Rhododendron subarcticum Leaf Essential Oil is Effective against Drug-Resistant Plasmodium falciparum and may therefore be Useful for Malaria Prophylaxis

Ian E Cock1,2
1School of Environment and Science, Nathan Campus, Griffith University, Brisbane, Queensland, AUSTRALIA.
2Centre for Planetary Health and Food Security, Nathan Campus, Griffith University, Nathan, Brisbane, Queensland, AUSTRALIA.

Correspondence:
Dr. Ian E Cock1,2
1School of Environment and Science, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, AUSTRALIA.
2Centre for Planetary Health and Food Security, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, AUSTRALIA.
Email id: i.cock@griffith.edu.au

A Canadian research team recently published a study in ACS Omega reporting that an essential oil produced using Rhododendron subarcticum leaves was effective at inhibiting the growth of Plasmodium falciparum parasites (IC50 = 105nM). The parasite stain tested in that study was reported to be a drug-resistant strain, although the authors did not define which drugs the strain was resistant to. The authors of that study also examined the terpenoid compounds in the essential oil and reported ascaridole (67% relative abundance) and p-cymene (21% relative abundance) to be the major essential oil constituents. Furthermore, the authors reported that ascaridole contributed the anti-P. falciparum activity, with an IC50 of 147nM. Interestingly, as the activity of the essential oil was greater (lower IC50) than isolated ascaridole, it is likely that other components in the essential oil also contribute to this activity, either directly, or as potentiators of ascaridole’s activity.

REFERENCE

DOI: 10.5530/po.2023.4.30
Copyright Information :
Copyright Author(s) 2023 Distributed under
Creative Commons CC-BY 4.0
Publishing Partner : EManuscript Tech. (www.emanuscript.in)