

PLENARY PRESENTATIONS

PHYTOCHEMICAL CHARACTERIZATION AND PHARMACOLOGICAL PROPERTIES OF SOME MEDICINAL PLANTS OF THE ALGERIAN FLORA

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Centaurea, *Euphorbia*, *Linaria*, *Moltkia*, *Silene*, *Vicia*, *Lomelosia* and *Fraxinus* plants are belonging to many plant families growing in Algeria such as Asteraceae, Euphorbiaceae, Scrophulariaceae, Boraginaceae, Caryophyllaceae, Fabaceae, Caprifoliaceae and Oleaceae. They are known for their effectiveness in treating various conditions such as diarrhea, diabetes, gastric ulcers, hemorrhoids, asthma, skin cancer, rheumatism, insect bites, acne, infected wounds, hypertension, bronchitis, cracked heels, constipation, colds, malaria, dropsy, arthritis, ophthalmologic, warts, analgesic, intestinal parasites, and inflammatory disorders. Many studies on the chemical composition of species from these genera have shown their richness in triterpenoids, flavonoids, alkaloids, fatty acids, iridoids, lignans, sesquiterpenes, coumarins, polyphenols, saponins and phytosterols. These secondary metabolites are well-known for their interesting pharmacological activities like antioxidant, antimicrobial, anti-inflammatory, cytotoxic, anticholinesterase and anticancer. The ethanol extracts (70%) of dried selected species *Centaurea omphalotricha*, *C. dissecta* and *C. granatensis*, *Euphorbia gadihana*, *E. retusa*, *E. bupleuroides*, *E. atlantica*, and *E. guyoniana*, *Linaria scariosa* and *L. aegyptiaca*, *Moltkia ciliata*, *Silene arenaroides* and *S. colorata*, *Vicia onobrychoides*, *Lomelosia stellate* and *Fraxinus dimorpha* were partitioned by liquid/liquid chromatography into extracts PE, chloroform, EtOAc and *n*-BuOH. Separation, purification and characterization of the extracts using different chromatographic techniques (VLC, CC, HPLC, HPLC-DAD, LC-MS/MS, GC-MS and TLC) provided and identified numerous natural products including lignans, flavonoids, polyphenols, saponins, fatty acids, iridoids, coumarins, phytosterols, diterpenes and triterpenes, from which more than 20 new compounds.

The structures of the isolates were elucidated by 1D- and 2D-NMR (^1H , ^{13}C and DEPT, COSY, HSQC, TOCSY, HMBC, NOESY, ROESY), UV-Vis, IR, and HR-ESI-MS, acid hydrolysis and comparison with literature data. Moreover, the antioxidant, anti-inflammatory, antimicrobial activities and *in vivo* wound healing of the obtained extracts and some compounds were assessed. These results stand many Algerian species as a promising source of phytochemicals, having interesting therapeutic properties, for pharmaceutical, cosmetic and nutritional purposes.