

Studies on the Secondary Metabolites from the Formosan Soft Coral *Paralemnalia thyrsoides*

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Soft corals of the genus *Paralemnalia* have been found to be a rich source of sesquiterpenoids of nor-nardosinane, nardosinane, neolemnane, aristolane, eremophilane, and related skeletons. First investigation on the chemical constituents of this coral collected at San-Shen-Tai has led to the isolation of nine new compounds (1–9), including one with dinor-nardosinane (novel skeleton) (1), one neolemnane (2)¹, five nardosinanes (3–7)^{2–4}, two nor-nardosinanes (8 and 9)⁵ along with twenty-three known compounds. The structures of these compounds were determined on the basis of their spectroscopic analysis (¹H NMR, ¹³C NMR, ¹H–¹H COSY, HSQC, HMBC, IR and HRESIMS) and by comparison of the physical and spectral data with those of the related known compounds. The relative stereochemistry and assignments of ¹H NMR chemical shifts were determined by NOESY and coupling constants. The absolute stereochemistry of 1 was determined by application of the Mosher's method. Compounds 1–9 exhibited significant cytotoxic activity against A-549, HT-29, P-388 cancer cell lines.

1. Sheu, JH. et al. *Chem. Pharm. Bull.* **2007**, 55(6) 876–880.
2. Duh, CY. et al. *Chem. Pharm. Bull.* **2010**, 58(1) 381–385.
3. Michio Namikoshi. et al. *Chem. Pharm. Bull.* **2008**, 56(3) 332–334.
4. Yoel Kashman. et al. *J. Nat. Prod.* **2008**, 71, 375–380.
5. William Fenical. et al. *Tetrahedron Letters* **1982**, 23(8) 817–820.

