

Published Literature Related to High pH Spring Projects:

Meyer-Dombard, D.R., Osburn, M.R., Cardace, D., Arcilla, C.A. (2019) The effect of a tropical climate on available nutrient resources to springs in ophiolite-hosted, deep biosphere ecosystems in the Philippines. *Frontiers in Extreme Microbiology*, <https://doi.org/10.3389/fmicb.2019.00761>

Vallalar, B., Meyer-Dombard D.R., Cardace, D., Arcilla, C.A. (2019) Multimetal Resistant, Alkalitolerant Bacteria Isolated from Serpentinizing Fluid-Associated Sediments and Acid Mine Drainage in the Zambales Ophiolite, the Philippines. *Geomicrobiology Journal* 36:792-809.

Meyer-Dombard, D.R., Casar, C.P., Simon, A., Cardace, D., Schrenk, M.O., Arcilla, C.A., (2018). Biofilm formation and potential for iron cycling in serpentinization-influenced groundwater of the Zambales and Coast Range Ophiolites. *Extremophiles*, 22: 407-431.

Meyer-Dombard, D.R., Woycheese, K.M., Yargıçođlu, E.N., Cardace, D., Shock, E.L., Güleçal-Pektas, Y., Temel, M. (2015). High pH microbial ecosystems in a newly discovered, ephemeral, serpentinizing fluid seep at Yanartaş (Chimaera), Turkey. *Frontiers in Extreme Microbiology*. 5: Article 723. doi: 10.3389/fmicb.2014.00723.

Cardace, D., Meyer-Dombard, D.R., Woycheese, K.M., Arcilla, C.A. (2015). Feasible metabolic schema associated with high pH springs in the Philippines. *Frontiers in Extreme Microbiology*. 6: Article 10. doi: 10.3389/fmicb.2015.00010

Woycheese, K.M., Meyer-Dombard, D.R., Cardace, D., Argayosa, A., Arcilla, C. (2015). Out of the dark: Transitional subsurface-to-surface microbial diversity in a terrestrial serpentinizing seep (Manleluag, Pangasinan, the Philippines). *Frontiers in Extreme Microbiology*. 6: Article 44. doi: 10.3389/fmicb.2015.00044.

Cardace, D., Meyer-Dombard, D.R., Olsen, A.A., Parenteau, M.N. (2014) Bedrock and geochemical controls on extremophile habitats. In: *Plant Ecology and evolution in harsh environments*, Rajakaruna, N., Boyd, R.S., Haris, T.B. eds. Nova Science Publishers, New York.

Conference Abstracts related to high pH springs research

- 35] Meyer-Dombard, D.R., Cardace, D., Osburn, M.R. (2018). The deep biosphere in the jungle: following carbon in serpentinizing springs in a tropical surface biome. 7th Annual Midwest Geobiology Symposium, Chicago, IL.
- 34] Meyer-Dombard, D.R., Cardace, C., Osburn, M.R., Arcilla, C. (2018) Considering surface influence on nutrient availability when examining deep subsurface ecosystems via terrestrial springs. Gordon Research Conference on Deep Carbon Science, Smithfield, RI.
- 35] Meyer-Dombard, D.R., Osburn, M.R., Cardace, D., Arcilla, A., Woycheese, K.M., Shock, E.L. (2018) (*invited*) Potential sources of carbon in terrestrial, energy limited environments. Gordon Research Conference on Geobiology, Galveston, TX.
- 34] Meyer-Dombard, D.R., Cardace, C., Woycheese, K., Vallalar, B., Arcilla, C. (2017) Can surface seeps elucidate carbon cycling in terrestrial subsurface ecosystems in ophiolite-hosted serpentinizing fluids? *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract B11G-0243, American Geophysical Union, Fall Meeting, 2017.
- 33] Woycheese, K., Meyer-Dombard, D., Cardace, D., Arcilla, C., Ono S. (2017) Clumped isotope signatures of serpentinization-associated methane from the Philippines. Goldschmidt 2017, Paris.
- 32] Pellejera-Oruga, N., Arcilla, C., Cardace, D., Woycheese, K., Meyer-Dombard, D., Cordillo, E., Samosa, R., Iringan, T., (2017). Hydrogeology And Geochemistry Of The Hyperalkaline Springs In Palawan, Philippines, Abstract SE25-A041, AOGS 2017, Singapore.
- 31] Iringan, T., Arcilla, C., Cardace, D., Meyer-Dombard, D., Pellejera-Oruga, N., Woycheese, K. (2017). Trace Element And Microbial Studies In Hydrothermal Spring Fluids And Their

