PP101. Composition and AChE-inhibitory properties of Mentha longifolia (L.) Hudson subsp. typhoides (Briq.) Harley var. typhoides (L.) Hudson essential oil

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There are many reports on the essential-oil composition of the subspecies of Mentha longifolia (Lamiaceae). As an example, the essential oil of the capensis subspecies from South Africa was reported to contain menthone (50.9%), pulegone (19.3%), and 1,8-cineole (11.9%) [1]. Another report indicated carvone (67.3%), limonene (13.5%), and 1,8-cineole (5.4%) as the main components of M. longifolia subsp. schimperi oil [2].

Previously, ten different chemotypes of M. longifolia subsp. typhoides var. typhoides were reported in the Tokat flora [3]. Various chemotypes were also detected from Northern Turkey and from the Marmara region [4,5]. In the current study, the essential-oil composition of Mentha longifolia (L.) Hudson subsp. typhoides (Briq.) Harley var. typhoides (L.) Hudson from Maçka–Trabzon was investigated. The essential oil of the aerial parts of the plant was obtained by hydrodistillation (3 h) using a Clevenger apparatus. The essential-oil yield was found to be 0.65% (v/w). The essential oil was dried over anhydrous Na₂SO₄. The essential oil was diluted with n-hexane (1:10, v/v) and analyzed as such by GC-MS. The analysis was performed on an Agilent 5977 MSD GC-MS system. Ninety-one compounds were identified in the essential oil representing 97.2% of the detected oil constituents. The main components of the oil were isodihydrocarvone (31.4%), dihydrocarvone (14.5%), β-caryophyllene (9.2%), and limonene (7.5%). A similar carvone-rich chemotype was reported previously [5]. The essential oil was also demonstrated to cause 33.1±0.9%; 29±3%; 5.4±0.4% (n=3) of inhibition of AChE activity, at 10, 5 and 1 mg/mL, respectively.

References:

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