., Obenat, S.M. & Spivak, E.D. (2015). Comparison of life history traits of *Tanais dulongii* (Tanaidacea: Tanaididae) in natural and artificial marine environments of the south-western Atlantic. *Helgoland Marine Research*, 69, 231.
- Sainte-Marie, B. (1991). A review of the reproductive bionomics of aquatic gammaridean amphipods: variation of life history traits with latitude, depth, salinity and superfamily. *Hydrobiologia*, 223, 189–227.
- Schückel, U., Beck, M. & Kröncke, I. (2013). Spatial variability in structural and functional aspects of macrofauna communities and their environmental parameters in the Jade Bay (Wadden Sea Lower Saxony, southern North Sea). *Helgoland Marine Research*, 67, 121.
- Schultz, G.A. (1969). *How to know the marine isopod crustaceans*. Pictured Key Nature Series. Wm. C. Brown Company Publishers, Dubuque, IA, USA.
- Shuster, S.M. (1995). Female reproductive success in artificial sponges in *Paracerceis sculpta* (Holmes) (Crustacea: Isopoda). *Journal of Experimental Marine Biology and Ecology*, 191, 19–27.
- Skadsheim, A. (1984). Life cycles of *Gammarus oceanicus* and *G. salinus* (Amphipoda) in the Oslofjord, Norway. *Ecography*, 7, 262–270.

- Smith, G. (1905). The effect of pigment-migration on the phototropism of *Gammarus annulatus* s. I. Smith. *American Journal of Physiology-Legacy Content*, 13, 205–216.
- Sotka, E.E., Bell, T., Hughes, L.E., Lowry, J.K. & Poore, A.G.B. (2017). A molecular phylogeny of marine amphipods in the herbivorous family Ampithoidae. *Zoologica Scripta*, 46, 85–95.
- Steele, D.H. & Steele, V.J. (1970). The biology of *Gammarus* (Crustacea, Amphipoda) in the northwestern Atlantic. IV. *Gammarus lawrencianus* Bousfield. *Can. J. Zool.*, 48, 1261–1267.
- Steele, D.H. & Steele, V.J. (1973). Some aspects of the biology of *Calliopius laeviusculus* (Krøyer) (Crustacea, Amphipoda) in the northwestern Atlantic. Can. J. Zool., 51, 723–728.
- Steele, D.H. & Steele, V.J. (1974). The biology of *Gammarus* (Crustacea, Amphipoda) in the northwestern Atlantic. VIII. Geographic distribution of the northern species. *Can. J. Zool.*, 52, 1115–1120.
- Steele, D.H. & Steele, V.J. (1975). The biology of *Gammarus* (Crustacea, Amphipoda) in the northwestern Atlantic. XI. Comparison and discussion. *Can. J. Zool.*, 53, 1116–1126.
- Strong, J.A., Maggs, C.A. & Johnson, M.P. (2009). The extent of grazing release from epiphytism for *Sargassum muticum* (Phaeophyceae) within the invaded range. *Journal of the Marine Biological Association of the United Kingdom*, 89, 303–314.
- Thiel, M. (1997). Reproductive biology of a filter-feeding amphipod, *Leptocheirus pinguis*, with extended parental care. *Marine Biology*, 130, 249–258.
- Vader, W. & Krapp-Schickel, T. (2012). On some maerid and melitid material (Crustacea: Amphipoda) collected by the Hourglass Cruises (Florida). Part 2: Genera *Dulichiella* and *Elasmopus*, with a key to world *Elasmopus*. *Journal of Natural History*, 46, 1179–1218.
- Vassallo, L. & Steele, D.H. (1980). Survival and Growth of Young *Gammarus lawrencianus* Bousfield, 1956, on Different Diets. *Crustaceana. Supplement*, 118–125.
- Viherluoto, M., Kuosa, H., Flinkman, J. & Viitasalo, M. (2000). Food utilisation of pelagic mysids, *Mysis mixta* and *M. relicta*, during their growing season in the northern Baltic Sea. *Marine Biology*, 136, 553–559.
- Watling, L. (1981). Amphipoda from the northwestern Atlantic: The genera *Jerbarnia*, *Epimeria*, and *Harpinia*. *Sarsia*, 66, 203–211.