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Poster Communication Abstract – PH.22

CONTRIBUTION TO THE PHYTOCHEMICAL STUDY OF THE ESSENTIAL OILS OF SOME LEBANESE AND IMPORTED AROMATIC PLANTS

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Hypericum libanoticum N. Robson, Mentha longifolia L., Myrtus communis L. subsp communis, Myrtus communis L. var. leucocarpa, Cinnamomum zeylanicum Nees, Syzygium aromaticum (L.) Merril et Perry

The wealth of the Lebanese flora is no longer in doubt. The Mediterranean Basin is one of the "hot" points, hotspot, in which is concentrated biodiversity. In the perspectives of valorization for Lebanese or imported plant resources, we are particularly interested in aromatic herbs. These are distinguished by the presence, in their secretory tissue, of essential oils endowed with multiple properties, and used primarily in perfumery and cosmetics for their aromatic and therapeutic properties, in herbal medicines or kind in food industry for their flavoring properties, antioxidant, and antimicrobial. This study aims to:
- identify aromatic species widely used and selected;
- locate secreted E.Os.;
- extract E.Os. from aerial parts by HD (Clevenger);
- calculate yields;
- analyze the chemical composition of E.Os. by GC/MS.

6 aromatic and medicinal plants are studied: *Hypericum libanoticum* N. Robson (Guttiferae), *Mentha longifolia* L. (Lamiaceae), *Cinnamomum zeylanicum* Nees (Lauraceae), *Myrtus communis* L. subsp. *communis* and *Myrtus communis* L. var. *leucocarpa* and S*yzygium aromaticum* (L.) Merril and Perry (Myrtaceae).

The value of yields of E.Os. extracted by HDC, is: – -0.138% to Hypericum libanoticum N. Robson (samples 1 and 2);
- 0.76% and 0.6% for *Mentha longifolia* L. (samples 1 and 2);
- 0.511% for *Cinnamomum zeylanicum* Nees (Samples 1 and 2);
- 0.04% for *Myrtus communis* L. subsp. *communis*, and 0.044% for *Myrtus communis* L. var. *leucocarpa*;
- 0.206% for *Syzygium aromaticum* (L.) Merril and Perry.

Chemical analysis by GC/MS has allowed the identification of:
- 30 and 36 components, for *H. libanoticum* N. Robson representing 95.7% and 95.2% of the entire E.Os. respectively;
- 16 and 19 for *M. longifolia* L. representing 92.4% and 91.6% of the entire E.Os. respectively;
- 19 and 22 *C. zeylanicum* Nees representing 94.9% and 96.8% of the entire E.Os. respectively;
- 30 compounds for *M. communis* L. subsp. *communis* representing 98.98% of the entire E.O.;

- 40 compounds for *M. communis* L. var. *leucocarpa* representing 99.33% of the entire of the entire E.O.;
- 17 components for *S. aromaticum* (L.) Merril and Perry representing 96.1% of the entire E.O.

The major constituents identified are:

-Germacrene-D (25.6 and 14.1%), α-pinene (13% et 13,9%), copaene (13,6% et 7,1%), caryophyllene (9,7% et 8,5%) for *H. libanoticum* N. Robson;
- Menthone (24.3% and 33.9%) for *M. longifolia* L.;
- Cinnamaldehyde (84.4% and 84.6%) for *C. zeylanicum* Nees;
- Eucalyptol (1,8-cineol) (30.82%), linalool (20.29%) for *M. communis* L. subsp. *communis*;
- Myrtenyl acetate (21.61%), eucalyptol (1,8-cineol) (17.10%) for *M. communis* L. var. l*eucocarpa*;
- Eugenol (56.2%) and β-caryophyllene (23.8%) for *S. aromaticum* (L.) Merril and Perry.