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Letter to the Editor

Comment on the paper "Chemical analyses and anthelmintic effects of Artemisia campestris essential oil"

In their recent paper published in "Veterinary Parasitology", 263:959-65, Abidi et al. (2018) analyzed the chemical composition of *Artemisia campestris* and evaluated its anthelminthic and nematicidal effects. Authors are to be congratulated for their valuable works on the biological activities of essential oils. However, our review revealed critical flaws and serious gaps regarding the data and methodology used for the analysis of essential oils.

In the manuscript, the authors analyze the chemical composition of the essential oils extracted from the aerial parts of *Artemisia campestris* and found 50 components with β-pinene and 2-undecanone as main compounds. Considering that the oil composition of *A. campestris* has been exhaustively studied (Akrout et al., 2001; Juteau et al., 2002; Asta Judzentiene and Jurga Budiene, 2014) and the analytical conditions described in the manuscript, it is well apparent that the chemical composition reported by the authors is questionable.

The description of the acquisition parameters and the results presented in table 1 showed important mistakes:

- In the abstract: third sentence gas chromatography/mass spectrometry rather than gas chromatography/mass chromatography.
- What about the yield of essential oil?
- Under the analytical conditions described, the total run time should not be 70 min, but 41.5 min. How the oil sample was injected? The film thickness of the column?
- The scan range should not be expressed in electron.
- The retention indices are missing in table 1.
- The retention times used by the authors are wrong for several components (i.e. α-phellandrene eluted before α-pinene?
- How the authors do identified benzene, acetic acid and ethanol under these conditions?
- How the authors explain the presence of uncommon components in the essential oils of A. campestris. These are benzene; ethanol; acetic acid; 2-naphtalenmethanol; 2,6-octadien; 3-cyclohexen; 1H-cycloprop; 1,3,6-octatriene; ethyl-2-methylene, Bicyclo (3, 2,1) oct-2-ene ; cyclohexen, 1methylethyl; benzenemethanol; butanoic acid and 2-norbornanone, among others.
- How the authors explain the presence of some components in duplicate with different RT (i.e. i.e. 1H-cycloprop RT 34.67 and 37.8 min; Naphtalene RT 36.15 and 32.9 min).
- The quantification of different compounds is doubtful. The authors have simply used the area provided by the MS detector which represents a failure in the quantitation (it should be determined by GC-FID analysis).
- In the discussion, the authors compared the efficacy of the essential oil and different extracts (ethanolic, aqueous and hydro-alcoholic extracts) in the inhibition of egg hatch? What is the rational for such comparison (both extracts essential oil and solvent extracts are completely different)?

Based on their antecedents, the claim that the anthelminthic and nematicidal effect could be attributed to the major components or their interactions seem to be unreliable.

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