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GC/MS Identification of three different botanical sources claimed to be used under the common name “Harankaha”

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“Harankaha” botanically known as *Curcuma albiflora* (Family-Zingiberaceae) is an important medicinal plant used in Sri Lankan traditional medicine claimed to be used for rheumatism, fractures and dislocations, digestive problems, respiratory tract infections and cosmetic preparations. Due to its morphological similarity with the rhizomes of *Zingiber zerumbat* and *C. zedoaria* and due to misleading literature in which all three medicinal plants are named as “harankaha”, adulteration takes place. In order to resolve this controversy, a comparative study of the essential oils of the three plants were investigated using GC/MS. 13 compounds were identified from *Curcuma albiflora* Thw., Enum. 14 compounds from *C. zedoaria* (Christm.) Rosc. and 13 compounds from *Zingiber zerumbet* (L.) Smith. The presence of Azelone (11.75%), curzerene (2.19%), germacrene B (3.98%) and delta elemene (1.05%) in *Curcuma albiflora* Thw.; Epicurzerenone (9.24%), alpha-patchoulene (4.97%) and germacrone (5.17%) in *C.zedoaria*; and Zerumbone (38.8%), alpha-Humulene (22.52%), beta-caryophyllene (2.33%) in *Zingiber zerumbet*(L.) Smith. were identified as diagnostic compounds in each of the essential oils. This in turn would help in identifying the plant rhizome accurately. Therefore, GC/MS identification appears an effective method in identifying morphologically similar, essential oil yielding medicinal plant materials.

Keywords: Adulteration, sabinene, epicurzerenone, zerumbone

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