ANALYTICAL MICROSCOPY OF *Bixa orellana* L., SUBSTITUENT OF *Crocus sativus* L. AND *Capsicum annuum* L.

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Bixa orellana "rucu", "urucu", "achiote", "bija" is a species originated in tropical America, probably in the southwest of the Amazon region. It extends from Mexico to Brazil and Argentina (Chaco, Córdoba, Formosa, Salta) and in the Caribbean. Nowadays, it is distributed in tropical countries from the old and new world.

The seeds which are used by indigenous communities to paint their bodies

in religious rituals produce a dye, which is the main adulterant and/or total substituent for saffron and pepper.

In this study, we will present the histological elements of diagnosis corresponding to each drug with the purpose of detecting a substitution or alteration when presented in powder form, fragmented or as a manufactured product.

Bixa orellana fruit: it is a coffee colored ovoid capsule which is covered with soft thorns and several seeds coated with a reddish-orange pulp (aril).

Histological elements of diagnosis: Outer layers of the seed, amiliferous parenchyma.

Crocus sativus flower: the trifid stigmas are the drug.

Histological elements of diagnosis: pollen grains, parenchyma cells of the stigma with extended buds, libero-ligneous bundles remains, epidermal cells with buds.

Capsicum annum fruit: it is a berry with a reduced mesocarp.

Histological elements of diagnosis: strongly cuticularized epidermis, layers of sub epidermal collenchyma. On the border of the mesocarp: large cells were observed with sclerosed cells of the inner epidermis underneath them. Seed: testa, very sinuous cells (encephaloid cells).

Microphotographs and designs of each drug will be presented. A dichotomous key will be created to distinguish each of the species when they are fragmented or in powdered form.

Keywords: *Bixa orellana, Crocus sativus, Capsicum annuum*

References

1. Nájera M.T and Spegazzini E.D. Rev. Farm 131 (1-2): 7-14, 1989. "Parámetros para el control de calidad de especies. Analítica Micrográfica de *Crocus sativus* L. (Iridiaceae) y sus adulterantes. I. *Carthamus tinctoriuos* (Compuestas)".

2. Gupta Mahabir, P 270 Plantas Medicinales iberoamericanas. Convenio Bello 1995.