

Earth School: Field Seminar for Parents and Children; 3. All Along the River Nagara-gawa

Shoji Nishimoto[1]; Hisao Nakamura[1]; Hidekazu Yoshida[2]; Yusuke Katsurada[2]; Kazuhiro Tsukada[3]; Masao Kametaka[3]; Katsuhiro Mouri[1]; Mamoru Adachi[4]

[1] Nagoya City Science Museum; [2] NUM; [3] Nagoya Univ. Museum; [4] Nagoya University, University Museum

Earth School is a field seminar for parents and children, conducted by Nagoya University Museum and Nagoya City Science Museum as a model development of outreach programmes under sponsorship by Japan Science and Technology Agency (JST). This is noteworthy example of cooperation between university and local museum. Earth School has been carried out nine times in fiscal year 2006. Two of them were overnight trips. The outline of the 5th Earth School: Pebbles along the Rivers, the second overnight event held on the 21st and 22nd October 2006, is described in this presentation. Applicants were 22 people (9 pairs) but the number of participants became 14 (6 pairs) after cancels. 8 staffs including 2 temporal staffs from the museums were assigned to teaching. One staff moved ahead to confirm the traffic condition in case of congestion.

This event covers widest area in all Earth School events -upstream part of the river Shokawa and the whole Nagaragawa main-stream. Shokawa flows northward to the Sea of Japan and Nagaragawa flows southward to the Pacific ocean. This is aimed at understanding of variations of riverscapes and riverbed pebbles, and the existence of geological differences in backlands of the tributaries through observations at 10 localities. The participants tried assignments prepared in each observation point in units of families. Locations and assignments are listed below. Points from 1 to 5 are visited on the first day and the rest are on the second day. The accommodation was arranged at a public facility in Gujo-Hachiman, Gifu prefecture. The lecture on lithology was carried out at the facility room. Leaflets with explanations and maps were prepared but the extra handouts of full-sized pebble photographs were also prepared this time.

Localities:

1. Miboro Damside Park in Shirakawa
a)Checking the route and topography in the satellite image, b)Observation of granite porphyry rocks
2. Riverbed upstream Shokawa in Shirakawa
a)Finding the same rock as the ones observed at 1, b)Naming the favorite rock
3. Watershed Park in Takasu, Gujo
a)Learning about drainage basins, b)Watershed Park is really a watershed?
4. Meoto Falls, the headwaters of Nagaragawa in Takasu, Gujo
a)Observations of pebbles and stream, b)Measurement of the stream width crossing the bridge
5. Riverbed upstream Nagaragawa in Shirotori, Gujo
a)Observations of pebbles and stream, b)Finding stones that was not found at 4
6. Riverbed middle of Nagaragawa in Minami, Gujo
a)Observations of pebbles and stream, b)Find stones that was not found on the previous day, c)Memorizing limestones
7. Riverbed middle of Nagaragawa in Mino
a)Observations of pebbles and stream, b)Finding limestones
8. Riverbed downstream Nagaragawa in Gifu
a)Observations of pebbles and stream, b)Finding limestones
9. Kiso Sansen Park in Kaidzu
a)Observation of river flows from the tower, b)Reviewing the whole drainage basin
10. Nagaragawa Estuary Barrage in Kuwana
a)Walking across the dam to compare the width measured at 4

The questionnaire survey after the event showed the successful aspects. Rate of the impressions like [Triggered the interests in nature], [Want to learn more] and [We could think by ourselves] were the highest level in all events. More than half were the repeaters and the rate of the causes such as [I like natural sciences] were higher than the other events. Another reason is the ages of the children being comparatively higher.

Variation and succession of pebbles and riverscapes can be observed all along the river Nagaragawa since there are no other dams except the estuary barrage. Moreover, geological background in the basin is simple contrast -volcanic rocks on top and sedimentary rocks in the middle. Additional observation of granites in the northern side of the watershed helps participants understand rock differences. This good condition of the location may one of the reasons of the success.