Conservation of Insect's Diversity

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1 Biodiversity

Recently, Japanese people often bring up the topic of protecting biodiversity. Almost all of today's environmental problems which influence human lives are directly concerned with biodiversity. The concept of it is different from person to person, but the fundamental thinking is almost the same. In other words, biodiversity is a circumstance in which various creatures living. Once the diversity of creatures which live in one region was the main interest of biogeographer, now scientists who specialized in various fields including ecology have become interested. Research of biodiversity in a limited region is based upon grasping the diversity of a living thing's attitude towards life in its relationship to mutual dependence in biological communities. Though, a base of research about biodiversity is researching how living things live there using taxonomy and it is an unchangeable approach.

2 Japanese conservation of nature

The main effect of the conservation of insects in Japan was regulation about capture and land development laws. They are roughly divided into two types. One is designating biodiversity as a natural treasure based on the Act on Protection of Cultural Properties and related ordinances. The Agency for Cultural Affairs is in charge of this. The other is designating as a special area land based on the Natural Parks Act. The Forestry Agency and the Environment Agency is in charge of this aspect. Nevertheless, such conservation of insect species and their habitats are negative measures meant maintain the present situation.

Parnassius eversmanni is found in East Russia, Mongolia, Japan and Alaska. It is a member of the Snow Apollo genus Parnassius of the Swallowtail (Papilionidae) family. In Japan, *Parnassius eversmanni daisetsuzanus* is designated as a precious natural treasure.

3 Genuine conservations of insects

In the case of insects, excluding special circumstances, prohibitions of catching them are not for their conservation. The power of insect's multiplication is strong enough to pay no attention to damage by 'hunting'. The most important aspect is "conservation of their natural habitats".
To the public, it seems that the conservation of insect diversity is an insignificant problem. However, consider that the environment where various insects can exist is also a fine environment for human beings. Futhermore, nature isn't made up of only beautiful flowers or birds. If the various insects die out, phanerogams won't be able to produces seeds. Furthermore, birds can't raise their offspring.

Albert Einstein said, "If the bee disappears from the surface of the earth, man would have no more than four years to live. No more bees, no more pollination, no more plants, no more man". Many insects are valuable pollinators for plants. In addition, small insects such as midge, fly are important food for birds.

Generally speaking, it is said that we just protect critically endangered creatures in order to carry out the conservation of nature, but we can't protect only specific species in an ecosystem. At the worse case, we may only remove enemies and prohibit hunting precious living things for protecting the species. Continuations of species are in need of not only host plants but also natural enemies. Furthermore, living things always increase, so catching the species doesn't cause their decrease. However, we must not catch too many insects or exceed their rate of multiplication.

4 Casting Opinions on the Japanese Conservation

Unfortunately, most conservation in Japan is not meaningful. I think it is because many self-governments enforce the municipal regulations at their own discretion. They usually ban just catching insects. Nevertheless, we must pay attention to the whole of the ecosystem. I agree with the conservation of scarce insects, but if people prohibit insect catching, I want them to protect them in a real meaningful sense. Conservation no longer makes any sense if the reserves are developed. Extinctions of this kind are frequent Moreover, visitors can hardly grasp that the area is a reserve because they can only see in a small scale. Further effort will be required. Therefore, I would like to learn about British conservation efforts and research insects there.

5 British Conservations

Speaking of conservation in Britain, the National Trust Movement is known to everyone. The aim of this movement is protecting historical antiquities and landscapes without fail by purchasing them. In the meantime, there is the BTCV (British Trust for Conservation Volunteers). This movement is a practical group whose aim isn't holding properties. It originated in 1959, having a shorter history than the National Trust Movement. However, its systems and achievements are worthy of special mention. Now it is an indispensable British protective organization. Then I would like to learn the difference between British conservation and Japanese methods. In Japan, many problems were pointed out, such as sluggish development and making a little progress in protecting nature. We should learn about British conservations and insects which live there to make their Japanese counterparts stronger.

6 Way to research

In the original plan, I scheduled to ask Prof. Ed Turner some questions and go to a nature reserve. However, I didn't have enough time to speak to him and visit there. Instead of questions and answers, he took me to the Insects Room. Apparently, there is untouched nature in Cambridge. He said that the area and road next to the River Cam in the King's College is an untouched area intentionally, so I visited later.

