

OLIBANUM is principally collected in Arabia, and brought from Mecca to Cairo, from whence it is imported into Europe. It consists of transparent brittle grains of different sizes, not larger than a chesnut, of a red or yellow colour, having little taste and a peculiar aromatic smell. Neumann got from 480 grains, 346 alcoholic, and 125 watery extract, and inversely, 200 watery, and 273 alcoholic. The distilled spirit and oil both smelt of olibanum, but no oil separated. Braconnot says it is composed of a gum and a resin, acquiring peculiar properties by the action of nitrous acid. Olibanum forms a transparent solution with alcohol, and a milky fluid when triturated with water: it is not fusible, but inflammable, and burns with an agreeable smell. It is the frankincense of the ancients; and the diffusion of its vapour around the altar still forms part of the ceremonies of the Greek and Roman catholic churches.

KINO. *Ed. Lond. Dub.*

Succus spissatus eucalypti resiniferæ. *E.*

Resina buteæ frondosæ. *D.*

Arboris, nondum descriptæ, Africanæ, gummi resina. *L.*

Kino, the inspissated juice of the brown gum-tree of Botany Bay. The resin of the *Butea frondosa*. The gum-resin of a non-descript African tree.

KINO was first noticed by Dr Fothergill, who received it from a druggist as a very fine kind of dragon's blood, and described it as the produce of an African tree called the *Pau de Sangué*. In Moor's travels up the Gambia, there is a very imperfect account of the tree from which it exudes, and a copy of directions from the African company to their factors, to collect and purchase this gum: but it seems to have been brought to them only in very small quantities, and mixed with gum Senegal. This kind is no longer to be met with in commerce, and is not even mentioned by Mr Jackson among the exports from Mogodore, or by Mr Winterbottom, in his account of Sierra Leone.

I have found in commerce three kinds of kino, easily distinguished by their external appearance.

The first is in very small jet-black fragments, perfectly opaque, without smell, crackling under the teeth when chewed, not colouring the saliva, after some time imparting only a slight astringent taste, not fusible, and difficultly reduced to powder. Powder dark chocolate-brown. Although this has been the longest known in commerce in this place, I have not been able to trace the place of its origin.

The second is in large fragments, on some of which the

impression of the vessel into which it had been received while fluid, and in which it had hardened, was evident; colour very dark brown, fracture resinous, appearance homogeneous, with small air bells; in very thin splinters, transparent, and of a ruby red colour: crackling under the teeth when chewed, taste at first somewhat acid, but afterwards becoming considerably bitter and astringent, succeeded by a peculiar sweetness; infusible, and friable; powder of a reddish-brown. This is said to be the extract of the *Coccoloba uvifera* or seaside grape; and indeed by comparing it with the specimens of that extract, I have no doubt of the accuracy of my information. The kino imported by the East India Company resembles this in many particulars, but is in smaller fragments.

The third is in dark brown masses of various sizes, either smooth or rounded on the surface, or in fragments often covered with a reddish-brown powder, fracture resinous and very unequal, appearance sometimes homogeneous, but more commonly heterogeneous, mixed with bits of twigs, leaves, &c.; splinters transparent, ruby red, no smell, scarcely crackling under the teeth, but sometimes gritty, from the accidental mixture of sand; taste simply astringent, succeeded by sweetness, and, when long chewed, a portion adheres to the teeth; infusible and friable; powder reddish-brown. This is certainly obtained from the *Eucalyptus resinifera*, or brown gum-tree of New South Wales, by allowing the juice, which either flows from it spontaneously, or is procured by wounding the tree, to harden in the sun. Some specimens of it in its fluid state have even reached this country.

The Dublin college have indicated the *butea frondosa* as the source of kino, but certainly erroneously. It, however, produces in large quantities a red juice, very analogous to kino, and which may unquestionably be used as a substitute for it. The production of these substances, from so many different trees in Africa, America, Asia, and New Holland, shew that kino is to be considered as a genus of which these are species.

The analysis of kino, published in the first edition of this Dispensatory, has since been confirmed by Vauquelin, as well as the conclusion drawn from it, that it consists principally of tannin, and cannot with propriety be classed among the resins or gum-resins. But the undoubted origin of the third kind, and the examination of a red astringent matter which I picked from a cavity in a specimen of the *Cassuarina*, or beef-wood, prove that I was hasty in supposing that kino was always obtained from astringent barks by decoction and evaporation.

Kino is much more soluble in boiling than in cold water. The decoction, therefore, on cooling, becomes turbid with a very copious red sediment. The residuum seems to be softened by the heat of boiling water, at least it agglutinates into masses resembling melted red sealing wax dropt into water. By repeated decoctions with very large quantities of water, I have never been able to exhaust it of its soluble parts: the last decoctions had still a deep red colour, and blackened solutions of iron. This residuum is not more soluble in alcohol than in water, and is not fusible, but when thrown on live coals burns away without flame. Vauquelin observed, that when the whole quantity of water necessary to dissolve the soluble parts of kino is not employed at once, the residuum becomes more insoluble. Alcohol dissolves the whole of the Botany-bay kino except its impurities. With a certain proportion of water, this tincture lets fall a copious red precipitate, which may be separated by filtration, but with a larger proportion of water its transparency is only slightly disturbed. It is also remarkable, that alcohol dissolves kino entirely, but does not dissolve the residuum of the decoction. This fact would shew, that the portion extracted by the water had the property of rendering the residuum soluble in alcohol. The solutions of kino precipitate gelatine, and, according to Vauquelin, silver, lead, and antimony, white; and iron, green. I find that it resembles other astringents, in forming a black precipitate with red sulphate of iron, which however is converted into green by the slightest excess of the sulphate, and by a larger excess is dissolved into a bright green liquid.

*Med. use.*—It is a powerful remedy in obstinate chronic diarrhœas and dysenteries; in all passive hæmorrhagies, especially from the uterus; in fluor albus; and in diseases arising from laxity of the solids.

It is exhibited internally, in doses of from ten to thirty grains, in substance, or dissolved in diluted alcohol.

Externally, it is applied as a styptic, to check hæmorrhagies from wounds or ulcers, and to diminish the discharge of sanious or ichorous matter from ill-conditioned ulcers.

LACTUCA VIROSA. *Ed.*

*Willd. g. 1404, sp. 12. Smith, g. 342, sp. 1. Syngenesia equalis.*—*Nat. ord. Compositæ semiflosculosæ.*

Strong-scented or cut lettuce.

*Off.*—The leaves.

FOLIUM LACTUCÆ VIROSÆ. *Ed.*