Intra-species variation of the properties of gum exudates from two *Acacia* species of the series Gummiferae

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Abstract

Gum exudates from *Acacia drepanolobium* and *A. kirkii* ssp. *kirkii* var. *kirkii* from Tanzania have been analyzed and the intra-species variation of their properties evaluated. The results show that inter-species variation of the properties of the gum exudates from the two species exist, whereas only some parameters show intra-species variation. The specific optical rotations of the gum exudates varied from +72.0° to +94.6° for *A*. *drepanolobium* and +29.2° to +38.0°, for *A. kirkii* ssp. *kirkii* var. *kirkii.* Likewise, the acid equivalent weights (AEWs) varied from 832 to 1659 for *A*. *drepanolobium* and 663 to 1199 for *A. kirkii* ssp. *kirkii* var. *kirkii*. Intra-species variation for the tannin content was also observed for the species studied, whereas no intra-species variation was observed for the nitrogen and methoxyl contents. The results in this study show that the variation of the properties among the batches of commercial *Acacia* gum may be due to admixture of gums from different *Acacia* species, as well as intra-species variation.

Keywords

Gum exudates
Acacia
Properties
Gummiferae