

Svetlana V. Kotelnikova, Ryan J. McDonald, and L. Martin Eugene, 2008, "Unusual Resistance of Marine *Vibrio* from Grenada to the Solar UV Radiation," *The 16th CAS Biennial Conference on Science and Technology Conference Proceedings*, pp.1-470.: *Vehicles for Sustainable Economic Development in the Caribbean: Grenada*; 11-13 October, pp. 267-274.

Research into resistance of marine bacteria to the UV exposure, is vital for our understanding of the survival of organisms involved in the carbon cycle and their effects to the global change. The effect of both solar (UV-A/UV-B) and germicidal (UV-C) radiation was examined here on newly discovered species of marine *Vibrio salinivivax* and *V. croceus*. Our results indicated that both gram-negative *Vibrios* sp. were extremely resistant to solar radiation and resistance to radiation decreased as sodium chloride concentration increased. The control gram-negative *Serratia marcescens* DB 2-31 was more sensitive to solar radiation than the *Vibrios* but more resistant to germicidal radiation than the former two organisms. Upon exposure to solar UV A&B radiation, *V. salinivivax* PB 7-11 showed no drop in viability after 16h (~ 160 KJ m⁻²). *V. croceus* PB 5-21 showed no drop in viability after 10h (~ 100 KJ m⁻²). *S.marcescens* DB2-31 dropped 3-4 logs in viability after 3-4h (~ 20-30 KJ m⁻²). As a result of exposure to the germicidal UV (UV C) radiation, PB 7-11 &PB 5-21 dropped 3-4 logs in viability after 3-4 min (~20 J m⁻²), while *S. marcescens* DB 2-31 dropped 3-4 logs in viability after 5-6 min (~30 J m⁻²). Thus, PB 7-11 and 5-21 are extremely resistant to solar UV while *S. marcescens* DB 2-31 is quite close to the previously studied reference organism *Vibrio natriegens*.