

Application of an experience-learning facilities, the Fossil Valley to education and study.

IBARAKI, Yousuke^{1*}, MIYAJIMA Hiroshi¹, TAKENOUCI Ko¹

¹Fossa Magna Museum

Introduction

The Fossil Valley is an experience-learning facilities in the Fossa Magna Museum in Itoigawa Geopark where we can hunt fossils of 300 million years ago. There are many limestone including fossils at the Fossil Valley, side of the parking lots. Anyone (7 years and up) can have an experience of fossil hunting.

How to use the Fossil Valley

Those who want to attend fossil hunting at Fossil Valley needs to apply at the information counter of the Fossa Magna Museum, and rent a hammer, goggles, a pair of work gloves and a bucket for fossil hunting and buy accident insurance. The time limit to hunt fossils is 2 hours because facilities are run out in high season and almost user finish hunting within 2 hours. After hunting, users are able to get identification service of fossils that they find (available only when curators are at the museum). Most of limestone in the Fossil Valley are including fossils because we choose fossiliferous limestone at the quarry and brought them to here. Most of users are able to get more than one fossils in 1 hour.

Application to education

Elementary schools or junior high schools in Itoigawa City use the fossil valley to learn the history of earth in science or integrated study class since before. Itoigawa City Board of Education had draw up the Policy of Consistent Education for age of 0 to 18 years Children in 2009 FY, and include the clause, Creation and Development of Itoigawa Geo-Learning. Therefore more students in Itoigawa City will learn about Geopark and the history of Earth, and use the Fossil Valley. Since Itoigawa Geopark had joined to the GGN in 2009, the utilization of the Fossil Valley by Junior high school, high school and private science school which located outside the Itoigawa City is increasing.

Curators guide to hunt fossils at the Fossil Valley for students in the case of school classes and had received a reservation. Before fossil hunting, curators explain where the fossil occur, the age and kind of fossils, the environment that the creatures which become fossils in the future, how to use a hammer, matters to be attended to fossil hunting. In the time of fossil hunting, curators answer the questions of students, for example, is this a fossil? or what kind of fossil is this? After fossil hunting, curators identify the fossil that students had found.

Application to study

In August, 2011, an 8-years-old pupil from Saitama Prefecture attended fossil hunting and found a fossil in the Fossil Valley. It was a very rare enigmatic Cyclid crustacean. Cyclid had found in a black limestone from Kotaki, Itoigawa in 2009 (Niko and Ibaraki, 2011). This Cyclid, *Cyclus tazawai* (Niko, 2011) was the first found Cyclid in East Asia. This important news was published in newspapers and websites. The Cyclid found by a pupil in the Fossil Valley is the second found Cyclid in East Asia. This news was published in newspapers and websites. We are studying this fossil now.

Conclusion -the significance of education and study in the Geopark-

Geopark is a kind of natural park that people enjoy learning the history of Earth. Fossils are very useful for children and adults to get interested in the history of Earth. We can find fossils by ourselves at the Fossil Valley. New discoveries are published in a newspaper or website, and more people have an opportunity to get interested in the history of Earth. And new discoveries provide a new topic for a story of Earth. Study is an important driving force for the development of Geopark.

Keywords: Itoigawa Geopark, experience-learning facilities, the Fossil Valley, education, study, application