

Title Putranjiva roxburghii oil—A potential herbal preservative for peanuts during storage
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Abstract

Samples of peanut seeds were collected from stores in eastern Uttar Pradesh, India and examined for their associated mycoflora and insects. Fifteen species of fungi and one insect, *Trogoderma granarium*, were isolated from the samples. Volatile constituents extracted in the form of essential oils from 32 plant species were evaluated against the dominant fungi, *Aspergillus flavus* and *Aspergillus niger*, as well as *Trogoderma granarium*. The oil of *Putranjiva roxburghii* exhibited the greatest toxicity. The oil was found to be fungicidal and thermostable at its minimum inhibitory concentration (MIC) of 400 ppm. The oil was characterized by the determination of its various physico-chemical properties.

The oil protected the peanut seeds completely for 6 months at 0.25 and 0.38 mL in containers of 250 mL capacity holding 200 g seeds. It did not exhibit any adverse effect on seed germination, seedling growth and general health and morphology of plants. Thus, the oil of *Putranjiva roxburghii* showed potential as a preservative for peanut seeds against spoilage by fungi and insects during storage.