Evaluation of gum exudates from three selected plant species from Tanzania for food and pharmaceutical applications

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Abstract

Authenticated gum samples from three plant species from Tanzania were analysed and their potential for food, pharmaceutical and other applications was determined by comparing their physicochemical properties with those of commercial Acacia gums from Tanzania, gum karaya and the specifications demanded by the international regulatory bodies for gum arabic for food and pharmaceutical applications. The gum exudate from Dichrostachys cinerea meets some specifications (moisture content, solubility, insoluble matter and ash) demanded for the identity and purity of gum arabic as stipulated by the international regulatory bodies. The aqueous solution of the gum possesses solubility and viscosity similar to commercial gum arabic. Similarly, the properties of Sterculia quinqueloba gum meet a number of the specifications demanded for gum karaya, except that it contains high levels of tannin which would limit its usefulness in food and pharmaceutical applications. The properties of the gum exudate from Acacia pseudofistula, on the other hand, are different from those of Tanzanian commercial Acacia gums.