Claudio Frezza et al., Clin Exp Pharmacol 2018, Volume: 8
DOI: 10.4172/2161-1459-C1-028

Phytochemistry and Ethno-pharmacology of *Lamiaceae*

Claudio Frezza, Alessandro Venditti, Armandodoriano Bianco and **Mauro Serafini**
Sapienza University of Rome, Italy

Lamiaceae is a family of plants included in the Angiosperms group comprising 7 sub-families, 16 tribes, 9 sub-tribes, 236 genera and more than 7000 species. It represents probably one of the most known and studied family from the phytochemical and ethnopharmacological standpoints. For what concerns phytochemistry, *Lamiaceae* can be divided into two big groups. The first one comprises all those species producing mainly volatile terpenoids, found prevalently in the essential oils, whereas the second one comprises species biosynthesizing mainly components of the polar fraction. Typical examples of the first class are Salvia L., *Mentha* L., Rosmarinus L. species while typical examples of the second class are *Ajuga* L., *Teucrium* L., *Melittis* L. and *Stachys* L. species. Several phytochemicals have been isolated from *Lamiaceae* species such as α and β-pinene, menthol and limonene in the essential oil, di and tri-terpenes, flavonoids and iridoids in the polar fraction. Some of these all are even considered to be chemotaxonomic markers of several genera of *Lamiaceae*. Also from the ethnopharmacological point of view, *Lamiaceae* is very important. In fact, the essential oils of these species are known to exert anti-bacterial and anti-oxidant properties while the polar compounds are known to exhibit anti-viral, anti-cancer and anti-inflammatory activities, instead. These things may explain and maybe justify the employments of *Lamiaceae* species in traditional medicine where, still nowadays, they are used to treat several disorders and ailments. Throughout the lecture, all of this will be discussed and widened also considering the very recent mind changes of the scientific community on specific species of this family like those belonging to the *Ajuga* and *Tecurium* genera which are now considered to be toxic due to the presence of particular secondary metabolites known as *neo*-clerodane diterpenoids, being indeed, responsible of this effect.

Biography

Chemistry - Curriculum Biological Systems. Since 2014 he is a PhD student, near to conclusion, under the supervision of full Professors Mauro Serafini and Armandodoriano Bianco. Since 2010, during his bachelor thesis, he has been working in the field of chemistry of natural compounds, phytochemistry and ethnopharmacology. He has published more than thirty papers in several scientific journals and has participated to a dozen of national and international congresses. Since 2016, he has also been playing the role of referee for a lot of journals concerning phytochemistry and has been doing academic activities.

claudio.frezza@uniroma1.it

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