- Genetic Implications in Manleluag, Pangasinan, Philippines. Abstract SE25-A044, AOGS 2017, Singapore.
- 30] Meyer-Dombard, D., Cardace, D., Woycheese, K., Cordillo, E., Iringan, T., Pellejera-Oruga, N., Cabria, G.L., Arcilla, C. (2017). Geochemical Settings Of Microbial Biomes In Serpentinizing Springs Of The Philippines. Abstract BG04-A013, AOGS 2017, Singapore.
- 29] Cardace, D., Meyer-Dombard, D., Arcilla, C., Woycheese, K., Cordillo, E. (2017). Serpentinites And Associated Phases Showcase Water-rock Reactions In The Mount Beaufort Ultramafics, Narra, Palawan. Abstract BG04-A012, AOGS 2017, Singapore.
- 28] Woycheese, K., Meyer-Dombard, D., Cardace, D., Cordillo, E., Cabria, G.L., Iringan, T., Arcilla, C., Ono, S. (2017). Serpentinizing Springs In The Philippines As Astrobiology Analogs For Mars And Beyond. Abstract BG04-A016, AOGS 2017, Singapore.
- 27] Meyer-Dombard, D.R., Cardace, D., Woycheese, K., Vallalar, B., Casar, C., Simon, A., Arcilla, C. (2016). Exploring the Deep Biosphere in Ophiolite-hosted Systems: What Can Metabolic Processes in Surface Seeps Tell Us About Subsurface Ecosystems in Serpentinizing Fluids? *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract B33I-08, American Geophysical Union, Fall Meeting, 2016.
- 26] Woycheese, K.M., Meyer-Dombard, D.R., Cardace, D., Arcilla, C.A., Ono, S. (2016). Metagenomic analysis of carbon cycling and biogenic methane formation in terrestrial serpentinizing fluid springs. *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract B31A-0458, American Geophysical Union, Fall Meeting, 2016.
- 25] Vallalar, B., Meyer-Dombard, D.R., Cardace, C., Arcilla, C.A. (2016). Heavy Metal Resistant, Alkalitolerant Bacteria Isolated From Serpentinizing Springs in the Zambales Ophiolite, Philippines. *Eos Trans. AGU, Fall Meet. Suppl.*, Abstract B31A-0459, American Geophysical Union, Fall Meeting, 2016.
- 24] Meyer-Dombard, D.R., Cardace, D., Woycheese, K.M., Arcilla, C.A. (2015). Habitats in serpentinizing fluids of the Philippines: complex interactions between the surface and subsurface biospheres. Astrobiology Science Conference 2015, Abstract #7406.
- 23] Cardace, D., Meyer-Dombard, D.R., Arcilla, C. (2015). Mineralogical diversity in ultramafic host rock and travertines associated with high pH, actively serpentinizing springs in the Philippines. Astrobiology Science Conference 2015, Abstract #7514.
- 22] Vallalar, B., Meyer-Dombard, D., (2015). Isolation of Cellulolytic Bacteria from high pH serpentinizing springs in the Philippines. Astrobiology Science Conference 2015, Abstract #7673.
- 21] Casar, C.P., Meyer-Dombard, D.R., Cardace, D., Simon, A. (2015). Characterizing subsurface microbial Fe-reduction in a Martian analog serpentinizing system: Zambales Ophiolite, Philippines. Astrobiology Science Conference 2015, Abstract #7365.
- 20] Woycheese, K.M., Yargicoglu, E.N., Gulecal-Pektas, Y., Cardace, D., Meyer-Dombard, D.R. (2015). Comparative phylogenetic and metagenomic analysis of an ultrabasic continental serpentinizing fluid seep at Yanartas (Turkey). Astrobiology Science Conference 2015, Abstract #7634.
- 19] Casar, C., Meyer-Dombard, D.R., Simon, A., Cardace, C., Arcilla, C. (2014) Microbially-influenced Fe-Cycling within high pH serpentinizing springs of the Zambales Ophiolite, Philippines. American Geophysical Union, Fall Meeting, 2014. Abstract # V53A-4819.
- 18] Woycheese, K.M., Meyer-Dombard, D.R., Cardace, C., Arcilla, C. (2014) Genetic legacy of the deep subsurface recorded in the outflow channel of a terrestrial serpentinizing seep (Luzon, the Philippines). American Geophysical Union, Fall Meeting, 2014. Abstract # B11H-0131.
- 17] Meyer-Dombard, D.R., Woycheese, K.M., Cardace, C., Arcilla, C. (2014) Microbial Ecology of Terrestrial Serpentinizing Springs. 3rd Annual Midwest Geobiology Symposium, Chicago.

