

observations. The snails of this genus are so distributed that each archipelago and each island where they occur possesses unique types, while often single valleys will comprise the habitat of a species. Only two exceptions to the former statement are known.

A detailed demonstration was made of the snails from 55 valleys of Tahiti, and from 19 valleys of Moorea, the two islands of the Windward division of the Society group. The present communication consisted chiefly of a description of the features presented by the demonstrated valley populations. The general conclusions of the survey are (1) that there is a general correlation between geographical proximity or isolation on the one hand and specific resemblance or divergence on the other hand; (2) that some species (*e. g.*, *P. hyalina*) are wide-spread and relatively invariable, while other forms exhibit variations and mutations that seem to be the antecedents of fixed independent varieties of the future; (3) and that variation does not seem to be referable to environmental influences.

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Note on the isolation of carnaubic acid from beef kidneys.

By **EDWARD K. DUNHAM.**

[*From the New York University and Bellevue Hospital Medical College, and the Rockefeller Institute for Medical Research.*]

A lipid obtained from beef kidneys and having solubilities similar to those of Liebreich's "protagon," yields, on cleavage with alcoholic hydrochloric or sulfuric acid, an ester of carnaubic acid, which separates on cooling. From this ester the free acid may be obtained by saponification with sodium ethylate and decomposing the resulting soap with a mineral acid. The free acid and its ethyl ester are freely soluble in ether and chloroform; also, in hot alcohol, benzene, acetone, ethyl acetate or acetic acid, but separate from these solvents on cooling. The acid melts at 72.4°, the ethyl ester at 50°, both uncorrected.

Analysis of the acid. It was purified by fractional precipitation with magnesium acetate. The magnesium soap was decomposed with hydrochloric acid. The acid was recrystallized from acetone :

Weights in grams : substance, 0.1590 ; CO_2 , 0.4556 ; H_2O , 0.1870

Percentage Elementary Composition		
Found		Calculated for $\text{C}_{24}\text{H}_{48}\text{O}_4$
C 79.147		C 78.159
H 13.161		H 13.156
O 8.691		O 8.684

Analysis of the ethyl ester :

Weights in grams : substance, 0.1414 ; CO_2 , 0.4079 ; H_2O , 0.1677

Percentage Elementary Composition		
Found		Calculated for $\text{C}_3\text{H}_8 \cdot \text{C}_{24}\text{H}_{47}\text{O}_2$
C 78.670		C 78.685
H 13.271		H 13.245
O 8.059		O 8.070

Analysis of the silver salt :

Weights in grams : substance, 0.5294 ; Ag, 0.1208

Percentage Content of Silver		
Found		Calculated for $\text{Ag} \cdot \text{C}_{24}\text{H}_{47}\text{O}_2$
22.818%		22.703%

The carnauba acid obtained from carnaubic wax has the same percentage composition and is recorded as melting at 72.5° .

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The change of corpuscle resistance in the blood of immunized animals, coincident with the formation of anti-bodies.

By **FREDERICK P. GAY.**

[*From the Pathological Laboratory of Harvard University.*]

In logical sequence to the studies on isohemagglutination of human blood, the results of which have been presented to this Society¹ and recently published in detail, have followed estimations of certain physico-chemical properties of the blood of normal and of immunized animals. In human bloods three rather definite groups were found as regards interagglutination of corpuscles, groups which correspond to relative differences in tonicity of the bloods in question. The method principally relied on in the estimation of differences in the molecular concentration of various human bloods was that of the relative susceptibility of the respective blood corpuscles to hemolysis by salt solutions of different concentrations, a method which has been employed by Hamburger and others as the most delicate for this purpose.

¹ *This Journal*, 1907, v. p. 14.