Chemical investigations of two undescribed uvaria species from Tanzanian coastal forests

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This Dissertation reports on phytochemical investigation of the stem barks of two medicinal plants from Tanzanian coastal forests, namely Uvaria sp. (pande) and Uvaria sp. (Pugu). Both plants belong to the family Annonaceae.In these investigations, the crude ethyl acetate extract of Uvaria sp. (Pande) showed a weak activity in the brine shrimp test. Previous antimalarial tests of Uvaria sp. (Pande) against P. falciparum malarial parasites showed the extract to have a strong activity in vitro (IC50 = 5.9 H-g/ml) for the root bark extracts and 10-49 Jig/ml for the stem bark extracts). From Uvaria sp. (Pande) two natural products which have been tentatively identified as being a chalcone derivative"and 16,17-epoxyeuph-23-ene were isolated. These compounds have not been identified unambiguously because at the time of writing this Dissertation the available analytical information was not sufficient for the complete identification. Also in these investigations, the crude n-hexane extract of Uvaria sp. (Pugu) yielded the triterpene friedelin, whose structure was established by comparing its spectral and other physical properties with those reported in the literature for the compound. In previous investigations of Uvaria sp. (Pande) the chalcone derivative mentioned above and P-glutinol were isolated. In those studies and the investigations reported in this Dissertation, friedelin, which has been isolated as the major constituents of Uvaria species (Pugu), was not obtained. Conversely, the major constituents of the stem bark of Uvaria species (Pande), viz. the chalcone derivative and P-glutinol were not found in the extracts from the stem bark of Uvaria sp. (Pugu). This difference in chemical composition of the two species suggests that the plants are probably not belonging to the same species. The taxonomical description of Uvaria sp. (Pugu) and Uvaria sp. (Pande) are in progress at the Royal Botanical Gardens I Kew (UK).