

ABSTRACT

This thesis describes chemical investigation of three marine organisms of Sri Lanka. An Alcyonacean, a Gorgonacean belonging to Phylum Coelenterata and a Holothurian belonging to Phylum Echinodermata were investigated.

Isolation and structure elucidation of two novel silphiperfol sesquiterpenoids; 11-oxosilphiperfol-5-en-13-oic acid and 11 β -hydroxysilphiperfol-3-en-13-oic acid from Gorgonacean are discussed. Extensive spectroscopic analysis including Nuclear Overhauser effect and two dimensional proton NMR and chemical interconversions were utilized with this effect.

Investigation of the Holothurian yielded a known triterpenoid, 22,25-oxidoholothurinogenin, which was identified by comparison of its physical data with those reported.

Brassicasterol, 24-methylcholesterol, Gorgosterol, cholesterol and 23-demethylgorgosterol were identified in the Alcyonacean by GC-MS analysis. Along with these known sterols, a fatty acid ester, 1-hexadecylhexadecanoate was also isolated and characterized.