Therapeutic Potential of Fractions of *Globimetula oreophila* (Oliv. ex Hook.f.) Leaf Extract Growing on Azadirachta indica Against *Plasmodium berghei*-infected Mice: Ex Vivo Approach

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Abstract: Introduction: The development of parasite resistance to first-line antimalarial medicines, especially the ACTs, has made the research and development of novel antimalarial medications vital. *Globimetula oreophila*, a plant used in traditional medicine to treat malaria, is an example of a natural product that may provide new antimalarial drugs with fewer side effects, less drug resistance with greater efficacy than synthetic drugs. This study aims to evaluate the antiplasmodial properties of *G. oreophila's* fractions. Method: After collection and authentication, the leaves were air-dried, and reduced in size using pestle and mortar. The pulverized plant was macerated in 70% ethanol and fractionated with solvent in increasing polarity of n-hexane, chloroform, ethyl acetate, and n-butanol to produce the various fractions. The antiplasmodial activity of the n-hexane, chloroform, ethyl acetate, and n-butanol fractions of *Globimetula oreophila* leaf extract was assessed using the *in-vivo* method in *Plasmodium berghei*-infected mice. Results: In mice, the fractions' median fatal dose (LD_{50}) was calculated to be more than 5000 mg/kg. At doses of 125, 250, and 500 mg/kg, the fractions significantly (p<0.001) reduced the parasitemia level. Conclusion: The fractions of the *G. oreophila* showed significant *in vivo* antiplasmodial activity which upholds the earlier *in vivo* findings of the crude extract as well as its folkloric use.

Keywords: antiplasmodial property; *Globimetula oreophila*; natural product; resistance