

Chemical composition, antioxidant and antibacterial properties of the essential oils of *Etligeria elatior* and *Cinnamomum pubescens* Kochummen

ABSTRACT

BACKGROUND: Plant essential oils are widely used as fragrances and flavours. Therefore, the essential oils from the leaves of *Cinnamomum pubescens* Kochummen (CP) and the whole plant of *Etligeria elatior* (EE) were investigated for their antioxidant, antibacterial and phytochemical properties. **RESULTS:** CP and EE were found to contain appreciable levels of total phenolic contents (50.6 and 33.41 g kg⁻¹) as gallic acid equivalent) and total flavonoid contents (205.6 and 244.8 g kg⁻¹) as rutin equivalent), respectively. DPPH free radical scavenging activity of CP is superior to EE (P < 0.05) showing IC₅₀ of 77.2 and 995.1 µg mL⁻¹), respectively. Methicillin-resistant *Staphylococcus aureus* (MRSA), *Bacillus subtilis*, *Pseudomonas aeruginosa* and *Salmonella choleraesuis* were tested against CP and EE. Only MRSA was the most susceptible bacteria to CP. GC/MS studies resulted in the identification of 79 and 73 compounds in CP and EE, respectively. The most abundant components of EE included β-pinene (24.92%) and 1-dodecene (24.31%). While the major compound in CP were 1,6-octadien-3-ol,3,7-dimethyl (11.55%), cinnamaldehyde (56.15%) and 1-phenylpropane-2,2-diol diethanoate (11.38%). **CONCLUSION:** This study suggests that the essential oils from *Cinnamomum pubescens* Kochummen and *Etligeria elatior* could be potentially used as a new source of natural antioxidant and antibacterial in the food and pharmaceutical industries.

Keyword: Antibacterial activities; Antioxidant; Chemical composition; *Cinnamomum pubescens* Kochummen; *Etligeria elatior*