

Comparative qualitative and quantitative determination of flavonoids and phenolic contents of *Cinnamomum verum* J.Presl and *Cinnamomum camphora* L. Growing in Egypt

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Abstract

The present study aims to compare qualitatively and quantitatively the flavonoids and phenolic contents of the leaves of *Cinnamomum verum* J.Presl and *Cinnamomum camphora* L. Growing in Egypt. Total phenolics and total flavonoids contents were determined by using UV-visible spectroscopy. The qualitative and quantitative estimation of the flavonoid and phenolic acid contents in the leaves of *Cinnamomum verum* J.Presl and *Cinnamomum camphora* L. were performed by HPLC. The content of total phenolics of different *Cinnamomum* leaf extracts was (20.61 and 19.65 mg/100 g), respectively. While, the content of total flavonoids of the leaves of *Cinnamomum verum* J.Presl and *Cinnamomum camphora* L. were (2.01 and 3.88 mg/100 g). The HPLC analysis of the flavonoid contents revealed the presence of eleven compounds in the leaf of *Cinnamomum camphora* L. with rutin as a major compound (5309.6 ppm) followed by quercetrin (6025.5 ppm) and nine compounds were estimated in the leaf of *Cinnamomum verum* J.Presl with rosmarinic as a major compound (6194 ppm) then Naringin (2281.3 ppm).

Introduction

Cinnamomum verum J.Presl and *Cinnamomum camphora* L. belong to family Lauraceae. The genus *Cinnamomum* comprising over 250 species. *Cinnamomum verum* J.Presl is widely used as a spice due to the presence of cinnamaldehyde. *Cinnamomum verum* J.Presl has been identified to possess excellent anti-inflammatory, antioxidant, anticancer and antibacterial properties. However *Cinnamomum camphora* L. has long been prescribed in traditional medicines for the treatment of inflammation-related diseases such as rheumatism, sprains, bronchitis and asthma due to the presence of camphor. The wood and leaves are analgesic, antispasmodic, odontalgic, rubefacient, digestive complaints, depression and are also used as a stimulant.

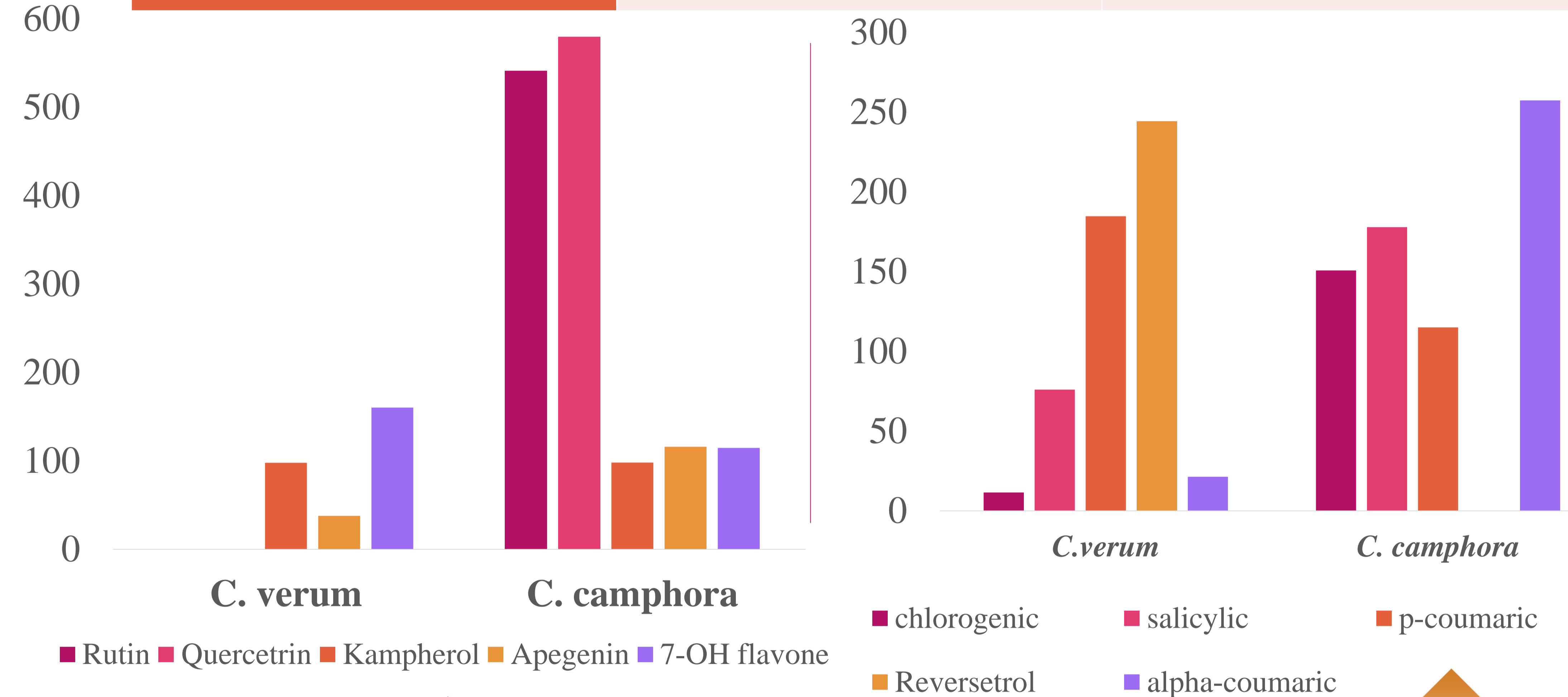
Materials & Methods

Samples of the leaves of *C.verum* J.Presl and *C.camphora* L. were collected in May to July from trees growing in Giza zoo, Egypt. Total flavonoid content was evaluated according to a calorimetric assay with aluminum chloride. The Folin-Ciocalteu method was used for the determination of the total phenolics. Identification of the individual components was performed by comparison of their retention times with those of available authentic samples

Results

Table 1: Quantitative determination of total flavonoids and phenolic contents by colorimetric assay.

	<i>C.verum</i>	<i>C.camphora</i>
Total Phenolics	20.61 mg GAE /g	19.65 mg GAE /g
Total Flavonoids	2.01 mg RE/g	3.88 mg RE/g



Results of determination of flavonoids in the leaves of *C.verum* J.Presl and *C.camphora* L. using HPLC analysis.

Results of determination of phenolic acids in the leaves of *C.verum* J.Presl and *C.camphora* L. using HPLC analysis.

Conclusion & Future aspects

In conclusion, the leaves extracts of *C.verum* J.Presl and *C.camphora* L. showed qualitative and quantitative observations of total phenolics and flavonoids contents. Hence, further studies are needed to isolate pure compounds from the extracts.

Ref.

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