Lifting properties of the alkamide fraction from the fruit husks of Zanthoxylum bungeanum

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Synopsis

The fruits of various Zanthoxylum species are used as a spice in the Chinese and Japanese cuisine because of their delicate flavour and tingling properties. The lipophilic hydroxyalkamides hydroxy α- and β-sanshools (1a,b) have been identified as the tingling principles of these plants, and previous studies have validated a sanshool-rich lipophilic extract from the fruit husks of Z. bungeanum Max. (Zanthalene®) as an anti-itching cosmetic ingredient. Because tingling is a sort of ‘paralytic pungency’, and Zanthalene® potently inhibits synaptic transmission, we have investigated its capacity to relax subcutaneous muscles and act as a topical lifting agent for wrinkles. An anti-wrinkles extract rich in spilanthol (2), a lipophilic alkamide having sensory properties similar to those of Zanthalene®, was used as a reference. Short-term (lifting effect) and long-term (anti-wrinkle) improvements of skin roughness parameters were evaluated by both objectives’ and subjectives’ measurements. An immediate ‘lifting’ effect was observed with the sanshool-rich lipophilic extract, at dosages at which the reference alkamide extract was inactive in the objective assays. Limited desensitization after repeated application and good overall tolerability were observed, although a modest long-term anti-wrinkle effect was shown by both products. Taken together, these observations validate the use of sanshool-rich lipophilic extracts as an efficacious, immediate-action lifting agent, and exemplify the relevance of sensory observations to foster the development of innovative cosmetic ingredients.

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