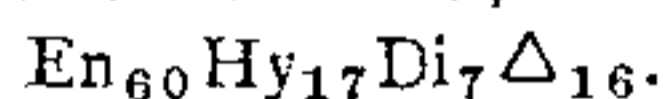


The chemical analysis of the Dodkanya orthopyroxene does not accord with that of the Charnockite type, but is in fair agreement with the analysis of the Bushveldt type, except for the high content of ferric iron, which accounts for the intense pleochroism of the Mysore mineral. The presence of alumina and alkalis in the analyses of orthopyroxenes is pointed out by Hess and Phillips to be characteristic of orthopyroxenes of the Bushveldt type. It may be remarked that the ratio of soda to potash, and of both to lime, are ratios, fairly constant in the rock analyses of the Charnockites of India. Hess and Phillips ascribe the CaO content to the presence of the Diopsidic molecule as lamellar intergrowths in the orthopyroxene host; they also hold that some of the low extinction angles are due to this intergrowth.

Calculating the chemical analysis in terms of metasilicate molecules, and expressing the mineral in terms of its minals, the mineral of Dodkanya has the formula,



Winchell⁵ has proposed the restriction of the term Bronzite to an FeO tenor of 5-14 per cent. or of FeSiO₃ tenor of 9.2-25.72 per cent. The mineral under study is, therefore, a Bronzite of the Enstenite series, but it has not the typical inclusions of Bronzite.

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August 14, 1943.

P. R. J. NAIDU.

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A NOTE ON THE COAGULATION STUDIES OF THE LATEX OF *CRYPTOSTEGIA GRANDIFLORA* R. Br. AS A WAR-TIME SOURCE OF VEGETABLE RUBBER

IN a previous communication¹ describing the Chemical and Technological investigations on *Cryptostegia grandiflora*, a method of coagulating cryptostegia latex with water was reported. This method consists in mixing 20 volumes of distilled water, 15-16 volumes of tap water or 6-8 volumes of hot water, to latex whereby it gets coagulated yielding a white coagulum of rubber which can be sheeted and a clear straw coloured or red serum.

When the pH value shifts towards the alkalinity side, coagulation takes place. Continuation of the investigations showed that although this method has the advantage that it does not require acids or other chemicals, it has the disadvantage that on the large scale it involves the use of large quantities of water and bigger coagulating tanks. It was, therefore, considered necessary to devise a still simpler and more advantageous method of coagulation. Investigations were carried out

with a large number of substances such as calcium and sodium chlorides, sodium, potassium, calcium and ammonium hydroxides and carbonates, alcohol, acetic acid and formaldehyde and eventually the following method has been found to answer the purpose in view. The following tentative conclusions can be drawn:—

1. Latex can be coagulated by diluting it with water (1/100 part that of latex) of an alkalinity which would bring the final pH value to the vicinity of 7.7.

2. The per cent. dry rubber obtained does not vary much with coagulants.

3. Three volumes of a solution of lime water saturated at 31°C. (approximately N/25.5) are required to bring about coagulation, while of N/10 NaOH, N-NaOH, 10 N-NaOH, only 1, 1/10 and 1/100 volumes respectively are required.

4. The quality of rubber in every case is satisfactory and the coagulum can be sheeted.

Description of the Method.—Take latex (20 c.c.) in a beaker, add 10 N-NaOH (0.2 c.c.). The solution turns dirty pink. On warming to 80-90°C. it separates into a clear blood red to brownish red serum and a white coagulum of rubber. The coagulum is sheeted and after washing it with water till it is free of alkalinity, it is dried at 90-95°C. in an air oven.

The details will appear elsewhere.

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¹ *Journal, Board of Scientific and Industrial Research*, July 1943, 1, No. 4, 365-57.

THE BERBERINE CONTENT OF *COSCINIUM FENESTRATUM* (COLEBR.)

WE are glad to confirm the observation of Varier and Pillai¹ that berberine is the predominant alkaloidal constituent of *Coscinium fenestratum* by putting on record a brief note of an examination of Ceylon material carried out in 1939.

Air-dried stems (moisture 6.8 per cent., ash 2.6 per cent.) were exhausted with 95 per cent. alcohol in a Soxhlet apparatus, which removed 9.2 per cent. of material. From the alcoholic extract berberine is readily precipitated as the acid sulphate by addition of a slight excess of sulphuric acid (the yield of crude salt 4.1 per cent.).

The combined filtrates after separating and washing the berberine acid sulphate with alcohol, were evaporated and taken up in water and ether; the latter solvent removed resinous matter (4.1 per cent.). The aqueous solution after thorough ether extraction was made alkaline with caustic soda and again extracted with ether which removed 0.67 per cent. of crude alkaloids. After treatment with carbon dioxide, the aqueous liquor yielded to ether a further 0.2 per cent. of crude phenolic alkaloids.

We should not, therefore, go as far as Varier and Pillai in stating that berberine is the only