- 16] Vallalar, B., Meyer-Dombard, D.R. (2014) Culturing Cellulolytic Bacteria from High pH Serpentinizing Springs. 3rd Annual Midwest Geobiology Symposium, Chicago.
- 15] Meyer-Dombard, D.R., Cardace, D., Woycheese, K., Vallalar, B., Arcilla, C. (2013) Exploring the deep biosphere through ophiolite-associated surface springs. American Geophysical Union, Fall Meeting, 2013.
- 14] Woycheese, K., Meyer-Dombard, D.R., Cardace, D., Gulecal, Y., Arcilla, C. (2013) Ecology of two terrestrial serpentinizing fluid seeps: a glimpse of the deep biosphere. American Geophysical Union, Fall Meeting, 2013.
- 13] Cardace, D., Meyer-Dombard, D.R., Arcilla, C. (2013) Microbial metabolic landscape derived from complementary mineralogical, aqueous geochemical, and gas data associated with high pH, actively serpentinizing springs in the Philippines. American Geophysical Union, Fall Meeting, 2013.
- 12] Meyer-Dombard, D.R., Cardace, D., Woycheese, K., Casar, C., Vallalar, B., Arcilla, C., (2013) Geochemistry of microbial environments in serpentinizing springs of the Philippines. 2nd Annual Midwest Geobiology Symposium, Indianapolis.
- 11] Woycheese, K., Meyer-Dombard, D.R., Cardace, D., Arcilla, C. (2013) Phylogeny and niche partitioning in two serpentinizing fluid seeps. 2nd Annual Midwest Geobiology Symposium, Indianapolis.
- 10] Vallalar, B., Meyer-Dombard, D.R., Woycheese, K., Casar, C., Cardace, D., Argayosa, L., Argayosa, V., Arcilla, C. (2013) Microorganisms cultured from highly alkaline serpentinizing springs in the Philippines. 2nd Annual Midwest Geobiology Symposium, Indianapolis.
- 9] Meyer-Dombard, D.R., Woycheese, K.M., Cardace, D., Arcilla, C. (2013). Geochemistry of Microbial Environments in Serpentinizing Springs of the Philippines. AOGS 2013, Brisbane. Abstract # IG19-D2-PM2-P-007.
- 8] Meyer-Dombard, D.R., Vallalar, B., Cardace, D., Argayosa, A., Argayosa, V., Arcilla, C. (2013). Microorganisms cultured from serpentinizing and hydrothermal fluids in Philippines springs. AOGS 2013, Brisbane. Abstract # IG19-D2-PM2-P-008.
- 7] Cardace, D., Meyer-Dombard, D.R., Arcilla, C. (2013). Mineralogical diversity in ultramafic host rock and travertines associated with high pH, actively serpentinizing springs in the Philippines. AOGS 2013, Brisbane. Abstract # IG19-D2-PM2-P-011.
- 6] Woycheese, K.M., Yargicoglu, E.N., Cardace, D., Meyer-Dombard, D.R. (2012). From the Belly of the Beast: Biogeochemistry and geomicrobiology of a fluid seep at Chimaera [Yanartas], Turkey. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B43G-0510, American Geophysical Union, Fall Meeting, 2012.
- 5] Meyer-Dombard, D.R., Yargicoglu, E.N., Cardace, D., Gulecal, Y., Temel, M. (2012). Biogeochemical Cycling in Fault-Associated and Ophiolite-Hosted Springs. AbSciCon 2012, Atlanta, GA. Abstract # 4494.
- 4] Meyer-Dombard, D.R., Gulecal, Y., Loiacono, S.T., Cardace, D., Uzunlar, N., Temel, M. (2011). Nitrogen cycling in ophiolite-hosted and fault-associated hydrothermal systems; spatial and temporal variations. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract 51B-0399, American Geophysical Union, Fall Meeting, 2011.
- 3] Cardace, D., Meyer-Dombard, D.R. (2011). Bioenergetics of continental serpentinites. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B51B-0400, American Geophysical Union, Fall Meeting, 2011.
- 2] Meyer-Dombard, D.R., Cardace, D., Uzunlar, N., Güleçal, Y., Yargıçoğlu, E.N., Carbone, J.N. (2010). Microbial Community Diversity in Fault-Associated and Ophiolite-Hosted Springs. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B51A-0334, American Geophysical Union, Fall Meeting, 2010.
- 1] Cardace, D., Meyer-Dombard, D.R., Hoehler, T., Uzunlar, N. (2010). Complex serpentinizing systems and the deep biosphere: metabolic opportunities depend on the geochemistry of

mixing waters. *Eos Trans. AGU*, Fall Meet. Suppl., Abstract B51A-0333, American Geophysical Union, Fall Meeting, 2010.