

## MECHANICAL PROPERTIES OF SOIL MIXED WITH CORAL GRAVEL IN THE SOUTH-WEST ISLANDS OF KAGOSHIMA AND OKINAWA

Ryosuke KITAMURA and Kentaro YAMAMOTO

### Abstract

The South-west Islands, which extend like an arc between Kagoshima Prefecture and the north-east of Taiwan, belong to the subtropical zone. Most of these islands are surrounded by coral reefs. This paper explores the mechanical properties of island-soil, mixed with coral gravel, from the viewpoint of geotechnical engineering.

Key words: geotechnical engineering, mechanical properties, soil mixed with coral gravel

### Introduction

The South-west Islands, which extend like an arc between Kagoshima Prefecture and the north-east of Taiwan, belong to the subtropical zone. The Islands also separate the Pacific Ocean and the East China Sea. The south-west Islands can be classified roughly into two: (1) the Satunan Islands, consisting of Osumi Islands, Tokara Islands and Amami Islands, in the north and, (2) the Ryukyu Islands, consisting of Okinawa Islands and Sakishima Islands, in the south.

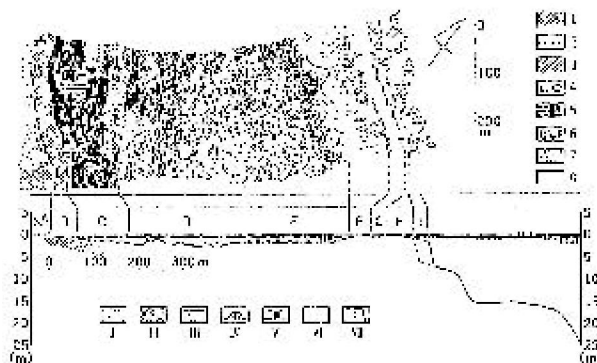


Fig. 1. Band configuration of ultramicroscopic ground in current coral reef (North-East of Yoron Island).

(堀, 1980) 上: 平面図, 下: 平面図内の平均的断面図.

1: 更新世の礁石灰岩, 2: 生物起源碎屑物の砂礫の浜, 3: ビーチロック, 4: 溶蝕凹地, 5: 枝サンゴ帯, 6: サンゴ塊, 7: 漂砂帯, 8: 干潮時に離水する部分.

I: 砂浜, II: 更新世の礁石灰岩, III: 凹地, IV: 砂堆と枝サンゴ (一部, 海藻), V: サンゴ塊, VI: 現成サンゴ礁石灰岩, VII: 礁緑部-緑脚系.

a: 浜とビーチロック, b: 更新世の礁石灰岩を切る潮間帯下部, c: 枝サンゴ帯, d: 漂砂帯, e: サンゴ塊帯, f: 条溝帯, g: 内堀, h: 石灰藻窟, i: 外側礁原 (礁緑部-緑脚系).  
 なお, b~eを一括して浅礁湖または礁池, f~iを一括して礁緑とよぶ.

