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progressed, direct evidence of a relationship among three of the compounds has been shown. The essential facts are as follows. Rotenone upon mild oxidation yields dehydrorotene $\text{C}_{32}\text{H}_{28}\text{O}_6$. This compound when boiled with alcoholic potassium hydroxide and zinc dust gives rise to a hydroxy acid\(^2\) $\text{C}_{32}\text{H}_{24}\text{O}_6$, which, when oxidized with hydrogen peroxide, yields derrie acid\(^3\) $\text{C}_{19}\text{H}_{14}\text{O}_7$. Derrie acid contains the two methoxyl groups originally present in rotenone and represents one half of the rotenone molecule.

Upon oxidation with potassium ferricyanide deguelin $\text{C}_{32}\text{H}_{22}\text{O}_6$, the light green compound melting at 171\(^\circ\) which is found in derris and cubé roots, the leaves of *Cracca vogelii* and the roots of *Cracca toxicara*, gives dehydrodeguelin $\text{C}_{32}\text{H}_{26}\text{O}_6$. This substance, analogous to dehydrorotene, yields on boiling with alcoholic potassium hydroxide a phenolic monocarboxylic acid $\text{C}_{32}\text{H}_{24}\text{O}_6$, which has been called deguelic acid. Deguelic acid when oxidized with hydrogen peroxide in the same manner as was the acid from dehydrorotene also yields derrie acid.

Tephrosin $\text{C}_{23}\text{H}_{22}\text{O}_7$, when treated with a mixture of sulphuric and acetic acids or with acetic anhydride loses the elements of water and forms dehydrodeguelin. Thus derrie acid constitutes one half of the molecule of rotenone, of deguelin and of tephrosin. The evidence also shows that tephrosin is intimately related to deguelin, since the loss of one molecule of water from tephrosin gives dehydrodeguelin. Without further experimental evidence, it appears probable that tephrosin is a hydroxydeguelin. Detailed reports of this work will appear elsewhere.

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**E. P. CLARK**

**INSECTICIDE DIVISION,**

**BUREAU OF CHEMISTRY AND SOILS**

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**DISSOCIATION OF BACTERIUM GRANULOSIS NOGUCHI AND IDENTIFICATION OF THE ORGANISM BY MEANS OF RABBIT IMMUNE SERA**

The viability of *Bacterium granulosis* for periods of a year or more on the semisolid ("leptospira") medium of Noguchi has already been recorded.\(^1\) Recently, on transfer to blood agar of a culture which had stood for 8 months on semisolid medium without transfer, and which had shrunk by evaporation from 8 cc to 2 cc or less, a growth was obtained of discrete, yellowish gray, opaque, dry, bead-like colonies, with rough surface, which were distinct from the semitransparent, grayish, mucoid, confluent colonies usually seen in young cultures of *B. granulosis*. Microscopic examination, however, showed a morphology typical of *B. granulosis*. The strain fermented the usual carbohydrates, and agglutination tests with immune sera prepared in rabbits by means of the ordinary type cultures yielded clearly positive results.

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