

Calculated.	Found.
C = 75.98	75.86
H = 12.76	12.68

The weight of the yield was 17.69% of the weight of the extract.

The alkaline filtrate (from the sodium stearate) was steam-distilled and the distillate examined thoroughly for volatile products. None was found except the small amount of the volatile oil mentioned above.

The filtrate was then made slightly acid with hydrochloric acid. The mixture of cinnamic acid and resin, which precipitated as a result, was removed by filtration. The cinnamic acid was separated from the resin by boiling water and identified as follows:

Cinnamic Acid, $C_9H_8O_2$, m. p. $133^\circ C$. After two recrystallizations from water it had a neutralization equivalent of 147.2 and m. p. $132-3^\circ C$. Elementary analysis gave the following results:

Calculated.	Found.
C = 72.94	72.76
H = 5.44	5.41

It was further confirmed by the preparation of para nitro cinnamic acid (m. p. $286-7^\circ$) and ethyl cinnamate. The weight of the yield was 2.17% of the weight of the extract.

The exudation may be classed as a balsam inasmuch as a volatile oil, a resin, and cinnamic acid appeared as hydrolysis products.

The acidified filtrate was subjected to steam distillation, but no volatile substances were present. It was then evaporated to dryness and extracted with the usual alcohol-ether mixture. The extract appeared to be a mixture of resin and unsaponified matter. It was tested for glycerin with negative results.

SUMMARY.

- (1) A general analysis of the leaves of *Ceanothus Velutinus*, Douglas has been made.
- (2) The fragrant exudation of the leaves was extracted and found to yield a volatile oil, a resin, cinnamic and stearic acids on hydrolysis.
- (3) The exudation was properly classed a balsam.

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CHEMISTRY DEPARTMENT, UNIVERSITY OF MONTANA,
MISSOULA, MONTANA.

NOTE ON THE EMODIN CONTENT OF AROMATIC FLUID EXTRACTS OF CASCARA SAGRADA.*

BY E. O. EATON.¹

The usual indication of cascara preparations is the presence of emodin. The test for emodin in a certain medicine known to contain a small proportion of a preparation of the type aromatic fluid extract of cascara sagrada, however, was negative. In order to learn whether or not such preparations would give this test, as it had been assumed they would, 10 samples of fluid extract of cascara and similar

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¹ Bureau of Chemistry.

preparations were bought in the open market and two aromatic fluid extracts were made from identified dried barks, one collected in 1918, and the other in 1921. All of these preparations were tested in the following manner:

Transfer 5 cc of the material to a separatory funnel with 50 cc of water. Make acid with hydrochloric acid and shake out with 50 cc of ether, wash the ether with water, and extract it with a few cc of 10% ammonia solution. When a brown coloration obscures the test, shake out the ether, which is yellow in the presence of emodin, with water, then with a cold saturated sodium bicarbonate solution, and discard the aqueous layer. Shake out the ether with 10% ammonia. A pink color in the aqueous solution indicates the presence of emodin.

Five of the commercial preparations and both preparations made from known barks gave distinct tests for emodin. Three showed only traces of emodin and two gave no indications of its presence. Apparently the age of the bark does not materially affect this test. Sodium bicarbonate, slaked lime, sodium and potassium hydrates, and mixtures of them and various other alkalies are now used by manufacturers to remove a bitter principle which causes griping.

The following tests were made on the samples which had showed the presence of little or no emodin, to ascertain whether they contained combined or glucosidal emodin.

Boil portions representing about 10 cc of the preparations with 10 cc of 2.5 N hydrochloric acid for about 10 minutes in a 200 cc Erlenmeyer flask with a funnel for a condenser, cool and treat as described under the test for emodin.

Its presence was indicated in all samples tested, although in comparatively small amounts.

The results of these tests would indicate that the drug analyst using the ordinary emodin test might fail to detect the presence of certain preparations of the type of aromatic fluid extract of cascara.

STUDENT BRANCHES OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.*

BY C. B. JORDAN.

Every year the American Pharmaceutical Association makes an earnest effort to increase its membership and yet the growth of the Association is comparatively slow. The average retail pharmacist who has become engrossed in his business feels that, after he has joined the National Association of Retail Druggists, and his local and state associations, he has all the associations that he can afford. It is difficult to appeal to him to join the American Pharmaceutical Association because, as he says, he has all the journals that he has time to read and the efforts of the American Pharmaceutical Association to better his profession are a little too far removed for him to comprehend them.

I believe that the Association would make better progress if membership in it began while the young pharmacist was still in college. For that reason I wish to advocate the formation of student branches of the American Pharmaceutical Association.

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