Research Activity Report
Supported by "Leading Graduate Program in Primatology and Wildlife Science"

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Affiliation/Position	Primate Research Institute/D3
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1. Country/location of visit

Tokyo International Forum

2. Research project

Marunouchi Kids Jamboree

3. Date (departing from/returning to Japan)

2019.08.12-2019.08.13

4. Main host researcher and affiliation

PWS

5. Progress and results of your research/activity

The Marunouchi Kids Jamboree was held between August 13th-15th in the Tokyo International Forum. This is an annual event targeting school children.
As it has been happening in the last few years, PWS was responsible for one of the interactive exhibitions aiming to introduce the children the basic concepts of Wildlife.
This year theme was the Olympic games, so we had gathered a set of different booths showing the different body structures, locomotion types (and more) of across the animal kingdom.

The aim of the PRI booth was to specifically open a learning window on the primate locomotion types, providing insights on primate diversity. We also aimed to build the bridge to the other Orders present in the exhibition using the postcranial structures evolution, hoping this way to grant the children the general picture of the diversity and evolution of locomotion.

The Primate Order includes 233 living species, grouped into 13 families, distributed in Africa, Asia and South America. Primate species have a tremendous variety of morphological traits. For example, the smallest primate weights 30gs (pygmy mouse lemur) and the largest weighs up to 200 kgs (western lowland gorillas). Such variety is consequence of the diversity of habitats in which primates live, from dense forests to dry savannas, from sea level to high mountains. Therefore, primates developed a great variety of skeleton structures providing several types of locomotion: quadruple, bipedal, brachiation and knuckle walking. Some of these locomotion types are species specific, result of an evolutionary process. For example, for strictly arboreal species, brachiation grants the animals a fast and low energy way to move. However, only a few species have the shoulder girdle that allows the lateralization of the upper limbs. Knuckle walking on the

other hand, allows the full support for larger mostly terrestrial species and quadruple walking grants species the ability to change between arboreal and terrestrial environments. Bipedalism, characteristic of the human beings, is a particular locomotion type related with the post postcranial changes that theoretically have supported the brain increase in the first hominins. However, even though postcranial structures have evolved so much to create all the diversity of locomotion types currently observed, the core structures remain the same across taxa, sharing functions with other mammals. Here is important to define homologous structures (similar in shape, different function) and analogous structures (different in shape, similar function). Examples of homologous structures are monkeys, whales and bat arms, used respectively to walk, swim and fly. On the other hand, analogous structures may be the wings of birds and butterflies.

SHOW CASE

We build 3D reproductions of selected models including locomotion types and homologous/analogous structures. For this effort, we had the vital collaboration of the designer Jon Correa (Jon Correa – Design and Illustration), who kindly volunteered to develop the vector models, and Prof. Alexander Dean (from Nagoya International School) to print those models. In addition, we made posters presenting the information regarding models (evolution, ontogenesis, function, species, distribution, biodiversity) with the collaboration of Kenneth Keuk (Primate Research Institute).

During the exhibition, we presented the models to the children and asked them to play with them, trying several positions. We managed to have more than 100 children interacting with the models and having fun!

I found this experience both challenging and gratifying. I had to personally swift my communication scheme to be able to reach young children - which is a great exercise considering the value of outreach activities. I strongly believe that education of the next generation is vital. We need to increase our efforts in developing more efficient ways to bring closer the gap between the scientific worlds and general public, in special, young and potential scientists.

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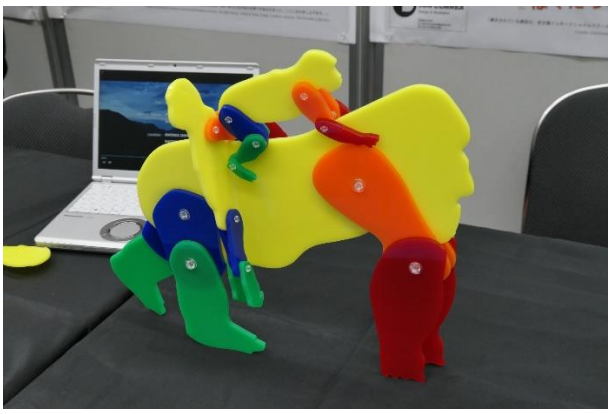

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6. Others

I wish to express my gratitude to the organizational committees and PWS.