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Thymus and *Origanum* species growing in Turkey: Their phytochemical and biological activity properties

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Thymus and *Origanum* genus, belonging to the Nepetoideae subfamily of Lamiaceae family, are culinary and medicinal herbs. *Thymus* species are known as “Kekik, nemamulotu, sater” in Turkey. They are represented by 64 taxon and 27 of which are endemic for Turkish flora. *Origanum* species are known as “mercanköşk, merzengüş, kekik”. They are represented by 32 taxa and 22 species in the flora of Turkey, 21 of which are endemic. *Thymus* and *Origanum* species are essential oil bearing plants. Their spice properties have made them one of the most popular plants in Turkey. Both are used for cold, respiratory system disease, gastrointestinal disorders, urinary system disorders in Turkey. There have been a lot of studies on essential oils of these species in Turkey. In the course of our phytochemical studies on aerial parts of three *Thymus* and four *Origanum* species growing in Turkey, rosmarinic acid has been isolated from all species studied. Luteolin 5-O-glucoside and ursolic acid have been isolated from all *Thymus* species. Lithospermic acid has been isolated from *T. pseudopulegioides*, *O. acutidens*, and *O. rotundifolium*. Betulalbuside A, and 8-OH linaloyl glucoside have been isolated from *T. pseudopulegioides* and *O. acutidens*. Thymoquinol 2,5-O-diglucoside has been isolated from *T. praecox* subsp. *grossheimii* var. *grossheimii*. Myristyl alcohol has been isolated from *O. micranthum*, *O. rotundifolium*, and *O. minutiflorum*. The structures of these compounds have been elucidated using by ¹H NMR, ¹³C NMR, 2D NMR and MS techniques. In the course of our biological activity studies on the isolated compounds and extracts obtained from these species, neuroprotective, antioxidant, antimicrobial and tyrosinase inhibitory activities have been detected.

Biography

Ufuk Özgen has completed his PhD from Ankara University and Post-doctoral studies from King's College, London in 2001. She is the Head of Pharmacognosy, at Faculty of Pharmacy, Karadeniz Technical University, Trabzon/Turkey. She has been studying on phytochemistry, biological activities of Turkish medicinal plants, ethnopharmacology, and analytical pharmacognosy. She has published more than 25 papers in reputed journals.

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