

The alkaloid has an appearance and smell like nicotine. There was not sufficient to make a combustion analysis. He believes that it is nicotine. This investigation has proved—

- 1st. That *Nicotina suaveolens* has an alkaloid base probably identical with nicotine.
- 2nd. That contrary to the general opinion it is a most poisonous plant.

*ON THE DISCOVERY OF SAPONIN IN
ACACIA DELIBRATA, *A. Cunn* ;

BY

T. L. BANCROFT, M.B., Edin.

(*Read on 4th March, 1887*).

IN September, 1886, in a scrub on the Gregory River, I found by accidentally biting the pod of an *Acacia* that it had a very disagreeable acrid taste ; it seemed so strange that an *Acacia* should have any but an astringent taste, that a quantity of the pods were gathered with a view to ascertain if they contained a physiologically active substance.

All parts of the plant with the exception of the pods have an astringent taste.

Mr. F. M. Bailey, F.L.S., to whom specimens of this *Acacia*^a were given, says that it approaches but does not quite agree with Allan Cunningham's *Acacia delibrata*. Seeds that I brought down have germinated, and are now growing at the Acclimatisation Society's garden.

The active principle is a neutral body, having the properties of a glucoside. To prepare it, bruise the pods in mortar, boil in alcohol (rectified spirit of wine B.P.), filter, precipitate with basic acetate of lead, collect the precipitate, add water to the filtrate

* This and the following two papers, although read on 4th March, are inserted here for facility of reference as being on a similar subject to that of foregoing communication and from the same author.

and collect the further precipitate, wash the precipitates, mix with a little water and decompose with sulphuretted hydrogen, evaporate to dryness, dissolve out with boiling alcohol, filter and evaporate, purify by repeated solution in water and evaporation.

It is thus left as a dirty white non-crystalline substance, having a very faint odour and an extremely nasty taste. It is soluble in water and alcohol, insoluble in ether. The smallest amount shaken up with water will cause a froth.

A solution in water has a disagreeable odour, and gives the following reactions—precipitates with basic acetate of lead, slight precipitate with neutral acetate of lead and with tannic acid, no change with platinic or auric chlorides, sulphuric acid, or with perchloride of iron, alkalies deepen the colour, it reduces cupric oxide from alkaline solution of copper. It causes sneezing.

A little was applied to the conjunctiva of a dog, it caused pain conjunctivitis and corneitis, owing to which the condition of the pupil could not be ascertained, so severe indeed was the inflammation that the eye-ball was thought, for two days, to have sloughed; after the inflammation subsided there were opacities of the cornea.

It is an irritant poison. Topically applied to the frog's muscle, nerve, or heart it paralyzes them immediately. It stops the heart in diastole whether injected into a lymph sac or topically applied.

Physiologically this substance agrees closely with Saponin, and chemically also it is similar. I am of opinion that it is the same substance.
