Separation of succinic and fumaric acids. In the residue of alcohol determination, the precipitate which formed was collected when hot and after washing with boiling water, was treated by ether to extract succinic acid, provided the acidification of the fluid by H_2SO_4 . The other part of succinic acid was isolated from the filtrate from above precipitate, by common means of ether extraction; where fumaric acid comes together with succinic acid. The easy soluble property, in water, of the latter acid affords us very simple way of separation from fumaric acid in the mixture.

Detection of lactic and malic acids. About the ether extract above stated, malic acid was detected by Denige's and author's reaction,⁽¹⁴⁾ and lactic acid by well known Hopkin's reaction or by the formation of iodoform.

(Jan. 30. 1927.)

(14) β -Naphthol and H_2SO_4 . J. of Agric. Chem. Soc. Jap. Vol. I, No. 14.

MICROBIOLOGICAL INVESTIGATION ON THE SOIL AND SEA-WATER FROM OGASAWARA ISLANDS. I.

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The Ogasawara Islands are interesting from historical as well as biological point of view. The Islands came in the Japanese possession only a half century ago, and inhabited by the descendants of different nationalities. Geologically the Islands are volcanic, and in fact, one of the Islands named Iwojima (Sulfur Island) has sulfur spring and deposit all over the island, and many craters are found. The earth surface is so hot that one can hardly walk barefooted. Geographically the Islands are located far south of the Tokyo Bay in the Pacific, almost in a tropical zone having the mean temperature of 22.4°C throughout a year. Consequently it was anticipated that there may be some interesting findings among the flora of microorganisms, and one of the authors visited the Islands at the beginning of this year and brought back the samples about which this report is concerned.

The samples of soil were taken from seven localities and three samples

of sea-water, as indicated on the map, and the quantitative and morphological examination of microorganisms together with the determination of hydrogen ion concentration were made, and the following results were obtained:

1. P_H values of the soil samples lie between 5.26 to 7.68. It is noteworthy that the soil E which was taken near the crater showed the highest hydrogen ion concentration.

2. P_H values of the sea-water lie between 7.32 to 7.64 which are about the same with those values found elsewhere.

3. The quantitative determination of microorganisms indicated the presence of 9,000–701,600 on the nutrient agar plates; 524,600–7,415,800 on soil extract agar. Besides these culture medium, Ashby agar medium was used and found some organisms which made good growth.

4. All the organisms isolated were Gram positive. It was observed that many of those came from the soil were rod shaped while mostly coccic, from the sea-water.

The further report on this investigation will appear in future.

ON THE PINACOLINE TRANSFORMATION OF 2. 3-BUTYLENEGLYCOL AND ITS IDENTIFICATION.

By Tomotsune TAIRA.

(Received March. 2nd., 1927.)

That α -glycol, on boiling with dilute sulphuric acid, yields ketone by splitting one molecule of water and an alkyl group migrating to the neighboring carbon atom, is generally known under the name of pinacoline transformation of the same.

This reaction was first observed by Butlerow (A. 170 162 (1872)) on pinacone, followed by many authors on compound of more or less complex build, but hitherto no mention is made in the literature about the transformation of 2. 3-butyleneglycol. The author (This Journ. **25**, 734, 1926), in the course of his investigations on the occurrence of 2. 3-butyleneglycol in Japanese fermentation products, happened to observe that methyl-ethyl-ketone always accompanied 2. 3-butyleneglycol on distilling such products with dilute sulfuric acid. This ketone must have been produced according to the following scheme and might be regarded as a simple example of the pinacoline transformation.