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Chemosuppressive activities in *in vivo* studies of *Plasmodium falciparum*-infected mice using isolated oil of *Stigmaphyllon ovatum* (Amazon vine) Cav.

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Abstract. ***Problem***: In sub-Saharan Africa, malaria remains one of the leading health problems. This situation has been aggravated by the increasing spread of drug-resistant *Plasmodium falciparum* strains. The study was conducted to determine the chemosuppressive activities in *in vivo* studies of *Plasmodium falciparum*-infected mice with isolated oil of *Stigmaphyllon ovatum* leaves used in the traditional treatment of malaria in Nigeria. ***Methodology***: The plant leaves were collected, dried, pulverized and extracted in Soxhlet extractor with hexane solvent. The crude extract was concentrated using a rotary evaporator and phytochemical screening performed using standard methods. Isolation of oil from hexane extract was done using vacuum liquid chromatography while characterization was done by gas chromatography-mass spectrometry (GC-MS). Chemosuppressive activities were conducted along with quinine to determine the antimalarial potency in *Plasmodium falciparum*- infected BALB/c albino mice. ***Findings***: Glycosides, saponins, phenolics, and alkaloids among others were present. Components detected from the isolated yellow oil of *S. ovatum* were 9-octadecenoic acid (oleic acid) (Rt:20.0, 19.37%), an unsaturated fatty acid, squalene (Rt:25.6, 4.58%), a terpene; 7-tetradecenal (Rt:22.6, 2.40%), an aldehyde and alicyclic compounds like bicycle (3,10) hexan-3-one (Rt:16.7, 0.22%). Quinine-treated mice exhibited the lowest parasite counts of 0.27±0.01 (83.82% mean chemosuppression) at day 4 of therapy while the lowest parasite counts for the isolated oil was 0.95±0.05 (42.92% mean chemosuppression) at day 4 of therapy. ***Conclusion***: The chemosuppressive activities revealed that the isolated oil exhibit significant suppression ($P<0.05$) of *Plasmodium falciparum* when compared with the standard, quinine which was evident by the photomicrograph results. This work corroborates the local use of the plants for the treatment of malaria in Southern Nigeria.

Keywords: *Stigmaphyllon ovatum*, *Plasmodium falciparum*, oil, GC-MS.

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