Antiplasmodial Potentials of Malay Apple (*Syzygium malaccence*) and Tropical Almond (*Ochorosia elliptica*) Against *Plasmodium berghei* Induced Mice

***Abdussalam Fatimah Oluwakemi[1], Golagha Oghenevwede Regina[2] & Alake Aanuoluwapo[3]**

[1]Department of Science Laboratory Technology, Federal Polytechnic Ilaro.
[2&3]Department of Microbiology College of Biosciences, Federal University of Agriculture, Abeokuta.
*Correspondence: fatimah.abdussalam@federalpolyilaro.edu.ng.com

Malaria remains a public health threat in tropical and subtropical regions. *Plasmodium berghei* is a rodent malaria parasite commonly used as a model organism for malaria studies. The extracts of Malay apple (*Syzygium malaccense*) and Tropical almond (*Ochrosia elliptica*) have demonstrated various pharmacological activities, including anti-inflammatory, antioxidant, and antimicrobial effects in previous studies but the antimalarial properties in animal models have not been fully documented. Thus, this study seeks to investigate the phytochemical composition and antimalarial activities of Malay apple and Tropical almond leaf extracts against *Plasmodium berghei-induced* mice. The two plants were collected, air-dried, blended and prepared for extraction. Phytochemical screening was carried out to check the active compounds in the plants. Albino mice with body weight ranging from 25 to 30 g were used for the study. The blood sample was collected from the tail veins of *P. berghei-infected* donor mice having a parasite load of 30–37% to infect the mice before the treatment. The suppressive activity of *Syzygium malaccense* and *Ochorosia elliptical* leaf aqueous extract was evaluated according to the Peter's suppressive assay (4- day suppressive test). Plasmodium-infected mice administered with six concentrations (40, 60, 80, and 100 mg/kg) for seven days. Another set of mice treated with distilled water and Chloroquine (5 mg/kg) served as negative and positive control groups respectively. Phytochemical screening revealed the presence of saponins, steroids, alkaloids, tannins, cardiac glycosides, flavonoids, and coumarins in Malay apple similarly for tropical almond but with exceptions in the presence of alkaloid and steroids. Results demonstrated a dose-dependent reduction in parasitemia levels, with the highest concentration (100 mg/kg) yielding the most significant, from 20 – 5 % for Malay apple and 20.05 - 4.85 % for tropical almond respectively from day1-7. Malay apple extract consistently exhibited superior parasitemia reduction compared to tropical almond across all concentrations. The negative control exhibited continuous rise in parasitemia while the positive control drastically reduced parasitemia when compared with the plant extracts. The findings suggest that both plant extracts possess notable antimalarial properties, supporting their potential.

Keywords: *Plasmodium berghei*, parasitemia, Aqueous extract, *Syzygium malaccense, Ochrosia elliptica*