On the Occurrence of Fossil Deers from Kuniyoshi, Itoman-cho, Okinawa-jima

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Abstract

One of the most fossiliferous localities of deers in the Ryukyu islands is described. So far, several skeltons, tens of horns, hundreds of bones, and thousands of teeth are excavated.

I. Introduction

In Spring of 1969, Mr. C. Kishaba informed one of the authors of a fossil occurrence at Kuniyoshi, Itoman-cho where is one of the most fossiliferous localities in the Ryukyu islands (Fig. 1).

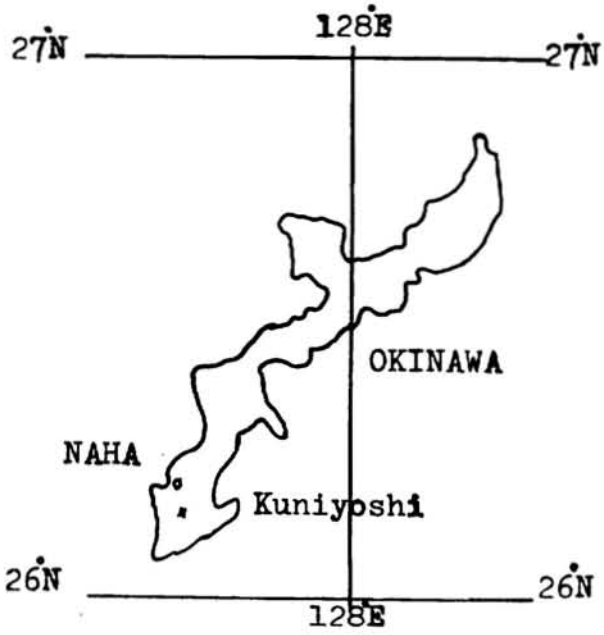

Fig. 1 Index map of a fossil locality.

The present report is based on an observation of the fossil deers from the locality. Since numerous fossil deers, one of which is probably a new species, have been excavated, detailed descriptions and discussions on the fossil deers by Y. Hasegawa and T. Nohara will appear later.

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Ⅲ. Discussion

In the East of Kuniyoshi, there is a limestone terrace which was caused by a faultscarp of east-west trend. The highest point at the locality is about seventy meters high. The terrace from 60 to 70 meters in height extends about two kilometers east to west and dips slightly southward. The terrace consists of Naha Limestone which overlies unconformably the Yonabaru Clay member of Shimajiri group at the north of Kuniyoshi. The thickness of the limestone at Osato quarry is not apparent because no boundary between Yonabaru Clay and the limestone at the locality is found. However, the thickness of the limestone may be no more than 30 m judging from the thickness of the limestone in the north of Kuniyoshi. The limestone is a well-lithified, bioclastic limestone which includes algal balls, corals, and molluscs. It is mostly light brown on weathered surface and white on fresh surfaces. It is massive.

Along the faultscarp, several fissures with east-west trend developed after the limestone appeared above sea level. Near the front of the faultscarp (Pl. I, fig. 1), a hook shaped fissure occurs. Though deer bones are included in a few fissures of Osato quarry, most abundant bones come from the hook shaped fissure Pl. I, fig. 2,3 . The maximum width of the fissure is 2 m and the maximum depth may be a few meters. Along the southern part of the fissure, travertines from 5 to 10 cm in thickness are well developed and are without deer bones. Along the northern part of the fissure the soil becomes brown hard massive travertinized soil which includes numerous deer bones.(Pl.1,fig.4).

Deposits of the fissure consists of dark gray soils, brown soil, and yellowish clay downward respectively. Numerous fossil deer bones and one tooth of a shark have been excavated so far.

Fossil deer bones have appeared 13 cm below the surface (Pl. 1, fig. 3). They became abundant downward in the brown soils and became sparse at 260 cm below the surface in the yellowish clay.

Most of bones, teeth, horns and skeltons are fragmental. However, some specimens are well preserved. So far several skeltons, tens of horns, hundreds of bones, thousands of teeth are excavated.

The fossil deers may be natural deposits rather than artificial deposits such as shell mounds since there is no indication of artifacts and ornamentation on horns by hand.

Judging from the fact that bones are found from an upper part of soil horizon--A horizon which is 15 cm below the surface, they might live in Okinawa-jima until Recent (late Holocene) rathen than Pleistocene.

