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Constituents of essential oils from the leaves, stems and roots of Zingiber gramineum and Zingiber rufopilosum
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Abstract

The chemical constituents of essential oils obtained from leaves, stems and roots of Zingiber gramineum Noronha ex Blume and Zingiber rufopilosum Gagnep collected from Vietnam have been studied. The determination of essential oil components was performed by Gas Chromatography-Flame Ionization Detector (GC-FID) and Gas Chromatography-Mass Spectrometry (GC-MS). The main constituents of the leaves oil of Zingiber gramineum were zingiberene (19.5%), -cubebene (12.9%), -sesquiphellandrene (12.9%) and -elemene (11.6%) while the stems oil was dominated by benzyl benzoate (22.6%), -elemene (9.7%) and -selinene (8.8%). However, -terpinene (17.9%), -terpinene (17.1%), terpinen-4-ol (13.0%) and 1,8-cineole (12.8%) were the present in the root oil. In addition, -agarofuran (13.7%), -humulene (8.8%) and -pinene (8.7%) were the main compounds identified in the leaves of Zingiber rufopilosum. The stems comprised of -cadinol (15.1%), -muurolol (12.1%) and endo-1-bourbonanol (9.9%) while (E,E)-farnesol (11.6%), -pinene (10.0%), bornyl acetate (6.6%) and -pinene (6.2%) were the significant compounds of the root oil. This is the first report on the volatile compositions of these plant species.

Keywords

Zingiber gramineum, Zingiber rufopilosum, essential oil, monoterpenes, sesquiterpene.