

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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