Significance of the report is that the locality is one of the most fossiliferous localities in the Ryukyu islands and at least one interesting (probably a new) species of fossil deers came out of the locality. Detailed studies on fossil deers are carried out by Hasegawa and Nohara.

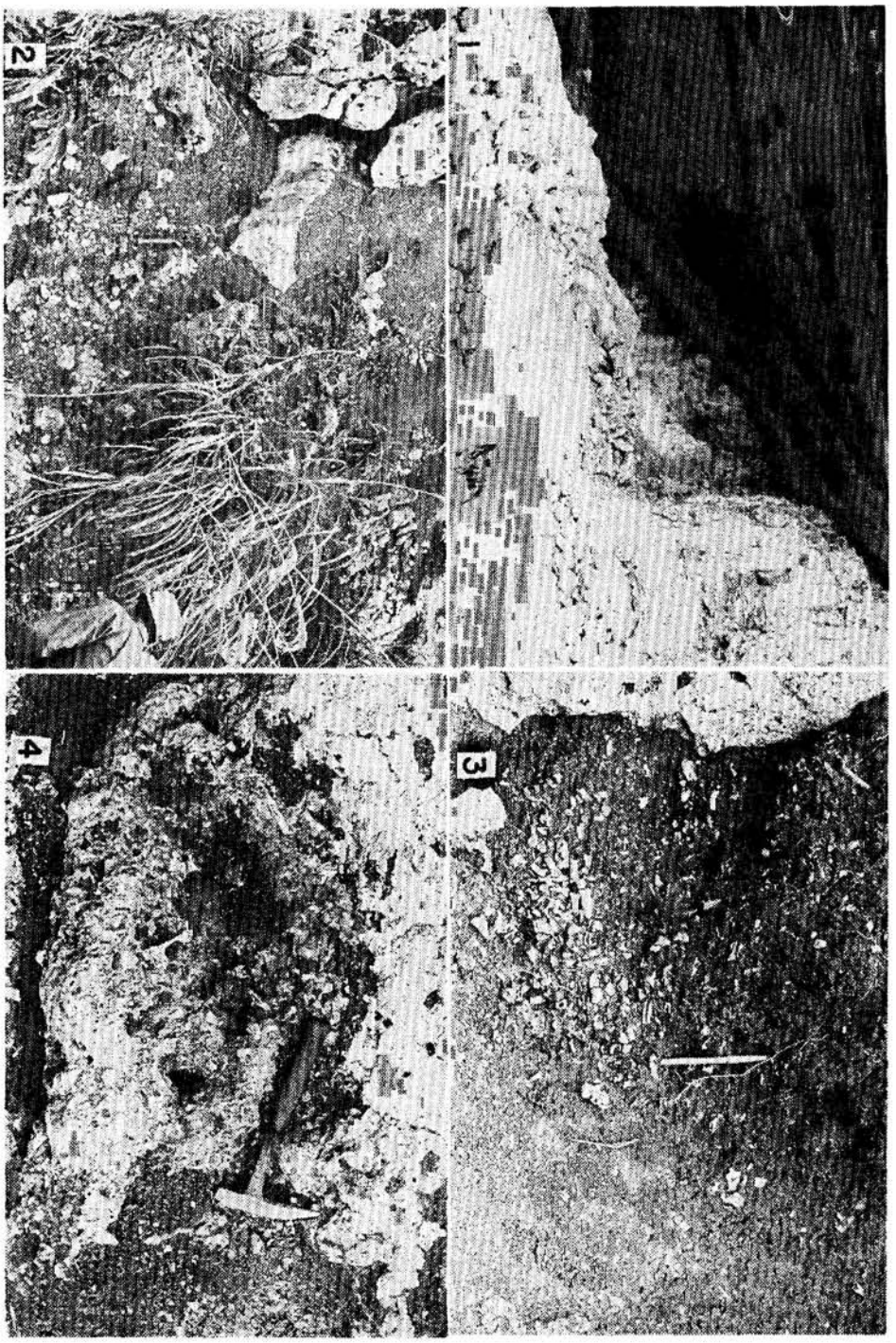
Explanation of Plate 1

Figure 1. The outcrop at Kuniyoshi. Fossil deers are included in a fissure of the left corner of the outcrop (center of the photo).

2. A close view of the lower part of the fissure.

3. A close view of the upper part of the fissure. Fragmental bones appearing in the dark brown soil. See grass roots penetrating the soil (A-horizon).

4. Some bones included in a hard calcified mass at the upper part of the fissure.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