7 The Insect Room

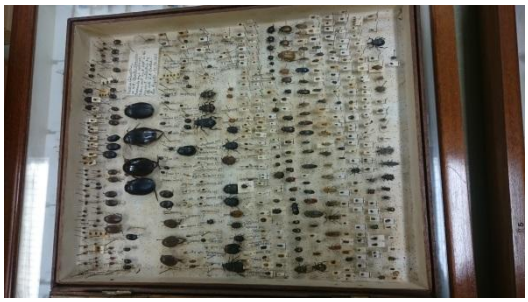
He showed some UK butterflies. Some of them are ancestors of the Japanese alpine butterfly. A long time ago, the temperature of the earth was low and European butterflies transferred to Japan through Russia and Hokkaido. Then the Earth heated up and, as a result, such butterflies moved to high places which were cold. In Hokkaido, we can see them in the lowlands. I observed a small tortoiseshell butterfly. The subspecies which lives in Japan is a typical alpine butterfly. White spots on the forewing differentiate it from the large tortoiseshell butterfly. Cambridge University has specimens of a large tortoiseshell butterfly which were caught in 1894. It is wonderful that it has been preserved for such a long time and so we can grasp the British sincerity for nature conservation.

Small tortoiseshell butterfly

Old large tortoiseshell butterfly

Finally, he showed the specimens which Charles Darwin made. These species were caught in Cambridge. Many kinds of insects live in Cambridge.

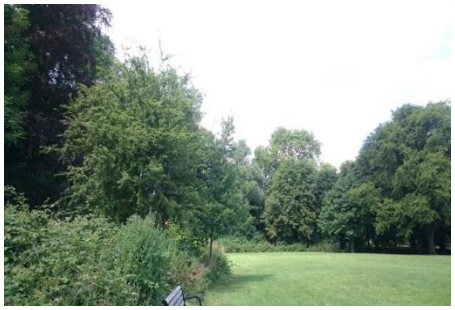
Ground beetle, tiger beetle



Water beetle, gold beetle

8 English nature

I visited the neighborhood of the River Cam. The following is the nature map which I made.



① Near Queens college

There were lawns. I watched wild ducks and crake. Near the banks is grown with oak and walnut.

② Near Kings College

The road next to the River Cam in the King's College is an untouched area. I saw some dragonfly. Poeceae grew along the river. I was able to see the Kings Chapel over the river. Gate keeper and Green-veined White had flown away from the ground and skimmed the ground to suck drops of water on the blades of grass. Gate keeper was sun bathing when the sun shined.

③ Near the gate of Kings College

It is a gate of Kings College. When I went along the river, I watched five Gate keepers and eight Green veined Whites. Ivy grew around here so I didn't see many insects. Speckled wood were seen on the other side of road. The species like the dusky woods and grasslands.

④ Near the Coe Fen

I was able to watch Meadow Broun. They flew actively toward evening. They landed in the weed so I couldn't take pictures. However, this species have a habit of landing on the roots like a thistle. I caught them bearing the pain.

⑤

When I went to the inner part, I watched small tortoiseshell butterfly on the nettle. I was I saw some cows. I heard they come to Cambridge in the morning, and leave in the evening. There were many large cow dungs, so I picked them and looked for a kind of ground beetles which eat droppings and dungs. But I could not find any beetles to speak of.

9 Conclusion and Consideration

First, I felt that Cambridge has much greenery and that the citizens are able to come into contact with nature. Needless to say, Japanese cities have nature. Moreover, cities like Nagoya and Osaka are popular because of their high persentage of green coverage. However, most of this nature are street trees and urban parks. Large part of British nature is untouched nature. In Cambridge, there was manicured lawn by the side of the streets and entrance of the city. When I went north along the river, I was watching oak and walnuts. There were thistles underfoot. I notice that it was untouched nature. No wonder the bank wasn't cover with concrete. If you walk from the center of the city, you'll enjoy nature. The environment isn't very usual. From an point of view in conservation, it is marvelous matter that there is untouched area even if downtown areas and perhaps citizens can become aware of nature thanks to contact with original nature. Neverthless there wasn't a notice board which suggests it's a reserve or prohibition of cathing this creature. The city doesn't emphasize without something pushy differ from Japan. Only people who notice a slight difference. However people can do voluntary actions because of curiosity. As things considered, I think British conservation has more good points than the Japanese model. In Japan there weren't nature reserves which has untouched nature near the city, so we can't feel nature and conservation. Whenever we go to the mountains, we see many notice board. It is understandable that Japanese aren't enthusiatic or interested in nature. Besides, insect hunting tours were held in the scholar garden of Trinity College on a large scale. People can walk in there freely as long as they book it. I participanted and saw lots people who enjoyed nature and insects. I expect Japan to stop preventing only the remort part of the country and establish a city park. We should take care of the nature around us. Then consideration toward nature will begin to grow in us. For conservation, I believe that the most important thing is the transformation of individual awareness. Living symbiotically with real nature enable us to complete genuine conservation.