

**Interaction with citizens and museum users at the museum brings new natural history information about the area.**

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Information on biota is often collected by experts from museums and research institutes. However, on the other hand, valuable biota information can be obtained from events held in museums and local areas, and interactions with museum users. In Lake Biwa Museum, there have been three cases so far, i) Discovery of the first record fish in Shiga Prefecture at the nature observation workshop, ii) The fish collected and bred by museum users became the first record of alien species in Shiga Prefecture, iii) The creatures brought into the museum's question corner are rare creatures and have become valuable distribution records.

i) Discovery of the first record fish in Shiga Prefecture at the nature observation workshop

In recent years, many nature observation workshop have been held in rivers and watersides in various places in Shiga Prefecture. And this kind of observation led to the discovery of rare creatures that had not been confirmed in the area so far. In 2008, an endangered bivalve *Sinanodonta ogurae* that was found only in a few places in Japan was discovered at an irrigation pond in Shiga Prefecture (**Fig. 1, Fig. 2**)(Kanao, 2013). As a result of the discovery of this bivalve, this nature observational workshop has become a function of not only an opportunity for education but also a survey. In addition, in the summer of 2011, a 4th grade student found Fluvial Eight-barbel Loach, *Lefua torrentis*, at an nature observation workshop in Shiga Prefecture (**Fig. 3**)(Kanao et al., 2011). This fish has never been confirmed in Shiga Prefecture, making it a very valuable record.



**Fig. 1** Nature observation workshop held in an irrigation pond in Shiga Prefecture



**Fig.2** An endangered species, *Sinanodonta ogurae*, discovered at a natural observation workshop in irrigation pond in Shiga Prefecture

It goes without saying that such a nature observation workshop is an important opportunity for enlightenment of natural education for local residents including children. At that time, if a specialized organization such as a museum is involved, and the obtained data is kept properly, it can be used as a valuable record at a later date. In this way, the nature observation workshop for local residents is considered to be an opportunity to collect not only education but also large natural history information.



**Fig.3** Fluvial Eight-barbel Loach *Lefua torrentis*, discovered at the 2011 nature observation workshop. This individual became the first record in Shiga Prefecture

ii) The fish collected and bred by museum users became the first record of alien species in Shiga Prefecture

New local natural history information is also included in casual conversations in the museum. Conversations between the Lake Biwa Museum user's parent and child and the museum staff revealed the existence of alien species that had not been confirmed in Shiga Prefecture until now. When this parent and child gathered at a nearby park and consulted about the fish they had raised, this fish was an undiscovered alien species of swamp eel *Monopterus albus* in Shiga Prefecture. The museum researcher immediately investigated the location and found that several swamp eel were collected and it was the first settlement in Shiga Prefecture. In this case, information from users who frequently use the museum served as the first record of foreign species in the prefecture.



**Fig. 4** An alien species of swamp eel *Monopterus albus* that was first confirmed in Shiga Prefecture. Information from a Lake Biwa Museum field reporter was discovered.

iii) The creatures brought into the museum's question corner are rare creatures and have become valuable distribution records.

The museum receives questions from a wide variety of people, from local residents to experts. Lake Biwa Museum has a question corner where researchers are stationed, as well as answering questions by phone or email. Many of these questions are related to

living things. So far, about 2500 questions the performers have addressed over the past seven years have received more than 400 questions about biological information and identification. Such information included information on organisms that had not been recorded in the prefecture so far, distribution information on rare organisms, discovery information on alien organisms, and so on. In addition, the existence of a picture of the organism made the information more reliable. In this way, questions to the museum that anyone can easily listen to can become important natural history information if the date and place are recorded.

In these cases, citizens and museum users were able to interact with experts through exchange activities involving the museum. And it is important for professionals to add the value of natural history to such information. I think that there is a good possibility that the exchange activities at the museum will not only serve as a place to create dissemination and educational effects, but also function as natural history information and develop a place where they can be aggregated.

## **References**

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