New essential oils with interesting biological activities from endemic plants of Côte d’Ivoire: *Zanthoxylum mezoneurispinosum* and *Z. psammophilum*.

**Evelyne A. Tanoh****, Fatimata Nea, Tierry K. Kename, Manon Genva, Matthew Saiwe, Félix Z. Tonzo, Marie-Laure Faucconier.**

1. Laboratory of Biological Organic Chemistry, UFR-SMST, University Felix Houphouët-Boigny, BPV 34 Abidjan, Côte d’Ivoire
2. Agro-Bio Chem Department, Laboratory of Natural Molecules Chemistry, University of Liège, Gembloux Agro-Bio Tech, 2, Passage de Deportees, B-5030 Gembloux, Belgium

**Introduction**

The genus *Zanthoxylum* (Z.) is well known because of its biological properties such as antioxidant, antimicrobial, antifungal and anticaner properties (1-2). In Asia (Japan, Thailand, etc.), South America (Mexico, Portero, etc.), North America (Canada, etc.), and Africa (Ethiopia, Nigeria, Cameroon, etc.), *Zanthoxylum* are currently used on the treatment of sterility, rheumatism, ulcers, diabetes and dysentery (3-4). However, *Z. mezoneurispinosum* and *Z. psammophilum* are two *Zanthoxylum* endemic plants in Côte d’Ivoire which the literature does not mention any study regarding essential oils. This work aims to determine the chemical composition as well as the anti-inflammatory and antioxidant activities of the essential oils of these two endemic plants.

**Methods**

**Z. Mezoneurispinosum** and **Z. psammophilum** are aromatic plants belonging to the Rutaceae family.

The essential oils were extracted from the leaves, trunk bark and roots in the fresh state by hydrodistillation using Clevenger device (n=3).

Chemical composition of these plants was obtained by gas chromatography-mass spectrometry (GC-MS).

**Results**

**Yield and main essential oils compounds**

- **Z. mezoneurispinosum**
  - Leaves: 0.2%; Trunk bark: 0.2%; Root: 0.04%

- **Z. psammophilum**
  - Leaves: 0.05%; Trunk bark: 0.5%; Root: 0.02%

Thirty-four compounds have been identified in the essential oils of **Z. mezoneurispinosum**. The major compounds belong to monoterpenes and sesquiterpenes families in all organs.

Thirty-seven compounds have been identified in the essential oils of **Z. psammophilum**. The main compounds are non-terpenic acyclic molecules (methylketones) [5].

**Biological activities**

- **Anti-inflammatory**
- **Antioxidant**

**Conclusion**

For the first time, this work allowed the characterization and determination of chemical composition of *Z. mezoneurispinosum* and *Z. psammophilum* essential oils, two endemic plants of Côte d’Ivoire. The essential oils are mainly composed of monoterpenes for *Z. mezoneurispinosum* and methylketones in *Z. psammophilum*. Biological activities of essential oils showed strong anti-inflammatory and antioxidant activities. This work emphasizes the potential for recovery of these two plants.

**For further informations**

Please contact evelynetanoh5@gmail.com

**Literature**


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