

Analysis of Insecticidal *Azadirachta indica* A. Juss. Fractions

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As a result of chemical investigation on the ethanolic extract of fresh fruit coatings of *Azadirachta indica* A. Juss. (neem), twenty-seven compounds were identified in non-polar to less polar fractions which showed pesticidal activity determined by WHO method against *Anopheles stephensi* Liston. These identifications were basically made through GC-EIMS and were further supported by other spectroscopic techniques, including ¹³C NMR, UV and FTIR as well as retention indices. Thus sixteen *n*-alkanes, **1–16**; three aromatics 2,6-*bis*-(1,1-dimethylethyl)-4-methyl phenol (**17**), 2-(phenylmethylene)-octanal (**20**), 1,2,4-trimethoxy-5-(1*Z*-propenyl)-benzene (**27**); three benzopyranoids 3,4-dihydro-4,4,5,8-tetramethylcoumarin (**18**), 3,4-dihydro-4,4,7,8-tetramethylcoumarin-6-ol (**19**), 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethyl-cyclopenta[*g*]-2-benzopyran (**22**); one sesquiterpene methyl-3,7,11-trimethyl-2*E*,-6*E*,10-dodecatrienoate (**21**); three esters of fatty acids methyl 14-methyl-pentadecanoate (**23**), ethyl hexadecanoate (**24**), ethyl 9*Z*-octadecenoate (**25**) and one monoterpene 3,7-dimethyl-1-octen-7-ol (**26**) were identified. Except **6**, **8**, **24** and **25** all these compounds were identified for the first time from the pericarp and fifteen of these, **1–3**, **7**, **9**, **10**, **17–23**, **26**, **27**, are hitherto unreported previously from any part of the tree. Although this tree is a rich source of various natural products, it is the first report of identification of mono- and sesquiterpenes **26** and **21** and a potent antioxidant, **17**.

Key words: *Azadirachta indica*, Fruit Coats, *Anopheles stephensi*