

*Azadirachta indica* A. Juss (the neem tree), a source of limonoid insect growth regulatory (IGRs), grows well in many places in sub-Saharan Africa. We explored the potential of neem wood and bark chippings in malaria vector control by evaluating their aqueous extracts as a larvicide and growth disruptor of *Anopheles gambiae* s.s. (Diptera: Culicidae) under laboratory conditions. Immature stages of the mosquito were tested using WHO guidelines. Fifty percent inhibition of adult emergence (IE50) of all larval instars was obtained with <0.4 g of neem chippings in 1 liter of distilled water. For pupae, significant mortality occurred at 5 g/liter. Inhibition of pupation was seen with some larvae staying as LIVs for 9 d before dying. In addition to growth retardation, reduced reaction by larvae to visual and mechanical stimuli observed at higher neem concentrations may make them more susceptible to natural predators. There were no significant differences in the sex ratio of emerged adults or wing length of females compared with the controls. High-performance liquid chromatography of aqueous extracts showed a series of constituents of varying polarity, including the limonoids nimbin and salannin, which were quantified. Azadirachtin was not detected and the observed activities are attributed to other constituents of the chippings. Such larvicides can be particularly effective where larval habitats are relatively large and readily identifiable. Aqueous extracts of neem wood chippings can be produced locally and their use has the potential to be a low-tech component of integrated malaria vector control schemes in sub-Saharan Africa.