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GC-MS analysis of secondary metabolites from the whole plant methanolic extract of BlechnumorientaleLinn. (Blechnaceae)

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Abstract

To investigate the secondary metabolites present in methanolic extract of *Blechnumorientale*Linn. (Blechnaceae). GC-MS analysis of whole fern extract were performed using a Trace GC Ultra and DSQII model MS from Thermo Fisher Scientific Limited. The instrument was set as follows, Injector port temperature set to 250ºC, Interface temperature set as 250ºC, and source kept at 200ºC. The oven temperature programmed as a variable, 70ºC for 2 mins, 150ºC @ 8ºC/min, up to 260ºC @ 10ºC/min. Split ratio set as 1:50 and the injector used was splitless mode. The DB-35 MS Nonpolar column was used whose dimensions were 0.25 mm OD x 0.25 µm ID x 30 metres length procured from Agilent Co., USA. Helium was used as the carrier gas at 1 ml/min. The MS was set to scan from 50 to 650 Da. The results of the GC-MS analysis confirmed the presence of 6 compounds. The most prevailing compounds in this study 1, 2 Benzenedicarboxylic acid, bibutyl ester, Phytol, Hexanedioic acid, dioctyl ester, Lucenin 2, QUERCETIN 7, 3´, 4´-TRIMETHOXY and Neophytadiene found to have significant medicinal property. It can be concluded that the plant extract show the presence of 6phytocompounds. The presence of various bioactive compounds justifies the use of the whole fern for various ailments by traditional practitioners.

Keywords: *Microlepia speluncae* (L.) Moore, Secondary metabolites, GC-MS analysis, Whole fern