

# Chemical Variability of the Volatile Metabolites from the Caribbean Corals of the Genus *Gorgonia*

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The chemical composition of the investigated gorgonians showed a high level of individual variation and the colonies, according to their major contributors, were assigned to 10 distinct chemical profiles, among which A, C, E, and G were the most abundant ones. From the metabolites identified in the present study, either by means of GC/MS or using NMR techniques after conventional separation procedures, the novel cyclic ether 5,10-epoxymurolane is found in significant quantities in D and I chemical profiles. Furanotriene, isofuranotriene and furanodiene could be referred as the most common metabolites of the genus, since they are found in 6 out of 10 chemical profiles. Isoserinenine is, also, a significant contributor of H and I chemical profiles. A number of sesquiterpene hydrocarbons, such as curzerene, bicyclogermacrene, valencene,  $\beta$ -bourbonene and  $\beta$ -elemene, along with the oxygenated sesquiterpenes elemanolide and furoventalene, are present at varying concentrations in the majority of the chemical profiles. Metabolites of high discriminant value are:  $\alpha$ -himachalene for the K chemical profile,  $\alpha$ -santalene and its oxygenated derivatives for the G chemical profile and the three geometrical isomers of germacrene for the F chemical profile.

Several chemical profiles showed narrow geographic distribution. Most of the chemical profiles are located in the north, while F inhabits mainly southern sites and the others are equally distributed. Finally, 91% of the chemical profiles of the gorgonian colonies appeared to grow in all depths, while 9% did not inhabit deep-water environments. Most chemical profiles are less frequent at higher water depths with the exception of chemical profiles A and C.