

PRELIMINARY REPORTS ON A TRAVERSE TO THE YAMATO MOUNTAINS IN 1960

第4次越冬隊やまと山脈調査旅行報告(予報)

I General Report

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I 一般報告

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要 旨

日本南極地域観測隊第4次越冬隊によって、
1960年11月1日から45日間にわたるやまと山
脈への調査旅行が行なわれた。

旅行隊は鳥居以下6名の隊員よりなり、主とし
て氷河学、地質学、地理学に関する調査が行なわ
れたが、ここにその概略を報告する。

During the Japanese Antarctic Research Expedition IV, 1959-61, several journeys were carried out by the members of the wintering party. One of the journeys aimed at the search for the new mountains, existence of which LARS CHRISTENSEN, had suspected in 1937. The traverse party consisting of 7 men left the Syowa Base on November 1st, 1960, led by Dr. TORII, leader of the wintering team. After two weeks' struggle for finding the way in the heavy snowstorms, the field party reached the new mountains, which the Antarctic Office of Japan later announced to name "the Yamato Mountains," and made some scientific researches on the mountains and inlandis.

The results obtained from the journey are now under study and the following is the brief report of the researches made during the journey:—

Members of the Field Party:

T. TORII,	Leader and geochemist
T. ISHIDA,	Geophysicist
K. KIZAKI,	Geologist
Y. YOSHIDA,	Geographer
T. KAGEYAMA,	Doctor
K. Sato,	Technical engineer

* 千葉大学文理学部化学教室、第1次及び第2次南極地域観測隊員、第4次南極地域観測隊副隊長及び第4次南極地域観測隊越冬隊長。Institute of Chemistry, Faculty of Literature and Science, Chiba University. Member of the Japanese Antarctic Research Expeditions, 1956-57 and 1957-58. Subleader of the Japanese Antarctic Research Expedition, 1959-60 and also the leader of the Wintering Party, J. A. R. E., 1959-61.

K. FUKASE,

Logistic supporter

Logistic Equipment: Two 3 ton tractors for four sledges including a "caboose" sledge for seismic shooting were used. They were powered by an 85 horse-power diesel engine, and each pulled about 3,000 kg cargo with 630 kg sledge. It was the first time diesel tractors were used in a long journey in Antarctica, but no serious troubles occurred throughout the 45 days' journey except the slight accidents such as leakage of oil from the torque converter and clogs inside a fuel pipe formed by crystals of vapour.

A GRC-9 transceiver was used by the party for the radio communication with the Syowa Base and by this we could also contact the Belgian "King Baudouin Base."

Route of the Journey: In September, 1960, our reconnaissance field party consisting of four men fixed a route to the south and erected Depot I at $70^{\circ}30'.5$ S. by $41^{\circ}00'$ E, about 200 km south of the Syowa Base. On the 7th of October, the Belgian party visited the Syowa Base by two aeroplanes and provided us with some data on the mountains and the inland ice there. We fixed the route to the mountains as shown in fig. 1 after the discussions based upon the report of our reconnaissance party and the information given by the Belgian party. Our considerations were mainly focussed upon how to avoid the heavily crevassed zone of the Shirase Glacier situated at the bottom of the Lützow-Holm Bay.

Scientific Observations: Our observations included glaciological, geological and geomorphological studies on the Yamato Mountains and inlandis.

In the mountains, geological and geomorphological researches were made for 23 days and at the same time the geodetic survey including astronomical observations and triangulation was carried out with Wild T 2.

The seismic prospectings were carried out along the route from the mountains to Depot I at intervals of 10 km. The results of this observations with topography of ice sheet would offer important data concerning the thickness and conditions of ice behind Lützow-Holm Bay.

Meteorological observations on the surface were made twice a day throughout the journey.

In addition, snow and ice samples were collected for the geochemical and physical studies.

We saw several massifs or nunataks far south and east of the mountains but had no time for visiting them. A field party of JARE (Japanese Antarctic Research Expedition) V is now being planned to investigate not only the mountains but also the areas farther south in 1961. We hope that the unknown region beyond the Prince Harald Coast will be revealed through their investigations.

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