



Editorial

Traditional Herbal Medicine as a Tool to Explore New Frontiers in Pharmacology

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The aim of this Special Issue, entitled “Botany, Phytochemistry and Pharmacology in Traditional Herbal Medicine”, was to expand our knowledge about natural products of plant origin that are largely used in traditional phytotherapy. This Special Issue contains 12 scientific articles contributing to our knowledge of therapeutic tools that may lead to the discovery of new drugs for the treatment of numerous diseases.

Bizaj et al. [1] evaluated the content of essential oils (EOs) and the prenylated flavonoid xanthohumol (XN) in hop extracts (*Humulus lupulus*) and Aurora cultivars obtained using solvents with different polarities. They showed that the hop oil derived from CO₂ extracts at specific conditions had the highest relative values of linalool, caryophyllene, and humulene and that oil derived with propane had the highest contents of myrcene, geraniol, farnesene, selinene, and cadinene.

According to a chemical analysis, Moll et al. [2] built different models for dihydroisocoumarins (DHCs), namely hydrangenol (HG) and phyllostulcin (PD) from *Hydrangea macrophylla* subsp. *serrata* cultivars, using partial least squares regression (PLSR). This study showed that the use of hyperspectral modeling as a decision support for farmers is feasible and provides accurate results on a field scale to provide an indication of higher or lower DHC contents to support decision making with regard to harvest dates.

Naidoo et al. [3] investigated the antioxidant potential and the cytotoxic activity of the leaf, stem, and latex extracts of *Tabernaemontana ventricosa*, a plant used in traditional medicine because of its therapeutic benefits in reducing fever and hypertension as well as in wound healing. The authors conclude that the various parts of *T. ventricosa* exhibited strong antioxidant activity that are correlated to its cytotoxicity.

Aćimović et al. [4] investigated the effect of weather conditions on the chemical composition of *Nepeta nuda* essential oil. A gas chromatographic–mass spectrometric analysis of the essential oil over three successive years showed that the most dominant compounds were 1,8-cineole (44.2–49.1%), germacrene D (5.8–12.5%), caryophyllene oxide (5.1–13.8%), and trans-caryophyllene (3.1–6.6%). The influence of temperature on the accumulation of the most abundant component, 1,8-cineole, was positive, while the impact of precipitation and insolation was negative.

Al Kaabi et al. [5] evaluated the antioxidant contents and anticancer activities of *Moringa peregrina* extracts. This species is a widely used species in the traditional medicinal and food systems of the United Arab Emirates. The authors concluded that *M. peregrina* possessed strong anti-cancerous activity against breast cancer cells and colon cancer cells and that non-polar solvent chloroform showed maximum anti-cancer properties compared to other extracts.

Ju et al. [6] analyzed the effects of genotype on the phytochemical composition, antioxidant activities, antimelanogenic principles, and anti-inflammatory effects of *Perilla frutescens* var. *crispa*. The authors concluded that two different genotypes exhibited the best antimelanogenic activity and the highest anti-inflammatory activity, suggesting the importance of selecting the appropriate genotype to obtain maximum health benefits.



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Khan et al. [7] evaluated the antioxidant activity and phytochemical composition of *Alnus nitida*. The results showed that leaf extract has a stronger radical scavenging activity due to phytoconstituents such as malic acid, chlorogenic acid, epigallocatechin gallate, quercetin, and pyrogallol, whose antioxidant effects are well known in the literature. Thus, this plant may be a valuable candidate for treating oxidative stress and related disorders.

Rodríguez-Hernández et al. [8] analyzed the national sanitary registries of herbal products from 2001 to 2020 and identified native Mexican plants used in herbal products as a source of bioactive compounds. Herbal medicines are mainly used as nutritional supplements and anxiolytics or for digestive, respiratory, and vascular disorders. Because a low percentage of native plants is used for the preparation of herbal remedies, greater knowledge concerning the therapeutic properties of Mexican species is desired.

Aremu et al. [9] reviewed the ethnobotanical uses, nutritional value, phytochemical profiles, and biological activities of *Brachystelma* species. Furthermore, the review focuses on micropropagation protocols because some species are vulnerable and have become endangered due to their massive use by local populations. The authors conclude that phytochemical studies are needed to validate the ethnobotanical use of these species.

Wu et al. [10] reviewed the literature on *Illicium difengpi*, an endemic and indigenous medicinal species that has been used to treat rheumatoid arthritis and traumatic injury in China. Neolignans, glycosides, phenylpropanoids, triterpenoids, sesquiterpenes, amides, and essential oils such as safrole, linalool, and germacrene D, are the main phytochemicals in this species. Among these, triterpenoids, neolignans, and amides have shown anti-inflammatory and anticonvulsant activities.

Motti and de Falco [11] highlighted the use of 106 wild and cultivated plants used as sedatives and for insomnia treatment in folk phytotherapy in Italy. The authors collected, analyzed, and summarized the available literature regarding the pharmacological activity as well as clinical and pre-clinical studies concerning the most-cited wild taxa.

Anzano et al. [12] overviewed the literature on the phytochemical and pharmacological qualities of *Moringa oleifera*, a plant used as a natural integrator to cure malnutrition. The phytochemical analysis of the plant's organs identified metabolites belonging to different classes, including flavonoids, anthocyanins, isothiocyanates, anthraquinones, alkaloids, tannic acid, saponins, steroids, terpenoids, and cardiac glycosides. Pharmacological studies confirmed the use of this species as a traditional medicine to treat different diseases.

Conflicts of Interest: The author declares no conflict of interest.

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